North Dakota Department of Transportation

Grant Levi, P.E.
Director

Jack Dalrymple
Governor

November 13, 2015

ADDENDUM 1 – JOB 1

TO: All prospective bidders on project SOIB-5-049(014)082, Job No. 1, scheduled for the November 20, 2015 bid opening.

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

Plan Revisions:

Remove and replace sheets 6-1, 6-2, 8-2, 8-3, 8-4, 8-5, 8-6, 10-1, 20-9, 51-5, 51-9, 51-10, 51-13, 51-14, and 51-15 with the enclosed sheets revised 11/9/2015, 11/12/2015 and 11/13/2015.

Sheets 6-1 and 6-2:

Sheets have been revised to add Note 714-P05 TEMPORARY BYPASS PIPE CONDUIT.

Sheet 8-2:

Item 265 0100 STABILIZED CONSTRUCTION ACCESS quantity decreased from 5 to 2 EA.
Item 265 0101 REMOVE STABILIZED CONSTRUCTION ACCESS quantity decreased from 5 to 2 EA.
Item 411 0105 MILLING PAVEMENT SURFACE quantity has increased from 23,334 to 287,400 SY.

Sheet 8-3:

Item 638 0495 96IN ELLIPTICAL STR PLATE PIPE .109IN has been deleted, quantity 54 LF.
Item 714 3020 END SECT-CONC REINF 24IN quantity decreased from 16 to 14 EA.
Items have shifted due to deleted item.

Sheet 8-4:

Item 714 4105 PIPE CONDUIT 24IN quantity decreased from 420 to 350 LF.
Item 714 4115 PIPE CONDUIT 36IN quantity increased from 64 to 130 LF.
Item 714 4120 PIPE CONDUIT 42IN quantity decreased from 940 to 208 LF.
Item 714 4122 PIPE CONDUIT 42IN-APPROACH has been added, quantity 732 LF.
Item 714 4124 PIPE CONDUIT 36IN-JACKED OR BORED has been added, quantity 104 LF.
Item 714 4155 PIPE CONDUIT 84IN has been deleted, quantity 976 LF.
Item 714 4157 PIPE CONDUIT 84IN-APPROACH has been added, quantity 976 LF.
Item 714 4165 PIPE CONDUIT 24IN-JACKED OR BORED has been deleted, quantity 100 LF.
Items have shifted.

Sheets 8-5 and 8-6:
Items have shifted.

Sheet 10-1:
Milling areas and quantities have been revised.

Sheet 20-9:
Locations for three Stabilized Construction Accesses have been eliminated.

Sheet 51-5:
The LF column under the Pipe Installation (Pay Item) has been revised.
Smooth Wall Steel Pipe option has been added to Pipe Conduit -Jacked or Bored 36IN. d
D-714-16 has been added to the Applicable Backfill Detail column.

Sheet 51-9:
Smooth Wall Steel Pipe option has been added to Pipe Conduit -Jacked or Bored 48IN and Pipe Conduit -Jacked or Bored 42IN.
D-714-16 has been added to the Applicable Backfill Detail column.

Sheet 51-10:
Smooth Wall Steel Pipe option has been added to Pipe Conduit -Jacked or Bored 42IN.
D-714-16 has been added to the Applicable Backfill Detail column.

Sheet 51-13:
Smooth Wall Steel Pipe option has been added to Pipe Conduit -Jacked or Bored 66IN.
D-714-16 has been added to the Applicable Backfill Detail column.

Sheet 51-14:
D-714-16 has been added to the Applicable Backfill Detail column.

Sheet 51-15:
Smooth Wall Steel Pipe option has been added to Pipe Conduit -Jacked or Bored 42IN.
D-714-16 has been added to the Applicable Backfill Detail column.

Request for Proposal Revisions:
Remove pages 7, 9, 10 and 11 of 18 of the Proposal pages located at the beginning of the Request for Proposal, with the enclosed pages revised 11/13/2015.

Page 7 of 18:
Item 265 0100 STABILIZED CONSTRUCTION ACCESS, quantity decreased from 5 to 2 EA.
Item 265 0101 REMOVE STABILIZED CONSTRUCTION ACCESS, quantity decreased from 5 to 2 EA.

Item 411 0105 MILLING PAVEMENT SURFACE quantity has increased from 23,334 to 287,400 SY.

Page 9 of 18:

Item 638 0495 96IN ELLIPTICAL STR PLATE PIPE .109IN has been deleted, quantity 54 LF.

Page 10 of 18:

Item 714 3020 END SECT-CONC REINF 24IN quantity decreased from 16 to 14 EA.

Page 11 of 18:

Item 714 4105 PIPE CONDUIT 24IN quantity decreased from 420 to 350 LF.
Item 714 4115 PIPE CONDUIT 36IN quantity increased from 64 to 130 LF.
Item 714 4120 PIPE CONDUIT 42IN quantity decreased from 940 to 208 LF.
Item 714 4122 PIPE CONDUIT 42IN-APPROACH has been added, quantity 732 LF.
Item 714 4124 PIPE CONDUIT 36IN-JACKED OR BORED has been added, quantity 104 LF.
Item 714 4155 PIPE CONDUIT 84IN has been deleted, quantity 976 LF.
Item 714 4157 PIPE CONDUIT 84IN-APPROACH has been added, quantity 976 LF.
Item 714 4165 PIPE CONDUIT 24IN-JACKED OR BORED has been deleted, quantity 100 LF.

Page 9-11 of 18:

Items shifted due to deleted item.

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

BID ITEMS

Project: SOIB-5-049(014)082 (PCN-18686)

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	0300	RIPRAP GRADE III	CY	516.				
034	260	0200	SILT FENCE SUPPORTED	LF	23,000.				
035	260	0201	REMOVE SILT FENCE SUPPORTED	LF	23,000.				
036	261	0112	FIBER ROLLS 12IN	LF	219,080.				
037	261	0113	REMOVE FIBER ROLLS 12IN	LF	109,540.				
038	262	0100	FLOTATION SILT CURTAIN	LF	1,305.				
039	262	0101	REMOVE FLOTATION SILT CURTAIN	LF	1,305.				
040	265	0100	STABILIZED CONSTRUCTION ACCESS	EA	2.				
041	265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	2.				
042	302	0100	SALVAGED BASE COURSE	TON	145,935.300				
043	302	0115	AGGREGATE BASE COURSE CL 4	TON	14,420.				
044	401	0050	TACK COAT	GAL	37,186.				
045	401	0060	PRIME COAT	GAL	44,295.				
046	401	0160	BLOTTER MATERIAL CL 44	TON	1,278.				
047	411	0105	MILLING PAVEMENT SURFACE	SY	287,400.				
048	430	0045	SUPERPAVE FAA 45	TON	70,586.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price $$$$$	Unit Price 000	Amount $$$$$	Amount 00
065	624	0126	PEDESTRIAN CANOPY	LF	287.300				
066	624	3005	CONNECTION PLATE MODIFICATION	EA	4.				
067	702	0100	MOBILIZATION	L SUM	1.				
068	704	0100	FLAGGING	MHR	3,500.				
069	704	1000	TRAFFIC CONTROL SIGNS	UNIT	4,608.				
070	704	1052	TYPE III BARRICADE	EA	20.				
071	704	1060	DELINEATOR DRUMS	EA	134.				
072	704	1067	TUBULAR MARKERS	EA	12.				
073	704	1081	VERTICAL PANELS-BACK TO BACK	EA	107.				
074	704	1185	PILOT CAR	HR	1,500.				
075	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	75.				
076	706	0400	FIELD OFFICE	EA	1.				
077	706	0500	AGGREGATE LABORATORY	EA	1.				
078	706	0550	BITUMINOUS LABORATORY	EA	1.				
079	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
080	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	445.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						$$$$$	000	$$$$$	00
081	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	2,744.				
082	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	8,572.				
083	714	0400	PIPE CONC REINF 21IN CL III	LF	76.				
084	714	0615	PIPE CONC REINF 24IN CL III	LF	428.				
085	714	0820	PIPE CONC REINF 30IN CL III	LF	314.				
086	714	0905	PIPE CONC REINF 36IN CL III	LF	168.				
087	714	1210	PIPE CONC REINF 54IN CL III	LF	92.				
088	714	1310	PIPE CONC REINF 60IN CL III	LF	64.				
089	714	3015	END SECT-CONC REINF 21IN	EA	6.				
090	714	3020	END SECT-CONC REINF 24IN	EA	14.				
091	714	3023	END SECT-TRAVERSABLE REINF. CONC.24IN	EA	29.				
092	714	3030	END SECT-CONC REINF 30IN	EA	19.				
093	714	3033	END SECT-TRAVERSABLE REINF. CONC.30IN	EA	2.				
094	714	3035	END SECT-CONC REINF 36IN	EA	8.				
095	714	3036	END SECT-TRAVERSABLE REINF. CONC.36IN	EA	2.				
096	714	3050	END SECT-CONC REINF 54IN	EA	4.				

BID ITEMS

Project: SOIB-5-049(014)082 (PCN-18686)

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
097	714	3055	END SECT-CONC REINF 60IN	EA	5.				
098	714	3330	96IN ELLIPTICAL STR PLATE PIPE .109IN	LF	54.				
099	714	4099	PIPE CONDUIT 18IN-APPROACH	LF	1,098.				
100	714	4105	PIPE CONDUIT 24IN	LF	350.				
101	714	4106	PIPE CONDUIT 24IN-APPROACH	LF	366.				
102	714	4110	PIPE CONDUIT 30IN	LF	74.				
103	714	4115	PIPE CONDUIT 36IN	LF	130.				
104	714	4116	PIPE CONDUIT 36IN-APPROACH	LF	128.				
105	714	4120	PIPE CONDUIT 42IN	LF	208.				
106	714	4122	PIPE CONDUIT 42IN-APPROACH	LF	732.				
107	714	4124	PIPE CONDUIT 36IN-JACKED OR BORED	LF	104.				
108	714	4125	PIPE CONDUIT 48IN	LF	76.				
109	714	4127	PIPE CONDUIT 48IN-JACKED OR BORED	LF	90.				
110	714	4140	PIPE CONDUIT 66IN	LF	74.				
111	714	4143	PIPE CONDUIT 66IN-JACKED OR BORED	LF	118.				
112	714	4157	PIPE CONDUIT 84IN-APPROACH	LF	976.				

NOTES

100-P01 UTILITY POLE: The contractor shall not disturb the existing ground within 6 feet of the utility poles at Sta 4439+38 LT, 4922+78 RT, 4925+52 RT, 5035+89 RT, 5070+30 RT (bypass), & 5072+20 (bypass) . At a distance of 6 feet from the pole, the existing ground shall be sloped at a 2:1 ratio to tie to the proposed backslope.

105-P01 UTILITY COORDINATION: A Utility Coordination Meeting is required on this project.

107-115 RAILROAD PROTECTIVE LIABILITY INSURANCE: This project crosses the BNSF Railway Company at RP 101.78. The type of work that will be performed within the railroad right of way is milling and bituminous paving and ADA panel installation. Inquiries for protective liability insurance should be directed to:

Rosa Martinez
Marsh Co.
Texas
214-303-8519

Information on crossing number 087813E may be obtained from the Federal Railroad Administration website:
http://safetydata.fra.dot.gov/Officeofsafety/

107-P01 RV PARKING ACCESS: Maintain existing access to the RV Parking Slabs on the temporary easement located North and West of the Knife River Bridge.

200-010 SHRINKAGE: 25 percent additional volume is included for shrinkage in earth embankment and 35 percent additional volume on temporary bypasses.

202-P01 REMOVAL OF PAVEMENT: The contractor shall cut and remove and salvage the existing bituminous and aggregate material, as shown on the proposed typical sections.

All cost for the removal of the existing bituminous and aggregate material shall be included in the unit price bid for “Removal of Pavement.” The quantity includes the entire bituminous surfacing and aggregate base except the bottom two inches.

202-P02 REMOVAL OF TEMPORARY BYPASS: Obtain approval before removing a temporary bypass. Restore the area impacted by the construction, use, and removal of the bypass to its original condition.

The Engineer will measure and pay for seeding and mulching and erosion control items as specified in the appropriate section of the Standard Specifications. Include all costs associated with the removal of the earth embankment, aggregate surfacing and pipe in the contract unit price for “Removal of Temporary Bypass”.

203-P01 COMMON EXCAVATION FOR WETLAND MITIGATION: A quantity for excavation is provided for the wetland mitigation area. Mitigated area is to be of sufficient length and width to meet the acreage indicated on the plan sheet. The new area will follow the lowest part of the ditch. The new elevation will match the adjacent wetland elevation.

All costs associated with removal and disposal of material and shaping of the remaining material shall be included in the unit price for “Common Excavation - Type A”.

230-P01 SUBGRADE PREPARATION-TYPE A-SHOULDERS: Subgrade preparation shall be performed in all shoulders of this project, excluding the reconstruction areas. This work consists of

- Excavating to a depth of 18” below the bottom of the existing aggregate base and daylight out into the inslope.
- Drying and compacting the material in place or hauling in suitable embankment material and compacting as specified in Section 203.04 E.2
- The excavated material shall be incorporated back into the project.

All costs associated with excavating, handling and placing the material shall be included for the price bid for “Subgrade Preparation-Type A-Shoulders”.

430-P01 SUPERPAVE FAA 45: An additional 7,300 Ton of Superpave FAA 45 and 438 Ton of PG 58-28 Asphalt Cement have been included for cross slope correction. Use ordinary compaction for any additional lift of superpave FAA 45 required to correct the cross slope before placing the final two lifts of hot bituminous pavement. The additional lift may be blade laid and the lift thickness can be less than 1 ½” in depth.

704-P01 TRAFFIC CONTROL: Traffic control for the overlay and widening shall consist of a lane closure, flagging, pilot car, and shoulder closures. Traffic Control Devices shall comply with the following Standard Drawings:

1. D-704-2, Coring bituminous pavement.
2. D-704-5, Contractor sign is applicable.
3. D-704-7, 8, 9, 10, 11, 12, 13, and 14 as applicable.
4. D-704-15, Layout A: For saw cuts, pavement removals, grading, and placement of aggregate base when a one lane closure is needed to carry out these operations. In addition, it will also be used for temporary roadway closure during the lane paving operations.
5. D-704-20, Layout G: For construction signing during paving operations. Signs W3-5-48 and R2-1-48 are to be moved as the work area moves through the construction zone and should be placed a minimum of 500 ft in advance of flagging signs.
6. D-704-22, Type K and L: For construction trucks entering from an aggregate source or a contractor jobsite.
7. D-704-24, Type R and S: For installation of the pipe extensions. Delineator drums shall be used in-place of the cones as shown on the Standard Drawing. Two shoulder closures have been provided. A quantity of 30 delineator drums have been provided for each 1/2 mile work area – total of 60 drums.
8. D-704-26, Type CC, EE, and GG for paving operations, and Type BB For shoulder work.
9. D-704-27: For pavement marking operations.
10. D-704-30: For shoulder aggregate placement.
11. D-704-50: Portable sign support assembly.
12. D-704-56: For installation of Shoulder Rumble Strips.

Traffic control quantities for uneven pavement have been developed based on a 6 mile limitation for the paving operations. The required traffic control signs and devices are included in the “Traffic Control Devices List” and will be measured and paid at the Contract Unit Price for each device. Additional devices required to accommodate the Contractor’s operation shall be the Contractor’s responsibility. The contractor shall relocate the flaggers and portable signs with the movement of the paving operation to minimize the delay time for the traveling public.

704-P02 TRAFFIC CONTROL FOR PAVEMENT DROP OFF: After the bituminous shoulder is removed, there will be a pavement drop off area adjacent to the lane, as indicated in the proposed typical

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NOTES

section. This area shall not have a drop off greater than 2 inches at the end of the working day. If a drop off exceeds 2 inches, the contractor will be required to provide a cross slope of 4:1 or flatter. The reshaping of the aggregate or embankment required for this operation shall not be paid for separately but shall be included in the price bid for “Salvaged Base Course”.

706-P01 AGGREGATE LABORATORY: The aggregate laboratory shall be provided prior to work commencing on the project.

706-P02 FIELD OFFICE: Provide a field office which meets the following requirements:

1. The field office shall be a minimum of 450 square feet.
2. Indoor bathroom facilities
3. Air conditioner capable of maintaining a 75 degree room temperature.
4. 4 desks with 4 chairs
5. Microwave
6. Full size refrigerator
7. Lighting (lumens required 110 foot- candles)
8. Minimum of 3 phone jacks
9. Heat, electric, sewer, and water hookups to be furnished by contractor, contractor to pay utility bills.
10. Cabinet space of a minimum of 32 cubic feet.
11. Counter space of a minimum of 60 square feet.
12. The floor is to be free of protrusions so that it will accommodate office equipment.
13. Phone with answering machine.
14. Photocopy machine and toner to last the duration of the project.
15. The location of the field office shall be on, or as close to the project as possible and approved by the Engineer. Any rental fees shall be paid by contractor.
16. The field office shall be available for occupancy one week prior to the start of the project and remain available to project completion.
17. The following services will be furnished by the DOT.
    1. Telephone
    2. Broadband internet service including State Network access

714-P01 PLUG PIPE: At locations designated on the plans for plug pipe, the contractor shall blow the pipe full of sand or pump the pipe full of controlled density backfill to prevent any future collapse or failure of the abandoned pipe. All labor, materials, and equipment necessary to perform this described work shall be included in the price bid for “Plug Pipe – All Types and Sizes”.

714-P02 JACKED OR BORED PIPE: The method used to install the pipe indicated as jacked or bored on the plans shall be left to the discretion of the contractor. Either bored or jacked methods are acceptable. If the boring method is used, the contractor may use smooth wall steel pipe in lieu of RCP. Regardless of the method or type of pipe used, the price bid for jacked or bored pipe shall be considered full compensation for the pipe and its installation.

714-P03 BROKEN BACK CULVERT INSTALLATION: Culverts at the following locations shall be installed as broken back pipes. Invert elevations, slope rates and culvert segment lengths for these culverts have been noted on the cross sections.

STATION	PIPE DIAMETER (Inches)	Vertical Deflection Angle
4408+92	30	1° 42’ 10”
4715+09	24	2° 12’ 15”
4857+14	30	2° 54’ 08”
4869+29	30	2° 50’ 52”

If reinforced concrete pipe is use the deflection angles shall be installed gradually over the length of 2 sections of pipe. The wider joint openings of these deflected pipe sections shall be wrapped externally with a filter fabric, and mortar shall be used to fill the joints. Longer tie bars may be necessary at these deflected joints.

If corrugated steel pipe or spiral rib pipe is used the deflection angles shall be installed gradually over the length of 2 sections of pipe.

All costs of materials, equipment, and labor to install the broken back pipes as described above shall not be bid separately be included in the price bid for the corresponding size of “Pipe Conduit”.

714-P04 CULVERT EXTENSION: RCP culvert extensions with a change in slope between 0.5° and 1.0° shall have the deflected joint sealed with mortar and wrapped with filter fabric. For metal culvert extensions with a change in slope between 0.5° and 1.0°, it is acceptable to make up the deflection in the joint(s).

714-P05 TEMPORARY BYPASS PIPE CONDUIT: 5 lines of 42 inch pipe conduit have been provided in the plans to convey the flow of Coyote Creek through the temporary bypass. 4 lines of 42 inch pipe conduit have been provided in the plans to convey the flow of Brush Creek through the temporary bypass. 7 lines of 84 inch pipe conduit have been provided in the plans to convey the flow of Knife River through the temporary bypass. The waterway opening provided by the pipe conduit shown shall be the minimum waterway opening required at this location. Drainage pipe(s) providing a larger waterway opening may be used in lieu of the pipes shown subject to the following criteria and approval by the engineer. Due to the tight constrains of the river channel, pipe end sections are not required.

- Minimum cover requirements over the drainage pipe(s) shall be maintained without altering the vertical profile of the temporary bypass.
- Any drainage pipe(s) or structure(s) proposed for use by the Contractor shall be free of any structural defects and shall have sufficient structural capacity for use as a highway drainage structure.

Used pipe(s) may be used in lieu of new pipe(s) if they meet the criteria outlined above.

All costs for furnishing and installing the drainage system to convey the flows in Coyote Creek and Brush Creek through the temporary bypass will be paid for as “Pipe Conduit 42IN – Approach”.

All costs for furnishing and installing the drainage system to convey the flows in Knife River through the temporary bypass will be paid for as “Pipe Conduit 84IN – Approach”.

The drainage system used to convey the flows in Coyote Creek, Brush Creek, and Knife River through the temporary bypass shall be removed concurrent with removal of the temporary bypass. All costs for removing the drainage system will be paid for as “Removal of Temporary Bypass”.

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ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-049(014)082	8	2

REVISED 11/13/2015

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
260	0200	SILT FENCE SUPPORTED	LF	23,000	23,000
260	0201	REMOVE SILT FENCE SUPPORTED	LF	23,000	23,000
261	0112	FIBER ROLLS 12IN	LF	219,080	219,080
261	0113	REMOVE FIBER ROLLS 12IN	LF	109,540	109,540
262	0100	FLOTATION SILT CURTAIN	LF	1,305	1,305
262	0101	REMOVE FLOTATION SILT CURTAIN	LF	1,305	1,305
265	0100	STABILIZED CONSTRUCTION ACCESS	EA	2	2
265	0101	REMOVE STABILIZED CONSTRUCTION ACCESS	EA	2	2
302	0100	SALVAGED BASE COURSE	TON	145,935.3	145,935.3
302	0115	AGGREGATE BASE COURSE CL 4	TON	14,420	14,420
401	0050	TACK COAT	GAL	37,186	37,186
401	0060	PRIME COAT	GAL	44,295	44,295
401	0160	BLOTTER MATERIAL CL 44	TON	1,278	1,278
411	0105	MILLING PAVEMENT SURFACE	SY	287,400	287,400
430	0045	SUPERPAVE FAA 45	TON	70,586	70,586
430	1000	CORED SAMPLE	EA	436	436
430	5828	PG 58-28 ASPHALT CEMENT	TON	4,235	4,235
602	0130	CLASS AAE-3 CONCRETE	CY	770.7	770.7
602	1130	CLASS AE-3 CONCRETE	CY	491.2	491.2
602	1133	CONCRETE BRIDGE APPROACH SLAB	SY	188.8	188.8
602	1134	PILE SUPPORTED APPROACH SLAB	SY	238.2	238.2
602	1250	PENETRATING WATER REPELLENT TREATMENT	SY	2,071	2,071
604	9915	PRESTRESSED I-BEAM-54IN	LF	1,698	1,698
604	9920	PRESTRESSED I-BEAM-63IN	LF	515	515
612	0115	REINFORCING STEEL-GRADE 60	LBS	38,765	38,765
612	0116	REINFORCING STEEL-GRADE 60-EPOXY COATED	LBS	164,747	164,747
616	0364	STRUCTURAL STEEL M270-GRADE 36	LBS	2,238	2,238
622	0020	STEEL PILING HP 10 X 42	LF	1,250	1,250
622	0040	STEEL PILING HP 12 X 53	LF	504	504
622	0060	STEEL PILING HP 14 X 73	LF	2,220	2,220
622	0070	STEEL PILING HP 14 X 102	LF	1,890	1,890
624	0126	PEDESTRIAN CANOPY	LF	287.3	287.3
624	3005	CONNECTION PLATE MODIFICATION	EA	4	4

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-049(014)082	8	3

REVISED 11/13/2015

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
702	0100	MOBILIZATION	L SUM	1	1
704	0100	FLAGGING	MHR	3,500	3,500
704	1000	TRAFFIC CONTROL SIGNS	UNIT	4,608	4,608
704	1052	TYPE III BARRICADE	EA	20	20
704	1060	DELINEATOR DRUMS	EA	134	134
704	1067	TUBULAR MARKERS	EA	12	12
704	1081	VERTICAL PANELS-BACK TO BACK	EA	107	107
704	1185	PILOT CAR	HR	1,500	1,500
704	1500	OBLITERATION OF PAVEMENT MARKING	SF	75	75
706	0400	FIELD OFFICE	EA	1	1
706	0500	AGGREGATE LABORATORY	EA	1	1
706	0550	BITUMINOUS LABORATORY	EA	1	1
706	0600	CONTRACTOR'S LABORATORY	EA	1	1
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	445	445
709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	2,744	2,744
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	8,572	8,572
714	0400	PIPE CONC REINF 21IN CL III	LF	76	76
714	0615	PIPE CONC REINF 24IN CL III	LF	428	428
714	0820	PIPE CONC REINF 30IN CL III	LF	314	314
714	0905	PIPE CONC REINF 36IN CL III	LF	168	168
714	1210	PIPE CONC REINF 54IN CL III	LF	92	92
714	1310	PIPE CONC REINF 60IN CL III	LF	64	64
714	3015	END SECT-CONC REINF 21IN	EA	6	6
714	3020	END SECT-CONC REINF 24IN	EA	14	14
714	3023	END SECT-TRAVERSABLE REINF. CONC.24IN	EA	29	29
714	3030	END SECT-CONC REINF 30IN	EA	19	19
714	3033	END SECT-TRAVERSABLE REINF. CONC.30IN	EA	2	2
714	3035	END SECT-CONC REINF 36IN	EA	8	8
714	3036	END SECT-TRAVERSABLE REINF. CONC.36IN	EA	2	2
714	3050	END SECT-CONC REINF 54IN	EA	4	4
714	3055	END SECT-CONC REINF 60IN	EA	5	5
714	3330	96IN ELLIPTICAL STR PLATE PIPE .109IN	LF	54	54
714	4099	PIPE CONDUIT 18IN-APPROACH	LF	1,098	1,098

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-049(014)082	8	4

REVISED 11/13/2015

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
714	4105	PIPE CONDUIT 24IN	LF	350	350
714	4106	PIPE CONDUIT 24IN-APPROACH	LF	366	366
714	4110	PIPE CONDUIT 30IN	LF	74	74
714	4115	PIPE CONDUIT 36IN	LF	130	130
714	4116	PIPE CONDUIT 36IN-APPROACH	LF	128	128
714	4120	PIPE CONDUIT 42IN	LF	208	208
714	4122	PIPE CONDUIT 42IN-APPROACH	LF	732	732
714	4124	PIPE CONDUIT 36IN-JACKED OR BORED	LF	104	104
714	4125	PIPE CONDUIT 48IN	LF	76	76
714	4127	PIPE CONDUIT 48IN-JACKED OR BORED	LF	90	90
714	4140	PIPE CONDUIT 66IN	LF	74	74
714	4143	PIPE CONDUIT 66IN-JACKED OR BORED	LF	118	118
714	4157	PIPE CONDUIT 84IN-APPROACH	LF	976	976
714	4166	PIPE CONDUIT 30IN-JACKED OR BORED	LF	128	128
714	4167	PIPE CONDUIT 42IN-JACKED OR BORED	LF	458	458
714	5015	PIPE CORR STEEL .064IN 18IN	LF	564	564
714	5810	END SECT CORR STEEL .064IN 18IN	EA	70	70
714	9200	CATTLE PASS CONC INTERMED SECTION	LF	300	300
714	9350	END SECTION CONC CATTLE PASS	EA	8	8
714	9611	REMOVE & RELAY CONC CATTLE PASS END SECTION	EA	6	6
714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	2	2
714	9680	PLUG PIPE-ALL TYPES & SIZES	EA	7	7
720	0110	RIGHT OF WAY MARKERS	EA	204	204
720	0125	ALIGNMENT MONUMENTS	EA	72	72
720	0130	IRON PIN R/W MONUMENTS	EA	157	157
720	0135	IRON PIN REFERENCE MONUMENTS	EA	65	65
748	0141	CURB & GUTTER-TYPE 1 SPECIAL	LF	160	160
750	0100	SIDEWALK CONCRETE	SY	59.8	59.8
750	2115	DETECTABLE WARNING PANELS	SF	358	358
754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	328	328
754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	234	234
754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,142	1,142
754	0562	REFERENCE MARKER-TYPE B	EA	17	17

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-049(014)082	8	5

REVISED 11/13/2015

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
754	0563	REFERENCE MARKER-TYPE C	EA	2	2
754	0592	RESET SIGN PANEL	EA	29	29
754	0593	RESET SIGN SUPPORT	EA	25	25
760	0005	RUMBLE STRIPS - ASPHALT SHOULDER	MILE	36.45	36.45
760	0007	RUMBLE STRIPS - ASPHALT CENTERLINE	MILE	18.225	18.225
762	0111	EPOXY PVMT MK 12IN LINE	LF	27	27
762	0112	EPOXY PVMT MK MESSAGE	SF	432	432
762	0113	EPOXY PVMT MK 4IN LINE	LF	296,557	296,557
762	0115	EPOXY PVMT MK 8IN LINE	LF	4,141	4,141
762	0117	EPOXY PVMT MK 24IN LINE	LF	24	24
762	0430	SHORT TERM 4IN LINE-TYPE NR	LF	229,074	229,074
762	0434	SHORT TERM 8IN LINE-TYPE NR	LF	12,423	12,423
762	0436	SHORT TERM 24IN LINE-TYPE NR	LF	72	72
762	0442	SHORT TERM MESSAGE-TYPE NR	SF	960	960
764	0131	W-BEAM GUARDRAIL	LF	423	423
764	0145	W-BEAM GUARDRAIL END TERMINAL	EA	12	12
764	0151	REMOVE W-BEAM GUARDRAIL & POSTS	LF	1,880	1,880
764	1050	RESET W-BEAM GUARDRAIL	LF	825	825
764	2020	REMOVE 3-CABLE GUARDRAIL & POSTS	LF	1,790	1,790
764	2081	REMOVE END TREATMENT & TRANSITION	EA	20	20
766	0100	MAILBOX-ALL TYPES	EA	28	28
770	0001	LIGHTING SYSTEM	EA	1	1
772	9010	AUTOMATIC TRAFFIC RECORDER SYSTEM	EA	1	1
772	9300	SURVEILLANCE CAMERA SYSTEM	EA	1	1
900	1000	TEMPORARY STREAM DIVERSION	EA	1	1
930	3000	BRIDGE BENCH MARKS	SET	2	2
930	9537	ABUTMENT UNDERDRAIN SYSTEM	EA	4	4
930	9677	RELOCATE TRUSS BRIDGE	L SUM	1	1
970	2010	BARON BOX ELDER MAPLE	EA	24	24
970	2084	GREEN ASH	EA	42	42
		ALTERNATE 'A' CAST-IN-PLACE BOX CULVERT			
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	287.5	287.5
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	40,282	40,282

ESTIMATE OF QUANTITIES

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SOIB-5-049(014)082	8	6

REVISED 11/13/2015

SPEC	CODE	ITEM DESCRIPTION	UNIT	MAINLINE	TOTAL
		ALTERNATE 'B' PRECAST BOX CULVERT			
606	0808	8FT X 8FT PRECAST RCB CULVERT	LF	108	108
606	2808	DBL 8FT X 8FT PRECAST RCB CULVERT	LF	108	108
606	6808	DBL 8FT X 8FT PRECAST RCB END SECTION	EA	2	2

Revised 11/13/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	10	1

		4346+48 - 5315+00		5315+00 - 5344+34.64		5347+22.64 - 5373+90.43		Turn Lanes 17th St S (County Rd 25)							
		3" overlay section		3" Mill & Overlay Section		4" Mill & Overlay section		NB Right		NB Left		SB Right		SB Left	
Material	Unit	Width (ft)	Quantity per Station	Width (ft)	Quantity per Station	Width (ft)	Quantity per Station	Area (SF)	Quantity	Area (SF)	Quantity	Area (SF)	Quantity	Area (SF)	Quantity
Milling	SY	28	311.11**	28	311.11	28	311.11								
Aggregate Base Class 4 @ 1.875 Ton/CY	TON	4	13.89	4	13.89	4	16.25								
Salvage Base Course @ 1.875 Ton/CY	TON	7.09	128.75	7.09	128.75	7.46	133.89	12410.94	861.871	5102.49	354.34	10581.01	734.79	5841.82	405.682
Prime Coat @ 0.25 Gal/SY	GAL	7.09	39.39	7.09	39.39	7.46	41.44	12410.94	344.75	5102.49	141.74	10581.01	293.92	5841.82	162.27
Blotter Material Cl 44 @ 15 lbs/SY	TON	7.09	1.18	7.09	1.18	7.46	1.24	12410.94	10.34	5102.49	4.25	10581.01	8.82	5841.82	4.87
Tack Coat @ 0.05 Gal/Sy (1st Lift)	GAL	30.18	16.77	30.18	16.77	30.18	16.77	12410.94	68.95	5102.49	28.35	10581.01	58.78	5841.82	32.45
Tack Coat @ 0.05 Gal/Sy (2nd Lift)	GAL	29.1	16.17	29.1	16.17	29.1	16.17	12410.94	68.95	5102.49	28.35	10581.01	58.78	5841.82	32.45
Superpave FAA 45 @ 2 Ton/CY	TON	28	53.85	28	53.85	28	70.15	12410.94	229.83	5102.49	94.49	10581.01	195.95	5841.82	108.18
PG 58-28 Asphalt Cement @ 6.0% Of Superpave FAA 45	TON		3.23		3.23		4.21		13.79		5.67		11.76		6.49

		Reconstruction Areas		Turn Lanes 13th St SW				Murray Dr		Airport Rd (County Rd 20)	
		6 Locations*		NB Left		Extend SB Right		SB Left		SB Right	
Material	Unit	Width (ft)	Quantity per Station	Area (SF)	Quantity	Area (SF)	Quantity	Area (SF)	Quantity	Area (SF)	Quantity
Aggregate Base Class 4 @ 1.875 Ton/CY	TON	4	25.42								
Salvage Base Course @ 1.875 Ton/CY	TON	40	394.65	11390.64	791.02	3391.31	235.51	11058.00	767.92	1797.71	124.84
Prime Coat @ 0.25 Gal/SY	GAL	40	111.1	11390.64	316.41	3391.31	94.2	11058.00	307.17	1797.71	49.94
Blotter Material Cl 44 @ 15 lbs/SY	TON	40	3.3	11390.64	9.49	3391.31	2.83	11058.00	9.22	1797.71	1.5
Tack Coat @ 0.05 Gal/SY (1st Lift)	GAL	32	17.78	11390.64	63.28	3391.31	18.84	11058.00	61.43	1797.71	9.99
Tack Coat @ 0.05 Gal/SY(2nd Lift)	GAL	30.9	17.17	11390.64	63.28	3391.31	18.84	11058.00	61.43	1797.71	9.99
Tack Coat @ 0.05 Gal/SY (3rd Lift)	GAL	29.5	16.39								
Superpave FAA 45 @ 2 Ton/CY	TON	28	101.85	11390.64	210.94	3391.31	62.8	11058.00	204.78	1797.71	44.34
PG 58-28 Asphalt Cement @ 6.0% of Superpave FAA 45	TON		6.11		12.66		3.77		12.29		2.66

*Locations
4561+25 - 4561+80
4666+75 - 4667+10
4755+80 - 4756+65
4887+35 - 4888+15
4898+10 - 4898+40
5368+70 - 5369+50

		Surfacing Under Guardrail at Bridge Ends											
		Bridge 0049-96.039 Sta 5070+85.9 Bush Creek				Bridge 0049-98.857 Sta 5219+65.0 Knife River Coal Road				Bridge 0049-101.780 Sta 5345+84.2 Knife River Bridge			
		Begin		End		Begin		End		Begin		End	
Description	UNIT	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Salvaged Base Course @ 1.875 Ton/CY	TON	48	52	69	48	58	119	119	58	82	145	117	81
Prime Coat @ 0.25 Gal/SY	GAL	54	58	77	54	65	133	133	65	91	162	131	91
Tack Coat @ 0.05 Gal/SY	GAL	8	8	11	8	9	19	19	9	13	23	19	13
Superpave FAA 45 @ 2 Ton/CY	TON	16	18	23	16	19	40	40	19	28	50	40	28
PG 58-28 Asphalt Cement @ 6.0% of Superpave FAA 45	TON	1.0	1.1	1.4	1.0	1.2	2.4	2.4	1.2	1.7	3.0	2.4	1.6

MAILBOX LOCATIONS

Sta 4347+10 Rt	Double (2)
Sta 4435+14 Rt	Single (1)
Sta 4457+19 Rt	Double (2)
	Single (1)
Sta 4509+97 Rt	Double (2)
Sta 4562+83 Rt	Double (2)
	Single (1)
Sta 4615+45 Lt	Single (1)
Sta 4667+62 Lt	Single (1)
Sta 4694+22 Lt	Single (1)
Sta 4720+30 Lt	Single (1)
Sta 4765+50 Lt	Single (1)
Sta 4773+02 Lt	Double (2)
	Single (1)
Sta 4825+64 Lt	Double (2)
	Double (2)
Sta 4878+49 Lt	Double (2)
	Single (1)
Sta 4898+62 Lt	Single (1)
Sta 4931+23 Lt	Double (2)
	Double (2)
	Single (1)
Sta 5015+73 Lt	Single (1)
Sta 5036+68 Lt	Double (2)
Sta 5060+61 Lt	Double (2)
Sta 5063+12 Lt	Single (1)
Sta 5247+78 Lt	Double (2)
	Single (1)

SILT FENCE SUPPORTED
Borrow Site #1 - 6000 LF
Borrow Site #2 - 5000 LF
Borrow Site #3 - 6000 LF
Borrow Site #4 - 3000 LF
Borrow Site #5 - 3000 LF

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

HBP Cored Samples							
	A	B	C	D			
Specification Section	Lanes	Lifts	Distance (Feet)	Sublots (A x B x C) /2000	Quantity (D x 2)	Quantity (1 per mile)	Unit
430.04 I.2.b(1), "General"	2	2	102769	208	416	N/A	EA
430.04 I.2.b(2), "Pavement Thickness Determination Cores"					N/A	20	EA
				Total	416	20	EA

BARRIER STRIPE LOCATIONS

Sta 4503+25 to 4504+75 NB	Sta 4514+20 to 4515+20 SB
Sta 4531+60 to 4535+45 NB	Sta 4542+55 to 4546+35 SB
Sta 4563+95 to 4577+25 NB	Sta 4574+65 to 4587+85 SB
Sta 4621+80 to 4628+50 NB	Sta 4632+40 to 4639+40 SB
Sta 4646+50 to 4652+65 NB	Sta 4657+45 to 4663+45 SB
Sta 4685+05 to 4690+05 NB	Sta 4695+85 to 4701+05 SB
Sta 4697+40 to 4704+50 NB	Sta 4708+35 to 4715+20 SB
Sta 4727+75 to 4736+35 NB	Sta 4738+70 to 4746+90 SB
Sta 4757+65 to 4763+45 NB	Sta 4768+45 to 4774+45 SB
Sta 4786+20 to 4793+75 NB	Sta 4796+95 to 4804+75 SB
Sta 4816+15 to 4822+65 NB	Sta 4826+65 to 4833+60 SB
Sta 4835+00 to 4845+90 NB	Sta 4845+90 to 4857+15 SB
Sta 4863+15 to 4867+60 NB	Sta 4873+90 to 4878+10 SB
Sta 4915+40 to 4919+55 NB	Sta 4926+35 to 4930+55 SB
Sta 4948+25 to 4961+80 NB	Sta 4959+00 to 4972+20 SB
Sta 4986+55 to 4996+10 NB	Sta 4997+45 to 5006+95 SB
Sta 5081+20 to 5089+50 NB	Sta 5048+66 to 5051+45 SB
Sta 5128+00 to 5140+15 NB	Sta 5091+80 to 5100+45 SB
Sta 5161+45 to 5171+35 NB	Sta 5138+80 to 5151+00 SB
Sta 5184+80 to 5191+60 NB	Sta 5171+90 to 5182+35 SB
Sta 5233+15 to 5240+35 NB	Sta 5195+70 to 5202+20 SB
Sta 5268+27 to 5274+70 NB	Sta 5243+80 to 5248+57 SB
	Sta 5274+65 to 5285+25 SB

	Pavement Removal	
Location	SY	TON
11-25		22,476.76
20-1	17.7	
20-2	20.3	
20-3	21.8	
40-1	347	
Total	406.80	22,476.76

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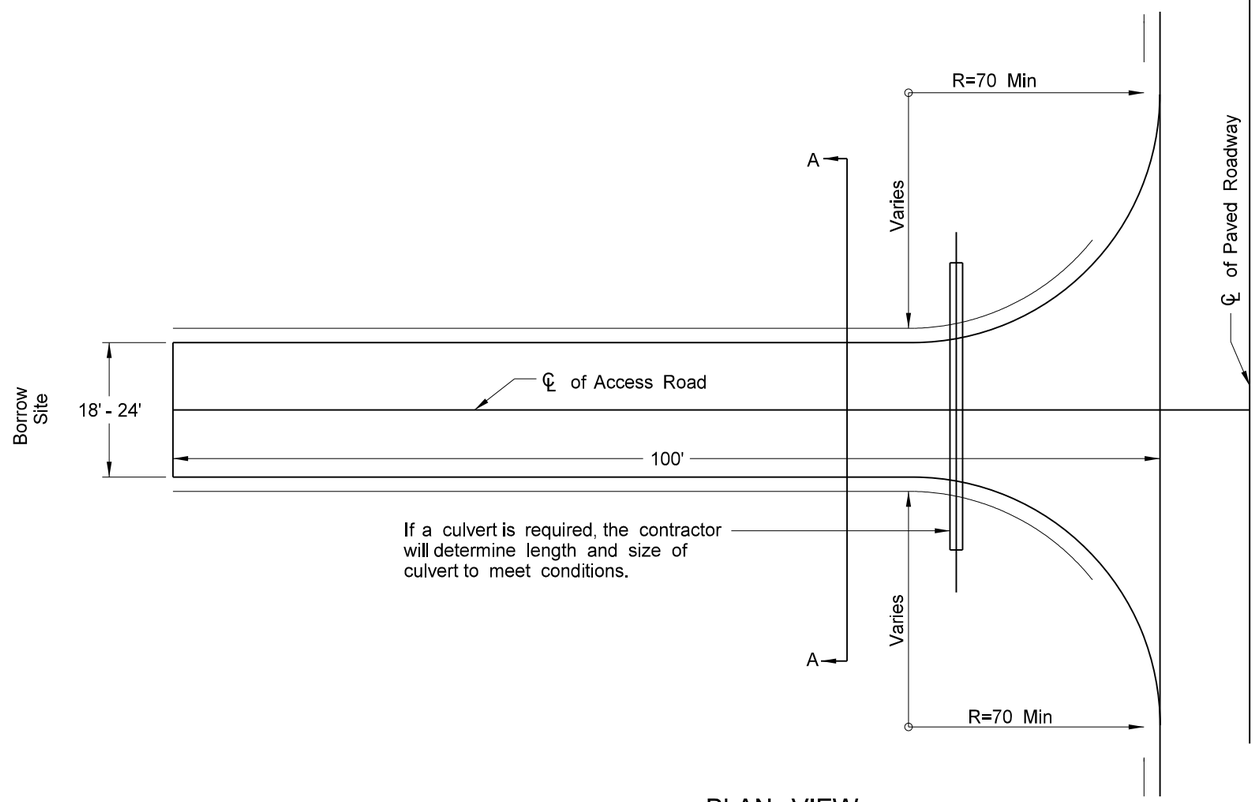
**Depth Varies see Sheets 26-48 of Section 11
Excludes curve correction location

Basis of Estimate

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

Morton County Line North to Beulah

Revised 11/9/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	20	9



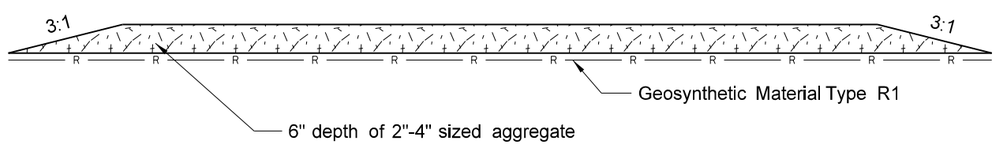
PLAN VIEW

Stabilized Construction Access

4539+00	1 EA
5270+00	1 EA

Remove Stabilized Construction Access

4539+00	1 EA
5270+00	1 EA



A - A Cross Section

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Stabilized Construction Access

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

County Line North to Beulah

Revised 11/9/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	51	5

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
4614+99	62' Lt	4615+71	62' Lt	18	Pipe Conduit - Approach	72	Reinforced Concrete Pipe - Class III (barrell length = 68 LF)			18			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	18	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	18	0.064				
							High-Density Polyethylene			18					
4616+64	76' Lt	4616+64	72' Lt	60	Pipe Conc Reinf 60IN CL III - (Extension)	4	Reinforced Concrete Pipe - Class III (barrel length = 4 LF)			24			FES		D-714-28
4620+51	43' Lt	4621+00	43' Rt	36	Pipe Conduit - Jack or Bore 36IN	104	Reinforced Concrete Pipe - Class III (barrel length = 104 LF)			36					D-714-16
							Smooth Wall Steel Pipe			36	0.469				
4620+29	80' Lt	4620+51	43' Lt	36	Pipe Conduit	40	Reinforced Concrete Pipe - Class III (barrel length = 38 LF)			36			FES		
							Corrugated Steel Pipe	P	2	36	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	36	0.064				
4621+00	43' Rt	4621+13	66' Rt	36	Pipe Conduit	26	Reinforced Concrete Pipe - Class III (barrel length = 24 LF)			36				FES	
							Corrugated Steel Pipe	P	2	36	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	36	0.064				
4621+42	66' Lt	4622+00	66' Lt	18	Pipe Conduit - Approach	58	Reinforced Concrete Pipe - Class III (barrell length = 54 LF)			18			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	18	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	18	0.064				
							High-Density Polyethylene			18					
4634+48	71' Lt	4634+48	55' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)			24			FES		D-714-28
4634+48	35' Rt	4634+48	41' Rt	24	Pipe Conc Reinf 24IN CL III - (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)			24				TES	D-714-28
4641+41	45' Rt	4641+46	45' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	5	Corrugated Steel Pipe	Z,A,P	2				FES		N/A
4642+29	46' Rt	4642+34	45' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	5	Corrugated Steel Pipe	Z,A,P	2					FES	N/A
4650+30	80' Lt	4650+30	72' Lt	30	Pipe Conc Reinf 30IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			30			FES		D-714-28
4650+30	48' Rt	4650+30	54' Rt	30	Pipe Conc Reinf 30IN CL III - (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)			30				FES	D-714-28

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Coatings: Z = Zinc
A = Aluminum
P = Polymeric

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"

(A) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions pay for end sections seperately as "End Sect_____".
FES = Flared End Section
TES = Traversable End Section

Allowable Pipe List

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

Morton County Line North to Beulah

Revised 11/9/2015	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	51	9

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
4904+71	70' Lt	4904+71	56' Lt	60	Pipe Conc Reinf 60IN CL III - (Extension)	14	Reinforced Concrete Pipe - Class III (barrel length = 14 LF)			60			FES		D-714-28
4904+71	62' Rt	4904+71	74' Rt	60	Pipe Conc Reinf 60IN CL III - (Extension)	12	Reinforced Concrete Pipe - Class III (barrel length = 12 LF)			60				FES	D-714-28
4913+49	37' Lt	4913+04	41' Rt	48	Pipe Conduit - Jack or Bore 48IN	90	Reinforced Concrete Pipe - Class III (barrel length = 90 LF)			48					D-714-16
							Smooth Wall Steel Pipe			48	0.563				
4913+62	60' Lt	4913+49	37' Lt	48	Pipe Conduit	26	Reinforced Concrete Pipe - Class III (barrel length = 24 LF)			48			FES		
							Corrugated Steel Pipe			48	0.064				
							Spiral Rib Steel Pipe			48	0.064				
4913+04	41' Rt	4912+79	84' Rt	48	Pipe Conduit	50	Reinforced Concrete Pipe - Class III (barrel length = 48 LF)			48				FES	
							Corrugated Steel Pipe			48	0.064				
							Spiral Rib Steel Pipe			48	0.064				
4917+73	47' Lt	4918+43	47' Lt	18	Pipe Conduit - Approach	70	Reinforced Concrete Pipe - Class III (barrell length = 66 LF)			18			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	18	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	18	0.064				
							High-Density Polyethylene			18					
4917+75	43' Rt	4917+78	43' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	3	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
4918+41	43' Rt	4918+44	43' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	3	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
4930+54	56' Lt	4930+54	48' Lt	30	Pipe Conc Reinf 30IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			30			FES		D-714-28
4930+54	74' Rt	4930+54	82' Rt	30	Pipe Conc Reinf 30IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			30				FES	D-714-28
4932+18	36' Lt	4932+18	38' Rt	42	Pipe Conduit - Jack or Bore 42IN	74	Reinforced Concrete Pipe - Class III (barrel length = 74 LF)			48					D-714-16
							Smooth Wall Steel Pipe			48	0.563				
4932+18	66' Lt	4932+18	36' Lt	42	Pipe Conduit	30	Reinforced Concrete Pipe - Class III (barrel length = 28 LF)			42			FES		
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	42	0.064				
4932+18	38' Rt	4932+18	70' Rt	42	Pipe Conduit	32	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			42				FES	
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	42	0.064				

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5 = 5"x1"

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

(A) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions pay for end sections seperately as "End Sect_____".
FES = Flared End Section
TES = Traversable End Section

Allowable Pipe List

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

Morton County Line North to Beulah

Revised	11/9/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SNH-5-049(014)082	51	10

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
4943+16	35' Lt	4943+16	25' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)			24			TES		D-714-28
4943+16	49' Rt	4943+16	55' Rt	24	Pipe Conc Reinf 24IN CL III - (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)			24				FES	D-714-28
4957+34	46' Lt	4957+44	46' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	10	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
4958+19	46' Lt	4958+29	46' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	10	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
4957+54	50' Rt	4958+08	50' Rt	18	Pipe Conduit - Approach	54	Reinforced Concrete Pipe - Class III (barrell length = 50 LF)			18			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	18	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	18	0.064				
							High-Density Polyethylene			18					
4981+29	80' Lt	4981+88	87' Rt	42	Pipe Conduit - Jack or Bore 42IN	178	Reinforced Concrete Pipe - Class III (barrel length = 178 LF)			42					D-714-16
							Smooth Wall Steel Pipe			42	0.500				
4981+17	110' Lt	4981+28	80' Lt	42	Pipe Conduit	32	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			42			FES		
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	42	0.064, 0.079				
4981+88	87' Rt	4982+00	121' Rt	42	Pipe Conduit	36	Reinforced Concrete Pipe - Class III (barrel length = 34 LF)			42				FES	
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	42	0.064, 0.079				
4989+57	38' Lt	4989+57	30' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			24			TES		D-714-28
4991+73	48' Rt	4991+81	48' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	8	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
4992+59	48' Rt	4992+67	48' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	8	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5004+36	97' Lt	5004+51	73' Lt	30	Pipe Conc Reinf 30IN CL III - (Extension)	28	Reinforced Concrete Pipe - Class III (barrel length = 28 LF)			30			FES		D-714-28
5005+49	98' Rt	5005+65	123' Rt	30	Pipe Conc Reinf 30IN CL III - (Extension)	30	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			30				FES	D-714-28
5011+45	44' Lt	5011+45	36' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			24			TES		D-714-28

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(A) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions pay for end sections seperately as "End Sect_____".
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Allowable Pipe List

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

Morton County Line North to Beulah

Revised	11/9/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
		ND	SNH-5-049(014)082	51	13

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
5142+02	45' Rt	5142+06	45' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	4	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5142+95	45' Rt	5142+99	45' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	4	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5151+33	46' Lt	5151+41	46' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	8	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5152+15	46' Lt	5152+23	46' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	8	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5155+71	89' Rt	5155+86	63' Rt	36	Pipe Conc Reinf 36IN CL III - (Extension)	30	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			36			FES		D-714-28
5156+68	77' Lt	5156+83	103' Lt	36	Pipe Conc Reinf 36IN CL III - (Extension)	30	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			36				FES	D-714-28
5160+84	50' Rt	5160+84	68' Lt	66	Pipe Conduit - Jack or Bore 66IN	118	Reinforced Concrete Pipe - Class III (barrel length = 118 LF)			66					D-714-16
							Smooth Wall Steel Pipe			66	0.813				
5160+84	80' Rt	5160+84	50' Rt	66	Pipe Conduit	30	Reinforced Concrete Pipe - Class III (barrel length = 28 LF)			66			FES		D-714-26
							Corrugated Steel Pipe	P	2, 3, 5	66	0.138, 0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	66	0.109, 0.079				
5160+84	68' Lt	5160+84	112' Lt	66	Pipe Conduit	44	Reinforced Concrete Pipe - Class III (barrel length = 42 LF)			66				FES	D-714-26
							Corrugated Steel Pipe	P	2, 3, 5	66	0.138, 0.064				
							Spiral Rib Steel Pipe	P	3/4, 1	66	0.109, 0.079				
5168+34	48' Lt	5168+43	48' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	9	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5169+25	48' Lt	5169+34	48' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	9	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5170+49	47' Rt	5170+62	47' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	13	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5171+29	47' Rt	5171+42	47' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	13	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5181+76	34' Rt	5181+76	26' Rt	24	Pipe Conc Reinf 24IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			24			TES		D-714-28
5181+76	31' Lt	5181+76	39' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			24				TES	D-714-28

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1 = 3/4"x1"@11-1/2"

(A) The price bid for "Pipe Conduit" bid items includes end sections. Pipe Extensions pay for end sections seperately as "End Sect_____".
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Allowable Pipe List

Widening, HBP Overlay, Bridges, Culverts, Turn Lanes

Morton County Line North to Beulah

Revised 11/9/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	51	14

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
5194+70	46' Rt	5194+74	46' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	4	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5195+55	46' Rt	5195+59	46' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	4	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5204+29	45' Lt	5204+32	45' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	3	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5204+38	46' Rt	5204+40	46' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	2	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5205+17	46' Rt	5205+19	46' Rt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	2	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5205+29	45' Lt	5205+32	45' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	3	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5218+39	66' Lt	5218+41	72' Lt	36	Pipe Conc Reinf 36IN CL III - (Extension)	6	Reinforced Concrete Pipe - Class III (barrel length = 6 LF)			36				FES	D-714-28
5225+92	93' Rt	5225+92	67' Rt	96	96IN Elliptical Str Plate Pipe .109IN	26	Structural Plate Pipe	Z,A,P	2	96			Remove & Reset		D-714-28
5225+92	66' Lt	5225+92	94' Lt	96	96IN Elliptical Str Plate Pipe .109IN	28	Structural Plate Pipe	Z,A,P	2	96				Remove & Reset	D-714-28
5234+58	51' Lt	5234+64	51' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	6	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5235+44	51' Lt	5235+50	51' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	6	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5255+15	64' Rt	5255+53	76' Lt	30	Pipe Conduit - Jack or Bore 30IN	128	Reinforced Concrete Pipe - Class III (barrel length = 128 LF)			30					D-714-16
							Smooth Wall Steel Pipe			30	0.406				
5255+06	95' Rt	5255+15	64' Rt	30	Pipe Conduit	32	Reinforced Concrete Pipe - Class III (barrel length = 30 LF)			30					D-714-26
							Corrugated Steel Pipe	P	2	30	0.064		FES		
							Spiral Rib Steel Pipe	P	3\4, 1	30	0.064				
5255+53	76' Lt	5255+64	117' Lt	30	Pipe Conduit	42	Reinforced Concrete Pipe - Class III (barrel length = 40 LF)			30					D-714-26
							Corrugated Steel Pipe	P	2	30	0.064			FES	
							Spiral Rib Steel Pipe	P	3\4, 1	30	0.064				

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Allowable Pipe List

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Morton County Line North to Beulah

Revised 11/9/15	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	SNH-5-049(014)082	51	15

Begin Station / Location	Begin Offset	End Station / Location	End Offset	Pipe Installation (Pay Item)			Allowable Material	Steel Pipe Coatings	Steel Pipe Corrugations or Spiral Ribs	Required Diameter	Minimum Thickness	R1 Fabric (Pay Item)	(A) End Sections		Applicable Backfill Detail
													Begin	End	
				In	Bid Item	LF		Type		In	In	SY	EA	EA	
5260+06	58' Rt	5260+91	58' Rt	18	Pipe Conduit - Approach	85	Reinforced Concrete Pipe - Class III (barrell length = 82 LF)			18			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	18	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	18	0.064				
							High-Density Polyethylene			18					
5281+16	34' Lt	5281+16	26' Lt	24	Pipe Conc Reinf 24IN CL III - (Extension)	8	Reinforced Concrete Pipe - Class III (barrel length = 8 LF)			24			TES		D-714-28
5281+16	26' Rt	5281+16	36' Rt	24	Pipe Conc Reinf 24IN CL III - (Extension)	10	Reinforced Concrete Pipe - Class III (barrel length = 10 LF)			24				TES	D-714-28
5293+00	48' Lt	5293+07	48' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	7	Corrugated Steel Pipe	Z,A,P	2	18			FES		N/A
5293+85	48' Lt	5293+92	48' Lt	18	Pipe Corr Steel 0.064IN 18IN - (Extension)	7	Corrugated Steel Pipe	Z,A,P	2	18				FES	N/A
5294+41	45' Rt	5294+41	21' Rt	4' x 6'	Cattle Pass Intermed Section - (Extension)	24	4' x 6' Cattle Pass						ES		D-714-28
5294+41	21' Lt	5294+41	45' Lt	4' x 6'	Cattle Pass Intermed Section - (Extension)	24	4' x 6' Cattle Pass							ES	D-714-28
5303+22	98' Rt	5303+80	100' Lt	42	Pipe Conduit - Jack or Bore 42IN	206	Reinforced Concrete Pipe - Class III (barrel length = 206 LF)			42					D-714-16
							Smooth Wall Steel Pipe			42	0.500				
5303+10	137' Rt	5303+22	98' Rt	42	Pipe Conduit	40	Reinforced Concrete Pipe - Class III (barrel length = 38 LF)			42			FES		
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	1	42	0.064				
5303+80	100' Lt	5303+91	137' Lt	42	Pipe Conduit	38	Reinforced Concrete Pipe - Class III (barrel length = 36 LF)			42				FES	
							Corrugated Steel Pipe	P	2	42	0.064				
							Spiral Rib Steel Pipe	P	1	42	0.064				
5320+59	41' Lt	5320+90	73' Lt	30	Pipe Conc Reinf 30IN CL III - (Extension)	32	Reinforced Concrete Pipe - Class III (barrel length = 32 LF)			30				FES	D-714-28
5341+00	60' Rt	5343+86	80' Rt	24	Pipe Conduit - Approach	288	Reinforced Concrete Pipe - Class III (barrell length = 284 LF)			24			FES	FES	N/A
							Corrugated Steel Pipe	Z,A,P	2	24	0.064				
							Spiral Rib Steel Pipe	Z,A,P	3/4, 1	24	0.064				
							High-Density Polyethylene			24					
5354+62	56' Lt	5354+62	40' Lt	30	Pipe Conc Reinf 30IN CL III - (Extension)	16	Reinforced Concrete Pipe - Class III (barrel length = 16 LF)			30			FES		D-714-28

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Morton County Line North to Beulah