NORTH Dakota | Transportation
Be Legendary.

February 8, 2022

ADDENDUM 1 – JOB 22207

TO: All prospective bidders on Projects NH-SS-1-006(025)022, Job No. 22207 scheduled for the February 11, 2022 bid opening.

The following revision(s) shall be made:

Plan Revisions:

See attached summary from Derek D. Pfeifer, P.E. dated February 8, 2022 for an explanation.

Request for Proposal Revisions:

- Remove and replace pages 5 thru 12 of 14 of the Proposal pages located at the beginning of the Request for Proposal with pages revised February 8, 2022.

- Bid Item Changes are summarized in the Plan Addendum Summary and Approval.

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

PHILLIP MURDOFF, P.E. – CONSTRUCTION SERVICES ENGINEER
80: jwj
Enclosure

PLAN ADDENDUM SUMMARY AND APPROVAL

PROJECT INFORMATION			
Project: NH-SS-1-006(025)022			**PCN:** 22207
Location: ND 6, JCT BIA 7 to JCT ND 21			
Date: 2/8/2022	**Lead Designer:** Jonathan P Morgenroth, PE		
Bid Opening Date: 2/11/2022	**JOB#:** 22207	**Addendum#:** 1	

PLAN SHEET CHANGES		
Section	**Sheet**	**Description**
1	1	Removed Job Number
2	1	Added Section 180
6	2	Revised note 704-P01 TRAFFIC CONTROL
8	1	Revised quantity for 216 0100 “Water” from 3735 MGAL to 3738 MGAL Revised quantity for 302 0120 “Aggregate Base Course CL5” from 52146 TON to 52259 TON Revised quantity for 401 0050 “Tack Coat” from 34939 GAL to 34943 GAL Revised quantity for 411 0105 “Milling Pavement Surface” from 281550 SY to 281116 SY Revised quantity for 430 0142 “RAP-Superpave FAA 42” from 59713 TON to 59774 TON Revised quantity for 430 5815 “PG 58S-34 Asphalt Cement” from 3587 TON to 3592 TON Revised quantity for 550 0210 “PCC Pavement Grinding” from 0 SY to 142 SY Revised quantity for 570 0210 “PCC Pavement Grinding” from 142 SY to 0 SY Revised quantity for 602 1131 “Class AE-3 Concrete-Box Culvert” from 60.2 CY to 60.0 CY Revised quantity for 612 0114 “Reinforcing Steel-Grade 60-Box Culvert” from 7,509 lbs to 7,373 lbs.
8	3	Revised quantity for 764 0131 “W-Beam Guardrail” from 1604.6 LF to 740.2 LF Revised quantity for 764 0145 “W-Beam Guardrail End Terminal” from 16 EA to 8 EA Revised quantity for 764 0151 “Remove W-Beam Guardrail & Posts” from 313 LF to 0 LF Revised quantity for 764 2080 “Remove Box Beam Guardrail” from 1168 LF to 584 TON
10	1	Updated Paving Table and Qtys
10	2	Updated Water Table and Qty
30	3	Updated Stations on Top Typical Section
30	5	Updated Stations on Top Typical Section

30	7	Updated Stations on Bottom Typical Section
170	1	Updated Approach Slab length in Plan view Changed cross slope requirement in Note. Updated curb line work and existing steel callout in Barrier End Modification Detail. Relocated bar labels in End View for clarity. Corrected Approach Slab Stationing.
170	2	Revised Note 748 CURB. Relocated Note 930 SILICONE SEALANT and Note 930 BARRIER END MODIFICATION from Sheet 3. Relocated and modified Note 930 POLYURETHANE FOAM to Sheet 3.
170	3	Relocated Note 930 SILICONE SEALANT and Note 930 BARRIER END MODIFICATION to Sheet 2. Relocated and modified Note 930 POLYURETHANE FOAM to Sheet 3.
170	4	Corrected Exiting Cur Plan and Existing Curb Elevation details. Provided additional dimensions for curb in Proposed Elevation
170	5	Revised quantity for 602 1131 “Class AE-3 Concrete-Box Culvert” from 60.2 CY to 60.0 CY. Revised quantity for 612 0114 “Reinforcing Steel-Grade 60-Box Culvert” from 7,509 lbs to 7,373 lbs.
170	8	Revised callout for F12 and F13 bars.
170	9	Removed P3 bars from both sections. Added 1 V1 bar in the Outer Wall section.
170	11	Revised details for the following bars: H4, H5, V1, V5, F4, TE Revised concrete quantities. Revised quantity table.
170	13	Reissued for signature.
170	16	Modified 5XC500 Bar Detail Updated existing in place reinforcing and 4XA500 bar labels in Barrier End Modification Detail.
180	1	Added Pit Plat to the project
180	2-4	Added Boring Logs to the project

CHANGES MADE TO BID ITEMS FOR JOB

Spec	Code	Description	Unit	Previous Quantity	Revised Quantity
216	0100	WATER	MGAL	3735	3738
302	0120	AGGREGATE BASE COURSE CL5	TON	52146	52259
401	0050	TACK COAT	GAL	34939	34943
411	0105	MILLING PAVEMENT SURFACE	SY	281550	281116
430	0142	RAP-SUPERPAVE FAA 42	TON	59713	59774
430	5815	PG 58S-34 ASPHALT CEMENT	TON	3587	3592

550	0210	PCC PAVEMENT GRINDING	SY	0	142
570	0210	PCC PAVEMENT GRINDING	SY	142	0
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	60.2	60.0
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	7509	7373
764	0131	W-BEAM GUARDRAIL	LF	1604.6	740.2
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	16	8
764	0151	REMOVE W-BEAM GAURDRAIL & POSTS	LF	312	0
764	2080	REMOVE BOX BEAM GUARDRAIL	LF	1168	584

APPROVAL

Should the revisions described above be processed as a plan addendum?

X Yes _____ No

Kirk J. Hoff, P.E. – Design Engineer

2/8/2022
Date

Project: NH-SS-1-006(025)022 (PCN-22207)

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

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	202	0101	REMOVAL OF CONCRETE	EA	1.				
003	202	0102	REMOVAL OF BOX CULVERT	EA	3.				
004	202	0111	REMOVAL OF CONCRETE	L SUM	1.				
005	202	0127	REMOVE & SALVAGE CULVERT-ALL TYPES & SIZES	LF	24.				
006	202	0136	REMOVAL OF PAVEMENT	TON	2,563.				
007	202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	11.				
008	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	204.				
009	202	0312	REMOVE EXISTING FENCE	LF	5,859.				
010	203	0102	COMMON EXCAVATION-TYPE B	CY	149,681.				
011	203	0109	TOPSOIL	CY	139,228.				
012	203	0138	COMMON EXCAVATION-SUBCUT	CY	3,073.				
013	203	0140	BORROW-EXCAVATION	CY	97,204.				
014	210	0050	BOX CULVERT EXCAVATION	EA	1.				
015	210	0210	FOUNDATION FILL	CY	31.				
016	210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
017	216	0100	WATER	M GAL	3,738.				
018	251	0200	SEEDING CLASS II	ACRE	185.				
019	251	1000	WETLAND SEED	ACRE	.670				
020	251	2000	TEMPORARY COVER CROP	ACRE	173.				
021	253	0101	STRAW MULCH	ACRE	359.				
022	255	0103	ECB TYPE 3	SY	16,315.				
023	256	0300	RIPRAP GRADE III	CY	533.				
024	260	0100	SILT FENCE UNSUPPORTED	LF	8,578.				
025	260	0101	REMOVE SILT FENCE UNSUPPORTED	LF	8,578.				
026	261	0112	FIBER ROLLS 12IN	LF	211,852.				
027	261	0113	REMOVE FIBER ROLLS 12IN	LF	81,009.				
028	262	0100	FLOTATION SILT CURTAIN	LF	170.				
029	262	0101	REMOVE FLOTATION SILT CURTAIN	LF	170.				
030	265	0100	STABILIZED CONSTRUCTION ACCESS	EA	1.				
031	265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	1.				
032	302	0120	AGGREGATE BASE COURSE CL 5	TON	52,259.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
033	401	0050	TACK COAT	GAL	34,943.				
034	411	0105	MILLING PAVEMENT SURFACE	SY	281,116.				
035	430	0142	RAP - SUPERPAVE FAA 42	TON	59,774.				
036	430	0400	HMA INTELLIGENT COMPACTION	L SUM	1.				
037	430	0425	PAVER MOUNTED THERMAL PROFILER	L SUM	1.				
038	430	1000	CORED SAMPLE	EA	626.				
039	430	5815	PG 58S-34 ASPHALT CEMENT	TON	3,592.				
040	550	0210	PCC PAVEMENT GRINDING	SY	142.				
041	602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	60.				
042	602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	153.				
043	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	7,373.				
044	650	0805	DECK SPALL REPAIR	SF	8.				
045	702	0100	MOBILIZATION	L SUM	1.				
046	704	0100	FLAGGING	MHR	7,500.				
047	704	1000	TRAFFIC CONTROL SIGNS	UNIT	5,747.				
048	704	1048	PORTABLE RUMBLE STRIPS	EA	8.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
049	704	1052	TYPE III BARRICADE	EA	4.				
050	704	1060	DELINEATOR DRUMS	EA	40.				
051	704	1067	TUBULAR MARKERS	EA	1,060.				
052	704	1080	STACKABLE VERTICAL PANELS	EA	280.				
053	704	1185	PILOT CAR	HR	3,000.				
054	706	0400	FIELD OFFICE	EA	1.				
055	706	0500	AGGREGATE LABORATORY	EA	1.				
056	706	0550	BITUMINOUS LABORATORY	EA	1.				
057	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
058	708	1531	INLET PROTECTION-FIBER ROLL 12IN	EA	198.				
059	708	1533	REMOVAL INLET PROTECTION-FIBER ROLL 12IN	EA	95.				
060	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	6,469.				
061	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	800.				
062	714	0615	PIPE CONC REINF 24IN CL III	LF	714.				
063	714	0820	PIPE CONC REINF 30IN CL III	LF	200.				
064	714	0905	PIPE CONC REINF 36IN CL III	LF	236.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
065	714	1005	PIPE CONC REINF 42IN CL III	LF	118.				
066	714	1105	PIPE CONC REINF 48IN CL III	LF	496.				
067	714	1310	PIPE CONC REINF 60IN CL III	LF	322.				
068	714	1510	PIPE CONC REINF 72IN CL III	LF	74.				
069	714	2524	CURED-IN-PLACE PIPE-24IN	LF	102.				
070	714	3020	END SECT-CONC REINF 24IN	EA	9.				
071	714	3035	END SECT-CONC REINF 36IN	EA	2.				
072	714	3040	END SECT-CONC REINF 42IN	EA	4.				
073	714	3065	END SECT-CONC REINF 72IN	EA	2.				
074	714	5015	PIPE CORR STEEL .064IN 18IN	LF	1,358.				
075	714	5035	PIPE CORR STEEL .064IN 24IN	LF	100.				
076	714	5139	PIPE CORR STEEL .064IN ARCH 57IN X 38IN	LF	12.				
077	714	5350	PIPE CORR STEEL .109IN 96IN	LF	48.				
078	714	5810	END SECT CORR STEEL .064IN 18IN	EA	52.				
079	714	5820	END SECT CORR STEEL .064IN 24IN	EA	6.				
080	714	6550	END SECT METAL ARCH 57IN X 38IN	EA	2.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
081	714	9200	CATTLE PASS CONC INTERMED SECTION	LF	88.				
082	714	9611	REMOVE & RELAY CONC CATTLE PASS END SECTION	EA	6.				
083	714	9659	REMOVE & RELAY PIPE-ALL TYPES & SIZES	LF	92.				
084	714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	100.				
085	720	0125	ALIGNMENT MONUMENTS	EA	116.				
086	720	0130	IRON PIN R/W MONUMENTS	EA	345.				
087	720	0135	IRON PIN REFERENCE MONUMENTS	EA	84.				
088	748	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF	80.				
089	748	0540	CURB	LF	80.				
090	752	0200	FENCE BARBED WIRE 4 STRAND	LF	6,269.				
091	752	0911	TEMPORARY SAFETY FENCE	LF	305.				
092	752	2110	RESET VEHICLE GATE	EA	2.				
093	752	3150	CORNER ASSEMBLY BARBED WIRE-WOOD POST	EA	32.				
094	752	4100	DOUBLE BRACE ASSEMBLY BARBED WIRE	EA	1.				
095	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	353.				
096	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	82.				

BID ITEMS

Project: NH-SS-1-006(025)022 (PCN-22207)

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
097	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,015.				
098	754	0562	REFERENCE MARKER-TYPE B	EA	20.				
099	754	0592	RESET SIGN PANEL	EA	10.				
100	754	0593	RESET SIGN SUPPORT	EA	4.				
101	754	0805	OBJECT MARKERS - CULVERTS	EA	250.				
102	760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	38.700				
103	760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	19.400				
104	760	0010	RUMBLE STRIPS - INTERSECTION	SET	1.				
105	762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	346,589.				
106	762	1104	PVMT MK PAINTED 4IN LINE	LF	290,082.				
107	762	1108	PVMT MK PAINTED 8IN LINE	LF	62.				
108	762	1124	PVMT MK PAINTED 24IN LINE	LF	12.				
109	764	0131	W-BEAM GUARDRAIL	LF	740.200				
110	764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	8.				
111	764	2080	REMOVE BOX BEAM GUARDRAIL	LF	584.				
112	764	2081	REMOVE END TREATMENT & TRANSITION	EA	8.				

Project: NH-SS-1-006(025)022 (PCN-22207)

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
113	766	0120	RESET MAILBOX	EA	11.				
114	900	1000	TEMPORARY STREAM DIVERSION	EA	4.				
115	930	3631	POLYURETHANE FOAM	LBS	1,748.				
116	930	8644	SILICONE SEALANT	LF	82.				
117	930	9620	PIER REPAIR	SF	25.				
118	930	9647	BARRIER END MODIFICATION	EA	8.				
119	950	8673	EXPANSION JOINT MODIFICATION	LF	75.400				
			TOTAL SUM BID						

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Job 22207, NH-SS-1-006(025)022

Sliver Grading, Subcuts, Pipe Extensions, Pipe Replacement, Pipe Rehabilitation, Structure Replacement, Foam Jacking, Milling & RAP Overlay

INDEX OF PROVISIONS

INDEX OF PROVISIONS

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

MATERIALS PIT LIST

GENERAL NOTES

NOTES: All pit data for the **February 11, 2022** bid opening has been carefully prepared and is believed to be correct insofar as reliable preliminary pit information can reasonably be obtained. The contractors are advised to check all pit information before bidding.

It is recommended all bidders discuss pertinent pit data with the Materials and Research Engineer prior to the bid opening. Information such as field notes, field loggings, and comments may not be included in the materials pit list or boring logs. This additional information if present would be in the respective pit file at the Materials and Research Division.

Field logging by prospecting crews may list silt, clay, or silty clay. Our test hole plat will show silt-clay for those listings because the Department does not test to determine what percent is clay and what percent is silt.

Each pit shall be operated to prevent waste and to make the best use of the deposit and to produce a uniform gradation for the item of work under construction. Usually, the material will be removed to the full width and depth of the deposit. The purpose is to exhaust the portion of the pit being worked so the stripping or topsoil can be pushed into this exhausted area and smoothed, thereby eliminating the necessity of covering unused material in the pit unless the owner agrees otherwise.

In the use of pits, the contractor is required to comply with all federal, state, and local laws and regulations.

In the use of department-owned or optioned pits, the contractor shall fulfill all obligations imposed on the Department under the Department's options or agreements.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
MATERIALS PIT LIST

Material	Location	Approximate Quantity	Price and Ownership

PROJECT NH-SS-1-006(025)022 – MILL/OL>2<OR=3”/SLIVER GRADING/RCP/STRUCT/INCID – ND 6
FROM W JCT BIA 7 – PORCUPINE TO JCT ND 21 – MORTON AND SIOUX COUNTIES

Aggregate	E1/2NE1/4 4-145-79	489,500 ton	State optioned until December 31, 2023 for 135.0¢ per cu.yd. or 90.0¢ per ton. Denny Portra, Box 1068, Underwood, ND 58576 Home Phone: (701) 480-2777 Cell Phone: (701) 391-6188

% Pass	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**
1"	94	94	92	90	91	92	90	92
3/4"	91	91	85	86	87	88	84	88
5/8"	89	88	81	83	84	85	81	86
1/2"	84	83	76	78	80	82	77	81
No. 4	68	67	61	62	67	69	63	67
No. 8	58	57	53	53	58	61	56	59
No. 10	55	54	51	51	56	59	54	57
No. 16	46	46	44	44	48	52	48	50
No. 30	34	34	33	33	36	40	36	38
No. 40	26	27	26	26	28	32	29	29
No. 50	19	20	19	18	21	24	21	21
No. 100	9	8	9	7	9	10	8	8
No. 200	4.5	4.3	4.6	3.8	5.0	4.5	3.8	4.0
+No. 4*	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4
-No. 4**	1.0	1.1	0.7	0.8	1.1	0.9	0.8	0.8

Total* **	1.3	1.5	1.0	1.1	1.4	1.2	1.1	1.2
Wt/cf ls	103.5	103.3	106.6	108.8	101.8	101.1	110.1	104.8
Wt/cf rd	115.3	113.4	118.8	118.9	112.4	114.3	119.1	116.3
P.I.(-40)	NP	NP	NP	NP	NP	NP	NP	NP

L.A. Abrasion 22.6% Combined Sample

*Plus No. 4 fraction - percent by weight of total sample
**Minus No. 4 fraction - Plus No. 30 fraction - percent by percent by weight of total sample
***In total sample

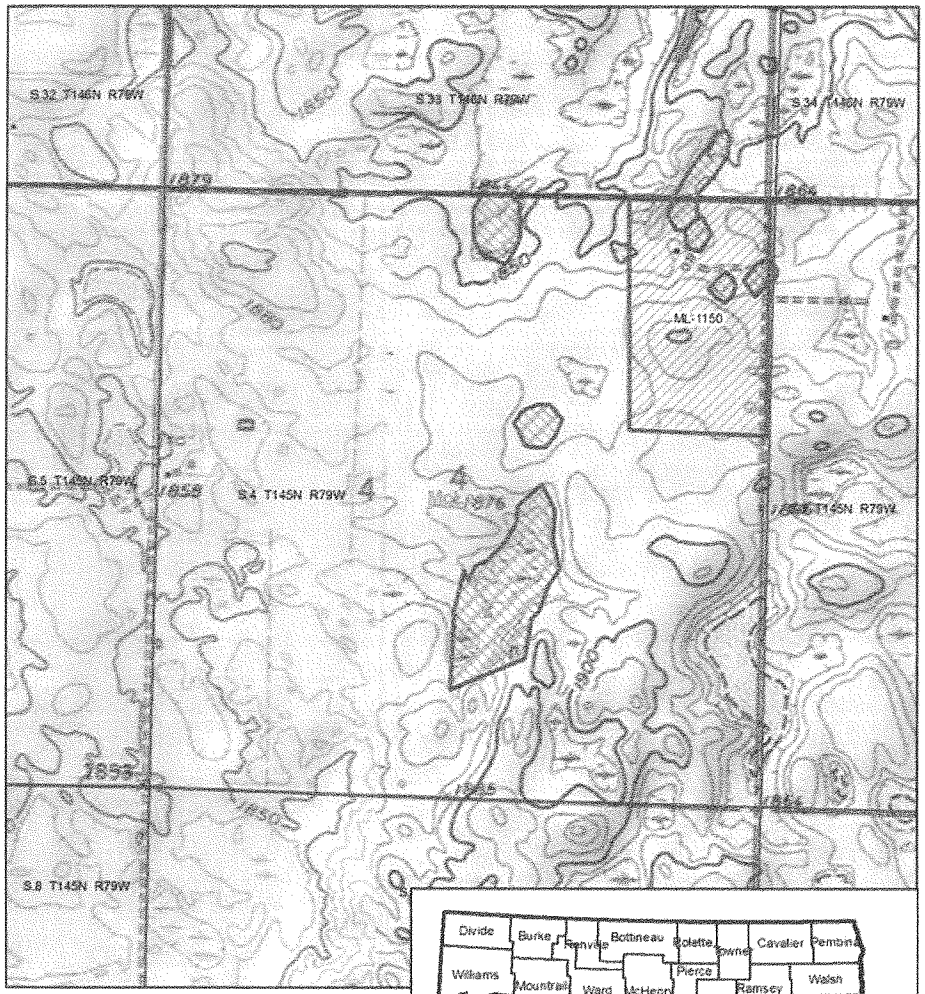
Size	**Aggregate Type**	**Sieves**	**Water Absorption**
-5/8" +No. 4	natural rock	+ No. 4	2.3 %
Minus No. 4	natural fines	- No. 4	2.4 %

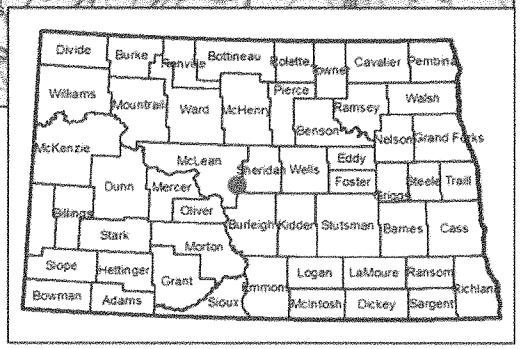
NOTE: Material we encountered seems to get coarser the deeper you dig. Material is very clean with no visible shale issues. The sands encountered are well graded sands. The rock percentage up above does not represent this deposit very well with the amount of oversize in the pit. The oversize rock in this deposit ranges from 2” to 10” with an occasional rock over 14”. Only the grass property within the newly fenced area will be available. This pastureland is surrounded by CRP land and that land cannot be disturbed, fenced area consists of 54 acres which should allow for plant and stockpiling sites.

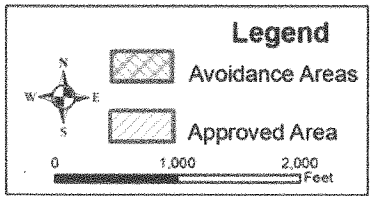
NDDOT Material Source Certificate of Approval is attached at the end of this job pit list.

Interested bidders are advised to investigate all the details concerning these deposits to their own satisfaction before considering them for bidding

NDDOT Material Source Certificate of Approval







ML-1150

Pit Name:
Portra Pit

NE1/4 S. 4 T. 145 N, R 79 W

County: McLean

Conditions:

This location is approved for use, provided all avoidance areas shown on the map are avoided and all Conditions listed above and below are complied with.

NDDOT advises that all applicants (contractors or their representatives) may be subject to meeting certain legal responsibilities pursuant to one or more of the following authorities administered by the USFWS: Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.); Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.); and Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, 54 Stat. 250). It is the responsibility of the applicants and/or any individual conducting activities at any approved site to fulfill the requirements of these Acts. The contractor will be responsible obtaining all applicable permits outlined in Section 107 of the Standard Specifications for Road and Bridge Construction (SSRBC). Additionally, contractor will be responsible for any impacts to wetlands, including permitting those impacts and mitigating the loss of the wetlands. As with all projects, if cultural artifacts and/or features (e.g., stone tools, fire hearths, stone circles, burials) are encountered, provisions outlined in Section 107.06 of SSRBC shall be followed.

This approval does not imply landowner permission to acquire material at this location. An agreement with the landowner is still necessary. If you have any questions regarding material sources please email materialsource@nd.gov

DESIGN DATA (RP 22.700 to RP 34.894)				
Traffic	Average Daily			
Current 2017	Pass: 410	Trucks: 45	Total: 455	
Forecast 2037	Pass: 530	Trucks: 70	Total: 600	
Clear Zone Distance: 26' (4:1)		Design Speed: 65		
Minimum Sight Dist. for Stopping: Existing		Bridges: N/A		
Sight Dist. for No Passing Zone: Existing				
Pavement Design Life (years)				
Design Accumulated One-way ESALs:				

DESIGN DATA (RP 34.894 to RP 42.112)				
Traffic	Average Daily			
Current 2017	Pass: 600	Trucks: 110	Total: 710	
Forecast 2037	Pass: 735	Trucks: 145	Total: 880	
Clear Zone Distance: 26' (4:1)		Design Speed: 65		
Minimum Sight Dist. for Stopping: Existing		Bridges: N/A		
Sight Dist. for No Passing Zone: Existing				
Pavement Design Life (years)				
Design Accumulated One-way ESALs:				

Revised 1/24/2022	STATE	PROJECT NO.	PCN	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	22207	1	1

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

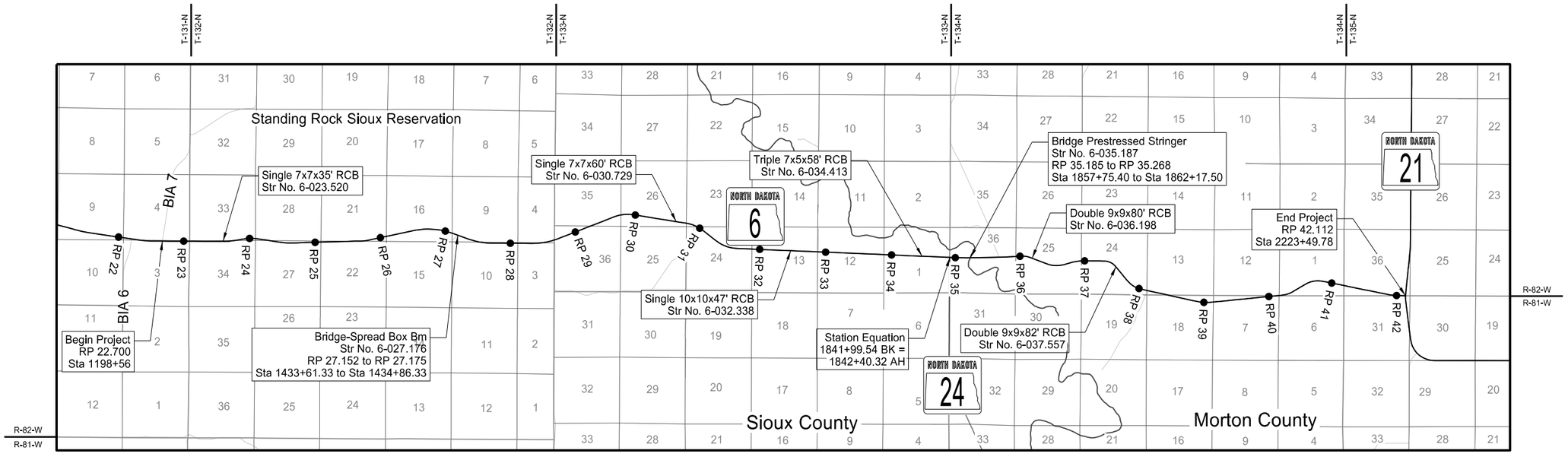
NH-SS-1-006(025)022

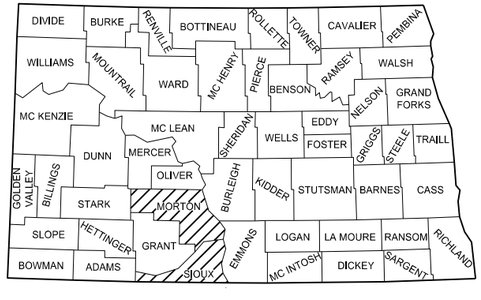
Sioux & Morton County
ND 6, JCT BIA 7 to JCT ND 21

Sliver Grading, Subcuts, Pipe Extensions, Pipe Replacement, Pipe Rehabilitation
Structure Replacement, Foam Jacking, Milling & RAP Overlay

GOVERNING SPECIFICATIONS	Date Published and Adopted by the North Dakota Department of Transportation
Standard Specifications	10/1/2020
Supplemental Specifications	NONE

PROJECT NUMBER \ DESCRIPTION	NET MILES	GROSS MILES
NH-SS-1-006(025)022	19.298	19.404
0.106 Deducted for Bridges		





STATE COUNTY MAP

DESIGNER
Jonathan P. Morgenroth, PE

DESIGNER
Jordan Gerber, PE

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ND DEPARTMENT OF TRANSPORTATION
OFFICE OF PROJECT DEVELOPMENT

Derek Pfeifer /s/ 1/25/2022

KLJ

This document was originally issued and sealed by Jonathan P. Morgenroth Registration Number PE- 6872 , on 1/24/2022 and the original document is stored at the North Dakota Department of Transportation

Revised 2/2/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	2	1

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PLAN SECTIONS

SPECIAL PROVISIONS

Revised 2/4/2022

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NOTES

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

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

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

Install PRS that meet the following criteria:

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

Use individual PRS constructed in one of the following manners:

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

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

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

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

704-P01 TRAFFIC CONTROL: Provide traffic control consisting of a temporary road closure, flagging, pilot car and shoulder closures.

Traffic control device quantities are based on a 6 mile limitation and the list below. The Department will pay for all necessary deployed devices, regardless of the length of the lane closure.

1. Standard D-704-15, layout A: For the sliver widening, subgrade repairs, placement of aggregate base, milling, and paving. Two temporary road closures, two pilot cars, four arrays of portable rumble strips and four flaggers have been provided.
2. Standard D-704-20, layout G as the basis of the Terminal Signing, See Section 100
3. Standard D-704-22, layouts K And L: For construction trucks hauling material.
4. Standard D-704-24, Type R: For the construction of the pipe extensions. Two shoulder closures have been provided. A quantity of 42 tubular markers have been provided for each ½ mile work area. Use W20-1-48 in place of G20-1A-60.
5. Standard D-704-26, Type GG: For uneven lanes when milling and paving (each boumd)
6. Standard D-704-26, Type JJ: For 5 repair locations (each bound)
7. Standard D-704-56: For installation of rumble strips

Place flaggers and traffic control devices as shown on Standard D-704-15, layout A at the following intersections when the lane closure spans across them:

1. Sioux County Route 8
2. Morton County Route 134

704-P02 TRAFFIC CONTROL FOR BOX CULVERT REPLACEMENTS: Construct box culvert extensions while maintaining traffic on a single 14’ minimum width lane (15’ desirable) with pilot car and flagging operations. Excavate using a maximum slope of 1:1. Remove as much as the existing box culvert while maintaining a maximum 1:1 excavation slope and install portion of proposed pipe. Construct embankment over newly installed pipe for traffic at a maximum longitudinal slope of 7%. Move traffic to installed embankment. Remove remaining box culvert and install remaining pipe. Construct embankment and aggregate base course to final grade. Move traffic onto newly installed aggregate base course. Install remaining embankment and aggregate base course. See Section 100 of the plans for additional traffic control details.

704-P03 TRAFFIC CONTROL FOR SUBCUTS: Perform subgrade repairs on one half of the roadway while maintaining traffic on a single 12’ minimum width lane with pilot car and flagging operations on the adjacent half. Resume two-way traffic by the end of the working day or continue to maintain one lane traffic with flagging and pilot car operations. Use a maximum longitudinal slope of 7% if carrying traffic. Do not load trucks on the lane used to maintain one lane traffic. It is allowable to dump aggregate base course directly into the repair area with side dumps from the travel lane provided the trucks stay in the pilot line and travel through the work zone with the public traffic. Public traffic is not allowed on the repair area until the base section is at finished grade. Use only low ground pressure construction equipment in the repair area until the first lift of material is placed.

Payment will only be made for flagging and pilot car while the contractor is actively working in the repair area. Do not exceed 15-minute wait time in flagging zones. See Section 100 of the plans for additional traffic control details.

Remove bituminous surfacing, excavate material, install aggregate base to finished grade, and construct a 4:1 traversable wedge between the edge of existing pavement and top of aggregate base prior to resuming two-way traffic.

Estimated Quantities

Revised	2/8/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	NH-SS-1-006(025)022	8	1

SPEC	CODE	ITEM DESCRIPTION	UNIT	Quantities				TOTAL
103	0100	CONTRACT BOND	L SUM	1				1
202	0101	REMOVAL OF CONCRETE	EA	1				1
202	0102	REMOVAL OF BOX CULVERT	EA	3				3
202	0111	REMOVAL OF CONCRETE	L SUM	1				1
202	0127	REMOVE & SALVAGE CULVERT-ALL TYPES & SIZES	LF	24				24
202	0136	REMOVAL OF PAVEMENT	TON	2563				2563
202	0169	REMOVAL OF END SECTION-ALL TYPES & SIZES	EA	11				11
202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	204				204
202	0312	REMOVE EXISTING FENCE	LF	5859				5859
203	0102	COMMON EXCAVATION-TYPE B	CY	149681				149681
203	0109	TOPSOIL	CY	139228				139228
203	0138	COMMON EXCAVATION-SUBCUT	CY	3073				3073
203	0140	BORROW-EXCAVATION	CY	97204				97204
210	0050	BOX CULVERT EXCAVATION	EA	1				1
210	0210	FOUNDATION FILL	CY	31				31
210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1				1
216	0100	WATER	M GAL	3738				3738
251	0200	SEEDING CLASS II	ACRE	185				185
251	1000	WETLAND SEED	ACRE	0.67				0.67
251	2000	TEMPORARY COVER CROP	ACRE	173				173
253	0101	STRAW MULCH	ACRE	359				359
255	0103	ECB TYPE 3	SY	16315				16315
256	0300	RIPRAP GRADE III	CY	533				533
260	0100	SILT FENCE UNSUPPORTED	LF	8578				8578
260	0101	REMOVE SILT FENCE UNSUPPORTED	LF	8578				8578
261	0112	FIBER ROLLS 12IN	LF	211852				211852
261	0113	REMOVE FIBER ROLLS 12IN	LF	81009				81009
262	0100	FLOTATION SILT CURTAIN	LF	170				170
262	0101	REMOVE FLOTATION SILT CURTAIN	LF	170				170
265	0100	STABILIZED CONSTRUCTION ACCESS	EA	1				1
265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	1				1
302	0120	AGGREGATE BASE COURSE CL 5	TON	52259				52259
401	0050	TACK COAT	GAL	34943				34943
411	0105	MILLING PAVEMENT SURFACE	SY	281116				281116
430	0142	RAP - SUPERPAVE FAA 42	TON	59774				59774
430	0400	HMA INTELLIGENT COMPACTION	L SUM	1				1
430	0425	PAVER MOUNTED THERMAL PROFILER	L SUM	1				1
430	1000	CORED SAMPLE	EA	626				626
430	5815	PG 58S-34 ASPHALT CEMENT	TON	3592				3592
550	0210	PCC PAVEMENT GRINDING	SY	142				142
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	60				60
602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	153				153
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	7373				7373
650	0805	DECK SPALL REPAIR	SF	8				8
702	0100	MOBILIZATION	L SUM	1				1
704	0100	FLAGGING	MHR	7500				7500
704	1000	TRAFFIC CONTROL SIGNS	UNIT	5747				5747

Revised 2/7/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	8	3

Estimated Quantities

SPEC	CODE	ITEM DESCRIPTION	UNIT	Quantities				TOTAL
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	353				353
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	82				82
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1015				1015
754	0562	REFERENCE MARKER-TYPE B	EA	20				20
754	0592	RESET SIGN PANEL	EA	10				10
754	0593	RESET SIGN SUPPORT	EA	4				4
754	0805	OBJECT MARKERS - CULVERTS	EA	250				250
760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	38.7				38.7
760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	19.4				19.4
760	0010	RUMBLE STRIPS - INTERSECTION	SET	1				1
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	346589				346589
762	1104	PVMT MK PAINTED 4IN LINE	LF	290082				290082
762	1108	PVMT MK PAINTED 8IN LINE	LF	62				62
762	1124	PVMT MK PAINTED 24IN LINE	LF	12				12
764	0131	W-BEAM GUARDRAIL	LF	740.2				740.2
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	8				8
764	2080	REMOVE BOX BEAM GUARDRAIL	LF	584				584
764	2081	REMOVE END TREATMENT & TRANSITION	EA	8				8
766	0120	RESET MAILBOX	EA	11				11
900	1000	TEMPORARY STREAM DIVERSION	EA	4				4
930	3631	POLYURETHANE FOAM	LBS	1748				1748
930	8644	SILICONE SEALANT	LF	82				82
930	9620	PIER REPAIR	SF	25				25
930	9647	BARRIER END MODIFICATION	EA	8				8
950	8673	EXPANSION JOINT MODIFICATION	LF	75.4				75.4

Revised 2/4/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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Material	Unit	Stations: Sta 1198+56.00 to Sta 1241+02.00 Sta 1242+22.00 to Sta 1280+23.33 Sta 1291+66.77 to Sta 1318+55.00 Sta 1319+38.00 to Sta 1358+50.00 Sta 1360+05.00 to Sta 1399+25.00 Sta 1464+55.00 to Sta 1517+18.33 Sta 1519+11.67 to Sta 1621+01.00 Sta 1623+54.00 to Sta 1664+68.00 Sta 1665+44.00 to Sta 1706+44.00 Sta 1707+54.00 to Sta 1836+07.00			Stations: Sta 1241+02.00 to Sta 1242+22.00 Sta 1318+55.00 to Sta 1319+38.00 Sta 1358+50.00 to Sta 1360+05.00 Sta 1621+01.00 to Sta 1623+54.00 Sta 1664+68.00 to Sta 1665+44.00 Sta 1706+44.00 to Sta 1707+54.00			Stations: Sta 1280+23.00 to Sta 1291+66.67 Sta 1517+18.33 to Sta 1519+11.67			Stations: Sta 1399+25.00 to Sta 1464+55.00			Stations: Sta 1836+07.00 to Sta 1841+99.54 Sta 1841+99.54 BK = Sta 1842+40.32 Sta 1842+40.32 to Sta 1883+00.00			Stations: Sta 1883+00.00 to Sta 2223+49.78			Total Quantities	Unit
		Area (SF)	Width (ft)	Quantity per Station	Area (SF)	Width (ft)	Quantity per Station	Area (SF)	Width (ft)	Quantity per Station	Area (SF)	Width (ft)	Quantity per Station	Area (SF)	Width (ft)	Quantity per Station	Area (SF)	Width (ft)	Quantity per Station		
302 0120 AGGREGATE BASE COURSE CL 5 @ 1.875 Ton/CY	TON	3.67		25	13.94		97	120.03		834							5.69		40	39,406	TON
401 0050 TACK COAT @ .05 Gal/SY (1st Lift)	GAL		29.1	16		29.8	17		29.8	17		36	20		31.8	18		29.1	16	16,900	GAL
401 0050 TACK COAT @ .05 Gal/SY (2nd Lift)	GAL		29.1	16		29.8	17		29.8	17		36	20		31.8	18		29.1	16	16,900	GAL
MILLING PAVEMENT SURFACE (For Estimating Purposes Only)	TON	2.01		15							2.53		19	2.53		19	2.01		15	15,376	TON
411 0105 MILLING PAVEMENT SURFACE	SY		24.5	272								30.7	341		30.7	341		24.4	271	280,556	SY
430 0142 RAP - SUPERPAVE FAA 42 @ 2 Ton/CY	TON	7.28		54	12.42		92	12.42		92	9.21		68	8		59	7.28		54	57,269	TON
430 5803 PG 58S-34 ASPHALT CEMENT @ 6%	TON	7.28		3	12.42		6	12.42		6	9.21		4	8		4	7.28		3	3,438	TON

SPEC	CODE	BID ITEM	QTY	UNIT
302	0120	AGGREGATE BASE COURSE CL 5		
		Mainline	39,406	TON
401	0050	TACK COAT		
		Mainline	33,800	GAL
411	0105	MILLING PAVEMENT SURFACE		
		Mainline	280,556	SY
430	0142	RAP - SUPERPAVE FAA 42		
		Mainline	57,269	TON
430	1000	CORED SAMPLE		
		Mainline	626	EA
430	5815	PG 58S-34 ASPHALT CEMENT		
		Mainline	3,438	TON

430 1000 CORED SAMPLE										
Roadway	Begin Station	End Station	Specification Section	A	B		C	Quantity	Quantity (1 per mile)	Unit
				Distance (Ft) /1000	Lanes	Joints	Lifts			
ND Hwy 6 (SCL6_SIOUX)	1198+56	1857+70	430.04 I.2.b(1), "General"	66	2	-	2	264	n/a	EA
			SSP 4 Longitudinal Joint Density in HMA Pavements (Centerline)	66	-	1	2	132	-	EA
			430.04 I.2.b(2), "Pavement Thickness Determination Cores"	-	-	-	-	-	-	EA
ND HWY 6 (SCL6_MORTON)	1862+11	2223+50	430.04 I.2.b(1), "General"	36	2	-	2	144	n/a	EA
			SSP 4 Longitudinal Joint Density in HMA Pavements (Centerline)	36	-	1	2	72	-	EA
			430.04 I.2.b(2), "Pavement Thickness Determination Cores"	-	-	-	-	-	14	EA
							Total	612	14	EA

Removal of Pavement
Aggregate Base @ 1.875 Ton/CY
Bituminous @ 2 Ton/CY

Pavement
Aggregate Base Course Cl 5 @ 1.875 Ton/CY
Blotter Material Cl 44 @ 15lbs/SY
Prime Coat @ 0.25 Gal/SY
RAP- Superpave FAA 42 @ 2 Ton/CY
Tack Coat @ 0.05 Gal/SY

This document was originally issued and sealed by Jonathan P. Morgenroth Registration Number PE- 6872 , on 02/04/22 and the original document is stored at the North Dakota Department of Transportation

ND 6
Sliver Widening

Pavement Marking

Revised 2/8/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	10	2

762-1104 PVMT MK Painted 4IN LINE											
4" Yellow No Passing Zone (Solid) Line								4" Yellow Centerline (10' Line 30' Skip)			
Lt				Rt				Center Skip			
Begin Sta	End Sta	Total	Unit	Begin Sta	End Sta	Total	Unit	Begin Sta	End Sta	Total	Unit
1198+42	1217+00	1858	LF	1198+42	1204+48	606	LF	1204+48	1309+60	2630	LF
1235+75	1243+80	805	LF	1223+80	1231+50	770	LF	1312+20	1397+00	2120	LF
1268+50	1279+50	1100	LF	1256+60	1267+30	1070	LF	1405+32	1413+30	200	LF
1309+60	1321+40	1180	LF	1298+50	1312+20	1370	LF	1415+30	1433+50	460	LF
1353+00	1358+40	540	LF	1383+90	1415+30	3140	LF	1435+00	1467+20	810	LF
1397+00	1405+32	832	LF	1433+50	1435+00	150	LF	1468+92	1497+34	710	LF
1413+30	1428+20	1490	LF	1457+00	1468+92	1192	LF	1498+00	1535+30	930	LF
1433+50	1435+00	150	LF	1485+00	1498+00	1300	LF	1560+00	1607+50	1190	LF
1467+20	1481+10	1390	LF	1525+60	1560+00	3440	LF	1608+90	1619+00	250	LF
1497+34	1510+90	1356	LF	1595+70	1608+90	1320	LF	1621+00	1633+60	320	LF
1535+30	1572+30	3700	LF	1619+00	1626+10	710	LF	1637+30	1690+50	1330	LF
1607+50	1621+00	1350	LF	1633+60	1643+44	984	LF	1700+70	1707+94	180	LF
1630+90	1637+30	640	LF	1679+00	1700+70	2170	LF	1709+40	1842+17	3320	LF
1645+90	1663+30	1740	LF	1707+94	1716+20	826	LF	1842+65	1857+80	380	LF
1690+50	1709+40	1890	LF	1734+50	1743+70	920	LF	1862+20	1938+70	1910	LF
1718+20	1728+20	1000	LF	1761+80	1766+70	490	LF	1939+30	2047+90	2720	LF
1745+90	1755+80	990	LF	1833+50	1842+17	867	LF	2049+61	2127+00	1930	LF
1774+20	1779+20	500	LF	1857+80	1862+20	440	LF	2133+60	2138+90	130	LF
1842+65	1849+10	645	LF	1925+70	1939+30	1360	LF	2148+30	2195+20	1170	LF
1857+80	1862+20	440	LF	1965+00	1971+70	670	LF	-	-	-	-
1938+70	1951+40	1270	LF	2035+20	2049+61	1441	LF	-	-	-	-
1971+70	1978+50	680	LF	2105+00	2116+46	1146	LF	-	-	-	-
2047+90	2062+40	1450	LF	2127+00	2148+30	2130	LF	-	-	-	-
2117+10	2133+60	1650	LF	2180+90	2200+50	1960	LF	-	-	-	-
2138+90	2160+70	2180	LF	2213+70	2223+10	940	LF	-	-	-	-
2195+20	2212+40	1720	LF	-	-	-	-	-	-	-	-
	Subtotal =	32,546	LF		Subtotal =	31,412	LF		Subtotal =	22,690	LF
									Total =	86,647	LF

216-0100 WATER			
Description	Amount (UNIT)	Conversion	Quantity of Water (M GAL)
Dust Palliative	19.298 Miles	25 M Gal/ Mile	482
Aggregate	52,259 Tons	20 Gal/Ton	1,046
Embankment	221,008 CY	10 Gal/CY	2,210
		Total =	3,738

SPEC	CODE	BID ITEM	QTY	UNIT
216	0100	WATER		
		Water	3,738	M GAL
762	1104	PVMT MK PAINTED 4IN LINE		
		Centerline Pavement Marking	86,647	LF
		Shoulder Pavement Marking	203,226	LF
762	0430	SHORT TERM 4IN LINE-TYPE NR		
		Centerline Pavement Marking	346,589	LF
766	0120	RESET MAILBOX		
		Mailbox	11	EA

762-0430 SHORT TERM 4IN LINE - TYPE NR				
Roadway	Begin Station	End Station	Basis	Quantity (LF)
ND 6 Centerline - Milled Surface	1198+56	2223+50	Match PVMT MK Painted 4IN Line Table	86,647
ND 6 Centerline - 1st Lift	1198+56	2223+50	Match PVMT MK Painted 4IN Line Table	86,647
ND 6 Centerline - 2nd Lift	1198+56	2223+50	Match PVMT MK Painted 4IN Line Table	86,647
ND 6 Centerline - Fogged Rumble Strips	1198+56	2223+50	Match PVMT MK Painted 4IN Line Table	86,647
			Total =	346,589

766 0120 RESET MAILBOX							
Roadway	Existing		Proposed		Replace / Reset	Post Mount	Quantity (EA)
	Station	Offset	Station	Offset			
Sioux County							
Private Drive	1397+47	Lt	1397+47	31' Lt	Reset	Single	1
Private Drive	1435+91	Rt	1435+91	61' Lt	Reset	Single	1
Private Drive	1575+34	Rt	1575+34	27' Lt	Reset	Single	1
Private Drive	1631+52	Lt	1631+52	51' Lt	Reset	Single	1
Private Drive	1631+52	Lt	1631+52	55' Lt	Reset	Single	1
74th St SW	1736+43	Lt	1736+43	30' Lt	Reset	Single	1
Private Drive	1778+05	Rt	1778+05	24' Rt	Reset	Single	1
Morton County							
Private Drive	1922+95	Rt	1922+95	25' Rt	Reset	Single	1
69th St SW	2011+42	Rt	2011+42	19' Rt	Reset	Single	1
Private Drive	2062+93	Lt	2062+93	30' Lt	Reset	Single	1
Private Drive	2223+70	Rt	2223+70	216' Lt	Reset	Single	1

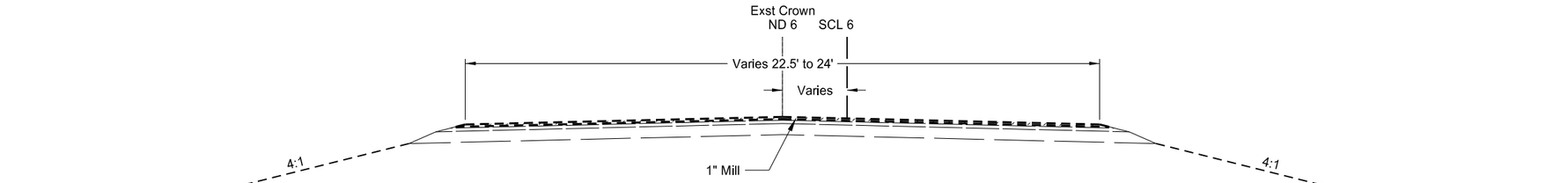
762-1104 PVMT MK PAINTED 4IN LINE								
Lt Edge line				Rt Edge line				
Begin Sta	End Sta	Total	Unit	Begin Sta	End Sta	Total	Unit	
1198+42	1397+15	19,873	LF	1198+42	1435+83	23,741	LF	
1398+21	1631+16	23,295	LF	1436+97	1513+50	7,653	LF	
1632+23	1735+76	10,353	LF	1514+74	1575+00	6,026	LF	
1736+68	1777+49	4,081	LF	1576+04	1631+11	5,507	LF	
1778+54	1880+14	10,160	LF	1632+17	1841+21	21,083	LF	
1882+37	1884+13	176	LF	1844+00	1884+58	4,162	LF	
1885+25	1894+91	966	LF	1885+70	1922+67	3,697	LF	
1896+15	2062+52	16,637	LF	1923+72	2156+97	23,325	LF	
2063+57	2157+06	9,349	LF	2158+01	2222+95	6,573	LF	
2158+10	2223+00	6,569	LF	-	-	-	-	
	Subtotal =	101,459	LF		Subtotal =	101,767	LF	
					Total =	203,226	LF	

This document was originally issued and sealed by Jonathan P. Morgenroth Registration Number PE- 6872 , on 02/08/22 and the original document is stored at the North Dakota Department of Transportation

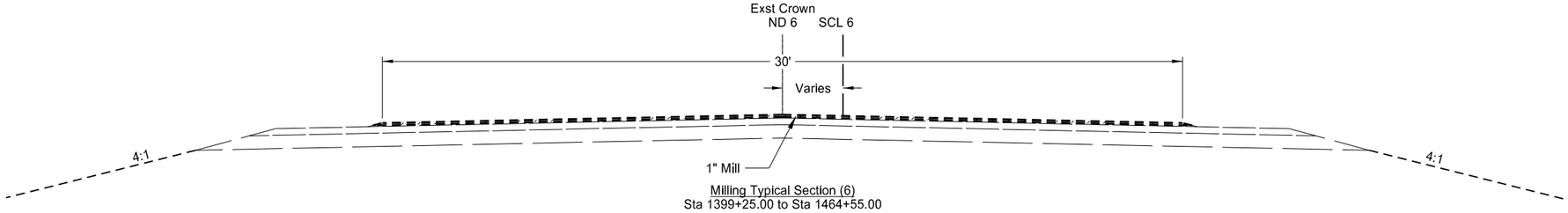
ND 6
Sliver Widening

Pavement Marking

Revised 2/4/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	30	3



Milling Typical Section (5)
Sta 1198+56.00 to Sta 1241+02.00
Sta 1242+22.00 to Sta 1280+23.33
Sta 1291+66.67 to Sta 1318+55.00
Sta 1319+38.00 to Sta 1358+50.00
Sta 1360+05.00 to Sta 1399+25.00
Sta 1464+55.00 to Sta 1517+18.33
Sta 1519+11.67 to Sta 1621+01.00
Sta 1623+54.00 to Sta 1664+68.00
Sta 1665+44.00 to Sta 1706+44.00
Sta 1707+54.00 to Sta 1836+07.00



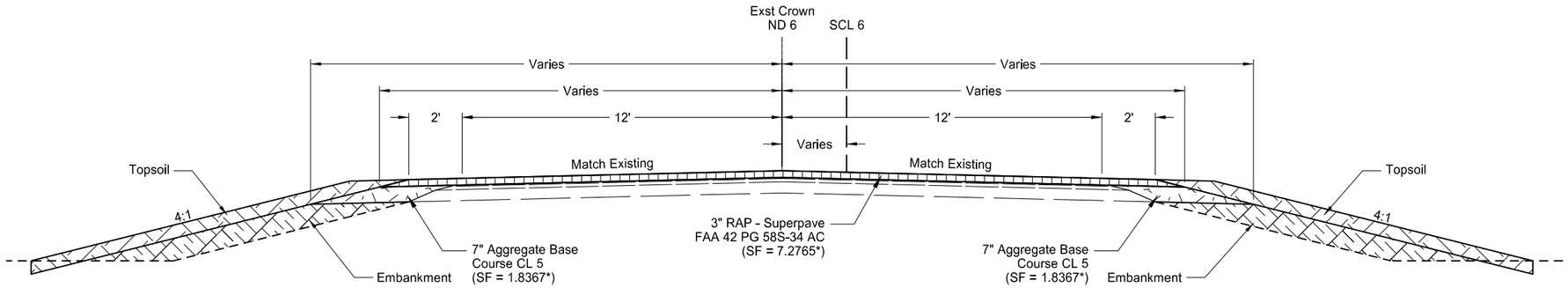
Milling Typical Section (6)
Sta 1399+25.00 to Sta 1464+55.00

ND 6
Sliver Widening

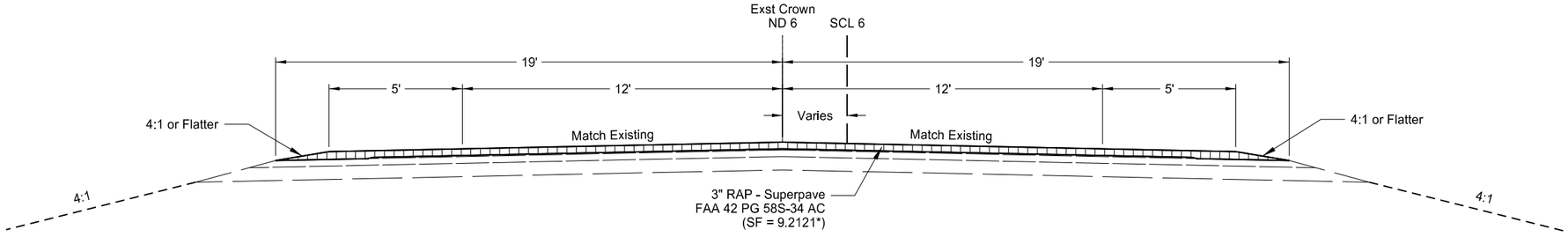
Typical Sections

Milling

Revised 2/4/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	30	5



Proposed Typical Section (9)
Sta 1198+56.00to Sta 1241+02.00
Sta 1242+22.00 to Sta 1280+23.33
Sta 1291+66.67 to Sta 1318+55.00
Sta 1319+38.00 to Sta 1358+50.00
Sta 1360+05.00 to Sta 1399+25.00
Sta 1464+55.00 to Sta 1517+18.33
Sta 1519+11.67 to Sta 1621+01.00
Sta 1623+54.00 to Sta 1664+68.00
Sta 1665+44.00 to Sta 1706+44.00
Sta 1707+54.00 to Sta 1836+07.00



Proposed Typical Section (10)
Sta 1399+25.00 to Sta 1464+55.00

* Note: areas are approximate due to variable existing conditions

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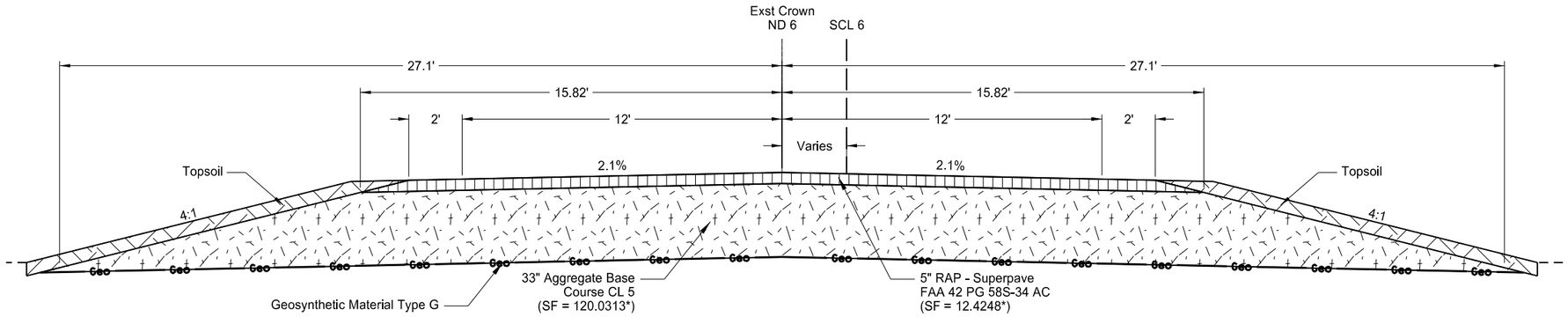
ND 6
Sliver Widening

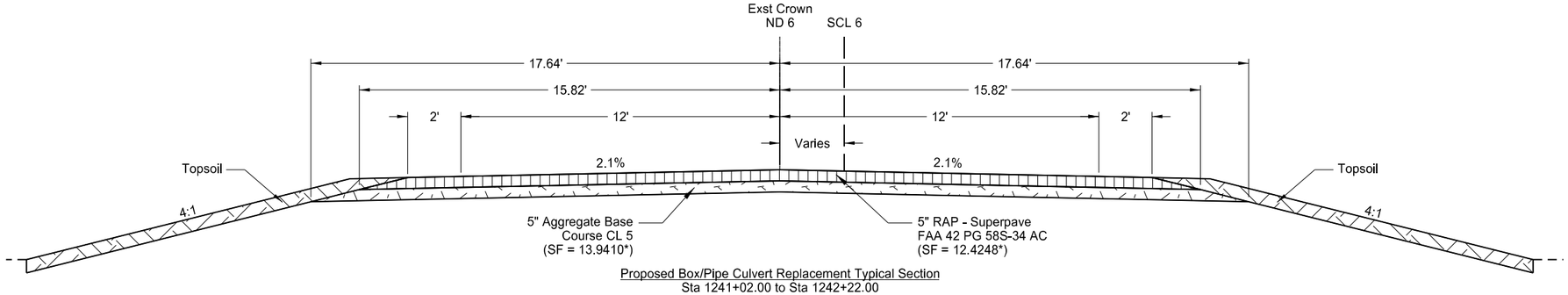
Typical Sections

Proposed

Revised 2/4/2022	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	30	7



Proposed Subcut Typical Section
Sta 1280+23.33 to Sta 1291+66.67
Sta 1517+18.33 to Sta 1519+11.67



Proposed Box/Pipe Culvert Replacement Typical Section
Sta 1241+02.00 to Sta 1242+22.00
Sta 1318+55.00 to Sta 1319+38.00
Sta 1358+50.00 to Sta 1360+05.00
Sta 1621+01.00 to Sta 1623+54.00
Sta 1664+68.00 to Sta 1665+44.00
Sta 1706+44.00 to Sta 1707+54.00

* Note: areas are approximate due to variable existing conditions

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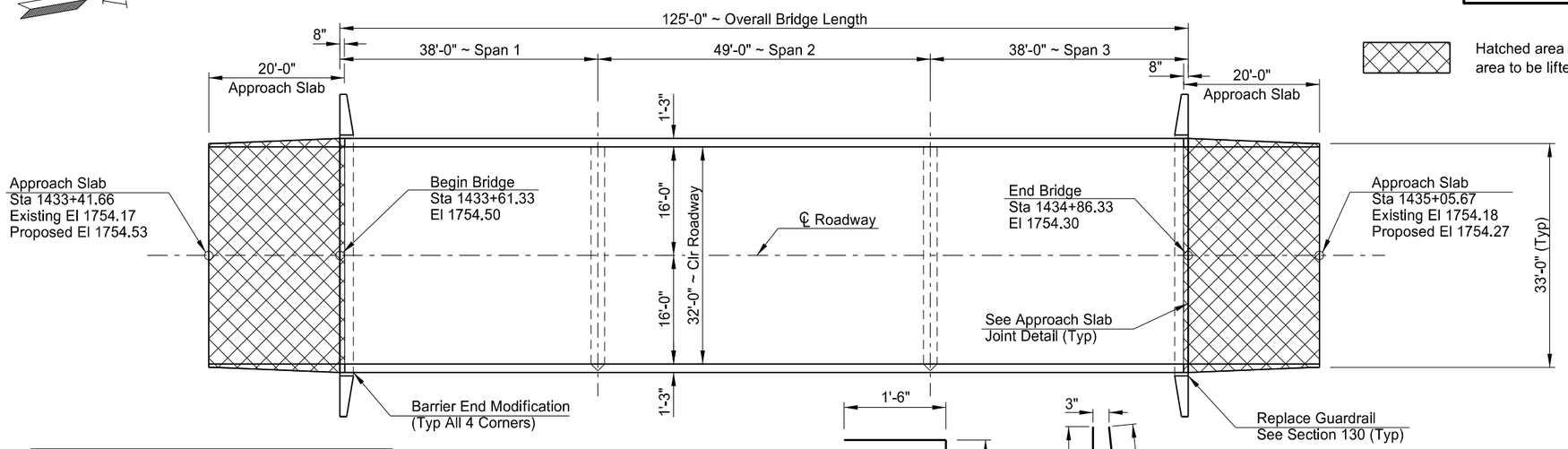
ND 6
Sliver Widening

Typical Sections

Proposed

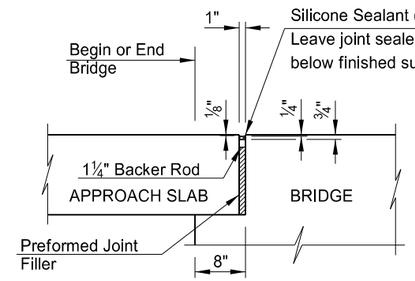
Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	1



PLAN

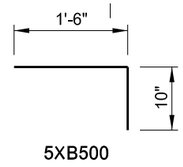
Hatched area indicates area to be lifted.

NOTE:
Maintain existing 2.1% cross slope in all areas that are lifted. Match the cross slope at the bridge if different than 2.1%.

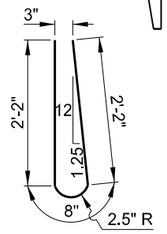


APPROACH SLAB JOINT DETAIL

BAR LIST - ONE END MODIFICATION			
SIZE	MARK	NO.	LENGTH
4	XA500	8	2'-3"
5	XB500	2	2'-4"
5	XL500	1	5'-0"



5XB500



5XL500

DESIGN STRENGTHS:

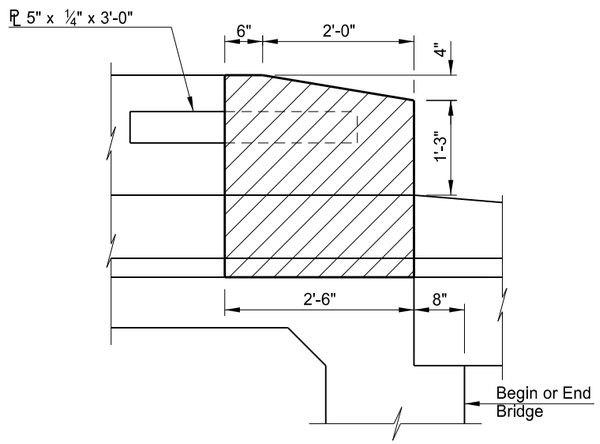
f'c = 3,000 psi ~ Class AE-3 Concrete
fy = 60,000 psi ~ Reinforcing Steel

Load & Resistance Factor Design

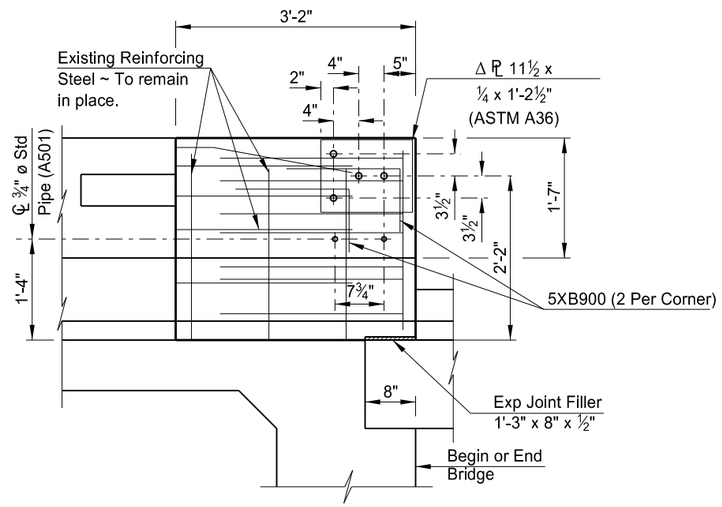
BRIDGE BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
550	0210	PCC PAVEMENT GRINDING	SY	142
602	1250	PENETRATING WATER REPELLANT TREATMENT	SY	153
748	0540	CURB	LF	80
930	3631	POLYURETHANE FOAM	LBS	1,748
930	8644	SILICONE SEALANT	LF	82
930	9647	BARRIER END MODIFICATION	EA	4

The hatched areas indicate barrier concrete to be removed and modified. Saw cut concrete to provide for a neat line prior to being removed. Carefully remove concrete to ensure no damage is done to the existing reinforcing steel that is to remain in place. Replace any damaged rebar at the Contractor's expense.

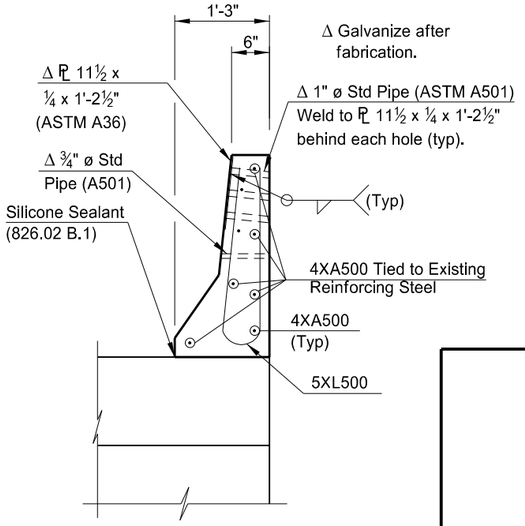


SHOWING REMOVAL LIMITS



SHOWING MODIFIED BARRIER END

BARRIER END MODIFICATION DETAIL



SHOWING END VIEW

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NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PORCUPINE CREEK BRIDGE
NORTH DAKOTA HIGHWAY 6
15 MILES NORTH OF SELFRIDGE
BRIDGE LAYOUT

PROJECT: NH-SS-1-006(025)022
STATION: 1433+61.33
SIOUX COUNTY

1/24/2022 — DATE
Jon Ketterling — BRIDGE ENGINEER

Revised 01/21/22	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	2

NOTES

100 SCOPE OF WORK: This project consists of barrier end modifications, approach slab repairs, approach slab curb repairs and joint repairs at the bridge ends.

550 PCC PAVEMENT GRINDING: The approach slabs have been overlaid with 2” of asphalt. Remove the asphalt overlay off the concrete surface by milling or diamond grinding. Remove asphalt in a manner that does not damage the surface of the concrete approach slab. Diamond grind the final driving surface of the approach slab. The Engineer will pay plan quantity for the asphalt removal, regardless of the number of passes required by the Contractor’s operation to complete the removal. Include costs for asphalt removal and diamond grinding in the price bid for” PCC Pavement Grinding.”

602 PENETRATING WATER REPELLANT TREATMENT: Apply penetrating water repellant to the driving surface of the approach slabs, the front and top faces of the curbs, and the repaired areas of the barriers after completion of the grinding and foam jacking. Apply treatment a minimum of 21 days after placement of concrete and a minimum of 48 hours after completion of the final surface finish as required by Section 602.04 I “Surface Finish.” Prior to applying penetrating water repellant, seal any cracks in the approach slab as directed by the Engineer. Include costs for crack sealing in the price bid for “Penetrating Water Repellant Treatment.”

748 CURB: Remove existing curb and reinforcing as shown. Use Class AE-3 concrete. Include all material and labor costs to remove and replace the curb in the price bid for “Curb.”

930 SILICONE SEALANT: Repair the joints after the completion of all other work at this site. Replace the silicone sealant in the joint between the approach slabs and the deck. Clean the joint of all foreign material and sandblast before the new silicone sealant is installed. Use silicone sealant in accordance with Section 826.02 B.1. Extend the silicone sealant along the full length of the barrier end modification and along the face and top of the curb joint. Include all material, labor and equipment required to remove and replace the silicone sealant in the bid item “Silicone Sealant.”

930 BARRIER END MODIFICATION: Remove the existing barrier concrete as shown in the “Barrier End Modification Details” in a manner that prevents any damage to parts of the structure to remain. Include all labor, equipment, and materials to modify the barrier end in the bid item “Barrier End Modification.”

NOTES

930 POLYURETHANE FOAM: This work consists of lifting and leveling the existing concrete bridge approach slabs by a polyurethane foam system. Lift and level the concrete slabs by drilling injection holes and injecting polymer. Verify elevations to control lift of slabs. Cleanup as directed by the Engineer.

Provide a water-blown, hydrophobic, closed cell, high-density polyurethane medium to lift and level the approach slabs. Provide material meeting the following physical characteristics and properties:

Density, Lb/Cu Ft (ASTM 1622)	Compressive Strength (ASTM 1621)
3.0	40 psi
3.5	50 psi
4.0	60 psi
6.0	110 psi

Provide a polyurethane foam system with a free-rise density of 3.0 – 3.2 lb/ft^3, a minimum compressive strength of 40 psi, and a foam density that increases during expansion that is above the original free-rise density value.

Provide a high-density formulation that reaches 90% of full compressive strength within 15 minutes of injection, at which time the Contractor may allow traffic on the treated areas, as approved by the Engineer.

Submit to the Engineer the manufacturer's certification stating that all materials and methods meet requirements. Transfer and submit all warranties and guarantees to the Department upon acceptance by the Engineer.

Submit a list of the lifting and undersealing equipment to the Engineer for review. The minimum list of equipment required is listed below. This list does not preclude the use of additional equipment.

a. A pneumatic drill or an electric drill capable of drilling 5/8-inch diameter holes to the required depths.

b. A truck-mounted pumping unit capable of injecting the high-density polyurethane formulation between the concrete pavement and the underlying surface. Provide a pumping unit, equipped with a dial gauge in increments of 45 grams (1/10 pound), capable of controlling the rate of flow of the material as well as the rise of the pavement.

c. A laser leveling unit to ensure that the concrete is raised to an even plane and to the required elevations.

Seal and protect all stored materials from contamination of dust or any foreign material.

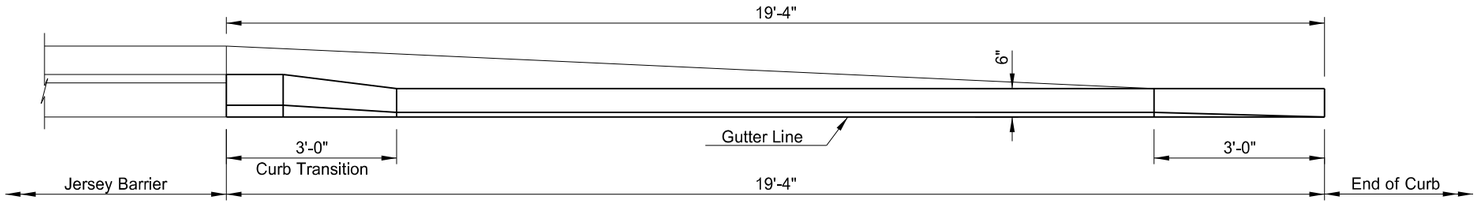
Prior experience using high-density polyurethane to raise and underseal concrete slabs is required.
Drill a series of 5/8 inch holes at the locations required for the proper raising of the surface. Determine the exact locations and spacing required. Calibrate the pumping unit daily, or at the Engineer's request, to ensure consistent accuracy of injected material.

Inject high-density polyurethane formulation under the slab. Control the amount of rise, using the pumping unit, by regulating the rate of injection of the raising/undersealing polymer. When the nozzle is removed from the hole, remove any excessive polyurethane material from the area and seal the hole with a non-expansive cementitious grout. Dispose of all removed material in an environmentally acceptable manner conforming to Federal, State and local regulations. Final elevations are to be within ¼" of the elevations proposed by profile. A tight string line may be used to monitor and verify elevations for slab lengths of 50 feet or less. For longer sections, a laser level will be used to monitor and verify elevations. The Contractor is responsible for any pavement blowouts or excessive pavement lifting which may result from the process, and will repair the damaged area to the satisfaction of the Engineer without additional cost.

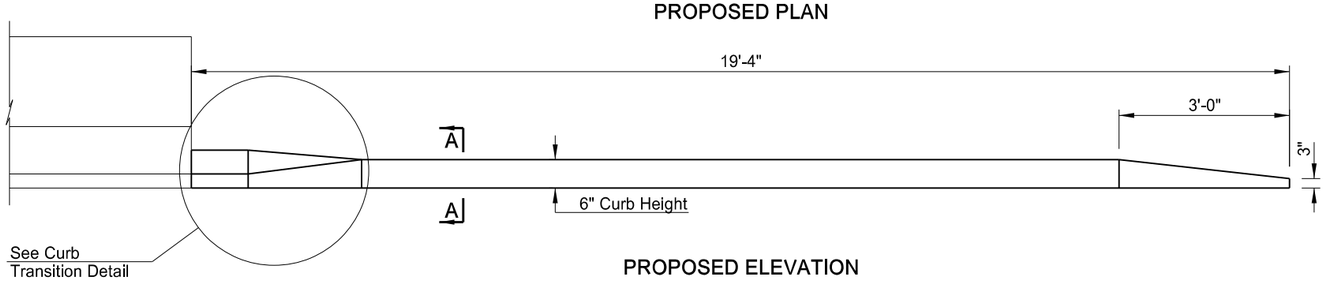
Do not raise the slab more than ¼" while pumping in any one hole at any one time. Grind pavement areas to grade that are raised above specified tolerances. If over jacking is greater than 0.10 feet, full-depth removal and replacement of the affected area is required, at no cost to the Department.

The price bid for the item "Polyurethane Foam" includes full compensation for furnishing all labor, supervision, materials, tools, equipment, and incidentals for all work called for in this note. Daily material usage will be verified by the Engineer and the Contractor and reported on a field production report.

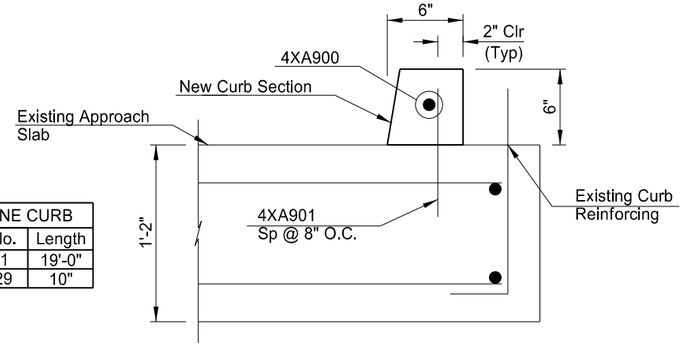
Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	4



PROPOSED PLAN



PROPOSED ELEVATION



A-A

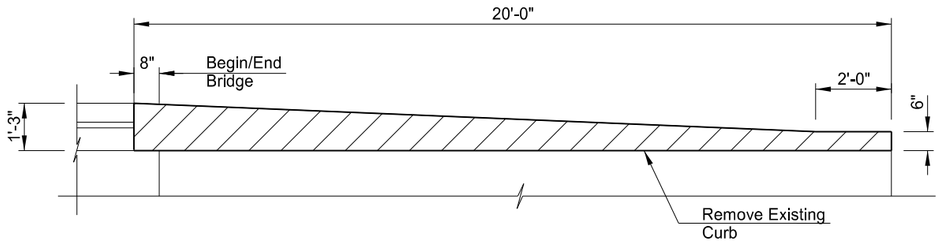
BAR LIST - ONE CURB			
Size	Mark	No.	Length
4	XA900	1	19'-0"
4	XA901	29	10"

NOTE:

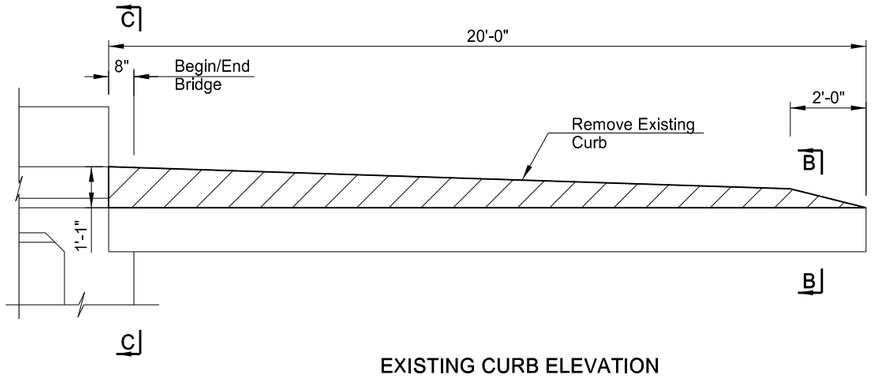
Existing curb reinforcing to remain in place where possible. Where the existing curb reinforcing location would result in less than 1½" concrete cover inside the new curb section, cut the existing reinforcing steel flush with the top surface of the approach slab.

Install 4XA901 bars according to the manufacturer's recommendations with a high strength adhesive specifically intended for concrete anchorage (16k min. ultimate pullout) and that meets the requirements of Section 806.02. Embed the bars 9" minimum into the slab.

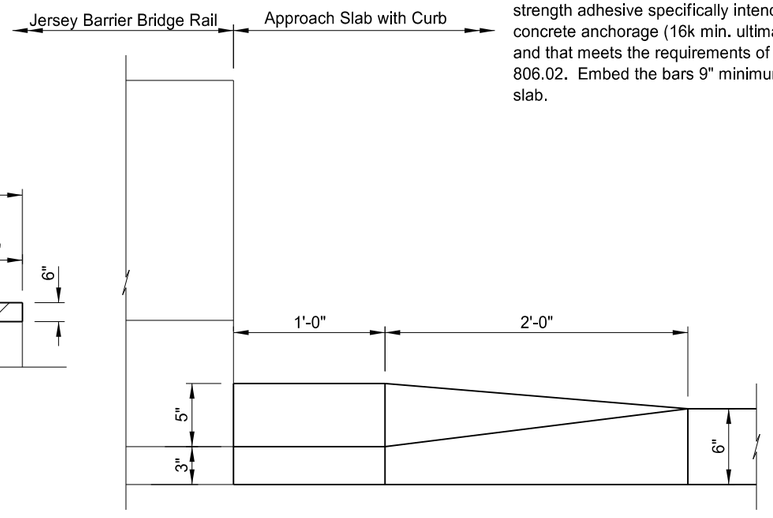
The hatched areas indicate concrete to be removed and modified. Remove curb concrete in its entirety. Carefully remove concrete to ensure no damage is done to the existing approach slab that is to remain in place.



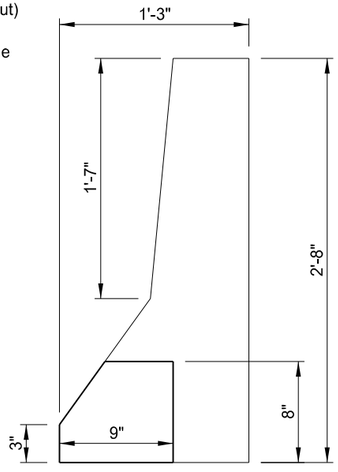
EXISTING CURB PLAN



EXISTING CURB ELEVATION

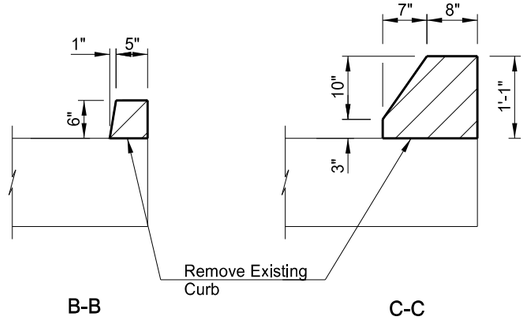


TRAFFIC SIDE ELEVATION



END VIEW

CURB TRANSITION DETAIL



B-B C-C

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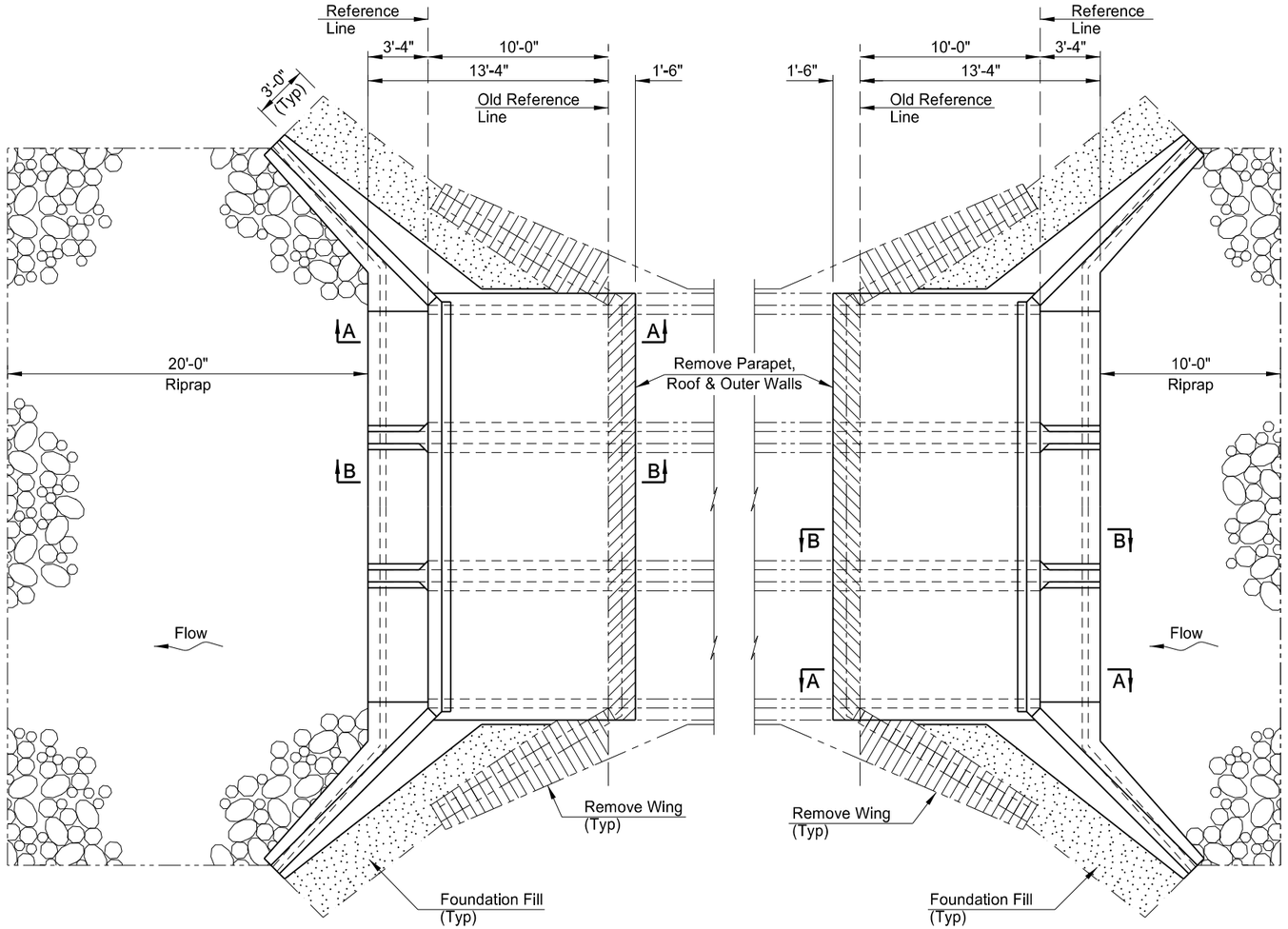
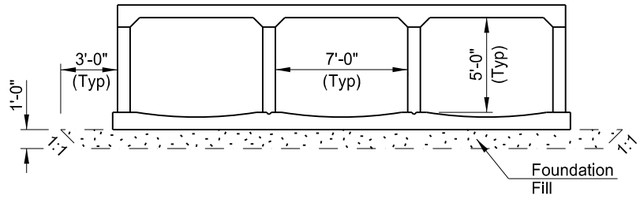
PORCUPINE CREEK BRIDGE
NORTH DAKOTA HIGHWAY 6

CURB DETAILS

Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	5

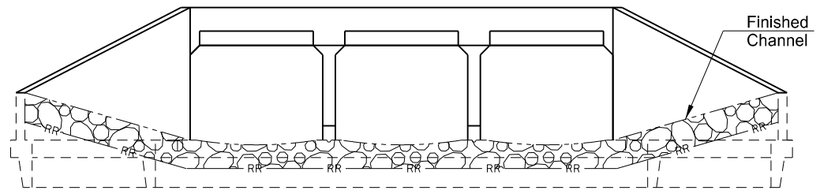


PLAN



(SHOWING FILL UNDER BOX)

SECTION



(SHOWING FINISHED SECTION)

END VIEW

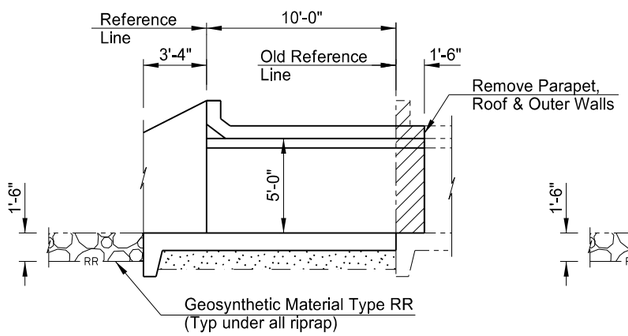
NOTE:

Provide a 1'-0" minimum depth of foundation fill under the floor. Remove and replace all unsound material under the box extension with foundation fill. The Engineer will determine the depth required.

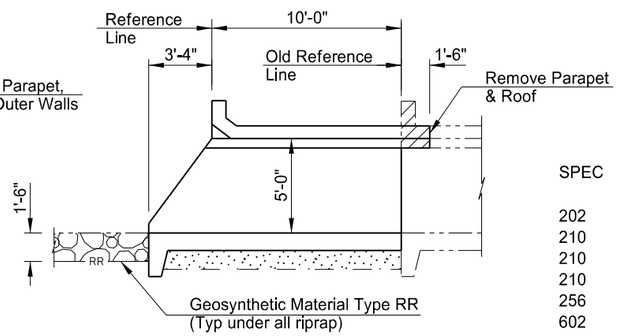
DESIGN STRENGTHS:

f'c = 3,000 psi ~ Class AE-3 Concrete
fy = 60,000 psi ~ Reinforcing Steel

Load & Resistance Factor Design



A-A



B-B

BOX CULVERT BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
202	0101	REMOVAL OF CONCRETE	EA	1
210	0050	BOX CULVERT EXCAVATION	EA	1
210	0210	FOUNDATION FILL	CY	31
210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1
256	0300	RIPRAP GRADE III	CY	62
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	60.0
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	7,373
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	124

SPECIAL PROVISIONS	
SSP 2	FEDERAL MIGRATORY BIRD TREATY ACT

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION
UNNAMED CREEK
1 MILE SOUTH OF BREIEN

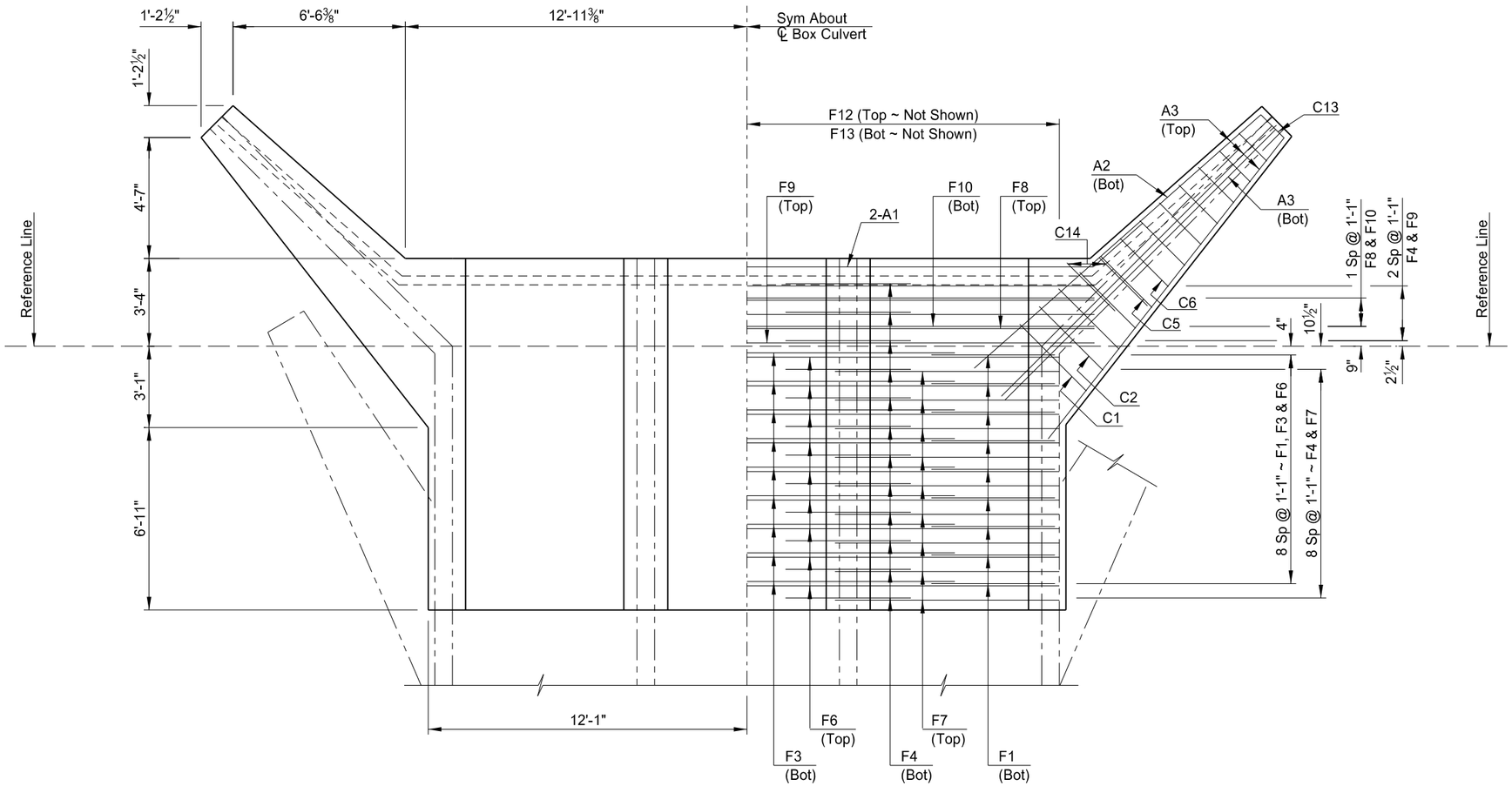
REINFORCED CONCRETE TRIPLE BOX CULVERT EXTENSION LAYOUT

CLEAR SPAN 3 x 7' CLEAR HEIGHT 5'
MAXIMUM FILL 6'

PROJECT: NH-SS-1-006(025)022
STATION: 1816+59.40
SIOUX COUNTY

1/24/2022 — DATE
Jon Ketterling — BRIDGE ENGINEER

Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	8



(SHOWING DIMENSIONS) (SHOWING REINFORCING)

FLOOR PLAN

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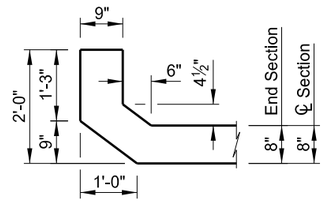
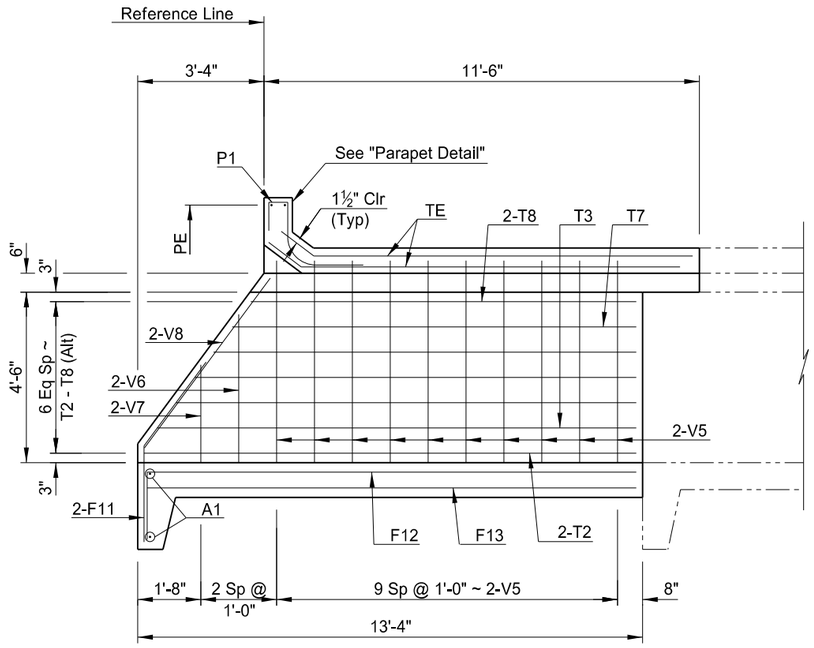
UNNAMED CREEK

FLOOR DETAIL

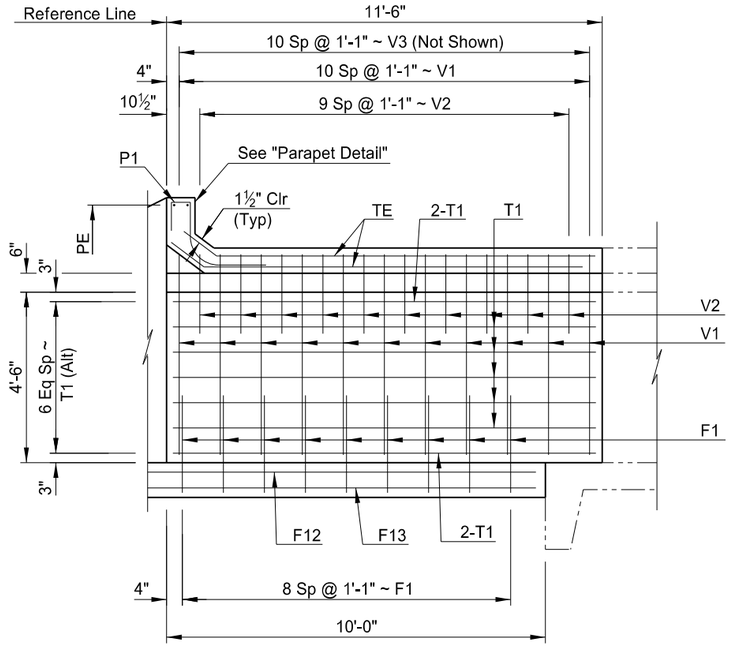
Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	9



PARAPET DETAIL



INNER WALL



OUTER WALL

LONGITUDINAL SECTIONS

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UNNAMED CREEK

WALL DETAILS & PARAPET DETAIL

BAR LIST (CONSTANT)				
MARK		NO.	LENGTH	SHAPE
W1	4	4	7'-7"	BENT
W2	4	4	7'-3"	BENT
W3	4	4	6'-10"	BENT
W4	4	4	6'-6"	BENT
W5	4	4	6'-2"	BENT
W6	4	4	5'-9"	BENT
W7	4	4	5'-5"	BENT
W8	4	4	5'-0"	BENT
W9	4	4	4'-8"	BENT
W10	4	4	4'-4"	BENT
W11	4	4	3'-11"	BENT
W12	4	4	3'-7"	BENT
C1	4	4	8'-10"	BENT
C2	4	4	8'-6"	BENT
C3	4	4	8'-2"	BENT
C4	4	4	7'-8"	BENT
C5	4	4	8'-7"	BENT
C6	4	4	8'-3"	BENT
C7	4	4	7'-11"	BENT
C8	4	4	7'-5"	BENT
C9	4	4	7'-1"	BENT
C10	4	4	6'-9"	BENT
C11	4	4	6'-5"	BENT
C12	4	4	6'-1'	BENT
C13	4	4	5'-7"	BENT
C14	4	8	4'-9"	BENT
H1	6	16	12'-8"	STR.
H2	4	16	11'-11"	STR.
H3	4	8	8'-10"	STR.
H4	4	60	6'-0"	STR.
H5	6	8	9'-6"	BENT

BAR LIST (CONSTANT)				
MARK	SIZE	NO.	LENGTH	SHAPE
O1-O9	4	4 SETS	40'-11"	STR.
A1	6	8	16'-5"	BENT
A2	6	4	8'-9"	STR.
A3	6	16	14'-8"	STR.
P1	4	48	3'-10"	BENT
P2	6	8	5'-0"	BENT
PE	6	4	12'-2"	STR.
V6	4	8	3'-11"	STR.
V7	4	8	2'-7"	STR.
V8	6	8	5'-7"	STR.
F8	4	4	26'-4"	STR.
F9	4	6	26'-4"	STR.
F10	4	4	26'-4"	STR.
F11	6	8	5'-6"	BENT
F12	4	32	14'-8"	BENT
F13	4	32	12'-11"	STR.
T2	4	8	13'-0"	STR.
T3	4	4	12'-7"	STR.
T4	4	8	12'-1"	STR.
T5	4	4	11'-8"	STR.
T6	4	4	11'-2"	STR.
T7	4	4	10'-8"	STR.
T8	4	8	10'-2"	STR.

BAR LIST (VARIABLE)				
MARK	SIZE	NO.	LENGTH	SHAPE
V1	4	44	10'-0"	BENT
V2	4	40	4'-3"	BENT
V3	4	44	5'-4"	STR.
V5	4	80	5'-4"	STR.
F1	5	36	8'-3"	BENT
F3	4	18	15'-9"	STR.
F4	4	48	4'-3"	STR.
F6	4	18	23'-8"	STR.
F7	4	36	8'-6"	STR.
S1	4	22	15'-9"	STR.
S2	5	40	4'-9"	STR.
S4	5	22	23'-0"	STR.
T1	4	36	11'-2"	STR.
TE	4	80	11'-1"	BENT

Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	11

CONCRETE QUANTITIES (ONE END)	
ENTIRE FLOOR	13.7 CY
TWO OUTSIDE WALLS & TWO WINGS	5.4 CY
INSIDE WALL	2.7 CY
ENTIRE ROOF	8.25 CY
TOTAL	30.0 CY

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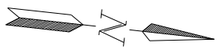
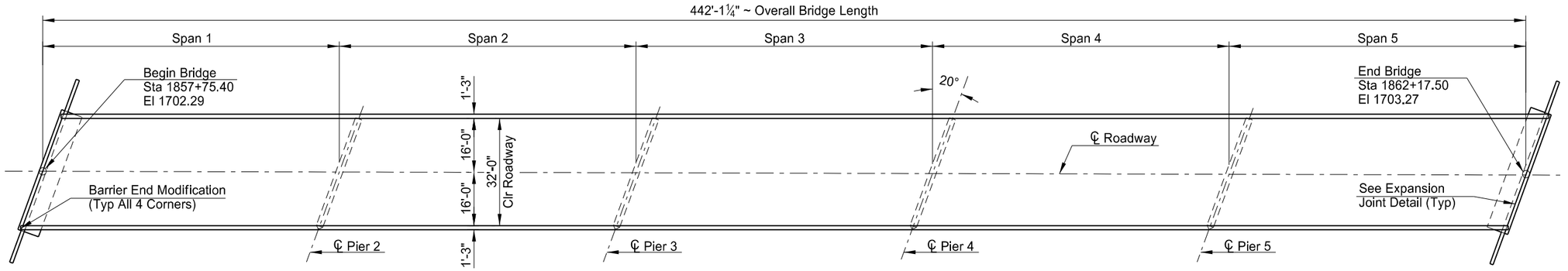
QUANTITIES	
CLASS AE-3 CONCRETE	60.0 CY
REINFORCING STEEL	7,373 LBS

UNNAMED CREEK

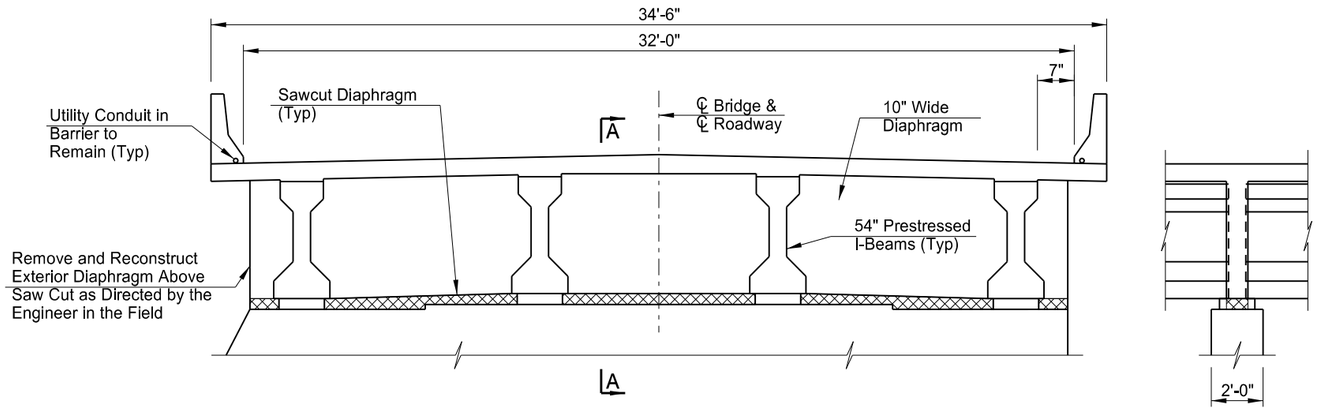
REINFORCING BAR LIST

Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	13





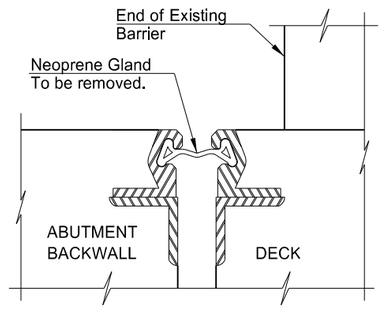
PLAN



(Piers 2 & 5 Only)

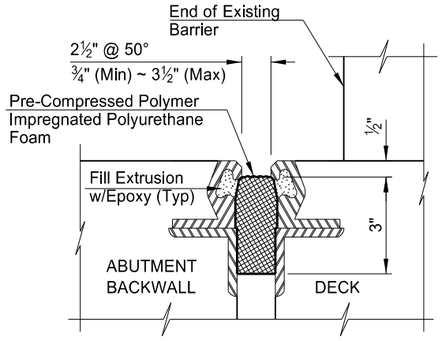
PIER DIAPHRAGM ELEVATION

A-A



(Showing Existing)

EXPANSION JOINT DETAIL



(Showing New)

NEW EXPANSION JOINT DETAIL

REMOVAL OF CONCRETE: The hatched areas indicate concrete to be removed. Saw cut completely through the diaphragm concrete to provide for a neat line prior to being removed. Carefully remove concrete to ensure no damage is done to the existing concrete beams. Cut any protruding reinforcing flush with the beam or pier cap, coat the exposed ends following ASTM D3963 and cover the exposed reinforcing with non-shrink grout.

BRIDGE BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
202	0111	REMOVAL OF CONCRETE	L SUM	1
650	0805	DECK SPALL REPAIR	SF	8
930	9620	PIER REPAIR	SF	25
930	9647	BARRIER END MODIFICATION	EA	4
950	8673	EXPANSION JOINT MODIFICATION	LF	75.4

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SPECIAL PROVISIONS	
SSP 2	FEDERAL MIGRATORY BIRD TREATY ACT

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION
CANNONBALL RIVER BRIDGE
NORTH DAKOTA HIGHWAY 6
AT BREIEN
BRIDGE LAYOUT

PROJECT: NH-SS-1-006(025)022
STATION: 1857+75.40
SIOUX COUNTY

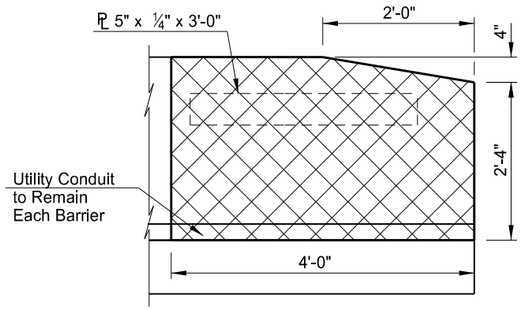
1/24/2022 (DATE) Jon Ketterling (BRIDGE ENGINEER)

Revised 01/21/22	STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	170	16

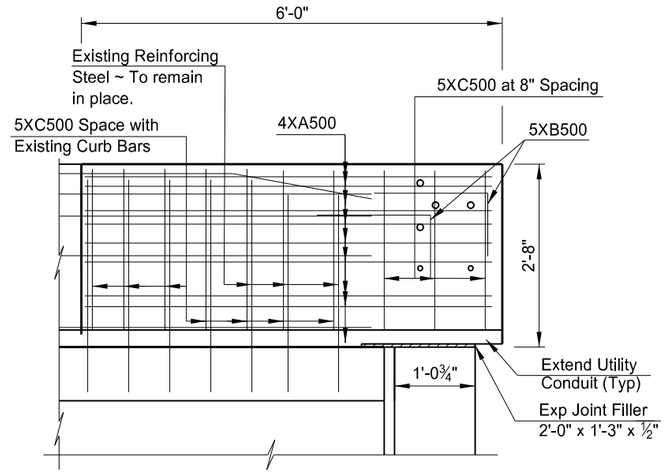
The hatched areas indicate concrete to be removed and modified. Saw cut concrete to provide for a neat line prior to being removed. Carefully remove concrete to ensure no damage is done to the existing reinforcing steel that is to remain in place.

BAR LIST - ONE END MODIFICATION

SIZE	MARK	NO.	LENGTH
4	XA500	9	5'-8"
5	XB500	2	2'-4"
5	XC500	10	5'-4"

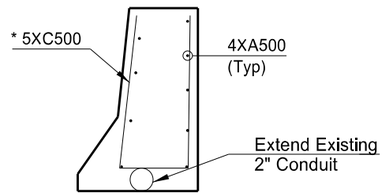


SHOWING REMOVAL LIMITS



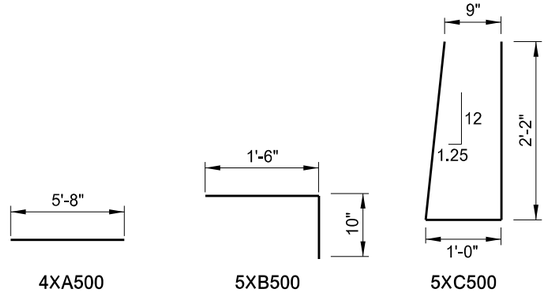
SHOWING MODIFIED BARRIER END

* Provide a 1½" clearance to the barrier reinforcing.

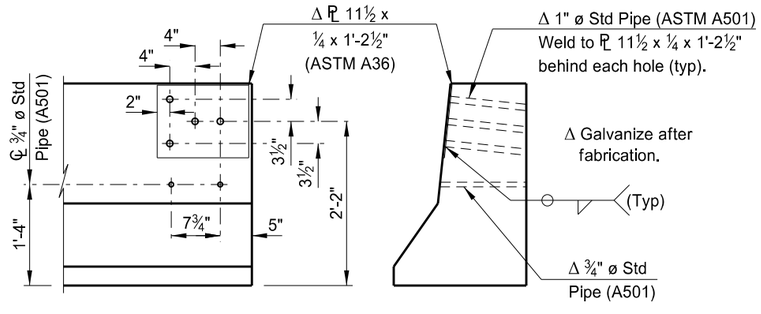


SHOWING REINFORCING

BARRIER END MODIFICATION DETAIL



BAR DETAILS



CONNECTION PLATE DETAILS

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CANNONBALL RIVER BRIDGE
NORTH DAKOTA HIGHWAY 6

BARRIER DETAILS

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	NH-SS-1-006(025)022	180	1

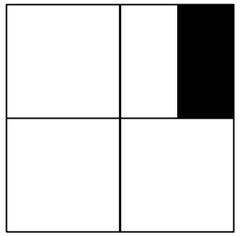
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

TEST HOLE PLAT

Location: E1/2NE1/4 4-145-79 County: MCLEAN

Ownership: Denny Portra

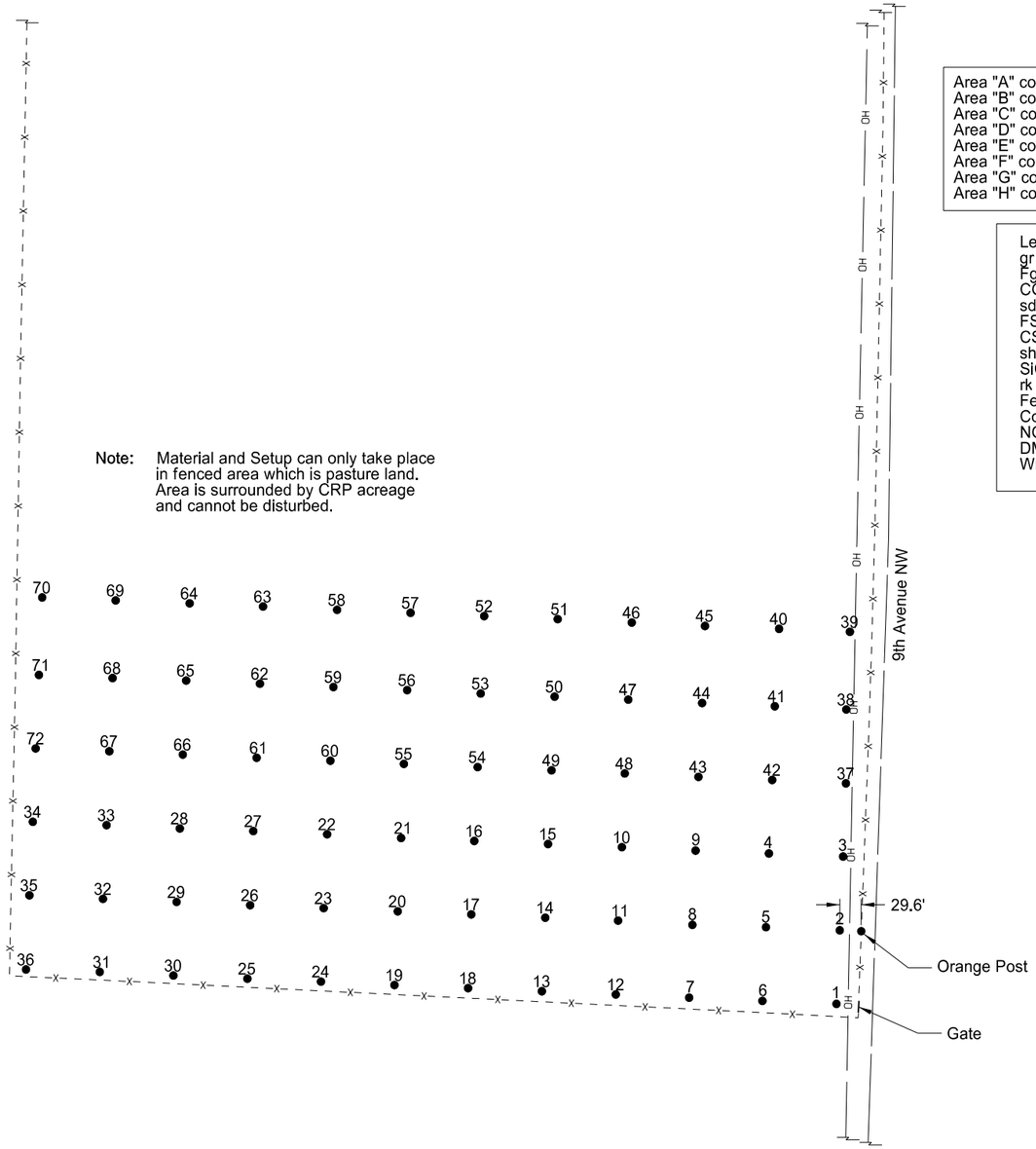
LOCATION OF PIT IN SECTION



Area "A" consists of test holes 1-9
Area "B" consists of test holes 10-18
Area "C" consists of test holes 19-27
Area "D" consists of test holes 28-36
Area "E" consists of test holes 37-45
Area "F" consists of test holes 46-54
Area "G" consists of test holes 55-63
Area "H" consists of test holes 64-72

Legend
gr = gravel
Fgr = fine gravel
CGr = coarse gravel
sd = sand
FS = fine sand
CS = coarse sand
sh = shale
SiCl = silt clay
rk = rock
FeO = iron oxide
CoS = coal slack
NG = no gravel
DM = disturbed material
WL = water line

Note: Material and Setup can only take place in fenced area which is pasture land. Area is surrounded by CRP acreage and cannot be disturbed.



Scale 1" = 200'

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-SS-1-006(025)022	180	2

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
1	1.0	8.0 Fgr	2	10	20	30	+gr
		6.0 gr					
		3.0 Fgr					
		2.0 gr					
2	3.0	1.0 sd	0	7	17	27	+gr
		1.0 gr					
		1.0 Fgr					
		1.0 gr					
		3.0 Fgr					
		0.5 Fgr					
		2.5 gr					
		0.5 sd					
3	3.0	7.0 Fgr	3	18	27	37	+gr
		1.0 gr					
		4.0 Fgr					
		5.0 gr					
4	2.5	0.5 FgrSiCl	1	9	23	33	+gr
		1.0 Fgr					
		1.0 sd					
		2.0 Fgr					
		1.0 gr					
		3.0 Fgr					
		9.0 gr					
5	1.0	1.0 Fgr	1	9	19	29	+gr
		3.0 sd					
		3.0 Fgr					
		5.0 gr					
		4.0 sd					
		3.0 gr					
6	1.0	3.0 Fgr	1	12	23	33	rk
		1.0 CS					
		3.0 Fgr					
		1.0 sd					
		4.0 gr					
		2.0 Fgr					
		4.0 gr					
7	1.0	1.0 sd	0	5	14	25	+gr
		1.0 Fgr					
		2.0 sd					
		2.0 Fgr					
		1.0 sd					
		2.0 gr					
		1.0 Fgr					
		2.0 Fgr					
		1.0 gr					
		1.0 Fgr					
		1.0 gr					
		3.0 Fgr					
		5.0 gr					
		4.0 sd					
		3.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
8	1.0	1.0 Fgr	0	8	18	28	+cave
		1.0 gr					
		7.0 sd					
		3.0 gr					
		1.0 FS					
		2.0 gr					
9	1.0	8.0 Fgr	2	12	24	35	rk
		9.0 gr					
10	1.5	0.5 FgrSiCl	0	4	15	24	+gr
		1.0 sd					
		1.0 gr					
		1.0 Fgr					
		1.0 gr					
		1.0 sd					
		1.0 Fgr					
		1.0 sd					
		6.0 gr					
		2.0 Fgr					
11	1.0	2.0 Fgr	1	10	21	31	+cave
		3.0 sd					
		1.0 Fgr					
		2.0 sd					
		3.0 gr					
		2.0 sd					
		2.0 FS					
		3.0 gr					
12	0.5	2.5 Fgr	3	18	32	43	rk
		1.0 sd					
		3.0 Fgr					
		11.0 gr					
13	1.0	1.0 sd	0	10	22	32	+gr
		1.0 Fgr					
		1.0 gr					
		2.0 sd					
		1.0 Fgr					
		13.0 gr					
14	1.0	6.0 Fgr	3	22	34	43	+gr
		1.0 gr					
		1.0 Fgr					
		2.0 gr					
		2.0 Fgr					
		2.0 gr					
		1.0 Fgr					
		1.0 gr					
		1.0 CS					
		1.0 Fgr					
		1.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
15	1.0	1.0 Fgr	0	7	17	28	+gr
		2.0 FS					
		3.0 Fgr					
		2.0 sd					
		7.0 gr					
		1.0 sd					
		3.0 gr					
16	0.5	0.5 gr	1	8	20	31	+gr
		4.5 Fgr					
		0.5 gr					
		1.0 Fgr					
		1.0 sd					
		5.0 gr					
		1.0 sd					
		2.0 gr					
		1.0 Fgr					
		3.0 gr					
17	2.0	1.0 sd	2	13	25	35	+gr
		1.0 Fgr					
		1.0 CS					
		2.0 Fgr					
		1.0 FS					
		1.0 Fgr					
		2.0 gr					
		3.0 Fgr					
		4.0 gr					
		1.0 Fgr					
		1.0 gr					
18	3.5	2.5 Fgr	0	12	26	37	WL
		1.0 sd					
		2.0 gr					
		1.0 FS					
		6.0 gr					
19	3.0	1.0 gr SiCl	0	9	19	29	WL
		4.0 gr					
		1.5 sd					
		4.5 gr					
20	2.0	6.0 Fgr	2	18	29	39	WL
		1.5 gr					
		2.0 Fgr					
		0.5 Fgr SiCl					
		2.0 gr					
		1.0 Fgr					
		1.0 gr					
		1.0 Fgr					
		2.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	
21	1.0	1.0 sd	0	10	20	30	+gr
		1.0 gr					
		3.0 FS					
		3.0 sd					
		3.0 gr					
		2.0 sd					
		4.0 gr					
		1.0 sd					
		1.0 gr					
22	2.0	2.0 gr	1	11	23	32	+gr
		1.0 Fgr					
		1.0 sd					
		2.0 Fgr					
		1.5 gr					
		0.5 sd					
		10.0 gr					
23	3.0	2.0 Fgr	1	10	22	32	WL
		1.0 sd					
		3.0 Fgr					
		1.0 gr					
		1.0 Fgr					
		3.5 gr					
		0.5 Fgr SiCl					
		1.0 Fgr					
		2.0 gr					
24	3.0	6.0 sd	0	9	18	29	WL
		5.5 gr					
25	2.0	1.0 gr SiCl	0	14	27	38	WL
		2.0 gr					
		1.0 sd					
		11.0 gr					
26	1.0	6.0 Fgr	6	22	35	46	+gr
		7.0 gr					
		1.0 Fgr					
		5.0 gr					

RANGE 79 **TWP** 145 **SEC** NE 1/4 4

COUNTY Mclean Oct-15

PROSPECTED BY Rogstad/Usher

INSPECTED & APPROVED Jeffrey Swank Nov-15

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-SS-1-006(025)022	180	3

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
27	1.0	2.0 gr	5	14	25	36	+gr
		3.0 Fgr					
		1.0 FS					
		1.0 Fgr					
		3.0 gr					
		1.0 Cgr					
		4.0 gr					
		1.0 Fgr					
		3.0 gr					
28	1.0	7.0 Fgr	3	21	34	44	+gr
		3.0 gr					
		1.0 Fgr					
		5.0 gr					
		2.0 Fgr					
		1.0 gr					
29	0.5	2.5 gr	3	14	24	36	+gr
		4.0 Fgr					
		8.0 gr					
		1.0 Fgr					
		4.0 gr					
30	1.5	1.5 Fgr	4	17	28	38	+gr
		1.0 sd					
		1.0 Fgr					
		1.0 sd					
		5.0 gr					
		2.0 Fgr					
		1.0 gr					
		1.0 Fgr					
		1.0 sd					
		4.0 gr					
31	1.0	4.5 Fgr	3	14	27	39	+gr
		14.5 gr					
32	1.5	3.5 Fgr	3	14	25	35	+gr
		1.0 sd					
		3.0 Fgr					
		7.0 gr					
		2.0 Fgr					
		2.0 gr					
33	1.0	2.0 gr	3	18	29	41	+gr
		4.0 Fgr					
		4.0 gr					
		3.0 Fgr					
		6.0 gr					
34	1.0	6.0 Fgr	3	14	25	36	+gr
		4.0 gr					
		1.0 Fgr					
		8.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
35	1.5	3.5 Fgr	3	13	24	34	+gr
		1.0 FS					
		2.0 Fgr					
		7.0 gr					
		2.0 Fgr					
		3.0 gr					
36	1.0	2.0 Fgr	3	18	29	39	+gr
		1.0 gr					
		3.0 Fgr					
		1.0 gr					
		2.0 gr					
		5.0 gr					
		1.0 sd					
		4.0 gr					
37	0.5	1.5 Fgr	4	13	23	33	SiCl
		1.0 gr					
		3.0 Fgr					
		1.0 CS					
		1.0 Fgr					
		8.0 gr					
		1.0 Fgr					
38	2.5	2.5 gr	3	13	22	30	+gr
		4.0 Fgr					
		3.0 sd					
		1.0 sd SiCl					
		1.0 FgrSiCl					
		2.0 Fgr					
		4.0 gr					
39	4.0	3.0 gr SiCl	2	11	22	32	SiCl
		4.0 Fgr					
		2.0 FS					
		2.0 gr					
		1.0 Fgr					
		2.5 gr					
40	3.5	1.5 Fgr	2	13	22	31	+gr
		2.0 gr					
		6.0 sd					
		3.0 Fgr					
41	0.5	1.5 gr	2	11	23	33	+gr
		5.0 Fgr					
		4.0 gr					
		1.0 Fgr					
		3.0 gr					
		1.0 FS					
		4.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
42	2.0	6.0 Fgr	2	14	25	35	+gr
		1.0 sd					
		6.0 gr					
		1.0 Fgr					
		1.0 sd					
		2.0 Fgr					
		1.0 gr					
43	1.0	1.0 gr	3	13	24	35	+gr
		4.0 Fgr					
		1.0 gr					
		2.0 sd					
		1.0 Fgr					
		7.0 gr					
		1.0 Fgr					
		2.0 gr					
44	1.0	3.5 Fgr	2	13	23	34	+gr
		2.5 sd					
		1.0 Fgr					
		6.0 gr					
		3.0 Fgr					
		0.5 sd SiCl					
		2.5 Fgr					
45	2.0	9.0 Fgr	1	13	24	33	+gr
		4.0 gr					
		2.0 Fgr					
		3.0 gr					
46	1.5	2.5 Fgr	2	18	30	38	+gr
		1.0 sd					
		1.0 Fgr					
		1.0 sd					
		2.0 gr					
47	5.0	2.0 Fgr	1	12	23	32	+gr
		1.0 FS					
		8.0 Fgr					
		4.0 gr					
48	5.0	1.0 sd	0	14	22	30	+gr
		2.0 Fgr					
		1.0 sd					
		2.0 Fgr					
		1.5 sd					
		2.5 Fgr					
		5.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
49	1.0	3.0 Fgr	1	9	19	29	+gr
		1.0 FS					
		4.0 Fgr					
		3.0 gr					
		1.0 Fgr					
		2.0 gr					
		2.0 Fgr					
		3.0 gr					
50	2.0	3.0 Fgr	0	13	23	32	+gr
		1.0 sd					
		2.0 Fgr					
		3.0 sd					
		3.0 Fgr					
		6.0 gr					
51	1.0	5.0 Fgr	0	13	23	32	+gr
		1.0 FS					
		1.0 Fgr					
		4.0 gr					
		2.0 Fgr					
		1.0 gr					
		1.0 FS					
		4.0 Fgr					
52	1.0	3.0 Fgr	1	15	26	35	+gr
		1.0 sd					
		1.0 Fgr					
		3.0 sd					
		5.0 gr					
		4.0 Fgr					
		2.0 gr					
53	4.0	2.0 Fgr	0	10	17	27	+gr
		2.0 gr					
		4.0 Fgr					
		1.0 gr					
		5.0 Fgr					
		2.0 gr					

RANGE 79 **TWP** 145 **SEC** NE 1/4 4

COUNTY Mclean Oct-15

PROSPECTED BY Rogstad/Usher

INSPECTED & APPROVED Jeffrey Swank Nov-15

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-SS-1-006(025)022	180	4

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
54	2.0	3.0 Fgr	1	13	24	34	+gr
		3.0 sd					
		2.0 Fgr					
		2.0 gr					
		1.0 sd					
		7.0 gr					
55	0.5	1.5 gr	2	13	25	34	+gr
		6.0 Fgr					
		3.5 gr					
		0.5 Fgr					
		8.0 gr					
56	2.0	4.0 Fgr	1	13	23	34	+gr
		2.0 sd					
		7.0 Fgr					
		2.0 gr					
		1.5 Fgr					
		1.5 gr					
57	0.5	3.5 gr	3	15	28	37	+gr
		5.0 Fgr					
		5.0 gr					
		2.0 Fgr					
		4.0 gr					
58	1.0	3.0 gr	2	13	23	33	+gr
		1.0 Fgr					
		2.0 sd					
		2.0 Fgr					
		1.0 gr					
		5.0 Fgr					
		1.0 CS					
		1.0 FS					
		1.0 Fgr					
		1.0 gr					
		1.0 FS					
59	1.0	1.0 gr	0	9	21	31	+gr
		2.0 Fgr					
		1.0 CS					
		5.0 Fgr					
		5.0 gr					
		1.0 FS					
		4.0 gr					
60	1.0	1.0 gr	3	13	25	35	+gr
		1.0 sd					
		3.0 Fgr					
		2.0 sd					
		1.0 Fgr					
		5.0 gr					
		1.0 sd					
		3.0 Fgr					
		2.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
61	1.0	1.0 gr	1	11	21	31	+gr
		7.0 Fgr					
		3.0 gr					
		2.0 Fgr					
		6.0 gr					
62	2.0	1.0 gr	1	10	22	32	+gr
		3.0 Fgr					
		2.0 sd					
		1.0 Fgr					
		4.0 gr					
		3.5 Fgr					
		0.5 sd					
		3.0 Fgr					
63	1.0	5.0 Fgr	3	13	28	38	+gr
		1.0 FS					
		1.0 gr					
		1.0 Fgr					
64	2.0	5.0 Fgr	1	18	28	38	+gr
		10.0 gr					
		2.0 Fgr					
		1.0 gr					
		2.0 Fgr					
		1.0 gr					
65	1.5	1.5 gr	2	13	25	36	+gr
		3.0 Fgr					
		1.5 sd					
		4.5 gr					
		1.0 Fgr					
		1.0 sd					
		6.0 gr					
66	1.0	6.0 Fgr	2	12	24	34	+gr
		4.0 gr					
		3.0 Fgr					
		6.0 gr					
67	1.5	2.5 Fgr	1	13	24	33	+gr
		2.0 sd					
		3.0 Fgr					
		1.0 gr					
		1.0 CS					
		3.0 gr					
		1.0 sd					
		1.0 CS					
		3.0 Fgr					
68	1.0	6.0 Fgr	2	14	25	35	+gr
		4.0 gr					
		2.0 Fgr					
		4.0 gr					
		1.0 Fgr					
		2.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole
69	3.0	4.0 Fgr	0	12	22	30	+gr
		1.0 sd					
		2.0 gr					
		1.0 sd					
		4.0 gr					
		1.0 Fgr					
		2.0 sd					
		2.0 Fgr					
70	2.0	1.0 sd	0	7	18	27	+gr
		4.0 Fgr					
		2.0 gr					
		1.0 Fgr					
		3.0 gr					
		3.0 Fgr					
		1.5 gr					
		2.5 Fgr					
71	1.0	2.0 Fgr	2	12	24	33	+gr
		2.0 sd					
		7.0 Fgr					
		1.0 gr					
		2.0 Fgr					
		5.0 gr					
72	4.0	2.0 Fgr	2	14	26	36	+gr
		4.0 gr					
		1.0 Fgr					
		2.0 gr					
		1.0 sd					
		6.0 gr					

PIT LOGGING BY TEST HOLES

Test Hole No.	Depth of Stripping (Ft)	Depth of Material (Ft)	% Retained on 1½" Screen	% Retained on ¾" Screen	% Retained on 3/8" Screen	% Retained on #4 Screen	Bottom of Test Hole

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