

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION
REQUEST FOR PROPOSAL

URBAN FEDERAL AID PROJECT NO. NHU-8-081(039)924 (PCN-21400) and STATE FEDERAL
AID PROJECT NO. IM-8-094(090)351 (PCN-21169)

0.365 Miles

GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT MARKING, SHARED USE PATH, CONCRETE
SIDEWALK

FARGO-UNIVERSITY DRIVE FROM 21ST AVE S TO 18TH AVE S and FARGO - INTERSTATE 94 AND UNIVERSITY
DRIVE INTERCHANGE

CASS COUNTY

DBE Race Conscious Goal - 5.00%

BID OPENING: The bidder's proposal will be accepted via the Bid Express on-line bidding
exchange at www.bidx.com until **09:30AM Central Time on November 17, 2017.**

Prior to submitting a Proposal, the Bidder shall complete all applicable sections and
properly execute the Proposal Form in accordance with the specifications.

Proposal Form of:

(Firm Name)

(Address, City, State, Zipcode)

(For official use only)

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Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

The company, firm, corporation, or individual hereby acknowledges that it has designated a responsible person or persons as having the authority to obligate the company, firm, or individual, through electronic or paper submittal, to the terms and conditions described herein and in the contract documents. The designated responsible person submitting this proposal shall be hereafter known as the bidder. By submitting this proposal, the bidder fully accepts and agrees to all the provisions of the proposal. The bidder also certifies that the information given in this proposal is true and the certifications made in this proposal are correct.

The bidder acknowledges that they have thoroughly examined the plans, proposal form, specifications, supplemental specifications, special provisions and agrees that they constitute essential parts of this proposal.

The bidder acknowledges that all line items which contain a quantity shall have a unit price bid. Any line item which is bid lump sum shall contain a lump sum bid price.

The bidder acknowledges that they understand that the quantities of work required by the plans and specifications are approximate only and are subject to increases and decreases; the bidder understands that all quantities of work actually required must be performed and that payment therefore shall be at the prices stipulated herein; that the bidder proposes to timely furnish the specified materials in the quantities required and to furnish the machinery, equipment, labor and expertise necessary to competently complete the proposed work in the time specified.

NON-COLLUSION AND DEBARMENT CERTIFICATION

The bidder certifies that neither he/she, nor any official, agent or employee of the bidder has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this bid.

By submitting this proposal, the bidder certifies to the best of his/her knowledge and belief that he/she and his/her principles:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal Department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or perform a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property

Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

-
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph b. of the certification; and
 - d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or Local) terminated for cause or default

Where the prospective bidder is unable to certify to any of the statements in this certification, the bidder shall submit an explanation in the blanks provided herein. The explanation will not necessarily result in denial of participation in a contract:

Explanation: _____

If the prequalified bidder's status changes, he/she shall immediately submit a new fully executed non-collusion affidavit and debarment certification with an explanation of the change to the Contract Office prior to submitting the bid.

Failure to furnish a certification or an explanation will be grounds for rejection of a bid.

BID LIMITATION (Optional)

The bidder who desires to bid on more than one project on which bids are to be opened on the same date, and who also desires to avoid receiving an award of more projects than the bidder is equipped to handle, may bid on multiple projects and limit the total amount of work awarded to the bidder on selected projects by completing the "Bid Limitation".

The Bid Limitation must be filled in on each proposal form for which the Bidder desires protection. Each such proposal must be covered by a proposal guaranty.

The bid limitation can be made by declaring the total dollar value of work OR total number of projects a bidder is willing to perform.

The Bidder desires to disqualify all of his/her bids on this bid opening that exceed a total dollar value of \$ _____

OR

that exceed a total number of _____ projects.

The Bidder hereby authorizes the Department to determine which bids shall be disqualified.

Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

PERMISSIBLE DISCOUNT (optional)

Only when invited to do so in the Request for Proposal by Special Provision, Bidders are permitted to offer a discount on a specific project (discount project) if they are awarded the contract on one or more additional projects bid at the same bid opening time and date. The bidder must present the proposal so that it can be considered with or without the discount. The bid or discount offered on the "discount project" will not affect the determination of the low bid of any other project.

When discounts are offered, they must be presented as a reduction in the unit price for one or more items of work in the specified proposal (discount project).

Space for Offering Discounts:

Item No: _____

Description: _____

Unit: _____

Proposal Quantity: _____ Unit Price Reduction: \$ _____ Discount: \$ _____

Item No: _____

Description: _____

Unit: _____

Proposal Quantity: _____ Unit Price Reduction: \$ _____ Discount: \$ _____

Item No: _____

Description: _____

Unit: _____

Proposal Quantity: _____ Unit Price Reduction: \$ _____ Discount: \$ _____

TOTAL DISCOUNT _____

It is understood that the discount will only apply if awarded under the conditions as listed above and signed by the bidder.

Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

RECEIPT OF ADDENDA ACKNOWLEDGEMENT

We hereby acknowledge receipt of the following addenda:

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

PROPOSAL GUARANTY

A proposal guaranty is required. The proposal guaranty must comply with Section 102.09, "Proposal Guarantee" of the Standard Specifications.

TYPE OF PROPOSAL GUARANTY APPLIED TO THIS PROJECT (Check one):

_____ Annual Bid Bond*

_____ Single Project Bid Bond

_____ Certified or Cashier's Check

*Annual Bid Bond is required when submitting proposals electronically

BID ITEMS

Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

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	201	0330	CLEARING & GRUBBING	L SUM	1.				
003	202	0114	REMOVAL OF CONCRETE PAVEMENT	SY	1,539.				
004	202	0130	REMOVAL OF CURB & GUTTER	LF	7,169.				
005	202	0136	REMOVAL OF PAVEMENT	TON	23,968.				
006	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	2,082.				
007	202	0210	REMOVAL OF MANHOLES	EA	6.				
008	202	0235	REMOVAL OF CATCH BASIN	EA	13.				
009	202	0290	REMOVAL OF SLOPE PROTECTION	SY	597.				
010	202	0293	REMOVE RETAINING WALL	LF	62.				
011	202	0312	REMOVE EXISTING FENCE	LF	270.				
012	203	0101	COMMON EXCAVATION-TYPE A	CY	2,999.				
013	203	0109	TOPSOIL	CY	3,203.				
014	203	0113	COMMON EXCAVATION-WASTE	CY	2,705.				
015	210	0050	BOX CULVERT EXCAVATION	EA	1.				
016	210	0210	FOUNDATION FILL	CY	1,415.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
017	210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1.				
018	216	0100	WATER	M GAL	334.				
019	251	0300	SEEDING CLASS III	ACRE	3.980				
020	251	2000	TEMPORARY COVER CROP	ACRE	3.980				
021	253	0201	HYDRAULIC MULCH	ACRE	3.980				
022	253	0301	BONDED FIBER MATRIX	ACRE	3.980				
023	258	0100	CONCRETE SLOPE PROTECTION	SY	210.				
024	261	0112	FIBER ROLLS 12IN	LF	8,460.				
025	261	0113	REMOVE FIBER ROLLS 12IN	LF	4,230.				
026	302	0100	SALVAGED BASE COURSE	TON	15,093.				
027	430	0500	COMMERCIAL GRADE HOT MIX ASPHALT	TON	941.				
028	550	0315	11IN NON REINF CONCRETE PVMT CL AE-DOWELED	SY	14,786.				
029	602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	114.300				
030	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	21,129.				
031	624	0123	PEDESTRIAN RAILING	LF	270.				
032	702	0100	MOBILIZATION	L SUM	1.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	704	0100	FLAGGING	MHR	800.				
034	704	1000	TRAFFIC CONTROL SIGNS	UNIT	4,487.				
035	704	1037	ATTENUATION DEVICE-TYPE B-35	EA	3.				
036	704	1052	TYPE III BARRICADE	EA	36.				
037	704	1060	DELINEATOR DRUMS	EA	162.				
038	704	1067	TUBULAR MARKERS	EA	198.				
039	704	1070	DELINEATOR	EA	40.				
040	704	1072	FLEXIBLE DELINEATORS	EA	88.				
041	704	1080	STACKABLE VERTICAL PANELS	EA	30.				
042	704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	2.				
043	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	1,364.				
044	704	3510	PRECAST CONCRETE MED BARRIER-STATE FURNISHED	EA	20.				
045	704	4011	PORTABLE CHANGEABLE MESSAGE SIGN	EA	4.				
046	706	0400	FIELD OFFICE	EA	1.				
047	706	0500	AGGREGATE LABORATORY	EA	1.				
048	706	0600	CONTRACTOR'S LABORATORY	EA	1.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
049	708	1540	INLET PROTECTION-SPECIAL	EA	27.				
050	708	1541	REMOVE INLET PROTECTION-SPECIAL	EA	27.				
051	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	161.				
052	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	19,910.				
053	710	0410	REMOVAL OF TEMP CONNECTION	EA	2.				
054	714	0120	PIPE C R 12IN CL III-STORM DRAIN 45DEG BEND	EA	1.				
055	714	4105	PIPE CONDUIT 24IN	LF	56.				
056	714	7040	SANITARY SEWER SERVICE CONNECTION	EA	2.				
057	722	0100	MANHOLE 48IN	EA	4.				
058	722	0110	MANHOLE 60IN	EA	4.				
059	722	1100	MANHOLE RISER 48IN	LF	22.540				
060	722	1110	MANHOLE RISER 60IN	LF	20.030				
061	722	3510	INLET-TYPE 2	EA	9.				
062	722	3701	INLET SPECIAL-TYPE 2 48IN	EA	3.				
063	722	3730	INLET SPECIAL CATCH BASIN 9IN BEEHIVE 48IN	EA	6.				
064	722	3910	INLET SLOTTED DRAIN 15IN	LF	20.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
065	722	4020	INLET CATCH BASIN 9IN BEEHIVE	EA	3.				
066	722	6140	ADJUST GATE VALVE BOX	EA	3.				
067	724	0425	RESET HYDRANT	EA	2.				
068	724	0810	WATERMAIN 6IN PVC	LF	6.				
069	724	1110	8IN SANITARY SEWER PIPE	LF	541.				
070	748	0140	CURB & GUTTER-TYPE I	LF	7,550.				
071	750	0030	PIGMENTED IMPRINTED CONCRETE	SY	333.				
072	750	0100	SIDEWALK CONCRETE	SY	1,986.				
073	750	0150	SIDEWALK TRENCH DRAIN	EA	3.				
074	750	0200	CONCRETE MEDIAN PAVING	SY	1,478.				
075	750	0210	CONCRETE MEDIAN NOSE PAVING	SY	37.				
076	750	1000	DRIVEWAY CONCRETE	SY	291.				
077	750	2115	DETECTABLE WARNING PANELS	SF	190.				
078	752	0911	TEMPORARY SAFETY FENCE	LF	317.				
079	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	498.				
080	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	109.				

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
081	754	0193	FLEXIBLE DELINEATORS-TYPE D	EA	11.				
082	754	0198	DIAMOND GRADE DELINEATORS-TYPE D	EA	18.				
083	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	337.				
084	754	0210	GALV STEEL POST-STANDARD PIPE	LF	171.				
085	754	0530	PANEL FOR SIGNS-TYPE XI REFLECTIVE SHEETING	SF	693.				
086	754	0563	REFERENCE MARKER-TYPE C	EA	1.				
087	754	0592	RESET SIGN PANEL	EA	2.				
088	754	1100	CLASS AE CONCRETE-SIGN FOUNDATIONS	CY	86.				
089	754	1104	REMOVE SIGN FOUNDATION	EA	5.				
090	754	1325	OVERHEAD SIGN STR 40FT CANTILEVER	EA	1.				
091	754	1457	OVERHEAD SIGN STR 97FT TRUSS	EA	1.				
092	754	1590	REMOVE OVERHEAD SIGN STR TRUSS	EA	2.				
093	762	0122	PREFORMED PATTERNED PVMT MK-MESSAGE(GROOVED)	SF	372.				
094	762	0420	SHORT TERM 4IN LINE-TYPE R	LF	35,374.				
095	762	0424	SHORT TERM 8IN LINE-TYPE R	LF	1,453.				
096	762	0426	SHORT TERM 24IN LINE-TYPE R	LF	393.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
097	762	0440	SHORT TERM MESSAGE-TYPE R	SF	300.				
098	762	1305	PREFORMED PATTERNED PVMT MK 4IN LINE-GROOVED	LF	1,845.				
099	762	1307	PREFORMED PATTERNED PVMT MK 6IN LINE-GROOVED	LF	518.				
100	762	1309	PREFORMED PATTERNED PVMT MK 8IN LINE-GROOVED	LF	2,822.				
101	762	1325	PREFORMED PATTERNED PVMT MK 24IN LINE-GROOVED	LF	246.				
102	762	1344	PREF PATT PVMT MK 7IN LINE CONTRAST-GROOVED	LF	1,038.				
103	770	0001	LIGHTING SYSTEM	EA	1.				
104	770	0003	LIGHTING SYSTEM A	EA	1.				
105	770	0004	LIGHTING SYSTEM B	EA	1.				
106	770	0005	LIGHTING SYSTEM C	EA	1.				
107	770	4560	REMOVE LIGHT STANDARD	EA	13.				
108	770	4570	REMOVE STREET LIGHT LUMINAIRE	EA	3.				
109	770	4590	REMOVE FEED POINT	EA	1.				
110	772	2800	INTERIM TRAFFIC SIGNALS	EA	3.				
111	772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1.				
112	772	9812	TRAFFIC SIGNAL SYSTEM - SITE 2	EA	1.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
113	772	9813	TRAFFIC SIGNAL SYSTEM - SITE 3	EA	1.				
114	920	0090	LIFT STATION	EA	1.				
115	930	9543	RETAINING WALL	SF	93.				
			SUBTOTAL						
			OPTION 1						
116	714	4092	PIPE CONDUIT 12IN-STORM DRAIN	LF	12.				
117	714	4097	PIPE CONDUIT 15IN-STORM DRAIN	LF	277.				
118	714	4101	PIPE CONDUIT 18IN-STORM DRAIN	LF	767.				
119	714	4107	PIPE CONDUIT 24IN-STORM DRAIN	LF	313.				
			SUBTOTAL OPTION 1						
			OPTION 2						
120	714	0115	PIPE CONC REINF 12IN CL III-STORM DRAIN	LF	12.				
121	714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN	LF	277.				
122	714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN	LF	767.				

BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
123	714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN	LF	313.				
			SUBTOTAL OPTION 2						
			OPTION 3						
124	714	4097	PIPE CONDUIT 15IN-STORM DRAIN	LF	637.				
125	714	4112	PIPE CONDUIT 30IN-STORM DRAIN	LF	52.				
			SUBTOTAL OPTION 3						
			OPTION 4						
126	714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN	LF	637.				
127	714	0825	PIPE CONC REINF 30IN CL III-STORM DRAIN	LF	52.				
			SUBTOTAL OPTION 4						
			SUBTOTAL + ALL OPTIONS						

Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

Type of Work: GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT MARKING, SHARED USE PATH, CONCRETE SIDEWALK

County: CASS

Length: 0.3650 Miles

TIME FOR COMPLETION:

The undersigned Bidder agrees, if awarded the contract, to prosecute the work with sufficient forces and equipment to complete the contract work within the allowable time specified as follows:

WORKING DAY CONTRACT: NA working days are provided. The Department will begin charging working days beginning NA or the date work begins on the project site, whichever is earlier.

CALENDAR DAY CONTRACT: NA calendar days are provided. The completion date will be determined by adding NA calendar days to NA or the date work begins on the project site, whichever is earlier.

COMPLETION DATE CONTRACT The project completion date is 09/15/2018 *. The Department provides a minimum of NA working days. The Department will begin charging working days beginning NA or the date work begins on the project site, whichever is earlier.

***THE SEPTEMBER 15, 2018 COMPLETION DATE IS FOR ALL WORK.**

NO WORK WILL BE ALLOWED PRIOR TO MAY 14, 2018.

REFER TO SPECIAL PROVISION 502(14) CONTRACT TIME FOR COMPLETION-INCENTIVE/DISINCENTIVE AND NOTE 108-P01 PROJECT SCHEDULE FOR ADDITIONAL TIME REQUIREMENTS.

PROPOSAL FORM

North Dakota Department of Transportation

BID OPENING: November 17, 2017**Job 048**

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Projects: NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)**Type of Work:** GRADING, SURFACING, STORM DRAIN, LIGHTING, PAVEMENT MARKING, SHARED USE PATH, CONCRETE SIDEWALK**County:** CASS**Length:** 0.3650 Miles**UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISE (M/WBE):**

The undersigned Bidder certifies that the information given on behalf of the Bidder in Special Provision, "Utilization of Disadvantaged Business Enterprise" (M/WBE), is true and correct and that the bidder has met the assigned goals or has met the good faith effort requirements of the Special Provision.

CONTRACT EXECUTION:

The undersigned Bidder agrees, if awarded the contract, to execute the contract form and furnish a contract bond within fifteen calendar days, as determined by NDCC Section 1-02-15, after date of notice of award, in accordance with the provisions of Sections 103.05 and 103.06 of the Standard Specifications.

AFFIDAVIT:

STATE OF _____)
_____) **ss.**
COUNTY OF _____)

The undersigned bidder, being duly sworn, does depose and say that they are an authorized representative of _____

CONTRACTOR NAME

of _____, a
MAILING ADDRESS

☐ Individual☐ Partnership☐ Joint Venture☐ Corporation

and that they have read, understand, acknowledge, and accept the entire proposal form; and that all statements made by said bidder are true and correct.

_____,
BIDDER MUST SIGN ON THIS LINE

TITLE _____

TYPE OR PRINT SIGNATURE ON THIS LINE

Subscribed and sworn to before me this day.

COUNTY

(Seal)

STATE_____
DATE_____
NOTARY PUBLIC

My commission expires _____

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Job #48, Project No. IM-8-094(090)351 & NHU-8-081(039)924

Grading, Surfacing, Storm Drain, Lighting, Pavement Marking,
Shared Use Path, Concrete Sidewalk

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Road Restriction Permits

Hot Line Notice

NDDOT Supplemental Specifications dated October 1, 2017

Price Schedule for Miscellaneous Items dated October 1, 2014 (PS-1)

SP DBE Program - Race Conscious dated January 1, 2017

E.E.O. Affirmative Action Requirements dated March 15, 2014

Appendix A of the Title VI Assurances dated February 4, 2015

Appendix E of the Title VI Assurances dated February 4, 2015

SP Cargo Preference Act

Required Contract Provisions Federal Aid Construction Contracts
(Form FHWA 1273 Rev. May 1, 2012)

SP Certified Payrolls, dated 9-6-17

SP DBE Project Payment Reporting, dated 10-3-17

Labor Rates from U.S. Department of Labor dated January 6, 2017 (Mod. No. 4)

On-The-Job Training Program dated October 1, 2016

SP 3(14) Temporary Erosion & Sediment Control Measures

SP 281(14) Buy America

SP 282(14) Certificate of Compliance

SP 449(14) Work Drawings Submittals

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SP 453(14) Haul Roads

SP 462(14) Limitations of Operations

SP 497(14) Lift Station and Pumping Equipment

SP 502(14) Contract Time for Completion – Incentive/Disincentive

SP 540(14) City of Fargo Traffic Signals

SP 541(14) Conditions of Contract Award

SP Fuel Cost Adjustment Clause dated September 8, 2006

NOTICE

TO: All prospective bidders on all North Dakota Department of Transportation Highway Construction Projects.

Contractors moving construction equipment to NDDOT highway construction projects are subject to the Road Restriction Policy with the following modifications:

- A. The contractor may purchase up to 10 single trip permits for each NDDOT highway construction project at a cost ranging from \$20 to \$70 each. These permits must be purchased from the Motor Carrier Division of the Highway Patrol at the central office of the NDDOT in Bismarck, North Dakota.
- B. The \$1 per mile fee will not be charged for Gross Vehicle Weights (GVW) exceeding 105,500 pounds, 105,500 pounds, and 105,000 pounds for highways Restricted by Legal Weights, 8 Ton, and 7 Ton highways respectively.
- C. The \$5 per ton per mile fee will be charged only for loads exceeding a GVW of 130,000 pounds, 120,000 pounds, 110,000 pounds and 80,000 pounds for highways Restricted by Legal Weights, 8 Ton, 7 Ton, and 6 Ton highways respectively.
- D. The maximum weights per axle for each of the class restrictions still apply. If it is shown that more axles cannot be added, movement may be authorized; however, a \$1 per ton per mile fee will be charged for all weight in excess of the restricted axle limits.
- E. These construction equipment single trip permits apply to State and US Highways only.
- F. The District Engineers and Highway Patrol will select the route of travel.
- G. Contractors moving equipment to other than NDDOT highway construction projects are subject to all fees as shown in the Road Restriction Permit Policy.
- H. Contractors must call the Highway Patrol prior to movement of all overweight loads on all State and US Highways.

NDDOT ROAD AND VEHICLE RESTRICTIONS

Date Revised 05-22-10

ROAD RESTRICTION PERMITS

Permits shall be issued for the movement of non-divisible vehicles and loads on state highways which exceed the weight limits during spring road restrictions. The issuance of permits may be stopped or posted weights changed at any time based on the varying conditions of the roadways. Permits can be obtained from the Highway Patrol.

RESTRUCTION CLASSIFICATIONS WITH ALLOWABLE AXLE WEIGHTS AND GROSS VEHICLE WEIGHTS	PERMIT AND TON/MILE FEES
<p>Highways Restricted by Legal Weight</p> <p>Single Axle -- 20,000 lbs. Tandem Axle -- 34,000 lbs. Triple Axle -- 48,000 lbs. 4 Axles or more -- 15,000 lbs. per axle</p> <p>Gross Vehicle Weight -- 105,500 lbs.</p> <p>Note: The above weights apply to state highways restricted by legal weights, other than interstate highways, in areas where road restrictions are in force. When the gross weight of an axle grouping exceeds 48,000 pounds, the \$1 per ton per mile shall apply to all weight in excess of 15,000 pounds per axle.</p>	<p>Permit Fee: \$20-\$70 per trip</p> <p>Ton Mile Fee:</p> <p>105,501 lbs. to 130,000 lbs. GVW -- \$1 per mile</p> <p>Over 130,000 lbs. GVW -- \$1 per mile plus \$5 per ton per mile for that weight exceeding 130,000 lbs. GVW</p> <p>Exceeding axle limits -- \$1 per ton per mile</p>
<p>8-Ton:</p> <p>Single Axle -- 16,000 lbs. Tandem Axle -- 32,000 lbs. 3 Axles or more -- 14,000 lbs. per axle</p> <p>Gross Vehicle Weight -- 105,500 lbs.</p>	<p>Permit Fee: \$20-\$70 per trip</p> <p>Ton Mile Fee:</p> <p>105,501 lbs. to 120,000 lbs. GVW -- \$1 per mile</p> <p>Over 120,000 lbs. GVW -- \$1 per mile plus \$5 per ton per mile for that weight exceeding 120,000 lbs. GVW</p> <p>Exceeding restricted axle limits -- \$1 per ton per mile</p>
<p>7-Ton:</p> <p>Single Axle -- 14,000 lbs. Tandem Axle -- 28,000 lbs. 3 Axles or more -- 12,000 lbs. per axle</p> <p>Gross Vehicle Weight -- 105,500 lbs.</p>	<p>Permit Fee: \$20-\$70 per trip</p> <p>Ton Mile Fee:</p> <p>105,500 lbs. to 110,000 lbs. GVW -- \$1 per mile</p> <p>Over 110,000 lbs. GVW -- \$1 per mile plus \$5 per ton per mile for that weight exceeding 110,000 lbs. GVW</p> <p>Exceeding restricted axle limits -- \$1 per ton per mile</p>
<p>6-Ton:</p> <p>Single Axle -- 12,000 lbs. Tandem Axle -- 24,000 lbs. 3 Axles or more -- 10,000 lbs. per axle</p> <p>Gross Vehicle Weight -- 80,000 lbs.</p>	<p>Permit Fee: \$20-\$70 per trip</p> <p>Ton Mile Fee:</p> <p>\$5 per ton per mile for all weight exceeding 80,000 lbs. GVW</p> <p>Exceeding restricted axle limits -- \$1 per ton per mile</p>
<p>5-Ton:</p> <p>Single Axle -- 10,000 lbs. Tandem Axle -- 20,000 lbs. 3 Axles or more -- 10,000 lbs. per axle</p> <p>Gross Vehicle Weight -- 80,000 lbs.</p>	<p>No overweight movement allowed</p>

SINGLE UNIT FIXED LOAD VEHICLES SUCH AS TRUCK CRANES AND WORKOVER RIGS

A. Permit Fee and Ton Mile Fee for Self-Propelled Fixed Load Vehicles .

1. Permit Fee: \$25 per trip
2. \$1 per ton per mile for all weight in excess of restricted axle limits or in excess of legal limits on state highways in areas where road restrictions are in force. When the gross weight of an axle grouping exceeds 48,000 pounds, the \$1 per ton per mile shall apply to all weight in excess of 15,000 pounds per axle (see weight classification chart in section C.)
3. **\$5 per ton per mile** for all movements exceeding the following gross vehicle weight limits:
 - a. 105,500 lbs. GVW on unrestricted state highways, other than interstate highways, in areas where road restrictions are in force.
 - b. 105,500 lbs. GVW on 8-ton highways.
 - c. 105,500 lbs. GVW on 7-ton highways.
 - d. 80,000 lbs. GVW on 6-ton highways.
 - e. No overweight movement allowed on 5-ton highways

B. Permit Fees for Work-Over Rigs and Special Mobile Equipment Exceeding 650 but not 670 Pounds Per Inch Width of Tire.

1. Permit Fee:
 - a. \$50 per trip on work-over rigs up to 650 pounds per inch width.
 - b. \$75 per trip on work -over rigs that exceed 650 but not 670 pounds per inch width of tire.
2. The work-over rig shall be stripped to the most minimum weights.
3. A minimal number of state highway miles shall be used.
4. District engineer approval shall be obtained prior to movement when vehicle exceeds restricted axle weights by more than 5,000 pounds.
5. A validation number ending in TM must be obtained from the Highway Patrol prior to using a self-issue single trip movement approval form.
6. The ton mile shall be waived .

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION

"HOT LINE"

As part of its continuing investigation into Highway Construction Contract Bid Rigging and abuses in the Disadvantaged Business Enterprise Program, the Inspector General for the Department of Transportation (DOT) has established a "HOT LINE" to receive information from contractors, suppliers, or anyone with knowledge of such activities.

The toll-free "HOT LINE" telephone number is 1-800-424-9071 and will be manned during normal working hours (8 a.m. to 5 p.m. EST). This operation is under the direction of DOT's Inspector General. All information will be treated confidentially and anonymity will be respected.

CALL

Inspector General's 'HOT LINE'
Toll Free 1-800-424-9071
Washington, DC Area:
202-366-1461
Fax: 202-366-7749

WRITE

Inspector General
Post Office Box 23178
Washington, DC 20026-0178

Email: hotline@oig.dot.gov

The field office address and telephone number for NORTH DAKOTA is:

CHICAGO REGIONAL OFFICE

Special Agent-in-Charge
Commercial: 312-353-0106
111 N. Canal St., Suite 677
Chicago, Illinois 60606

CERTIFICATION

I hereby certify the attached supplemental specifications effective on October 1, 2017.

/S/

Bob Fode, P.E., Director
Office of Project Development

6/9/2017

Date



**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
REVISIONS**

Effective Date: 10/01/2017

The following specifications are supplementary to the 2014 Edition of the *Standard Specifications for Road and Bridge Construction* as they apply to this Contract. Page references in this document apply to the hard bound, printed edition of the specifications (the “blue book”) and the “as printed” version of the specifications on the Department’s website.

101.03 ABBREVIATIONS

PAGE 8

10/01/15

Delete the line for “ACPA American Concrete Precast Association” and replace it with the following:

ACPA American Concrete Pipe Association

Add the following item to Section 101.03:

NPCA National Precast Concrete Association
SWPPP Storm Water Pollution Prevention Plan

101.04 DEFINITIONS

PAGE 10

10/01/15

Delete the definition for “Sieve” and replace it with the following:

Sieve. U.S.A. Standard Sieve, as defined in ASTM E 11. The specified percent passing for each sieve is measured by weight.

102.07 B Electronic Proposal

Page 23

10/1/16

Replace 102.07 B with the following:

B. Electronic Proposal.

1. Electronic Bidding Credentials.

A Digital ID is required to electronically sign proposals.

If a Bidder does not have a Digital ID, create a Digital ID and set up bidding privileges by following the instructions on the Bid Express website (www.bidx.com). Begin the Digital ID creation process a minimum of 7 business days before the bid opening.

2. Submitting an Electronic Proposal.

Prepare the proposal using Bid Express as follows:

1. Download the most current “Proposal Files” and “DBE Roster File” from the Bid Express website (www.bidx.com).
2. Use the Bid Component for AASHTOWare Project Bids to prepare and submit the proposal forms. Follow the Bid Component software instructions and review the help

screens provided on the Bid Express website to ensure that the bid item list is prepared properly. Provide a unit price for each bid item.

If the proposal forms contain alternate or optional bid items, provide unit prices for those bid items as follows:

- a. For alternate bid items, provide a unit price for each bid item included in the Bidder's preferred alternate.
- b. For optional bid items, provide a unit price for all bid items under all options.

The user's Digital ID must be on file and enabled by Bid Express. The use of the Digital ID constitutes the Bidder's signature for execution of the proposal. The Department is not responsible for the Bidder's inability to submit a proposal using AASHTOWare.

103.08 A General**PAGE 30****10/1/16**

Replace the second paragraph with the following:

For subcontracts at any tier equal to or greater than \$750,000, obtain from the subcontractor all bid documentation used to prepare the subcontractor's bid for the portion of the work reflected in the subcontract. The subcontractor's bid documentation requirements shall be the same as for the Contractor, except it shall be submitted within 5 days of approval of the Prime Contractor's Request to Sublet. Submit to the Department the bid documentation and affidavit in a separate sealed container, including the subcontractor's name and address on the container.

104.02 C Significant Changes to the Character of Work**PAGE 34****10/01/15**

Delete the following paragraph in its entirety:

If the Contractor believes an alteration in the work is a significant change that necessitates a contract revision, the Contractor shall notify the Engineer in accordance with Section 104.03, "Contractor Requested Contract Revisions".

104.05 A Submission of the Claim**PAGE 37****10/01/15**

Replace the fourth paragraph of Section 104.05 with the following:

Provide a claim submittal to the Engineer that contains, at a minimum, the following information for each claim issue included on the [Notice of Intention to File a Claim \(SFN 16743\)](#). Failure to supply the following information for each claim issue constitutes a waiver of claim for additional compensation for each submitted claim item.

104.07 C. Conditions**PAGE 42****10/01/16**

Replace number 5 with the following:

5. Contains revisions to the contract that the Department has previously accepted on another Department project, or is based on or similar to standard specifications, special provisions, or another set of plans.

Delete Section 105.03 COOPERATION WITH UTILITY OWNERS and replace with the following:

105.03 COOPERATION WITH UTILITY OWNERS**A. General.**

Utility facilities shown on the plans, if any, are for reference purposes only and may not constitute an exhaustive representation of all utility facilities within the project. Notify the North Dakota One Call System (811) before starting the work, so they may locate and mark all utility facilities within the project.

Comply with Chapter 49-23 of the NDCC in determining the location of underground utilities.

Locate Department-owned, publicly-owned, and privately-owned utility facilities, whether on or off the One Call System.

If the Contractor's operations have the potential to damage utility facilities identified in the contract to remain in place during the work, including operations adjacent to these utility facilities, the Contractor shall account for and protect the utility facilities. Before starting the work, coordinate the protections with the utility owner.

B. Utilities Identified in Plans.

Notify all utility owners of the anticipated project schedule within two weeks of receiving notice to proceed. Coordinate adjustments and relocations with affected utility owners. The Contractor, the Engineer, and the utility owners shall agree to a schedule of the work and the adjustments and relocations before beginning the work.

Cooperate with utility owners in relocating and adjusting utility facilities to minimize interruption to service and duplication of work by utility owners.

The Department will provide utility conflict plans, if available. Utility conflict plans are not part of the contract and are for information purposes only.

C. Utilities Encountered During Work.

If the Engineer determines that adjustment or relocation of utility facilities is necessary to accommodate construction, the Engineer will arrange and coordinate the work with the owner if the contract does not otherwise provide for such work. This does not relieve the Contractor of any liability that may arise under the provisions of the NDCC.

D. Scheduling.**1. General.**

In order to minimize interference with traffic operations, the Contractor, Engineer, and utility owner shall agree to a detailed schedule before starting work.

2. Utility Coordination Meeting.

If the contract requires a utility coordination meeting, arrange the meeting with the utility owners and the Engineer to occur no later than two weeks after the notice to proceed. At the meeting, provide an agenda and a tentative construction schedule for planning utility relocations and adjustments; after the meeting, publish minutes and distribute a copy to all meeting attendees.

E. Fire Hydrants.

Before starting work that affects a fire hydrant, coordinate with the local fire authority to determine if provisions need to be in place before starting the work. If provisions are necessary, obtain the approval of the local fire authority before beginning the work affecting the fire hydrant.

F. Damage and Interruptions.

If the Contractor causes damage to utility facilities, the Contractor is responsible for the costs of restoring or repairing the damaged utility facility to a condition equal to or better than the condition existing before the damage occurred. Immediately notify the utility owner of the damage or, if the owner is unknown, the One Call System. Do not conceal, attempt to conceal, or make repairs to the utility facilities until approved by the utility owner. If this damage causes interruption to utility service, continuously coordinate with the utility owner until the service is fully restored.

The Department will not pay the Contractor for the cost to restore or repair damage utility facilities and will consider any delays resulting from this damage to be non-excusable in accordance with Section 108.06, Determination of and Extensions to the Contract Time.”

**105.08 A.3 Additional Section 600 Work Drawing Submittal Requirements. PAGE 50
10/01/16**

Replace the first paragraph with the following:

Provide work drawings on 11 inch × 17 inch sheets generated by a CADD system.

Use the minimum text sizes shown in Table 105-01.

Table 105-01	
Dimensions and Notes	0.08 Inches
Detail Subtitles	0.09 Inches
Detail Titles	0.10 Inches

105.08 B Work Drawings Submittal Requirements PAGE 50 10/1/17

Replace 105.08 B with the following:

B. Work Drawing Submittal Requirements.

Submit work drawings by either of the following methods:

1. Paper Submittal.

Submit a cover letter and two copies of the work drawings to the Engineer.

2. Electronic Submittal.

To submit the work drawings electronically to the Engineer, post a cover letter and one electronic copy of the work drawing to the Department's managed file transfer (MFT) website. Follow the requirements of NDAC Title 28 for all submittals.

Contact the Engineer to receive instructions describing how to upload files to the MFT website.

Replace the Section 105.08 C with the following:

C. Engineer's Response to Work Drawing.

Allow 21 days for the Engineer to review the work drawing. The Engineer will respond in one of the following ways:

- No Exceptions Noted;
- Returned for Correction;
- Not Required for Review; or
- Not Acceptable.

If the work drawing is returned stating "Returned for Correction" or "Not Acceptable", make necessary revisions and resubmit the work drawing as specified in Section 105.08, "Work Drawings".

After the Department has reviewed the work drawings, the Department will return the reviewed work drawing submittal to the Contractor as follows:

- If a paper submittal, the Engineer will return the reviewed drawings to the Contractor.
- If an electronic submittal, the Department will post reviewed work drawings on the MFT site and will send an email notification to the Contractor that the reviewed work drawings are available on the MFT site. Retrieve the reviewed work drawings from the MFT site within 30 calendar days. The Department will delete files from the MFT site after 30 calendar days.

Include the cost of drafting and submitting work drawings in the contract unit price for the relevant contract items.

106.01 C Certificate of Compliance

Replace 106.01 C, "Certificate of Compliance with the following:

C. Certificate of Compliance (CoC).

SP 282(14) Certificate of Compliance (CoC) has replaced this section.

106.02 D Aggregate Source Limitations

Delete number 8 and replace it with the following:

8. In Stark County, within the 2-mile radius from the center of Section 30-137-92;

Delete number 11 and replace it with the following:

11. In Hettinger County, within the 1-mile radius from the center of Section 28-135-91;

107.06 Discoveries

Replace the first paragraph with the following:

If the Contractor encounters one or more of the items included in the following list anywhere the Contractor performs the work, the Contractor shall immediately suspend the work and notify the Engineer of the encounter:

- Threatened or endangered species;
- Prehistoric dwelling sites;
- Human remains;
- Concentrated historic or prehistoric artifacts; or
- Vertebrate, invertebrate, plant and trace fossils.

If encountering one of the following, protect the location from further disturbance:

- Prehistoric dwelling sites;
- Human remains;
- Concentrated historic or prehistoric artifacts; or
- Vertebrate, invertebrate, plant and trace fossils.

Resume work in the location of the encounter only with written approval from the Engineer.

107.07 Responsibility to the Public

PAGE 70

10/01/17

Add the following to the end of Section 107.07

F. Crossing Traffic.

Construction vehicles are not allowed to cross lanes of traffic to enter or exit work zones on the interstate. Construction vehicles are required to merge into public traffic.

107.08 Haul Roads

PAGE 72

10/01/17

Replace 107.08 with the following:

107.08 HAUL ROADS

SP 453(14) Haul Roads has replaced this section.

107.13 G Railroad Flagging

PAGE 78

10/01/17

Delete the last sentence of the first paragraph.

107.17 REMOVED MATERIAL

PAGE 80

10/01/15

Replace Section 107.17 with the following:

107.17 REMOVED MATERIAL

Unless otherwise designated in the contract, removed material becomes the property of the Contractor.

If the Contractor determines that the material will be disposed of, the material must be disposed in one of the following ways:

- A. Dispose of the material through a beneficial use. Apply for a beneficial use permit from the NDDoH by completing an [*NDDOT Projects-Inert Waste Beneficial Use Application \(SFN 58981\)*](#). Provide the Engineer with copies of all documents submitted to the NDDoH.
- B. Dispose of the material at an approved permanent waste management facility.

- C. If waste cannot be reasonably managed at a permanent waste management facility, obtain approval from the NDDoH for a variance to dispose of the inert waste at another site. Apply for a variance by completing an [*NDDOT Projects-Inert Waste Disposal Variance Application \(SFN 54344\)*](#). Provide the Engineer with copies of all documents submitted to the NDDoH.

Obtain locations of permanent waste facilities, applications, and guidelines from the NDDoH, Division of Waste Management. View a list of municipal and inert waste landfills and review guidance on the NDDoH website: <http://www.ndhealth.gov>.

Include the cost of material disposal in the contract unit price of the relevant contract item.

108.02 PRECONSTRUCTION CONFERENCE

PAGE 81

10/01/16

Delete Section 108.02 and replace with the following:

108.02 CONSTRUCTION MEETINGS

A. Preconstruction Conference.

Before beginning the work, including pit operations specific to the project, and unless waived by the Engineer, coordinate and hold a preconstruction conference with the Engineer at a mutually agreed time and place. Notify subcontractors, utility companies, and other interested parties of the time and place of the preconstruction conference.

Submit the following to the Engineer before or at the preconstruction conference:

1. A company safety plan and the name of the safety officer;
2. An EEO / affirmative action plan and the name of the EEO officer;
3. A list of key project personnel and their phone numbers;
4. The initial or baseline schedule in accordance with Section 108.03, "Progress Schedule";
5. A list of proposed subcontractors requested in accordance with Section 108.01, "Subletting of Contract";
6. A list of material suppliers;
7. A list of pits to be used (owner and legal description);
8. All COAs in accordance with Section 107.05, "Material Source Approval";
9. The applicable storm water permits and the SWPPP in accordance with Section 107.02.C, "Storm Water Permits";
10. The names of Quality Control Personnel and a Quality Control Plan in accordance with Section 430.04 A, "Contractor Quality Control (QC)."

B. Weekly Planning and Reporting Meeting.

The weekly planning and reporting meeting is required when specified in the plans.

Organize a weekly meeting to coordinate efforts between subcontractors, utilities, local authorities, and others. The Engineer will develop a list of parties to be invited to the meeting and will provide the list to the Contractor at the Preconstruction Meeting. The Engineer may provide an updated list with additional attendees at any time.

Send a knowledgeable representative to conduct the meeting. Prepare minutes for each meeting and make the appropriate distribution of the minutes. Distribute the minutes within 48 hours of the meeting conclusion. Allow the Engineer to review and approve the minutes before distribution.

Include in the meeting agenda a discussion of problems encountered since the last meeting, and information of interest to those invited to the meeting. Provide a written schedule of the next week's work and a tentative schedule for the following week.

108.03 D Measurement and Payment**PAGE 91****10/01/15**

Replace Table 108-01 with the following:

**Table 108-01
CPM Schedule Price Reductions**

Days Late Submitting Update Schedule	Percentage Price Reduction to the Prorated Amount¹
1	20
2	40
3	60
4	80
5	100

¹ The "prorated amount" is equivalent to the amount calculated for each update schedule submission in Section 108.03 D, Item 2.

108.05 Limitation of Operations**PAGE 91****10/01/17**

Replace 108.05 Limitations of Operations with the following:

108.05 LIMITATION OF OPERATIONS

SP 462(14) "Limitation of Operations" has replaced this section.

108.06 B.1 General**PAGE 93****10/01/15**

Replace the 6th paragraph of Section 108.06 B.1 with the following:

The Contractor's plea that the contract time was insufficient is not a valid reason for an extension of time. For calendar day and completion date contracts, the Department will not extend the contract time for delays encountered on holidays and during the period from November 15 to April 15. When the time as extended by the Department falls on a date that is a holiday, the Engineer will extend the contract time to the next business day.

108.06 B.4 Excusable, Non-compensable Delays**PAGE 96****10/01/16**

Replace letter "f." with the following:

- f. Delays due to utility or railroad work when the Contractor has complied with the requirements of Section 105.03.D, "Scheduling," but the utility or railroad company failed to perform their work within the time agreed to in the utility coordination meeting.

109.01 J.2 Scale Applications**PAGE 103****10/01/16**

Replace the paragraph with the following:

Use either computerized or non-computerized scales to determine weights for material when the quantity of the material included in the bid item list is 2,000 tons or less.

109.01 J.2.a Computerized Scales**PAGE 103****10/01/16**

Replace the first paragraph with the following:

Use a computerized scale to determine the weight of material when the quantity included on the bid item list is greater than 2,000 tons.

109.01 J.2.b Computerized Loader Bucket Scales**PAGE 103****10/01/15**

Delete the first paragraph and replace with the following:

Loader bucket scales may be used to weigh materials when the quantity of material included in the bid item list is less than 10,000 tons and for aggregates specified under Sections 420 "Bituminous Seal Coat", 421 "Microsurfacing", and 422 "Slurry Seal" regardless of quantity.

109.01 J.4.b(2) Hopper or Batch Scales**PAGE 105****10/01/15**

Replace Section 109.01 J.4.b(2) with the following:

After the material has been weighed on the project scale and placed in a truck, weigh the loaded truck on a certified scale owned and operated by an entity other than the Contractor. Provide the tare weight of the truck along with the comparison weigh ticket.

109.01 J.6.a General**PAGE 106****10/01/15**

Delete the second paragraph and replace with the following:

Document the weight of each load on a separate, sequentially numbered weigh ticket that has a maximum size of 5.5 × 8.5 inches. Provide one copy to the driver of the truck. The truck driver shall deliver the weigh ticket to the Engineer at the location where the material is incorporated into the work. The Engineer will reject loads that are not accompanied by a legible weigh ticket.

155.02 A General**PAGE 140****10/01/17**

Add the following paragraph to Section 155.02 A:

Provide a NRMCA Certified plant for concrete used in Sections 550, "Concrete Pavement", 570 "Concrete Pavement Repair", 602 "Concrete Structures", and 622 "Pilings".

Replace the second paragraph in Section 155.03 A.3 with the following:

Use a water measuring system that:

- Delivers the designated quantity of water for each batch within the tolerance specified in Section 802.03 B.4, "Batching Water";
- Automatically stops the water flow when the designated quantity has been delivered; and
- Is adjustable and has a calibrated indicator showing the quantity of water measured for each batch.

Replace Section 155.07 D with the following:

D. Bridge Deck Overlays Finishing Equipment.

Use a finishing machine that is:

- Equipped with an oscillating screed or screeds with an effective weight of at least 75 pounds for each square foot of bottom face area, and provided with positive control of vertical position, the angle of tilt, and the shape of the crown. At least one oscillating screed shall be capable of consolidating the concrete to the specified density;
- Long enough to uniformly strike off and consolidate the width of lane to be paved
- Capable of forward and reverse motion under positive control;
- Travelling on rails with fully-adjustable and stable supports;
- Supported without the use of shims; and
- Not anchored to the concrete using powder actuated fasteners, unless that concrete will be subsequently overlaid.

Replace the second paragraph with the following:

Remove existing bituminous and concrete surfaces to a joint or create a smooth, vertical plane along the entire length of the remaining surface.

Replace Section 202.04 B with the following:

B. Removal of Structures and Box Culverts.

When the removal is of a bridge, perform asbestos inspection and testing and submit SFN 17987 "Asbestos Notification of Demolition and Renovation" to NDDoH at least 10 working days before conducting any demolition. If asbestos is discovered, the Engineer will issue a contract revision for work related to the asbestos.

Remove existing substructures to one foot below the existing stream bottom, and remove those parts outside the stream to one foot below final ground surface.

If bridge elements are designated for salvage, match mark the elements and transport them to the location specified in the contract.

202.06 BASIS OF PAYMENT**PAGE 162****10/01/16**

Delete the "Saw Concrete, Linear Foot" and "Saw Bituminous Surfacing-Full Depth, Linear Foot" from the "Pay Item List".

203.02 EQUIPMENT**PAGE 163****10/01/15**

Replace the equipment list in Section 203.02 with the following:

Equipment	Section
Vibratory Sheepsfoot/Pad Foot/Extended Pad Foot Rollers	151.01 E

203.04 B Topsoil**PAGE 164****10/01/17**

Replace 203.04 B with the following:

B. Topsoil.**1. General.**

Remove topsoil to its full depth or a depth up to 6 inches, whichever is less, from all excavation and embankment areas. Do not remove the subsoil or other deleterious material with topsoil. Stockpile the removed topsoil.

Place topsoil piles at acceptable locations outside of the grading limits or, if necessary, outside the right of way at no additional cost to the Department. If stockpiling topsoil outside the right of way, submit a copy of the agreement negotiated with the landowner 10 days before constructing topsoil stockpiles.

When stockpiling topsoil within the clear zone, construct topsoil stockpiles with foreslopes of 4:1 or flatter and approach slopes of 10:1 or flatter.

Scarify the surface to a depth of 2 inches before replacing topsoil.

Uniformly spread the stockpiled topsoil over the disturbed areas within the right of way.

2. Topsoil – Imported.

Provide imported topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoil, roots, heavy or stiff clay, stones larger than two inch in greatest dimension, noxious weeds, sticks, brush, litter, and other deleterious matter. Provide the topsoil from a site outside the right of way. Spread the topsoil uniformly to a minimum depth of 6 inches. Use all existing stockpiled topsoil before importing topsoil.

203.04 C Subcut**PAGE 165****10/01/15**

Add the following paragraph to the end of Section 203.04 C:

Dispose of material removed from the subcut area as specified in Section 107.17, "Removed Material".

203.05 B Borrow Excavation**PAGE 169****10/01/16**

Replace the third paragraph of Section 203.05 with the following:

If the borrow source is a Department option, the Engineer will measure the topsoil stripped from the borrow area. Provide a minimum of two working days' notice to allow the Engineer to complete the preliminary cross sectioning before removing topsoil. Remove and stockpile topsoil, as specified in Section 203.04 B, "Topsoil", before excavation. Provide notice and allow one working day for the Engineer to complete the topsoil measurement before beginning borrow excavation.

203.05 C Topsoil**PAGE 170****10/01/17**

Add the following to 203.05 C:

The agreement will be in writing and signed by the both the Contractor and the Engineer.

203.05 D Topsoil – Wetland**PAGE 170****10/01/16**

Replace 203.05 D Topsoil – Wetland with the following:

D. Reserved.
Reserved.

203.06 BASIS OF PAYMENT**PAGE 171
10/1/17****10/01/16 &**

Delete "Topsoil Borrow Area, Cubic Yard" from the Pay Item List and replace with "Topsoil – Dept Option Borrow Area, Cubic Yard".

Delete "Topsoil – Wetland, Cubic Yard" from the Pay Item List.

203.06 C Department Optioned Borrow**PAGE 171****10/01/16**

Add the following to the end of Section 203.06 C:

Include the removal and replacement of topsoil in Department optioned borrow areas in the contract unit price for "Topsoil – Dept Option Borrow Area".

216.06 Basis of Payment**PAGE 175****10/01/15**

Replace Section 216.06 with the following:

Pay Item	Pay Unit
Water	M Gal

An "M Gal" is equivalent to 1,000 gallons.

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

230.05 B Reshaping Inslopes**PAGE 179****10/01/16**

Replace Section 230.05 Reshaping Inslopes with the following:

B. Reshaping Foreslopes.

The Engineer will measure each foreslope on each side of the roadway separately.

251.03 D Seed Class**PAGE 182****10/01/15**

Add the following footnote to Table 251-01:

¹ Substitute Thickspike or Stream bank Wheatgrass of the Critana, Banstock, Sodar, AC Polar or Elbee variety if Sideoats Grama is unavailable.

253.02 A Hydraulic Mulch**PAGE 188****10/01/16**

Replace the first paragraph with the following:

When applying hydraulic mulch and seed together, use hydraulic spraying equipment that mixes the seed and mulch in water.

253.03 B Hydraulic Mulch**PAGE 188****10/01/16**

Delete the third paragraph.

253.03 C Straw Mulch**PAGE 188****10/01/15**

Delete the following sentence from this section:

At least 50 percent of the mulch by weight must be at least 8 inches in length.

262.04 A Installation**PAGE 201****10/01/15**

Replace the first paragraph of Section 262.04 A with the following:

Attach anchor lines to the flotation device.

265.06 Basis of Payment**PAGE 204****10/01/15**

Replace the first paragraph after the list of pay items with the following:

Include the cost for pipe, geosynthetic material, topsoil, and seed in the price bid for "Stabilized Construction Access".

Replace table in Section 302.03 with the following:

Material	Section
Aggregates	816
Salvaged Base Course	817
Traffic Service Aggregate	816 Class 5; or 817

302.04 A.2 Gradation**PAGE 209****10/01/15**

Replace the first paragraph in Section 302.04 A.2 with the following:

The Engineer will collect three samples for each 1,000 tons of material placed, except when more than 1,000 tons are placed in a day. If more than 1,000 tons are placed in a day, the Engineer will collect three samples for that day's placement. If the aggregate fails to meet the specified gradation, the Engineer will apply a price reduction as specified in Section 302.06 B, "Contract Price Adjustments".

302.04 B Placement and Compaction**PAGE 210****10/01/17**

Replace the third paragraph with the following:

Compact aggregate, utilizing pneumatic-tired rollers, until the surface is tightly bound and shows no rutting or displacement occurs under the roller operation. The Engineer may allow other compaction methods, when placing aggregate under sidewalks, driveways, or medians.

302.04 C Surface Tolerance**PAGE 210****10/01/15**

Replace Section 302.04 C with the following:

C. Surface Tolerance.

Unless one of the following surface tolerances is specified, construct the surface to within 0.08 feet of the proposed elevation.

1. Surface Tolerance Type B.

Use trimming equipment, including motor graders, equipped with automatic grade control to adjust for the cross slope and longitudinal profile. Construct the finished surface to within 0.04 feet of the proposed elevation.

Reincorporate material removed from high points during trimming into other portions of the base.

2. Surface Tolerance Type C.

Use roadbed planers to construct the finished surface. The Engineer will allow the base or surface course to be used as the grade reference when trimming shoulders. Construct the finished surface to within 0.04 feet of the proposed elevation.

Reincorporate material removed from high points during trimming into other portions of the base.

Replace the first paragraph in Section 306.04 A.1 with the following:

The Engineer will collect three samples for each 1,000 tons of material placed, except when more than 1,000 tons are placed in a day. If more than 1,000 tons are placed in a day, the Engineer will collect three samples for that day's placement. If the aggregate fails to meet the specified gradation, the Engineer will apply a price reduction as specified in Section 306.06 B, "Contract Price Adjustments".

401.03 MATERIAL**PAGE 221****10/01/16**

Replace the last paragraph in Section 401.03 with the following:

Obtain samples of the bitumen under the observation of the Engineer. The Engineer will take immediate possession of the samples.

401.03 B Tack Coat and Fog Seal.**PAGE 221****10/01/15**

Delete Section 401.03 B and add the following:

B. Tack Coat.

Use a material from Table 401-01.

Table 401-01

Material	Section
SS-1h	818.02 F
MS-1	818.02 F
CSS-1h	818.02 E.1

When MS-1 is used it may be diluted by the supplier or the Contractor.

C. Fog Seal.

Use a material from Table 401-02.

Table 401-02

Material	Section
SS-1h	818.02 F
CSS-1h	818.02 E.1

401.04 A Application of Bitumen**PAGE 221****10/01/15**

Delete Section 401.04 A and add the following:

A. Application of Bitumen.**1. General.**

Prepare the surface by removing loose dirt and deleterious material.

Provide the Engineer with the manufacturer recommended application temperature ranges. During application, maintain the temperature of bitumen within the ranges recommended by the manufacturer.

Apply bitumen with a distributor on a compacted and stable surface. Use hand sprayers to cover irregular areas. Completely cover the area receiving the bitumen application.

If applying bitumen in multiple passes, overlap the bitumen along adjoining edges of the passes.

Protect the surfaces of structures and other roadway appurtenances against tracking and splattering.

2. Prime Coat.

Apply prime coat when the ambient air temperature is at least 40°F.

Allow the prime coat to cure a minimum of 48 hours before placing pavement.

3. Tack Coat.

Apply tack coat when the air temperature and existing mat temperature are at least 35°F.

Apply tack coat to a dry surface.

Allow tack coat to cure before applying surfacing material.

4. Fog Coat.

Apply fog coat when the ambient air temperature is at least 40°F.

Apply fog coat to a dry surface.

411.04 Construction Requirements

PAGE 223

10/01/17

Replace the sixth paragraph with the following:

Coordinate milling and paving operations so that no section of milled roadway has public or construction traffic operating on it for more than 5 days. If public or construction traffic operates on the milled surface for more than 5 days, repair the roadway as directed by the Engineer at no additional cost to the Department.

420.04 A General

PAGE 224

10/01/15

Replace Section 420.04 A with the following:

A. General.

Do not start seal work after September 1.

Allow material to cure as shown in Table 420-01 before applying seal coat materials.

Table 420-01 Curing Period	
Material Type	Curing Period
Prime Coat	4 days
Asphalt Cement Pavements	7 days
Emulsion Pavements	15 days

Schedule the work so that the last bitumen application of the day is sufficiently cured to allow installation of the short-term pavement marking before sunset.

420.04 D Cover Coat Material Application**PAGE 225****10/01/15**

Replace the third paragraph with the following:

Within one minute following the application of the bitumen, spread the cover coat material uniformly over the bituminous material with an aggregate spreader. Apply cover material by hand to areas that are inaccessible to the aggregate spreader.

420.04 D Cover Coat Material Application**PAGE 225****10/01/15**

Delete the eighth paragraph in its entirety.

420.04 H.1 Bitumen**PAGE 226****10/01/16**

Replace Section 420.04 H.1 with the following:

1. Bitumen.

Obtain samples of this material under the observation of the Engineer. The Engineer will take immediate possession of the samples.

421.03 MATERIALS**PAGE 228****10/01/16**

Add the paragraph following to the end of Section 421.03:

Obtain samples of the bitumen under the observation of the Engineer. The Engineer will take immediate possession of the samples.

422.03 MATERIALS**PAGE 232****10/01/16**

Add the paragraph following to the end of Section 422.03:

Obtain samples of the bitumen under the observation of the Engineer. The Engineer will take immediate possession of the samples.

430.03 F Commercial Grade Hot Mix Asphalt**PAGE 238****10/01/17**

Delete Section 430.03 F "Commercial Grade Hot Mix Asphalt" from Section "430.03 Material".

430.04 D.1 General**PAGE 241****10/01/15**

Replace the third paragraph of Section 430.04 D.1 with the following:

Submit the mix design a minimum of 10 calendar days before beginning paving operations. The Engineer will review the mix design. If the Engineer does not approve the mix design, revise the mix design and submit the revised mix design. Allow 10 calendar days for the Engineer to review a revised mix design before beginning paving operations.

430.04 D.2 Items to be Submitted**PAGE 242****10/01/15**

Add the following item to Section 430.04 D.2:

- e. If the mix contains RAP, submit a 50 pound sample of the milled material.

430.04 E.5 Control Limits**PAGE 245****10/01/17**

Replace “Percent Air Voids” values in Table 430-07 with the following:

Test/Assessment	Single Test Target Value Control Limit	Moving Average Target Value Control Limit
Percent Air Voids	2.0% to 6.0%	2.5% to 5.0%

430.04 F Surface Preparation**PAGE 246****10/01/15**

Replace the second paragraph of Section 430.04 F with the following:

Correct local irregularities in the existing surface before placing the first lift of bituminous material. If milling is specified, correct local irregularities after milling. Apply a tack coat to the surface before correcting the irregularities. Use the same type of mix that is required for the subsequent lift. Use a pneumatic roller as specified in Section 151.01 A.3. “Self-Propelled Pneumatic-Tired Roller” to compact the mix.

430.04 G Patching**PAGE 247****10/01/15**

Replace Section 430.04 G with the following:

G. Patching.

Remove existing broken or unstable surface material and replace that material with the same mixture specified for the next course.

Place the bituminous material in lifts not to exceed 3 inches and compact the material. Allow the patch material to cool to 130°F before placing additional material. If patching is required during the paving operation, allow the patch material to cool to 185°F before placing additional material.

430.04 H.1 General**PAGE 248****10/01/15**

Delete the ninth paragraph of Section 430.04 H.1

430.04 I.3.c Intermediate Rolling**PAGE 250****10/01/15**

Replace the second paragraph of Section 430.04 I.3.c with the following:

If roller tires pick up the bituminous material or there are excessive roller marks in the mat, the Engineer may allow the removal of the intermediate rolling operation if it appears to the Engineer that compaction is being achieved.

430.04 J Joints**PAGE 250****10/01/15**

Replace Section 430.04 J with the following:

J. Joints.**1. General.**

Place pavement against the surface of curbing, gutters, manholes, and similar structures uniformly near the contact surfaces so the pavement is slightly higher than the edge of the structure after compaction. Do not construct a joint on top of a joint from a previous lift.

2. Longitudinal Joints.

Construct longitudinal joints on successive lifts between 6 and 12 inches from the previous longitudinal joint.

Place and follow markings to guide the paver. Construct joints in a uniform line. Correct pavement edges that deviate from the uniform line and correct areas of the joint that vary from the intended location of the joint by more than 2 inches. Construct joints with tight seams and no visible segregation.

3. Transverse Joints.

Construct transverse joints on successive lifts a minimum of 12 feet from the previous transverse joint.

430.06 A General**PAGE 253****10/01/17**

Delete "Commercial Grade Asphalt, Ton" from the Pay Item List

550.03 Materials**PAGE 261****10/01/15**

Add the following to Section 550.03:

Develop a mix design with a maximum water-cement ratio of 0.40 when placing concrete with a slip form paving machine. Use the water-cement ratio shown in Section 802.01 B.2, "Concrete Class Designation" for all other paving methods.

550.04 D.1 General**PAGE 263****10/01/16**

Replace the fourth paragraph with the following:

Adjacent concrete may be used as a side form after the concrete has attained a minimum compressive strength of 3,000 psi or a minimum flexural strength of 450 psi.

Replace Section 550.04 H.1.d with the following:

d. Final Surface Finish.

(1) General.

Uniformly texture the surface by dragging a seamless strip of stiff-fiber artificial grass carpet longitudinally along the full width of the pavement in a single pass.

Use and maintain a taut string line for operating the carpet drag. Attach the leading edge of the carpet drag to a bridge. If the Engineer determines it is not feasible to use a bridge or string line, other texturing methods will be allowed.

Maintain a clean carpet free of encrusted concrete.

Provide a minimum texture depth of 0.031 inches.

(2) Roadways with Speed Limits Less than 45 MPH.

The Engineer will test the texture achieved by the carpet drag in accordance with ASTM E 965 and the Field Sampling and Testing Manual. The Engineer will determine the test location.

If three or more lots have texture depths less than 0.031 inches but greater than or equal to 0.025 inches, perform diamond grinding on those lots.

Perform diamond grinding any lot having a texture depth of less than 0.025 inches.

Perform grinding as specified in Section 550.04 M.4, "Grinding."

The Engineer will determine the limits of any failing test by running additional tests at 100 foot intervals before and after the failing test. The Engineer will determine the location of the additional tests.

(3) Roadways with Speed Limits 45 MPH or Greater.

Run a clean, metal tine longitudinally along the surface immediately following the carpet drag. Exclude areas within 3 inches of the edge of the slab and longitudinal joints. Run the tine continuously across transverse joints.

Use a tine that provides:

- 1/8 inch \pm 1/64 inch groove width;
- 3/16 inch \pm 1/16 inch groove depth; and
- 3/4 inch spacing of between grooves.

If the concrete has become too stiff to receive the metal tine finish, use diamond bladed equipment to produce the longitudinal grooves.

Replace the first paragraph of Section 550.04 I.3 with the following:

Use a curing compound that meets the requirements of Section 810.01 B.2, "Type 2, Class B".

Replace the title of “Impervious Membrane Cure” with “Concrete Curing Compound”.

550.04 M.3.a General

PAGE 273

10/01/16

Replace the first sentence of the first paragraph with the following:

The Engineer will determine the pavement smoothness by profiling the finished surface of the mainline pavement.

550.04 M.3.b Operation

**PAGE 273
10/1/17**

10/01/16 &

Replace the second paragraph with the following:

The Engineer will apply a liquidated damage of \$1,500 per trip for each profile collected after the second profile.

Replace the third paragraph with the following:

The Engineer will use an inertial profiler to collect the profile in each wheel path of each lane.

550.04 M.3.c(1) General

PAGE 274

10/1/17

Replace the second bullet with the following:

- Use ProVal, <http://www.roadprofile.com>, to calculate the IRI for the Pavement Profile (PPF);

Replace all instances of “ERD” with “PPF”.

550.04 M.3.c(1)(b) Corrective Action Plan

PAGE 275

10/1/17

Replace all instances of “ERD” with “PPF”.

550.04 N.1 Contractor Coring

PAGE 276

10/01/17

Add the following to the end of the first paragraph of 550.04 N.1:

Fill the core hole with fresh concrete mix and use a vibrator to consolidate the concrete in the holes. Screed the new concrete off and apply curing compound to the new concrete.

570.03 A General

PAGE 281

10/01/15

Add the following item to the table:

Impervious Membrane Cure

810.01 B.1

Replace Section 570.03 B.2.a with the following:

a. Concrete.

Use Class AE concrete with cement that meets the requirements of AASHTO M 85, Type I or Type IA for spall repairs.

570.03 D Curing Compound

Delete Section 570.03 D.

570.04 A.1.b Full Depth Repairs

Replace Section 570.04 A.1.b with the following:

b. Full Depth Repairs.

Use the lift out method to remove concrete in full depth repair areas with minimal disruption to the subgrade and without damage to the remaining concrete. Do not operate equipment, other than compaction equipment, in areas where concrete has been removed. Fill voids deeper than 1 inch with aggregate and compact the material to the level of the existing subgrade.

Place concrete for repairs less than 100 feet long the same day that removals are initiated. Place concrete for repairs longer than 100 feet within 48 hours of initiating removals. Dampen the faces of existing concrete before placing new concrete.

Place, consolidate, finish, and cure concrete according to the following portions of Section 550.04, "Construction Requirements":

- 550.04 C, "Roadbed Condition";
- 550.04 D, "Placing and Spreading Concrete";
- 550.04 E, "Placing Reinforcing Steel and Tie Bars";
- 550.04 F, "Uncontrolled Cracking";
- 550.04 G, "Joints";
- 550.04 H, "Finishing Concrete", except parts 1.d, "Final Surface Finish" and 1.e, "Imprinting Pavement";
- 550.04 J, "Removing Forms";
- 550.04 K, "Sealing Joints"; and
- 550.04 L, "Opening to Traffic".

Provide finished concrete that is flush with all adjacent pavement surfaces. Before the concrete sets, check the repair utilizing a 10 foot straight edge and correct areas that deviate by 1/8 inch or greater.

Texture the repair by dragging a carpet of artificial grass longitudinally over the repaired area.

If repairs involve multiple lanes, fill the gap between the lane under repair and the existing concrete with cold bituminous material. Remove this material before making the repair to the adjacent lane.

(1) Repairs One Lane Wide.

Use a bond breaker along the centerline joint. Tie bars are not required on repairs that are one lane wide.

When the repair falls in a ramp, restore the longitudinal joints crossing the repair, but do not use tie bars.

(2) Repairs Wider Than One Lane.

Before placing the concrete in the second lane, install 30 inch #5 tie bars in the longitudinal joint using the original tie bar pattern. Drill holes for the bars and secure the bars in the holes using epoxy.

(3) Impervious Membrane Cure.

Use a curing compound that meets the requirements of Section 810.01 B.1, "Type 2".

Apply the cure at a minimum rate of 1 gallon per 150 square feet of pavement in one or two applications. If applying two coats, apply the second application within 30 minutes of the first application.

Protect joints that require sealing from infiltration of the curing compound.

Immediately cover the exposed sides of the concrete pavement with curing compound if removing forms exposes curing concrete before the expiration of the curing period.

Immediately reapply curing compound to damaged areas within the curing period.

570.04 A.2.c Dowel Bars

PAGE 284

10/01/15

Replace the first paragraph of Section 570.04 A.2.c with the following:

Drill 1-3/8 inch diameter holes using a rigid frame-mounted drill. Clean the hole, inject epoxy into the hole, and insert dowels.

570.04 A.3.a Concrete Removal

PAGE 285

10/01/15

Replace the third paragraph of Section 570.04 A.3.a with the following:

If existing reinforcing steel is damaged or bent within the 18 inch lap area, replace the damaged reinforcing steel.

570.04 C Grinding

PAGE 285

10/01/15

Replace the first paragraph of Section 570.04 C with the following:

Allow new concrete and dowel bar retrofit patch material to cure for a minimum of 24 hours before grinding.

570.04 C.6 Slurry Removal

PAGE 286

10/01/15

Replace Section 570.04 C.6 with the following:

6. Slurry Removal.

Continuously collect all slurry or residue resulting from the grinding operation.

In areas with speed limits of 45 mph or less and in areas with curb and gutter, dispose of slurry as specified in Section 107.17, "Removed Material".

In areas with speeds greater than 45 mph and without curb and gutter, slurry may be place on the foreslope of the roadway. Prevent slurry from entering pipes, culverts, storm drains, ravines, streams, waterways, wetlands, and all other water conveyances. Install erosion control features as necessary to prevent contamination, or dispose of slurry as specified in Section 107.17, "Removed Material".

570.04 D.1 General**PAGE 286****10/01/16**

Replace the first sentence of the first paragraph with the following:

The Engineer will determine the pavement smoothness by profiling the finished surface of the mainline pavement.

570.04 D.2 Operation**PAGE 286****10/01/16**

Replace the second paragraph with the following:

The Engineer will apply a liquidated damage of \$1,500 per trip for each profile collected after the second profile.

570.05 METHOD OF MEASUREMENT**PAGE 289****10/01/16**

Add the following to Section 570.05:

E. Full-Depth Doweled.

Include the cost of the end dowel bars in the contract unit price "___-Inch Concrete Pavement Repair – Full-Depth Doweled". The cost for intermediate dowel bar assemblies is paid by "Doweled Contraction Joint Assembly".

570.06 BASIS OF PAYMENT**PAGE 289****10/01/15**

Delete the following paragraph from Section 570.06:

Include all costs for saw cuts, steel reinforcing, bar supports, tie bars, and joint sealing in the unit price bid for "___Inch Concrete Pavement Repair - Full-Depth _____".

602.02 EQUIPMENT**PAGE 299
10/1/17****10/01/16 &**

Add the following to Section 602.02.

E. Curing Concrete.

Use a fogging machine as specified in Section 156.02, "Fogger" for exposed surfaces.

F. Shot Blasting Equipment.

Use centrifugal or wheel type shot blasting equipment that is designed to clean concrete surfaces and leave no oil or other foreign material on concrete surfaces. Use a shot blaster capable of collecting blast media and dust.

602.02 A General**PAGE 299****10/01/17**

Add the following sentence to the end of 602.02 A:

Use a plant and equipment as specified in Section 155, "Concrete Equipment".

602.03 A General**PAGE 299****10/01/16**

Delete the last paragraph.

602.04 D Deck Finishing**PAGE 303****10/01/16**

Replace Section 602.04 D with the following:

D. Deck and Bridge Approach Slab Finishing.

Following the screed operations, obtain the final surfacing with a 10 foot long scraping straightedge with a suitable handle. Ensure the final surface has the required crown and does not vary more than 1/8 inch from a 10 foot straightedge laid longitudinally thereon.

Pull a burlap or artificial grass drag over the surface in a longitudinal direction while the concrete is plastic.

Immediately following the artificial grass drag, run a clean metal tine transversely across the deck. Stop the tine 18 inches from the face of the barrier or curb and 6 inches from the beginning and end of the deck or approach slab. The tine may be hand-operated. Use a tine that provides:

- 1/8 inch \pm 1/64 inch groove width;
 - 3/16 inch \pm 1/16 inch groove depth; and
 - 3/4 inch spacing between grooves.
-

602.04 F.1 General**PAGE 304****10/01/17**

Add the following to the end of the third paragraph of Section 602.04 F.1:

Do not use a waterproof material to cover the wet burlap during the curing period.

602.04 F.2 Deck Slab Concrete**PAGE 304****10/01/16**

Delete Section 602.04 F.2 and replace with the following:

2. Deck and Bridge Approach Slab Concrete.

Cure the concrete surface by covering with a double thickness of burlap. Moisten the concrete surface using a light fog spray if the surface begins to dry after finishing and before placement of the wet cure. Keep the burlap continuously moist at all times.

During the curing process do not allow vehicles and equipment on the deck or approach slab and do not perform work on the deck or approach slab.

For deck slab concrete, place the wet cure burlap and start the wet cure within 15 minutes of the passing of the finishing machine.

Delete Section 602.04 G and add the following:

G. Barriers.

1. General.

Use Class AAE-3 concrete for barriers.

Perform corrective actions of any surface that deviates by 3/8 inches or more when measured with a 10 foot straightedge. Make corrections by grinding, filling with an approved epoxy mortar, or replacing.

Except at expansion joints, construct V-grooves that are 3/4 inch wide and 3/4 inch deep in all faces of the barriers at each pier and at equal spaces between piers and abutments at approximately 10 foot spacing.

2. Conventional Forming.

Adequately tie forms to avoid any shifting during concrete placement.

If concrete inserts in the deck slab are holding the barrier forms in place, remove the inserts. Clean and fill the cavities flush with the deck slab using an epoxy resin adhesive.

3. Slipforming.

Conventional form a minimum distance of 4 feet on each side of expansion joints before slip forming.

After the reinforcement is installed, check the clear distance between the reinforcement and the slipform for the entire length of the pour.

The Engineer will allow slab overhang distance to be increased up to 1 inch provided the specified gutterline is maintained.

The Engineer will allow a radius to be used instead of a bevel on all edges of the barrier.

602.04 J Penetrating Water Repellent Treatment of Concrete Surfaces

Replace section 602.04 J with the following:

J. Penetrating Water Repellent Treatment.

Apply penetrating water repellent solution a minimum of 21 days after placement of the concrete bridge deck and approach slabs.

Apply penetrating water repellent solution to the following surfaces:

- Driving surfaces of bridge deck;
- Approach slabs;
- Concrete medians;
- Front faces and tops of curbs; and
- Front faces and tops of barriers.

Remove the barrier forms before applying treatment to surfaces. Clean all surfaces receiving treatment using either sandblasting, shot blasting, or water-washing equipment. Remove dirt, dust, grease, oil, laitance, asphalt, or other materials that may inhibit the coverage and penetration of the solution. Use hand tools and penetrating water repellent solution manufacturer's approved solvents to remove any bonded foreign materials. Do not remove or alter the existing surface finish or expose the coarse aggregate.

Allow any wet concrete surfaces to dry a minimum of 48 hours or longer if required by the solution manufacturer.

Apply the penetrating water repellent solution when the following conditions are met:

- The air temperature is within the following:
 - 40 °F and rising; or
 - 95 °F and falling;
- Wind is less than 25 mph; and
- Rain is not expected within 4 hours.

Use airless equipment that has a pressure range between 15 to 40 psi. Apply the repellent treatment solution uniformly so that one gallon of material does not spread over more than 200 sf. If the repellent solution manufacturer recommends a coverage of an area less than 200 sf per gallon, use the manufacturer's recommended rate. Squeegee or broom excess material to avoid ponding.

602.04 K.1 General**PAGE 307****10/01/15**

Replace Section 602.04 K.1 with the following:

1. General.

When shown in the plans, apply membrane and primer in dry weather and when the air temperature is above 40°F. Apply to surfaces that are dry, clean, free of sharp protrusions and above 40°F.

604.03 B.1 General**PAGE 309****10/01/16**

Replace Section 604.03 B.1 with the following:

1. General.

Develop a mix design that produces concrete that will achieve a minimum compressive strength of 5,000 psi within 28 days.

Section 802.01 H, "Air Content" will not apply.

Obtain the Engineer's approval for admixtures before developing the mix design. Include approved admixtures in the mix design.

Perform tests to determine the concrete's compressive strength using 6 inch by 12 inch cylinders.

604.03 B.3 Trial Mix**PAGE 310****10/01/15**

Replace the "AASHTO T 23" test requirement with "ND T 23"

604.03 E.1 Concrete**PAGE 310****10/01/15**

Replace the "AASHTO T 23" test requirement with "ND T 23"

604.04 B Work Drawings**PAGE 311****10/01/16**

Replace Section 604.04 B with the following:

B. Work Drawings.

Provide work drawings that include:

- Beam dimensions;
- Size and location of all reinforcing and prestressing steel including;
 - o Strand layout;
 - o Pull down locations;
 - o Tensioning forces;
 - o Elongation; and
 - o Proposed changes in the reinforcing steel;
- Initial prestress forces;
- Location of handling hooks or devices; and
- Losses in the prestress due to:
 - o Elastic shortening;
 - o Shrinking or creeping of concrete; and
 - o Relaxation of steel stress as determined by the Contractor method of stressing.

Submit calculations and work drawings that are signed, sealed, and dated by a Professional Engineer registered in the State of North Dakota as set forth in NDCC Title 43.

604.04 D Placing Concrete**PAGE 312****10/01/16**

Replace Section 604.04 D with the following:

D. Placing Concrete.

Place concrete in forms made entirely of steel.

Vibrate concrete for the beams. Vibrate without displacement of reinforcing, conduits, voids, or wire. Vibrate for a sufficient duration and intensity to thoroughly consolidate the concrete without causing segregation.

Rough float and transversely broom the top of the beams.

606.04 A Design and Manufacture**PAGE 314****10/01/15**

Replace the second paragraph in Section 606.04 A with the following:

Use an ACPA or NPCA certified plant in the construction.

624.03 B E-Rail Retrofit**PAGE 336****10/01/16**

Replace ASTM A 307, Grade C with ASTM F 1554, Grade 36.

624.03 C Free Standing Rail Retrofit**PAGE 336****10/01/16**

Replace ASTM A 307, Grade C with ASTM F 1554, Grade 36.

650.02 EQUIPMENT**PAGE 341****10/01/16**

Replace the Equipment list with the following:

Equipment	Section
Mobile Mixer	155.03 C
Bridge Deck Overlays Finishing Equipment	155.07 D
Sawing	155.09
Grinding	155.11
Concrete Buggy	155.12
Fogger	156.02
Milling Machine	156.03

650.03 A Concrete**PAGE 342****10/01/16**

Delete the last paragraph in its entirety.

650.03 B Low Slump Concrete**PAGE 342****10/01/17**

Replace Section 650.03 B with the following:

B. Low Slump Concrete.**1. General.**

Item	Section
Fine Aggregate	802.01 C.3
Coarse Aggregate – Size 5	802.01 C.2
Concrete Admixtures	808
Burlap Cloth	810.01 A
Water	812

Use cement that meets the requirements of AASHTO M 85, Type I or Type IA.

Mix low slump concrete using 8.75 bags of cement per cubic yard and a maximum water-cement ration of 0.42.

Use coarse aggregate composed of crushed stone. Use crushed stone that has at least one fractured face on 75 percent of the particles retained on the number 4 sieve.

Entrain air within the concrete as specified in Section 802.01 H, "Air Content", except supply concrete with an air content between 5.0 and 7.0 percent of the volume of the concrete at the time of placement.

Produce concrete that has a slump of 1 inch or less, when determined according to ND T 119.

Use a mobile mixer to produce low slump concrete.

2. Mix Design.

Use a mix design that has the percentages shown in Table 650-01.

Table 650-01	
Coarse Aggregate	31%
Fine Aggregate	31%
Air	6%
Water	16%
Cement	16%

650.04 C Removals with Hydrodemolition Equipment

PAGE 343

10/01/16

Add the following to 650.04 C:

In areas inaccessible for using hydrodemolition equipment, remove concrete using hand held hydrodemolition equipment or mechanical equipment.

650.04 C.1 Class 1H

PAGE 343

10/01/16

Delete the last paragraph in 650.04 C.1.

650.04 G Finishing

PAGE 345

10/01/16

Remove and replace the last paragraph of 650.04 G with the following:

Pull a burlap or artificial grass drag over the surface in a longitudinal direction while the concrete is plastic. Immediately follow the drag with a metal tine finish as specified in Section 602.04 D, "Deck and Approach Slab Finishing".

650.04 I Curing

PAGE 345

10/01/16

Replace all instances of Section 602.04 F.2, "Deck Slab Concrete" with the following:

Section 602.04 F.2, "Deck and Bridge Approach Slab Concrete".

650.05 Method of Measurement

PAGE 346

10/01/17

Add the following to the end of Section 650.05:

C. Hydrodemolition Removals.

Removals made beyond the designated limits stated in Sections 650.04 C.1, "Class 1H", and 650.04 C.2, "Class 2H" will not be paid for under any classification of removal.

Replace the Table 702-01 with the following:

Table 702-01
Payment for Mobilization

Original Contract Amount Earned	Payment will be the Lesser of:	
	Mobilization Bid Amount	Original Contract Amount
5%	25%	2.5%
10%	50%	5.0%
50%	100%	7.5%
75%	100%	10.0%

704.03 A General**PAGE 356****10/01/17**

Add the following to the end of 704.03 A:

Provide traffic control devices that meet the crash testing requirements of the appropriate classification under NCHRP 350. The Engineer will accept devices that meet the requirements of MASH.

Submit a Certificate of Compliance for all temporary traffic control materials before installation.

Replace 704.04 A.1 with the following:

1. Requirements Before Device Installation.

Before beginning work, coordinate and hold a meeting with the Engineer to review the traffic control plans.

704.04 B Traffic Control Device Condition Classifications**PAGE 359****10/01/15**

Replace all instances of "ATSAA" in Section 704.04 B with "ATSSA".

704.04 C.5 Flaggers**PAGE 362****10/01/17**

Replace the web address in the first paragraph with <http://www.ndsc.org>.

Replace the last sentence of the second paragraph with the following:

The handbook is available for download at www.ndltp.org and at <http://www.ndsc.org>.

704.04 M Protection Vehicle with Truck Mounted Attenuation Device (TMA)**PAGE 366**
10/01/15

Replace the last paragraph of 704.04 M with the following:

Equip the protection vehicle with an advance warning flashing or sequencing arrow panel conforming to Section 704.03 M, "Advance Warning Flasher or Sequencing Arrow Panel" and the MUTCD.

704.04 O Traffic Control for Uneven Pavement**PAGE 367**
10/01/15
10/01/17

Replace all instances of "Sign W20-52-24" in Section 704.04 O with "W20-52-54".

Change the title of Section 704.04 O.3.b to "Uneven Pavement Greater Than 2 Inches."

Add the following to 704.04 O:

4. Uneven Shoulder and Adjacent Lane.

If the shoulder and adjacent driving lane are not even at the end of the day, the following criteria will apply:

Install "Shoulder Drop Off" signs (Sign W8-9a-48) at the following locations:

- In advance of the drop off;
- Spaced at each mile from the advance sign; and
- At major intersections (CMC routes, state and US highways, and Interstate ramps).

If the difference in elevation between the shoulder and the driving lane is 2" or greater, construct a slough at the edge of the driving lane that is 4:1 or flatter.

If the difference in elevation between the shoulder and the driving lane is less than 2", no slough is required.

704.04 O.1 General.**Page 367**
10/01/17

Replace 704.04 O.1 with the following:

1. General.

If pavement in adjacent lanes or the shoulder adjacent to an open lane is uneven at the completion of a day's work, install traffic control devices as specified in this section.

Leave these devices in place until the pavement surface in the adjacent lanes or shoulder are even.

706.02 A General**PAGE 372**
10/01/16

Add the following to the end of Section 706.02 A:

Furnish Aggregate and Bituminous labs with DSL broadband internet and a router that broadcasts Wi-Fi and will allow for hard wiring of a computer.

Replace Section 706.02 B with the following:

B. Aggregate Laboratory.

Place the laboratory at a location acceptable to the Engineer. The Engineer will have the full control and the exclusive use of the laboratory.

Provide a laboratory with a minimum floor area of 230 square feet, minimum exterior width of 8 feet, and a minimum ceiling height of 7 feet.

Partition the building into a minimum of two rooms, a smaller room having a floor area of approximately 70 square feet.

Provide a workbench with a length of 7 feet in the smaller room.

Provide the following equipment in the larger room:

1. Mechanical shaker capable of receiving 6 trays that have a screen size of 14 inches by 14 inches and the following compatible sieves:
 - 1-1/2 inch;
 - 1-1/4 inch;
 - 1 inch;
 - 3/4 inch;
 - 1/2 inch;
 - 3/8 inch;
 - No. 4; and
 - An enclosed dust pan.
2. Mary Ann shaker capable of being adjusted to receive 8 and 12 inch diameter sieves;
3. Splitter with a maximum hopper capacity of 0.6 cubic feet;
4. Splitter with a minimum hopper capacity of 1.0 cubic feet; and
5. An exhaust fan capable of changing the air in the room every minute.

709.04 C Geosynthetic Geogrid (Type G)

Replace Section 709.04 C with the following:

C. Geosynthetic Geogrid (Type G).

Unroll geogrid parallel to the centerline of the road. Do not drag the geogrid across the underlying material. Use geogrid widths that produce overlaps of parallel rolls at the centerline and at the shoulders and so that no overlaps are required along wheel paths.

Overlap geogrid a minimum of 30 inches at all splices and joints when placing on subgrade. Overlap geogrid a minimum of 12 inches at all splices and joints when placing on base.

Construct overlaps at the end of a roll so the previous roll laps over the subsequent roll in the direction of the cover material placement. Mechanically tie transverse joints to maintain the minimum overlap. Place pins, staples, or small piles of aggregate to maintain the geogrid position before placement of cover material.

Stagger end overlaps at least 10 feet from other end overlaps in parallel rolls. Cut or increase overlaps to conform to curves.

Patch damaged areas of geogrid. Place a patch that overlaps the damaged area by 36 inches on all sides. Mechanically tie the patch to the underlying grid.

Place the first lift of material over geogrid installed on subgrade to a depth of 10 inches of loose material. Place the first lift of material over geogrid installed on base to a depth of 6 inches of loose material.

Use low ground pressure equipment to spread the initial lift of material. If rutting occurs, fill the ruts with additional material before placing the subsequent lift. Do not blade out ruts. Do not turn construction equipment on the first layer of material.

714.03 A Culverts and Storm Drains**PAGE 378
10/1/17****10/01/16 &**

Replace the last paragraph of Section 714.03 A with the following:

Provide mortar consisting of a mixture of one part Portland Cement to two parts mortar sand, and sufficient water to furnish proper consistency.

Where placing new end sections on existing pipe, identify whether the type of end section needed is male or female.

Add the following to the end of Section 714.03 A:

If using polymer coated corrugated steel pipe, install end sections that meet the requirements of Section 830.02 C "Polymer Coated Corrugated Steel Pipes" or 830.02 B, "Metallic (Zinc or Aluminum) Coated Corrugated Steel Culverts, Storm Drains, and Underdrains".

714.04 A.1 Bedding**PAGE 379****10/01/15**

Delete the first paragraph from Section 714.04 A.1.

714.04 A.3 Joining Pipe**PAGE 380****10/01/17**

Delete the last paragraph.

714.04 A.5 Deflection Testing**PAGE 380****10/01/16**

Replace the second paragraph of 714.04 A.5 with the following;

The Engineer will visually inspect all metal and thermoplastic pipe under unpaved approaches for deflection. If the Engineer sees any deflection, the Engineer will require the Contractor to pass a nine point mandrel or other approved object through the pipe to check for deflection. Use a mandrel with a diameter not less than 95 percent of the inside diameter of the pipe. If the mandrel cannot be passed through the pipe, replace the pipe.

714.04 A.6 Connection to Manholes, Inlets, and Pipes**PAGE 380****10/01/15**

Replace Section 714.04 A.6 with the following:

6. Connection to Manholes, Inlets, and Pipes.

If connections are required to a manhole, inlet barrel, or pipe entrance; connect pipe by cutting the opening and grouting in the connecting pipe.

714.04 A.7 Compaction Control for Aggregate**PAGE 380****10/01/15**

Replace Section 714.04 A.7 with the following:

7. Compaction Control for Aggregate.

Compact aggregate according to Section 203.04 E.2, "Compaction Control, Type A". The moisture content of the aggregate at the time of compaction shall be not less than 2.0 percentage points below, nor more than 3.0 percentage points above the optimum moisture content.

Compact aggregate for approach pipes according to the conduit manufacturer's recommendation

Use a maximum lift thickness of 6 inches.

714.04 A.8 Compaction Control for Non-Aggregate Material**PAGE 380****10/01/15**

Replace Section 714.04 A.8 with the following:

8. Compaction Control for Non-Aggregate Material.

If Common Excavation Type A is specified, follow the compaction requirements in Section 203.04 E.2, "Compaction Control, Type A". If Common Excavation Type B is specified, follow the compaction requirements in Section 203.04 E.3, "Compaction Control, Type B".

Compact material for approach pipes according to the conduit manufacturer's recommendations.

748.03 MATERIALS**PAGE 393****10/01/15**

Add the following item to the table:

Impervious Membrane Cure	810.01 B.1 or 810.01 B.2
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750.03 MATERIALS**PAGE 395****10/01/15**

Add the following item to the table:

Impervious Membrane Cure	810.01 B
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Replace the paragraph directly after the table with the following:

For imprinted concrete use any size coarse aggregate specified in Section 802.01 C.2, "Coarse Aggregate". Produce a mix that consists of 60 percent fine aggregate and 40 percent coarse aggregate

752.05 Method of Measurement**PAGE 399****10/01/17**

Remove the last paragraph from 752.05:

752.06 Basis of Payment**PAGE 400****10/01/17**

Replace "Fence Terminal – Wood Posts" in the Pay Item List with "Fence Terminal".

754.03 Materials**PAGE 401****10/01/17**

Replace Concrete Class AAE with Concrete Class AE.

754.04 D.2 Anchor for Telescoping Perforated Tubes Supports**PAGE 403****10/01/15**

Replace the last two paragraphs in Section 754.04 D.2 with the following:

If installation is in either concrete or bituminous material, omit the soil plate or use a surface mount anchor base.

Core concrete and bituminous surfacing before installing the anchor unit and fill the cored area with like material that matches the surrounding surfacing.

754.04 F Removing and Resetting Signs and Supports**PAGE 407****10/01/15****10/01/16**

Replace the Section 754.04 F with the following:

F. Removing and Resetting Signs and Supports.**1. General.**

Remove and reset existing signs and supports as specified. Stockpile all signs and supports not to be reset at designated locations within the project limits. The Engineer will arrange to have stockpiled signs removed from the project limits and delivered to the Department's facility.

Replace removed or reset signs and supports that are damaged during removing, resetting, or stockpiling at no additional cost to the Department.

Remove existing signs and supports as construction progresses, and immediately reset or install new signs.

The Engineer will allow the temporary reset of existing signs, or the temporary installation of new signs. Include the cost of installing and resetting signs temporarily in the price bid for other items.

2. Reset Sign Panel.

Remove sign panels from existing supports. Reinstall sign panels, angles, stringers, and steel channels on new supports.

Provide all necessary brackets and hardware to attach sign panels, angles, stringers, and steel channels on new supports.

3. Reset Sign Support.

Remove sign panels from existing supports. Reinstall support and install new sign panels, angles, stringers, and steel channels.

Provide all necessary brackets and hardware to attach sign panels, angles, stringers, and steel channels on supports.

754.04 I Overlay Panel Sign Refacing

PAGE 407

10/01/15

Replace the second paragraph of Section 754.04 I with the following:

Remove the legend, border, and symbol on those signs that have demountable copy and remove any existing sign overlays and place overlay panels on the signs. Do not remove direct applied sheeting legends, borders, and symbols. Direct apply the new legends, borders, and symbols to the overlay panels and install on the existing signs.

754.04 J Auxiliary Signs

PAGE 408

10/01/15

Replace the Section 754.04 J with the following:

J. Auxiliary Signs.

Install auxiliary signs used with route markers with the same background color as the route markers:

- Interstate, Blue;
- Interstate Business Loop, Green;
- State, White;
- US, White; and
- County, Blue.

754.05 METHOD OF MEASUREMENT

PAGE 408

10/01/15

Add the following to Section 754.05:

D. Reset Sign Panel.

The Engineer will measure the item “Reset Sign Panel” by the number of locations a sign or sign assembly has been reset.

E. Reset Sign Support.

The Engineer will measure the item “Reset Sign Support” by each leg of a sign support that has been reset.

760.03 Materials

PAGE 410

10/01/15

Replace Section 760.03 with the following:

760.03 MATERIALS

Use one of the following materials when applying a fog coat to rumble strips:

- SS-1h, Section 818.02 F, “Anionic Emulsified Asphalt”;
- MS-1 Section 818.02 F, “Anionic Emulsified Asphalt”; or

- CSS-1h Section 818.02 E.1 “Cationic Emulsified Asphalt”.

When MS-1 is used it may be diluted by the supplier or the Contractor.

760.04 F Traffic Control**PAGE 411****10/01/15**

Replace Section 760.04 F with the following:

F. Traffic Control.**1. General.**

Use a TMA as specified in Section 704.04 M, “Protection Vehicle with Truck Mounted Attenuation Device (TMA)”.

2. Centerline Rumble Strip Installation.

Provide flaggers and 2 sets of the required flagger signing for each direction of travel. Ensure that at least one set of the required flagger signing is in place in each direction of travel whenever work centerline installation is performed. Limit the work area to a maximum of 3 miles.

760.05 METHOD OF MEASUREMENT**PAGE 411****10/01/15****10/01/16**

Add the following to the end of Section 760.05:

The Engineer will measure flagging and traffic control signs as specified in Section 704.05, “Method of Measurement.”

The Engineer will count each leg of an intersection receiving rumbles strips as one “Set”.

760.06 BASIS OF PAYMENT**PAGE 411****10/01/15****10/01/16**

Delete “Rumble Strips – Intersection, Each” and replace with “Rumble Strips – Intersection, Set”.

Add the following paragraph after the list of pay items in Section 760.06:

Flagging and traffic control signs will be paid for as specified in Section 704.06, “Basis of Payment”.

762.04 A.4 Grooved Pavement Markings**PAGE 413****10/01/16**

Replace Section 762.04 A.4 with the following:

4. Grooved Pavement Markings.**a. General.**

For messages, groove the same area as the messages. Do not groove a rectangular area to contain the message.

After grinding, blow the grooved slot clean to remove any residue and loose material before the installation of the pavement marking. When wet-grinding, immediately pressure wash the grooved slot to remove residue.

b. Grooves for Preformed Patterned Pavement Marking Film.

If specified in the plans, groove a recess into the pavement surface for each stripe that meets the tolerances specified in Table 762-01.

**Table 762-01
Preformed Patterned Pavement Marking Film Grooves**

Parameter	Tolerance
Depth	90 to 110 mils
Smoothness	Ridges, within the groove, shall be no more than 6 mils higher than either adjacent valley
Width	line width plus 1/2 inch
Length	line length plus 3 inches per end of line
Line End Tapers	3 inches

If pavement marking installation does not occur within 24 hours of grinding, sandblast the groove and install the pavement markings the same day the sandblasting occurs.

c. Grooves for Epoxy Paint.

If specified in the plans, groove a recess into the pavement surface for each stripe that meets the tolerances specified in Table 762-02.

**Table 762-02
Epoxy Paint Grooves**

Parameter	Tolerance
Depth	45 to 55 mils
Smoothness	Ridges, within the groove, shall be no more than 6 mils higher than either adjacent valley
Width	line width plus 1 inch
Length (skips)	line length plus 3 inches per end of line
Line End Tapers	3 inches

After creating the groove, prepare the surface in accordance with the manufacturer's instruction.

762.04 C.1.a Application

PAGE 415 10/1/16

Delete the last paragraph of Section 762.04 C.1.a.

762.04 C.1.b. Data Logging System (DLS)

PAGE 415 10/1/16

Replace the first paragraph of Section 762.04 C.1.b with the following:

The use of a computerized DLS is required for monitoring the application of water based paint and epoxy pavement markings when the plan quantity of long lines for liquid pavement marking is 30,000 linear feet or greater.

Replace Section 762.04 C.2.a with the following:

a. Method of Application.

Allow new bituminous treatment to cool to a temperature below 125°F and cure for a period of 72 hours before applying permanent pavement marking.

Apply pavement marking paint and glass beads separately by machine. Use hand application where machine application is not feasible.

Apply water based paint when the air and pavement surface temperatures are 45°F or warmer. Do not apply paint when the air or pavement surface temperatures are forecasted to be colder than the minimum application temperature during the curing period of the paint. Apply pavement marking paint and beads only during daylight hours.

Replace the last paragraph of Section 762.04 C.3.a with the following:

Place epoxy material after bituminous material has been in place for a minimum of 14 days.

Replace the second paragraph of Section 762.04 D.2 with the following:

Place the short term pavement markings at the rate specified in Section 762.04 C.2.b, “Rate of Application” with the following exception:

Exception: When the permanent pavement marking is specified as epoxy paint, apply the short term pavement marking at a thickness of 10 mils.

Replace Section 762.04 D.3 with the following:

3. Short-Term Pavement Marking – Type R (Removable).

Install Type R markings when the air and pavement temperatures are at a minimum of 50°F and expected to remain above 50°F.

If the air or pavement temperature falls below 50°F during installation, Type NR markings may be installed as specified in Section 762.04 D.2, “Short-Term Pavement Markings – Type NR (Non-Removable)”. Install Type R markings once the specified temperatures exist.

Remove Type R markings once they are no longer necessary for traffic control operations. If Type NR markings were substituted for Type R markings, remove the Type NR markings using a method that does not leave a scar on the pavement.

Add the following to the end of the first paragraph:

If Type NR markings are substituted for Type R markings due to temperature requirements, the markings will be paid for at the contract unit price for Type R markings.

764.04 A General

Replace section 764.04 A with the following:

A. General.**1. Installation Requirements.**

Before guardrail removal, installation, and extension, develop a written construction schedule for work at the guardrail location, and have the schedule reviewed by the Engineer. Include a sequence of controlling items and the timing of each in the schedule of work. Do not stop work between controlling items for more than four working days at any individual run.

Install the guardrail to produce a smooth continuous line with uniform height.

Set posts plumb with the front faces uniformly aligned.

Backfill posts with approved material placed and compacted in 6 inch layers, using a mechanical tamper.

Place hot bituminous pavement before guardrail post installation. Drill post holes for the new or reset guardrail through the hot bituminous pavement. Install the post in the remaining material by augured holes or driving.

When posts are installed in augured holes, backfill the holes with approved material without displacing the post alignment. Remove surplus excavated material.

When posts are driven, make the diameter of the hole in the bituminous pavement sufficient so when the soil around a post heaves up while the post is driven, the remaining asphalt will not move. If driving causes damage to posts, replace the post and install the replacement post by auguring the hole. Use a post cap if making minor vertical adjustments with a sledgehammer or maul.

Place a maximum thickness of 2 inches of bituminous material around each post to blend the post hole into the surrounding bituminous material.

Do not burn or weld after the material has been galvanized. All holes shall be machined drilled.

Repair areas exposed by cutting or drilling and any damaged galvanized coating according to Section 854.02, "Damaged Galvanized Coatings".

Hang guardrail and end terminals for individual runs in a single day.

2. Installation on Roadways Open to Public Traffic.

At locations of guardrail installation where the roadway is open to traffic, complete the installation of each individual run within 10 working days from the date all controlling items allow guardrail installation to begin.

Install delineator drums, as specified in Section 704, "Temporary Traffic Control", at 25-foot intervals adjacent to areas meeting one of the following conditions:

- Existing guardrail was removed and new guardrail will be installed;
- Where no guardrail previously existed but will be installed; or
- At guardrail extensions.

Leave the drums in place until guardrail installation at that location is complete and accepted by the Engineer.

3. Failure to Comply with Installation Requirements.

Provide temporary protection according to the plans at an object if unable to complete the required work in the specified time. Do not use material installed for this purpose in the final guardrail installation. The Department will not make separate payment for attenuation provided due to the Contractor's inability to complete the work in the specified time.

If the Contractor fails to comply with all requirements of Section 764.04 A.2, "Installation on Roadways Open to Public Traffic", the Engineer will perform one or both of the following:

1. The Engineer will apply a contract price reduction of \$1000 per day if the deficiency is not remedied within 24 hours of notification to correct the item.
2. The Engineer will have the temporary protection installed by other forces and deduct the costs from monies due or that become due to the Contractor.

If the Engineer uses other forces to install temporary protections, remove and dispose of the materials installed by the other forces at no additional cost to the Department.

764.04 D Removal of Guardrail

PAGE 422

10/1/17

Replace section 764.04 D with the following:

D. Removal of Guardrail.

1. General.

If the Engineer determines that the concrete anchors do not interfere with other construction, cut off concrete anchors one foot below ground level. When concrete anchors are removed, backfill the holes with approved material in 6 inch layers. Thoroughly tamp each layer using a mechanical tamper. If concrete anchors are cut off or removed, shape the surface to match the surrounding area and dispose of the removed concrete.

When removing guardrail posts and not replacing the posts in the same hole, backfill the hole with approved material. When the existing surrounding surface is bituminous, place 2 inches of bituminous material at the top of the hole to match existing surrounding surface.

2. Removed Guardrail in Locations Where There will be no permanent guardrail.

At locations where guardrail is to be removed and no guardrail will exist upon completion of the work, leave the guardrail in place until the hazard associated with the guardrail is no longer present and all work is complete except for that which requires the guardrail to be removed.

764.04 G Completion Requirements

PAGE 423

10/1/17

Replace section 764.04 G Completion Requirements with the following:

G. Reserved.

Reserved.

764.04 H Attenuation Devices

PAGE 423 10/1/17

Replace the first paragraph with the following:

Install attenuating devices that meet the appropriate MASH testing Requirements and have an eligibility letter from FHWA.

766.04 CONSTRUCTION REQUIREMENTS

**PAGE 425 10/01/15 &
10/1/17**

Replace Section 766.04 with the following:

766.04 CONSTRUCTION REQUIREMENTS

A. General.

The mailbox owner will furnish a postal service approved mailbox. Install the furnished mailbox on the new support system.

B. Temporary Relocation.

If construction activities require the removal of the support system and delayed installation of the new support system, reset the existing support system at a location approved by the Engineer and postal service.

If construction activities require the removal of the support system and delayed installation of the new support system, relocate mailboxes to a location approved by the Engineer and postal service.

If existing mailboxes meet NCHRP 350 or MASH requirements, they may be reset temporarily during construction. If the existing support does not meet NCHRP 350 or MASH, place temporarily located mailboxes on supports that meet MASH requirements. If there is no support that meets MASH requirements, perform one of the following actions:

- Place them outside the clear zone;
- Place them on a 4 × 4 inch wood post; or
- Reset them using assemblies shown in the plans.

After construction has progressed to allow permanent installation, install the mailbox assemblies and mailboxes at the specified locations.

770.03 A General

PAGE 426 10/01/17

Replace Concrete Class AAE-3 with Concrete Class AE-3.

770.04 C. Concrete Foundation

PAGE 428 10/01/17

Replace Section 770.04 C with the following:

C. Concrete Foundation.

Cast concrete foundations in place. Place the concrete in one continuous operation with no construction joints. Consolidate the concrete according to Section 602.04 C.2 "Vibration".

Allow the concrete foundation to cure for 7 days before placing poles on the foundation.

Do not grout between the foundation and the pole base.

Install anchor bolts according to Section 754.04 D.5.b, "Anchor Bolt Installation".

770.04 D.1 General**PAGE 428****10/01/15**

Add the following to the end of Section 770.04 D.1:

Install duct seal on all conduits containing cables at controller cabinets, traffic signal bases, and pull boxes.

770.04 G Light Standards**PAGE 430****10/01/16**

Replace the first paragraph of Section 770.04 G with the following:

Plumb the light standard with leveling nuts. Adjust the leveling nuts on assembled light standards before 10:00 am. Tighten anchor nuts according to Section 754.04 D.5.c "Anchor Bolt Tightening".

772.03 A General**PAGE 433****10/01/17**

Replace Concrete Class AAE-3 with Concrete Class AE-3.

772.03 D Wiring Diagrams**PAGE 434****10/01/15**

Replace the first paragraph with the following:

At the time the cabinet and control equipment is accepted, furnish a traffic signal cabinet wiring diagrams showing all circuits and parts in detail. Place the wiring diagram in the signal cabinet and submit one PDF copy to the Engineer.

772.04 A General**PAGE 435****10/01/15**

Replace the second paragraph with the following:

Provide and bear all costs for the electrical service necessary to operate and maintain the traffic signal system until the system is accepted as specified in Section 772.04 N.3, "Supplemental Inspections and Final Acceptance".

772.04 E.8 Final Testing**PAGE 439****10/01/15**

Replace Section 772.04 E.8 with the following:

After installing sealer, perform the tests specified in Section 772.04 E.6, "Initial Testing". Record the test results on SFN 60844 *Traffic Signal Loop Detector Test Report* and submit the form to the Engineer.

Replace number 3 with the following:

Install and tighten the anchor bolts as specified in Section 754.04 D.5, "Overhead Sign Structures".

772.04 N Tests and Acceptance**PAGE 442****10/01/15**

Replace 772.04 N with the following:

1. General.

Furnish all instruments and personnel required for testing and record test results. If a subcontractor performed electrical work, ensure the subcontractor is present during testing and inspection.

The Engineer will perform the initial and final inspections when:

- Winds are 30 mph or less;
- Ambient temperature is 15°F or greater; and
- It is not raining or snowing.

a. Malfunction Management Unit Test.

Before uncovering the signal heads, perform a malfunction management unit test. Record the test results on SFN 60836 *Traffic Signal Malfunction Management Unit Test* and submit the results to the Engineer.

b. Ground Test.

Before opening to traffic, perform a ground test. The maximum allowable resistance at the controller cabinet is 10 Ohms. The maximum allowable resistance at each traffic signal standard is 25 Ohms. Record and submit the test results on SFN 60834, *Traffic Signal Ground Test*.

2. Initial Inspection.

After the signal system is operational and open to traffic, submit a request to schedule the initial inspection. The system must be fully operational for a minimum of 15 days before the Engineer will perform the initial inspection. The Engineer will record the inspection results on form SFN 59867, *Traffic Signal Inspection Checklist* or SFN 60845 *Flashing Beacon Inspection Checklist*. Copies of completed forms will be sent to the Contractor.

3. Supplemental Inspections and Final Acceptance.

After performing corrections, submit a request for a supplemental inspection. The Engineer will perform a supplemental inspection within 30 days of receiving the request.

If this inspection discloses any unsatisfactory items, the Engineer will provide the Contractor with a written list of items that require correction. After correcting the items, request another supplemental inspection.

If the Engineer determines that the work is complete, the signal system must operate for 14 consecutive days without interruption from defective equipment or improper workmanship.

If the signal system fails within the 14 days, make necessary repairs. After repairs are complete, request another supplemental inspection.

If the signal system operates for 14 consecutive days without interruption from defective equipment or improper workmanship, the Engineer will consider the last supplemental inspection as the final inspection and will accept the signal system.

802.01 A.1 Development**PAGE 453****10/01/16**

Replace the second paragraph of Section 802.01 A.1 with the following:

Design a mix that will attain a compressive strength of 3,000 psi after 7 days or a flexural strength of 450 psi after 7 days. Mix designs used for Section 550, "Concrete Pavement" will be required to attain both a compressive strength of 3,000 psi and a flexural strength of 450 psi after 7 days. Measure compressive strength according to AASHTO T 22 and flexural strength according to AASHTO T 97. Apply a correction factor of 0.92 when using 4 inch x 8 inch concrete cylinders.

802.01 B Cement**PAGE 453****10/01/17**

Delete section 802.01 B.3.

802.01 C.2 Coarse Aggregate**PAGE 454****10/01/15**

Replace Table 802-02 with the following:

Table 802-02
Miscellaneous Coarse Aggregate Properties

Test	Method	Max. Percent by Weight of the Plus No. 4 fraction
Shale	NDDOT 3	0.7
Iron oxide particles	NDDOT 3	4.0 ¹
Lignite and other coal	NDDOT 3	0.5
Soft Particles (Excluding Shale, Iron oxide particles and Lignite and other coal)	NDDOT 3	2.5
Thin or Elongated Pieces	NDDOT 3	15
L.A. Abrasion	AASHTO T 96	40.0
Soundness (Sodium Sulfate)	AASHTO T 104	12

¹ For concrete for spall repairs and bridge deck overlays, the maximum iron oxide particles shall be 2.0 percent.

802.01 C.3 Fine Aggregate**PAGE 454****10/01/15**

Replace the second paragraph of Section 802.01 C.3 with the following:

Test fine aggregates in accordance with AASHTO T 21. If the results of the analysis are darker than the standard color, determine the compressive strength of mortar mixed using the aggregate in accordance with AASHTO T 71. If the results of the AASHTO T 71 test result in a relative strength less than 95 percent, do not use the fine aggregate.

Replace the last paragraph with the following:

Supply concrete with an air content between 5.0 and 8.0 percent of the volume of the concrete at the time of placement.

Delete 802.01 J "Tests on Concrete" and replace with the following:

J. Tests on Concrete.

Furnish the concrete necessary for the tests.

Near the site of concrete placement, provide a level area protected from construction activities near the site of placement for the Engineer to conduct tests.

Add the following to the end of Section 810.01 B:

3. Curing Compound for Pigmented Concrete.

Use a curing compound when curing pigmented concrete that meets the requirements of ASTM C 309 Type 1-D.

Replace Table 816-02 with the following:

Table 816-02
Aggregates for Blotter and Seal coats

Sieve Size Or Testing Method	Aggregate Class					
	41	41M	42	43	44	45
	Percent Passing or Testing Requirement					
5/8 inch					100	
3/8 inch	100					100
No. 4	20-70				90-100	85-100
No. 8	0-17		2-20	0-17		
No. 16						45-80
No. 50						10-30
No. 200	0-1.5		0-5	0-2	0-20	0-3
ND T 113, Shale (max %)	8.0%					3.0%
AASHTO T 96, L.A. Abrasion (max %)	40%					
NDDOT 4, Fractured Faces ¹		50%				

Table 816-02
Aggregates for Blotter and Seal coats

Sieve Size Or Testing Method	Aggregate Class					
	41	41M	42	43	44	45
	Percent Passing or Testing Requirement					

¹ Minimum weight percentage allowable for the portion of the aggregate retained on a No. 4 sieve having at least 1 fractured face for Class 41M.

816.04 AGGREGATE FOR MICRO SURFACING

PAGE 467

10/01/15

Replace Section 816.04 with the following:

816.04 AGGREGATE FOR MICRO SURFACING

A. General.

Use aggregate that is manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof.

Before stockpiling aggregate, perform the tests specified in Table 816-03.

Table 816-03

Test	Test Method	Requirement
Soundness of Aggregates by Use of Sodium Sulfate	AASHTO T 104	15% Max
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine ¹	AASHTO T 96	30% Max
Deleterious Substances	ND T 176	60 or Higher

¹ Perform the AASHTO T 96 test on the parent aggregate

B. Mix Design.

Develop a mix design using aggregate that meets the requirements of Table 816-04. Establish mix design target values for each sieve and submit the mix design before beginning placement operations.

Table 816-04
Aggregate Gradation for Development of Mix Design

SIEVE SIZE	TYPE II %PASSING	TYPE III %PASSING
3/8"	100	100
#4	90 – 100	70 – 90
#8	65 – 90	45 – 70
#16	45 – 70	28 – 50
#30	30 – 50	19 – 34
#50	18 – 30	12 – 25
#100	10 – 21	7 – 18
#200	5 – 15	5 – 15

C. Stockpile Tolerances.

The mix design target values will be used for acceptance of material. Gradation tests may vary from the mix design target values based on the stockpile tolerance shown in Table 816-05. The percent passing each sieve for gradation tests may not fall outside the gradation limits specified in Table 816-04.

Table 816-05

SIEVE SIZE	STOCKPILE TOLERANCE
3/8"	-
#4	± 5%
#8	±5%
#16	±5%
#30	±5%
#50	±4%
#100	±3%
#200	±2%

D. Acceptance.

1. Stockpile Testing.

Perform a gradation test in accordance with ND T 11 and ND T 27 for every 500 tons of material produced and placed in the stockpile. Also perform test ND T 176 when performing gradation tests. Submit the test results to the Engineer.

The Engineer will perform acceptance testing. If the result of the Engineer's testing lead to rejection of the stockpile, additional material may be blended with the stockpiled material so that the stockpile meets the requirements. The Engineer will resample and retest for both gradation and deleterious substances to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-06. After blending, develop and submit a new mix design.

2. Gradation.

The Engineer will obtain 5 independent samples from the stockpile and perform a gradation analysis in accordance with ND T 11 and ND T 27. If the average gradation for each sieve is within the stockpile tolerance of the mix design target values, the Engineer will accept the material.

If the stockpile is rejected, additional material may be blended with the stockpiled material to obtain the required gradation. The Engineer will resample and retest to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-03. After blending, develop and submit a new mix design.

3. Deleterious Substances.

The Engineer will determine the amount of deleterious substances in the aggregate using the same samples obtained in Section 816.04 D.2, "Gradation". If the average of the test results is 60 or higher, the Engineer will accept the material.

A. General.

Use aggregate that is manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof. Use aggregate with 100 percent of the parent aggregate larger than the largest stone in the specified gradation.

Before stockpiling aggregate, perform the tests specified in Table 816-06.

Table 816-06

Test	Test Method	Requirement
Soundness of Aggregates by Use of Sodium Sulfate	AASHTO T 104	15% Max
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine ¹	AASHTO T 96	35% Max
Deleterious Substances	ND T 176	60 or Higher

¹ Perform the AASHTO T 96 test on the parent aggregate

B. Mix Design.

Develop a mix design using aggregate that meets the requirements of Table 816-07. Establish mix design target values for each sieve and submit the mix design before beginning placement operations.

Table 816-07
Aggregate Gradation for Development of Mix Design

SIEVE SIZE	TYPE II %PASSING	TYPE III %PASSING
3/8"	100	100
#4	90 – 100	70 – 90
#8	65 – 90	45 – 70
#16	45 – 70	28 – 50
#30	30 – 50	19 – 34
#50	18 – 30	12 – 25
#100	10 – 21	7 – 18
#200	5 – 15	5 – 15

C. Stockpile Tolerances.

The mix design target values will be used for acceptance of material. Gradation tests may vary from the mix design target values based on the stockpile tolerance shown in Table 816-08. The percent passing each sieve for gradation tests may not fall outside the gradation limits specified in Table 816-07.

Table 816-08

SIEVE SIZE	STOCKPILE TOLERANCE
3/8"	-
#4	± 5%
#8	±5%
#16	±5%
#30	±5%
#50	±4%
#100	±3%
#200	±2%

D. Acceptance.

1. Stockpile Testing.

Perform a gradation test in accordance with ND T 11 and ND T 27 for every 500 tons of material produced and placed in the stockpile. Also perform test ND T 176 when performing gradation tests. Submit the test results to the Engineer.

The Engineer will perform acceptance testing. If the result of the Engineer's testing lead to rejection of the stockpile, additional material may be blended with the stockpiled material so that the stockpile meets the requirements. The Engineer will resample and retest for both gradation and deleterious substances to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-06. After blending, develop and submit a new mix design.

2. Gradation.

The Engineer will obtain 5 independent samples from the stockpile and perform a gradation analysis in accordance with ND T 11 and ND T 27. If the average gradation for each sieve is within the stockpile tolerance of the mix design target values, the Engineer will accept the material.

3. Deleterious Substances.

The Engineer will determine the amount of deleterious substances in the aggregate using the same samples obtained in Section 816.05 D.2, "Gradation". If the average of the test results is 60 or higher, the Engineer will accept the material.

817.01 D Salvage Base Course Containing Bituminous Material	PAGE 472	10/01/17
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Replace the last paragraph with the following:

If salvaged base course is to be placed beneath a bituminous asphalt roadway or used as a final surfacing, the following specifications apply.

817.01 D.2.a Extraction Test Method	PAGE 472	10/01/15
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Replace the second paragraph of Section 817.01 D.2.a with the following:

The Engineer will determine the percentage of asphalt binder in the stockpile in accordance with AASHTO T 164 and average the results obtained from the three samples. The material will be rejected if any single sample has a value greater than 4.0 percent or the average extraction is greater than 3.5 percent. If the stockpile is rejected, the stockpiled material may be blended with other material.

818.02 A Performance Graded (PG) Asphalt Cement	PAGE 474	10/01/17
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Replace the first and second paragraph with the following:

If the Performance Graded (PG) asphalt cement called for in the plans contains an S, H, V, or E designation, use PG asphalt cement that meets AASHTO M 332. In all other cases use PG asphalt cement that meets AASHTO M 320.

Base asphalt may be modified with Polyphosphoric Acid (PPA). PPA may make up no more than 0.50 percent of the finished binder, by weight.

818.02 E.2 Modified Cationic Emulsified Asphalt**PAGE 474****10/01/16**

Replace the second paragraph of Section 818.02 E.2 with the following:

Use asphalt with a maximum 3.0 percent oil distillate by volume of emulsified asphalt when tested according to AASHTO T 59, Residue and Oil Distillate by Distillation on Emulsified Asphalt. Use the manufacturer's recommended distillation temperature when using CRS-2P emulsion.

818.03 Bituminous Materials for Micro Surfacing**PAGE 475****10/01/15**

Replace Table 818-01 with the following:

Table 818-01

Test	Specification	Requirement
Settlement and Storage Stability of Emulsified Asphalts, 24-h	AASHTO T 59	1% Minimum
Distillation of Emulsified Asphalt ¹	AASHTO T 59	62% Minimum
Tests on Emulsified Asphalt Residue		
Softening Point of Bitumen (Ring and Ball Apparatus)	AASHTO T 53	135°F Minimum

¹ Hold the temperature for this test at 350°F for 20 minutes.

822.01 General**PAGE 477****10/01/17**

Replace the second paragraph with the following:

Use an Alkyl-Alkoxysilane organosilicon compound.

Replace the second bullet in the third paragraph with the following:

- Contains 100 percent active solids;

Replace the last bullet in the third paragraph with the following:

- Treated concrete is surface dry a maximum of 4 hours after application.
-

822.02 TESTING**PAGE 477
10/1/17****10/01/16 &
10/1/17**

Replace the first sentence of Section 822.02 with the following:

Provide a repellent that, when applied to concrete, meets the following requirements:

Add the following to Section 822.02:

C. Scaling Resistance to Deicing Chemicals.

Test	Duration	Visual Rating	Method
Salt Water Ponding	50 Cycles	0 at 25 cycles	ASTM C 672
		≤ 3 at 50 cycles	ASTM C 672

826.02 B.1 Sealant

Page 479

10/01/16

Replace Section 826.02 B.1 with the following:

1. Sealant.

Provide a one-part silicone joint sealant that meets the requirements of ASTM D 5893, Type NS and the following:

- Low modulus; and
- Is capable of withstanding repeated joint movement between 50 percent shrinkage and 100 percent expansion without losing adhesion to the concrete and without cohesion failure.

826.02 B.2 Backer Rod

PAGE 479

10/01/16

Replace the first paragraph of Section 826.02 B.2 with the following:

Use backer rod that meets the requirements of ASTM D 5249, Type 1 or Type 3.

830.01 CONCRETE PIPE AND DRAINAGE STRUCTURES

PAGE 480

10/01/16

Replace Section 830.01 with the following:

830.01 CONCRETE PIPE AND DRAINAGE STRUCTURES

The Department will evaluate the fabricator's concrete pipe plant according to Department procedures described in Field Sampling and Testing Manual, Quality Assurance Program for Prestressed and Precast Concrete Products. The results of this evaluation will determine if the material may be accepted by certificate of compliance as specified in Section 106.01 C "Certificate of Compliance."

Use an ACPA or NPCA certified plant in the construction.

A. Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.

Provide pipe that meets AASHTO M 170, M 206, or M 207 for the specified diameters and strength class except use aggregates that meet the requirements in:

- Table 802-02 of Section 802.01 C.2 "Course Aggregate"
- Table 802-05 of Section 802.01 C.3 "Fine Aggregate"

B. Work Drawings.

Provide work drawings for Class IV and V Pipes that include:

- Reinforcing steel layouts;
- Type and strength of concrete and reinforcing steel;
- All concrete and reinforcing dimensions;
- Installation and handling instructions; and
- Design calculations.

Submit calculations and work drawings that are signed, sealed, and dated by a Professional Engineer registered in the State of North Dakota as set forth in NDCC Title 43.

C. Fasteners and Tie Bolts.

Provide tie bolts and nuts that are of steel meeting ASTM A 307 Grade A. Provide steel washers that meet ASTM A 1008 or ASTM A 1011. Provide fastener castings that are gray iron castings that meet ASTM A 48 Class 20.

834.03 A.2 Rotational Capacity Testing of Assemblies

PAGE 483

10/01/16

Replace Section 834.03 A.2 with the following:

2. Rotational Capacity Testing of Assemblies.

Perform the rotational capacity test according to ASTM A 325, except as modified by this specification.

a. General.

Perform rotational capacity tests on all bolt, nut, and washer assemblies before shipping.

If galvanized parts are required, perform the rotational capacity test after galvanization.

Washers are required as part of the tests even if the final assembly does not require washers.

b. Assemblies.

Test each combination of bolt lot, nut lot, and washer lot as an assembly.

c. Rotational Capacity Lot Numbers.

Assign each combination of lots a rotational capacity lot number. Washers do not need to be identified as part of the assembly lot if they are not required in the final assembly.

d. Testing Frequency.

Test a minimum of two assemblies per rotational capacity lot.

e. Testing Device.

Use a Skidmore-Wilhelm Calibrator, or an approved alternate, to perform the rotational capacity tests.

Test bolts that are too short for the Skidmore-Wilhelm Calibrator in a steel joint. The tension requirements of Table 834-02 do not apply. Compute the maximum torque required in Section 834.03 A.2.g, "Results" using a value of "P" equal to the Turn Test Tension in Table 834-02.

f. Performance of the Test.

The minimum rotation from initial tightening (10 percent of the specified proof load) shall be as specified in Table 834-01.

Table 834-01

Bolt Length	Amount of Turn
Length \geq 4 diameters	240 degrees (2/3 turn)
4 diameters < Length \leq 8 diameters	360 degrees (1 turn)
Length > 8 diameters	480 degrees (1-1/3 turn)

The tension reached at the rotation specified in Table 834-01 shall be equal to values for the Turn Test Tension shown in Table 834-02.

Table 834-02

Diameter (in)	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-3/8	1-1/2
Installation Tension (kips)	12	19	28	39	51	56	71	85	103
Turn Test Tension (kips)	12	22	32	45	59	64	82	98	118

g. Results.

After exceeding the Installation Tension specified in Table 834-02, obtain and record a reading of the tension and torque.

The maximum torque (T) shall be equal to 0.25 the measured bolt tension (P) and the bolt diameter (D):

$$T \text{ (foot pounds)} \leq 0.25 \times P(\text{pounds}) \times D(\text{feet})$$

856.01 A General**PAGE 495****10/01/15**

Replace the "Slope Gradient" row in Table 856-01 with the following:

Slope Gradient Application	≤ 3H:1V	< 3H:1V - 2H:1V	≤ 2H:1V	< 2H:1 - 1.5H:1V
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860.02 A Barbed Wire**PAGE 501****10/01/15**

Replace Section 860.02 A with the following:

A. Barbed Wire.

Provide barbed wire that meets the requirements of AASHTO M 280. Provide wire that has a minimum gage of 12½ and at least 2 point barbs.

860.02 B Woven Wire**PAGE 501****10/01/15**

Replace Section 860.02 B with the following:

Provide woven wire that meets the requirement of AASHTO M 279, Design Number 939-6-12½.

862.03 E W-Beam Guardrail End Treatments**PAGE 504****10/1/17**

Replace the first paragraph with the following:

Provide W-beam guardrail end treatments that meet the requirements of MASH TL-3.

Replace the Section 862.04 C with the following:

C. 3-Cable.

Provide round treated timber posts used for three-cable guardrail that are between 4.5 and 6.5 inches in diameter.

Replace Section 880.02 B.2 with the following:

2. Color.

Provide material that meets the requirements of Table 880-03 and 880-04 when tested in accordance with ASTM D 2805.

Table 880-03
CIE Chromaticity limits using illuminant "C" for Yellow Epoxy

x	0.470	0.485	0.520	0.048
y	0.440	0.460	0.450	0.420

Table 880-04
Daylight Directional Reflectance (Y)

Color	Minimum Value
White	83
Yellow	50

Replace Section 885.01 E.1 with the following:

1. Cast Iron.

Provide cast iron panels with a minimum thickness of 0.2 inches. Use either grey cast iron that meets AASHTO M 105, Class 35 B or use ductile cast iron that meets ASTM A 536, Grade 65-45-12. Provide panels without a surface coating and allow the panels to transition to the iron's natural patina.

Delete the second paragraph from Section 894.03 A.1:

Replace Section 894.05 A with the following:

A. General.

Galvanize all materials requiring galvanization according to Section 854, "Galvanizing" after fabrication.

Submit work drawings for all structures for overhead signs according to Sections 105.08 A.3, "Additional Section 600 Work Drawing Submittal Requirements".

1. Welding.

a. General.

Perform all steel welding according to the specifications for welding of steel structures in the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

b. Treatment of Welded Areas.

Punch a minimum 3/4 inch hole into chords to facilitate galvanizing the struts and diagonal tubes. Provide two 1/2 inch holes at the top and bottom of the chords on the capped end to facilitate galvanizing. Provide on the end tower vertical columns two 1/4 inch holes in the base plate and two 3/4 inch holes at the top of each column to facilitate galvanizing.

c. Repair Galvanization.

Repair damaged galvanization according to Section 854, "Galvanizing".

894.05 B.2 Round-Tapered or Octagonal-Tapered Tubes

PAGE 523

10/1/16

Replace the second paragraph of 894.05 B.2 with the following

Retain major dimensions, such as truss cross section and length, and end towers vertical dimensions. If this option is chosen, furnish to the Engineer all necessary calculations and drawings used in designing these structures. Design the structures according to the latest issue of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. Use a wind velocity of 90 mph to compute the wind pressures on the signs and structures.

895.05 A General

PAGE 528

10/01/16

Replace Section 895.05 A with the following:

A. General.

Design lighting poles to meet the requirements of AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

When a breakaway base is required, provide a manufacturer certification that the light standard base meets the AASHTO requirements for both breakaway and structural adequacy.

Use a wind velocity of 90 mph with the following height and exposure correction factor:

- If the traffic signal is less than 33 feet use a K_z^a of 1.00; or
- If the traffic signal is greater than 33 feet use the K_z^a found in Table 3.8.4-1 "Height and Exposure Factors, K_z^a ".

Apply different wind pressures to the structure at different heights rather than using an average wind pressure for the entire height of the structure.

Design each structural component on light standards 55 feet or greater for fatigue using the requirements of Table 11.6-2, "Fatigue Importance Categories for HMLT's".

Furnish all the necessary calculations and drawings used in the design of poles with the shop drawing submittal. A Professional Engineer duly registered in the State of North Dakota must sign, seal, and date the calculations and work drawings used in the design of lighting standards.

Replace the first paragraph with the following:

Use cables that are rated for 600 volts and meet IMSA 19-1 or 20-1.

Delete the fifth paragraph.

896.05 A GENERAL

Replace Section 896.05 A with the following:

A. Design.

Design traffic signal standards to meet the requirements of AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

Use a wind velocity of 90 mph with the following height and exposure correction factor:

- If the traffic signal is less than 33 feet use a K_z^a of 1.00; or
- If the traffic signal is greater than 33 feet use the K_z^a found in Table 3.8.4-1 "Height and Exposure Factors, K_z^a ".

Apply different wind pressures to the structure at different heights rather than using an average wind pressure for the entire height of the structure.

Design each structure component using the requirements of Table 11.6-1, "Fatigue Importance Factors, I_F ."

Design the components for the total deflection, with galloping, at the free end of the traffic signal arm is limited to less than 8 Inches.

Furnish all the necessary calculations and drawings used in the design of poles with the shop drawing submittal. A Professional Engineer duly registered in the State of North Dakota must sign, seal, and date the calculations and work drawings used in the design of lighting standards.

896.10 Controller Cabinet

Replace the 3 with the following:

3. Provide a metal weatherproof cover that blocks air flow in cold weather, and adequately covers the fan vent assembly and the louver on the door. Install a gasket to the cover and attach the cover to the inside of the cabinet. Construct the cover of the same material as the cabinet.

Provide a weep hole in the bottom loop on each end of the cabinet full-size door.

Build the cabinet to contain the following items:

- All items of control equipment specified in these Specifications.
- Provide a thermostatically-controlled minimum 250 watt strip-type heater mounted on the full-size door cover with a protective wire-mesh shield installed around the heater. Use a heavy-duty thermostat capable of being set within a temperature range of 30°F to 90°F. Activate the power to the fan and to the heater using a three-position toggle switch located on the auxiliary switch panel.

Use a switch that operates vertically up and down with the:

- Up position being FAN (power to the fan on and power to the heater off);
- Center position being OFF (power to both the fan and the heater off); and
- Down position being HEATER (power to the heater on and power to the fan off).

Provide an electrical three-prong twist lock-type plug between the switch and the heater. Mount the heater thermostat on the auxiliary switch panel. Make the connection to the heater with stranded copper wire having 200°C insulation and non-insulated, solderless terminals.

- Provide three duplex receptacles with ground fault interrupter. Fuse the receptacles ahead of the main circuit breaker.
- Provide a switched lamp socket, fuse the lamp socket ahead of the main circuit breaker.
- Include the following in the maintenance switches inside the cabinet:
 - Stop time control.
 - Timer power.
 - Flash.
 - Vehicle detector input for each phase in use and all future phases.
 - Pedestrian input for each phase in use and all future phases.

10/1/2014

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS (PS-1)**

The Contractor agrees to accept the following unit prices for each listed item of work and or material when no project contract unit price exists for that item. Each price listed will be full compensation for the cost of labor, material and equipment necessary to provide the item of work and/or material, complete in place, including (but not limited to) royalty, disposal of unsuitable material, equipment rental, sales tax, use tax, overhead, profit, and incidentals.

Each listed item is referenced to the Standard Specifications by Section number and Section name.

SECTION NO.	SECTION NAME	ITEM NAME	PRICE PER ITEM
107.08	Haul Roads	Water	\$27 per M Gal
107.08	Haul Roads	Bitumen for Mix	Invoice Price ¹ + 10%
107.08	Haul Roads	Bituminous Mix	\$42 per Ton ²
107.08	Haul Roads	Aggregate Base	\$17 per Ton ²
203.01 B	Rock Excavation	Rock Excavation	\$11 per CY
203.01 C	Shale Excavation	Shale Excavation	Common Excavation Price + \$1.00 per CY
203.01 D	Muck Excavation	Muck Excavation	\$9 per CY
203.05 H.3	Embankment	Overhaul	\$1.40 per CY - Mile
260	Silt Fence	Mucking Silt Fence	\$3.90 per LF
260	Silt Fence	Removal of Silt Fence ³	\$4.25 per LF
261	Fiber Rolls	Mucking of Fiber Rolls	\$3.90 per LF
261	Fiber Rolls	Removal of Fiber Rolls ³	\$4.25 per LF
420.04 E	Bituminous Seal Coat	Blotter Sand	\$27 per Ton ²
430.04 G	Hot Mix Asphalt (Exc. Material Hauled to Disposal Area)	Bituminous Mixture	Machine Placed: Bid or Invoice Price + \$31 per ton Hand Placed: Bid or Invoice Price + \$48 per Ton
704	Temporary Traffic Control	Flagging	\$32 per MHR

¹Price paid for bituminous material will be invoice price plus freight costs.

²Price Includes haul up to 10 miles. Payment for haul exceeding 10 miles will be according to Section 109.03 E, "Force Account." The haul distance for aggregate base and bituminous mix will be based on the average haul. The haul distance for blotter sand will be from the point where the haul begins to the point where it enters the project.

³This is only for pre-existing items that were not installed under the Contract.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION:
DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM**

PROJECTS NHU-8-081(039)924 (PCN-21400) and IM-8-094(090)351 (PCN-21169)

RACE/GENDER CONSCIOUS GOAL The DBE goal for this project is: **5.00%**

NDDOT Contact Information	
Civil Rights Certification & Compliance System (CRCCS): https://dotnd.diversitycompliance.com/ may be used to submit post bid documentation.	
Contractor Sign In & Submit Advertisements at: https://apps.nd.gov/dot/cr/csi/login.htm	Amy Conklin, DBE Program Administrator 701-328-3116 - or - aconklin@nd.gov
Submit quotes and post bid documentation to: subquotes@nd.gov or Fax: 701-328-0343	Ramona Bernard, Civil Rights Division Director 701-328-2576 - or - rbernard@nd.gov
Search DBE Directory https://dotnd.diversitycompliance.com/	All times are stated in Central Time. “Days” refers to calendar days, unless otherwise stated.
All subcontractors, suppliers, manufacturers, regular dealers, vendors, and brokers must fax or email quotes to the Department no later than 9 PM the day before each bid opening. All DBEs quoting on this project MUST submit all quotes and a list of contractors they quoted to NDDOT no later than 9 PM the day before each bid opening.	
Prime contractors preparing to bid on NDDOT highway projects have requested that quotes be sent to them by: 2 PM Central - Suppliers (brokers/regular dealers), vendors, & manufacturers 5 PM Central - Subcontractors under \$500,000 8 PM Central - Subcontractors over \$500,000	

PURPOSE

These provisions:

1. Provide an explanation of the federal law and information regarding compliance with the DBE requirements applicable to this contract,
2. Explain the process NDDOT will follow to evaluate bidders' efforts to obtain DBE participation
3. Provide the standards NDDOT will use to measure compliance with the requirements
4. Identify sanctions

FEDERAL AUTHORITY

This Special Provision is written per 49 CFR Part 26 and Appendix A – Guidance Concerning Good Faith Efforts.

The following paragraph must be included in all subcontracts of all tiers in accordance with 49 CFR § 26.13(b):

“The contractor or all tiers of subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR § 26.13 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as NDDOT deems appropriate which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible”

It is the prime contractors' responsibility to ensure all tiers of subcontractors, brokers, manufacturers, suppliers, vendors, and regular dealers comply with the requirements of this special provision. In addition, the prime contractor has the responsibility to monitor DBE performance on the project, and to ensure that the DBE performs a commercially useful function (CUF).

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All bidders and all subcontractors over \$500,000 (regardless of whether they are apparent low bidder or their quote was used on a project in this bid opening) must submit copies of all quotes received or submit SFN 52013-List of Businesses Submitting Quotes within 5 calendar days of the bid opening. This process is necessary in identifying “ready, willing, and able” contractors upon which to base the NDDOT Triennial DBE Goal. The number of contractors and the types of work they have bid/quoted will be used in the calculation of the DBE goal for each goal setting period.

Contract award will be made to the lowest responsible bidder whose proposal substantially complies with the requirements prescribed herein and *who has met the goal for DBE participation, or has demonstrated, to the satisfaction of the Department, adequate good faith efforts to do so.*

The project may be awarded only after the ALB submits all documentation by 4 PM five (5) calendar days after the Bid Opening (as required by 49 CFR § 26.53(b)(3)(i)(B)). Prime contractors are encouraged to submit their post-bid documentation in one electronic file.

WHEN THE PROJECT DBE GOAL IS MET AT THE TIME OF BID:

The ALB must submit [SFN 52160](#), Form C - [Notification of Intent to Use](#) for each DBE used, any Form A revisions on [SFN 52750](#), and copies of all quotes received or SFN 52013 [Form B - List of Businesses Submitting Quotes](#). (Form instructions begin on page 15 of this special provision.)

If the goal has been met, pre-award requirements are complete after the contractor has submitted the required forms.

If the BIDDER has not met the project goal, the following is REQUIRED:

GOOD FAITH EFFORTS

If the project goal is not met, the bidder must complete and submit documentation of the following by 4 PM 5 CALENDAR days after the bid opening. Failure to demonstrate good faith efforts may cause NDDOT to “Not Award”. Prime contractors are encouraged to submit their post-bid documentation in one electronic file.

The ALB must submit [SFN 52160](#), Form C - [Notification of Intent to Use](#) for each DBE used **and** non-

DBE used in Bid Differential (Non-DBE/BD), any Form A revisions on [SFN 52750](#), copies of all quotes received or SFN 52013 [Form B - List of Businesses Submitting Quotes](#), and their DBE Participation Plan and supporting documentation along with SFN 60829, [Contractor Good Faith Efforts Documentation](#). (Form instructions begin on page 15 of this special provision.)

The bidder is responsible for taking actions toward achieving the project goal as required by Appendix A to 49 CFR Part 26 – Guidance Concerning Good Faith Efforts. Therefore, it is a bidder's responsibility to either achieve the project goal or to follow a course of actions that would, by their scope, intensity, and appropriateness, reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

NDDOT will measure the bidder's efforts by actions demonstrated/taken prior to submitting their bid. The description and documentation of these efforts must adequately show NDDOT that the bidder took all necessary and reasonable steps to achieve the DBE goal.

The efforts employed by the bidder should be those that one could reasonably expect if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal.

DBE PARTICIPATION PLAN

- ☐ Access and review the Notice to Bidders and Project Plans & Proposals (available on the NDDOT website).
- ☐ Use the bid items list from the project proposal to select work types you will seek DBEs to perform. (Example on page 20.)
- ☐ Search the DBE Directory to locate DBEs to perform the work.
- ☐ Break out contract work items into smaller tasks or quantities to facilitate DBE participation, even when you might otherwise prefer to self-perform the work items with your own forces.
 - The ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts.
 - It is not acceptable to limit the use of DBEs because a larger amount of work is intended to be subcontracted to a Non-DBE. Example: Ask a non-DBE whose tied quote includes a work item quoted by a DBE to untie their quote rather than not using the DBE quote.
- ☐ Solicit DBEs who are certified to perform the work you've outlined in your plan. Provide DBEs with information about the plans, specifications, and requirements of the contract so they are able to respond to your solicitation in a timely manner.
 - Keep an example of the request for bids/quotes used to solicit DBE participation on the project to submit with your DBE Participation Plan.
- ☐ Take steps to follow up your initial solicitation.
 - Track contacts made by listing DBE firms contacted and the person contacted with the dates and times, contact methods, and DBE responses to the solicitation.
 - Submit a copy of your list with your DBE Participation Plan
- ☐ Ask your firm's subcontractors to solicit DBE work for the subcontractors' portion of the project
 - Ask subcontractors over \$500,000 being used in your bid to submit Form A ([SFN 52750](#)) with any DBE Participation included in their quote(s).
- ☐ Receive and evaluate all quotes given; convert the quotes to an acceptable format, whether the quotes are calculated by ton-mile, hour, acre or square mile, and whether you intend to subcontract the work quoted.
- ☐ Calculate whether the contract dollar value using the DBEs and work types selected will meet the project goal.
- ☐ **Advertise** using one or both of the following options. Submit a copy with your DBE Participation Plan.

OPTION 1: Place an advertisement soliciting DBE participation using the electronic DBE Advertisement System.

- Submit the required information online at <https://apps.nd.gov/dot/cr/csi/login.htm> no later than noon, 15 calendar days before the bid opening.

OPTION 2: Directly contact by email or fax, all DBEs certified in the specific work type (NAICS) required.

- Make contact with DBEs no later than 5 PM 7 calendar days before the bid opening.
- Use the DBE Directory to determine the DBE firms certified in the work to be subcontracted.

Either method of advertisement must:

- Provide the name, email address, telephone, and fax number of the company contact who will be available to discuss and/or receive quotes.
- Offer assistance to DBEs in interpreting plans; quantities; expected overtime; project scheduling; pit and batch plan locations, length of haul, type of road; method of measurement (seeding by the mile or acre, hauling by hour or by ton-mile) or other issues that may affect a price quote.

☐ **Indicate your intention to bid** and/or receive quotes on specific jobs by using the Department's Bid Opening Sign In System

- The **Bid Opening Sign-In** web application located at <https://apps.nd.gov/dot/cr/csi/login.htm>.
Sign-In opens at 8 AM seven days prior to the bid opening and closes at 11 AM the day before the bid opening.
- Fill in the online form fields as required.
- Log in to download the "Bid Opening Contact Report" at <https://apps.nd.gov/dot/cr/csi/public/listBidOpenings.htm>

COMPILE AND SUBMIT GOOD FAITH EFFORTS DOCUMENTATION BY 4 PM 5 CALENDAR DAYS AFTER THE BID OPENING

The project may be awarded only after the ALB submits all documentation by 4 PM five (5) calendar days after the Bid Opening (as required by 49 CFR § 26.53(b)(3)(i)(B)).

This documentation must include:

1. A cover letter explaining actions taken attempting to meet the project goal.
2. DBE Participation Plan with copies of the work product of the items listed above.
3. SFN 60829
4. If applicable, bid differential detailing the reasons for selecting a non-DBE over a DBE firm. Attach DBE and Non-DBE/BD quotes being compared and the analysis of the cost difference with an individual Form C with each DBE and Non-DBE/BD proposed for use on the project.
 - If the ALB indicates that it intends to self-perform and/or use a non-DBE to perform work quoted by a DBE, a written comparison between the DBE's quote and the prime's and/or non-DBE's cost of performing the specific spec/code item must accompany SFN 60829. The ALB also must fully detail the methodology applied in calculating the cost of their self-performed work items.

EVALUATION OF GOOD FAITH EFFORTS

Proposals may be considered irregular and may be rejected by the Department if there is a substantial and material non-compliance with the DBE requirements. The Department reserves the right to waive minor irregularities and/or certain elements of this special provision.

Federal regulations require the Department to scrutinize a bidder's documented good faith efforts (see appropriate actions on pages 3-4).

If the ALB fails to meet the contract goal, but others meet it, it is reasonable to question whether the ALB made good faith efforts to meet the goal.

If the ALB fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, it may be viewed, in conjunction with other factors, as evidence of the ALB having made good faith efforts.

If the ALB fails to meet or exceed the average DBE participation of other bidders, it may be viewed, in conjunction with other factors, as evidence of the ALB having not made adequate good faith efforts.

If the ALB fails to meet the project goal and fails to submit adequate GFE documentation by the deadline, the DBE Participation Review Committee (Committee) will notify the Director's designee that the bidder failed to demonstrate GFE. The Department may reject the proposal.

If the ALB submits no documentation of its good faith efforts (GFE), the Department may reject the proposal.

If the ALB has not met the project goal, provides the required documentation timely, and adequately describes their efforts to meet the goal, the Committee will evaluate the ALB's GFE and DBE participation. The Committee will notify the Director's designee(s) of its determination.

1. **Award:** If the Committee determines the ALB has adequately demonstrated GFE, the committee will recommend "Award".
2. **Award Subject To Using DBE:** If the committee determines the ALB has not adequately demonstrated GFE by selecting a non-DBE used in a Bid Differential (non-DBE/BD), the committee may recommend "Award Subject To" using the DBE(s).

The Director's designee(s) will consider whether the DBE quote not used due to bid differential was reasonable and whether the ALB should have in good faith used the DBE quote. If the DBE quote is determined to be reasonable, the Director's designee(s) will provide the ALB an opportunity to increase participation by using the DBE or a DBE performing another type of work.

If the Department determines that a non-DBE's quote is reasonable, the non-DBE/BD may be used.

If the ALB commits to additional participation, an updated/corrected Form A and a completed Form C with the DBE must be submitted prior to award. Faxed or photocopied signatures are acceptable. The ALB is responsible for all additional costs incurred.

If the ALB does not commit to additional participation, administrative reconsideration is available.

3. **Not Award:** If the Committee determines the ALB has not adequately demonstrated GFE, the committee may recommend "Not Award".

Upon notification of a recommendation for a Not Award determination, the Director's designee(s) will consider the Committee's recommendation. If the Designee(s) agrees with the Committee's recommendation, the Designee(s) will contact the ALB to inform them of the determination, the reasons for it, and that administrative reconsideration is available.

Administrative Reconsideration 49 CFR § 26.53 (d)

- The ALB has two calendar days to respond with documentation or argument(s) concerning whether its good faith efforts to meet the goal were adequate.
 - An in-person reconsideration meeting is available at the ALB's request.

- The Director's designee(s) will consider any information submitted.
 - The NDDOT reconsideration decision will be made by the Director's designee(s), who will not have taken part in the original determination.
 - If the Director's designee(s) determines the ALB made adequate good faith efforts to meet the goal, the job will be recommended for award.
 - If the Director's designee(s) determines that the ALB has failed to sway the decision from "Not Award", the ALB will receive written notice of the decision.
 - The Director will make the final decision and may exercise such discretion as deemed appropriate.
 - The result of the reconsideration process is not administratively appealable to the US Department of Transportation.
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POST-AWARD REQUIREMENTS

PRIME CONTRACTOR'S MONITORING, RESPONSIBILITIES, REPORTING

For the life of the project, the prime contractor is responsible for the DBEs listed on Form C and for the specific spec/code items or products that the prime committed to during the award process.

The prime is responsible to:

- Report payments to DBEs used to meet the project goal. The CRCCS may be used to report payments on the contract in lieu of submitting SFN 60638 monthly and SFN 14268 at the end of the project.
- Invite and encourage all subcontractors and all DBEs listed on Form C to the pre-construction conference.
- Provide minutes to any DBE not in attendance at the pre-construction conference.
- Ensure their firm as well as any subcontractors, manufacturers, and regular dealers/suppliers comply with the requirements of this special provision.
- Provide all subcontractors with Proposed Project Schedules and any necessary updates.
- Monitor DBE performance on the project.
 - Submit SFN 60597, DBE Performance – Commercially Useful Function (CUF) Certification to the project engineer with SFN 5682, Prime Contractor's Request to Sublet. Project engineers will not approve Requests to Sublet without the CUF Certification.
 - Submit SFN 60638, Monthly Record of DBE Project Payments for each DBE on the project, by the 15th calendar day of every month while payments are made to the DBE.
- Maintain project records and documentation of payments to DBEs for three years following acceptance of the final payment from NDDOT (per FHWA-1273, Section II Nondiscrimination #11).
 - Submit SFN 14268, DBE Participation Certification for each DBE, to the project engineer within 4 weeks of the DBE contract work completion. Each certification must be signed by the prime contractor and DBE used on the project.
 - This reporting requirement also applies to any certified DBE.
 - NDDOT may perform interim audits of contract payments to DBEs to ensure that the actual amount paid to DBEs equals or exceeds the dollar amount stated on Form C.
 - Make these records available for inspection, upon request, by an authorized representative of the NDDOT or USDOT.
 - **Payments on the contract may be entered and stored in the CRCCS. Use of CRCCS**

on the project eliminates the requirement to submit SFN 60638 and SFN 14268.

- If SFN 60597, SFN 60638, and/or SFN 14268 are not received in a timely manner, progress payments will be withheld until submitted.

If award of the contract is made based on the contractor's good faith efforts, the goal will not be waived; the contractor must make good faith efforts throughout the duration of the project.

The prime contractor shall not terminate or replace a DBE subcontractor without the Department's prior written consent. 49 CFR 26.53(f)(1)i.

The Department's contract includes a provision stating:

- (A) That the contractor shall utilize the specific DBEs listed to perform the work and/or supply the materials unless the contractor obtains written consent; and
- (B) That, unless the Department's consent is provided, the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

SFN 60595 - Replacement Approval Request must be submitted and approved prior to replacement of each DBE firm(s), or Non-DBE/BD(s), or any work the prime originally intended to self-perform prior to the commencement of any replacement work. No payment will be made if work commences without written approval. The form may be accessed at the Department's website:

<http://www.dot.nd.gov/forms/sfn60595.pdf>

If the prime has not achieved the goal and additional work becomes available, the prime must follow the replacement approval request process using SFN 60595.

EXCEPTION FOR REPLACEMENTS DUE TO PUBLIC NECESSITY

When replacement work is required as a matter of public necessity, (e.g., safety, storm water issues), the contractor must immediately notify the project engineer and the DBE or Non-DBE/BD intended at the time of award. If the DBE or Non-DBE/BD is unable to perform the work within the time specified by permit or administrative rule, the DBE or Non-DBE/BD must notify the prime immediately; and, within one business day, a written explanation must be submitted to the prime with a copy to the project engineer. The project engineer refers all replacement approval requests to the Assistant District Engineer (ADE). In a case of public necessity, the ADE has the authority to allow the contractor to self-perform the replacement work or to find another contractor to complete it.

TERMINATION FOR CAUSE

A DBE or Non-DBE/BD may not be terminated without the Department's prior written consent. (49 CFR 26.53(f)(1)(i))

The Department will provide such written consent if the Department agrees that the contractor or subcontractor has good cause to terminate the DBE firm or Non-DBE/BD.

Circumstances which may be considered good cause for termination include when the listed DBE or Non-DBE/BD:

- Fails or refuses to execute a written contract
- Fails or refuses to perform the work of its subcontract in a way consistent with the contract and/or with normal industry standards, provided, that good cause does not exist if the failure or refusal of the listed DBE or Non-DBE/BD to perform its work on the subcontract results from the bad faith or discriminatory action of the prime or subcontractor
- Fails or refuses to meet the prime contractor's reasonable nondiscriminatory bond requirements
- Becomes bankrupt, insolvent, or exhibits credit unworthiness
- Is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215, and 1,200 or applicable state law

- Is ineligible to receive DBE credit for the type of work required
- Dies or becomes disabled with the result that the listed DBE or Non-DBE/BD is unable to complete its work on the contract
- Other documented good cause that the Department determines compels the termination of the listed DBE or Non-DBE/BD

Good cause does not exist if the prime contractor or subcontractor seeks to terminate a DBE or Non-DBE/BD which was relied upon to obtain the contract so that the contractor can self-perform the work for which the DBE or Non-DBE/BD was engaged or so that the contractor can substitute another DBE or Non-DBE contractor after contract award.

The contractor must immediately give written termination notice to DBE or the Non-DBE/BD. At the same time, SFN 60595 and its supporting documentation must be provided to the project engineer for review and analysis of the reasons for the intended termination.

The contractor must give the DBE or Non-DBE/BD five calendar days to respond to the termination notice. Within that time, the DBE or Non-DBE/BD should respond with a written explanation of their reasons and/or objections to the proposed termination and specifically address why the Department should deny the contractor's request. This explanation should be submitted in reply to the contractor with a copy to the project engineer.

The project engineer will send the contractor's SFN 60595, the DBE or Non-DBE/BD's written response(s) and any other accompanying documentation to the Civil Rights Division (CRD). If the CRD concurs that a termination is warranted, the contractor must seek a DBE to perform the work.

All DBEs currently certified in the specific area of work to be performed, must be contacted in writing or by phone, and quotes solicited. If available, a DBE will be selected to perform a dollar value of work, equal to the value of the commitment not achieved, unless the contractor can demonstrate the DBE quote is unreasonable, using the same comparison in section "Good Faith Efforts Documentation."

Upon receipt of appropriate written GFE documentation, and prior to commencement of any replacement work, CRD will consider the contractor's efforts and provide a final written decision to the project engineer.

In instances where trucking replacements are sought, DBEs and/or Non-DBEs as allowed by regulation must be selected to cover all the trucking required until sufficient participation is met.

UNFULFILLED OBLIGATIONS

The Department requires SFN 60595 and its supporting documentation when a contractor, DBE, or Non-DBE/BD does not fulfill her or his obligations in any of the following situations:

- The prime contractor is unable to perform the full amount of work committed to be completed, by the prime's workforce and equipment, at the time of award, or
- The Non-DBE/BD to which the prime contractor committed using at the time of award, is unable to perform the full amount of work, or
- The DBE or Non-DBE/BD withdraws voluntarily from the project and provides to the prime written notice of its withdrawal.

SFN 60595 and its supporting documentation must be provided to the project engineer for review and analysis. If the DBE or Non-DBE/BD is not able to perform, the prime contractor must provide written documentation from the DBE or Non-DBE/BD as to the reasons. The project engineer refers all replacement approval requests to the ADE. The Civil Rights Division will provide a written final determination to the project engineer.

If the Department concurs that a substitution is warranted, the prime contractor will seek a DBE to

perform the work. All DBEs currently certified in the specific area of work to be performed, must be contacted in writing or by phone, and quotes solicited. If available, a DBE will be selected to perform a dollar value of work, equal to the value of the commitment not achieved, unless the contractor can demonstrate the DBE quote is unreasonable, using the same bid differential comparison in section “Good Faith Efforts Documentation.”

In instances where trucking replacements are sought, DBEs and/or Non-DBEs as allowed by regulation must be selected to cover all the trucking required until sufficient participation is met.

The prime contractor is responsible for any additional costs incurred as a result of the prime contractor's failure or the subcontractor quoting over \$500,000 to fulfill the original commitment or the DBE or Non-DBE/BD's failure to perform.

NON-COMPLIANCE, FAILURE TO PERFORM, AND SANCTIONS

If the Department determines that a contractor should be sanctioned, the Department will provide written notice to the contractor informing them of the sanction for the following:

- Not submitting required documentation in a timely manner
- Not paying a DBE in a timely manner
- Not having a DBE perform the specified dollar amount of work (subject to plan quantity changes) tasks or bid items
- For otherwise not fulfilling the requirements of this DBE special provision

If the Department determines that a DBE should be sanctioned, the Department will provide written notice to the DBE informing them of the sanction for the following:

- Failure to perform work as specified in the contract
- Failure to pay contract-related bills in a timely manner
- Failure to perform a commercially useful function
- Failure to notify the prime contractor orally and in writing if they are unable to perform a commercially useful function
- Otherwise not fulfilling the requirements of this DBE special provision

Other grounds for sanctions may include, but are not limited to: repeated instances of failure to perform the contract requirements, repeated instances of late contract-related payments, or documented fraudulent practices.

If sanctions are applied, the contractor or the DBE may make a written request to the Department for reconsideration. The contractor or the DBE must provide a written statement defending their actions within 3 calendar days.

If the Department does not receive a written request for reconsideration, or if the contractor or DBE does not provide sufficient evidence that the provisions have been met, the Department may suspend the contractor or the DBE bidding or quoting privileges and not allow the contractor or the DBE to participate in one or more scheduled bid openings after the date the sanction is imposed.

Further sanctions which may be imposed by the Department for failure on the part of the contractor may include, but are not limited to:

- Withhold the contractor's progress payment until the contractor complies with all DBE contract provisions
- Deduct, from the contractor's progress payments, the dollar amount of DBE participation committed to but not achieved by the contractor
- Find the contractor in default
- Liquidated damages
- Disqualifying the contractor from future bidding

- Take other corrective action determined by the Department to be appropriate
- Any combination of the above.

NDDOT MONITORING AND ENFORCEMENT MECHANISMS

The Department will bring any false, fraudulent, or dishonest conduct in connection with the DBE program to the attention of USDOT. USDOT may pursue action as provided in 49 CFR § 26.107. Actions include referral to the Department of Justice for criminal prosecution or referral to the USDOT Office of Inspector General for action under suspension and debarment, or Program Fraud and Civil Remedies rules. The Department will also consider similar action under its own legal authority, including responsibility determination in future contracts.

COMMERCIALLY USEFUL FUNCTION

DBEs are required to perform a commercially useful function (CUF). CUF refers to those services the DBE is certified to perform. Certified services for each DBE are listed in the online DBE Directory. It is a DBE's responsibility to immediately notify the prime contractor in writing if the DBE is unable to perform a CUF or the services indicated on Form C.

The contractor must certify that DBEs working on the prime's contract are performing a commercially useful function. Submit SFN 60597, DBE Performance – Commercially Useful Function Certification to the project engineer with SFN 5682, Prime Contractor's Request to Sublet. Project engineers will not approve the Requests to Sublet without the CUF Certification. A review of the certification must be performed by the project engineer to determine whether the contract dollar value of the DBE's work may be counted toward the project goal.

The Department counts participation to a DBE contractor toward DBE goals only if the DBE is performing a CUF on that contract.

- A. A DBE performs a CUF when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a CUF, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, installation and paying for the material itself. 49 CFR § 26.55(c)(1)
- B. A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. 49 CFR § 26.55(c)(2)
- C. If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, the Department must presume that it is not performing a CUF. 49 CFR § 26.55(c)(3)
- D. When a DBE is presumed not to be performing a CUF as provided in paragraph C (above), the DBE may present evidence to rebut this presumption. 49 CFR § 26.55(c)(4)
- E. The Department's decisions on CUF matters are subject to review by Federal Highway Administration, but are not administratively appealable to USDOT. 49 CFR § 26.55(c)(5)

COUNTING RACE/GENDER CONSCIOUS DBE PARTICIPATION - 49 CFR § 26.55

The Department does not count the participation of a DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE. 49 CFR § 26.55 (h)

The Department will count DBE participation toward our overall annual goal as provided in 49 CFR § 26.55 as noted below.

1. The Department will use the following factors in counting DBE trucking participation.
 - A. For purposes of this section, a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE. 49 § 26.55(d)(7)
 - B. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract. 49 CFR § 26.55(d)(1)
 - C. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract and receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs. 49 CFR § 26.55(d)(2-3)
 - D. The DBE may lease trucks and drivers from another DBE firm and receives credit for the total value of the transportation services the lessee DBE provides. 49 CFR § 26.55(d)(4)
 - E. The DBE may also lease trucks with drivers and is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the services under items 1C and 1D. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement. 49 CFR § 26.55(d)(5)

Example to 1D: DBE Firm X uses two of its own trucks on a contract. It leases two trucks with drivers from DBE Firm Y and six trucks **with drivers** from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. DBE credit could be awarded only for the fees or commissions pertaining to the remaining trucks Firm X receives as a result of the lease with Firm Z.
 - F. The DBE may lease trucks without drivers from a non-DBE truck leasing company and if the DBE uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.

Example to paragraph 1F: DBE Firm X uses two of its own trucks and drivers on a contract. It leases two additional trucks and drivers from non-DBE Firm Z. Firm X uses its own employees to drive the trucks leased from Firm Z. DBE credit would be awarded for the total value of the transportation services provided by all four trucks. 49 § 26.55(d)(6)
2. Only the value of the work actually performed by the DBE counts toward the project goal when a DBE participates in a contract provided the DBE is certified in this work.
 - A. The Department counts the entire amount of that portion of a construction contract, or other contract not covered by item 2. B, that is performed by the DBE's own forces. Included are the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate). 49 CFR § 26.55 (a)(1)
 - B. The Department counts the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service for which they are certified, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, toward DBE goals, if the Department determines the fee to be reasonable and not excessive. 49 CFR § 26.55 (a)(2)
 - C. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is also a DBE. 49 CFR § 26.55 (a)(3)
3. The Department counts expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:
 - A. If the materials or supplies are obtained from a DBE manufacturer, count 100% of the cost of the materials or supplies toward DBE goals. 49 CFR § 26.55 (e)(1)(i)
 - B. If the materials or supplies are purchased from a DBE regular dealer, count 60 percent of the

cost of the materials or supplies toward DBE goals. 49 CFR § 26.55 (e)(2)(i)

- C. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of 3B (above) 49 CFR § 26.55 (e) (2) (ii) (C)
 - D. With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, if the Department determines the fees to be reasonable and not excessive. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however. 49 CFR § 26.55 (e) (3)
 - E. The Department determines the amount of credit awarded to a firm for the provisions of materials and supplies (e.g., whether a firm is acting as a regular dealer or a transaction expeditor) on a contract-by-contract basis. 49 CFR § 26.55 (e)(4)
- 4. If a firm is not currently certified in ND at the time of the execution of the contract, the Department does not count the firm's participation toward any DBE goal. 49 CFR § 26.55 (f)
 - 5. The Department does not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward the Department's overall annual goal. 49 CFR § 26.55 (g)

DEFINITIONS

The definitions specified below apply only to this Special Provision and may contain differences from NDDOT Standard Specifications.

Achievement means any DBE certified service dollar amount committed to at the time of award. Any achievement must be supported by a request to sublet and Monthly DBE Payment Records for each DBE.

Aggregate providers are considered subcontractors rather than regular dealers/suppliers, regardless of the amount of their quote.

Apparent low bidder (ALB) means the bidder whose bid is read as low bid at the bid opening.

Bid differential means written documentation provided by the low bidder comparing a Non-DBE quote to a DBE quote.

Bid Opening Sign-In System means the Department's online system to which all prime contractors and subcontractors must register to indicate their interest in quoting or bidding prior to each bid opening.

Bidder/prime contractor means bidders who are submitting proposals on this project, regardless of the size of the highway construction projects; a contractor intending to serve as the prime contractor.

Blanket quote means when a business provides the same quote, for all projects, at a bid opening, using the same price, at one rate, not project specific. Blanket quotes for the construction season are not allowed, i.e. trucking, striping, signing, construction supplies, etc.

Commercially Useful Function describes a DBE's responsibilities and involvement in a project, see section Commercially Useful Function of this SP.

Commitment means the dollar amount of work the DBE will complete according to the bidder's submitted proposal.

Contractor means all DBE and Non-DBE firms, including prime contractors, subcontractors (under/over \$500,000), brokers, vendors, regular dealers/suppliers, and manufacturers at any tier.

DBE Goal means a percentage of the total contract targeted for the hiring of DBE subcontractors to do specific bid items for which the DBE has been certified to perform. Project goals are set by assessing the project's bid items, location, whether DBEs are available to do the work.

DBE Participation means the percentage achieved when the dollar amount committed to the DBE is divided by the dollar amount of all contract items.

DBE Participation Review summarizes the prime's participation at the time of award. A replacement approval request must be submitted to substitute a firm for any DBEs reported as being used at the time of award.

Department means the project owner regardless of whether the owner is NDDOT, a city or a county project.

Disadvantaged business enterprise or DBE means a for-profit small business concern that is certified by the Department and listed in the DBE Directory available on the Department's web site. DBEs must first be certified in the work intended before any DBE achievement may be counted toward the project goal.

Equipment supplier is a firm which provides equipment for sale or lease, without operators, and whose primary business function is equipment sales or leasing.

Good Faith Efforts (GFE) means efforts made by the prime contractor to achieve a DBE goal. This includes but is not limited to providing assistance to DBEs in preparing their quotes, advertise, sign in, etc.

Manufacturer means a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications. 49 CFR § 26.55 (e) (1) (ii)

Materials means aggregate, steel, petroleum products, concrete, asphalt, and other construction supplies.

NAICS Codes means industry codes assigned by North American Industry Classification System. When certified, DBE businesses are assigned NAICS codes which are identified in the DBE Directory.

NDDOT Civil Rights Certification & Compliance System (CRCCS) refers to the online compliance reporting system whereby contractors report/submit job related payments, commitments, and Utilization Plan documentation.

Non-DBE means a contractor, subcontractor, supplier (broker or regular dealer), vendor, or manufacturer that has not been certified as a DBE by the NDDOT Uniform Certification Program.

Non-DBE used in bid differential (Non-DBE/BD) means a Non-DBE which, at the time of award, was approved for use due to a price comparison with a DBE. A Form C with the Non-DBE/BD must be included in the DBE Good Faith Efforts Review documentation. A replacement approval request must be submitted when the Non-DBE/BD is unable to complete the work.

Positive Contact means active and documented solicitation of DBE and other subcontractors. Advertising the prime's intention to bid or contacting individual DBEs is deemed a positive contact.

Project owner means any political subdivision such as a city or county which provides match to federal highway funds and uses NDDOT's electronic bidding system to let their projects to bid. The Department "owns" state projects.

Quoter means a DBE or a Non-DBE subcontractor (under/over \$500,000), brokers, vendors, regular dealers/suppliers, and manufacturers at any tier who submits quotes to another contractor.

Race/Gender Conscious (RGC) goals are those focused specifically on assisting DBEs. The RGC portion of NDDOT's 2016 overall 6.22 percent DBE goal is 2.75 percent.

Responsible Bid Proposal means a bidder's proposal in which the project goal has been achieved, or the bidder demonstrates Good Faith Efforts (GFE) as outlined in this Special Provision.

Subcontractor means any firm intending to perform work, or intending to perform work and supply the materials, which were intended for their work on the project. All subcontractors must attach a list of DBE subcontractors intended for use to their quote when submitting it to the prime contractor.

Subcontractor quoting over \$500,000 means a subcontractor whose quote is over \$500,000 on any project and who is not a supplier, broker, vendor, regular dealer, or manufacturer. All aggregate providers are considered subcontractors, regardless of the amount of their quote.

Supplier means a party providing goods, services, and supplies on the project.

Broker means an agent who, without having custody of the property, a) negotiates contracts of purchase, work, lease, or sale; b) buys and sells goods; or c) negotiates between buyers and sellers. See Counting DBE Participation section.

Regular Dealer means a DBE firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. See Counting DBE Participation section.

Tier means various levels of contractors on the job. For example a prime contractor's subcontractor (B) is referred to as the second tier. When B subcontracts with C, C becomes the third tier, etc.

Tied quote means the quote will be considered only if all of the bid items are included.

Untied quote means that any item or group of items quoted may be used for price noted on the quote whether one or all are used.

Utilization Plan (UP) is completed and submitted electronically by the prime to identify DBE and non-DBE

subcontractors and lists DBE participation on a given project. (Example below) – User Manual is available as a resource from a link on the first page of the UP.

Generated by Test Vendor 2, NDDOT Test Vendor 2 on 8/17/2016

Utilization Plan: Submit Plan

[Help & Tools](#)

This Utilization Plan is ready to be completed and submitted. Complete steps 1, 2, and 3 (if applicable) before you sign and submit. Follow the instructions for each step. **Firms that do not perform commercially useful functions may not be counted toward DBE utilization**

This is a practice Utilization Plan. You can enter data, subcontractors or other suppliers without messing anything up. I just wanted to be sure that if we had the contact information correct prior to setting up the plan, we could get the UP to the correct person in a timely manner.

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[User Manual](#) [Refresh](#)

Utilization Plan Summary

Organization	North Dakota Department of Transportation
Proposal	11111: Practice Proposal & Utilization Plan
Reference	11111
Phase	Original, version 0
Status	Pending Submission
Notification Date	8/17/2016 by Denise Spanjer
Due Date	8/17/2016 5:00 pm US/Central

Step 1: Provide Utilization Plan Information

Use this section to provide information on the plan. Click the button to **Fill in Utilization Plan Details**.

Utilization Plan Information

Estimated Bid/Transaction Amount **\$2,000,000**

[Fill In Utilization Plan Details](#)

Step 2: Provide Subcontractor Information

Use this section to add subcontractors to the Utilization Plan, if applicable. Click the **Add Subcontractor** button to get started. **Firms that do not perform commercially useful functions may not be counted toward DBE utilization.**

Certification Types Recognized for this Utilization Plan

Firms selected for credit on this utilization plan must hold one of the recognized certification types listed in this box.

Organization	Certification Type
North Dakota Department of Transportation	DBE - Disadvantaged Business Enterprise

Prime Contractor

Vendor Name	Cert	Inc in Goal	\$ Total	\$ Self Perf	\$ For Credit	Actions
NDDOT Test Vendor 2	No	No	\$2,000,000	\$2,000,000 100.00%	-	Edit View

[Add Subcontractor](#)

Instructions for submitting forms:

SFN 52750 – FORM A – DBE PARTICIPATION

The original Form A is submitted as part of the bidder's electronic bid proposal. Apparent low bidders must submit a revised Form A ([SFN 52750](#)) before the deadline if:

- Additional DBE Participation is achieved after the time of bid,
- Electronic Form A was incorrectly completed, or
- By request of the Department.

All subcontractors over \$500,000 must submit Form A (SFN 52750) with their quotes to bidders and to NDDOT. Bidders should account for any intended use of DBEs by their subcontractors in order to more accurately reflect their DBE participation.

Download SFN 52750 from the NDDOT Website at: <http://www.dot.nd.gov/forms/sfn52750.pdf>

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (RGC)

North Dakota Department of Transportation, Civil Rights
SFN 52750 (10-2016)

FORM A

Contractor		Revision Date
Project Number		Telephone Number
		Bid Opening Date

to subquotes@nd.gov or upload this form to the project's Utilization Plan via the Civil Rights Certification & Compliance form (<https://dot.nd.gov/civilrights/crc>) 7 calendar days before the bid opening date.

Revised Form A reports additions to the bidder's original Form A submitted electronically at the time of the project. Additions are listed to be performed by a contractor or to be completed by a subcontractor. The contractor must be approved by the Civil Rights Office before work. New subcontractors must be approved by the Civil Rights Office before work.

PRINT ALL NUMBERS CLEARLY AND LEGIBLY.

List all DBE firms who quoted your firm on this project in Section 1, Section 2, and/or Section 3.

Section 1

List DBE firms to be used on the project.

1. List DBEs to be used by the bidder toward the project's goal.
2. List the DBEs to be used by subcontractors toward the project goal. Include the subcontractor's Form A listing the DBEs to be used by the subcontractor.
3. List the bid item numbers to be performed by DBEs and the total dollar value of the contract.
Note whether the DBE firm is to perform a partial item (supply, haul, place, etc.) and state the reason(s) the DBE is not being used for the entire item.
State name of the contractor who will perform the remaining portion.
4. DBE bidders: List the work to be performed with "own forces and equipment".
Separately list any work to be subcontracted to DBEs and any materials to be purchased from DBEs.

DBE Firm	
List Specific Bid Item Numbers or Products to be Supplied	Total Contract Dollar Value
X 1.	
Percent DBE will do with own equipment/forces =	
Percent Non-DBE trucker will perform =	If Regular Dealer, X 60% =
ADD FIRM	

Section 2:

List DBE firms not used because the bidder will self-perform or procure specific bid item numbers.

DBE Firms not used; Bidder Self-Performing	Bid item numbers or products to be supplied by the bidder
X 1.	
ADD FIRM	

Section 3:

List DBE firms not used due to bid differential and indicate which firm will be performing the work instead.

DBE Firms not used; Bidder Differential	Firms to be used instead of DBE
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SFN 52013 – FORM B OR QUOTE COPIES

All bidders must submit one of the following:

- Copies of all quotes from all tiers of subcontracting or,
- SFN 52013, [Form B - List of Businesses Submitting Quotes](#) with a list of all businesses that submitted quotes from all tiers of subcontracting. When submitting Form B, copies of all quotes must be retained, by each bidder, until the job is awarded.

Bidders must indicate which subcontractor(s), suppliers, regular dealers, vendors, manufacturers, and brokers will be used on the job.

Download SFN 52013 from the NDDOT Website at: <http://www.dot.nd.gov/forms/sfn52013.pdf>

LIST OF BUSINESSES THAT SUBMITTED QUOTES (RGN & RGC)
North Dakota Department of Transportation, Civil Rights
13 (8-2016)

Example

Contractor	Address	Telephone Number
PCN	Project Number	Bid Opening Date

All bidders must upload one of the following to the project's Utilization Plan via the Civil Rights Certification & Compliance System (<https://dot.nd.gov/diversity/compliance>):

1. Copies of all quotes received from all tiers of subcontracting on the project.
2. Form B, SFN 52013: List all firms that submitted quotes from all tiers of subcontracting.
Use the check box to indicate which subcontractor will be used on the job. When submitting Form B, copies of all DBE and non-DBE quotes must be retained until the project is awarded.

<input type="checkbox"/>	Business	Contact Person	Telephone Number
X	Mailing or Email Address	Type of Work	

ADD FIRM

SFN 52160 – INTENT TO USE

Submit one Form C - [Notification of Intent to Use](#) for each DBE or Non-DBE/BD to be used, through the Civil Rights Certification & Compliance System Utilization Plan.

The contractor and DBE and/or Non-DBE/BD must each sign the form; faxed or photocopied signatures are acceptable.

The apparent low bidder and their direct DBEs or their subcontractor(s) and the subcontractor(s) DBEs must submit signed copies of Form C (SFN 52160) before credit will be given toward DBE participation.

Download SFN 52160 from the NDDOT Website at: <http://www.dot.nd.gov/forms/sfn52160.pdf>

NOTIFICATION OF INTENT TO USE (RGN & RGC)

North Dakota Department of Transportation, Civil Rights
SFN 52160 (11-2016)

- FOR C - DBE BY 7 CASES AFTER THE END OF BIDDING**
1. The apparent low bidder submit an original Form C for each DBE and non-DBE/BD to be used on the project to cs@nd.gov or (701)328-3435.
 2. The contractor and DBE and/or non-DBE/BD must sign the form; faxed or photocopied signatures are acceptable. This form C applies to all tiers of subcontractors for DBE achievement credit to be given.
 3. If Form C contains additional pages or attachments, both parties must sign each page or attachment.
 4. Explain any difference between the information on Form A and Form C in the comments section below.

This form is not a contract and does not take the place of any contract. This form indicates to the NDDOT that all DBEs identified on Form A will be used on the project.

Prime Contractor or Subcontractor				Project Number		
Intended DBE/ Non-DBE				Bid Opening Date		Job Number
	Spec & Code #	Work Description	(DBE) Percent of work to be done with own forces	Approx. Quantity	Unit Costs	Amount
X						
ADD EXPENSE						
						Total: \$0.00

Are there any agreements not addressed in your quote? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, explain:
Comments: Use this space to explain any differences between the amounts, units, work descriptions, spec/code items, quantities, and totals between those indicated on Form A as submitted with the bid proposal and this Form C.	

Prime Contractor/Subcontractor Signature	Title	Date
Intended DBE/Non-DBE Signature	Title	Date

SFN 60829 – Contractor Good Faith Efforts Documentation

Complete pages 1 and 2 of SFN60829, gather supporting documentation as instructed starting on page 2 of this DBE SP, and complete and submit this form with the DBE Participation Plan to demonstrate your Good Faith Efforts by 4 p.m. Central Time 5 CALENDAR days after the bid opening.

Download SFN 60289 from the NDDOT Website at: <http://www.dot.nd.gov/forms/sfn60289.pdf>

CONTRACTOR GOOD FAITH EFFORTS DOCUMENTATION

North Dakota Department of Transportation, Civil Rights
SFN 60829 (10-2016)

Submit this form and the required attachments to document the contractor's good faith efforts to meet the project goal. Attach supporting documentation to provide evidence of good faith efforts. The contractor is responsible for providing the documentation. Submit the completed form and attachments to Subquotes@nd.gov by fax (701)328-4343 or by email (701)328-4343 by 4 p.m. Central Time 5 CALENDAR days after the bid opening.

PART A - PRIME CONTRACTOR INFORMATION

Address		City	State	ZIP Code
Telephone Number	FAX Number		Email Address	
Contact Person		Title		

PART B - PROJECT DESCRIPTION

Date	Job Number	PCN	Project Number
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PART C - CONTRACTOR PARTICIPATION ACHIEVEMENT DATA

Project DBE Goal Percent	Total DBE PARTICIPATION DOLLARS required to meet DBE GOAL (Total prime Bid dollar amount X DBE % Goal)
Contractor's DBE Participation Percent	

PART D - PROJECT SUMMARY AMOUNTS

1. Total Prime Bid	
2. Total Dollars Committed to DBEs - include all tiers (From Part E line 13)	0
3. Total Dollars Committed to Non-DBEs (From Part F line 24)	0
4. Total DBE Supplier Dollars not Counted but Committed (Total committed to DBE suppliers X 40% - include all tiers)	
5. Work to be Performed by Prime (Add Part D lines 2, 3, and 4 subtract from Part D line 1)	0
6. Percent of Work Performed by Prime (Divide Part D line 5 by Part D line 1)	
7. Total DBE Participation (Add Part D lines 2 and 4)	\$0.00

PART E - DBE COMMITMENTS Attach additional sheet if necessary.

	COMMITTED DOLLARS	DBEs WITH A COMPLETED FORM C to be used on the project	SPEC/CODES QUOTED
8.			
9.			
10.			
11.			
12.			
13.	\$0.00	Total Dollars committed to DBEs	

1. Use a cover letter to describe, in detail, all relevant issues which your firm wants NDDOT to consider in determining whether to award. Yes/No answers do not address Good Faith Efforts in the appropriate detail required by NDDOT to determine a bidder's GFE. If the letter does not detail a bidder's actions (as listed in the DBE RGC Special Provision and described below), the DBE Participation Review Committee may determine that the bidder has not made sufficient efforts toward meeting the project goal.
2. Explain the efforts your firm made in attempting to meet the project DBE goal prior to the bid opening.
 - a. Which lower tier subcontractor(s) and what types of work did your firm ask to obtain DBE participation as a lower tier subcontractor? Describe the outcome of these efforts.
 - b. Which DBE firms and types of work to meet the project goal did your firm identify using the DBE Directory located at: <https://dot.nd.diversitycompliance.com/>?
 - c. Which other areas of the project plans did your firm review to determine whether DBE participation was available on the project?
3. Provide a copy of any email or fax used to solicit additional participation after the time of bid. Explain how your firm identified additional work that could be subcontracted to a DBE firm.
 - a. Include the following information; another format may be used provided all information requested is included.

DBE Firm Contacted	Person Contacted	Date & Time Contacted	Fax, Phone, or Email	Specific Responses, Number of Contacts

- If a **non-DBE was selected over a DBE**, provide the quotes compared, a detailed comparison between the specific spec/code items quoted by the non-DBE and the DBE, the specific reasons for your selection, and a Form C with each firm selected.
- If the **prime contractor intends to self-perform the work quoted by a DBE**, provide a detailed comparison between the prime's costs for the specific spec/code items quoted by the DBE along with an explanation of the method of valuation of the prime's costs.
- Another format may be used provided all information requested is included.

Spec No.	Description	Quantity	Unit	DBE XYZ Contracting	Non-DBE ABC	Price	Self Performance	General Construction	Percentage	Dollar Difference
202	1019 REMOVAL OF CONCRETE	LF	54							
202	0119 SAW CONCRETE	LF	54							
203	0101 COMMON EXCAVATION-TYPE A	CY	107,262							
203	0108 TOPSOIL-BORROW AREA	CY	31,269							
203	0109 TOPSOIL	CY	83,126							
TOTALS										

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
EEO AFFIRMATIVE ACTION REQUIREMENTS**

March 15, 2014

Bidders shall become familiar with the following requirements and be prepared to comply in good faith with all of them:

APPENDIX A

Notice or Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:
 - a. Goals for Female Participation in Each Trade – Statewide6.9%
 - b. Goals for Minority Participation in Each Trade by County:
Barnes, Cass, Dickey, Eddy, Foster, Griggs, LaMoure, Logan,
McIntosh, Ransom, Richland, Sargent, Steele, Stutsman, Traill0.7%

Grand Forks1.2%

Benson, Cavalier, Nelson, Pembina, Ramsey, Towner, Walsh2.0%

Burleigh, Morton0.4%

Adams, Billings, Bowman, Dunn, Emmons, Golden Valley, Grant,
Hettinger, Kidder, Mercer, Oliver, Sheridan, Sioux, Slope, Stark, Wells . . .1.3%

Bottineau, Burke, Divide, McHenry, McKenzie, McLean, Mountrail,
Pierce, Renville, Rolette, Ward, Williams4.4%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR 60-4 shall be based on its implementation of the Equal Opportunity Clause specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a)

and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall notify the Office of Federal Contract Compliance Programs, in writing, within ten working days of award of any subcontract in excess of \$10,000. The notification shall include the name, address, and telephone number of the subcontractor and their employer identification number; dollar amount of the contract, estimated starting and completion dates of the contract; the contract number; and geographical area in which the contract is to be performed.

Notification should be sent to

U.S. Department of Labor/ESA
OFCCP
Denver District Office
1244 Speer Boulevard
Denver, Colorado 80202
Phone: 720-264-3200
Fax: 720-264-3211

4. As used in this "Notice" and in the contract for this project, the "covered area" is the State of North Dakota.

APPENDIX B

Standard Federal Equal Employment Opportunity Construction Contract Specifications
(Executive Order 11246)

1. As used in these specifications
 - a. "Covered area" means the geographical area described in the proposal from which this contract resulted.
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:

- (1) Black (all persons having origins in any of the Black African racial groups, not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation of community identification)
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the proposal from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 12466, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted

in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor. (Training programs approved by the North Dakota Department of Transportation are recognized by the U.S. Department of Labor.)

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all Foremen, Superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources; provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to

the sources compiled under 7b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the Company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing it with the Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minorities and women, and where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring

- all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and Company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractors and Suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all Supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligation
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p) The efforts of a Contractor association, joint Contractor- union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. Goals for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minorities, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any subcontract with any person or firm d - barred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termin -

tion, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60 4.8.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the Company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form, however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
APPENDIX A OF THE TITLE VI ASSURANCES**

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the Contractor) agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Recipient or the Federal Highway Administration as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a. withholding payments to the Contractor under the contract until the Contractor complies; and/or
- b. cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
APPENDIX E OF THE TITLE VI ASSURANCES**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the Contractor) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

CARGO PREFERENCE ACT (CPA)

DESCRIPTION

The Federal Highway Administration (FHWA) in partnership with the Federal Maritime Administration (MARAD) has mandated the implementation of 46 CFR 381 making the cargo preference requirements applicable to the Federal Aid Highway Program.

The requirements of this Special Provision apply to items transported by ocean vessel.

CONTRACT REQUIREMENTS

A. General

Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. Gross tonnage is computed separately for dry bulk carriers, dry cargo liners, and tankers.

Furnish a legible, English language copy of a rated 'on-board' commercial ocean bill-of-lading for each shipment of cargo described in the previous paragraph. Furnish the bill-of-lading within 20 days following the date of loading for shipments originating in the United States and within 30 working days following the date of loading from shipments originating outside the United States.

Furnish bills-of-lading to the Engineer and to the following:

Division of National Cargo
Office of Market Development
Maritime Administration
Washington, DC 20590

B. Subcontracts

Include the language in Section "A, General" of this Special Provision in all subcontracts issued pursuant to this contract.

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**CONTRACT SPECIAL PROVISION
MANDATORY USE OF
AUTOMATED CERTIFIED
PAYROLL**

All contractors on NDDOT federal-aid projects, including city/county projects, must file weekly Certified Payrolls, as required under Davis-Bacon and Related Acts (DBRA). **The NDDOT requires the use of LCPtracker, a paperless online system for entering and filing these certified payrolls. Certified payrolls in paper form will no longer be accepted, and all contractors must file their payroll electronically.**

After award, the Prime Contractor (Prime) must:

1. Designate an individual as Prime Approver for the project. The Prime Approver will oversee DBRA payroll for all subcontractors of all tiers on the project. A contractor may inform the NDDOT Civil Rights Division (CRD) that the same individual will be Prime Approver on all projects. CRD will set up the Prime Approver Account for the project. Thereafter, the Prime Approver will have the responsibility to use the Account to approve all payroll on the project. Until payroll is approved by the Prime Approver, it cannot be viewed by the NDDOT and it is not deemed submitted to the NDDOT.
2. The prime contractor has the responsibility to assign subcontractors within the LCPtracker system to the project and to ensure that all subcontractors are aware of the necessity to file payrolls electronically and are set up within the system. Any subcontractor not on Approved Subcontractor List or the Qualified Contractor List must register and be placed on one of these lists before entry of the subcontractor into LCPtracker. These lists may be found at <https://www.dot.nd.gov/pacer/qualified.htm> and <https://www.dot.nd.gov/pacer/registered.htm>. Only Prime Approvers or the CRD may enter subcontractors into LCPtracker.
3. The prime contractor has the responsibility to see that all required payrolls are filed by subcontractors of all tiers. If payroll is rejected or project staff otherwise requests a correction of payroll by any subcontractor on the project, the prime contractor has a responsibility to see that corrected payroll is submitted.
4. For further information on certified payroll, go to the NDDOT Labor Compliance/LCPtracker page at <https://www.dot.nd.gov/divisions/civilrights/laborcompliance.htm>. On this page, contractors will find a Getting Started on LCPtracker Guide and a Prime Approver Guide. Recorded trainings are also available on this page for both contractors and prime approvers. Contractors can obtain an LCPtracker user name and password by calling the NDDOT Civil Rights Division at (701) 328-2605 or (701) 328-2576.

09/06/2017

CONTRACT SPECIAL PROVISION
MANDATORY USE OF ONLINE
DBE PROJECT PAYMENT REPORTING

Payments made to all tiers of subcontractors must be reported electronically using the B2GNow system. Paper forms (Monthly Record of DBE Project Payments – SFN 60638) will no longer be accepted.

After award, the Prime Contractor (Prime) must:

1. Create a new account if not already in the system. Create a user for each employee who will use the system. If there is no account already set up, you can email Customer Support directly from the Account Lookup page. Your email address will be your user ID. Customer Support will email you with the information you need to log in.
2. Once the project has been awarded and the Utilization Plan (UP) has been created in the system and assigned to the contractor it must be filled out and submitted. An automated email message will be sent to a designated individual within the company alerting them that a UP is pending. Log into the system using the link provided in the email. For each contract the Prime must add all DBE and non-DBE subs being used on the project. When all information has been provided submit the UP. Civil Rights will review the UP and if everything is in order it will be approved. If changes need to be made the UP will be returned to the contractor and they will have 7 days to make the necessary adjustments and resubmit. If DBE or non-DBE subcontractors are added after the initial UP is set up the Prime can submit a request for them to be added.
3. Once the UP is submitted the project is “locked in” after Financial Management has processed the project in their system. After a UP is locked in payments from NDDOT to the Prime are reported through the system. The Prime must start reporting DBE and non-DBE subcontractor payments through the system in accordance with prompt pay guidelines outlined in the contract.
4. A user manual for UP’s and recording project payments is available to the contractors within the system. After login they can go to View>>My Utilization Plans and they will find the guide on the top of the Utilization Plan screen. They do not have to have a current UP assigned to them to see this guide. The guide is also on the actual UP page when a UP is assigned to them.
5. For further information on the Certification and Compliance System, go to the NDDOT Civil Rights page at <https://www.dot.nd.gov/divisions/civilrights/civilrights.htm>. There is various training available on a regular basis, to sign up for training go to the main Certification and Compliance System page and click the “Training and Events” box. Contractors that need to obtain an account or need subcontractors set up within the system should call the NDDOT Civil Rights Division at (701) 328-3116 or email civilrights@nd.gov

10/3/2017

LABOR RATES FROM U.S. DEPARTMENT OF LABOR

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NDDOT's *Davis-Bacon Wage and Payroll Requirements Handbook* is available at:
www.dot.nd.gov/manuals/civilrights/davisbacon.pdf

U.S. DEPARTMENT OF LABOR

STATE NORTH DAKOTA	COUNTY STATEWIDE	DECISION NO. ND170002	PAGE 1
		DATE OF DECISION 1-6-17	

Revised 1-13-17 (Mod. No. 1)
 Revised 7-7-17 (Mod. No. 2)
 Revised 9-15-17 (Mod. No. 3)
 Revised 10-6-17 (Mod. No. 4)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr	Others
CARPENTERS	\$27.40	\$ 6.70			
CEMENT MASONS/FINISHERS	27.40	6.70			
LINE CONSTRUCTION:					
Lineman	41.50	5.50 + 29%			
Cable Splicer	41.50	5.50 + 29%			
Line Equipment Operator	35.50	5.50 + 29%			
Groundman	23.67	5.50 + 19%			
ELECTRICIANS:					
Electrician	40.51	9.10 + 10.5%			
Cable Splicer	40.91	9.10 + 10.5%			
(Adams, Billings, Bottineau, Bowman, Burke, Burleigh, Divide, Dunn, Emmons, Golden Valley, Grant, Hettinger, McHenry, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Pierce, Renville, Rolette, Sheridan, Sioux, Slope, Stark, Ward, and Williams Counties)					
Electrician	30.13	12.36			
Cable Splicer	28.30	11.26			
(Barnes, Benson, Cavalier, Dickey, Eddy, Foster, Grand Forks, Griggs, Kidder, La-Moure, Logan, McIntosh, Nelson, Pembina, Ramsey, Ransom, Richland, Sargent, Steele, Stutsman, Towner, Traill, Walsh, and Wells Counties)					
Electrician (Cass County)	14.72	3.40			
WELDERS:					
Receive rate prescribed for craft performing operation to which welding is incidental					
LABORERS:					
Group 1					
Drill Runner Tender; Flaggers and Pilot Car Drivers; General Construction Laborer; Light Truck and Pickup Driver; Pipe Handler; Sack Shaker (cement and mineral filler); Salamander Heater and Blower Tender	19.70	2.50			

LABOR RATES

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Revised 1-13-17 (Mod. No. 1)

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Nd170002

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	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
LABORERS: (CONT.)					
Group 2 Bituminous Worker (Shoveler, Dumper, Raker, and Floater); Brick and Mason Tender; Bulk Cement Handler; Carpenter Tender; Chain Saw Operator; Chipping Hammer, Grinders, and Paving Brakers (tamper-dirt); Concrete Bucket Signalman; Concrete Curing Man (not water); Concrete Saw Operator; Concrete Vibrator Operator; Conduit Layer, telephone or electrical; Culvert Pipe Layer; Form Setter (pavement); Gas, Electric, or Pneumatic Tool Operator; Kettleman (bitum. or lead); Multiplate Pipe Layer; Power Buggy Operator; Semi Skilled Laborer	\$19.95	\$ 2.50			
Group 3 Bottom Man (sanitary sewer, storm sewer, water, and gas lines); Caisson Worker; Concrete Mixer Operator (one bag capacity); Mortar Mixer	20.10	2.50			
Group 4 Drill Runner (includes Wagon Churn or Air Track); Pipe Layers (sanitary sewer, storm sewer, water, and gas lines); Powderman, gunite and sandblast; Nozzleman; Reinforcing Steel Setters/Tiers; Concrete Finisher Tender	20.85	2.50			
POWER EQUIPMENT OPERATORS:					
Group 1 All Cranes, 60 tons and over; Cranes doing piling, sheeting, dragline/clam work; Derrick (Guy and Stiff); Gentry Crane Operator; Helicopter Operator; Mole Operator or Tunnel Mucking Machine; Power Shovel, 3-1/2 cy and over; Traveling Tower Crane	28.60	16.15			
Group 2 All Cranes, 21 tons and up to 59 tons; Backhoe Operator, 3 cy and over; Creter Crane; Dredge Operator, 12" and over; Equipment Dispatcher; Equipment Foreman, Finish Dozer, Finish Motor Grader; Front End Loader Operator, 8 cy and over; Master Mechanic (when super-vising 5 or more Mechanics); Mon-O-Rail Hoist Operator; Power Shovel, up to and including 3-1/2 cy; Tugboat	27.70	16.15			

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POWER EQUIP. OPERATORS: (CONT.)

All Cranes, 20 tons and under; Asphalt Paving Machine Operator; Asphalt Plant Operator; Automated Grade Trimmer; Backhoe Operator, 1 cy up to and including 2-1/2 cy; Boom Truck, Hydraulic, 8 tons and over; Cableway Operator; Concrete Batch Plant Operator (electronic or manual); Concrete Mixer Paving Machine Operator; Concrete Paver, Bridge Decks; Concrete Pump; Concrete Spreader Operator and Belt Placer; Crushing Plant Operator; Dozer Operator; Dredge Operator or Engineer, 11" and under; Drill Rigs, Heavy Duty Rotary or Churn or Cable Drill; Front End Loader Operator, 3-1/2 cy up to and including 7-1/2 cy; Gravel Washing and Screening Plant Operator; Locomotive, all types; Mechanic or Welder, Heavy Duty; Motor Grader Operator; Pavement Breaker, Non-Hydro Hammer Type; Pipeline Wrapping, Cleaning, and Bending Machine Operator; Power Actuated Auger and Horizontal Boring Machine Operator, 6" and over; Refrigeration Plant Engineer; Roto Milling Machine (Surface Planer), 43" and over; Scraper Operator; Slip Form Concrete Paving Operator; Tandem Pushed Quad 9 or similar; Tractor with Boom Attachment; Trenching Machine Operator, 100 H.P. and over

Articulated/Off Road Hauler; Asphalt Dump Person; Asphalt Paving Screed Operator; Backhoe, up to and including 1/2 cy; Boring Machine Locator; Con-sole Board Operator; Curb Machine Operator, Distributor Operator (Bituminous); Forklift Operator; Front End Loader, 1-1/2 cy up to and including 3 cy; Grade Person; Gravel Screening Plant Operator (not Crushing or Washing); Greaser; Lazer Screed Operator; longitudinal Float and Spray Operator; Micro Surfacers Machine; Motor Grader Operator (Haul Road); Paving Breaker, Hydro Hammer Type; Pugmill Operator; Push Tractor; Roller, Steel and Rubber on Hot Mix Asphalt Paving; Rotomill Machine (Surface Planer), up to and including 42"; Rumble Strip Machine; Sand and Chip Spreader; Self-Propelled Sheepfoot Packer with or without Blade Attachment; Self-Propelled Traveling Soil Stabilizer; Sheepfoot

LABOR RATES

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POWER EQUIP. OPERATORS: (CONT.)

Group 4 (cont.)

Packer with Dozer Attachment, 100 H.P. and over; Shouldering Machine; Slip Form, Curb and Gutter Operator; Slurry Seal Machine; Tamping Machine Operator; Tie Tamper and Ballast Machine; Trenching Machine Operator, 46 H.P. up to and including 99 H.P.; Truck Mechanic; Tub Grinder; Well Points; Fuel/Lube Operator

\$27.30

\$16.15

Group 5

Boom Truck, A-Frame or Hydraulic, 2 tons up to and including 7 tons; Broom, Self-Propelled; Concrete Saw (power operated); Cure Bridge Operator; Front End Loader Operator, less than 1-1/2 cy; Mobile Cement Mixer; Oiler; Power Actuated Auger and Horizontal Boring Machine Operator, up to and including 5"; Roller (on other than hot mix asphalt paving); Vibrating Packer Operator (Pad Type) (Self-Propelled); Water Spraying Equipment, Self-Propelled; Skidsteer Operator with attachments

26.45

16.15

Group 6

Brakeman or Switchman; Curb Machine Operator (Manual); Dredge or Tugboat Deckhand; Drill Truck Gravel/Testing Operator; Form Trench Digger (Power); Gunite Operator; Gunall; Paint Machine Striping Operator; Pick-up Sweeper, 1 cy and over Hopper Capacity; Scissor Jack (Self-Propelled) Platform Lift; Straw Mulcher and Blower; Stump Chipper Operator; Tractor Pulling Compaction or Acreting Equipment; Trenching Machine Operator, up to and including 45 H.P.; Assistant/Apprentice Operator

25.15

16.15

TRUCK DRIVERS:

Single-Axle Truck

28.02

12.65

Tandem- and Tri-Axle Truck

28.14

12.65

Tandem- and Tri-Axle Semi

28.45

12.65

Lowboy

28.45

12.65

Off Road Heavy Duty End Dumps, 20 Yards and Under

28.45

12.65

Euclid, Over 20 Yards

29.97

12.65

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses [29 CFR, 5.5 (a) (1) (ii)].

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)

2017 ON-THE-JOB TRAINING PROGRAM SPECIAL PROVISION

The bidder's signature on the proposal sheet indicates the bidder agrees to take part in the On-the-Job Training (OJT) Program and to follow the OJT Program Manual and Special Provision. Contractors that fail to do so will be subject to suspension of progress payments or sanctions up to and including revocation of bidding privileges.

OJT is training conducted in a highway construction work environment designed to enable minority, female, and economically disadvantaged individuals to learn a bona fide skill and qualify for a specific occupation through demonstration and practice.

After a training program and trainee candidate have been approved, the contractor begins training its regular employee according to the approved program. The goal of this training is to retain the trainee as a permanent employee. OJT involves individuals at the entry level. Training is designed to help participants reach their fullest potential and become self-sufficient in the job.

I. POLICY STATEMENT

The purpose of the OJT Program is to provide training in the highway construction industry for minority, female, and economically disadvantaged individuals, from this time known as the targeted group. Pursuant to 23 Code of Federal Regulations Part 230, Subpart A, Appendix B - Training Special Provisions, this program provides for on-the-job training aimed at developing journey-level workers in skilled trades.

The Contractor shall take all necessary and reasonable steps to ensure that minorities and women have the opportunity to compete for and participate as trainees or apprentices and to develop as journey-level workers employed in the skilled trades.

Contractors should select a training program(s) based on their company's employment/staffing needs as stated in the OJT Program Manual.

II. INTRODUCTION/PROGRAM BACKGROUND

The OJT Program was originally prepared through the cooperative efforts of the Associated General Contractors of North Dakota (AGC); the Federal Highway Administration (FHWA); the North Dakota Department of Transportation (Department); and, other program stakeholders.

Successful operation of the OJT Program requires contractors to follow uniform and basic training procedures, keep records of trainee progress, and report each trainee's completion or termination.

III. ASSIGNED OJT POSITIONS

A. Trainee positions are assigned contractors based only on federal highway dollars awarded from October 1 to September 30. Trainee assignments are not project specific; that means the contractor may train program participants on any project where training opportunities exist.

The number of trainee positions assigned will be determined by formula based on calculations involving particular project specification numbers on applicable projects. The types of projects NOT applicable in the calculation to assign trainee positions are:

- County-only or state-only funded projects
- Emergency relief, concrete pavement repair (CPR), electrical, rest area, signing, striping projects
- Projects subject to Tribal Employment Rights Ordinances (TERO)
- Projects not let through NDDOT bid openings

- B. Contractors will receive the number of positions assigned and links to resources necessary for completion of program requirements via email.
- C. The number of trainee positions assigned to each contractor will increase proportionately, as shown below, for any applicable federally funded projects awarded to them.

For all federal highway dollars awarded from October 1 to September 30:

6,000,000 to 15,000,000	1	trainee
15,000,001 to 23,000,000	2	trainees
22,000,001 to 31,000,000	3	trainees
31,000,001 and above	4	trainees

A maximum of four (4) trainee positions in a federal fiscal year will be assigned to any prime contractor regardless of dollar amount. Carryover positions from a prior construction season are not included in the four trainee maximum, e.g., a contractor with one carryover and four assigned positions may have a total five trainees.

Failure to follow this OJT Special Provision and the accompanying OJT Program Manual may result in suspension of progress payments or sanctions up to and including revocation of bidding privileges.

IV. FUNDING

The Department will establish an OJT fund annually from which contractors may bill the Department directly for eligible trainee hours. The funds for payment of trainee hours on federal-aid projects will be made available based on 23 USC 504(e) to a maximum of \$100,000. The funds for payment of trainee hours on state-aid only projects will be allocated to a maximum of \$10,000.

V. ONLINE RESOURCES

OJT Program Manual: Includes program requirements, wage rates, and curriculum:
<https://www.dot.nd.gov/divisions/civilrights/docs/ojtprogram.pdf>

SFN 60226 Request for On-the-Job Training Program and Trainee Approval:
<http://www.dot.nd.gov/forms/sfn60226.pdf>

SFN 51023 Voucher for On-the-Job Training Program Hourly Reimbursement:
<http://www.dot.nd.gov/forms/sfn51023.pdf>

Davis-Bacon and Related Acts (DBRA) Handbook: <https://www.dot.nd.gov/manuals/civilrights/davisbacon.pdf>

VI. APPROVALS REQUIRED

- A. Requests for Training Programs and Trainee Approvals must be submitted to Civil Rights Division (CRD). Contractors must request and receive program and trainee candidate approval in order to pay trainees less than the established Davis-Bacon wage for the job classification concerned. No training program hours will count toward the fulfillment of an assigned trainee position or be eligible for reimbursement without prior approval. No retroactive approval will be granted.
 - 1. Submit *SFN 60226 Request for On-the-Job Training Program and Trainee Approval* with each trainee's employment application. <http://www.dot.nd.gov/forms/sfn60226.pdf> and the pre-approved training curriculum for each trainee position assigned by April 1 or within fifteen (15) calendar days of notification of any additional position assignments.
 - 2. Submit *SFN 7857 Application for Eligibility*, Job Service North Dakota (JSND) approval of an economically disadvantaged individual for participation in the OJT Program.

- B. Pre-approved curriculum: NDDOT's OJT Program Manual contains pre-approved training curriculum for a number of skilled trade positions. Contractors should select a training program(s) based on their company's employment/staffing needs.
- C. Customized curriculum: To request a training curriculum not included in the pre-approved curriculum, submit a written request for approval by NDDOT and FHWA.

The request must include:

- A training curriculum, including the classification requested, minimum number of hours required, and type of training the individual will receive to achieve journey-level worker status.
- A minimum wage scale.

If approved, each new classification must comply with the provisions specified in the OJT Program Manual. No hours worked prior to approval will be credited toward completion of the customized training program. Training programs for classifications not covered by the Davis-Bacon and Related Acts (DBRA) will be considered on a limited basis.

The contractor may commence its "customized" training as of the date of the written approval.

- D. Union apprenticeship and on-the-job training programs registered with the Bureau of Apprenticeship and Training (BAT), U.S. Department of Labor, may be used for trainee positions assigned under the OJT Program, provided the trainees or apprentices are minority, female, or economically disadvantaged. Nonminority males not certified as economically disadvantaged may only be used when the contractor has requested and received approval, from the Department, for additional trainee positions. The apprenticeship indenture agreements serve as the trainee's job application and must be provided prior to any hours being credited toward OJT Program completion.
- E. Power Equipment Operators:

The contractor may train an individual on a combination of equipment if each piece of equipment falls within the same groups of power equipment operators identified in the training curricula (groups 1-3 and groups 4-6). These power equipment operator groups are referenced to the federal DBRA wage rates contained in the contract proposal. As an example, a "utility operator" may receive training on a broom, a front-end loader less than 1½ cubic yards, or other piece of equipment that is used around a paver if each piece falls within either groups 1-3 or groups 4-6. When multiple wage rates apply, the trainee's wage will be based on the equipment being operated at the time or on the highest of the applicable wage rates.

Use of the classification "pickup machine operator (asphalt dump-person)" as a group 4 power equipment operator is considered standard industry practice. The classification is defined as: "Operates the controls on the pickup machine that runs in front of the paver, trips the levers on the dump trucks, and balances the loads for the paver. The pickup machine operates on similar principles as a shouldering machine."

- F. Contractors not qualifying for the OJT Program, or contractors desiring to train more than the allotted number of trainees, may apply to the Department for additional trainee positions. Approval of additional positions will be at the sole discretion of the Department. The Department will take into consideration whether there is enough work for the trainee to successfully complete the curriculum and whether the contractor will be exceeding the allowable ratio of trainees to journey-workers (generally considered to be one trainee or apprentice to every three to five journey-workers).

The additional positions may be filled by individuals outside of the targeted groups. The contractor may pay the reduced training rates to additional trainees outside of the targeted groups, but will not receive hourly reimbursement for any individuals who are outside the targeted groups.

VII. NDDOT'S RESPONSIBILITIES

- A. The NDDOT OJT supportive services (OJTSS) consultant will monitor excerpts from the weekly certified payrolls submitted with the monthly vouchers for reimbursement. This includes weekly payrolls from

contractors working on state funded only projects. On contracts where certified payrolls are not required and not available for supporting documentation, contractors may enter trainee wages, hours in training, and the project control number(s) (PCN) in a spreadsheet to support their reimbursement vouchers. In this case, contractors should work with OJTSS to assure that all information required for payment is provided. The OJTSS consultant will assess when the trainees have completed the specified number of hours and their wages are increased accordingly. The OJTSS consultant will also assure that applicable fringe benefits are paid either directly to the trainees or for the trainee into approved plans, funds, or programs.

- B. The OJTSS consultant is charged with visiting trainees and monitoring their progress under the OJT Program. To facilitate the on-site visits, the OJTSS consultant will contact contractors for the location of the trainees weekly.

VIII. CONTRACTOR'S RESPONSIBILITIES

- A. Consistently demonstrate efforts to recruit, hire, and train candidates for the OJT Program.
- B. Assign each trainee to a particular person—either a supervisor or an employee proficient in the skills to be trained—who shall see that the trainee is given timely, instructional experience. This person must be familiar with the OJT Program, keep proper records, and ensure completion of the required training hours in accordance with the training curriculum.
- C. Appoint a company employee who will be available and responsive to weekly contacts by the OJTSS consultant. OJTSS monitors the status of assigned trainee positions (e.g., program and trainee approvals, trainees' progress, etc.). The OJTSS consultant will contact the individual listed on the company's approved SFN 60226 Request for OJT Trainee Approval. This person must reply to communications from the Department and the OJTSS consultant in a timely manner.
- D. Make trainees available to the OJTSS consultant for at least two on-site visits during the construction season.
- E. Make the trainer and project superintendent available to the OJTSS consultant for at least two on-site visits each construction season.
- F. Make trainees aware they are formally enrolled in the OJT program.
- G. Identify trainees on the payroll excerpts, for example: "grp. 4 roller operator trainee." This includes trainees in job classifications not covered by DBRA. Handwritten notes are appropriate for identification.
- H. Notify the Department when a trainee completes the number of hours required to graduate from the OJT Program. The Department will issue the trainee a certificate of completion and a wallet-sized card as proof of the graduate's successful training program completion.
- I. Notify the Department to "propose graduation" or discontinue the training period of a trainee who has completed 90% or more of their hours and thereafter advance the trainee to journey-worker status.
- J. Elect to upgrade proficient trainees from one power equipment operator group or truck driver group to another, with the approval of CRD. Fewer hours are required to complete the upgraded position.

Minimum number of hours required:

Power Equipment Operator Groups 4-6 to Groups 1-3 = 400 hrs.
Class C Truck Driver to Class B = 200 hrs.
Class B Truck Driver to Class A = 200 hrs.

Depending on the variety of experience the trainee has gained under the previous curriculum, the difference in the hours may be deducted from the actual operation of the piece of equipment or truck. The contractor will need to review the trainee's past performance in order to make this determination.

- K. May hire commercial driver's license (CDL) holders as truck driver trainees. Those having over-the-road driving experience, with little or no highway construction experience, may be considered to have completed

the Class C truck driver training curriculum and, therefore, are eligible to be upgraded to a Class B truck driver trainee, with the approval CRD.

- L. May transfer trainees from one project to another in order to complete the OJT Program. If transfers are made, CRD must be notified and provided with the name of the trainer. The training hours will count toward overall OJT Program completion.
- M. May train trainees on municipal, private, out-of-state projects or other non-highway work. These training hours must be paid at the OJT minimum wage scale to count toward their OJT Program completion; however, no program reimbursement will be made for those hours.
- N. May delegate or reassign trainee positions to subcontractors, with the acceptance of the subcontractors and the approval of CRD. The prime contractor must verify that the trainee will be able to accumulate enough hours to complete his or her training program. If approved, the subcontractor must obtain training program and trainee approval from CRD before the trainee begins work under the OJT program. Program reimbursement will be made directly to the prime contractor. The trainee position will remain the responsibility of the prime contractor.
- O. May use trainees on projects subject to TERO requirements as part of the core crew or as part of the skilled labor supplied by the contractor. The training hours will count toward overall OJT Program completion; however, no program reimbursement will be made for those hours unless it is a NDDOT let project.
- P. May not use one trainee to simultaneously fill multiple trainee positions
- Q. May use a trainee on a piece of equipment in groups 1-3 or groups 4-6 for one assigned trainee position, then once that trainee has completed the program, the trainee may be trained on a different piece of equipment in groups 1-3 or groups 4-6 to fulfill a second assigned trainee position. When a trainee is used for a second time within a group, the contractor must pay that trainee at the higher wage rate as described in paragraph B under Wage Rates (page 8).

IX. CLASSROOM TRAINING

- A. Classroom training may be used to train employees. Each classroom training curriculum must be pre-approved by CRD if the contractor wishes to count the classroom hours as training hours and be reimbursed.

Submit a proposed classroom training curriculum to CRD for approval. Define the type of training the individual will receive, classroom training curriculum, and the minimum number of hours required. The Department will determine the number of hours of credit each trainee will receive toward their training. No retroactive approval will be granted.
- B. Contractors will be reimbursed for classroom training hours after the trainee has completed 80 hours of work on highway construction projects.
- C. Reimbursement for classroom training will be limited to 60 hours per trainee per construction season. Reimbursement for classroom training required under the NDDOT Transportation Technician Qualification Program will be at the NDDOT discretion.
- D. The minimum wage scale to be used for classroom training will be that of the first federal-aid highway construction project on which the trainee will be employed. If the trainee is already employed on a federal-aid highway construction project, the trainee will be paid in accordance with the minimum wage scale applicable to that project. However, if the first project on which the trainee will be employed is a state funded only contract, the minimum wage scale to be used for the classroom training will be that of the appropriate DBRA wage in effect at the time of award of the state funded contract.

X. WAGE RATES

- A. When the contractor is submitting the trainee's hours toward training program, wages paid shall in no case

be less than that of those stated in the approved curriculum. A trainee working on a state funded only project, must be paid the DBRA wage rate in effect at the time of award for the type of work the trainee is performing as a trainee.

- B. The minimum wage rates shall not be less than 80% of the journey-worker rate for the first two quarters of training, 85% of the journey-worker rate for the third quarter, and 90% of the journey-worker rate for the fourth quarter.
- Under the power equipment operator training curricula only, once a trainee has completed a training curriculum in either groups 1-3 or groups 4-6, the contractor may enroll the trainee in another training curriculum on a different piece of equipment in either groups 1-3 or groups 4-6.
 - The minimum wage rate under the trainee's second program shall not be less than 85% of the journey-worker rate for the first two quarters of training, 90% of the journey-worker rate for the third quarter, and 95% of the journey-worker rate for the fourth quarter.
 - For the purpose of the OJT Program, a quarter is 25% of the hours the trainee works toward completion of their approved program. The first two quarters of a 550-hour training curriculum would end after 275 hours, the third quarter after 138 hours, and the fourth after 137 hours.
- C. At any time hours are being attributed toward the completion of the approved training program, trainees shall be paid full fringe benefit amounts, where applicable, in accordance to DBRA requirements.
- D. At the completion of the OJT Program, the trainee shall receive the wages of a skilled journey-worker.

XI. RECRUITMENT AND SELECTION

- A. Prerequisites:
- Trainees must possess basic physical fitness for the work to be performed, dependability, willingness to learn, ability to follow instructions, and an aptitude to maintain a safe work environment.
- B. Licenses:
- Truck driver trainees must possess appropriate driver permits or licenses for the operation of Class A, B, and C trucks. When an instructional permit is used in lieu of a license, the trainee must be accompanied by an operator who:
1. Holds a license corresponding to the vehicle being operated;
 2. Has had at least one year of driving experience; and
 3. Is occupying the seat next to the driver.
- C. Recruitment:
1. Place notices and posters setting forth the contractor's Equal Employment Opportunity (EEO) Policy and the availability of the OJT Program in areas readily accessible to employees, applicants for employment, and potential employees.
 2. Employ members of the targeted group (minority, female, or economically disadvantaged individuals) for all trainee positions assigned in accordance with the OJT Program. Additional positions requested by the contractor may be filled by individuals outside of the targeted groups.
 3. Conduct systematic and direct recruitment through public and private employee referral sources.
 4. Screen present employees for upgrading to higher skilled crafts. A present employee may qualify as a trainee; however, no work hours will be reimbursed or counted toward program completion prior to training program and trainee approval by CRD.
- D. Selection:
1. Hire and enroll OJT trainee candidates who qualify as an individual in the targeted group.

2. Select a training program(s) based on their company's employment/staffing needs.
3. Individuals in the targeted group having experience in the selected curriculum may be eligible to participate in the OJT Program providing they:
 - Are not or have not been journey-workers in the selected curriculum, and/or
 - Have not been previously trained in the selected curriculum.
4. Non-minority males who are economically disadvantaged must obtain written certification from Job Service North Dakota (JSND) to qualify for the OJT Program. Contractors wishing to hire and enroll economically disadvantaged candidates must provide JSND's certification along with SFN 60226 and the employment application when requesting trainee approval.
 - JSND is the only agency that may certify an individual as economically disadvantaged. If JSND refers the candidate to the contractor, written certification under this category will be provided to the contractor at the time of the interview.
 - Any person wishing to obtain this certification must apply to JSND and complete the Workforce Investment Act Program's Application for Eligibility (SFN 7857). A contractor recruiting a candidate who may qualify must contact the Workforce Investment Act Program Manager at JSND. JSND contacts are also online:
<http://www.dot.nd.gov/divisions/civilrights/docs/jobservice-workforce-invest-contacts.pdf>

XII. BASIS OF PAYMENT

- A. Contractors will be paid \$4.00 for each hour of training in accordance with the OJT Program Manual.
- B. Reimbursement will be made directly to the contractor. Complete SFN 51023 Voucher for On-the-Job Training Program Hourly Reimbursement for each trainee. Attach excerpts from the weekly certified payrolls showing the trainee's hours, rate of pay, and how applicable fringe benefits were paid. Excerpts from weekly payrolls are also required for state funded only projects. Vouchers without excerpts from payrolls will not be paid until the excerpts are provided. If the excerpts from the payrolls are not provided within one week, the voucher will not be paid and the trainee's hours will not be credited toward completion.
<http://www.dot.nd.gov/forms/sfn51023.pdf>
- C. On contracts where certified payrolls are not required and not available for supporting documentation, contractors may enter trainee wages, hours in training, and the project control number(s) (PCN) in a spreadsheet to support their reimbursement vouchers. In this case, contractors should work with OJTSS to assure that all information required for payment is provided.
- D. Submit completed vouchers to CRD for approval and processing by the fifteenth (15th) calendar day of every following month the trainee is employed under the OJT Program.

Regardless, all vouchers for trainee hours worked on state funded only projects from July 1 to June 30 must be received by CRD no later than July 15 in order to be reimbursed. All vouchers for trainee hours worked on federally funded projects from October 1 to September 30 must be received by CRD no later than October 15 in order to be reimbursed. This is due to state and federal end-of-the-year budget fiduciary requirements.

XIII. FAILURE TO PROVIDE THE TRAINING OR HIRE THE TRAINEE AS A JOURNEY-WORKER

- A. The contractor is required to consistently demonstrate efforts to recruit, hire, and train candidates for the OJT Program.
- B. If the contractor does not show in a timely manner good faith efforts to recruit, hire, and train candidates in the targeted group, the Department may withhold progress payments
- C. If payments have been made, the Department will deduct the amount paid from the contractor's progress

payment.

- D. No payment shall be made to a contractor for failure to provide the required training or failure to hire the trainee as a journey-worker when such failure is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this OJT Program Special Provision.
- E. Hiring a trainee to begin training as soon as feasible after start of work is evidence of a contractor's good faith efforts to comply with the OJT Program requirements. Additional evidence supporting a contractor's good faith efforts would be to keep the trainee employed as long as training opportunities exist in the approved work classification or until the trainee has completed his or her training program.
- F. It is not required that all trainees be employed for the entire length of the construction season. A contractor will have fulfilled its responsibilities under this OJT Special Provision if it has provided acceptable training to the number of trainees assigned.

XIV. UNFILLED OR INCOMPLETE TRAINEE POSITIONS

- A. By October 1, provide written explanation of the firm's good faith efforts for unfilled or incomplete trainee assignments to CRD. CRD will decide, on a case-by-case basis, whether to carry the assigned positions over to the next construction season.
- B. Positions carried over from the previous construction season must be among the first positions filled at season startup. To notify CRD of the trainee's rehiring, submit *SFN 60226 Request for On-the-Job Trainee Approval*, marking 'Check if Carryover Trainee' in the Approved Training Program section of the form. There is no need for the training position or a returning trainee to be re-approved.
- C. Sanctions, up to and including revocation of bidding privileges, may be imposed on the contractor for failure to provide sufficient explanation and documentation for reasons assigned trainee positions when unfilled or incomplete.

XV. DEFINITIONS

Carryover Position: Incomplete trainee position carried forward from a prior program year.

Carryover Trainee: Trainee scheduled to continue training hours under prior year's approved program.

CRD: NDDOT's Civil Rights Division administers the NDDOT On-the-Job Training Program.

Good Faith Efforts: Documentation supporting a contractor's efforts to fulfill the program requirements, e.g., new hires list, advertising examples/locations, current employees reviewed for upgrades, etc.

Journey-worker: A worker employed in a trade or craft who has attained a level of skill, abilities, and competencies recognized within the industry.

OJT Supportive Services (OJTSS): Department contractor providing in-person oversight, support, and guidance to contractors and trainees to increase the effectiveness of approved training programs.

Trainee: A person who receives training through an apprenticeship program or other FHWA approved program.

Trainer/Supervisor: Contractor's employee assigned to train, supervise, and support a trainee.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**SPECIAL PROVISION****TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES****1. GENERAL**

Install, maintain and remove appropriate Temporary Erosion and Sediment Control Measures (ESCMs).

Definitions:

A. Temporary Erosion and Sediment Control Measures are to be installed and maintained before and during the term of the land disturbance activity. These items are removed when permanent erosion and sediment ESCMs are installed.

B. Permanent Erosion and Sediment Control Measures are to be installed and maintained once the project is completed so that the applicable permits can be terminated.

In some instances, individual temporary and permanent erosion and sediment ESCMs for a site may consist of identical ESCMs. In these cases, the temporary erosion and sediment ESCMs may be used as the permanent erosion and sediment ESCMs if they meet the following criteria:

1. The ESCM was installed correctly,
2. Is in a functional condition,
3. Has had all accumulated sediment removed.

C. The Stormwater Pollution Prevention Plan (SWPPP) is the document that identifies potential sources of sediment or other pollution from construction activity and ensures practices are used to reduce the contribution of pollutants from construction site runoff.

D. Contractor Controlled Areas are project areas not included in the contract, but are obtained and solely controlled by the Contractor (e.g., concrete or asphalt batch plants, concrete washout areas, equipment staging yards, material storage areas, excavated material disposal areas, Contractor furnished borrow areas, etc.).

E. Maintenance is any action taken to keep an ESCM in working condition. These actions may consist of repairing failures of the ESCM itself.

F. Noncompliance is any action or inaction that violates the regulations imposed by the applicable permits or the requirements of this special provision and other contract documents. Failure of an ESCM does not necessarily constitute noncompliance as long as the ESCM is repaired, replaced or supplemented within the timelines established in the applicable permits and no sediment is discharged from the site or into a water of the state.

2. CONSTRUCTION REQUIREMENTS

Develop a SWPPP specific to the project. The creation of the SWPPP is a cooperative effort between the NDDOT who creates the project plan sheets and the Contractor who creates a complete SWPPP which incorporates the plan sheets and the Contractor's means and methods. The project plan sheets by themselves do not meet the requirements of a complete SWPPP and should not be considered as such. The Contractor has the flexibility to modify the design and implementation of the temporary erosion and sediment controls to match the Contractor's means and methods and/or field conditions. These changes must be documented in the SWPPP and meet all regulatory requirements.

Obtain appropriate permit coverage for the activities conducted in Contractor Controlled Areas. A permit will be required for these areas regardless of their size. The NDDOT will have no responsibility for these areas. Provide copies of the completed and signed Notice of Intent submitted for permit coverage to the Engineer before activities in these areas commence. Do not commence activities in these areas until after permit coverage has begun. Provide copies of Permit Coverage Letters for these areas to the Engineer within 7 days of receiving them from the regulating agency.

Install perimeter erosion and sediment ESCMs according to the plans/SWPPP prior to site disturbance.

Change the location of temporary erosion and sediment ESCMs to fit the field conditions.

Update the SWPPP as work progresses, or as directed by the Engineer. Update the SWPPP to show changes due to revisions in work schedules or sequence of construction. Update the site map to reflect erosion and sediment ESCMs that have been installed, changed, or removed.

Do not rely on perimeter ESCMs as the sole method of controlling erosion. As the project progresses, install temporary erosion and sediment ESCMs within the perimeter ESCMs to control erosion resulting from the construction of the project.

Use temporary erosion and sediment ESCMs to prevent contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment.

Coordinate temporary erosion and sediment ESCMs with the construction of permanent erosion and sediment ESCMs to provide continuous erosion control. Do not install temporary erosion and sediment ESCMs when permanent erosion and sediment ESCMs are able to be installed. Once the permit is terminated or transferred to the Department, the maintenance of the permanent erosion and sediment ESCMs becomes the responsibility of the NDDOT.

Install stabilization ESCMs (mulch, seeding and mulch, etc.) in areas that have been disturbed where work has temporarily or permanently ceased following the timelines established in the applicable permits. If implementation of stabilization is precluded by snow cover, undertake such measures as soon as conditions allow.

Maintain the effectiveness of the temporary erosion and sediment ESCMs as long as required to contain sediment runoff. Inspect the temporary erosion and sediment ESCMs and complete the inspection and maintenance reports every 14 days and within 24 hours of a rainfall event of 0.25 inch or more. During prolonged rainfall (more than 1 day), conduct an inspection within 24 hours of the first day of the event and within 24 hours after the end of the event. Inspections are required only during normal business hours. Install a rain gauge to monitor rainfall amounts as required by the appropriate permit.

Correct any deficiencies in the ESCMs within the timelines established in the applicable permits. If conditions do not permit access to the ESCM, corrective actions can be taken by installing additional ESCMs. Correct the original deficiencies as soon as conditions allow access to their location without causing additional damage to the slopes. In the inspection logs, document the conditions that prohibit access.

Provide copies of all inspections, documentation, record keeping, maintenance, remedial actions, and repairs required by the applicable permits to the Engineer. Provide inspection and maintenance reports within 3 working days after an inspection has been conducted.

Provide, at the preconstruction conference, documentation of any Subcontractor hired for erosion control showing that the Subcontractor's on site supervisor is certified through the NDDOT Erosion & Sediment Control Construction Certification Training. This certification must be maintained by the Subcontractor's onsite supervisor through the term of the contract. The Engineer will provide a verification of their certification through the NDDOT Erosion & Sediment Control Construction Certification Training at the preconstruction conference and will maintain that certification through the term of the contract.

Provide immediate written notification to the Engineer of proposed changes to the erosion control plan or SWPPP. The Engineer will review the proposed changes and determine if they are adequate. Documentation of maintenance and inspections that does not affect the erosion control plan or SWPPP does not require approval by the Engineer.

Remove the temporary devices when directed by the Engineer or when permanent erosion and sediment controls are installed.

3. Erosion and Sediment Control Supervisor.

A. General. Designate an erosion and sediment control supervisor. Provide the name and contact information for the supervisor at the preconstruction meeting. If this erosion and sediment control supervisor becomes unavailable on the project, designate a replacement supervisor. Notify the Engineer if this supervisor changes and provide the contact information for the new supervisor.

B. Qualifications. The supervisor shall be:

1. An employee of the Prime Contractor;
2. Familiar with installation, maintenance and removal of ESCMs and the requirements of the erosion and sediment control plans, applicable permit requirements, specifications, plans and this provision; and
3. Competent to supervise personnel in erosion and sediment control operations.
4. Certified through the NDDOT Erosion & Sediment Control Construction Certification Training and maintain that training throughout the term of the contract.

C. Duties. The supervisor shall:

1. Provide erosion and sediment control as required by the SWPPP, Plans, and Specifications.
2. Be on the site to supervise the installation, operation, inspection, maintenance, and removal of the erosion and sediment ESCMs.
3. Update the SWPPP as work progresses to show changes due to revisions in work schedules or sequence of construction, or as directed by the Engineer. Update the site map to reflect erosion and sediment ESCMs that have been installed, changed, or removed.
4. Propose changes to improve erosion and sediment control.
5. Be accessible to the job site within 24-hours.
6. Provide the Engineer with documentation of all erosion and sediment control activities and inspections as required above.

4. PERFORMANCE

Correct all areas of noncompliance within 24 hours after notification of noncompliance. If corrective actions are not taken within 24 hours, the Engineer may:

1. Assess a contract price reduction of \$500 per day per instance;
2. Have deficiencies corrected by another Contractor and deduct the cost of the work from the monies due or to become due to the Contractor;
3. Suspend all work; or
4. Withhold payment on other contract items/pay estimates.

These actions will be applied until deficiencies have been corrected.

5. BASIS OF PAYMENT

ESCM installation will be paid for at the contract unit price for erosion and sediment control for the appropriate items and sections. The plans will detail the required ESCMs for temporary and permanent installations. The same bid items may be used for temporary and permanent ESCMs.

ESCM items will be measured as specified in the "Method of Measurement" portion of the appropriate section of the specifications.

ESCM item removal will be paid for at the contract unit price for "Remove _____" in the appropriate section of the specifications.

Include the costs for labor, materials, maintenance, equipment, disposal, adherence to the permit, and SWPPP modifications in the respective pay items.

When the Engineer directs the replacement of temporary erosion and sediment ESCMs that are no longer functional because of deterioration or functional incapacity and those items were installed as specified in the Contract or as directed by the Engineer, the Department will pay for replacement ESCMs

No payment will be made for replacing temporary erosion and sediment ESCMs that the Engineer determines are ineffective because of improper installation, lack of maintenance, or the Contractor's failure to pursue timely installation of permanent erosion and sediment ESCMs as required in the Contract.

No payment will be made for replacing temporary erosion and sediment ESCMs due to contractor operations. Include the cost to move Flotation Silt Curtain as work progresses in the price bid for "Flotation Silt Curtain".

Erosion and sediment controls for Contractor Controlled Areas are the responsibility of the Contractor and will not be paid for by the Department.

Removal of sediment from silt fence and fiber rolls will be paid for at the price listed in the "Price Schedule PS-1."

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**SPECIAL PROVISION****BUY AMERICA****DESCRIPTION**

Replace Section 106.08, “Buy America”, with the following:

Buy America.**A. General.**

Provide materials from domestic sources when products are permanently incorporated into the work and the products are composed of steel or iron materials.

Ensure all manufacturing processes, including applications of coatings, occur in the United States. A coating includes all processes required to apply the coating to a product to protect or enhance the value of the product.

The requirements of this SP are not applicable to the temporary iron and steel materials, including materials left in place at the Contractor’s convenience.

B. Steel and Iron Certification.**1. General.**

All certifications are submitted by the prime Contractor. When submitting certifications for materials that are subject to the requirements of this section, the prime Contractor shall include a signed letter stating that the submitted documentation is the documentation that was received by the prime contractor for the material incorporated into the work. The prime Contractor’s signature on the Department’s Certificate of Compliance form meets this requirement.

2. Bulk Manufactured Materials.

In addition to the requirements of Section 106.01 C, “Certificate of Compliance”, submit a contractor’s Certificate of Compliance stating that the iron and steel products listed in Table 1 that are permanently incorporated into the work are of domestic origin.

Table 1

Mailbox supports	Cable Fence Materials
Chain Link Fence Materials	Barbed Wire Fence Materials
Guardrail Components	Woven Wire Fence Materials
Culvert Markers	Delineators
Perforated Tube Sign Supports and Related Materials	

3. Other Steel and Iron Products.

For steel and iron products permanently incorporated into the work that are not listed in Table 1, submit a manufacturer’s Certificate of Compliance as specified in Section 106.01 C, “Certificate of Compliance” and the following information:

- a. A signed mill test report.
- b. A signed certification from each fabricator and manufacturer that has handled the steel and iron products affirming that all processes performed on the steel and iron products were conducted in the United States.
- c. Material descriptions, quantities, and a means of material identification (lot number, bin number, heat number, or factory identification) for each process performed on the steel and iron products.

Each certification shall contain the material identification from all previous fabricators and manufacturers in the process.

C. Foreign or Uncertified Products.

These requirements allow the use of steel and iron products produced and manufactured outside the United States, or products that cannot be certified as originating in the United States, of a total value less than 0.1 percent of the original contract amount, or \$2,500, whichever is greater.

The total value is that shown to be the cost of the steel and iron products as delivered to the project site.

Document the cost of:

- Foreign steel and iron products, plus
- Steel and iron products which cannot be certified as originating in the United States.

Submit the documentation of foreign and uncertified products with the certifications required in Section B, “Steel and Iron Certification” of this SP.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**SPECIAL PROVISION****CERTIFICATE OF COMPLIANCE (CoC)****DESCRIPTION**

Section 106.01 C, "Certificate of Compliance" is no longer valid. Use this Special Provision in place of that section.

Certificate of Compliance

A Certificate of Compliance (CoC) states that the materials represented by the CoC comply with the contract requirements.

All materials manufactured off-site require either a Manufacturer or Contractor CoC. Materials listed in Table 1 require a Manufacturer CoC. All other materials require a Contractor CoC.

Submit a CoC before incorporating the material into the work. Submit CoC's electronically. Some materials require the submission of additional information as part of the CoC. When this is required, the contract documents will state the additional requirements.

The Department will not include quantities of material represented by a CoC on a progressive estimate until the Contractor has fully met the CoC requirements.

The Department may sample, test, and inspect material represented by a CoC at any time before project acceptance, and will accept or reject materials based on inspections or test results.

A. Manufacturer Certificate of Compliance.

A Manufacturer CoC requires the signature of a person having the legal authority to act for the material manufacturer. The manufacturer and prime contractor must sign the Manufacturer CoC.

Provide Manufacturer CoC for the products shown in Table 1. The entity batching Portland Cement Concrete is considered the manufacturer.

Table 1
Manufacturer Certificates of Compliance

Section	Item
604	Prestressed Concrete Beams
606	Precast Reinforced Concrete Box Culverts
802	Portland Cement Concrete
804	Cement (excluding Section 802) and Lime
820	Fly Ash (excluding Section 802)
830	Pipe and Drainage Structures
834	Structural Steel
836	Reinforcing Steel, Dowel Bars, and Tie Bars
840	Piling

Table 1
Manufacturer Certificates of Compliance

846	Preservatives and Pressure Treatment Process for Timber (excluding materials provided under Sections 752 and 764)
858	Geosynthetics

Submit Manufacturer CoC using the form [*Manufacturer Certificate of Compliance \(SFN 61041\)*](#).

B. Contractor Certificate of Compliance.

A Contractor CoC requires the signature of a person having the legal authority to act for the prime Contractor. The prime Contractor may require the manufacturer, supplier, or subcontractor to sign the Contractor CoC.

Submit Contractor CoC using the form [*Contractor Certificate of Compliance \(SFN 61040\)*](#).

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

WORK DRAWINGS SUBMITTALS

DESCRIPTION

Section 105.08 B, "Work Drawings Submittal Requirements" and Section 105.08 C, "Engineer's Response to Work Drawings" are no longer valid. Use this Special Provision in their place.

105.08 WORK DRAWINGS

B. Work Drawing Submittal Requirements.

Submit work drawings by either of the following methods:

1. Paper Submittal.

Submit a cover letter and two copies of the work drawings to the Engineer.

2. Electronic Submittal.

To submit the work drawings electronically to the Engineer, post a cover letter and one electronic copy of the work drawing to the Department's managed file transfer (MFT) website. Follow the requirements of NDAC Title 28 for all submittals.

Contact the Engineer to receive instructions describing how to upload files to the MFT website.

C. Engineer's Response to Work Drawing.

Allow 21 days for the Engineer to review the work drawing. The Engineer will respond in one of the following ways:

- No Exceptions Noted;
- Returned for Correction;
- Not Required for Review; or
- Not Acceptable.

If the work drawing is returned stating "Returned for Correction" or "Not Acceptable", make necessary revisions and resubmit the work drawing as specified in Section 105.08, "Work Drawings".

After the Department has reviewed the work drawings, the Department will return the reviewed work drawing submittal to the Contractor as follows:

- If a paper submittal, the Engineer will return the reviewed drawings to the Contractor.
- If an electronic submittal, the Department will post reviewed work drawings on the MFT site and will send an email notification to the Contractor that the reviewed work drawings are available on the MFT site. Retrieve the reviewed work drawings from the MFT site within 30 calendar days. The Department will delete files from the MFT site after 30 calendar days.

Include the cost of drafting and submitting work drawings in the contract unit price for the relevant contract items.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

Haul Roads

DESCRIPTION

Section 107.08, "Haul Roads" is no longer valid. Use this Special Provision in its place.

107.08 HAUL ROADS

A. General.

Before submitting a proposal, contact the appropriate State, County, Township, or City officials to determine if there are any roadways that will be designated as "no haul" routes.

Notify the Engineer of each public road proposed for use as a haul road before hauling over that route. The Engineer will designate the most practical route for transporting materials and designate the route as a "haul road," upon completion of the pre-haul inspection unless deemed unacceptable by a local jurisdiction request.

Change the route of a designated haul road only with the Engineer's written approval. For route change requests made for the Contractor's convenience, the Engineer may require an agreement limiting the Department's liability for the cost of maintenance and restoration of the haul road.

The Engineer will consider the entire haul cycle, loaded and empty, when designating haul routes.

B. Designation of Haul Roads

The Engineer will not designate paved roads off the state system as haul routes.

The Engineer will not designate a road susceptible to severe damage from concentrated heavy hauling as a haul road unless no alternate route is available. Investigate alternate routes before submitting a proposal.

If the Contractor desires to haul on a road that the Engineer determined to be unsuitable for hauling, the Engineer will designate that road as a haul road if the Contractor provides improvements that the Engineer and Contractor agree make the road suitable. Make these improvements at no additional cost to the Department.

If the Engineer determines that pre-haul improvements to a designated haul road will reduce the maintenance or restoration costs, the Department will pay for the materials used to make pre-haul improvements.

A route used to haul material from a commercial pit to the project site is not considered a haul road. A commercial pit is a pit that meets one of the following criteria at the time the project is advertised:

1. The pit has long-term facilities in place and partially derives its annual sales from ongoing operation and sources other than Department or other short-term government contracts;
2. The operator owns the land or has a long-term lease, and did not primarily set up and equip the pit at the location to serve Department contracts; or
3. The operator regularly advertises the availability of material for public sale and has facilities available for effecting public sales at times when there are no government contracted projects utilizing the pit.

C. Pre-Haul Inspection.

Before hauling over a designated haul road, the Engineer, the Contractor, and the agency charged with control and maintenance of the route will make a joint inspection of the haul road. The joint inspection will determine the existing condition of the haul road, including the type, thickness, and width of the surfacing material. The Engineer will record the results in an inspection report. The inspection report will set forth any special conditions for use, maintenance, and restoration of the route. The Contractor, the Engineer, and the agency charged with control and maintenance of the route shall review and sign the report.

D. Use, Maintenance, and Restoration.

Maintain the haul roads used by public traffic in a condition that safely and adequately accommodates public traffic.

If the Contractor damages the haul road by hauling loads in excess of the legal limit, or through negligence or failure to perform maintenance, the Contractor shall repair the damage; the Department will not pay the Contractor for the repairs.

After completing hauling operations over a designated haul road, restore the road to a condition at least equal to the condition existing at the time of the pre-haul inspection. The Engineer will order the type and amount of maintenance and restoration work and the requirements for performing this work.

Maintain and restore the road as required despite the use of the haul road concurrently by other traffic. For haul roads jointly used by multiple contractors on Department contracts, the Engineer will determine the respective obligations for maintenance and restoration.

For haul roads under Department jurisdiction, the Department will only relieve the Contractor of any further obligation for restoration of the road when the Contractor has restored the road to the condition required in the pre-haul inspection report, as accepted in writing by the Engineer. For haul roads under other jurisdiction, obtain a haul road release from the agency charged with control or maintenance of the route and submit a copy of the executed release to the Engineer.

If the Engineer determines that dust from hauling operations on designated haul roads is creating a hazard to traffic or a nuisance to the public, apply water to the haul road as necessary to control the dust.

E. Materials and Construction.

Materials and construction methods used in performing maintenance and restoration work shall meet the requirements of the relevant specifications.

F. Method of Measurement.

The Engineer will measure all approved quantities of material ordered by the Engineer for pre-haul improvements, maintenance, and restoration of designated haul roads as specified in the applicable portions of the contract. The Engineer will measure water used for dust control as specified in Section 216.05, "Method of Measurement".

G. Basis of Payment.

The Department will pay the Contractor for measured quantities of material ordered by the Engineer for pre-haul improvements, maintenance, and restoration of designated haul roads in accordance with Section 109.03, "Compensation for Contract Revisions."

The Department will not pay the Contractor for the costs to maintain and restore routes used to haul materials from commercial pits. Include these costs in the contract unit prices of the relevant contract items.

If maintenance and restoration work only requires the use of equipment, the Department will not pay the Contractor for the costs to use the equipment. Include these costs in the contract unit prices of the relevant contract items.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

LIMITATIONS OF OPERATIONS

DESCRIPTION

Section 108.05, "Limitations of Operations" is no longer valid. Use this Special Provision in its place.

108.05 LIMITATION OF OPERATIONS

A. General.

Perform the work in a manner and sequence that minimizes interference to traffic, and with due regard to the location of detours and provisions for handling traffic. Do not begin work to the prejudice or detriment of work already started; the contract may require a section of roadway to be finished before starting additional sections if the opening of the section is essential to public convenience.

If the prosecution of the work is discontinued, provide the Engineer at least 24-hours notice before resuming operations.

B. Holidays.

Unless the contract allows work on holidays, perform work on holidays only with the Engineer's prior written approval. Submit a written request to the Engineer by noon 2 business days before the requested holiday.

C. Night-time Operations and Extended Hours.

1. General.

When performing work in low light conditions, implement proper safety precautions and provide adequate lighting for the performance and inspection of the work.

2. Nighttime Operations.

Unless the contract allows for nighttime operations, perform work at night only with the Engineer's prior written approval.

Submit a written request to the Engineer a minimum of 7 calendar days before anticipated nighttime operations. The Engineer may deny the request or delay approval if it would require additional staffing considerations. If nighttime operations requires the Engineer to hire additional forces, nighttime operations may not be allowed for up to 30 days from the receipt of the request.

When requesting to perform nighttime operations, include a plan to ensure the safety of all individuals on the project site, including the Contractor's and subcontractor's workers, Department representatives, and the traveling public.

The Department bears no liability for costs or delays resulting from the Engineer's approval, rejection, or delay for staffing purposes of a request to perform nighttime operations.

3. Extended Hours.

Extended hours are allowed before sunrise with verbal notice given to the Engineer the previous day. Extended hours are allowed after sunset with verbal notice given to the Engineer that same day.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION (SP)

LIFT STATION AND PUMPING EQUIPMENT

IM-8-094(090)351 – PCN 21169

NHU-8-081(039)924 – PCN 21400

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originally issued
and sealed by
Gabriel L Bladow
Registration number
PE-6862
on 8/16/2017 and the
original document is stored
at the North Dakota
Department
of Transportation

This document was
originally issued
and sealed by
Joel A. Kath
Registration number
PE-3298
on 8/16/2017 and the
original document is stored
at the North Dakota
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of Transportation

DESCRIPTION

This work consists of construction of a precast reinforced concrete wetwell and construction of a reinforced concrete discharge structure complete with all excavation, dewatering, concrete construction, backfilling, mechanical, electrical, and process work including installation of pumping equipment, electrical and controls equipment, and other appurtenances as shown in the plan drawings.

Specifications for “6” ductile iron pipe” and “ductile iron pipe fittings” are provided in this Special Provision, but will be paid for under separate price bid items as provided in the Method of Measurement and Basis of Payments sections of this Special Provision.

Submit work drawings for the work as specified in Section 105.08, “Work Drawings”. Include the following information on the work drawings:

STORMWATER PUMPS AND MOTORS

Supply manufacturer’s literature with the work drawings showing that the impellers are capable of passing 3.25-inch spherical solids, fibrous material, and heavy sludge without clogging.

Submit manufacturer certified dimension drawings, performance curves, and detailed specifications of the equipment to be furnished to the Engineer for review. All necessary wrenches or specialty needed tools shall be supplied.

Submit manufacturer warranty for the supplied pumps against defects in workmanship and materials for a period of five (5) years under normal use, operation and service from the startup date of the pumping station, in published form and complying with all similar units prior to work drawing review for the pumps.

6" DUCTILE IRON PIPE AND FITTINGS

Submit work drawings of the discharge piping arrangement showing location, material, and thickness/pressure class of all pipe segments and fittings for review by the Engineer.

O&M MANUALS

Furnish (4) hard copies and one digital copy (CD or flash drive) of all O&M Manuals for the sluice gate, pumps, motors, control panel and any other piece of equipment furnished for the lift station.

LIFT STATION CONTROLS

- A. Submit complete work drawings, instruction manuals, and record drawings for the following items:
 - 1. System schematic drawings.
 - 2. Component schematic drawings.
 - 3. Dimension drawings, wiring and/or piping drawings.
 - 4. Equipment specification sheets.
 - 5. Fabrication and nameplate legend drawings on panels and other enclosures.
 - 6. Complete control panel layout, structural, panel and equipment location
- B. After installation and before the final acceptance of the equipment, bound books containing the record drawings in addition to complete information in connections with the assembly, operation, adjustments, maintenance and repair of all equipment, together with a detailed parts list with drawings and photographs shall be furnished to the Engineer for transmittal to the Owner.

EQUIPMENT

Reserved.

MATERIALS

SLUICE GATE

Provide Fontaine, Whipps or approved equal sluice gate with a non-rising stem & 2" square nut operator capable of being mounted in front of a flush pipe on a curved concrete wall, and capable of withstanding 20' of seating & unseating head.

STORM WATER PUMPS AND MOTORS

Furnish two new electric motor driven submersible pumps with a 6" horizontal discharge design capable of pumping 800 GPM against a total dynamic head of 22'.

Supply motor housings, pump bodies, and impellers constructed of cast iron and that have the manufacturer's primary and secondary coatings on the cast iron parts.

Supply impellers that are dynamically balanced, double-vaned, and have a pressure vane on the back-side.

Supply pumps with a conventional double mechanical seal mounted in tandem, with an oil chamber between the seals. The seals are to be composed of either silicon carbide or tungsten carbide. The seal cavity must be designed to prevent the liquid being pumped from contacting the rotating seal parts.

Supply pumps with a slide-away coupling to allow the pumps to be installed or removed without requiring personnel to enter the wet well. Other automatic discharge connections requiring rotation of the pump to affect sealing shall not be considered equal. Furnish stainless steel lift chains for raising and lowering each of the pumps in accordance with the pump manufacturer's recommendations.

Supply motors for the lift station pumps which operate at 480 volts, three phase, 60 Hertz and which are sized to the horsepower requirements of the pumps. The horsepower rating will be 7.5 horsepower minimum. Motors will be of appropriate size so that they do not overload on the pump curve range. The motors shall operate at a maximum of 1,000 RPM.

Supply pump motors housed in a cast iron, water-tight casing with Class F insulated motor windings or better, stainless steel motor shafts, and upper and lower bearings consisting of ball bearings.

Supply pump motors with cooling characteristics suitable to permit continuous operation in a totally, partially, or non-submerged condition and capable of running dry for extended periods without damage to the motors and/or seals. This must be so stated in the manufacturer's literature submitted with the work drawings.

Motors will bear the nameplate of manufacturer, with current and operating characteristics noted thereon.

6" DUCTILE IRON PIPE AND FITTINGS

Supply Class 50 flexible restrained joint ductile iron pipe and necessary fittings for all discharge piping from the connection to the pump base elbow to the end of the discharge piping in accordance with Section 724, "Culverts, Storm Drains, Edgedrains, and Underdrains.

The interior of the supplied ductile iron pipe will be coated with ceramic epoxy coating. The exterior of the ductile iron pipe installed above grade will be coated with a minimum of two coats of satin black epoxy-based paint.

CONCRETE PADS AND BASES

Provide raised concrete platforms as housekeeping pads for all major pieces of electrical equipment, including switchgear and motor control center.

Provide concrete pads for Utility Service Transformer and Transition Cabinet.

CONDUIT

PRODUCTS

Wiring Methods:

- Exposed Outdoor Wiring: PVC COATED Rigid steel.
- Underground Wiring: Rigid nonmetallic conduit, Schedule 40.
- Connection to Vibrating Equipment: Flexible Metal conduit, liquid tight at wet or damp locations.

Metal Conduit and Tubing:

- Rigid Steel Conduit: ANSI C80.1.
- PVC Externally Coated Rigid Steel Conduit and Fittings: ANSI C80.1 and NEMA RN 1.
- Flexible Metal Conduit: UL 1 zinc-coated steel.
- Liquidtight Flexible Metal Conduit and Fittings: UL 360.

Metal Conduit and Tubing:

- Nonmetallic Conduit and Ducts:
- Electrical Nonmetallic Tubing (ENT): NEMA TC 13.
- Rigid Nonmetallic Conduit (RNC): NEMA TC 2 and UL 651, Schedule 40 or 80 PVC.
- Liquidtight Flexible Nonmetallic Conduit and Fittings: UL 1660.

WIRE AND CABLE

PRODUCTS

Wire Components:

- Conductors for Power and Lighting Circuits: Solid conductors for No. 10 AWG and smaller; stranded conductors for No. 8 AWG and larger.
- Conductor Material: Copper.
- Insulation: THHN/THWN for conductor size 500MCM and larger and No. 8 AWG and smaller; THW, THHN/THWN or XHHW insulation for other sizes based on location.
- Jackets: Factory-applied nylon or PVC.
- Connectors: UL listed solderless metal connectors with appropriate temperature ratings.

GROUNDING AND BONDING

A grounding conductor will be provided in each conduit or raceway system and all grounding will be in accordance with the National Electrical Code.

A grounding grid will be provided for new service entrances, site lighting and transformers.

PRODUCTS

- Rod Electrode will be copper clad, 3/4-inch, 10-feet long.
- Mechanical Connectors will be bronze.
- Use Exothermic Connectors for below grade installations.
- Conductor will be strand copper, 4/0 AWG, for grounding electrode and transformer, equipment grounding system, green insulation, size to meet NFPA 70 requirements.

SUPPORTING DEVICES

Anchors, fasteners and supports will be provided in accordance with NECA "Standard of Installation."

DISCONNECT SWITCHES

Provide safety switches for disconnecting means at equipment and other locations that require electrical isolation. Heavy duty type, NEMA I enclosure, NEMA 3R for wet locations, fused or nonfused as indicated on plan drawings.

LIFT STATION CONTROLS

PRODUCTS

LIFT STATION CONTROL PANEL WITH SCADA RADIO

- A. The control panel shall be listed by Underwriter's Laboratories, Inc., for industrial control panels and shall bear the UL 508 Listing mark. The entire assembled panel shall be listed, not just individual components. The panel shall be shop inspected by UL, or constructed in a UL recognized facility. System manufacturer shall provide satisfactory evidence that panel is listed. Panel shall bear a serialized UL label indicating acceptance under Standards 508A.
- B. Enclosure:
 - 1. The enclosure shall be rated as NEMA 3R minimum and be tamper resistant. Minimum size to be 72" W x 60" H x 14" D plus height of legs. All panels shall be of not less than 12-gauge type 304 stainless steel with continuously welded seams. The enclosure shall contain an interior subpanel for mounting all control components and the enclosure shall be sufficiently large to accept all control components without crowding. Provide door and panel stiffeners as required. The front door shall have a rolled lip and the door flanged and the corners ground smooth. All enclosure welding seams shall also be ground smooth. The control plan should include skirting around the leg kit.
 - 2. The door shall be fastened to the enclosure with a continuous type stainless steel piano hinge and locking three point minimum, stainless steel hardware. The three-point latch hardware shall accept an Owner furnished padlock. The inside of the door shall contain data pockets.
 - 3. Enclosure shall have full height dead front inner hinged doors that house all front panel components including switches, indicating lights, circuit breaker operating handles, running time meters, overload reset pushbuttons, and other controls that require operator access.
- C. Programmable Logic Controller (PLC)
 - 1. All PLC programming shall be completed by the System Integrator. See Sequence of Operation Requirements in the construction requirements section.

D. Operator Interface Terminal (OIT)

1. Screen:
 - a. Size: 6.5-inch
 - b. Type: Color TFT
 - c. Input Type: Touch
2. Communications by Ethernet TCP/IP – 10/100
3. Complete all OIT programming by the System Integrator. See Sequence of Operation Requirements in the construction requirements section.
4. OIT will have on board memory and a USB Port for Data storage and application backup.
5. OIT will have 24VDC power.
6. Manufacturer/Model:
 - a. Allen Bradley Panel View Plus 6
 - 1) Part #: 2711P-T7C4D8K
 - b. No exceptions

E. Uninterruptable Power Supply (UPS) – FUTURE PROVISIONS

1. Allow space and provisions for a future UPS. Allow minimum 12" x 12" backpanel area. Provide terminal blocks near the UPS with control wiring wired to the PLC which shall be used to provide a "UPS Trouble" condition and an input side control power relay for monitoring to the PLC. Furnish all required miscellaneous DC power supply and current sensitive DC relay interface equipment as required (See Plan Drawings).

F. Solid State Motor Controllers - SMC (Electronic Soft Starter)

1. Manufacturer/Model: Equal to Allen Bradley SMC-3.
2. Voltage Rating: 480V, 3 Phase
3. Assembly shall bear the U.L. label.

4. Electronic softstarter shall have the following features:
 - a. Furnish with line side circuit breaker, internal automatic bypass contactor which bypasses the power electronics once the softstarter is up to speed and other components and features as indicated on the Plan Drawings.
 - b. Provide PFCC as indicated on Plan Drawings.
 - c. Furnish control power transformer to supply control power to the soft starter and soft starter auxiliaries (fans, indicating lights, relays, respective motor condensation heaters, pump lube oil solenoid, etc.). Size the control power transformer to handle the connected load with a minimum of 50% spare capacity.
 - d. Furnish soft starter with auxiliary NO, "Running" (up to speed) and "Overload / Fault" contacts rated 0.6 amps at 120VAC, minimum.
 - e. The soft starter shall be sized for the selected pump motors. Additionally, the soft starter shall be size at a minimum of 115% of the respective motor nameplate FLA.
 - f. Provide all ancillary equipment including indication lights, control switches as shown on the Plan Drawings.
 - g. Schedule:
 - 1) Pump #1 (P-1): 7.5HP
 - 2) Pump #2 (P-2): 7.5HP

G. Control Devices

1. All control devices including, but not limited to, selector switches, pushbutton switches, limit switches, and indicating lights shall be of the heavy duty, oil tight type. The contacts shall meet NEMA rating designation A600. The devices shall be Cutler Hammer Type T, Allen Bradley Bulletin 800T, or Square D Class 9001 units, Idec, Omron, or equal. Each shall be supplied complete with escutcheon and nameplate.
2. Provide the following control devices
 - a. Pump HOAs (qty. 2)
 - b. Float Test Switches (qty. 2)
 - c. A 3-Position Alternator Switch with the following positions: 1-2, 2-1, and Auto (qty. 1)
 - d. Pump Thermal Reset PB (qty. 2)
 - e. Area Pole Light HOA (qty. 1)
 - f. Pump Solenoid Valve On/Auto Switch (qty. 2)
 - g. Light Switches (qty.1)

H. Control Relays

1. Relays shall be of the plug-in type with associated sockets and retaining clips. The relays shall have dust covers. All contacts shall be rated for not less than 10 amps at 120 VAC with 3/16" diameter gold flashed silver cadmium oxide moving and stationary points. Insulation resistance shall be 1000 megohms, nominal, at 500 VDC between all non-connected terminals. Dielectric withstand shall be 2,000 VAC between non-connected terminals.

I. Circuit Breakers

1. All circuit breakers shall be UL labeled and shall be of the size shown. All breakers shall have an interrupting rating of not less than 35,000 amps, sym.

J. Receptacles

1. The interior convenience receptacle for portable tools, etc. shall be a 20-amp specification grade, UL listed ground fault interrupter.
2. Provide (1) 20A specification grade receptacle in weather proof metal padlockable box with in-use cover and install on the exterior side of the control panel.
3. See the Electrical Plan Drawings for additional information

K. Normal and Emergency Main Circuit Breakers

1. Supply and install normal and emergency main circuit breakers in the panel to allow manual positive switching from the utility normal power source to a remote connected auxiliary standby power source when the normal power has failed. Install the normal and emergency breakers with a permanently attached "walking beam" positive mechanical interlock. The walking beam interlock assembly must provide that only one breaker shall be in the "ON" position at a time. When one is in the on position the other must be positively blocked in the off position and the handle shall not be free to be inadvertently turned on. When either breaker is in the on position it must be trip free to allow it to be totally operational should a fault or over current cause the trip unit to open the breaker.

2. Furnish and install breakers which have been manufactured to be fully compatible with the walking beam interlock device. The trip units shall be thermal magnetic with ampacity in accordance with the NEC for main breakers. The normal and emergency breakers must be three pole and of the same frame and size rating. The voltage rating shall match that of the incoming service. Mount the main and emergency breakers side by side with the mechanical interlock totally accessible through the inner door.
3. Furnish and install to the exterior of the NEMA Type 12 enclosure, a Crouse Hinds Model AR2041 S22 M80 reverse service (male) external power receptacle, for the connection of the Fargo District's standby generator when necessary, as shown in the plans.

The receptacle shall be totally weatherproof, and angled downward 45 degrees, to be fully accessible when the external cabinet doors are closed.

4. The line side of the normal breaker shall have adequately sized lugs attached to provide connection of the incoming normal power source conductors. Wire the line side of the emergency breaker to the exterior mounted standby generator power receptacle. Commonly connect and wire the load side of the breakers to the line side of each pump's individual branch circuit breaker.

L. Terminals and Wiring

1. All field wiring shall be terminated on terminal strips. The terminal strips shall be of the barrier type. Each terminal shall be of the two-screw type. The contacts shall be tin plated copper, capable of carrying 10 amps at 600 VAC. The contacts shall be large enough to accept up to and including No. 12 AWG wire. The barrier strip shall have a minimum voltage withstand of 5,000 volts. The barrier strip shall be suitable for the required number of contacts.
2. Power wiring shall be terminated on barrier type blocks sized for the application.
3. Number all terminals and tag all conductors to correlate with manufacturers' drawings.

M. Surge Arrestors

1. Controls shall include surge protectors on all incoming phases, specified by the systems integrator.

N. Indicating Lights

1. Nominal 1-inch diameter, opaque colored lens.
2. Press-to-test feature.
3. heavy-duty, oil-tight.
4. Indicating lights must be large enough to allow hand replacement without the use of special tools.
5. LED type.
6. Provide the following indicating lights (color as indicated in the drawings):
 - a. Pump Run Lights (qty. 2)
 - b. Pump Fail Lights (qty. 2)
 - c. 3-Phase Power OK Light (qty. 1)

O. Running Time Meters

1. Six digit, hours and tenths.
2. Non-resettable.
3. 3-inch diameter front, nominal

P. Enclosure Heat

1. Manufactured unit with aluminum housing and integral thermostat and 0 - 100F adjustable range. Provide quantity and size as required to meet temperature requirements specified.
2. UL labeled.
3. Hoffman DAH Series or equal.

Q. Alarm Light

1. Weatherproof, vandal proof unit with cages with polycarbonate globe and operated from 120VAC
2. Suitable for top mounting on panel.
3. UL labeled.
4. Approved Models:
 - a. High Level/Common Alarm
 - 1) Red Constant On: Edwards Model #: 125XBRMR120AB
 - b. Pump(s) Running
 - 1) Green Constant On: Edwards Model #: 125XBRMG120AB
 - c. 3-Phase Power OK
 - 1) Blue Constant On: Edwards Model #: 125XBRMB120AB

R. Power Monitor

1. The power monitor shall de-energize the motor control circuits upon an abnormality. When “normal” power is restored, the unit shall automatically reenergize the control circuits. The unit shall be fitted with instrument fuses and shall feature a 0.5 second delay to prevent nuisance operation.
2. The relay shall sense negative sequence voltages when a single phasing condition occurs. The relay shall “pick up” when the negative sequence voltage exceeds 4% (nominal). The relays shall sense line-to-line undervoltage conditions and “pick up” at 83% (nominal) of the normal conditions with an inverse time/voltage relationship.
3. Manufacturer/Model
 - a. SymCom MotorSaver 460
 - b. Or prior approved equivalent.

S. Control Transformer

1. The Systems Integrator shall provide a step-down control power transformer to create a 120/240V, 1PH control power voltage from the incoming 480V service voltage. See the Electrical Drawings for further details.

T. SCADA Provisions

1. Provide a 12" X 12" space within the control panel designated for SCADA Radio. Provide all required terminal blocks and other hardware as required to allow easy installation of a radio.
2. Provide provisions for interface for SCADA communications.

INSTRUMENTATION

A. SUBMERSIBLE LEVEL (PRESSURE) TRANSDUCER

1. General Specifications.
 - a. Calibrated Span as specified in I/O Table.
 - b. Accuracy: $\pm 1.00\%$ Full Calibrated Span.
 - c. Stainless Steel Construction.
 - d. 4-20mA Output.
 - e. -20-60°C Operating Temperature Range.
 - f. Two wire device deriving operating power from 24 VDC (4-20mA) loop.
 - g. Vented gage system with Aneroid Bellows for protection from elements.
 - h. Open Faced nose cap for highest resistance to sensor clogging.
 - i. Molded cable seal.
 - j. Polyurethane cable. 30' minimum length.
 - k. Labeled for ft H₂O.
 - l. IP 68 & NEMA 6P Protection Ratings.
 - m. Attached cable and transducer to Anchor Kit provided for the floats.
2. Pressure media shall be compatible with water.
 - a. Submersible level transducer shall be furnished for the Wetwell.

3. Manufacturer/Model
 - a. Measurement Specialties LTB Level Transducer
LTB8ABBASA010PG060
 - b. Or prior-approved equivalent.
- B. Anchor Kit
 1. General Specifications:
 - a. 15Lb vinyl coated cast iron anchor
 - b. 1/8" 316 stainless steel chain
 - c. Stainless steel bracket and hardware
 2. Manufacturer/Model:
 - a. Anchor Scientific WRW
 - b. Or prior-approved equivalent.
- C. Float Switches
 1. General Specifications
 - a. Polypropylene with encapsulated mechanical tilt (mercury) switch.
 - b. Extra flexible cord in length as required for application.
 2. Manufacturer/Model:
 - a. Anchor Scientific Model S60NO
 3. Schedule:
 - a. FS-1: High Level Alarm
 - b. FS-2: Low Level Alarm

SCADA RADIO AND ANTENNA

- A. Provide PCTEL Model MYA-9306 Yagi Antenna: 6 element, 11.15 dBi, 896-970 MHz frequency, 150 watts and mounting pole.
- B. Provide Polyphaser TSX-NFF lightning protection

- C. Provide GE/MDS Orbit MCR Licensed Narrowband 896-960 Mhz radio with the following specifications:
1. Frequency range: 896-960 MHz
 2. Channel size: 6.25 KHz, 12.5 KHz, 25 KHz
 3. Modulations: QPSK, 16QAM, 64QAM with bi-directional adaptive modulation
 4. Speed: up to 120 Kbps raw data rate
 5. TX Power: Up to 10 Watts
 6. IP Compression: Header and Payload
 7. Dynamic Forward Error Correction (FEC): Yes
 8. Communications Ports: 2 Ethernet, 1 Serial
 9. Mounting Options: DIN Rail Mount
- D. Provide LMR-600 Antenna Cable

PROGRAMMABLE LOGIC CONTROLLERS

- A. Section includes
1. Programmable logic controllers (PLC).
 2. Input and Output (I/O) modules.
 3. I/O connections and configurations.
 4. Spares.

PRODUCTS

PROGRAMMABLE LOGIC CONTROLLER(S)

A. Allen-Bradley MicroLogix 1400 Platform

1. The PLC system for each control panel shall be based on the Allen-Bradley (A-B) MicroLogix platform. Provide equipment as indicated on the Plan Drawings and/or specifications.
2. Each PLC system shall consist of a processor, communications modules, and I/O modules, as specified on the Electrical Drawings. In the occasion that the specified item is not available, Contractor must submit intent to use an alternate module to Engineer and receive approval from Engineer prior to installation of the alternate module.

MicroLogix Item:	Mfg.	Part Number
Processor	Allen-Bradley	1766-L32AWA

B. See I/O Schedule for further details

CHASSIS-BASED I/O MODULE(S)

A. MicroLogix I/O

1. Each PLC system shall use the following I/O modules. In the occasion that the specified module is not available, Contractor must submit intent to use an alternate module to Engineer.

MicroLogix Item:	Mfg.	Part Number
Analog Input	Allen-Bradley	1762-IF4
Analog Output	Allen-Bradley	1762-OF4
Digital Input	Allen-Bradley	1762-IA8
Relay/Contact Output	Not Required	Not Required

I/O CONNECTION & CONFIGURATION

- A. All I/O points, including spares, must be factory wired to terminals as indicated in the typical wiring diagrams in the Electrical Plans. No field terminations may be made directly to the PLC Modules, with the exception to the Flex I/O modules.

- B. All I/O points shall be wired to the points indicated in the I/O schedule found in the Electrical Plans.
- C. Programmable Controllers shall be manufactured to NEMA ICS 3 standards, with component circuit boards manufactured to NEMA ICS 2 standards.
- D. Service Conditions:
 - 1. Temperature: 0-60C.
 - 2. Humidity: 5-95% without condensation.
 - 3. Altitude: 5000 feet above sea level.
- E. Configuration:
 - 1. Processor Unit: Include processor, power supply, and battery backup.
 - 2. I/O: Provide by separate expansion units or by modular hardware units.
 - 3. I/O Capacity: As required, plus 25% or 4 points for each type whichever is greater.
- F. Ratings:
 - 1. Scan Rate: 1 milliseconds per KByte.

CONSTRUCTION REQUIREMENTS

SLUICE GATES

The work includes all labor, tools, materials, and equipment necessary to supply & install a 48" sluice gate as shown on the plan drawings.

Embed the floor box supplied by the gate manufacturer in the cover of the lift station to provide access to the sluice gate square nut operators. Coordinate the location of floor box in the cover slab with offset distance of sluice gate riser stem from lift the station wall to ensure its operable. Provide sluice gate "T" wrench. Install the square nut operator at an elevation that it is able to be operated by both the "T" wrench and an electric drill.

STORM WATER PUMPS AND MOTORS

Install the following components:

- Submersible storm water pumps and motors;
- A coupling consisting of a discharge elbow securely fastened to the floor of the wet well;
- A movable bracket that bolts to the pump discharge flange and mates with the discharge elbow; and
- A system comprised of stainless steel guide pipes and stainless steel support brackets to guide the pump and movable bracket from the discharge elbow to the access cover at the top of the wet well.
- Stainless steel lift chains

Mating of the movable bracket to the discharge elbow shall be accomplished by a linear downward motion. The mating faces of the movable bracket and discharge elbow shall be manufactured to prevent corrosion. The bearing surface shall be a point contact to prevent sticking. The entire weight of the pump shall rest on this connection to assure maximum sealing.

Prepare certified, guaranteed performance curves based on shop tests of pumps or of scale models in accordance with procedures as specified by the Hydraulic Institute Standards.

Performance curves must be certified by a registered Professional Engineer. Curves shall be submitted for approval twenty days before shipment of equipment.

Fully test the pumps and motors assembled as a unit with water at the site after installation. Provide a water truck or other means necessary to supply the lift station with water for testing in the absence of adequate water supply in the pump station storm sewer collection system.

The local authorized representative will have his own full-time repair service available on 24-hour call. A factory serviceman and service vehicle equipped with tools to make all necessary repairs, as well as component parts required to maintain satisfactory operation of the equipment outlined in these specifications, will be available as needed without undue delay.

A factory-trained serviceman will be present at the time when the station is to be put into service and turned over to the Owner. The serviceman will instruct the owner in the proper operation and maintenance of the equipment and submit a written report to the Engineer and Owner. The factory-trained serviceman shall return to the job site at least once after official start-up to review instructions given previously

Any pump that fails to meet any of the contract specifications will be modified, repaired or replaced at no additional costs to the Owner.

BASIC ELECTRICAL REQUIREMENTS

WORK INCLUDES

- Regulatory Requirements:
 - Conform to all applicable Building Codes, ordinances, laws and regulations.
 - Electrical: Conform to NFPA 70 - National Electrical Code.
 - Furnish products listed and classified by Underwriters, Inc., as suitable for purpose specified and shown.
 - All electrical components shall be NEMA compliant. In cases where a device is not produced by any manufacturer to be compliant with NEMA, IEC type components may be used. Minimum operating temperature requirements for IEC components shall be -5 degrees Fahrenheit or colder”
 - North Dakota State Electrical Code.
- Lift Station Construction: Work generally consists of providing one new, complete electrical systems consisting of, but not limited to: (1) 200 amp, 277/480 VAC, 3 phase main electrical service, (1) duplex pump control panel, instrumentation, and connections to (2) pumps, as well as other miscellaneous electrical work.

CONDUIT

WORK INCLUDES

- Electrical conduit for electrical power and signal distribution.

WIRE AND CABLE

WORK INCLUDES

- Wires, cables, and connectors for power, lighting, signal, control and related systems rated 600 volts and less.

QUALITY ASSURANCE

- Compliance: National Electrical Code; UL 4, 83, 486A, 486B, 854; NEMA/ICEA WC-5, WC-7, WC-8; IEEE 82.

ELECTRICAL IDENTIFICATION

- Provide identification for all major pieces of electrical equipment, including switchgear, transformers, special system control panels, and control switches. Utilize engraved nameplates for identification. Engraved three-layer laminated plastic, white letters on black background. White letters on red background for emergency power, 1/8-inch letters.

GROUNDING AND BONDING

- A grounding conductor will be provided in each conduit or raceway system and all grounding will be in accordance with the National Electrical Code.
- A grounding grid will be provided for new service entrances, site lighting and transformers.

MECHANICAL AND PROCESS EQUIPMENT WIRING

- Provide connections to pumps and vibrating equipment. Utilize with flexible conduit for vibrating equipment.
- Make all connections in accordance with equipment manufacturer's instructions and in accordance with NEC.

UTILITY SERVICE ENTRANCE

- Coordinate with Utility Company for permanent electric service.
- Permits, fees, licenses and Utility Company charges for services will be paid by the Owner.

LIFT STATION CONTROLS

PART 1 GENERAL

DESCRIPTION

- A. The Contractor shall furnish and install, complete, a lift station control panel and field instruments. All internal buswork and wiring shall be completed by the control panel manufacturer. Where connections must be completed between equipment sections in the field, the wiring or buswork, shall be terminated in each section of equipment in a manner to facilitate field connections. The Contractor shall furnish, properly sized and coordinated, connectors for the conductors entering the equipment.

All equipment shall meet the requirements of NEMA standards and the latest edition of the National Electrical Code, where applicable.

SYSTEMS INTEGRATOR

- A. In order to assure uniform quality, ease of maintenance, and minimal parts storage, that all equipment called for under this section shall be supplied by a single manufacturer. This manufacturer shall also serve as the Systems Integrator and shall be responsible for all programming, software, hardware and interconnection of instrumentation. The equipment manufacturer shall, in addition to the Contractor, assume the responsibility for proper installation and functioning of the equipment.
- B. This project requires the services of a prequalified control systems manufacturer. The approved control system manufacturers are as follows:
 - 1. SJE Rhombus, Detroit Lakes, MN (218) 847-1317
 - 2. Integrated Process Solutions, Fosston, MN (218) 435-1703
 - 3. Sweeney Controls Company, Fargo, ND (701) 232-3644
 - 4. Quality Control & Integration, Inc., New Prague, MN (952) 758-9445

PART 2 EXECUTION

SEQUENCE OF OPERATIONS

- A. Normal Pump Operation - Automatic (PLC Controlled)
 - 1. The operator shall be able to select through the OIT which pump is to be placed in service. The PLC shall be programmed such that the two pumps will alternate starting.
 - 2. Normal Pump Operation - Automatic
 - a. When the level in the wet well rises to the lead pump start set point, the lead pump shall be called to start. If the capacity of the lead pump is greater than the influent flow, the lead pump shall stop upon the wet well level reaching the Lead Pump stop set point. Anytime a pump is running the external indicating light shall be illuminated green.

- b. If the capacity of the lead pump is less than the influent flow, the lag pump shall be called to start upon the wetwell level reaching the Start Lag Pump setpoint. If the influent flow decreases to less than the capacity of both pumps running in parallel the lag pump shall be called to stop upon the wetwell level reaching the Stop Lag Pump setpoint.
- c. If the high-level float is reached the backup mode is initiated as described below. The external alarm light shall be illuminated red anytime the floats are controlling the station. An alarm is logged as "Backup float Operation Initiated" in PLC alarm History.
- d. The following level set points shall be provided for control. The System Integrator shall provide a typed "set point" schedule which indicates the final settings for all level and time delay settings indicated in this section and/or appear on the set points screen of the OIT. This schedule shall be protected and viewable through a plastic sleeve adhered to the inside of the outer door of the control panel. The system integrator shall also provide the final schedule for the lift station to the owner in Microsoft Excel format.
 - 1) PLC Programmed Set Points
 - (a) Start Lead Pump 889.75 ft
 - (b) Stop Lead Pump 888.00 ft
 - (c) Start Lag Pump 890.25 ft
 - (d) Stop Lag Pump 889.00 ft
 - 2) Float Elevations
 - (a) High Level Alarm 894.00 ft
 - (b) Low Level Alarm 887.50 ft
- e. The following timers shall be adjustable from the "Timers" screen on the OIT as explained in this section.
 - 1) Lead Pump Start Delay 30 sec
 - 2) Lead Pump Stop Delay 10 sec
 - 3) Lag Pump Start Delay 60 sec
 - 4) Lag Pump Stop Delay 10 sec

B. Pump Operation (Automatic - Float Backup, PLC Ok)

- 1. If the "high level" float is reached and the PLC is still fully operational, the system shall enter a PLC operated "back up" mode. This mode addresses the issue when the level transducer fails and shall operate in the same manner as the transducer mode allowing the pumps to alternate and operate seamlessly.

2. In this mode, the “high level” float will generate a “lead pump” call when it tips. If after a user adjustable “software” time delay the “high level” float remains tipped, the “lag pump” call will activate. The “low level” float will act as the common stop for both the lead and lag calls.
 3. Provide a time delay of sufficient length on the “Float High Level” alarm such that a high-level alarm isn’t generated every time the system operates in the “float backup” mode.
 4. If the PLC is operating in this mode, a “float backup” alarm shall be generated and indicate an alarm on the OIT and the outside alarm light.
- C. Pump Operation (Automatic - Float Backup, PLC or Transducer Faulted)
1. The system will enter this mode in the event that the PLC is not running or the transducer has faulted. The floats will operate the pumps, however some of the functionality of running it through the PLC shall be removed, specifically the alternation and any monitoring or alarming of the pumps.
 2. The pumps will operate using the floats as indicated in the “Float Backup - PLC Ok” mode above, but any timers associated with the calls shall be replaced with adjustable “hardware” time delays. While in this mode, the outside alarm light shall activate indicating an alarm
 2. This mode shall be “latched in” until the station is manually reset by an operator. The reset shall be made accessible by opening the dead front doors granting access to the inner doors of the control panel. There shall also be a red “Redundant Backup System Active” light located on the inner doors of the control panel indicating that the system is in this mode.
 4. The PLC shall include an “Always ON” output that is used to prevent operating in this mode. Any time the output shuts off, the control system shall automatically enter this mode. Upon power-up of the control panel, there shall be a time delay relay installed to prevent latching in of this mode.
- D. Operator Interface Requirements:
1. The OIT shall be programmed with the screens listed below. All set point modifications shall be password protected. Viewing screens shall not be password protected. The OIT shall be mounted on the dead front door inside the control panel.

- a. Operator Interface Overview Screen
 - 1) Main menu of the system with current wet well level indicated and access to all other screens used for lift station operation.
- b. Main Overview Screen
 - 1) Graphic display screen of the respective lift station indication and pumps shown as they are in the field including the status of the motor condensation heaters. Screen also gives pump information including status of each pump and the overall condition of each pump.
- c. Pump Alternator Screen
 - 1) Screen used to set alternation sequence of the pumps as well as place pumps into or out of service.
- d. Lift Station Set Points Screen
 - 1) Screen used to change all set points as described previously in this section.
 - 2) Screen will also have a graphic display image of the wet well with current level. The wet well image will be used to display the level of all set points in relation to each other and the current wet well level. The range of the wet well display shall be from 0 feet to 1 foot higher than the wet well high level float set point.
- e. Timer Screen
 - 1) Screen is used to change all time delays described previously in this section.
- f. Alarm Screen
 - 1) The screen shall consist of a history and current alarm conditions that exist. The history screen shall store alarms that have been acknowledged over the past 1 year. The current screen shall indicate alarms that have not yet been acknowledged.
- g. Systems Integrator Screen
 - 1) Screen shows System Integrator contact information.

E. Other Items

- 1. The Work Drawings contain detailed descriptions on other notable sequence of operation items including pump alternation requirements, lubrication oil solenoids, etc... The Systems Integrator shall review the Work Drawings in their entirety and include all items contained within.

F. Manual Pump Operation – Hand

1. The "hand" position of the pump HOA shall initiate a manual start of the respective pump.

G. SCADA System Provisions, Radio and antenna.

1. Provide SCADA Radio, antenna and antenna cable. Mount in control panel. Provide ethernet connection into PLC.
2. All SCADA programming to be provided by others. Coordinate lift station programming, tag names and actual program with the City of Fargo in order to integrate into the future SCADA System.

START UP SERVICES

- A. Confirm proper operation of all features and functions. Demonstrate operation to Owner and Engineer.

SUPPLIES

- A. (20%) spare fuses and lamps, but not less than six (6) of each type furnished.
- B. (2) spare relays of each type furnished.
- C. (2) spare floats
- D. Provide (1) spare submersible level transducer.
- E. (2) replacement lamps for each type of indication light used
- F. Contractor shall provide all expendable items such as lamps, fuses, etc. for system start up and checkout.

PROGRAMMABLE LOGIC CONTROLLERS

REFERENCES

- A. Reference sections include, but are not limited to:
1. NEMA ICS 1 - General Standards for Industrial Control and Systems.

2. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
3. NEMA ICS 3 - Industrial Systems.
4. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of controller cabinets and input and output devices connected to system. Include interconnection wiring and cabling information, and terminal block layouts in controller cabinets.

OPERATION AND MAINTENANCE DATA

- A. Submit Operation and Maintenance data.
- B. Include bound copies of operating instructions.
- C. Include card replacement, adjustments, and preventative maintenance procedures and materials.

QUALIFICATIONS – SYSTEMS INTEGRATOR

- A. The Systems Integrator will be providing all programming. See descriptions for Control System Manufacturers / Systems Integrator.

DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products in as specified in Section 106.03 “Storage of Materials.
- B. Store products in clean, dry area; maintain temperature to NEMA ICS 1.

ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature above 32 degrees F and below 104 degrees F during storage of products.
- B. Maintain area free of dirt and dust during and after installation of PLC products.

MAINTENANCE SERVICE

- A. Provide a (1) year warranty to correct equipment defects from the Date of Substantial Completion.

EXECUTION

- A. Verify that surfaces are ready to receive work.
- B. Verify field measurements are as shown on Drawings.
- C. Verify that required utilities are available, in proper location, and ready for use.
- D. Beginning of installation means installer accepts conditions.

INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Do not install products until major construction is complete.
- C. Connect input and output devices as shown on Drawings.

MANUFACTURER'S FIELD SERVICES

- A. Prepare and start systems.
- B. Provide in writing to Engineer that installation and verification of all I/O devices has been performed.
- C. Provide (1) day field installation and verification of all I/O devices with the Electrical Contractor and testing with Engineer.

DEMONSTRATION

- A. Provide systems demonstration to replicate flow and level conditions.
- B. Demonstrate operation of controller.

PIPING

Install double 6-inch diameter ductile iron discharge piping from the pump discharge elbow to the outfall at the discharge structure as shown in the plans.

METHOD OF MEASUREMENT

The cost of furnishing and installing new lift station components as described above, including construction of a precast reinforced concrete wetwell and reinforced concrete discharge structure, complete with all excavation, dewatering, temporary pumping, concrete construction, backfilling, mechanical, electrical, and process work, and controls installation described herein and shown in the plans, and the cost for all materials, equipment and labor required to provide a satisfactory complete installation shall be included in the price bid for the item "Lift Station".

The cost of furnishing and installing discharge piping and fittings as described above and shown in the plans, and the cost for all materials, equipment and labor required to provide a satisfactory complete installation shall be included in the price bid for "Lift Station".

The Engineer will measure, completed and in place, as specified in Section 109.01, "Measurement of Quantities."

BASIS OF PAYMENT

Pay Item	Pay Unit
Lift Station	EA

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**SPECIAL PROVISION****CONTRACT TIME FOR COMPLETION-INCENTIVE/DISINCENTIVE****IM-8-094(090)351 & NHU-8-081(039)924****DESCRIPTION**

This provision outlines the contract time provisions on the above referenced project. Also included are requirements for earning an incentive for early opening of University Dr to public traffic, or being charged a disincentive for late opening of University Dr to public traffic.

CONTRACT TIME FOR COMPLETION

The project shall not begin until on or after May 14th, 2018. The completion date for the project will be September 15, 2018. Opening of reconstructed University Dr to public traffic is subject to an incentive for early completion with additional incentives applied for early completion of Phase 4a of the project. Disincentives and liquidated damages will be charged for late completion of work as outlined in the following sections of this special provision.

If the project is not completed by September 15, 2018 liquidated damages will be charged for each working day after September 15, 2018 that the work remains incomplete in accordance with Standard Specification 108.07.

INCENTIVE FOR EARLY COMPLETION OF SOUTHBOUND UNIVERSITY DRIVE FROM STR NO. 94-351.596 L TO I-94 WESTBOUND ENTRANCE – TRAFFIC CONTROL PHASE 4a

If the work on University Drive South identified in Phase 4a of the plans is completed in less than 15 working days, an incentive payment of \$15,000 per working day for each day before that the phase is complete. The maximum incentive payment allowed will be \$75,000.

Any changes in the work, including but not limited to changed conditions, added items of work, increased quantities, or increased working days will not result in adjustments to the incentive working day duration, or other incentive stipulations. The elimination of work items, decreases in quantities, or changes resulting in a reduction of the scope of work may result in the incentive duration being shortened, and changes to the incentive stipulations.

DISINCENTIVE FOR EARLY COMPLETION OF SOUTHBOUND UNIVERSITY DRIVE FROM STR NO. 94-351.596 L TO I-94 WESTBOUND ENTRANCE – TRAFFIC CONTROL PHASE 4A

If the work on University Drive South identified in Phase 4a of plans is not completed within 15 working days, a disincentive payment will be charged at a rate of \$15,000 per working day for each day after the 15 working days that the work remains incomplete. There is no limit on the amount of disincentive which may be charged.

DISINCENTIVE FOR INTERIM PHASE COMPLETION

If the work on University Drive South identified in the phasing plans is not completed within the specified working days listed below, liquidated damages will be charged for each working day that the work remains incomplete in accordance with Standard Specification Section 108.07.

- Phase 1: 5 Working Days
- Phase 2: 5 Working Days
- Phase 3: 25 Working days
- Phase 4: 30 Working Days
- Phase 5: 15 Working Days
- Phase 6: 20 Working Days

INCENTIVE FOR EARLY OPENING OF MAINLINE UNIVERSITY DRIVE TO PUBLIC TRAFFIC

If University Dr mainline reconstruction, including, but not limited to, median curb and gutter, median paving, striping, and opening of three northbound, three southbound thru lanes, and turn lanes as shown in the plans to the motoring public is completed prior to August 18, 2018 an incentive payment of \$12,500 will be made per calendar day for each day before, and including August 18, 2018 that the roadway is fully open to traffic. Once traffic is restored on the reconstructed roadway, future lane closures will not be allowed. The maximum incentive payment allowed for early project completion will be \$175,000. Holidays and Sundays will be counted as calendar days for application of the incentive.

Work items that do not result in impacts to mainline University Dr traffic are not required to be complete in order to receive the incentive payment. These items include seeding, permanent signal systems, lighting systems, 21st Ave S reconstruction, and interchange ramp improvements provided these work items do not impact requirements for opening to mainline traffic as listed above.

Any changes in the work, including but not limited to changed conditions, added items of work, increased quantities, or increased calendar days will not result in adjustments to the incentive date of August 18, 2018, or other incentive stipulations. The elimination of work items, decreases in quantities, or changes resulting in a reduction of the scope of work may result in the incentive date being moved to an earlier date, and changes to the incentive

stipulations.

DISINCENTIVE FOR EARLY OPENING OF MAINLINE UNIVERSITY DRIVE TO PUBLIC TRAFFIC

If mainline University Dr is not fully opened to the public by August 18, 2018 a disincentive payment will be charged at a rate of \$12,500 per calendar day for each day after August 18, 2018 that the work remains incomplete. Holidays and Sundays will be counted as calendar days for application of the disincentive. There is no limit on the amount of disincentive which may be charged.

DISINCENTIVE FOR LATE COMPLETION OF THE PROJECT

If the project is not completed by September 15, 2018 liquidated damages will be charged for each working day after September 15, 2018 that the work remains incomplete in accordance with Standard Specification 108.07.

DISINCENTIVE APPLICATION

The assessment of the disincentive will continue until all work is complete as defined in the section "INCENTIVE", except during periods of authorized suspension. Permitting the continuation and finishing of the work after the specified contract time, or approved extension has elapsed shall not be deemed as a waiver of any rights under the contract.

Time extension requests to delay the disincentive application may be considered for changes in the work, including but not limited to changed conditions, added items of work, and increased quantities. Requests may also be considered for industry-wide labor disputes, industry-wide material delivery delays, or natural disasters as declared by the governor of the state of North Dakota. If a time extension is granted no disincentive will be charged until the time extension has expired.

Suspension or reduction of time charges may be applied after the work is substantially complete and in condition for safe and convenient unrestricted use by the traveling public. The project will be considered substantially complete when all grading, drainage systems items are complete, all necessary signing, striping, guardrail and other safety appurtenances have been installed, all pavement is complete and open to traffic, and the traffic signals and systems are fully operational. The suspension of time charges shall not be construed as a contractual right of the contractor, and its application will be contingent upon the contractor's diligence in completing the remaining items of work.

WORK SCHEDULE

Working 24 hours per day will not be permitted. No work on Sundays or legal holidays will be permitted unless permission is obtained in writing from the engineer.

For purposes of the incentive and disincentive application only full days will be counted, from 12:01 A.M. to 12:00 A.M., with no adjustments for weather or other constraints except those described herein for incentive and disincentive, respectively. If an incentive is earned, it will begin the day following completion of the work, as defined above. If a disincentive is charged it will accrue in full day increments beginning the day following the completion date until the work is complete.

BASIS OF PAYMENT

Any incentive payment or disincentive charge will be addressed as a lump sum item on the progressive estimate. Any incentive that is earned will not be paid until signal and electrical inspections are completed and all work outlined in the inspection is completed to the satisfaction of the engineer. If applicable, disincentive charges will be deducted on the progressive estimates.

If a progress estimate or final estimate, including incentives and/or disincentives, indicates that the NDDOT has overpaid the contractor an amount exceeding the retainage the contractor shall submit a certified check for the amount of the overpayment to the NDDOT within 30 calendar days of the payment notice.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

CITY OF FARGO TRAFFIC SIGNALS

PROJECT IM-8-094(090)351, PCN 21169 and NHU-8-081(039)924, PCN 21400

This document was
originally issued
and sealed by
James M. Jussel
Registration number
PE-7526
on 8-16-2017 and the
original document is stored
at the North Dakota
Department
of Transportation.

1. GENERAL

This Special Provision applies to following intersection on this project:

- 18th Ave S (Traffic Signal System 3)

All work completed under this contract shall meet the requirements of THE CITY OF FARGO STANDARD SPECIFICATIONS FOR TRAFFIC SIGNALS, unless otherwise specified in the plans or in this special provision.

Signal Systems 1 (EB I-94 Ramp) and 2 (WB I-94 Ramp) shall meet the requirements of the North Dakota Department of Transportation Standard Specifications Section 772 Highway Traffic Signals.

This work shall consist of, but is not limited to, furnishing and installing traffic signals, pedestrian and school flashing beacons, communication cable, traffic surveillance cameras, and battery back-up systems. All work to remove/salvage the existing signal systems and install fulling permanent traffic signal systems as shown in the plans will be included in the price bid for "TRAFFIC SIGNAL SYSTEM". All work and material shall meet the National Electric Code, the North Dakota State Electrical Board, the local utility company, and the ordinances established by the City of Fargo. All materials shall be new unless specified otherwise in the Special Instructions for Bidders.

a. Traffic Signal Warranty

- i. The Contractor shall warrant and guarantee all materials, work and equipment for a period of at least one year from the date of final acceptance. In addition, the controller equipment supplier and manufacturer shall provide an additional four-year warranty, for a total of five years on the EPAC controller. All manufacturer warranties and guarantees with respect to materials, parts, workmanship or performance shall be secured and included with the shop drawing submittal.

b. Service Manuals

- i. The Engineer shall be furnished 1 service and operating manual for the traffic signal controller unit and emergency vehicle pre-emption controller.

Each service manual shall include the following information:

1. Detailed description of operation and instructions for initial set-up
2. All schematics and wiring diagrams of the unit
3. Recommended servicing and service hints
4. Complete parts list
5. Recommended spare parts list

c. Coordination

- i. The Contractor shall coordinate all work with the Engineer when work activities are scheduled. The Contractor is responsible to coordinate his activities with other City, State or County work. If the Contractor determines that other work in the area will substantially affect the project's substantial completion date, it is his responsibility to notify the Engineer and request a time extension.

d. Location of Existing Utilities

- i. Partial existing utilities have been shown to direct the Contractor's attention to their existence. Such utilities have been plotted from record drawings.
- ii. The Contractor is cautioned that all existing utilities may not be shown. The location of existing utilities is not guaranteed, and the Contractor will be responsible for determining the exact location and protection of the existing utilities. The Contractor, before commencing any excavation or construction, shall find out the location and seek aid in locating all public and private utilities. The Contractor shall contact ND One-Call 1-800-795-0555 and request locates prior to beginning construction. Subcutting or scarifying over utility lines may be eliminated if, in the opinion of the Engineer, a hazardous situation exists.
- iii. The Contractor is responsible for verifying and following minimum horizontal and vertical clearance between light and/or signal standards and overhead power lines.

2. TRAFFIC SIGNAL INITIAL AND FINAL INSPECTION AND SUBSTANTIAL COMPLETION

- a. The project will not be classified as substantially complete until the signal system is functional, including the completions of all pay items including a fully functional fiber optic communication system.
- b. After the Contractor has completed the installation of the signal system(s) and any clean up items, he shall complete the "Contractor's Pre-Initial Traffic Signal Inspection Check List" provided by the City. Each item on the checklist shall be inspected by the Contractor. The Contractor's personnel that actually did the inspection shall initial each item showing that it has been completed. The completed check list shall be forwarded to the Engineer, along with the request for an initial inspection on the form provided by the City. The Engineer will set a date and time for the initial inspection. At the time of either an initial or final inspection, the Contractor is required to open and close all pull boxes, open and close all signal standard doors, and remove and hold wiring to allow for inspection of anchor bolt nut

tightness with hammer test. Contractor shall be present within 10' of each item being inspected to ensure clarity on what needs to be corrected.

- c. Initial and final inspections will not be performed between November 1st and April 1st. Inspections will not be done if there is rain or snow or wind greater than 15mph or if the temperature is less than 50° F.
- d. All items requiring additional work after the initial inspection will be noted by the City on the checklist. The Contractor shall complete work on all items prior to requesting a final inspection. A final functional inspection will be made a minimum of 30 more days after the initial inspection date. The Contractor shall submit, in writing to the Engineer, that all punch list items have been completed and request a final inspection on the form provided by the City. The Engineer may, at their discretion, stop the final inspection and require the Contractor to resubmit his request for final inspection after completing the required work. The City of Fargo will perform one initial inspection and one final inspection at no cost to the Contractor. Additional initial and final inspections shall assess the prime Contractor a fee of \$250 for each time an additional initial or final inspection is performed. The project will not be classified as final until the City accepts the project and assigns a final acceptance date. The date of final acceptance will be 30 days without failure for the City to accept the system. If the system fails during the 30-day acceptance period, the 30 days will start over after the failure has been repaired and inspected by the City. The Contractor is responsible for all maintenance of the signal system until the date of final acceptance, which includes being responsible for the system 24 hours a day, 365 days a year until the final acceptance date is reached.

3. SHOP DRAWINGS

- a. The Contractor shall provide an electronic PDF file of shop drawings and certifications required by the City of Fargo within 15 days after the contract has been signed by the City Commission. All shop drawings and certifications shall be approved prior to any work being started. The Contractor shall be responsible for the accuracy of the shop drawings. The Engineer's review does not relieve the Contractor of full responsibility for providing a quality product that meets Specifications.
- b. The Contractor shall submit shop drawings on the following listed items for approval:
 - i. Traffic Signal Controller Cabinet
 - 1. Load Bay
 - 2. Siemens Eagle Controller
 - 3. EDI Conflict Monitor
 - 4. Voltage Surge Suppression
 - 5. Flash Transfer Power Relay
 - 6. Solid State Flasher
 - 7. Solid State Load Switches with Input and Output Indicators
 - 8. Detector Rack 2.4 AMP+ Power Supply
 - 9. Vehicle Detector Rack Card
 - 10. GTT Model 764 Opticom Phase Selector
 - 11. Ethernet Switch
 - 12. Audible Pedestrian Push Button System
 - 13. Video Detection System
 - ii. Battery Backup Cabinet
 - 1. UPS Power Module

2. Batteries
 3. Battery Charge Management System
 4. Maintenance Bypass Switch
 5. Signal Cabinet Circuit Breaker
- iii. Feed Point Cabinet
 1. Surge Protection
 2. Circuit Breaker
 3. # 6 Power Wire THW & RHW
- iv. EVP System
 1. Opticom Detector
 2. EVP Confirmation Light
 3. EVP Mounting Hardware
 4. Opticom Cable
- v. Fiber Communication
 1. Fiber Optic Cable
 2. Fiber Optic Pigtail
 3. Fan Out Kit
 4. Fiber Optic Connectors
 5. Fiber Optic Jumper Cables
 6. Fiber Optic Distribution Panel
 7. Fiber Optic Splice Cabinet
 8. Fiber Optic Tyco Splice Enclosure
 9. 4 Port Active Optical Star Coupler
- vi. Vehicle Heads
 1. Housing
 2. Back Plate
 3. LED Sections
 4. Mounting Hardware
 5. Visors
- vii. Pedestrian Heads
 1. Housing
 2. Visor
 3. LED section
 4. Mounting Hardware
- viii. Signal Standards
 1. Standard
 2. Mast Arm
 3. T-Base
 4. Anchor Bolts
 5. Bolts, Nuts, & Washers
 6. Luminaire Extension & Fixture
- ix. Pull Box
 1. Frame
 2. Cover
- x. Pedestrian Push Buttons
 1. Button

- 2. Housing
 - 3. Sign
 - 4. Post
- xi. Detection Loops
 - 1. Loop Wire
 - 2. Loop Sealant
 - 3. Loop Lead-in
 - 4. Splice Kits
- xii. Conduit & Innerduct(HDPE)
- xiii. Signal Control Cables
 - 1. No.14 AWG 20
 - 2. No.14 AWG 12
 - 3. No.14 AWG 7
 - 4. No.14 AWG 5
 - 5. No.14 AWG 3
 - 6. No.14 AWG 2
- xiv. Master Controller
- xv. Labeling Tape
- xvi. Camera Equipment
 - 1. Camera
 - 2. Mounting Hardware
 - 3. Power Supply
 - 4. Cables CAT 6 & No.16 AWG 3
 - 5. Ethernet Switch
 - 6. IMSA 40-2 Cable (Iteris Versa Cam)
- xvii. Interim Traffic Signal
 - 1. Wood Service Poles
 - 2. Vehicle Head Hardware
 - 3. Pedestrian Head Hardware
 - 4. Span Wire
 - 5. Guy Wire Anchors & Hardware
 - 6. Junction Boxes on Poles
 - 7. Weather Entrance Heads
 - 8. Span, Stabilization, & Guy Wire I-Bolts and Hardware
 - 9. 1" Ultratite-Type UL Liquid Tight Flexible Metal Conduit

4. SIGNAL PAINT

The traffic signal system components shall be painted in accordance with the following:

- a. All new signal standards shall be painted with the Millerbernd Factory Finish Paint Coat Specification using the Millerbernd I2/ZRU Paint System, with a clear top coat. Colors shall be as follows:
 - i. Transformer base – gloss black
 - ii. Mast arm – gloss black (see plans)
 - iii. Signal head mounting hardware – gloss black (see plans)
 - iv. Shaft – gloss black (see plans)
 - v. Signal housing – gloss black (see plans)

- vi. Pedestrian push-button post – gloss black (see plans)
- vii. Pedestrian push-button housing – gloss black (see plans)
- viii. Signal head doors, back plates and visors – flat black
- b. All areas requiring painting or touch up paint shall be prepared as follows:
 - i. If rusted:
 - 1. Completely remove all rust and loose paint.
 - 2. Sand all painted areas with 40 to 100 grit paper, depending on conditions.
 - 3. Wash down with “no rinse prepaint cleaner” manufactured by Great Lakes Laboratories.
 - 4. Prime bare metal with Devran 205 Primer manufactured by Devoe high performance coatings, or an approved equal.
 - 5. Top coat and clear coat with products supplied by the original pole manufacturer.
 - ii. All other non-rust paint areas:
 - 1. Remove loose paint.
 - 2. Sand all paint areas with 40-grit paper.
 - 3. Wash down with “no rinse prepaint cleaner”.
 - 4. Prime bare metal with Devran 205 Primer manufactured by Devoe high performance coatings, or an approved equal.
 - 5. Top coat and clear coat with products supplied by the original pole manufacturer.
- c. The following method shall be followed for re-painting existing Standards when required on the plan:
 - i. Sandblast Signal Standard
 - 1. Remove all bandit mounting material, signs and pedestrian buttons.
 - 2. Completely remove all rust and paint by White Metal Blasting the signal standard.
 - 3. White Metal Blast cleaning is used when a totally cleaned surface is required. This method of cleaning is defined as a sandblasted cleaned surface with a gray-white uniform metallic color. It shall be free of all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint, stains, streaks or any other contaminant across 100% of every square inch.
 - 4. Sandblasting material shall be a steel grit angular carbon steel.
 - 5. Sandblasting shall be done on site with the signal standards in place and operational. All pedestrians and the traveling public shall be protected from all debris. All sandblasting material and removed pole paint/debris shall be collected in a method that is approved by the EPA. Existing pole paint-debris may contain harmful chemicals or existing lead paint, which the Contractor shall be responsible for containing and cleaning up, along with protecting pedestrians and the traveling public from these hazardous contaminants.

6. Before the primer is applied, the pole must be inspected by the City of Fargo to ensure that it is free of all paint, rust and contaminates. Pole must be prepped according to Specifications and to the satisfaction of the Engineer in the field. Pole may need to be re-blasted or may need to be cleaned with Devoe DEVPREP 88 cleaner. The Engineer in the field will require which method shall be used.
- ii. Paint Signal Standard
 1. Mask all areas as per detail sheet in plans.
 2. Prime bare metal with Devoe Devran 205 Primer.
 3. Apply two top coats of Devthane 379UVA manufactured by Devoe high performance coatings, and one coat of clear coat as recommended by the top coat manufacturer. **Yellow color shall be No.13538 of Federal Standard No. 595 B.*
 4. Thickness of all coats applied shall be according to the manufacturer's recommended film thickness. Application of all materials shall follow the manufacturer's directions for use.
 5. Re-install all pedestrian push buttons and signs. Re-install iron pole plates for vehicle heads as per detail. Remove all masking.
 6. After sandblasting has been approve, clean all debris off terminal boards with compressed air, or still bristle broom. Apply coating of approved red insulation varnish to terminal block.
 7. Remove and replace ALL post mount plugs on standard before painting.
- iii. The Contractor shall warrant and guarantee all materials, work, and equipment for a period of at least five years from the date of final acceptance. Contractor is required to get a certified warranty from Devoe to the City of Fargo covering all labor and materials if the paint fails. Cost of warranty shall be included with the price bid for "TRAFFIC SIGNAL SYSTEM".

5. PULL BOXES

- a. Install PVC Box (City of Fargo Traffic Signal Specifications - Detail 5.4)
 - i. Pull boxes shall be PVC with metal frames and covers, and shall conform to the detail included in the plans.
 - ii. Pull boxes in landscaped areas shall have the top of the box level with the final grade and sloped to match the slope of the final grade on all 4 quadrants. Pull boxes in concrete area shall be set with the top of the box flush with the final grade at all 4 quadrants.
 - iii. All PVC pull boxes installed in concrete areas shall have a bell end on the bottom of the pull box to prevent frost heaving.
 - iv. ALL conduits shall extend into pull box a MAXIMUM of 3".
- b. Install Fiber Pull Box (City of Fargo Traffic Signal Specifications - Detail 5.10)
 - i. This shall include the cost to supply and install a Quazite pull box. The size shall be 30" x 48" x 48" deep, with no base. The cover will be 1-3/4" thick, secured with stainless steel

bolts, and have a logo of "Traffic Signals". The base and cover shall be made from Quazite and sustain a minimum test load of 12,000#. Color shall be gray. Pull box shall be a PD style enclosure that has a 1-degree flare to prevent frost heave.

- ii. Two feet of crushed rock shall be installed for drainage below the pull box and will extend 6" beyond the outside edge of pull box. The top of box shall be at final grade and sloped to match. A 6' x 6' concrete pad shall be installed around the IT-Pull box. The concrete pad shall be 6" thick, reinforced with 6" x 6" x 10 GA welded wire fabric and shall be incidental to the price bid for IT-Pull Box. All conduit entrances shall be a minimum of 24" from top of box. ALL conduits shall extend into pull box a maximum of 3".

6. PEDESTRIAN PUSH BUTTON AND SIGNS (City of Fargo Traffic Signal Specifications - Detail5.3)

- a. Pedestrian push button signs shall be bolted directly to the traffic signal standards. Do not use bandit for this purpose. Furnishing and installing pedestrian push buttons and sign shall be included with the price bid for "TRAFFIC SIGNAL SYSTEM" AND "TEMPORARY TRAFFIC SIGNALS".
- b. All Pedestrian push buttons shall be a Polara iN2 iNavigator-2 wire push button system. All Polara cabinet equipment shall be factory installed inside the cabinet by Brown Traffic products. Pedestrian buttons shall have a 5" x 7" face plate with Braille options and a Bi-directional arrow. One spare button with (2) spare signs, (1) for street, and (1) for Avenue shall be provided with the system. The system shall include the most current revision of software for installation on up to 10 computers. All sound/wave files for each APS button SHALL be supplied to City of Fargo.
- c. The pedestrian push button steel post shall meet the requirements of the detail sheet. Pedestrian post base shall be schedule 80 extra heavy carbon steel black P.E. pipe O.D. 5.563" and wall thickness of .375". Pedestrian post shall be 4" Intermediate Metal Conduit.

7. FARGO TYPE B CABINET (City of Fargo Traffic Signal Specifications - Detail 5.3)

- a. The Cabinet size shall conform to the details shown in the plan and the following:
 - i. Type A Cabinet shall be size M (height 51", width 36", depth 17")
 - ii. Type B Cabinet shall be size P-44 (66" x 44" x 25.5")
- b. Anchor bolts must be set into controller foundation when poured.
- c. When installing the cabinet on the concrete foundation, a bead of SikaFlex 15LM construction sealant shall be placed under the bottom flange of the cabinet within one inch of the outside edge of the cabinet. An additional bead of SikaFlex 15LM construction sealant shall be placed continuously around the outside of the cabinet at the seam between the cabinet and the foundation. All exposed outer cabinet seams shall be sealed with a bead of SikaFlex 15LM construction sealant.
- d. The Contractor shall supply a fully wired and terminated NEMA cabinet from the pre-approved supplier list below. The controllers shall be supplied by the same manufacturer and be of the same model number and most recent software.
- e. City of Fargo Type B Cabinet Assembly with a MARC System, EPAC Model M-60 Series Controller with Multimode Fiber Optic Communications and have the optional Ethernet switch communications module manufactured by Siemens, supplied by Brown Traffic Control, Davenport, IA. The conflict monitor shall be an EDI SSM 12LEip. All cabinets shall be wired for use of either 2 Channel or 4 Channel

Global Traffic Technologies Opticom cards. The Contractor shall supply LM 602 Series rack mounted vehicle loop monitors from EDI of Phoenix, AZ. See plans for additional cabinet requirements.

- f. All new Fargo Type B cabinets shall have a Control RocketLinx ES8520-XT managed ethernet switch with 2 (SFP-MM-FX-XT) and 2 (SFP-SM10-GLX-XT) SFP's.
- g. OCC Fiber distribution enclosure. Standard is 2 ZDMB6B enclosures, one for singlemode fiber and one for multimode fiber. Adapter plates shall be 6112DLC. Adapter plate may vary depending on the number of fibers to be landed in the signal cabinet. See fiber splice diagrams for details.
- h. Polara iNavigator 2-wire push button system which includes: the Polara iCCu-C iTELLIGENT CENTRAL CONTROL UNIT RACK MOUNT CARD, and interconnect board in the traffic signal cabinet.
- i. Cabinet Wiring Diagram
The following items shall be labeled on the Cabinet Wiring Diagram:
 - i. The Loop Designation number (i.e. D2-1) from the plan shall be labeled on the Detector panel drawing adjacent to the point for termination.
 - ii. The field wire terminals for the Vehicle/Pedestrian Head Control Cables shall be labeled with the phase number and direction (i.e. 02, SB).
 - iii. The field wire terminals for the opticom cable shall be labeled with the pre-empt number (i.e. P.E. #1).
 - iv. The field wire terminals for the pre-empt indicator lamps shall be labeled with the pre-empt number and direction (i.e. P.E. #1, N.B.).
 - v. The field wire terminals for the pedestrian push button cables shall be labeled with the phase number (i.e. 08 PED).
 - vi. Provide an AutoCAD drawing file of the as-built cabinet wiring diagram.
 - vii. All text on the cabinet wiring diagram shall use the Arial style font.
 - viii. The detector rack label shall look like the detector rack label on the plans. The text size shall be .13 in height for all text on the label except the VD1, SD1, VD2, SD2, etc. shall be .09 in height.
 - ix. Contractor is responsible for pickup of cabinet prints and for returning one revised print to the cabinet in the field and returning all other copies to the Sign and Signal shop, located at 510 5 St N.
- j. A complete cabinet conflict monitor test shall be performed and passed by the Contractor just prior to the uncovering of the traffic heads. The City will supply the conflict monitor maintenance record test form. The instructions on this form must be followed completely before the signals are used. Contractor is responsible to provide a flagger traffic control person for the intersection while the conflict monitor test is performed.
- k. The Contractor shall provide two spare load switches and one spare two-channel vehicle detector for each controller and cabinet supplied on the project.
- l. All load switches provided as part of this project shall be equipped with both input and output L.E.D.'s.

- m. Controller working slab shall be 6 feet wide and extend a minimum of 4 feet from the face of the controller foundation. The slab shall be 4 inches thick and reinforced with 6" x 6" x 10 GA welded wire fabric and shall be tied to the controller foundation with 18-inch long #3 rebar spaced 18 inches on center. The controller working slab shall have a slope of .25 inches per foot away from the controller cabinet foundation. The closest point of the top of the slab to finished grade shall be 2 inches above grade, except where matched to sidewalk grade. Working slab shall be incidental to pouring the controller cabinet foundation. If working slab is within 3' of sidewalk, contractor shall connect working slab to sidewalk.
- n. The cabinet shall have an independent insulated multi wire terminal bar to terminate the trace wires installed in all signal conduits. A connection shall be installed to the trace wires terminal bar that can be accessed from the outside of cabinet for locating personnel.
- o. The Contractor shall label and provide to the City before installing the following equipment for programming:
 - Controller
 - Conflict Monitor
 - Fiber Switch w/ all accessories
 - PTZ Camera (Camera only)
 - EVP Card
 - Audible Push Button CCU
 - UPS Power Inverter

8. VEHICLE AND PEDESTRIAN HEADS (City of Fargo Traffic Signal Specifications - Detail 5.2)

- a. All signal plumbizer, mounting hardware, and pedestal adapters/collars shall be iron – absolutely no aluminum. Color shall be black unless noted in plans.
- b. All vehicle heads and all pedestrian heads shall be SG polycarbonate. All heads shall be installed level on all sides. Five section cluster mast arm mounted heads shall be installed using a Frey Manufacturing 52CA Cluster Adapter with a 45V angled plumbizer and a 32C Clamp Adapter. All vehicle and pedestrian heads shall be manufactured by Siemens Eagle, McCain, or approved equal. All signal heads shall be required to have reinforcement plate kits installed on them. All 5 section doghouse style heads shall have the doors hinge on outside of the head, so all heads can be opened at the same time.
- c. Astro brackets are approved for use on mast arm mounted 5-section heads. Astro brackets may also be used to mount new heads on existing mast arms that do not have an existing tendon on the mast arm. Shop drawings for signal heads shall indicate the type of mounting.
- d. Vehicle Indication Alignment of Post and Pedestal Vehicle heads mounted on signal standards shall be leveled on all 4-sides and aimed to the center of the oncoming traffic lane 200 feet from the stop bar. Left turn heads that are post and pedestal mounted shall be aimed to the center of the left turn lane 200 feet from the stop bar. Mast arm heads shall be parallel to oncoming traffic.
- e. All traffic signal back plates shall be louvered aluminum and have a minimum thickness of .063". Back plates shall be installed using 3/4" O.D. x 3/16" I.D. x standard thickness washers on all screws. Washers shall be stainless steel #10 fender washers. Screws used to attach the back plates to the signal head shall be 1/2" #10 pan head tap screws supplied by Northern State Supply #TNP-4714-PZ or approved equal.

- f. All red, yellow, green and pedestrian indications shall be L.E.D. conforming to the latest standards of the Institute of Transportation Engineers. All LED's shall have a 5-year warranty. Approved 12" L.E.D. balls are Dialight "XL" series red ball part number 433-1210-003XL, yellow ball part number 433-3230-901XL, green ball part number 433-2270-001XL, or GE "GT1" series red ball part number DR6-RTFB-17A, yellow ball part number DR6-YTFB-17A-YX1, green ball part number DR6-GCFB-17A or Leotek "P2" series red ball part number TSL-12R-LX-IL6-A1-P2, yellow ball part number TSL-12Y-LX-IL6-A1-P2, green ball part number TSL-12G-LX-IL6-A1-P2. Approved 12" L.E.D. arrows are Dialight red arrow part number 432-1314-001XOD, yellow arrow part number 431-3334-901XOD, and green arrow part number 432-2374-001XOD or GE "GT1" series red arrow part number DR6-RTAAN-17A, yellow arrow part number DR6-YTAAN-17A-YX, green arrow part number DR6-GCAAN-17A, or Leotek "P2" series red arrow part number TSL-12RA-IL6-A1, yellow arrow part number TSL-12YA-IL6-A1, green arrow part number TSL-12GA-IL6-A1. Approved pedestrian heads shall be 16"x18" countdown pedestrian signals. Approved pedestrian countdown signals are GE "GT1" series part number PS7-CFF1-26A-J, or Leotek "CIL" series part number TSL-PED-16-CIL-P1, or approved equal. Dialight pedestrian countdown signals will NOT be approved.
 - g. Installing L.E.D. vehicle signal sections shall include furnishing and installing 12 inch L.E.D. vehicle signals existing signal head housing for the existing red, yellow, and green vehicle indications. The price bid "TRAFFIC SIGNAL SYSTEM" shall include all materials and labor for each L.E.D. vehicle signal installed. Contractor is required to place an LED Load on any phase with a single LED when changing out the LED's to prevent the signal from going into flash. Contractor shall install Wago 222-series Lever Nuts on all splices in vehicle/pedestrian heads. Contractor shall install dielectric grease in all used or unused entrances of the Lever Nut.
 - h. Installing L.E.D. pedestrian signal sections shall include furnishing and installing 16" L.E.D. countdown pedestrian into the existing pedestrian signal head housing. The price bid for "TRAFFIC SIGNAL SYSTEM" shall include all materials and labor for each L.E.D. pedestrian signal installed.
 - i. All conductor from the signal/pedestrian heads to the splice in T-base shall be included in the cost of furnishing and installing of signal/pedestrian head.
9. VEHICLE DETECTION LOOPS (City of Fargo Traffic Signal Specifications - Detail 5.4)
- a. Sawed Vehicle loops shall be shown on the plans and the Loop Detector Detail Sheet. The loop location shall be marked on the pavement. The loop shall be placed in the lane for which it was intended, perpendicular to the lane, and to the size shown in the Contract. The Engineer may move the loop location longitudinally to avoid joints, pavement cracks, manholes, and other obstructions. All vehicle loops in milled areas shall be sawed after the surface has been milled and prior to the final lift of new asphalt.
 - b. Interruption of the normal flow of traffic shall be the minimum time necessary for installation of the road loop. Work shall not begin until all material, equipment, and personnel are at the site. Type III Barricades, warning signs, and flag persons shall be placed to protect the workers and the traveling public.
 - c. Conduit shall be installed from the pull box to the same panel in which the loop is installed, home run saw slots shall not cross any contraction joints in the concrete when new loops are installed on projects where a new concrete roadway is installed. Each loop shall have a separate conduit installed for the pull

- box entry. Loops installed on an existing roadway surface shall have conduit installed from the pull box to the gutter or roadway edge as specified on the detail sheet. The excavation from the saw slot at the gutter or roadway edge shall be made by means of a punch or drill type tool, rather than by usual excavating methods. The visible portion of the gutter shall not be cut for conduit installation. The conduit shall be installed to directly receive the loop wire in line and not at an angle. The hole to receive the conduit shall be at a depth below the roadway surface so there is a minimum of 2 inches of cover on top of the conduit when installed. Duct Seal shall be inserted into the loop pipe to prevent any sealant from entering the pipe and the top 2 inches of the cover over the conduit hole shall be sealed with the same sealant used to close the saw cut. The conduit and the pull box shall be installed at the same time.
- d. Only vehicle loop duct type wire shall be used having a ¼-inch XLPE high density polyethylene tube jacket covering a #14 AWG stranded copper conductor with Type XHHW insulation.
 - i. All sawed or preformed loops shall have 3 turns of loop wire.
 - e. Loop Saw Lot
 - i. The pavement slot shall be sawed with a self-propelled power saw equipped with a depth gauge and alignment guide. The pavement slot shall be cut cleanly and well defined. The saw cut shall be overlapped at all corners and right angle corners shall be cored as shown on the Standard Drawings. The saw cut may be made at any time before installation of the wire. Slots shall be cleaned immediately after the cutting operation.
 - ii. All saw cuts shall be sealed with an approved hot pour sealant. Before sealing the saw slot, each saw slot shall be thoroughly dried, cleaned of all dust, dirt, concrete scale, and other foreign matter. Sandblast all sealed areas, and then blow out with a jet of compressed air to remove sandblaster material. The joint faces shall be clean and dry when the joints are sealed. Joints shall not be sealed when the air temperature is below 40 degrees F.
 - iii. Failure of the saw slot material in either adhesion or cohesion in the first year after the final acceptance date shall be cause for rejection and shall be repaired at the Contractor's expense.
 - f. Hot Pour Sealant
 - i. The heating kettle shall be of the indirect heating, double-boiler type, using oil or other suitable material as the heat transfer medium. The kettle shall have a thermostatically controlled heat source, accurate temperature indicating devices and an effective mechanical agitator.
 - ii. The sealant shall be W.R. Meadow 3405, and have a pressure-type applicator and shall completely fill the saw slot from the bottom up to the top, until it is level with the road surface, with no more than ¼" overflow or spillage of sealant onto the pavement surface. Tar buckets will no longer be allowed for application of sealant.
 - g. Loop Lead-In Cables
 - i. Loop lead-in cables shall be a #14 AWG stranded polyethylene insulated twisted pair with a foil shield with drain wire and a polyethylene jacket. The loop lead-in conductor shall not be spliced except at the pull box where this conductor and the loop conductor are spliced together.

- ii. Loop lead-in conductors shall be lightly sanded, cleaned with an approved method, and wiped clean with a clean towel, then wire nut or crimp connected, then encapsulated in an epoxy splice kit manufactured by URASEAL Product No. CK200 kits must be under 1 year from manufacturing date. Conductors in the splice kit shall not be taped together. Loop lead-in and loop wires shall have sufficient slack to extend a minimum of 6 feet above the pull box opening and installed in the pull box with the splice kit taped to a length of 1" PVC such that the splice is secured in the upper 1/3 of pull box

h. Testing

- i. Before pouring the sealer, the loop shall be checked for continuity, inductance, and insulation resistance. The test shall be made in the Engineer's presence, and the necessary equipment needed to perform these tests shall be furnished by the Contractor. The City reserves the right to retest, and these test results shall govern the acceptance or rejection of the loop installation. Tests shall be made as follows:
 - 1. Continuity Test. Each loop detector circuit shall be tested for continuity at two locations:
 - i. Loop detector at the pull box before splicing with the loop detector lead-in cable shall have a value less than 0.5 ohms.
 - ii. Loop detector and lead-in cable system at the traffic signal controller cabinet or detector cabinet after splicing in the pull box shall have a value less than 5 ohms. The continuity test ohm reading at the traffic signal controller cabinet or detector cabinet shall be greater than the ohm reading measured at the loop detector at the pull box
 - 2. Inductance Test. Each loop detector and lead-in cable system shall have an inductance test measured at the traffic signal controller cabinet or detector cabinet. The inductance shall be in the range of 50 to 700 micro henries.
 - 3. Insulation Resistance Test. An insulation resistance test at 500 volts direct current shall be made at the traffic signal controller cabinet or at the detector cabinet between one loop detector lead-in conductor and the cabinet ground rod. The insulation resistance shall have a value of 500 mega ohms or greater.
- ii. A vehicle loop detector test shall be performed and recorded before the initial inspection using a City provided form. This form will be used for rechecking the loops at the final inspection.
- iii. The City will retest all loops at the Final Inspection.

10. CONTROL CABLES

- a. The jacket on all control cables shall be polyethylene with the thickness meeting Table 7.4.2 NEMA WC-70.
- b. All cables shall be un-spliced, including pedestrian push button wires.
- c. Terminal boards and blocks shall be provided for connections of control circuits in signal standard bases.
- d. There shall be no splices below grade except for loop lead-in conductors. Pulled through conductors shall have sufficient slack to extend a minimum of 18 inches above the pull box opening.

e. Additional Cable Quantities

Additional cable quantities shall be installed to provide for slack and the wiring of controllers, feed points, and signal heads as follows:

- A. Ten feet at the controller
- B. Twenty feet at post-mounted and pedestal-mounted vehicular signal heads
- C. Eighteen feet at post-mounted and pedestal-mounted pedestrian signal heads
- D. Eight feet at each pedestrian push button
- E. Eighteen feet at each flashing beacon sign support
- F. Twenty-three feet at each signal pole with mast arm plus the length of the mast arm, plus an additional 2' for plumbizer mount and an additional 5' for an Astro bracket mount.
- G. Ten feet at the feed point
- H. Five feet at each foundation for each incoming and outgoing pedestrian and signal head control circuit
- I. Ten feet at pull boxes where connections are made.
- J. Ten feet for loop lead-in cables where they are spliced to the loop in the pull box
- K. Three feet at each foundation for each incoming and outgoing circuit which passes through the foundation with no connection being made.
- L. 43 feet plus length of mastarm for Opticom and indicator light, contractor shall pull out any excess of five feet from T-base and store in the nearest pull box.

11. EMERGENCY VEHICLE PRE-EMPTION (City of Fargo Traffic Signal Specifications - Detail 5.5)

- a. All locations on the plans calling for an Emergency Vehicle Pre-emption Detector shall consist of a Global Traffic Technologies Model 722 EVP detector and light assembly. Install assembly 6 feet from end on existing mast arm poles unless otherwise shown on the mast arm detail sheet. Each detector tube shall be aimed at a point 1800' from the intersection towards the associated on-coming traffic. The indicator lamp shall be angled downward 1 notch from level and aimed at a point 1800 feet from the intersection.
- b. The Opticom Priority Control System shall be an Opticom Model 764 Multimode Phase Selector.
- c. Install EVP L.E.D. indicator lamps for all phases when new cabinet/EVP system is in place and operational.
- d. The Contractor shall notify the Fargo Fire Department when EVP is taken out of service and returned to service.
- e. The Contractor shall setup and verify the EVP detector operation within one week of the signal being operational to traffic. Contractor shall test range with a Contractor supplied EVP emitter at a distance of 1800' from the intersection. City will set the EVP range at the initial inspection.
- f. The EVP system shall be wired with an approved opticom cable that is recommended by the Manufacturer for the EVP detector.
 - i. Top Tube Pre-emption 1 & 3 Blue Wire
 - ii. Bottom Tube Pre-emption 2 & 4 Yellow Wire

- g. The Contractor shall follow Global Traffic Technologies instructions for all opticom cable connections. If only one circuit is needed, wire both tubes as assigned above. Cap the unused pre-empt opticom cable wire in the controller cabinet. Aim both tubes in the one direction that is being used.

12. CONDUIT

- a. All conduit shall be installed 24 inches below final grade. Nonmetallic conduit shall be either polyvinyl chloride (heavy wall – PVC) or high-density polyethylene (HDPE) conduit, both as specified below.
- b. PVC conduit shall meet the requirements of UL 651 suitable for direct burial applications and shall have a minimum wall thickness equivalent to Schedule 40 as defined by ASTM 1785.
- c. HDPE conduit shall meet the requirements of UL 651 and either ASTM 2447 or ASTM 3035 suitable for direct burial applications. HDPE conduit shall have a minimum wall thickness equivalent to Schedule 40 as defined by ASTM 2447 or DR 15.5 as defined by ASTM 3035. HDPE conduit shall not be installed when either the conduit temperature or ambient temperature is below –10 F.
- d. Conduit shall be installed at the location shown on the plans. Conduit shall be bored under existing pavement. Boring conduit shall be considered incidental to the bid price for conduit and for which no additional compensation shall be made.
- e. All conduits shall have bell ends installed on both ends of the conduit run. All conduits spare extend into pull boxes a maximum of 3”.
- f. All conduits containing conductor/cables shall be sealed with duct seal at the controller cabinet and at the traffic signal standard foundations.
- g. All spare conduits shall be plugged with an expanding rubber pipe plug and labeled at the cabinet and signal standard bases.
- h. The Contractor shall use 2” innerduct for the interconnect conduit. Innerduct shall be 2”, schedule 40 innerduct, smooth outside, controlled outside diameter at 2.375. Inside diameter of 2.027, minimum wall thickness of 0.154, and color ORANGE. Installation of innerduct shall be at a depth of 24” below finished grade. Innerduct will be measured by the linear foot. Couplings/fittings used at concrete bases, and the method of innerduct installation, will not be measured for payment but will be included in the price bid for conduit. Innerduct may also be used for all wire signal conduit runs, but if it is used, it must be red in color. All innerduct shall have Bell Ends installed on both ends of the innerduct run.
- i. The Contractor shall install two additional 2-inch diameter conduits in each new controller foundation. The direction of these conduits will be determined in the field by the Engineer and labeled in the cabinet by the Contractor. Each foundation for a traffic signal standard and each feed point foundation shall have one spare 2-inch conduit. The direction will be determined by the Engineer in the field and labeled at the foundation by the Contractor. The conduits shall be plugged with a 2” expandable pipe plug. Not a separate pay item, cost is to be included in the price bid for “TRAFFIC SIGNAL SYSTEM”.
- j. All conduits shall have a **RED 600V rated** No. 12 Copper Clad trace wire with HDPE insulation, rated at a minimum 250 LB of breaking load installed, including empty/spare.

13. LABEL ALL FIELD CABLES

- a. All labeling materials shall be approved by the City. Labels shall be readable without moving the cables. All field cables installed by the Contractor shall be labeled with the cable designations:

TYPE	LABEL	LABEL LOCATION
Fiber cable	Comm./intersection address of other end	Within 12" of conduit
Fiber Jumper & box	Fiber Jumper-Fiber #, fiber panel-Fiber #	See fiber Detail Sheet
Pedestrian push button	Phase/location (i.e. 02-NW, 02-SW, 02-S MED, etc.)	Within 6" of terminals
Loop lead-in	Detection zone (i.e. D2-1, D2-2, etc.)	Within 6" of terminals
Control cable	Cable number & location (i.e. Cable 1-NW, Cable 2-SW, etc.)	Within 12" of conduit
Opticom cable	Pre-empt number/location (i.e. P.E. 1-NW, P.E. 2-SW, etc.)	Within 6" of terminal
Camera power cable	Camera no./location (i.e. camera 1/NW)	Within 6" of terminal
CAT 6 cable	Camera no./location (i.e. camera 1/NW)	Within 6" of terminal
T-Base Cables	Head # & Cable # and label individual head wires, (i.e. phase 2R,2Y,2G, 2W, 2DW, OLA-R i.e. head# P1,P2,V1, V2,V10, V10A, Neutral+each head #) see Photo Detail	See Photo Detail
Head Cabinet Controller Wires	Tie the RED-YELLOW-GREEN wires together with electrical tape for each cable head and label with the plan head number (i.e. Head #1, Head #2, P1, P2)	Within 6" of terminal

- b. All labels shall be machine printed on a tape width of 1/2". All lettering shall be 20pt. uppercase block style letters. The tape shall be affixed around the perimeter of cable with the tail at 90° to the cable. All lettering shall be on the tail of the label and readable without moving the cables. The labeling tape shall be designed for outdoor use. The tape shall have a minimum outdoor durability rating of 5 years in temperature ranging from 180°F to -40°F. The labels shall be capable of being applied outdoors at temperatures as low as 0°F.

14. COMMUNICATION CABLE (City of Fargo Traffic Signal Specifications - Detail 5.10)

The communication cable shall be a 24 strand fiber multi-mode/96 strand single mode hybrid optic cable suitable for outside plant operations manufactured by OCC Fiber or Superior Essex. The cable shall be a loose tube, single jacket, all dielectric cable design. The buffer tubes shall be gel filled, and the cable shall have a dielectric central strength member and a dry water blocking system. Tube colors shall be multi-mode blue tube fibers 1-12, multi-mode orange tube fibers 13-24, single-mode green tube fibers 25-36, single-mode brown tube fibers 37-48, single-mode slate tube fibers 49-60, single-mode white tube fibers 61-72, single-mode red tube fibers 73-84, single-mode black tube fibers 85-96, single-mode yellow tube 97-108, and single-mode violet tube 109-120

FIBER OPTIC CABLE REQUIREMENTS		
Requirement	Multi-mode	Single Mode
Outer Jacket	Polyethylene	Polyethylene
Core Diameter (μm)	62.5	8.0 – 10.0
Clad Diameter (μm)	125	125
Max. Attenuation (^{db} /km)	3.5 @850 nm 1.0 @1300 nm	0.35 @1310 nm 0.25 @1550 nm
Min. Bandwidth (MHz/km)	220 @850 nm 500 @1300 nm	N/A N/A
Max. Tensile Loading (N)	2700 Short Term 600 Long Term	2700 Short Term 600 Long Term

a. Fiber Optic Cable

- i. The fiber optic cable shall be dual window single-mode fiber with a maximum attenuation of 0.4 db/km at 1310 wavelength and maximum attenuation of 0.3 db/km at 1550 wavelength and shall meet or exceed Ethernet transmission standard IEEE 802.3ae.
- ii. Fiber cable construction shall be loose tube gel-filled color-coding per TIA/EIA 598B standards. The Central Strength member shall contain no metallic conductors. The overall strength member shall be aramid fiber yarn or fiberglass; the inner jacket shall be black UV and moisture resistant PE. The outer jacket will be black UV and moisture resistant PE with sequential meter markings.
- iii. The item “Communication Cable” will be measured by the linear foot. The quantities measured will be paid for at the contract price and shall be full compensation for all labor, equipment, and material necessary to complete the installation of the communication cable.
- iv. Fiber optic cable insulation shall have a maximum tensile load of 600 lbs. for installation and 200 lbs. for in-service load. The minimum bend radius shall be 20XOD for installation and 10XOD for in-service.

b. Handling of Cable

- i. Cables or inner duct shall be carefully inspected by the Contractor during placement operation to be certain that the fiber optic cable and inner duct are free from damage before placement.
- ii. Bends of small radii and twists that might damage cable or wire shall be avoided. During the placement operation, fiber optic cable shall not be bent in a radius less than 20 times the outside diameter of the cable.
- iii. Care is to be exercised during the placing operation, to feed the cable into the inner duct loosely and at no tension. Equipment and construction methods shall be such as to assure compliance with this requirement. The Contractor shall furnish competent supervision at all times at the site of cable placing operations to assure compliance with this requirement.

- iv. Every instance of damaged cable or wire observed at any time whether prior to installation, occurring during construction, or discovered by test of observation subsequent to installation in plant, shall be immediately called to the attention of the Engineer. The method of repair or correction of such damage shall be in accordance with the written instructions of the Engineer. The Contractor shall promptly repair such damage or make such corrections in accordance with such written instruction of the Engineer. Minor damage to the outer jacket of the cable or wire observed prior to or occurring during construction shall be repaired in accordance with RUS Splicing Standard Bulletin 1753F-401 (PC-2).
- v. The Contractor shall use a break-away swivel rated for 600 lb. break load for pulling all fiber optic cables.

c. Miscellaneous Specifications

- i. The Contractor shall include an **ORANGE** No. 12 Copper Clad Trace Wire with HDPE insulation, rated at a minimum 250 LB of breaking load, running the full length and parallel to each communication cable installed in conduits as a trace wire. This is not a separate bid item. The cost shall be included in the price bid for communication cable. The trace wire shall be labeled with the intersection address that it connects to. If the distance is too long to have a trace wire un-spliced then the Contractor may splice the trace wire with a DuraTrace connector part #3WY-01 or 3WB-01.
- ii. The Contractor shall provide 30' of slack cable in each pull box and 150' slack for each cable at the cabinet pull box where termination or splicing will occur or 85' of slack if the fiber cable is completely cut and is the end of the fiber run. The Contractor shall remove 10' of each cable end that was used to pull cable prior to installing the required amount of slack to be left in the pull box. Contractor is required to contact the Engineer in the field to discuss all footages left in pull boxes and what is needed for splicing before pulling in fiber and cutting it.

d. Fiber Optic Terminations and Equipment

The price bid for Fiber Optic Terminations and Equipment shall include all necessary connectors, terminations, equipment, labor and all other miscellaneous material to install a fully functional communication system including, but not limited to, the following:

- i. Supply and install a MM and/or SM fiber optic pigtail, shall be an OCC LC12XBX8A-0100 SM ASSEMBLY W/BX 12F with yellow outer jacket for single-mode, and LCC12XBX8A-0100 MM ASSEMBLY W/BX 12F with orange outer jacket for multi-mode, with a 2.0mm subcable around each fiber strand or approved equal. All ends of the pigtail shall be factory installed.
- ii. All installed ST connectors and fusion splicing.
- iii. Supplying and installing all OCC fiber optic distribution panels as per plan sheet.
 - 1. OCC Fiber distribution enclosure. Standard is 2 ZDMB6B enclosures, one for singlemode fiber and one for multimode fiber. Adapter plates shall be 6112DLC. Adapter plate may vary depending on the number of fibers to be landed in the signal cabinet. See fiber splice diagrams for details.

2. Distribution panel labels shall be labeled with the intersection address of the cable's other end, the port group as shown on the detail, and the number of the fiber strand terminated, and placed on the face of the distribution panel adjacent to the cable's fiber ports
 - iv. Providing and installing all fiber optic jumpers.
 1. Fiber optic jumpers attached to the distribution panel should be labeled with the fiber # it's connected to for each port group, representing the port it's plugged into. Fiber jumpers attached to the EPAC and MARC controllers shall be labeled A Tx/Rx or B Tx/Rx, representing the port it's plugged into.
 - v. Providing and installing TYCO FOSC 450 D6 enclosures and splice trays as per plan sheet.
 - vi. Providing and installing any international fiber systems minimum four port active optical star coupler as per plan.
 - vii. Any managed Ethernet switches that are called out for on the fiber splice diagram.
 - viii. Labeling all fiber cables, fiber tubes, trace wires, fiber pigtails, fiber distribution panels, fiber scalability centers, fibers jumpers, and all individual terminated fibers.
- e. Fiber Optic Cable Testing
- i. The Contractor shall test all terminated fibers at both ends with an OTDR tester and light meter recording the results on a City of Fargo Fiber Test Report Form and providing a computer printout from the OTDR of each fiber tested. If multi-mode fiber tests at 850 NM and 1300 NM are not within the City of Fargo standards of .5 dB loss for each ST connector at the bulkhead, .2 dB loss for each fusion splice, and .1 dB loss per 100 feet for 850 NM and .1 dB loss per 300 feet for 1300 NM of fiber being tested, then the Contractor shall repair/replace and the Contractor shall re-test the fiber with City personnel present. If single-mode fiber tests at 1310 NM and 1550 NM are not within the City of Fargo standards of .5 dB loss for each ST connector at the bulkhead, .2 dB loss for each fusion splice, .1 dB loss per 600 feet for 1310 NM and .1 dB loss per 750 feet for 1550 NM of fiber being tested, then the Contractor shall repair/replace and the Contractor shall re-test the fiber with City personnel present. All fiber shall be tested at each end. Any terminated fiber run that doesn't meet the testing tolerances specified shall be repaired/replaced by the Contractor. If any connectors or fusion splices fail the Contractor shall repair the connection, if a fiber cable is damaged or broke between connections the Contractor shall replace the entire cable between connections.
 - ii. Single mode fiber when tested shall be allowed the following tolerances: .1 dB per 600' (1310nm), .1 dB per 750' (1550nm) of fiber, .2 dB for each fusion splice, .5 dB for each ST connector, and .5 dB for each end that is bare fiber tested.
 - iii. Multi-mode fiber when tested shall be allowed the following tolerances: .1 dB per 100' (850nm), .1 dB per 300' (1300nm) of fiber, .2 dB for each fusion splice, .5 dB for each ST connector, and .5 dB for each end that is bare fiber tested.
 - iv. All fiber optic cable that is removed shall be tested by the Contractor and documented after it is removed and placed on a wire spool. All existing fiber optic cable will be considered

good and meeting City of Fargo tolerance Specifications. If the existing fiber tested doesn't fall within the tolerance of the specification, then the Contractor shall replace the fiber optic cable with a new one. The Contractor may test the existing cable before it is removed with an OTDR or light meter and provide a computer printout of the testing results to the City of Fargo, to ensure that the existing cable is good and meets specification tolerances.

- f. When all terminations are complete, the City of Fargo must inspect all splices inside the TYCO FOSC enclosures before the fiber optic communication system can be put into use. Contractor must set up a time to have the cases inspected, Contractor must open splice cases and show all splices and fiber tubes inside the TYCO splice case to the Engineer in the field. All fiber tubes shall be labeled inside the splice enclosure.

15. REMOVAL OF TRAFFIC SIGNAL EQUIPMENT

a. Remove and Salvage Traffic Signal Equipment

- i. This item includes the removal and salvage of all above ground and removal and disposal of all unused below ground conduit and pull boxes. All salvaged material shall be delivered by the Contractor to a City storage facility as directed by the Engineer. All salvage material shall be protected by the Contractor, and materials that are damaged by the Contractor's removal process or mishandling, shall be replaced with new equipment at the Contractor's expense. Before removing existing equipment, arrangements shall be made for the local utility company to disconnect the power source. When the meter is no longer needed, the local utility will remove it. The Contractor shall disconnect all wiring to the equipment and completely remove the item from its foundation. The traffic signal heads, and mounting brackets shall be removed from the standards, and the signal heads shall be removed from the mounting brackets. The old traffic control cabinet concrete foundation shall not be salvaged.

ii. Remove and Salvage Signal Standard

- 1. All signal standards removed from the project shall become property of the City of Fargo. Signal standards and mast arms shall be delivered to the City of Fargo Pole Lot for storage or taken to Gerdau Ameristeel/Fargo Iron and Metal for metal scrap salvage, and a check written to City of Fargo Traffic Engineering for the amount issued for the signal standard scrap metal. The signal poles that will be scrapped are to be determined by the Engineer in the field. All costs for removing and salvaging signal standards shall be incidental to the price bid for "TRAFFIC SIGNAL SYSTEM".

iii. Remove Interim Traffic Signals.

- 1. Feed point equipment shall be removed from the service pole. The conductor to the signal heads and controller shall be disconnected and removed, and all equipment on the service poles shall be removed. The service poles, span wire, and stabilization wire shall be removed and stored as directed.

iv. Remove Traffic Signal Controller.

- 1. The controller cabinet and all controller equipment shall be removed for storage. The foundation shall be removed and the surface of the site restored.

b. Remove Traffic Signal Foundation

- i. The existing foundations shall be removed to a depth of 4 feet below the ground line and the surface restored to match adjacent areas.

c. Remove and Salvage Conductor

- i. This item covers the disconnection of all wires, removal and salvage of all wire from intersection. Delivery of all salvaged wire to a facility designated by the City of Fargo.

d. Remove Pull Box

- i. The old concrete pull boxes shall not be salvaged; they shall be disposed of by the Contractor. All PVC pull boxes, frames and covers shall be salvaged and delivered to a facility designated by the City of Fargo.

16. INSTALL INTERIM SIGNAL (City of Fargo Traffic Signal Specifications - Detail 5.8)

This item includes the cost of providing, installing and maintaining interim signals at the location shown on the plans. All equipment supplied by the Contractor shall meet the City of Fargo Specifications. The Contractor shall install a pole mounted feed point and is responsible for arranging electrical service to the interim signals. All costs associated with the feed point shall be incidental to the price bid for interim signal. The Contractor will be responsible for the maintenance and electricity costs for the interim signal until the date of final acceptance.

a. Contractor shall provide the following items for the interim signal; items shall be incidental to the price bid for "INTERIM TRAFFIC SIGNALS".

- i. Span wire
- ii. Guy wire and anchors
- iii. Conduit
- iv. Wire
- v. Weather entrance leads
- vi. Junction boxes on interim poles
- vii. Span and stabilization wire eye bolts
- viii. Pedestrian push buttons and signs
- ix. Pole mounted feed point
- x. All 16" x 18" countdown Pedestrian Heads and mounting hardware
- xi. All vehicle heads and mounting hardware
- xii. Class II wood service poles
- xiii. Traffic signal controller cabinet and controller with all pluggable
- xiv. All Miscellaneous hardware needed to install the interim signal

17. FEED POINT (City of Fargo Traffic Signal Specifications - Detail 5.3)

- a. All conduits, cabinets, service conductor, service entrance heads, meter sockets (if required), ground rods, and concrete foundation shall be furnished by the Contractor. All equipment mounted in a switch box of the size shown on the Plans shall be arranged, installed, and wired as required. The local utility company shall be contacted for specific locations of feed points. The utility company will furnish and install the required single phase voltage service connection and any required meter. The contractor is responsible for ALL coordination and costs involved with getting power to the feed point.

- b. All traffic signal or combination traffic signal/street light feed points shall be pad mounted. The cabinet shall be NEMA 3R rating with lock drip shield and a 10-gauge steel back panel with ½" spacer behind the panel. The panel shall be painted white. The cabinet shall be constructed of welded, anodized Duranodiz 311 finished aluminum or stainless steel, minimum .125 thick, with non-corroding hardware. The minimum size shall be 60" high, 27" wide, 14" deep, (larger size may be required based on number of street light circuits) with a 3-point latch pad lockable handle. Cabinet shall be weatherproof. Padlock shall be obtained from the City of Fargo Engineering Department. The Electrical Company may require 2 electrical meters; 1 for traffic signals and 1 for street lights. This shall be incidental to the price bid for "Feed Point". Feed points shall require two ground rods that are spaced 6' to 7' apart.
- c. A lightning protection device shall be installed on the feed point incoming lines to prevent lightning surges entering through the wiring from damaging electrical wiring and control equipment in the traffic controller cabinets. The protector shall be a sturdy, weatherproof, service-proven device that immediately drains lightning surges harmlessly to ground. The protector shall be installed on the switch box and shall discharge a surge in a fraction of a second. It shall perform this protective function over and over again, without any maintenance required; possessing the same long-life, value-type characteristics obtained in higher voltage distribution arrestors. The protector shall be a two-pole, three-wire device designed for single-phase 120/240 volt three-wire grounded neutral service. The protector shall be mounted in the knockout in the switch box. All leads shall be tinned copper No. 14 AWG. The protector shall be capable of:
 - i. Limiting the surge voltage to 3 KV peak, while;
 - ii. Conducting surge currents of at least 10 KA with an 8 by 20 microseconds (time to crest by time to second half-crest) waveform; and Recovering to its former state after the surge is over with AC power applied. The manufacturer of the AC suppressor shall certify that the suppressor meets ANSI C 621.1/IEEE, Standard 28, paragraphs 7.1 and 7.6. The suppressor peak voltage shall not exceed 3 KV when tested according to paragraphs 7.3 and 7.5 of the ANSI/IEEE Specification. The AC line surge protector shall be installed on the load side of the circuit breaker. If the protector should fail and short the circuit, the circuit breaker shall open to give maximum protection. The AC neutral shall have the same protection as the AC load. The arrester leads shall be kept as short as possible. Grounds shall be made directly to the cabinet wall or ground plate as near as possible to the object being grounded. An acceptable arrangement is shown on the Plans. If the AC power is brought into the cabinet via an underground conduit, a similar arrangement shall be followed as shown on the Plans. If the conduit is metallic, it shall be connected to the ground rod as shown on the Plans. Connections from the ground rod to the objects inside shall be made with AWG No. 8 (or larger) copper wire.

18. BATTERY BACKUP SYSTEM

The cost bid for this item shall include all of the equipment listed below, any miscellaneous hardware, and installation of the UPS.

a. UPS Equipment and Hardware

Qty.	Part Number & Description	Item #
1	FXM 1100 with SNMP Ethernet Interface	017-230-23
1	Universal Automatic Transfer switch with status dry contact terminal blocks 120 volt	020-165-22
1	Wall mount kit for UATS	740-756-21
4	AlphaCell 195 GXL - 5 Yr Warranty - 100Ah	181-230-10
1	Remote Battery Management System/RMBS Plus	0370260-002
1	8' Cables - 33,160,165,180,210 - FXM	875-596-21
1	41H24W16D (Southern Quote JR-469) revised (Cabinet) with Fan and thermostat	New Part
1	30A Circuit breaker and mounting hardware	QOU130

Qty.	Part Number & Description
4	3/8" x 2" bolts with nuts and lock washers used to mount UPS cabinet
8	3/8" X 1 5/8"x 1/4" heavy square washers used to mount UPS cabinet
4	1/4" spring nuts and 1/4" X 1/2" screws used to mount Bypass Transfer Switch
1	2" chase nipple, lock nut and plastic bushing
2	1 1/2" x 23" Telespar used to space up the lower shelf

Qty.	Part Number & Description
unit	#10AWG solid blue, white and green power wires
unit	#16 AWG stranded black for logic common, yellow and orange control wires
3	#16 AWG #8 stud crimp lugs
unit	SikaFlex 15LM construction sealant

b. UPS Install Instructions

- i. City will program the UPS controller.
- ii. Attach, the UPS cabinet to the signal cabinet 10" up from the top of the signal cabinet cement foundation, using 4-bolts, nuts and 8-large square washers. Drill mounting holes

through the UPS cabinet reinforcement plates about 3/4" from the cabinet sides. Caulk the top and sides of the UPS cabinet where it meets the signal cabinet.

- iii. Install top of top shelf 31" from bottom of UPS cabinet and top of the center shelf 16 1/2" from bottom of UPS cabinet. Install the bottom shelf on top of the Telespar spacers.
 - iv. Install a 2" steel chase nipple and plastic bushing directly below the top shelf of the UPS cabinet into the signal cabinet.
 - v. Install the following equipment in the UPS cabinet and wire per the plan wiring instructions and drawings:
 - 1. Place the UPS control unit on the top shelf.
 - 2. Place left to right batteries #1 & #2 on the middle shelf.
 - 3. Place left to right Alpha Guard and batteries #3 & #4 on the bottom shelf.
 - vi. Install and wire the UPS transfer switch in the signal cabinet on the mounting channels above the power panel.
 - vii. The existing traffic signal cabinet power panel will need modifications to comply with the plan's wiring drawing. Below is a written description:
 - 1. Install circuit breaker CP4.
 - 2. Remove feed wire from CP3 and install to CP4.
 - 3. Remove feed jumper from between CP1 and CP2
 - 4. Remove feed wire from CP2 and install to CP1.
 - 5. Install Jumper between CP2 and CP3.
 - viii. Verify the operation of the equipment by exercising the transfer switch to all positions and test for the appropriate 120 voltages on the terminals of the transfer switch, UPS and signal cabinet power panel.
- c. The City of Fargo shall supply a typical wiring diagram showing how the battery backup system shall be installed in the traffic signal cabinet. Contractor is responsible for redlining and providing 3 copies of the Brown Traffic Products AutoCAD revisions of the traffic signal cabinet wiring diagram. Contractor is responsible for pickup of cabinet prints and for returning one revised print to the cabinet in the field and returning all other copies to the sign and signal shop. All costs associated with this shall be included in the cost bid for "TRAFFIC SIGNAL SYSTEM".
- d. The Contractor will provide all traffic control for this project.

19. SIGNAL STANDARDS (City of Fargo Traffic Signal Specifications - Detail5.2)

- a. Install Signal Standard
 - i. The City of Fargo will provide all new Type IV, Type V, and Type VI signal standards. The standards, T-Bases and anchor bolts have been ordered from Millerbernd Manufacturing, Winsted, MN. All signal standards shall be designed for AASHTO 5th Edition 2010 Interim with a wind velocity of 90mph. Fatigue category III for mast arm lengths less than 40' and Fatigue Category II for mast arm lengths equal to or greater than 40'. All Signal standards shall have 4 anchor bolts. The Contractor is responsible for unloading, storage and transporting of the standards from the time of delivery until

installation. The City will inspect the standards upon delivery from the manufacturer. Any damage to the signal standards, T-Bases, or anchor bolts after the date of delivery and acceptance by the City will be the Contractor's responsibility to repair or replace as directed by the Engineer.

- ii. The cost bid for this item shall include unloading, storage, transportation, installation, miscellaneous hardware, installation of all signage, providing and installing all pedestrian buttons and signs, etc. The luminaire is included in the street lighting section.

b. Furnish and Install Signal Standard

- i. The Contractor will provide all new Combo, Type IV, Type V, and Type VI signal standards. The standards, T-Bases and anchor bolts shall be ordered from Millerbernd Manufacturing, Winsted, MN. All signal standards shall be designed for AASHTO 5th Edition 2010 Interim with a wind velocity of 90mph. Fatigue category III for mast arm lengths less than 40' and Fatigue Category II for mast arm lengths equal to or greater than 40'. All Signal standards shall have 4 anchor bolts. The Contractor is responsible for unloading, storage and transporting of the standards from the time of delivery until installation. Any damage to the signal standards, T-Bases, or anchor bolts will be the Contractor's responsibility to repair or replace as directed by the Engineer.
- ii. The cost bid for this item shall include providing unloading, storage, transportation, installation, miscellaneous hardware, installation of all signage, providing and installing all pedestrian buttons and signs, etc.
- iii. All signal poles shall be Contractor provided unless otherwise noted on the signal plan.

c. Signal Standard Signs (City of Fargo Traffic Signal Specifications - Detail 5.5)

- i. Furnishing and installing mast arm and signal standard signs on new signal standards is considered incidental to the bid price for all types of combo and signal standards for which no direct compensation will be made.
 - ii. All mast arm mounted street designation signs shall utilize 18" 100-gauge flat aluminum, 48" or longer, depending on the space needed.
 - iii. The signs shall have modified "E" series letters with a 12" upper and 9" lower case format and a 1" sign border. The superscripts shall be 6" (half size) capital letters and will line up with the top of the other letters and numbers.
 - iv. The sign sheeting shall be 3M H.I.P. sheeting, and any processed colors, inks, or electronic cuttable film shall be a matched component system.
- d. Signal and pedestrian standard transformer bases shall have Xcluder Fill Fabric placed continuously around the inside of the lower plate to prevent rodents from accessing the base through space between concrete foundation and the lower plate. The fabric shall be secured to the anchor bolts.
- e. Wire entrance fittings shall be provided by the Contractor. Fittings shall be a 1 1/2" 45 degree galvanized steel elbow on each signal standard upright. The cost to supply and install the wire entrance shall be incidental to the price bid for "TRAFFIC SIGNAL SYSTEM".
- f. All standards shall be plumbed with leveling nuts. The hand hole shall be located away from traffic and the mast arms shall be perpendicular to the roadway centerline.

- g. The anchor bolts shall be installed and tightened as specified on detail sheet and according to the manufacturer's recommendation.
- h. Spliced or pulled through conductors shall have sufficient slack to extend a minimum of 24 inches outside of the enclosure.

All T-base terminations shall be made using a Wago Lever Nut (Series 222), installed and labeled as per drawing detail photo. Contractor shall install dielectric grease in all used or unused entrances of the Lever Nut.

20. REVISE CONTROLLER AND CABINET

- a. The price bid for "TRAFFIC SIGNAL SYSTEM" shall include all material and labor to upgrade the existing controller and cabinet.
- b. The work at each location is listed on the plan sheet.

21. TRAFFIC SIGNAL SHUT DOWN

a. Signing Requirements

When a signal is taken out of operation, the Contractor is required to install a 36" x 36" "Signal Out Ahead" sign, a 24" x 30" R2-1 25mph speed limit sign, and 36" x 36" W20-7 "Flagger Ahead" sign. Contractor shall install 2 STOP signs for each direction of travel when signal is down.

b. Other Requirements

The Contractor shall contact the City of Fargo Sign and Signal Shop at 241-1440 and notify them that the signal is going to be taken out of service. The Contractor shall not be allowed to take the signal out of operation between the hours of 7am to 8:30am, 11am to 1pm, and from 4pm to 6pm. The Contractor shall shut down the traffic signal only during off peak hours as approved by the Engineer in the field. The Contractor shall provide two flaggers and have then control the intersection while the traffic signal is not in operation. All flagging activities and equipment shall conform to the standards set forth in the current version of the Manual on Uniform Traffic Control Devices, published by the FHWA.

22. CAMERA SYSTEM (City of Fargo Traffic Signal Specifications - Detail 5.9) This shall include all camera wires, camera equipment specified, and all labor involved in providing a fully functional camera system that can be view on the City of Fargo network. Camera System shall be included in bid price for "TRAFFIC SIGNAL SYSTEM".

a. Equipment

- i. Control managed Ethernet switch specified on plan.
- ii. CAT 6 600 volt rated direct burial cable
- iii. No.16 AWG 3 cable
- iv. Pelco IWM-GY mount
- v. 24 VAC power supply
- vi. PA402 pole mounting bracket
- vii. Pelco S6230-EG1 Spectra V HD network color/B/W dome with 30X optical zoom and image stabilization
- viii. 20 AMP four receptacle outlet with surge protection
- ix. Fiber optic jumpers

MEASUREMENT & PAYMENT

1. LUMP SUM

These items will be measured by lump sum. These items are as follows:

- a. Traffic Signal System
- b. Interim Traffic Signals

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

CONDITIONS OF CONTRACT AWARD

PROJECT IM-8-094(090)351 & NHU-8-081(039)924 – PCN 21169 & 21400

This contract includes installing pipe that will be either reinforced concrete or flexible pipe as specified in section 51 of the plans.

The Bidder must bid both of the following options for the bid to be considered a responsive bid:

- Option 1 is Pipe Conduit Storm Sewer
- Option 2 is Reinforced Concrete Pipe Storm Sewer

A “zero” bid for an option will not be considered a responsible bid. Bids that are not responsive fail to meet the requirements of the “Invitation to Bid” and will not be accepted.

The contract will be awarded to the lowest responsible bidder, defined as the bidder with the lowest sum total of the base bid and the lower amount of the two options bid.

The Project Bids software will determine the total bid amount by calculating the lowest sum total of the base bid and the lower amount of the two options bid.

The Department and the City reserve the right to construct the project with the pipe option of the choice after award of the contract.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION

FUEL COST ADJUSTMENT CLAUSE
Revision Date: 9/8/2006

Introduction

This Special Provision provides for price adjustments to the Contract when significant changes in the cost of motor fuels and burner fuels occur while completing the Contract work. Participation in fuel cost adjustment program is not mandatory. A Contractor is not required to notify the Department at the time of submitting bids whether the Contractor will or will not participate in the fuel cost adjustment provision.

The North Dakota Department of Transportation (NDDOT) will send the low responsible bidder a "Fuel Cost Adjustment Affidavit" (SFN 58393) with the proposed Contract. The Contractor shall return a completed Fuel Adjustment Affidavit with the signed Contract as specified in Standard Specification Section 103.06, Execution and Approval of the Contract. The affidavit shall be returned on all Contracts with this provision even if the Contractor elects not to participate in the provision.

Compensation adjustments for motor fuels and burner fuels consumed in prosecuting the Contract shall be determined by the Engineer in accordance with the provisions set forth herein. Compensation adjustments will be assessed monthly for the cost of the motor fuels and burner fuels whenever the Current Fuel Index (CFI) is outside the given threshold of the Base Fuel Index (BFI) for the Contract.

If the Contractor has a fixed price for fuel for motor or burner fuels to complete the work, no fuel cost adjustments will be made for that fuel type. If there is no fixed fuel price for motor or burner fuels, participation in the Fuel Adjustment provision is the decision of the prime Contractor.

If the prime Contractor decides not to participate, no fuel cost adjustments will be made to the Contract for the Contractor or any subcontractors. If the prime Contractor elects to participate in the fuel cost adjustment provision, the prime Contractor shall include the anticipated fuel cost of subcontractors who wish to participate. If fuel cost adjustments are made to the Contract, the prime Contractor shall ensure that participating subcontractors including second and lower tier, are included in the adjustments in proportion to the percentage of work and anticipated fuel cost by that subcontractor.

Fuel Indexes

Each month, NDDOT will record the average wholesale price for No. 2 diesel fuel and the average wholesale price for unleaded gasoline (87 octane). The monthly average will be the average of the daily rack prices for the month as reported by DTN Energy for Fargo ND.

The burner fuel index will be the No. 2 diesel fuel index regardless of the type of burner fuel actually used.

The Base Fuel Index (BFI) price for motor fuels and burner fuel to be used in the Contract will be the average wholesale price for the month prior to the bid opening.

The Current Fuel Index (CFI) price for motor fuels and burner fuel to be used for each monthly adjustment will be the average wholesale price for the month prior to the adjustment month.

Fuel Ratio

For motor fuels diesel and unleaded gas, the fuel ratio of the Contract will be determined by dividing the Contractor's affidavit costs for each motor fuel by the original Contract amount.

For burner fuels, the fuel ratio of the contract will be determined by dividing the Contractor's affidavit cost for burner fuels by the original Contract amount of plant-mixed hot bituminous pavement paid by the ton. Asphalt cement, binders and other miscellaneous bituminous items shall not be included.

The fuel ratio of the contract for motor and burner fuels will remain the same throughout the length of the contract. The sum of the affidavit fuel costs shall not exceed 15% of the original Contract amount.

The fuel ratio for the three fuel types will be determined by the following equation:

Fuel Ratio_(x, y, z) = Affidavit Cost_(x, y, z) / Original Contract Amount_(x, y, z)		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
Fuel Ratio _(x, y, z)	=	Fuel ratio of the contract for each respective fuel type
Affidavit Cost _(x, y, z)	=	Fuel costs from Fuel Adjustment Affidavit (SFN 58393)
Original Contract Amount _(x, y)	=	Total of the original contract amount excluding lane rental, and Part B of the bid (when A+B bidding is used), if applicable.
Original Contract Amount _(z)	=	Total original contract amount for all hot bituminous pavement bid items combined, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation.

Cost Change

The monthly change in fuel costs will be determined by the following equation:

Cost Change_(x, y, z) = (CFI_(x, y, z) - BFI_(x, y, z)) / BFI_(x, y, z)		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel (use diesel prices)
Cost Change _(x, y, z)	=	The relative change in the current CFI and the BFI for each fuel type
CFI _(x, y, z)	=	Current Fuel Index for each fuel type
BFI _(x, y, z)	=	Base Fuel Index for each fuel type

Contract Adjustments

Contract adjustments will be made for the cost of motor and burner fuels whenever the cost change exceeds a ±0.10 threshold. No fuel cost adjustment will be made for work done under liquidated damages. Adjustments will be determined for Motor Fuel (diesel), Motor Fuel (unleaded), and Burner Fuel (burner) separately and shall be computed on a monthly basis.

When the cost change is greater than 0.10, the rebate to the Contractor for each fuel type shall be computed according to the following formulas:

$FCA_{(x, y, z)} = \text{Fuel Ratio}_{(x, y, z)} \times \text{Estimate}_{(x, y, z)} \times (\text{Cost Change}_{(x, y, z)} - 0.10)$		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$FCA_{(x, y, z)}$	=	Fuel Cost Adjustment for each of the fuel types
$\text{Fuel Ratio}_{(x, y, z)}$	=	Fuel Ratio for each of the fuel types
$\text{Estimate}_{(x, y)}$	=	The monthly total of work done on estimates issued in the current month excluding incentive or disincentive payments, pay factor adjustments and any work completed under liquidated damages.
$\text{Estimate}_{(z)}$	=	The monthly total of hot bituminous pavement work done on estimates issued in the current month, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation. Hot bituminous pavement work completed under liquidated damages will not be included.
$\text{Cost Change}_{(x, y, z)}$	=	The monthly change in fuel costs for each of the fuel types

When the cost change is less than -0.10, the credit to the Department for each fuel type shall be computed according to the following formulas:

$FCA_{(x, y, z)} = \text{Fuel Ratio}_{(x, y, z)} \times \text{Estimate}_{(x, y, z)} \times (\text{Cost Change}_{(x, y, z)} + 0.10)$		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$FCA_{(x, y, z)}$	=	Fuel Cost Adjustment for each of the fuel types
$\text{Fuel Ratio}_{(x, y, z)}$	=	Fuel Ratio for each of the fuel types
$\text{Estimate}_{(x, y)}$	=	The monthly total of work done on estimates issued in the current month excluding any incentive or disincentive payments, pay factor adjustments and any work completed under liquidated damages.
$\text{Estimate}_{(z)}$	=	The monthly total of hot bituminous pavement work done on estimates issued in the current month, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation. Hot bituminous pavement work completed under liquidated damages will not be included.
$\text{Cost Change}_{(x, y, z)}$	=	The monthly change in fuel costs for each of the fuel types

Payments

Adjustments will be determined by the Engineer monthly. Adjustments will be made under the following spec and code for each fuel type:

109 0100	Motor Fuels (Diesel)
109 0200	Motor Fuels (Unleaded)
109 0300	Burner Fuel

When significant payment adjustments are made on final estimates to account for final in-place measured quantities, the Engineer may prorate the adjustments back to the months when the work was done.

Attachments

For informational purposes, a 'Fuel Cost Adjustment Affidavit' (SFN 58393) is included as Attachment A.

FUEL COST ADJUSTMENT AFFIDAVIT

North Dakota Department of Transportation, Construction Services
SFN 58393 (8-2017)

SP Fuel Cost Adjustment Clause
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Attachment A

PCN	Project Number
The Contractor is not required to notify the Department at the time of submitting bids whether he will or will not participate in the fuel cost adjustment program. The Contractor shall return the affidavit on all Contracts with this Provision even if the Contractor elects not to participate.	
Check the box for each fuel type that has a fixed price. No adjustments in fuel price will be made for the boxes that are checked. <input type="checkbox"/> Diesel <input type="checkbox"/> Unleaded <input type="checkbox"/> Burner	
Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price? No adjustments in fuel prices will be made if No is checked . <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, provide the total dollars for each of the applicable fuels:	
Diesel (D)	
Unleaded (U)	
Burner Fuel (B)	
Sum (D+U+B)	% of Original Contract Amount *
*The sum of the D, U, and B may not exceed 15% of the original contract amount.	
Under the penalty of law for perjury of falsification, the undersigned,	
Name (print or type)	Title (print or type)
Contractor (print or type)	
hereby certifies that the documentation is submitted in good faith, that the information provided is accurate and complete to the best of their knowledge and belief, and that the monetary amount identified accurately reflects the cost for fuel, and that they are duly authorized to certify the above documentation on behalf of the company.	
I hereby agree that the Department or its authorized representative shall have the right to examine and copy all Contractor records, documents, work sheets, bid sheets and other data pertinent to the justification of the fuel costs shown above.	
Signature	Date

Acknowledgement

State of	
County of	
Signed and sworn to (or affirmed) before me on this day _____ (month, day, year)	
Name of Notary Public or other Authorized Officer (Type or Print)	Affix Notary Stamp
Signature of Notary Public or other Authorized Officer	
Commission Expiration Date (if not listed on stamp)	