

**NO. 40**

NORTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
**REQUEST FOR PROPOSAL**  
STATE AID PROJECT NO. AC-NH-SOIB-7-023(041)925 (PCN-19862)

3.015 Miles

GRADING, AGGREGATE BASE, HMA, CONCRETE STRUCTURES, LANDSCAPING, LIGHTING, TRAFFIC SIGNALS,  
& INCIDENTALS

ND 23, NEW TOWN NORTHWEST ROUTE

MOUNTRAIL COUNTY

**BID OPENING:** The bidder's proposal will be accepted via the Bid Express on-line bidding exchange at [www.bidx.com](http://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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**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)

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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

**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)

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- 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.

**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)

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**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:

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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.

**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)

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**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**

**Project: AC-NH-SOIB-7-023(041)925 (PCN-19862)**

**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	103	0200	ESCROW OF BID DOCUMENTATION	L SUM	1.				
003	201	0330	CLEARING & GRUBBING	L SUM	1.				
004	201	0380	REMOVAL OF TREES 18IN	EA	244.				
005	201	0390	REMOVAL OF TREES 30IN	EA	22.				
006	202	0136	REMOVAL OF PAVEMENT	TON	12,579.				
007	202	0174	REMOVAL OF PIPE ALL TYPES AND SIZES	LF	257.				
008	202	0279	REMOVAL OF BUILDINGS-SITE 3	L SUM	1.				
009	202	0281	REMOVAL OF BUILDINGS-SITE 1	L SUM	1.				
010	202	0282	REMOVAL OF BUILDINGS-SITE 2	L SUM	1.				
011	202	0312	REMOVE EXISTING FENCE	LF	8,853.				
012	203	0101	COMMON EXCAVATION-TYPE A	CY	676,176.				
013	203	0109	TOPSOIL	CY	54,701.				
014	203	0140	BORROW-EXCAVATION	CY	38,957.				
015	210	0050	BOX CULVERT EXCAVATION	EA	1.				
016	210	0210	FOUNDATION FILL	CY	2,441.				

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**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
017	210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1.				
018	216	0100	WATER	M GAL	8,048.				
019	230	0165	SUBGRADE PREPARATION-TYPE A-12IN	STA	70.200				
020	251	0200	SEEDING CLASS II	ACRE	45.320				
021	251	0300	SEEDING CLASS III	ACRE	21.390				
022	251	2000	TEMPORARY COVER CROP	ACRE	65.				
023	253	0101	STRAW MULCH	ACRE	110.320				
024	253	0201	HYDRAULIC MULCH	ACRE	21.390				
025	253	0301	BONDED FIBER MATRIX	ACRE	66.270				
026	255	0103	ECB TYPE 3	SY	833.				
027	256	0300	RIPRAP GRADE III	CY	95.				
028	256	0600	RIPRAP-SALVAGED	CY	62.				
029	260	0200	SILT FENCE SUPPORTED	LF	5,834.				
030	260	0201	REMOVE SILT FENCE SUPPORTED	LF	5,834.				
031	261	0112	FIBER ROLLS 12IN	LF	53,061.				
032	261	0113	REMOVE FIBER ROLLS 12IN	LF	33,753.				



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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
033	261	0120	FIBER ROLLS 20IN	LF	15,392.				
034	261	0121	REMOVE FIBER ROLLS 20IN	LF	7,872.				
035	302	0120	AGGREGATE BASE COURSE CL 5	TON	50,014.				
036	302	0356	AGGREGATE SURFACE COURSE CL 13	TON	10,554.				
037	401	0050	TACK COAT	GAL	7,234.				
038	401	0060	PRIME COAT	GAL	12,473.				
039	401	0160	BLOTTER MATERIAL CL 44	TON	214.				
040	411	0105	MILLING PAVEMENT SURFACE	SY	103.				
041	430	0045	SUPERPAVE FAA 45	TON	15,719.				
042	430	1000	CORED SAMPLE	EA	82.				
043	430	5803	PG 58S-28 ASPHALT CEMENT	TON	392.				
044	430	5818	PG 58H-34 ASPHALT CEMENT	TON	552.				
045	550	0302	8.5IN NON-REINF CONCRETE PVMT CL AE-DOWELED	SY	21,241.				
046	602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	296.700				
047	612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	63,116.				
048	702	0100	MOBILIZATION	L SUM	1.				

**BID ITEMS**

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<b>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.</b>									
Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
049	704	0100	FLAGGING	MHR	3,590.				
050	704	1000	TRAFFIC CONTROL SIGNS	UNIT	4,735.				
051	704	1052	TYPE III BARRICADE	EA	37.				
052	704	1060	DELINEATOR DRUMS	EA	328.				
053	704	1067	TUBULAR MARKERS	EA	153.				
054	704	1080	STACKABLE VERTICAL PANELS	EA	106.				
055	704	1086	SEQUENCING ARROW PANEL-TYPE B	EA	1.				
056	704	1185	PILOT CAR	HR	120.				
057	704	1500	OBLITERATION OF PAVEMENT MARKING	SF	8,941.				
058	706	0400	FIELD OFFICE	EA	1.				
059	706	0500	AGGREGATE LABORATORY	EA	1.				
060	706	0550	BITUMINOUS LABORATORY	EA	1.				
061	706	0600	CONTRACTOR'S LABORATORY	EA	1.				
062	709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	321.				
063	709	0151	GEOSYNTHETIC MATERIAL TYPE R1	SY	5,347.				
064	709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	257.				

**BID ITEMS**

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
065	714	4099	PIPE CONDUIT 18IN-APPROACH	LF	372.				
066	714	4106	PIPE CONDUIT 24IN-APPROACH	LF	254.				
067	714	4110	PIPE CONDUIT 30IN	LF	518.				
068	714	4113	PIPE CONDUIT 30IN-APPROACH	LF	122.				
069	714	4115	PIPE CONDUIT 36IN	LF	312.				
070	714	4120	PIPE CONDUIT 42IN	LF	1,086.				
071	714	5015	PIPE CORR STEEL .064IN 18IN	LF	64.				
072	714	5041	PIPE CORR STEEL .064IN 30IN POLYMERIC COATED	LF	14.				
073	714	5051	PIPE CORR STEEL .064IN 42IN POLYMERIC COATED	LF	76.				
074	714	5056	PIPE CORR STEEL .064IN 48IN POLYMERIC COATED	LF	6.				
075	714	9660	REMOVE & RELAY END SECTION-ALL TYPE & SIZES	EA	6.				
076	720	0110	RIGHT OF WAY MARKERS	EA	82.				
077	720	0125	ALIGNMENT MONUMENTS	EA	30.				
078	720	0130	IRON PIN R/W MONUMENTS	EA	68.				
079	720	0135	IRON PIN REFERENCE MONUMENTS	EA	14.				
080	722	0120	MANHOLE 72IN	EA	1.				

**BID ITEMS**

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
081	722	1120	MANHOLE RISER 72IN	LF	10.800				
082	722	3300	SANITARY MANHOLE REPAIR	EA	3.				
083	722	4010	INLET CATCH BASIN 6IN BEEHIVE	EA	1.				
084	722	6140	ADJUST GATE VALVE BOX	EA	4.				
085	722	6200	ADJUST MANHOLE	EA	1.				
086	724	0427	ADJUST HYDRANT	EA	1.				
087	724	0891	WATERMAIN MODIFICATIONS	L SUM	1.				
088	744	0050	INSULATION BOARD	CF	234.				
089	750	0115	SIDEWALK CONCRETE 4IN	SY	564.				
090	750	0140	SIDEWALK CONCRETE 6IN	SY	105.				
091	750	2115	DETECTABLE WARNING PANELS	SF	50.				
092	752	0110	FENCE BARBED WIRE 3 STRAND-STEEL POST	LF	1,488.				
093	752	0201	FENCE SMOOTH WIRE 4 STRAND	LF	9,566.				
094	752	0911	TEMPORARY SAFETY FENCE	LF	2,938.				
095	752	0993	FENCE TERMINAL	EA	4.				
096	752	2100	VEHICLE GATE	EA	3.				

**BID ITEMS**

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

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$	000	\$\$\$\$	00
097	752	2120	REMOVE VEHICLE GATE	EA	2.				
098	752	3140	CORNER ASSEMBLY BARBED WIRE	EA	28.				
099	752	4100	DOUBLE BRACE ASSEMBLY BARBED WIRE	EA	1.				
100	754	0110	FLAT SHEET FOR SIGNS-TYPE XI REFL SHEETING	SF	388.				
101	754	0112	FLAT SHEET FOR SIGNS-TYPE IV REFL SHEETING	SF	546.				
102	754	0206	STEEL GALV POSTS-TELESCOPING PERFORATED TUBE	LF	1,438.				
103	754	0563	REFERENCE MARKER-TYPE C	EA	6.				
104	754	0805	OBJECT MARKERS - CULVERTS	EA	28.				
105	762	0112	EPOXY PVMT MK MESSAGE	SF	960.				
106	762	0113	EPOXY PVMT MK 4IN LINE	LF	60,456.				
107	762	0114	EPOXY PVMT MK 6IN LINE	LF	240.				
108	762	0115	EPOXY PVMT MK 8IN LINE	LF	8,842.				
109	762	0117	EPOXY PVMT MK 24IN LINE	LF	240.				
110	762	0420	SHORT TERM 4IN LINE-TYPE R	LF	30,480.				
111	770	0003	LIGHTING SYSTEM A	EA	1.				
112	770	0004	LIGHTING SYSTEM B	EA	1.				

## BID ITEMS

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Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price		Amount	
						\$\$\$\$\$	000	\$\$\$\$\$	00
113	770	0005	LIGHTING SYSTEM C	EA	1.				
114	772	9811	TRAFFIC SIGNAL SYSTEM - SITE 1	EA	1.				
115	902	0400	MACHINE HYGIENE	L SUM	1.				
116	920	1241	BIOLOGIST	L SUM	1.				
117	970	0300	BENCH	EA	3.				
118	970	0700	GOLF COURSE	L SUM	1.				
119	990	0400	PIPE CLEANOUT	EA	4.				
			TOTAL SUM BID						

**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)

**Type of Work:** GRADING, AGGREGATE BASE, HMA, CONCRETE STRUCTURES, LANDSCAPING, LIGHTING, TRAFFIC SIGNALS, & INCIDENTALS

**County:** MOUNTRAIL

**Length:** 3.0150 Miles

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**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 10/12/2019 \*. 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 OCTOBER 12, 2019 COMPLETION DATE IS FOR ALL WORK WITH THE EXCEPTION OF THE GRASS MATURATION AS SPECIFIED IN SP 505(14) GOLF COURSE.**

**REFER TO NOTE 108-P01 PROJECT SCHEDULE FOR ADDITIONAL TIME REQUIREMENTS AND DAILY CHARGES FOR LIQUIDATED DAMAGES.**

**PROPOSAL FORM**

North Dakota Department of Transportation

**BID OPENING: November 17, 2017****Job 040**

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**Project:** AC-NH-SOIB-7-023(041)925 (PCN-19862)**Type of Work:** GRADING, AGGREGATE BASE, HMA, CONCRETE STRUCTURES, LANDSCAPING, LIGHTING, TRAFFIC SIGNALS, & INCIDENTALS**County:** MOUNTRAIL**Length:** 3.0150 Miles**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.

\_\_\_\_\_, TITLE \_\_\_\_\_  
BIDDER MUST SIGN ON THIS LINE

\_\_\_\_\_  
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 #40, Project No. AC-NH-SOIB-7-023(041)925

Grading, Aggregate Base, HMA, Concrete Structures,  
Landscaping, Lighting, Traffic Signals, & Incidentals

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SP DBE Program - Race Neutral 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

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# 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 <b>plus</b> \$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 <b>plus</b> \$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 <b>plus</b> \$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](mailto: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***

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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**

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**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.**

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**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](http://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](http://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**

<b>Days Late Submitting Update Schedule</b>	<b>Percentage Price Reduction to the Prorated Amount<sup>1</sup></b>
1	20
2	40
3	60
4	80
5	100

<sup>1</sup> 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 6<sup>th</sup> 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:

<b>Equipment</b>	<b>Section</b>
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:

<b>Pay Item</b>	<b>Pay Unit</b>
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:

<sup>1</sup> 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:

<b>Material</b>	<b>Section</b>
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**

<b>Material</b>	<b>Section</b>
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**

<b>Material</b>	<b>Section</b>
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 becomes 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.

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**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:

<b>Equipment</b>	<b>Section</b>
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.**

<b>Item</b>	<b>Section</b>
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](http://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.

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**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.

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**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:

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**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.**

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Reserved.

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**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.

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**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**

<b>Test</b>	<b>Method</b>	<b>Max. Percent by Weight of the Plus No. 4 fraction</b>
Shale	NDDOT 3	0.7
Iron oxide particles	NDDOT 3	4.0 <sup>1</sup>
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

<sup>1</sup> 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 <sup>1</sup>		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					

<sup>1</sup> 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 <sup>1</sup>	AASHTO T 96	30% Max
Deleterious Substances	ND T 176	60 or Higher

<sup>1</sup> 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**

<b>SIEVE SIZE</b>	<b>STOCKPILE TOLERANCE</b>
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 <sup>1</sup>	AASHTO T 96	35% Max
Deleterious Substances	ND T 176	60 or Higher

<sup>1</sup> 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.

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<b>817.01 D Salvage Base Course Containing Bituminous Material</b>	<b>PAGE 472</b>	<b>10/01/17</b>
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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.

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<b>817.01 D.2.a Extraction Test Method</b>	<b>PAGE 472</b>	<b>10/01/15</b>
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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.

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<b>818.02 A Performance Graded (PG) Asphalt Cement</b>	<b>PAGE 474</b>	<b>10/01/17</b>
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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 <sup>1</sup>	AASHTO T 59	62% Minimum
<b>Tests on Emulsified Asphalt Residue</b>		
Softening Point of Bitumen (Ring and Ball Apparatus)	AASHTO T 53	135°F Minimum

<sup>1</sup> 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**

<b>Bolt Length</b>	<b>Amount of Turn</b>
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**

<b>Diameter (in)</b>	<b>1/2</b>	<b>5/8</b>	<b>3/4</b>	<b>7/8</b>	<b>1</b>	<b>1-1/8</b>	<b>1-1/4</b>	<b>1-3/8</b>	<b>1-1/2</b>
<b>Installation Tension (kips)</b>	12	19	28	39	51	56	71	85	103
<b>Turn Test Tension (kips)</b>	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".

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## 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.

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## 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.

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**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.

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**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 <sup>1</sup> + 10%
107.08	Haul Roads	Bituminous Mix	\$42 per Ton <sup>2</sup>
107.08	Haul Roads	Aggregate Base	\$17 per Ton <sup>2</sup>
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 <sup>3</sup>	\$4.25 per LF
261	Fiber Rolls	Mucking of Fiber Rolls	\$3.90 per LF
261	Fiber Rolls	Removal of Fiber Rolls <sup>3</sup>	\$4.25 per LF
420.04 E	Bituminous Seal Coat	Blotter Sand	\$27 per Ton <sup>2</sup>
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

<sup>1</sup>Price paid for bituminous material will be invoice price plus freight costs.

<sup>2</sup>Price 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.

<sup>3</sup>This 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

PROJECT AC-NH-SOIB-7-023(041)925 (PCN-19862)

RACE/GENDER NEUTRAL GOAL: 0%

NDDOT Contact Information	
Civil Rights Certification & Compliance System (CRCCS): <a href="https://dotnd.diversitycompliance.com/">https://dotnd.diversitycompliance.com/</a> may be used to post bid documentation.	
Contractor Sign In & Submit Advertisements <a href="https://apps.nd.gov/dot/cr/csi/login.htm">https://apps.nd.gov/dot/cr/csi/login.htm</a>	Amy Conklin, DBE Program Administrator 701-328-3116 - or - <a href="mailto:aconklin@nd.gov">aconklin@nd.gov</a>
Submit quotes and post-bid documentation to: <a href="mailto:subquotes@nd.gov">subquotes@nd.gov</a> or Fax: 701-328-0343	Ramona Bernard, Civil Rights Division Director 701-328-2576 - or - <a href="mailto:rbernard@nd.gov">rbernard@nd.gov</a>
DBE Directory <a href="https://dotnd.diversitycompliance.com/">https://dotnd.diversitycompliance.com/</a>	All times are stated in Central Time. "Days" refers to calendar days, unless otherwise stated.
<b>All subcontractors, suppliers, manufacturers, regular dealers, vendors, and brokers should fax or email quotes to the Department no later than 9 PM the day before each bid opening.</b>	
<b>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.</b>	
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**

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, sex, sexual orientation, gender identity, national origin, age, or disability 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) are strongly encouraged to submit copies of all quotes received or submit SFN 52013-List of Businesses Submitting Quotes within 7 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.

## **APPARENT LOW BIDDER REQUIREMENT**

**Apparent Low Bidders (ALB) must submit post-bid documentation no later than 4 PM 5 days after the bid opening.** Prime contractors are encouraged to submit their post-bid documentation in one electronic file.

Contract award will be made to the lowest responsible bidder whose proposal substantially complies with the requirements prescribed herein. Any DBE Participation counts toward the Department’s DBE Goal.

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)).

The ALB must submit [SFN 52160](#), Form C - [Notification of Intent to Use](#) for each DBE used, any Form A revisions on [SFN 52012](#), and quote copies or SFN 52013 [Form B - List of Businesses Submitting Quotes](#) (Form instructions begin on page 9 of this special provision.)

If you have submitted the documentation including Form B and Form C(s), you have completed your pre-award requirements. If no DBEs are to be used on the project, no Form C is required.

To maximize subcontracting opportunities the following actions are encouraged.

## **ADVERTISE**

All DBE and Non-DBE prime contractors and all subcontractors (over/under \$500,000), vendors, regular dealers/suppliers, and manufacturers, are encouraged to advertise using one of the two options:

**OPTION 1:** Place an advertisement soliciting DBE participation using the **DBE Advertisement System** at <https://apps.nd.gov/dot/cr/csi/login.htm>. Advertisements will be published to the NDDOT website if received by noon, 15 calendar days before the bid opening.

**OPTION 2:** Directly contact by email or fax, all DBEs certified in the specific NAICS (work type) required. Use the DBE Directory to determine the DBE firms certified in the work to be subcontracted.

## **SIGN IN**

**All bidders and all subcontractors over \$500,000 are encouraged to announce their 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 is 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. The Bid Opening Contact Report is available after the sign in closes at: <https://apps.nd.gov/dot/cr/csi/public/listBidOpenings.htm>

## **RECEIVE & EVALUATE ALL QUOTES GIVEN**

All prime contractors and all subcontractors over \$500,000 should receive and evaluate all quotes offered, whether the quotes are calculated by ton-mile, hour, acre or square mile, and whether work elements are intended to be subcontracted. It is the responsibility of any firm receiving quotes to convert the quotes to an acceptable format.

All quotes given for each job should be faxed or emailed to prime contractors or subcontractors no later than the day before the bid opening. Subcontractors interested in work on the advertised jobs are encouraged to quote all contractors on the Sign-In report.

## **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 contractor is responsible to:

- Report payments to DBEs. The Civil Rights Certification & Compliance System (CRCCS) may be used to report payments on the contract.
- 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 company 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 60638, Monthly Record of DBE Project Payments for each DBE on the project, by the 15<sup>th</sup> calendar day of every month while payments are made to the DBE.
  - Submit SFN 60597, DBE Performance – Commercially Useful Function Certification to the Engineer with SFN 5682, Prime Contractor's Request to Sublet. Project engineers will not approve the Requests to Sublet without the CUF Certification.
- 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.

## **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 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 5462, 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 NEUTRAL 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 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** means a contractor intending to serve as the prime contractor for highway construction projects.

**Blanket quote** means when a business provides the same quote, for all projects, at a bid opening, using the same price at one rate, which is not project specific. Blanket quotes for the construction season are not allowed, i.e. trucking, striping, signing, construction supplies, etc.

**Commercially Useful Function (CUF)** 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 as stated in the bidder's proposal.

**Contractor** means all DBE and non-DBE firms, including prime contractors, 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.

**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.

**Positive Contact** means active and documented solicitation of DBE and other subcontractors. Advertising the prime's intention to bid, using the Contractor sign in to notify DBEs and other subcontractors of the jobs the prime is interested in, and contacting individual DBEs is deemed positive contact.

**Prime contractor** means bidders who are submitting proposals on this project, regardless of the size of the project.

**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 DBE or a non-DBE subcontractors, brokers, vendors, regular dealers/suppliers, and manufacturers at any tier who submits quotes to another contractor.

**Race/Gender Neutral (RGN)** means a zero (0) percent goal that is used to assist all small businesses. Please note, NDDOT intends to achieve its overall DBE goals via RGN means; 3.47 percent is the Department's RGN goal.

**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 timely.

**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.

**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 non-DBE subcontractors and DBE participation on a given project. (Example follows) – User Manual is available as a resource from a link on the first page of the UP.

#### 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.

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.

[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%	-	<a href="#">Edit View</a>

[Add Subcontractor](#)

## Instructions for submitting forms:

### SFN 52012 – 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 52012](#)) 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.

Download SFN 52013 from the NDDOT Website at: <http://www.dot.nd.gov/forms/sfn52012.pdf>

All subcontractors over \$500,000 must submit Form A (SFN 52012) 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.

#### **DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (RGN)**

North Dakota Department of Transportation, Civil Rights  
SFN 52012 (8-2016)

#### **FORM A**

**Example**

Revision	
Telephone Number	
Project Number	
Open Date	
I have read this form to the bidder's Union Representative and the Right to Work Representative and they have agreed to the terms and conditions of the form.	
Contractor Signature (http://www.dot.nd.gov/forms/sfn52012.pdf)	

Note:  
This revised Form A represents additions or corrections to the bidder's original Form A submitted electronically at the time of bid.  
PRINT ALL NUMBERS CLEARLY AND LEGIBLY

1. List DBEs your firm intends to use on this project. Participation counts toward the DBE Race/Gender Neutral 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.  
DBE trucking firms: List hauling to be performed with own equipment and employees and any non-DBE trucks used as match.
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	
Percent DBE will do with own equipment/forces =	
Percent Non-DBE trucker will perform = If Regular Dealer, X 60% =	
ADD FIRM	

## **SFN 52013 – FORM B OR QUOTE COPIES**

All bidders and subcontractors over \$500,000 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  
SFN 52013 (8-2016)

**FORM B - DUE BY 4 P.M. (CENTRAL) 7 CALENDAR DAYS AFTER THE BID OPENING**

Contractor	Address	Telephone Number
PCN	Business Number	Business Name

Contractor's name, address, and telephone number must be entered on the project's registration system via the Internet (https://dotnd.diversitycompliance.com).

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.

X	<input type="checkbox"/> Business	Contact Person	Telephone Number
	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.

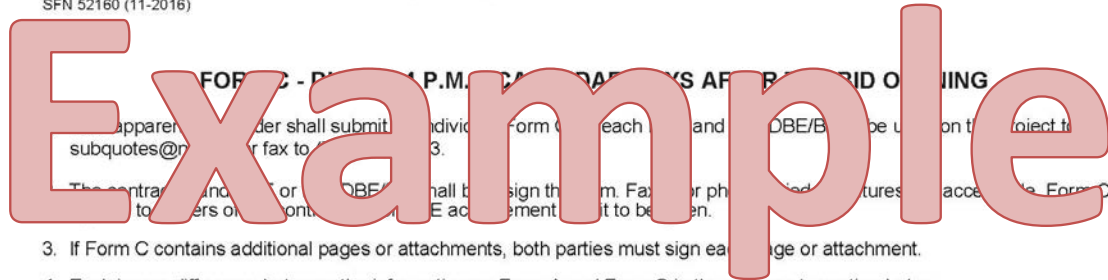
The contractor and DBE and/or Non-DBE/BD must each sign the form; faxed or photocopied signatures are acceptable.

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)



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						
<b>ADD EXPENSE</b>						
						Total: \$ .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	



**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 – Statewide . . . . .6.9%
  - b. Goals for Minority Participation in Each Trade by County:  
Barnes, Cass, Dickey, Eddy, Foster, Griggs, LaMoure, Logan,  
McIntosh, Ransom, Richland, Sargent, Steele, Stutsman, Traill . . . . .0.7%  
  
Grand Forks . . . . .1.2%  
  
Benson, Cavalier, Nelson, Pembina, Ramsey, Towner, Walsh . . . . .2.0%  
  
Burleigh, Morton . . . . .0.4%  
  
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, Williams . . . . .4.4%

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 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.

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**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](mailto: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](http://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
<b>CARPENTERS</b>	\$27.40	\$ 6.70			
<b>CEMENT MASONS/FINISHERS</b>	27.40	6.70			
<b>LINE CONSTRUCTION:</b>					
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%			
<b>ELECTRICIANS:</b>					
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			
<b>WELDERS:</b>					
Receive rate prescribed for craft performing operation to which welding is incidental					
<b>LABORERS:</b>					
<b>Group 1</b>					
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

## Page 2 of 4

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)

Nd170002

Page 2

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
LABORERS: (CONT.)					
<b>Group 2</b> 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			
<b>Group 3</b> Bottom Man (sanitary sewer, storm sewer, water, and gas lines); Caisson Worker; Concrete Mixer Operator (one bag capacity); Mortar Mixer					
	20.10	2.50			
<b>Group 4</b> 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:					
<b>Group 1</b> 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			
<b>Group 2</b> 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			



## Page 3 of 4

Revised 1-13-17 (Mod. No. 1)  
Revised 7-7-17 (Mod. No. 2)  
Revised 9-15-17 (Mod. No. 3)  
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Page 3

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
<b>POWER EQUIP. OPERATORS: (CONT.)</b>  <b>Group 3</b> 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  <b>Group 4</b> 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	\$27.45	\$16.15			

# LABOR RATES

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Revised 1-13-17 (Mod. No. 1)

Revised 7-7-17 (Mod. No. 2)

Revised 9-15-17 (Mod. No. 3)

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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 (15<sup>th</sup>) 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**

**TRIBAL EMPLOYMENT RIGHTS ORDINANCE (TERO) REQUIREMENTS**

**Project 7-023(041)925 – PCN 19862**

This Special Provision defines the core crew, TERO fees, and the Indian preference requirements for the Project listed above.

The core crew and workforce requirements identified in this Special Provision apply to all portions of the highway and golf course construction project.

The Contractor and Subcontractors must comply with Tribal laws as long as the Tribal laws are in compliance with state and federal requirements.

**CORE CREW**

The Contractor and Subcontractor shall choose a core crew and utilize it on the Project listed above. The core crew will consist of the following operators and key personnel:

**Asphalt Pavement Surfacing Operations:**

- 1 Superintendent
- 1 Truck Foreman
- 1 Front End Loader Operator
- 1 Crusher Operator
- 1 Paver Operator
- 1 Asphalt Plant Operator
- 1 Roller Operator
- 1 Head Mechanic
- 2 On The Job Program Trainees

**Grading and Aggregate Base Operations:**

- 1 Superintendent
- 1 Truck Foreman
- 1 Excavator Operator
- 1 Front End Loader Operator
- 1 Motor Grader Operator
- 1 Scraper Operator
- 1 Head Mechanic
- 1 Crusher Operator
- 2 On The Job Program Trainees

**Rumble Strip Operations:**

- 1 Rumble Strip Grinder Operator
- 1 Road Oil Distributor Operator
- 1 Painter
- 1 Follow Vehicle Driver
- 1 Truck Driver

**Lighting:**

- 1 Superintendent
- 1 Electrician
- 1 Journeyman

**Traffic Signals:**

- 1 Superintendent
- 1 Electrician
- 1 Journeyman

**Pipe and Storm Sewer Operation:**

- 1 Foreman
- 1 Bottom Man
- 2 Equipment Operator
- 1 On The Job Program Trainee

**Sign Installation:**

- 1 Superintendent
- 1 Foreman

**Traffic Control Operations:**

- 1 Foreman
- 1 Traffic Control Supervisor
- 1 Watch Person

**Conduit Pipe Installation:**

- 1 Superintendent
- 1 Borer Operator
- 1 Auger Operator
- 1 Excavator Operator
- 1 Front End Loader Operator
- 1 Borer/Pipe Locator

**Rip Rap Operations:**

- 1 Superintendent
- 1 Front End Loader Operator
- 1 Excavator Operator or Crane Operator

**Pavement Marking Operations:**

- 1 Superintendent
- 2 Painter
- 1 Follow Vehicle Driver
- 1 Truck Driver
- 1 Traffic Control Person



**Box Culvert Installation**

1 Superintendent  
1 Foreman  
1 Excavator Operator  
1 Carpenter  
2 Concrete Finishers  
1 On The Job Program Trainees

**Golf Course Irrigation Operations:**

1 Superintendent  
1 Foreman  
1 Skid Steer Operator  
1 Trencher Operator

**Golf Course Grading Operations:**

1 Superintendent  
1 Foreman  
1 Excavator Operator  
1 Front End Loader Operator  
1 Motor Grader Operator  
1 Bulldozer Operator  
1 Scraper Operator  
1 Roller Operator  
2 On The Job Program Trainees

**Golf Course Landscaping Operations:**

1 Superintendent  
1 Foreman  
1 Skid Steer Operator  
1 Tractor Operator

The successful Bidder will be allowed to fill these key positions with personnel of his/her choosing.

**WORK FORCE**

The Contractor and all Subcontractors performing work on this Project shall extend preferential employment to Indians. The Contractor and all Subcontractors shall hire at least 75% of all positions (over and above the Core Crew) and 100% of their Group 1-4 Laborers through the Fort Berthold Reservation TERO office.

Each Contractor and Subcontractor shall prepare a list of workers needed to complete the labor force as defined above. This list shall be submitted to the TERO office at least 72 hours (not including Saturday and Sunday) prior to commencement of construction activities. The TERO office shall then see that the qualified employees are available for work at the time and date indicated by the Contractor. The term qualified employees cannot be used to eliminate or discriminate against any potential Indian employees.

If any of the employees have not reported for work within 24 hours of start-up time, the Contractor shall be free to hire by his/her own methods. The Contractor must abide by the Indian preference requirements when hiring additional and replacement workers.

After construction activities have commenced, requests for additional and replacement workers shall be made to the TERO office. The TERO office shall have 24 hours to furnish such employees. If the employees are not provided within this time, the Contractor will be at liberty to do his/her own hiring. The Contractor must abide by the Indian preference requirements when hiring additional and replacement workers. After the Contractor has hired an additional or replacement employee or subcontractor, the Contractor will be permitted to retain this employee or subcontractor through completion of the Project. The Contractor will not be required to displace workers or subcontractors on the Project.

**FEES AND LICENSES**

The established Tribal Employment Rights (TERO) fee is two percent (2%) of and the established TERO Training fee is one-half percent (½%) of the Contract amount associated with work inside the exterior boundaries of the Fort Berthold Reservation, resulting in a total of two and one-half percent (2½%) in taxes and fees to be assessed to the applicable portions of the Contract.

For project 7-023(041)925, one hundred percent (100.0%) of this project lies within the boundaries of the Fort Berthold Reservation. Therefore the Contractor shall pay a TERO fee in the amount of 2.5% of the total contract amount. The fee shall be paid at a rate of 2.5% of each progressive estimate. Payment shall be made within two weeks of receipt of progress payment.

The Contractor shall obtain a construction TERO License at a cost of \$5,000 per year.  
The Subcontractor shall obtain a construction TERO License at a cost of \$1,000 per year.

The TERO fee, training fee, and license costs shall be bid as incidental to the Contract as a whole.

The Contractor shall make payment to:

TERO Office  
Three Affiliated Tribes  
P.O. Box 488  
New Town ND 58763

#### **MHA NATION DEPARTMENT OF TRANSPORTATION (MHA DOT)**

MHA DOT will not require the Contractors or Subcontractors to obtain any permits for work performed on project 7-023(041)925.

If the Contractors or Subcontractors perform work not associated with the contract for project 7-023(041)925, the Contractors or Subcontractors will need to contact the MHA DOT at:

MHA DOT  
Three Affiliated Tribes  
PO Box 1693  
New Town, ND 58763

#### **TERO COMPLIANCE**

Contract compliance is the responsibility of the North Dakota Department of Transportation, and the Department has the exclusive right to suspend construction operation on this Project for any instances of noncompliance, including TERO issues. If there is reason to believe that the Contractor or Subcontractors are violating the requirements of the Special Provision, the TERO office will notify the Department. The Department, working with the TERO Office, will resolve those issues with the Contractor or Subcontractor.

Contractor will be required to provide proof of payment to the Engineer before final acceptance of the project.



MEMORANDUM OF UNDERSTANDING

Project 7-023(041)925 – PCN 19862

Be it understood that the Three Affiliated Tribes and the North Dakota Department of Transportation (NDDOT) mutually agree in the award of the above-mentioned project contract to the contractor determined by the NDDOT to be the successful bidder. This memorandum is consistent with and does not supersede or eliminate any requirements specified in SP 466(14), which is part of the contract for this project.

This project consists of the construction of the NW New Town bypass and modifications to the Edge Water Golf Course, which is within the exterior boundaries of the Fort Berthold Reservation.

Conditions are as follows:

1. Employment by the prime contractor of residents and subcontractors of the Three Affiliated Tribes will be as outlined in SP 466(14).
2. Core crew of the contractor will be as outlined in SP 466(14).
3. The only fees on the contract will be a TERO fee, training fee and license fees as outlined in SP 466(14).
4. No contractor or subcontractor shall be required to pay any tribal tax or license fee, other than those set forth above.
5. Employees of the NDDOT or its agents, hired to perform professional engineering services for the NDDOT, (e.g. consulting engineers, testing firms, etc.) will not be subject to reservation taxes, fees, permits, or TERO provisions.

NDDOT will provide copies of the payment estimates to the Tribe.

Mark J. Fox  
Three Affiliated Tribes  
Chairperson

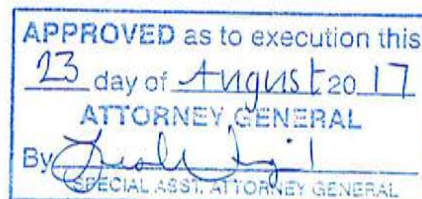
8-16-17  
Date

Thomas K. Sorel  
Director  
North Dakota Department of Transportation

8-25-17  
Date

WSS  
Approved as to Substance by:  
Mark Gaydos, P.E.  
NDDOT, Environmental & Transportation Services

7/13/17  
Date





**NORTH DAKOTA DEPARTMENT OF  
TRANSPORTATION**

**SPECIAL PROVISION**

**GOLF COURSE**

**PROJECT AC-NH-SOIB-7-023(041)925 – PCN 19862**

**Description**

This portion of the project consists of constructing three new golf holes, a driving range, practice green and tee modifications to three existing golf holes. The work involves shaping of features, construction of four modified United States Golf Course Association (USGA) greens, tees, bunkers, driving range construction, cart paths, grassing, landscape plantings, irrigation and maturation.

Representatives of the Edgewater Country Club, including maintenance personnel, shall be permitted to observe and familiarize themselves with all relevant equipment during assembly and installation.

**I. Golf Course Personnel Requirements and Duties**

**This may be one or multiple subcontractors.**

**A. Golf Course Specialist**

Is defined as a specialized contractor, under the prime, with a minimum of 10-years of experience with golf course construction projects who meets the below:

1. Is a Certified Member of the Golf Course Builder's Association of America (GCBA).
2. Completed a minimum of three nine-hole golf courses in the past five years. (Combined experience for individuals or subcontractors will not be accepted).
3. Submit the information, qualifications, and staff noted above within 10 business days after the bid opening, to the NDDOT Construction Services Division.
4. The Golf Course Specialist is to dedicate constant attention to facilitate progress and cooperate with the Architect in all things that are necessary for the satisfactory completion.

**B. Construction Superintendent**

The Golf Course Specialist shall maintain at all times a golf course construction superintendent who is experienced with golf course work. The construction superintendent shall have a minimum of 10 years of experience in the construction of golf courses. The superintendent is not to be changed except with the consent of the Architect, unless the superintendent proves unsatisfactory or ceases employment.

All changes will be confirmed in writing all other directions may be confirmed on written request in each case. Report to the Architect any error, discrepancy, inconsistency or omission.

**C. Irrigation Installer**

The Golf Course Specialist shall self-perform or enlist the services of an Irrigation Installer. The installation of the golf course irrigation system is to be completed by a contractor with a minimum of 10 years of experience installing computer controlled, high- pressure golf course irrigation systems and shall have completed the installation of at least three complete nine-hole golf course irrigation systems within the past three years. The irrigation installer is required to provide GPS Mapping & Programming of the entire system.

The Irrigation installer shall remove and salvage all existing irrigation heads, satellites and valves. Salvaged equipment shall remain the property of Edgewater Country Club.

The Irrigation Installer is responsible for keeping the irrigation system operable and ensuring that all areas of the existing golf course may be irrigated.

The Irrigation Installer is responsible for field staking of heads prior to approval by the Architect.

**D. Surveyor**

All pre-construction and construction staking required for the golf course is the responsibility of the Golf Course Specialist. The Golf Course Specialist shall enlist the services of a licensed land surveyor to complete the pre-construction staking of all proposed tee and bunker centers, green centers, dogleg points and catch basin locations with durable, easily visible stakes prior to construction. Stakes are to be flagged with ribbons and labeled with elevations and identification. Tee, green and dogleg points shall also be staked with a five foot steel fence post and ten foot length of 2.5 inch diameter Schedule 40 white PVC pipe.

Maintain bench marks, monuments and other reference points. If disturbed or destroyed, have replaced or relocated by a registered land surveyor.



## II. Summary of Golf Course Work

The Golf Course Specialist is responsible for work for the following:

- A. Construction Staking: Provide all construction staking for grades, lines, levels, elevations and dimensions as shown on the drawings. Verify any dimensions or grades of existing work, if any, that affect the work and bring any inconsistencies to the Architect prior to commencing work. Individual responsible for construction staking shall have a minimum of 3 years of experience in the operation of GPS surveying equipment.
- B. Preservation of Existing Native Areas. Preserve areas which are to remain undisturbed. Any damage to areas identified as not to be disturbed shall be restored in-kind by the Golf Course Specialist.
- C. Green Construction: Construct four modified USGA sand-based putting greens.
- D. Driving Range, Target Greens & Target Bunkers: As part of Phase Two, construct a new concrete tee line, turf tee, target greens, target bunkers and irrigation.
- E. Tees: Construct golf course tees on new holes and existing holes.
- F. Sand Bunkers: Construct sand bunkers including 4 inch perforated drain tile, drainage rock and a four-inch depth of compacted sand.
- G. Irrigation: The Irrigation Installer is to install all new irrigation components including heads, valves, satellite controllers, booster pump, quick couplers, wire and fittings as needed to make the system operational.
- H. Sod & Seeding: Seed the proposed tees, rough and fairways with a blend of Kentucky Bluegrass, perennial Ryegrass and fine fescue. Low maintenance areas are to be seeded with a blend of native and non-native grasses and forbes with a nurse crop of oats.
- I. Maturation: Grow-in and turf maturation of all golf course improvements until the golf holes are ready to play and usable for their intended use. Complete all maintenance including mowing, fertilizer & pesticide control, weed and disease control, erosion control and irrigation, as well as, trees and shrub plantings until final acceptance by the Architect.
- J. Drainage System: Eliminate all trapped water and to make sure that proper drainage exists to make fairways and roughs dry and playable, whether specifications and grading plans indicate this or not. Unit prices are requested in the event it is determined during construction that additional drainage may be required.

Proposed catch basins shall have open bottoms with 3 inches of pea rock. Exit tiles shall daylight into ponds or wetlands or shall terminate into bubbler basins. All exit tiles which do not exit into wetlands or ponds shall have rodent guards.

All drainage pipes, with proper fittings, will be ADS, Prinsco or Hancor plastic or approved equal. All perforated drainage pipe will be laid to grade for proper drainage with a minimum of 6 inches of cover of porous material.

- K. Erosion Control: All tees surfaces, fairways, roughs and proposed low maintenance areas shall be stabilized with hydraulic-mulch with tackifier. Putting green surfaces and sodded areas shall not be mulched.
- L. Cart Paths: Construct approximately 71,000 square feet of seven-foot bituminous cart paths with pull-outs and curb. Construct the concrete tee line at the driving range tee. Sub-cut for paving and install paving over 4 inches of compacted

granular fill. Use cart path corridors for construction as to minimize fairway compaction and not disturb existing native vegetation.

- M. Miscellaneous Site Furnishings: Provide and install the golf course site furnishings including one driving range ball dispenser, twenty-five range mats and seven trash cans. Remove and reinstall five existing ball washers. Prior to installation of the site furnishings, remove the existing ball washers and trash cans and put them in storage in a location designated by the Edgewater Country Club. Any existing site furnishings damaged by the Golf Course Specialist shall be replaced in kind by the Golf Course Specialist. The Golf Course Specialist can elect for others to complete this work. Once completed reinstall the ball washers and install the ball dispenser, trash cans and mats as indicated on the plans or directed by the Architect.
- N. Golf Course Signage: Provide and install three granite directional signs and nine granite tee signs to match existing and as indicated on the plans.

### **III. Golf Course Phasing**

#### **A. Phase 1**

Construction of three golf holes north of the existing Edgewater Country Club course and the forward tees on existing holes 4 and 6 including:

1. subsurface drainage
2. irrigation
3. bunker construction
4. tee and green construction
5. cart paths
6. grassing.
7. signage
8. landscape plantings
9. tee and directional signage
10. miscellaneous site furnishings
11. maturation

#### **B. Phase 2**

New driving range and improvements to existing golf holes within the existing Edgewater Country Club boundary including:

1. construction of driving range
2. construction of new tees for existing golf holes 7,8 and 9
3. subsurface drainage
4. irrigation
5. bunker construction
6. cart paths
7. grassing.
8. signage
9. landscape plantings
10. tee and directional signage
11. miscellaneous site furnishings
12. maturation

#### IV. Golf Course Construction Specifications

##### A. Irrigation System

###### 1. General

###### a) DESCRIPTION

On new and existing irrigation system provide all labor, materials, irrigation equipment, specified booster pump and Pressure Reducing Valve (PRV) equipment and supervision required to cut, cap, remove and/or re-tap existing irrigation for complete automatic operation as noted in areas of disruption. Cover the final area of disruption and impact of the system. Return the system back to a fully automatic operation. Edgewater Country Club will re-use noted existing satellites with new 24VAC secondary wiring and Qty. (2) new stand-alone field satellites as required based on the area of disruption. Provide assembled and installed renovated sprinklers, 24VAC wiring, mains and laterals (all piping is PVC – see typical) with all associated equipment for the proper operation of an automatic sprinkler system. Irrigation system shall prove to be satisfactory in all aspects to the Architect. These specifications are to be followed with due perseverance in all respects. The following work includes; but not limited to:

- (i) Booster pump station and PRV trimmed to pressures required - complete.
- (ii) Install new stand-alone field satellite(s), sprinklers and all associated equipment tying into existing PVC system with PVC, wiring back to existing satellite(s) and 120V power (as required) or install new specified controller(s) at location per plans. Coordinate sequencing with Edgewater Country Club's staff.
- (iii) Testing.
- (iv) Excavation and backfilling irrigation system work.
- (v) Associated plumbing and accessories to complete the system.
- (vi) Wiring and sleeves (as required).

###### b) QUALITY ASSURANCE

- (i) Materials, equipment, and methods of installation shall comply with, but not limited to, the following codes and standards:
  - *American Society of Irrigation Consultants (ASIC)*
  - *National Fire Protection Association (NFPA);*
  - *National Electrical Code (NEC).*
  - *ASTM*
  - *National Sanitation Foundation (NSF).*
  - *The Irrigation Association (IA).*
- (ii) Obtain all required permits, arrange for all necessary inspections and shall pay any fees and expenses in conjunction with the same as a part of the work under this Section.
- (iii) Excavating, backfilling, and compacting operations: Comply with execution requirements and as specified.
- (iv) Obtain the Architect's acceptance of installed and tested irrigation system prior to installing backfill materials.

c) SUBMITTALS

- (i) Submit manufacturer's product data and installation instructions for each of the system components.
- (ii) Provide stamped shop drawings by a licensed electrical engineer (as needed) prior to construction for permitting the site.
- (iii) Submit the following material samples:
  - Wire, wire connectors and sealer.
- (iv) Submit the following equipment samples to the Architect:
  - Valves and valve access boxes.
  - Controller.
- (v) Approved equipment samples will be returned and may be used in the work.
- (vi) Upon irrigation system acceptance, submit written operating and maintenance instructions. Provide format and contents as directed by the Architect.
- (vii) Provide irrigation system record drawings
  - The record as-built drawings are to be the original plan of the irrigation system as constructed. The final as-built drawings shall be prepared on a reproducible electronic copy, at a scale of 1 inch = 100 foot. The drawings are to consist of a piping plan, a schedule plan, and a wiring plan, indicating the location, type and size of all wires, valves and other fittings. The drawing must show all electronic controls, connections and wire splices. Measurements are to be indicated on the plan between sprinklers and valves. All equipment is to be dimensioned from three fixed objects (i.e., drain valves, lateral isolation valves, mainline isolation valves, and wire splice connections). Station numbers are to be indicated on the drawings.
  - The as-built drawings are to be made using GPS in a manner satisfactory to the Architect in accomplishing his work. The record drawings are to be kept clean, dry and safe from damage at all times. The drawings are to be brought up- to-date at the close of each working day, and indicate the location of all equipment placed to that time. In addition, a copy of the as-built drawing is to be mailed or delivered to the Architect every two weeks during the construction period. No monthly pay requests will be approved without a current copy of the as-built drawings. No final approval will be given until the Architect approves the as-built drawings. Final "as-builts" are delivered on both reproducible paper copy to scale and electronically on a 2017 AutoCAD .dwg compatible file.
  - Identify field changes of dimension and detail and changes made by Change Order as defined by the Department.
  - GPS mapping of irrigation does not remove the obligation to produce all "as-built" drawings as stated above. All locations must be located and flagged prior to collection of those points.

- d) DELIVERY, STORAGE AND HANDLING
  - (i) Deliver, store and handle material as specified in Section 106 of the NDDOT Specifications.
- e) PROJECT CONDITIONS
  - (i) Prior to the exaction of the site follow Section 102.05 and 105.03 of the NDDOT Specifications.
  - (ii) Promptly repair any damage to adjacent facilities caused by irrigation system work operations.
  - (iii) Promptly notify the Architect of unexpected sub-surface conditions.
  - (iv) Irrigation system layout is diagrammatic. Exact locations of piping, valves, wire and other components shall be established by Irrigation Consultant in the field at time of installation, and approved by the Architect before installation.
    - *Minor adjustments in system layout will be permitted to clear existing fixed obstructions.*
    - *All electrical pumps, field satellites, weather station and the like shall not be located in drainage areas or in low laying areas.*
  - (v) Cutting and patching (walks, cart paths, drives, walls etc.):
    - *Cut through concrete, asphalt and masonry with saw or core drill to provide smooth, uniform penetration.*
    - *Materials and finishes for patching shall match existing cut surface materials and finish. Exercise special care to provide patching at openings in exterior wall watertight.*
  - (vi) Protection of Persons and Property:
    - *Barricade open excavations occurring as part of this work and post warning lights.*
    - *Operate warning lights as recommended by City, County and State authorities.*
    - *Protect structures, utilities, sidewalks, pavements, curbs and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by this work.*
- f) GUARANTEE
  - (i) For a period of one year from date of final acceptance of the golf course work performed under this Section (Irrigation System), promptly furnish and install any and all parts and equipment which prove defective in material, workmanship or install at no additional cost.

## **2. PRODUCTS**

### **a) ACCEPTABLE MANUFACTURERS**

- (i) THE TORO COMPANY, IRRIGATION DIVISION, RIVERSIDE, CA

## **3. MATERIALS**

### **a) GENERAL:**

- (i) Provide pipe continuously and permanently marked with manufacturer's

name or trademark, size, schedule and type of pipe, working pressure at 73° F. and NSF certification.

- (ii) All pipe, polyvinyl chloride pipe (PVC) fittings and ductile iron fittings shall be supplied from the same manufacturer throughout the entire job.

b) PLASTIC PIPE, FITTINGS AND CONNECTIONS:

- (i) PVC pipe: ASTM D2241 NSF-PW, rigid, un-plasticized PVC . Provide pipe homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and dents.
- (ii) Gasketed pipe shall be used for 3 inch and larger diameter pipe. Gasketed pipe or bell end pipe to be used for 2 inch through 2-½ inch diameter pipe. (All piping to be thrust blocked as per details)
- (iii) All pipe 1 1/2 inch diameter and over, shall be SDR 21, Class 200 unless noted on plan.
- (iv) Glued PVC pipe fittings: ASTM D2241 schedule 80 PVC molded fitting suitable for solvent weld, slip joint ring tight seal. Screwed connections shall be Schedule 80 PVC with no male adapters. Fittings made of other materials are not permitted.
  - *Size slip fitting socket taper to permit a dry un-softened pipe-end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted.*
  - *All threaded PVC connections shall be made using Sch. 80 toe nipples and Sch. 80 couplers or socket fittings (where applicable). No threaded Schedule 80 fittings or male adapters.*
  - *PVC solvent shall conform to ASTM D2564 and is NSF approved for potable applications. Proper solvent shall be used for diameter of piping being glued. All solvent weld joints must set for 24 hours before being installed and be done in accordance with all manufacturer recommendations.*

c) DUCTILE IRON FITTINGS:

- (i) Fittings shall be manufactured of ductile iron, Grade 65-45-12 in accordance with ASTM A-536. Fittings shall have deep bell push-on joints with gaskets meeting ASTM F-477.
- (ii) Golf Grade Deep Bell fittings shall be used on all PVC mainlines and lateral piping 2 ½ inch in diameter and larger.

d) SWING JOINTS:

- (i) Toro 360° swing joint assembly. Install the swing joints properly due to actual lateral depths lay lengths (as per manufacturer recommendations).

e) SERVICE TEES:

- (i) Schedule 80 SxSxACME PVC Class 200 service tee by HARCO, Leemco or approved equal. . Note – all fittings must be approved in the submittal process as well as style of lateral installation.
- (ii) Shall be located under all sprinkler heads and quick coupler valves with appropriate thrust blocks at all change of directions and dead ends, laterals and mains.

- f) GASKET LUBRICANT:
- (i) Lubricant for assembling pipe and fittings shall be water soluble, non-toxic, non-supporting of bacteria growth, and have no deteriorating effect on the PVC or rubber gasket. All pipe, couplings, rubber rings and lubricant shall be furnished by the same pipe manufacturer or as expressly recommended by them for use with their product.
- g) AIR RELEASE VALVES:
- (i) Air release valves shall be installed at high points on golf course and/or where diagrammatically noted on irrigation plan in Section 199. I. Air release valves shall be installed in a large irrigation valve box and plumbed with a ball valve and wye strainer to isolate for maintenance (see detail).
- h) SPRINKLERS, VALVES AND ASSOCIATED EQUIPMENT:
- Products and associated equipment are to be provided by only one manufacturer for the complete project. Refer to the drawings for the quantity and diagrammatic locations of the following:
- (i) Sprinkler heads with 1 ¼ inch unitized swing joint assemblies – See Section 199:
    - *TORO Full Circle Flex 34 series V-I-H (see drawings)*
    - *TORO Part Circle Flex 35series V-I-H (see drawings)*
    - *Spacing of heads shall not exceed manufacturer's maximum recommendations. Conform to manufacturer's specifications concerning diameter of throw and gallonage at given pressures.*
    - *Base bid shall include 20 part circle V-I-H contingency heads to be used at the architect's discretion. Any heads not utilized will be credited back to the owner at the unit price listed on the Formal Bid Form*
  - (ii) Electric & Manual Isolation Valves:
    - *Harco, Leemco or Nibco RT-RW "resilient wedge" (or equal) - See Section 199*
    - *Harco, Leemco or Nibco T113-IRR tee handle valve (or equal )- See Section 199*
    - *90° lateral isolation valve assembly - See Section 199.*
    - *Size isolation valves to match line size-Manual Valves only.*
    - *Installed in specified valve access box.*
    - *Each style of isolation valve shall have two 4 foot tee handle keys supplied by Irrigation Contractor.*
  - (iii) Quick Coupler Valves (QCV):
    - *1 inch QCV with stabilizer and unitized swing joints.*
    - *Provide matching quick coupler keys.*
    - *Installed in valve box as specified on detail plan.*
    - *All QCV's shall be plumbed with a 1 inch metallic insert swing joint with stabilizer (see detail).*
- i) CONTROL EQUIPMENT:
- (i) Products and associated equipment are to be provided by only one manufacturer for the complete project Refer to the drawings for the quantity and locations of the following:

- (ii) Central Control: N/A
- (iii) Satellite Controllers: Existing & New (See Section 199)
  - *TORO VP #201-XX-P-6-A-4 Stand-Alone Field Satellite with plastic pedestal with switches and terminals for all stations, controllers shall be tuned to proper frequency (See Section 199).*
  - *Frequency modules will be supplied by Irrigation Installer at time of installation after manufacturer approved frequency site survey.*
  - *See "Electrical" on 120 VAC surge protection for satellites.*
  - *See Irrigation System and Electrical; Grounding, Bonding and Shielding.*
- (iv) Primary Electrical Wire:
  - *Type "UF", 600 volt, solid copper, single conductor wire with PVC insulation and bear "UL" approval for direct underground burial feeder cable with ground – as per local codes.*
  - *Size #00 Gauge - #12 Gauge. – (See Section 199 and Section V, 2.1)*
- (v) Secondary Control Wire:
  - *Electrical control and ground wire: Type "PE", 600 volt, solid copper, single conductor wire with polyethylene insulation "UL" approved for direct underground burial feeder cable. 12 Gauge white common neutral and 14 Gauge red control wire.*
  - *Wire color code: Provide control or "hot" wires red in color. Provide "common" wires white in color (one hot wire per head wired back to satellite). (See Section 199)*
  - *No aluminum wire allowed.*
- j) **ADDITIONAL MATERIALS**
  - (i) Primary Electric wire connectors:
    - *3M COMPANY DBR-6 splice kits Socket seal type wire connectors or scotchcast and waterproof sealer, or large 3M #4 Resin Bag UL listed for 600 volts and underground splice.*
  - (ii) Secondary Control Wire connectors:
    - *3M COMPANY Socket seal type wire connectors and waterproof sealer. DBY or DBR splice kits. All electrical connections shall apply to NEC standards and all local, state and federal codes whether listed or not.*
    - *One hot wire per head to be wired back to satellite. -See Section 199*
  - (iii) Valve Access Boxes:
    - *Jumbo Box with extension kit-or equal; for air relief valves and isolation valves.-See Section 199*
  - (iv) Thrust Blocking:
    - *Thrust blocks are anchors placed between pipe or fittings and the solid/virgin trench wall. Specified blocking of concrete which is calculated to have a compression strength of 2,000 pounds per square inch. The mixture is 1 part cement, two parts washed sand and five parts gravel. Thrust blocks must be constructed so the bearing surface is in direct line with the major force created by the pipe or fitting. See diagram. The earth bearing surface should be undisturbed (virgin wall).*
    - *Thrust blocks are required where fittings are used to change direction (i.e. the following but not limited to: all tees, elbows, wyes,*



*caps, valves and reducers etc.) of the pipe line. The thrust blocking must be formed against a solid trench wall (virgin wall) and these fitting areas must be excavated by hand, mechanical equipment will damage the bearing surface of the trench wall.*

- *The size and type of thrust depends on pipe size, line pressure, type of fitting, degree of bend and type of soil. Thrust block size may be calculated by the example procedures shown below:*
- *It will be the responsibility of the Contractor for all change of direction thrust blocks on all size piping.*

*Step 1 – Multiply the pressure level desired for testing by the appropriate value shown in the following table:*

Pipe Size	Dead End or Tee	90 deg Elbow	45 deg Elbow	22 ½ deg Elbow
1 ½"	2.94	4.16	2.25	1.15
2"	4.56	6.45	3.50	1.78
2 ½"	6.65	9.40	5.10	2.60
3"	9.80	13.90	7.51	3.82
3 ½"	12.80	18.10	9.81	4.99
4"	16.20	23.00	12.40	6.31
5"	24.70	35.00	18.90	9.63
6"	34.80	49.20	26.70	13.60
8"	59.00	83.50	45.20	23.00
10"	91.50	130.00	70.00	35.80
12"	129.00	182.00	98.50	50.30

Based on pounds per psi working pressure

*Step 2 – Determine the bearing strength of the soil from the table below:*

Soils and Safe Bearing Loads Lbs. Sq. Ft.

Sound Shale	10,000
Cemented Gravel and Sand-difficult to pick	4,000
Coarse & Fine Compact Sand	3,000
Medium Clay - Can be spaded	2,000
Soft Clay	1,000
Muck	0

*Step 3 – Divide the total thrust obtained in Step 1 by the bearing strength of the soil; this gives the square feet of area needed.*

Side Thrust on Curves – An outward pressure exists on all deflections from a straight line. Good soil, properly tamped, can be sufficient to hold side thrust – unless soil conditions are unstable. In that case, to anchor against this side thrust, the blocking should be placed against the pipe on each side of the coupling. Do not thrust block the coupling itself.

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**Side Thrust**

<b>Pipe Size Inches</b>	<b>Side Thrust Pounds per Degree</b>
1 ½"	5.1
2"	7.9
2 ½"	11.6
3"	17.1
3 ½"	22.4
4"	28.3
5"	43.1
6"	60.8
8"	103.0
10"	160.0
12"	225.0

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Based on side thrust per 100 lb./in<sup>2</sup> pressure per degree of deflection.

*Note: Multiply side thrust pounds by degrees of deflection times pounds of pressure divided by 100 to obtain total side thrust in pounds.*

2,000-psi test minimum on thrust block meeting all ASTM specifications C- 33 and C-150 or C-175 standards. Note: Thrust blocks can differ depending on the type of fittings and soils. Contractor must review all conditions for adequate thrust. Furthermore, a joint restraint may be required to obtain and secure a fitting from movement.

- ***Golf Grade Ductile Iron Fittings & Joint Restraints***

- (i) Fittings for bell and gasket pipelines shall be ductile iron, slant-bell design, and deep bell type as manufactured by Leemco, Harco or approved equal. Fittings shall be manufactured of ductile iron, grade 65-45-12 in accordance with ASTM A-536. Fitting gaskets shall be in accordance with ASTM F-477. All ductile iron fittings shall be equipped with four 90-degree apart, outwardly extending radial lugs to accommodate for appropriate method of mechanical restraints.
- (ii) Fittings made from more than one piece shall utilize securely fastened bolt-on style spigot-bell links. Slip-on rings or loose rings as the method of attachment are not permissible.
- (iii) All tee fittings used to connect remote control valve and quick coupling assemblies to the mainline shall be ductile iron, deep bell service tees.
- (iv) All ductile iron bends; reducers, tees and gate valves shall be mechanically restrained. All bell and gasket joints adjacent to restrained joints shall be restrained in accordance to the manufactures recommended design criteria and guides.
- (v) In areas where ductile iron fittings are used and thrust blocking is not acceptable due to poor soils, joint restraints may be used.
- (vi) The mechanical joint restraint shall be capable of securing the PVC pipe directly to the ductile iron fitting without the use of bolts, links and

adapters. The joint restraint shall be capable of securing PVC gasket pipe joints and gate valves without use of threaded rods. Joint restraints made for iron or steel pipe are not permissible.

- (vii) The joint restraint shall be manufactured from ductile iron, grade 65-45-12 in accordance with ASTM A-536. Bolts and nuts used on joint restraints shall be provided as part of the restraint assembly.
- (viii) All joint restraints shall be installed using methods recommended by the manufacturer. All bolts and nuts must be tightened as per manufacturer's recommended torque ratings.
- (ix) The following table lists values for the minimum restrained length of pipe ("L"). Every joint within the distance "L" should be restrained. Bends require that all joints be restrained on both sides of the bend for the specified length. The most critical are capped pipe and gate valves installed at terminating points for future connections; these should be treated as Dead End applications.
- (x) Butt Fusion Fittings - Fittings shall be PE 4710 with a minimum cell classification of PE 445474C. Butt Fusion molded Fittings shall have a manufacturing standard of ASTM D3261. Molded & fabricated fittings shall have the same minimum pressure rating as the pipe unless otherwise specified on the plans. Fabricated fittings are to be manufactured to meet the FM (Factory Mutual) performance standards. Fabricated fittings are to be manufactured using a Data Logger. Reference to the Data Logger quality control records should be referenced from an indented stamp in each fusion bead of each fitting. Temperature, fusion pressure and a graphic representation of the fusion cycle shall be part of the quality control records.
- (xi) Flanged and Mechanical Joint Adapters - Flanged and Mechanical Joint Adapters shall be PE 4710 resin with a minimum cell classification of PE 445474C. Flange adapters and Mechanical Joint Adapters shall have the same pressure rating as the pipe unless otherwise specified on the plans.

Table values are based on 100 psi test pressure, 2 feet cover, sand-clay type soil and safety factor of 2. For pressures other than 100 psi, multiply the "L" values by the actual pressure and divide by 100.

**MATERIAL SPECIFICATIONS:**

Clamps and Tie Rods:

Ductile Iron ASTM A-536

Bolts and Nuts:

Low Alloy Steel standard 304 Stainless Steel (Optional)

Pipe Size (in)	Minimum Restrained Length (L), feet Bends (degrees)				Reductions (sizes down)		
	11	22	45	90	1D	2D	DE
2	1	1	2	5	NA	NA	15
2.5	1	2	3	7	3	NA	18
3	1	2	4	9	6	8	24
4	2	3	7	16	11	16	36
6	2	5	10	23	24	32	50
8	3	6	12	30	26	44	66
10	4	7	15	36	26	45	80
12	4	8	17	42	36	45	94

Notes: 1D reduction denotes one size down (such as 4x3, 12x10) 2D reduction denotes two sized down (i.e. 4x2.5, 12x8) DE is a dead end (for a cap, plug or a gate valve.)

- (xii) More detailed tables are available upon request. Ductile iron joint restraints shall be installed on all fittings and gate valves for all International Pipe Size (IPS), ring joint PVC pipe. The joint restraint shall be capable of securing the PVC pipe directly to the lugs on the deep bell ductile iron fittings without the use of bolts, links and adapters. The joint restraint shall be capable of securing PVC pipe to PVC pipe and PVC pipe to ring joint gate valves without the use of threaded linkages.

All ductile iron fittings shall be secured to full-length pipes and on all bends and tee branches, the next joint of the pipe shall be secured. At least two full lengths of pipe must be secured when attached to bends and tee branched 8 inch and larger, and at least three full lengths of pipe must be secured to dead end pipe. Pipe joints that occur in less than full-length when attached to a fitting shall also be secured.

- (xiii) All fittings shall be deep bell, manufactured specifically for IPS-Size pipe and made of Grade 65-45-12 ductile iron. Fittings 4 inch and larger shall have slanted bells to allow deflection of pipe in all planes. Fittings shall have four lugs at each push-on joint with ribbed and cupped gasket design, made from EDPM elastomer.
- (xiv) All quick coupling valves shall be fitted with stabilizers. Quick coupling stabilizers shall be manufactured in Grade 65-45-12 ductile iron; shall attach to the hex portion of the valve and be secured with a single bolt. Stabilizer shall have 12 inch span and be capable of resisting rotational and vertical motions.

#### 4. Execution

##### a) INSPECTION

- (i) Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected and approved by the Architect.

##### b) PREPARATION

- (i) Layout and stake the location of each pipe run and all sprinkler heads and sprinkler valves. Obtain Architect's acceptance of layout prior to excavating.
- (ii) In areas with existing turf, strip sod for pipe trenches with a mechanical sod stripper uniformly 1 inch to 1-½ inch thick with clean-cut edges (for existing turf only).
- (iii) Remove existing paving for sleeve installation. Saw cut existing paving to provide uniform straight transition from the new to the existing paving.
- (iv) Place sleeves as indicated for installation of piping and control wire.

##### c) IRRIGATION INSTALLATION

- (i) Excavating and backfilling:
  - Excavation shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.
  - Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings.
  - If the pulling method is used, the pipe "plow" shall be vibratory type. Starting and finishing holes for pipe pulling shall not exceed a 1 foot by 3 foot opening.
  - Excavate to depths required to provide 4 inch minimum depth of amended earth fill or sand bedding, free of all rock, and debris, for piping on all sides and bottom of pipe when rock or other unsuitable bearing material is encountered.
  - Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not greater than 8 inch depth.
  - Provide approved earth fill or sand to a point 4 inch above the top of pipe - free of rock and debris
  - Fill to within 6 inch of final grade with approved excavated or borrows fill materials free of lumps or rocks larger than 2 inch in any dimension.
  - Provide clean topsoil fill free of rocks and debris for top 6 inch of fill.
  - Except as indicated, install irrigation main lines with a minimum cover of 24 inch based on finished grades with a minimum depth of 30 inch. Install irrigation lateral *lines with a minimum cover of 18 inch based on finished grades with a minimum depth of 24 inch. No sweeping of lateral lines.*
  - *Excavate trenches and install piping and fill during the same working day. Do not leave open trenches or partially filled trenches open overnight.*
  - *Replace stripped sod in sufficient time to allow for satisfactory sod recovery and growth. Water stripped and reinstalled sod until irrigation system is placed in operation (irrigation contractor to return turf to original condition or better). Existing turf conditions only.*

- *Replace paving of same materials, using joints and patterns to match existing adjoining paving surfaces.*
- *Backfill shall be compacted to "Compaction Control - Type C" as described in Section 203.04.E3 of the NDDOT Specifications. Contractor will be responsible for the restoration of all settlement for period of one year from acceptance.*
- *Vibratory pulling method to be employed on all greens, tees and fairways where 2 inch PVC piping is shown on plans.*

d) **PLASTIC PIPE:**

- (i) Install plastic pipe in accordance with manufacturer's installation instructions. Provide for thermal expansion and contraction.
- (ii) Saw cut plastic pipe. Use a square-in-sawing vice, to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.
- (iii) Make plastic to plastic joints with solvent weld joints or slip seal joints. Use only solvent and purple cleaner recommended by the pipe manufacturer's instructions. Make arrangements with pipe manufacturer for all necessary field assistance.
- (iv) Make plastic to metal joints with Sch. 80 piping.
- (v) Make solvent weld joints in accordance with manufacturer's recommendations.
- (vi) Allow joints to set at least 24 hours before pressure is applied to the system.
- (vii) Maintain pipe interiors free of dirt and debris. Close open ends of pipe by acceptable methods when pipe installation is not in progress.
- (viii) All gasketed PVC pipe shall be installed per manufacturer's recommendation using appropriate gasket lube.
- (ix) Pulled pipe shall be solvent welded 36 hours in advance of pulling.
- (x) Do not drag PVC pipe before installation.
- (xi) No substitution of smaller pipe, only larger sized pipe will be permitted.

e) All piping must be installed as per manufacturer recommendations including piping velocity rates.

f) **CONTROLLERS, FITTINGS, VALVES AND ACCESSORIES:**

- (i) Provide concrete thrust blocks, at all change of directions, bends, reducers, plugs, and opposite side of tees and any other unstable point of piping network (see detail). 2,000-psi test on thrust block meeting all ASTM specifications C-33 and C-150 or C-175 standards – see section on fittings with tables.
  - *Set sprinkler heads perpendicular to finished grades, except as otherwise indicated.*
  - *Obtain Architect's review and acceptance of height for proposed sprinkler heads and valves prior to installation.*
  - *Locate sprinkler heads to assure proper coverage of indicated areas. Do not exceed sprinkler head spacing distances indicated (as per manufacturer recommendations).*
  - *Install pop-up gear driven sprinklers on specified swing joint assemblies. (See Detail)*
  - *Install quick coupling valves on specified swing joint assemblies. (See*

*Detail)*

- *Install controllers as detailed.*
- Pedestal mounted in locations shown on drawings.
- Waterproof wire conduit to provide a complete, waterproof, permanent and neat job. All 120 VAC wiring, including inside of control box – as per local codes
- Ground controller in accordance with manufacturer's recommendations. (10 OHMS or less). A single, DELTA or Paige plate configuration may be acceptable to get to 10 OHMS or less; measure by a meager device. It will be your responsibility to prove such measurement before getting released from the said system installation. (See Section 199.)

g) CONTROL WIRING:

- (i) Install electric control cable in the piping trenches wherever possible. Place wire in trench adjacent to pipe. Install wire with slack to allow for thermal expansion and contraction. Expansion joints in wire may be provided at 200-foot intervals by making 5-6 turns of the wire around a piece of ½ inch pipe instead of slack. Where necessary to run wire in a separate trench, provide a minimum cover of 18 inch or as per local codes.
- (ii) Provide sufficient slack at site connections at remote control valves in control boxes, and at all wire splices to allow raising the valve bonnet or splice to the surface without disconnecting the wires when repair is required.
- (iii) Connect each remote-control valve or sprinkler head to one station of a controller except as otherwise indicated.
- (iv) Connect remote control valves or sprinkler heads to a common ground wire system independent of all other controllers.
- (v) Make secondary wire connections to sprinkler heads, remote control electric valves and splices of wire in the field; using PE listed burial splice connectors (i.e.: 3M DBY or 3M DBR), in accordance with manufacturer's recommendations.
- (vi) Provide tight joints to prevent leakage of water and corrosion build-up on the joint.
- (vii) Provide new sleeves for all locations where existing sleeves are not indicated. Install new sleeves prior to paving installation wherever possible.
- (viii) Install pipe sleeves under existing concrete or asphalt surface by jacking, boring, or hydraulic driving of the sleeve. Remove and replace existing concrete and asphalt surfaces where cutting is necessary. Obtain Architect's permission before setting existing concrete and asphalt surfaces. Where piping is shown under paved areas that are adjacent to turf areas, install the piping in the turf areas.
- (ix) One approved manufacturer shall be used for the entire project, no multiple manufacturers will be allowed for all wire, pipe, cement and primer etc.

h) FLUSHING, TESTING AND ADJUSTMENT:

- (i) After sprinkler piping and swing joints are installed and before sprinkler heads are installed, open control valves and flush out the system with full head of water. Swing joints should be extended above grade by 2-3 feet above grade by a section of PVC.

- (ii) Perform system testing upon completion of each section. Make necessary repairs and re-test repaired sections as required.
  - (iii) Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.
  - (iv) Test and demonstrate the controller by operating appropriate day, hour, and station selection features as required to automatically start and shut down irrigation cycles to accommodate plant requirements and weather conditions.
- i) ROADWAY PIPE CROSSINGS (SEE SECTION 199 AND DETAIL UTILIZING HDPE DR11 4710):
  - (i) Contact and obtain permission from all governing bodies and agencies.
  - (ii) Install piping, sleeving and wire sleeves in accordance with said agencies.
- j) STREAM PIPE CROSSINGS (SEE SECTION 199):
  - (i) Class 50 or 51 ductile iron piping with iron mechanical joint sleeves and transitional gaskets or HDPE DR11 4710.
  - (ii) Piping shall be stable and thrust blocked or restrained to stop movement of piping.
  - (iii) 2 inch minimal wire sleeve of aluminum conduit or as per local codes, shall be supported separately.
- k) SPARE PARTS
  - (i) Provide the following:
    - *Two extra sprinkler head (s) of each size and type.*
    - *Two extra valve access box(s) of each size and type.*
    - *Two quick coupler valve keys and swivel elbows.*
    - *Two repair coupling for each size and type of pipe.*
    - *One tee handle for both style isolation valves 4 foot in length.*
- l) DISPOSAL OF WASTE MATERIAL
  - (i) Transport unsuitable excavated material, such as rock, to designated disposal areas on Edgewater Country Club's property. Stockpile or spread as directed. Remove from site and legally dispose of trash and debris.
  - (ii) Maintain disposal routes clear, clean, and free of debris.
- m) ACCEPTANCE
  - (i) Test and demonstrate to the Architect the satisfactory operation of the system free of leaks.
  - (ii) Instruct Edgewater Country Club's designated personnel in the operation of the system, including adjustment of sprinklers, controller (s) and central, valves and pump station(s).
  - (iii) Upon acceptance the Edgewater Country Club will assume operation of the system.



- n) **CLEANING**
  - (i) Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from irrigation system installation.

## **B. Electrical**

### **1. General**

- a) **Applicable Standards**
  - (i) All apparatus, materials and work, shall be in accordance with standards, practices and codes of the electrical industry. Particular attention is directed to requirements of ANSI/NFPA 70 and UL, Inc. as suitable for purposes specified and shown.
  - (ii) The completed irrigation installation shall conform to all local and special laws, codes or ordinances of all Federal, State and municipal authorities with due jurisdiction.
- b) **Project Conditions**
  - (i) Locations of all controllers, heads and other elements of the system are to be approved by the Architect before wiring is installed.
  - (ii) Conductor sizes are based on copper.
  - (iii) Wire and cable routing shown on the drawings are approximate. Route wire as required meeting project conditions.-See Section 199
  - (iv) Take precautions to avoid damage to existing site elements and features, including wiring and piping for existing underground irrigation system. Promptly repair damage to such features at no cost.
- c) **Products-as per local code**
- d) **Primary Cable 120VAC**
  - (i) All power cables are single conductor (or approved equal); they are to be UL listed for direct burial, and rated at 600 volts. The cable shall include three conductors, which are to be colored per wire industry standard or numbered as 1, 2, and 3. The size of the “hot” and “common” conductors are to be as shown on the irrigation plans, and the size of the “equipment ground” conductor as required by the NEC, or larger. The inner copper conductors are to be covered with high dielectric PVC and Nylon. The outer jacket will be black PVC and is to be sunlight resistant. (Paige Electric Co., Regency Electric or approved equal) LP specification number P7266D for 10 AWG and smaller and specification number P7267D for 8 AWG and larger.)
  - (ii) **Conduit:** All branch circuit wires, for 120 volts and higher, shall be installed in electrical conduit. The wires shall be type THWN and sized according to the irrigation system plans. Paige Electric Co., LP specification number P7316. Installation shall meet all local codes and regulations as well as NEC requirements for burial conduit piping. The total cross-sectional area of the wires sleeved through the electrical conduit shall be no more than 40% of the internal cross-sectional area of the conduit – as applicable per local codes.

- e) Secondary Cable – 24 VAC
- (i) Wires connecting the remote control valves to the irrigation controller are single conductors, type polyethylene (PE). Its construction incorporates a solid copper conductor and PE insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Wire sizes and colors are defined in the irrigation plans and other specifications. (Paige Electric Co., Regency Electric or approved equal).
- f) Earth Grounding
- (i) It is the responsibility of the installer to connect all electronic equipment for which they are responsible to earth ground in accordance with Article 250 of the NEC. Grounding components will include the items described in the following paragraphs, at a minimum.
  - (ii) Use grounding electrodes that are UL listed or manufactured to meet the minimum requirements of Article 250 of the NEC. At the very minimum, the grounding circuit will include a copper clad steel ground rod, a solid copper ground plate and 100 pounds of hardening ground enhancement earth contact material, as defined. See detail.
  - (iii) Ground rods are to have a minimum diameter of 5/8 inch and a minimum length of 10 feet. These are to be driven into the ground in a vertical position or an oblique angle not to exceed 45 degrees at a location 10 feet from the electronic equipment, the ground plate, or the wires and cables connected to said equipment.
  - (iv) Grounding rods are to be stamped with the UL logo. A 6 AWG solid bare copper wire (about 12 feet long) shall be connected to the ground rod by the installer using a Cadweld welding kit (Regency Electric, Paige Electric or approved equal). This wire shall be connected to the electronic equipment ground lug.
  - (v) The copper grounding plate assemblies (Regency Electric, Paige Electric or approved equal) will have minimum dimensions of 4 inch x 96 inch x 0.0625 inch. A 25-foot continuous length (no splices allowed unless using exothermic welding process) of 6 AWG solid bare copper wire is to be attached to the plate by the manufacturer using an approved welding process. This wire is to be connected to the electronic equipment ground lug as shown in the detail. The ground plate is to be installed to a minimum depth of 30 inch, or below the frost line if it is lower than 30 inch, at a location 8 feet from the electronic equipment and underground wires and cables. Two 50-pound bags of ground enhancement earth contact material with a neutral pH value must be spread so that it surrounds the copper plate evenly along its length within a 6 inch wide trench. Salts, fertilizers, bentonite clay, cement, coke, carbon, and other chemicals are not to be used to improve soil conductivity.
  - (vi) Install all grounding circuit components in straight lines. When necessary to make bends, do not make sharp turns. To prevent the electrode-discharged energy from re-entering the underground wires and cables, all electrodes shall be installed away from said wires and cables. The spacing between any two electrodes shall be as shown so that they don't compete for the same soil.

- (vii) The earth-to-ground resistance of this circuit is to be measured using a Megger® or other similar instrument, and the reading is to be no more than 10 ohms. If the resistance is more than 10 ohms, additional ground plates and ground enhancement earth contact material with a neutral PH value are to be installed in the direction of an irrigated area at a distance of 10 foot, 12 foot, 14 foot, etc. It is required that the soil surrounding copper electrodes be kept at a minimum moisture level of 15% at all times by dedicating an irrigation station at each controller location. The irrigated area should include a circle with a 10-foot radius around the ground rod and a rectangle measuring 1-foot x 24-feet around the plate.
  - (viii) All underground circuit connections are to be made using an exothermic welding process by utilizing products such as the Cadweld “One-Shot” kits. Solder shall not be allowed to make connections. In order to ensure proper ignition of the “One-Shot”, the Cadweld T-320 igniter must be utilized. The 6 AWG bare copper wires are to be installed in as straight a line as possible, and if it is necessary to make a turn or a bend it shall be done in a sweeping curve with a minimum radius of 8 inch and a minimum included angle of 90°. Mechanical clamps shall be permitted temporarily during the resistance test process, but are to be replaced with Cadweld “One-Shot” kits immediately thereafter.
- g) Bonding – See Section 199
  - (i) Said grounding circuit is referred-to as “supplementary grounding” in the NEC. And for safety reasons, the NEC required that all supplementary grounds be “bonded” to each other and to the service entrance ground (power source) as shown. This is also “recommended practice” of IEEE Standard 1100-1999. Note that this is in addition to the equipment ground, which is commonly referred to as “the green wire.” The power wires (black, white and green for 120 VAC and black, red and green for 240 VAC) must always be kept together in a trench/conduit/tray/etc. The bonding conductors are to be 6 AWG solid bare copper unless the system power conductors are larger than 1/0 AWG, in which case they are to be 4 AWG solid bare copper. All splices to the bonding conductors shall be made using a Cadweld “One-Shot” kit. See details.
- h) Shielding – See Section 199
  - (i) The bonding conductors are to be installed in such a way so that they act as shielding conductors. This becomes a network of solid bare copper wire over all the main bundles of other wires and cables. See details. The bare copper wire is to be installed as close to the surface as possible, yet being sufficiently below the ground level as to prevent damage from maintenance equipment such as aerators. And it must be place above all other valve/power/communication wires and cables, per detail, and installed in all trenches as shown on the electrical plan drawings. It is not necessary to install this conductor over short wire runs (less than 150 feet) away from the main wire bundles. The conductor is laid in as straight a line as possible, and when necessary to make bends, do so in a sweeping motion using the detail as a guideline.
  - (ii) The shield network is to be connected to the service entrance earth ground, to all electronic equipment ground lugs, and all equipment supplementary grounding electrodes. One such network is necessary for each power source. Do not interconnect the equipment ground, bonding and shielding

- wires from different power sources.
- i) Voltage Stabilizing Equipment (See Section 199 for external/internal cabinets) – Power from existing and Watertronics booster pump
- (i) Stabilizer to be installed as per plan. All stabilizers in field locations shall be in an encoded NEMA-3 type enclosure of sufficient size to accommodate the stabilizer and enough room to allow for wiring. The NEMA-3 enclosure shall have a BTU rating based on the following table:

VA Rating	120	250	500	750	1000	1500	2000	3000	5000
BTU's	136	225	280	444	519	686	1229	1331	2117

**Model listed below and location shown on plan.**

- SOLA model (or equal). -See Section 199

- j) Surge Protection Devices
- (i) All field satellites shall have model #907 surge protection devices on all 120 VAC input power. Surge protection #907 as per manufactured by D&B Associates, Inc. Batavia, Illinois.

**2. EXECUTION**

- a) Installation of wiring shall be in accordance with Section IV Irrigation System and in accordance to irrigation system manufacturer's instructions.
- b) Any wire or cable that is stressed or damaged in any way shall be replaced at no additional cost.
- c) Make splices with approved connector assembly as specified in Section IV Irrigation System.
- d) Inspect wire and cable for physical damage and proper connection. Verify continuity of each control circuit.
- e) Wire and Cable Installation: Wire and cable burial depth is dictated by the NEC.
- f) Install all wires and cables carrying up to 30 volts at a minimum burial depth of 6 inch. If mechanical equipment, such as aerifiers and shovels, are expected to disturb the area, then the wires and cables shall be installed at a 12 inch depth. For wires and cables carrying more than 30 volts and less than 600 volts, the minimum burial depth shall be 24 inch. When installing wires and cables in a trench, they must be "snaked" so that some slack is created. At points along the trench where there are sharp bends, a loop of 12 inch to 24 inch shall be created to allow for shrinkage. When communication cables are in the same trench as power wires, there shall be a minimum separation between them of 12 inch
- g) WIRE AND CABLE SPLICES:
- All electrical connections shall incorporate:
- (i) A solid mechanical connection of the copper conductors.
- (ii) Electrical insulation of the mechanical connection.
- (iii) A waterproof insulated connection.
- (iv) "Strain-relief" to prevent the connection from coming apart when wires/cables are pulled-upon.

## C. Booster Pump Station

### 1. SCOPE

**WaterMax**  
**MODEL WM 5000-2**  
**VARIABLE FREQUENCY DRIVE PUMP STATION GENERAL SPECIFICATION**  
**U. L. Approved Package Pumping System**

It is the intention of this specification to describe a self-enclosed automatic pump station for a turf irrigation system. This shall be accomplished by using a completely prefabricated pump station conforming to the following specifications. Supply shall be either flooded, (less than 30 foot TDH), suction lift, or city water booster. The water supply type shall be identified in the accompanying Technical Specifications and shall call out the suction lift or incoming pressure in feet of head, (TDH).

The pumping station shall be **WaterMax Model Number WM5000-2** as manufactured by WATERTRONICS, INC. 525 Industrial Drive, P.O. Box 530, Hartland, Wisconsin 53029- 0530.

### 2. GENERAL

- a) The pump station performance at enclosure limits shall be as noted in the technical specifications. The capacity, discharge pressure, maximum water lift or pump inlet pressure if a booster system and intake line dimensions shall be per the technical specifications. The pump shall operate at no more than 3600 RPM. The power supply to the station shall be as noted in the technical specifications.
- b) The station shall be completely wired, piped, dynamically flow and pressure tested prior to shipment.
- c) Operational sequence: The pump shall activate automatically upon detecting a drop in pressure in the irrigation main line if it is a flooded or suction lift application and by recognizing flow if it is a city water booster application or a remote start signal. Operation shall be maintained at an adjustable minimum demand. The pump shall be automatically retired when the demand falls below the minimum adjustable set point for an adjustable time delay.
- d) Construction: Construction shall be of modular form utilizing a base structurally adequate to support pumps, piping, and electrical equipment as a single integral assembly. All nuts, bolts washers, and fasteners shall be stainless steel, zinc or cadmium plated for corrosion resistance.

### **3. PUMP AND MOTOR**

#### **a) PUMP**

Pump shall be electric motor driven, horizontal centrifugal with mechanical shaft seal, volute case and impeller. The shaft seal shall be a self-adjusting mechanical type to prevent leakage and eliminate the need for a drain piping. The volute case shall be precision machined from gray cast iron and engineered to modern hydraulic standards. It shall be possible to rotate the discharge connection to any of four positions. A heavy cast iron bracket shall maintain alignment between the motor and volute case. The impeller shall be an enclosed type and balanced to provide smooth operation. The impeller shall be keyed to the shaft and locked with a special cap screw and washer. The motor shaft is to be manufactured from high grade steel and of reduced length to increase shaft rigidity, extend bearing life, and reduce the overall length of the pump and motor assembly. The pump shaft shall be protected with a replaceable stainless steel sleeve. The pump, motor and impeller shall be removable from the back of volute case for service without disturbing the plumbing.

#### **b) MOTOR**

Pump motor shall be a squirrel cage induction horizontal solid shaft type. The pump impeller shall be direct mounted and keyed to the motor shaft with a stainless steel protective sleeve. The temperature rise of the motor shall be to NEMA Standard for class B or Class F insulation. Radial and thrust bearings of ample capacity to accommodate the hydraulic thrust of the pump shall be incorporated into the motor.

### **4. PIPING MANIFOLD, VALVES, GAUGES AND OTHER MECHANICAL EQUIPMENT**

#### **a) FABRICATED PIPING**

All fabricated piping shall conform to ASTM specifications A53 for Grade B welded or seamless schedule 40 pipe. All welded flanges shall be forged steel, slip-on or weld neck type. All welded fittings shall be seamless, ASTM Specification A234, with pressure rating not less than 150 PSI.

#### **b) BY-PASS PIPING SYSTEM**

A fabricated full flow bypass shall be constructed of ASTM specification A53 Grade B welded or seamless schedule 40 pipe. All welded flanges shall be forged steel, slip-on or weld neck type. All welded fitting shall be seamless, ASTM Specification A234, with pressure rating not less than 150 PSI. Full flow bypass shall be complete with 3 butterfly isolation valves to allow for complete isolation and bypass of the pump. All valves shall be installed inside the enclosure for vandal resistance.

#### **c) CHECK VALVE**

On flooded suction and booster stations the pump check valve shall be cast iron bodied with a spring loaded single disc. Check valves shall be sized according to the maximum discharge flow of the pump. Pressure drop across the check valve shall not exceed 2.5 PSI at full flow. On suction lift stations the check valve will be removed and a pressure rated foot valve will be supplied to attach on the end of the suction pipe.

- d) **STATION DISCHARGE ISOLATION VALVE**  
Pump shall be isolated by means of a butterfly valve after the check valve and before the piping exits the station enclosure. Isolation valves shall be butterfly type with ten position lever, rated for 200 PSI WOG working pressure. Trim shall include stainless steel stem, bronze or nickel coated iron streamlined disk with full faced resilient seat design to eliminate need for flange gaskets.
- e) **DRAIN VALVES**  
Drains shall be provided from all low points in the system and shall consist of 1/4 inch petcocks or ball valves.
- f) **PRESSURE GAUGES**  
Pressure gauges shall be located upstream and downstream of the pump for easy reading of the intake and discharge pressure. Pressure gauges shall be 304 stainless steel case and bezel construction. Gauges shall be 2-1/2 inch diameter, liquid filled. Pressure sensing connection shall be 1/4 inch NPT lower gauge connection.

## **5. ELECTRICAL CONTROLS**

All control panels must meet or exceed the Federal Communications Commission, (FCC), Standard #15 for emitted and conducted noise.

- a) **MAIN STATION DISCONNECT AND FUSING**  
A three-pole, service rated main station disconnect shall be mounted in a separate NEMA 4 enclosure outside the pump station enclosure to completely isolate the pump station electrical system from incoming power.
- b) **PUMP THERMAL SWITCH**  
The temperature of the pump shall be sensed by a thermal switch. The thermal switch shall be located on the pump volute. Externally mounted snap disc type thermal switches will not be accepted. The thermal switch shall activate upon a temperature rise above 120 degrees Fahrenheit.
- c) **FLOW SENSOR**  
The pump station discharge manifold shall incorporate an insertion type, pulse frequency output flow sensor for continuous output to pump station controls. The flow sensor output pulse shall be conditioned and fed directly to the processor for conversion and display in Gallons per Minute and totalize. Flow sensor accuracy shall be no less than 2% for flow velocities ranging from 1 - 30 feet per second.
- d) **PRESSURE TRANSDUCER**  
A solid state pressure transducer shall provide a noise free, linear output proportional to discharge pressure. Transducer shall be solid state, strain gauge type with integral voltage regulating and output accuracy not less than 0.5%. Transducer shall be constructed of stainless steel and rated for the maximum pump station discharge pressure.
- e) **VARIABLE FREQUENCY DRIVE (VFD)**  
The VFD shall be Insulated Gate Bipolar Transistor (IGBT) based with selectable carrier frequency up to 15 KHZ. The VFD shall include terminals for incoming power, motor output power and control terminals. The VFD shall generate a sine-

coded, variable voltage/frequency, three-phase output for optimum speed control. The VFD shall incorporate power loss ride-through. VFD protective features shall include current limit, short circuit protection, electronic motor overload protection and ground fault protection. The VFD shall have push button programming display for easy access to operation parameters. VFD must be designed for operation in 50 degree C temperature condition.

- f) **NEC STANDARDS**  
Electrical controls shall conform to NEC Standards.

## **6. CONTROL ALARMS**

- a) **LOW SYSTEM PRESSURE SAFETY SHUTDOWN**  
When the station discharge pressure remains below an adjustable set point for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the alarm is manually reset. The Low Pressure alarm will be indicated on the processor display.
- b) **HIGH SYSTEM PRESSURE SAFETY SHUTDOWN**  
When the station discharge pressure remains above an adjustable set point for the time called out in the Technical Specifications, the pumps will be de-energized and remain so until the alarm is manually reset. The High Pressure alarm will be indicated on the processor display.
- c) **HIGH PUMP VOLUTE TEMPERATURE SHUTDOWN**  
If the pump volute case temperature rises above 120 degrees F. for the pre-programmed time, the pump will be de-energized and remain so until the alarm is manually reset. The High Temperature alarm will be indicated on the processor display.
- d) **MOTOR OVERLOAD SHUTDOWN**  
If the over current condition lasts longer than the pre-programmed limit the motor will be de-energized and remain so until the alarm is manually reset. The overload alarm will be indicated on the processor display.
- e) **VFD FAULT SHUTDOWN**  
The VFD shall sense additional internal faults that will cause the VFD to shut down for system protection. These faults will be indicated on the processor display.
- f) **LIGHTNING ARRESTOR**  
The main power supply to the pump station shall be equipped with a secondary lightning arrestor having a breakdown current rating of not less than 60,000 Amps at 14,000 Volts discharge. Power supplies 300 Volts and less shall use a 300 Volt arrestor with an 800 Volt spark-over Voltage. Power supplies up to 600 Volts shall use a 600 Volt rated arrestor with a 1,000 Volt spark-over Voltage.
- g) **CORROSION INHIBITING MODULES**  
Corrosion inhibiting modules shall be installed in the main electrical control enclosure in accordance with the manufacture's recommendations.



## **7. MOUNTING BASE AND ENCLOSURE**

### **a) MOUNTING BASE**

Construction shall include a fabricated base assembly to support all components during shipping and to serve as the installed mounting base. Pump station base shall be formed from a single sheet of 1/4 inch plate resulting in a seamless, one piece base with rounded edges and corners. Height is to be 3-1/2 inch inches. The base shall be reinforced beneath as required to provide additional support and strength. The base shall be drilled and tapped allowing the pump to be secured to the base. The base shall be shot blasted to bare metal prior to painting process.

### **b) ENCLOSURE**

Construction shall include a weather resistant, 14 gauge all metal enclosure. The front side of the enclosure shall have oversized cooling vents. The enclosure is to be supplied with a two internally mounted gas struts that shall extend to keep the access door open. All components are to be accessible from top and front sides with the door completely open. Enclosure is to be suitable for mounting to the pump station base and shall include openings for suction and discharge piping.

### **c) EXHAUST FAN**

The exhaust fan shall be activated upon pump start and shall run until the pump stops. The fan shall be black die-cast aluminum construction with UL94V-0 rated polycarbonate propeller and rated for not less than 240 CFM. Fan motor shall be permanent split capacitor type with stainless steel ball bearings, Class B insulation and automatic thermal protection.

## **8. PAINTING**

Painting of the entire pump station shall consist of a multi-step coating system which includes metal preparation, rust inhibitive baked epoxy prime coat, and a two-part ultraviolet light insensitive baked polyurethane finish having total dry film thickness of not less than 5 mils. Prime coat and finish coat shall be baked at 165 degrees for not less than 30 minutes to achieve a high gloss, corrosion resistant finish. Exterior pump station components shall be painted Sandstone.

## **9. REMOTE START SIGNAL**

The pump station control system will be activated by up to 3 separate incoming remote start signals. When no signal is present the pumping system will satisfy the pressure set point and shut down. Technical Specifications must define number of incoming signals, (Max of 3).

## **10. DROP PIPES**

The inlet and discharge piping system will be attached to dual 90 degree drop pipes to provide below grade connection to a suction pipe or city water supply pipe or below grade connection to a discharge main line. Drop pipe sizes, connection fitting style and depth of bury will be shown on the project drawings.

## **11. FULL FLOW BYPASS**

A full flow bypass piping system is available for booster models. Pump bypass piping will have three isolation butterfly valves to allow city water pressure and flow

to be directed around the pump. This allows isolation of the pump and motor for service without disrupting the irrigation system supply.

**12. SERVICE DISCONNECT**

The incoming high voltage disconnect can be supplied as a Dead Front style.

**13. ALARM LIGHT**

The station will include a vandal resistant red alarm light in the disconnect door. It is a common alarm light to be activated by any station control alarm.

**14. TESTING**

The pump station and all its component parts shall undergo a complete hydraulic and electrical test prior to shipment from the factory. Testing shall be dynamic and include operation over the entire flow range of the pump station under specified suction and net discharge pressure conditions. A plot containing actual flow, pressure, KW consumption and motor RPM shall be furnished as part of the Owner's Manual.

**15. OWNERS MANUAL**

Complete startup instructions shall be provided by the manufacturer in the form of an Owner's Manual.

**16. WARRANTY**

The manufacturer shall warrant the pump station to be free of defects for one year from date of startup or fifteen months after shipment, whichever occurs first. Failures caused by lightning strikes, power surges, vandalism, operator abuse, or acts of God are excluded from warranty coverage.

**TECHNICAL SPECIFICATIONS**

**Project Name: Edgewater Country Club -  
Booster**

<b>Design criteria:</b>	Horizontal Centrifugal, automatic pump station
<b>Pump station model #:</b>	<b>5000-2-20-230-1-400-100</b>
<b>Quantity of pumps:</b>	1
<b>Pump station capacity:</b>	400 GPM @ 100 PSI Discharge Pressure
<b>Station inlet pressure:</b>	50 PSI
<b>Power supply:</b>	1 Phase, 230 Volt, 60 Hertz
<b>Pump station disconnect size:</b>	125 Amp DEAD FRONT
<b>Disconnect Style:</b>	
<b>Pump station enclosure type:</b>	Painted Steel
<b>Station pressure regulation:</b>	Variable Frequency Drive

## Pump Station Requirements

Parameter	Pump
Pump type	Horizontal Centrifugal
Pump Flow at design point	400 GPM
Pump pressure (TDH) at design point	130
Pump efficiency at design point	69.1%
Motor RPM (nominal)	3600
Motor horsepower	20 HP
Motor full load amps (FLA)	47 Amps
Motor efficiency @ FL	91%
Starting current (locked rotor)	153 Amps
Motor power factor @ FL	88%
Motor service factor	1.15
Pressure regulation type	VFD
Low PSI cutout set point	20 PSI below regular
Low PSI cutout time delay	240 Seconds
High PSI cutout set point	11PSI ab regulate
High PSI cutout time delay	120 Seconds
High volute temperature cut set point	120 Degrees F
Station intake size	4"
Station discharge size	4"

## Additional Station Intake/ Discharge Detail

Item	Note
Discharge Z pipe	4" x 6" by 36" Bury
Intake Z pipe	4" x 6" by 36" Bury
Check Valve	4"
Dead Front Disconnect	YES
Start Method	Pressure Drop

## D. Landscaping Work

### 1. GENERAL

#### a) SCOPE

- (i) Work under this section of the Specifications consists of furnishing all labor, materials, and related services required to complete all planting and related work as indicated by the Drawings and/or as specified herein.
- (ii) Include excavation below sub-grade for trees and shrubs; clean-ups; the furnishing, planting, wrapping and pruning of plant materials; mulching; and all other related items necessary to complete the Work in accordance with the Drawings and Specifications.

b) QUALITY ASSURANCE

- (i) Codes: Plant materials shall comply with local, state and federal laws relating to inspection for diseases and insect infestations.
- (ii) Grading standards: Plant stock shall conform to the code of standards set forth in current edition of American Standards for Nursery Stock recommended for general use and adoption by the American Association of Nurserymen, Inc.
- (iii) Plant names: Nomenclature used in the Drawings and Specifications conforms, with few exceptions, to that of the current edition of Standardized Plant Names as adopted by the American Joint Committee on Horticultural Nomenclature.
- (iv) Labels: Each tree and shrub shall have a securely attached waterproof tag bearing a legible designation of botanical and common name.
- (v) Inspection: Architect retains the right to inspect trees and shrubs for size, condition of root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of Work. Golf Course Specialist shall remove rejected trees or shrubs immediately.
- (vi) Do not make substitutions. If specified landscape material is not obtainable, submit proof of non-availability to Architect.

c) DELIVERY

- (i) Notify the Architect, in advance, of trees, shrubs and other plant material delivery and manner of shipment. Golf Course Specialist shall furnish an itemized list of actual quantities and sizes delivered.
- (ii) Pack to provide protection against climate and breakage and tie to prevent whipping when shipping is provided by truck. Cover tops to prevent damage.
- (iii) Deliver all packaged material in original, undamaged containers. Packages shall clearly identify manufacturer, brand, name, content analysis and net weight.
- (iv) Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agricultural Chemists.

d) STORAGE

- (i) Deliver plant material direct from nursery. Heel-in immediately upon delivery, if not to be planted within four hours, covering with moist soil, mulch or other material to protect roots from drying. Store plants in shade and protect from severe weather.
- (ii) Store soil conditioners in a dry location.
- (iii) Keep stored sod moist and covered with damp burlap to prevent dehydration and overheating.

e) HANDLING

- (i) Do not drop plant material or lift balled plants by stems or trunks.
- (ii) Carefully handle packaged materials to prevent contamination or spillage.

f) **JOB CONDITIONS**

- (i) Maintain grade stakes set by others until all parties mutually agree upon removal.
- (ii) Notify the Architect upon encountering any adverse conditions to plant growth, such as rubble fill, poor drainage, or obstructions, before planting.
- (iii) Prepare a proposed planting schedule. Correlate schedule with specified maintenance periods to provide maintenance up to date of Final Acceptance. Once accepted, revise dates only as approved in writing, after documentation of reasons for delays.
- (iv) Install plants under favorable conditions during the summer and fall planting season.
- (v) Coordinate installations with lawns: Plant trees and shrubs after final grades are established and prior to planting lawns, unless otherwise acceptable to Architect. If tree and shrub planting occurs after lawn work, protect turf areas and promptly repair damage resulting from planting operations.

**2. MATERIALS**

a) **SOIL**

- (i) Backfill soils shall be native to the site. Tree planting pits shall use soils excavated specifically to create the pit.
- (ii) Finish grading of planting areas will be complete before planting begins. Golf Course Specialist shall ensure that all planting areas are at correct finished grade.
- (iii) Work under this section of the Specifications consists of furnishing all labor, materials, and related services required to complete all planting and related work as indicated by the Drawings and/or as specified herein.

b) **SOIL AMENDMENTS**

- (i) Commercial Fertilizer: Provide fertilizer for trees and shrubs at the following rates:
  - A. Trees: Tablets (9-9-4) tablets imbedded. Imbed 3 tablets in the wall of each planting hole.
  - B. Shrubs: Granular (14-12-14). Apply at a rate of 1/4 cup per 1 gallon pot.

c) **PLANT MATERIAL STANDARDS**

- (i) Names and grades of plants shall conform to nomenclature of "Standardized Plant Names" as adopted by the Joint Committee of Horticulture Nomenclature, latest edition. Size and grading standards shall conform to the "American Standard for Nursery Stocks", latest edition. Substitution will be permitted only with written permission of Architect.
- (ii) Form of plant material shall be appropriate for the species or variety. Trees shall have single trunks unless clump form is specified. Crotches shall be sound and un-split.
- (iii) Health- All plants, including their roots, shall be free from disease indications, insects, eggs, larvae or other symptomatic properties. Plant materials shall be in compliance with local, state, and federal laws pertaining to the inspection,

sale and shipment of plant material. The bark of all trees shall be sound, have no large wounds, and any small wounds shall have a satisfactory callous formed or forming over them. Plants shall show good annual growth. Buds shall be plump and well filled for the species. Evergreen foliage shall display healthy and intense color.

- (iv) Quality of plants shall be true to type; they shall have normal, well- developed branch systems, and a fibrous root system. They shall be sound, vigorous plants free from defects, disfiguring knots, sun scald injuries, bark abrasions, or other signs of abuse. All new plants shall be nursery grown. Plants shall be grown in USDA zones 3 or 4. Plants shall have been transplanted or root pruned in the past 3 years. Container grown plants will not be permitted unless specified. All plants shall be freshly dug. No heeled-in plants or plants from cold storage will be accepted.
- (v) Ball and burlap (B & B) plants shall conform to the "American Standard for Nursery Stock" latest edition. All balls shall be of natural earth in which the plant has been growing. No manufactured or artificially produced or mudded-in balls shall be accepted. Balls shall be firm, unbroken, and of sufficient size to adequately enclose the plant's fibrous root system. Balled and burlapped plants may be rejected for failure to exhibit sound digging practices.
- (vi) Plant Schedule as furnished with the Specifications and Drawings is for the information of the Golf Course Specialist. The height or caliper of trees and the height or spread of shrubs are the minimum dimensions required. Plants indicated "B & B" shall be dug with a ball of earth and wrapped in burlap.
- (vii) Measurements shall conform to those specified on the plant list except as follows: Oversize plants may be used only if approved by the Architect. Use of such plants shall not increase the Contract price. Height and spread dimensions indicated refer to the main body of the plant and not from branch tip. All trees and shrubs shall be measured when their branches are in normal position. Trees shall have straight trunks with undamaged and uncut leaders intact.
- (viii) Inspection and approval of plant materials as required by state, federal and other authorities, is the responsibility of the Golf Course Specialist. Golf Course Specialist shall secure required permits and certificates. Inspection certificates required by law shall be filed with the Architect. All plants shall be subject to inspection and approval by the Architect before digging or upon delivery. Rejected plants shall be removed immediately.
- (ix) Local sources shall be used for plant materials, if possible, or sources which have soils of similar composition.

d) MISCELLANEOUS LANDSCAPE MATERIALS

- (i) Stake and brace trees with 6 foot steel fence posts.
- (ii) Guy wires shall be of #12 galvanized wire.
- (iii) Hose collars shall be new two-ply fabric garden hose not less than ½ inch. I.D.
- (iv) Tree wrap shall be first quality 4-inch wide rolls of bituminous impregnated tape, corrugated or crepe paper, specifically manufactured for tree wrapping, and having properties to resist insect infestation
- (v) Mulch shall be organic, free from deleterious materials, and suitable for top dressing of trees, shrubs or plants as follows:

Shredded bark mulch:    4-inch depth (perennials and shrubs)  
   6-inch depth (trees)

e) PLANT MATERIALS

- (i) Deciduous trees of height and caliper listed, scheduled or shown and with a branching configuration recommended by ANSIZ60.1 for type and species required. Provide single straight trunk stem trees except where special forms are shown or listed.
- (ii) Deciduous shrubs of the height shown or listed and with not less than minimum number of canes required by ANSIZ60.1 for type and height of shrub required.
- (iii) Coniferous trees of height and caliper listed or shown with branching full to the ground and as recommended by ANSIZ60.1 for type and species required.

f) DIGGING AND HANDLING

- (i) Protect plant material from temperature extremes, sun exposure and rough handling during transport and storage. All precautions customary in good trade practice shall be taken to prepare plants for transplanting, in accordance with the American Standard for Nursery Stock. Workmanship failing to meet the highest standards will be rejected.
- (ii) Assemble plant material in one location to permit inspection and approval by the Architect. Notify the Architect 48 hours prior to planting so a mutually agreeable time may be arranged for inspection. Stock with broken root balls or loose containers, which shows evidence of being root bound, overgrown or in the opinion of the Architect damaged or improperly cared for, will be removed from the site immediately and replaced at the Golf Course Specialist's expense with material meeting the original Specifications.
- (iii) Provide plants with firm natural balls of earth, of sufficient diameter and depth to include all fibrous and feeding roots. No plants with a ball will be accepted if the ball is cracked or broken before or during planting operations except upon approval of the Architect.
- (iv) Adequately protect roots or balls of plants at all times from sun exposure and/or drying winds.
- (v) All plants that cannot be planted immediately upon delivery shall be set on the ground and be well protected with soil, wet moss, or other acceptable material. Bare rooted plants that cannot be planted immediately shall be protected with soil, wet moss or heeled in trenches upon delivery.

- (vi) No plant shall be bound with wire or rope that could damage the bark or unnaturally spread the branches.

### 3. EXECUTION

#### a) TREE PLANTING

- (i) Stake the layout of tree locations to conform to the Plan. Prior to digging, tree locations shall be approved by the Architect. No material shall be planted without approval of the Architect. Architect shall determine relocations if overhead obstructions are encountered,
- (ii) Planting pits shall be dug to allow proposed tree ball to match existing adjacent grade. Fill gaps around roots by hand after tree installation.
- (iii) Backfill Soil Preparation: Install fertilizer as described in paragraph D.2.2.a.
- (iv) Setting of Trees: Plant trees so that after settling, the relationship between the original grade (at which the plant grew) and the present level shall be the same. Trees shall be planted plumb and oriented as directed by the Architect. Planting soil shall be placed in 6 to 8-inch layers, tamped and watered to fill all voids. Each layer shall be thoroughly tamped and watered.
- (v) *Provide a concave dish profile at top of backfill to allow for mulching.*
- (vi) *Provide not less than a 6-inch depth of required mulch...*

#### b) OBSTRUCTIONS BELOW GROUND

- (i) Contact Architect if rock, underground construction work or other obstructions are encountered in any planting pit excavation work. Alternate locations may be selected by the Architect. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than 3 feet below grade and no more than 6 inches below bottom of ball or roots when plant is properly set at the required grade. Golf Course Specialist shall be responsible for the removal of rock or underground obstructions encountered.

#### c) TREE PRUNING

- (i) Do not prune trees without approval of the Architect.
- (ii) If required, neatly prune, after planting; all trees in accordance with the best standard trade practices. The tree shall be pruned to preserve its natural form and character. In general, no more than one third (1/3) of a deciduous tree shall be removed, thinned or shortened and no leaders shall be cut. All pruning shall be done with clean sharp tools. All trees shall meet specified size, quality, and all other requirements after pruning.

#### d) WRAPPING

- (i) Wrap all deciduous trees with material as specified. The wrapping material shall be secured at top and bottom of the trunk. The wrap shall cover the entire surface of the trunk to the height of the first branch. Wrap trees in either September or October.



- e) **STAKING:**
  - (i) Staking of trees may be performed to straighten trees but staking of each tree is not required for bidding purposes. However, the Golf Course Specialist is required to maintain all trees in a plumb position for the duration of the guarantee period.
- f) **SHRUB PLANTING:**
  - (i) Bed layout and pit locations shall be approved by the Architect in accordance with the plant list and locations shown on the Drawings. The general form of the planting bed shall be staked out and excavation performed within the stakes.
  - (ii) Planting pits shall have vertical sides. The diameter of the pit shall be one half (1/2) again greater than the diameter of the root ball of the shrub. The depth of the pit shall be enough to accommodate the ball or roots of the shrub when it is set to finish grade.
  - (iii) Setting of Shrubs- All material shall be planted in the same relationship to the finish grade as prior to transplanting. Backfill with native soil. All burlap, rope, stakes, etc. shall be removed from the sides and top of B & B shrubs before backfilling, but burlap shall not be pulled from under the ball.
  - (iv) Planting pit shall be back-filled with successive 8-inch layers of soil. Water shall be used and allowed to soak. After the water has soaked, the hole shall be completely backfilled with soil. After settling, additional soil shall be added to the level of the finish grade. A shallow concave saucer of soil shall be formed within the perimeter of each hole to retain water in the future.
  - (v) If requested, shrub pruning shall take place immediately after planting in accordance with best standard trade practices. Broken or badly bruised branches shall be removed with a clean cut. Each shrub shall be pruned to preserve its natural form or character and in a manner appropriate to its particular requirements. All pruning and thinning shall be done with sharp, clean tools. All shrubs shall meet specified size, quality and all other requirements after pruning.
  - (vi) Mulch shall be indicated on the Drawings and applied to all shrub beds to a depth of 4 inches unless otherwise specified.
- g) **MAINTENANCE:**
  - (i) Periodic inspections to ascertain that all materials are properly watered, cultivated, and pruned, and that all guys and stakes are in proper adjustment, and that the sum of all conditions are contributing to the satisfactory progress of the plants, until such time as final acceptance of the work is approved by the Architect and accepted by the NDDOT.
- h) **INSPECTION AND ACCEPTANCE:**
  - (i) Upon completion of the project, provide written notice (at least five days prior to anticipated inspection date) for inspection of the work, to be made by the Architect. Condition of shrubs and trees will be noted and recorded for reference at end of guarantee period.

- (ii) Golf Course Specialist will be notified, after inspection, in writing by the Architect if there are any deficiencies of the requirements for final acceptance of the work.
- i) **GUARANTEE AND REPLACEMENT:**
  - (i) Trees and shrubs are subject to inspection and rejection by the Architect at any time, before or after planting.
  - (ii) Guarantee all trees, shrubs and perennial plants to be alive and in satisfactory condition for one year after final completion of the project and acceptance by the Architect. Such guarantee excludes vandalism, tornadoes, straight-line winds and mechanical or animal damage beyond control.
  - (iii) At the end of the guarantee period, upon written notice by the Golf Course Specialist (at least five days before the anticipated date) inspection will be made by the Architect. Any shrub or tree required under this Contract that is not in satisfactory condition, as determined by the Architect, shall be removed from the site, and replaced as soon as conditions permit during the normal planting season.
  - (iv) In a dispute regarding the condition and satisfactory establishment of a rejected plant, the Golf Course Specialist may request the Architect to allow such plant to remain through another growing season, at which time the rejected plant shall be replaced, if found to be unsatisfactory, as determined by the Architect.
  - (v) Provide all replacement shrubs and trees of the same type and size as specified in the plant list at no cost.
- j) **CLEAN UP:**
  - (i) Promptly remove soil and peat or similar materials brought onto the site in an effort to keep the area clean at all times. Upon completion of the planting, all excess soil, stones, and/or debris shall be removed for disposal.
  - (ii) Restore to original condition or the proposed configuration of the Plan all surface area disturbed by planting operations.

## **E. Bituminous Cart Paths**

### **1. GENERAL**

- a) Meet the NDDOT Specifications
  - (i) Aggregate Base: Section 302.01 through 302.04
  - (ii) HMA : Sections 430.01 through 430.04
  - (iii) Tack Coat: Sections 401.01 through 401.04
    - Use tack between lifts at a rate of .05 gal/sq. yd

### **2. MATERIALS**

- a) **BASE MATERIALS:**
  - (i) Meet the requirements for Aggregate Base Course CI 5

- b) BITUMINOUS PAVING:
  - (i) Meet the requirements for Superpave FAA 45
  - (ii) Meet the requirements for PG 58S-28 ASPHALT CEMENT

### 3. SPECIAL INSTRUCTIONS

- a) Construct cart paths as shown in Section 199.
- b) Pave HMA in 2 inch lifts.
- c) CURBING
  - (i) Cart path curbing for bituminous cart paths shall be 5 inch surmountable (rolled) curb.
- d) The centerline of the cart paths shall be staked in the field by the Golf Course Specialist and then approved by the Architect prior to construction. Every effort shall be taken to identify and preserve existing vegetation and to minimize the visual impact of cart paths from tees and fairways.
- e) SETTLEMENT:
  - (i) Fill and backfill shall be compacted sufficiently to prevent future settlement or displacement of adjacent lawn areas. Particular emphasis shall be directed to utility trenches or deep excavations. If settlement does occur within one-year guarantee period.

## F. Concrete Slabs

### 1. General

- a) Meet the NDDOT Specifications
  - (i) Aggregate Base: Section 302.01 through 302.04
  - (ii) Sidewalk Concrete: Sections 750.01 through 750.04.

### 2. MATERIALS

- a) BASE MATERIALS:
  - (i) Meet the requirements for Aggregate Base Course CI 5
- b) Concrete Paving:
  - (i) Meet the requirements for Sidewalk Concrete

### 3. SPECIAL INSTRUCTIONS

- a) Construct cart paths as shown in Section 199.
- b) LAYOUT AND STAKING:
  - (i) All paving shall be staked in the field by the Golf Course Specialist and its' location approved by the Architect prior to construction.
  - (ii) The Golf Course Specialist shall install all PVC sleeving under all paved

surfaces as indicated on plans. Stake all sleeve locations with wood lath denoting sleeving.

- c) **AGGREGATE BASE:**
  - (i) Aggregate base for concrete paving shall be 4 inch depth.
  - (ii) If no paving is proposed, the aggregate base material shall be laid in place level with the adjoining grade and graded to drain.
- d) **EXPANSION JOINT SEALANT:**
  - (i) Expansion joint material shall be a polyurethane based, self-leveling, multi-component, chemical curing caulk. Color shall be grey, non-staining, non-bleeding.
  - (ii) As an alternative, the Golf Course Specialist may use ½ inch x 4 inch asphaltic-based fiber board with no caulking or sealer. The Golf Course Specialist shall insert screws or dowels to prevent lifting of fiber expansion material.
- e) **REINFORCING:**
  - (i) All concrete slabs shall be reinforced with 6 inch x 6 inch wire mesh. All mesh shall be non-coated, 10 gauge, welded.
- f) **FINISH GRADING:**
  - (i) The Golf Course Specialist shall grade the sub-grade, true to line and grade as shown on the plans. The Golf Course Specialist shall strip all topsoil and organic material prior to shaping for sub-grade. The sub-grade shall be compacted to minimum density of 90% modified proctor density in accordance to ASTM D-1587.
- g) **COMPACTION OF FILL:**
  - (i) Compaction under paving shall be accomplished in lifts not exceeding 6 inches in depth (loose) except where fill materials are granular and vibrating equipment is used.
  - (ii) If poor soils are encountered during any excavation process, they shall be excavated and filled with granular material and compacted in 6-inch lifts, or as directed by Architect.
- h) **COMPACTION OF PAVED AREA SUBGRADES:**
  - (i) The sub-grade shall be brought to correct line and grade. Where fill is required, it shall be placed in lifts not exceeding 6 inches in loose thickness and compacted to a minimum of 90% of the standard proctor density. Fill material shall be free of organic matter and debris.
- i) **CONSTRUCTION EXPANSION JOINTS:**
  - (i) Construction expansion joints shall be placed at breaks in construction and not more than 100 feet on center.
  - (ii) The Golf Course Specialist shall drill into the existing concrete and anchor three ½ inch rebar dowels at 24 inches on center to keep separate pours from heaving or lifting. Dowels shall be imbedded a minimum of 3 inches.

j) **REINFORCING:**

- (i) All concrete paving shall be reinforced with 6 inch x 6 inch wire mesh. Use chairs or supports to maintain mesh a minimum of 2 inch above base or subgrade.

k) **Curing:**

- (i) Membrane curing compounds shall meet Section 750.04G of the NDDOT Specifications. Apply in two equal applications totaling 0.06 gallons per square yard. Application rate shall be 150 square feet (SF) per gallon. Apply homogeneously to provide uniform solid white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper).
- (ii) Curing shall be performed by applying the membrane curing compound or polyethylene to the exposed surface of the concrete immediately after the final finishing operation. When forms are removed in less than 72 hours after placing the concrete, curing compound shall be applied immediately or the trenches shall be backfilled immediately with suitable materials. In no case shall the forms be removed in less than 12 hours after placing the concrete.
- (iii) Protect the concrete from damage caused by inclement weather, vandalism or freezing. After September 15, cure all concrete with polyethylene or thermal blankets for a period of 72 hours or as directed by the Architect. Any polyethylene or thermal blankets required by the Architect will be considered incidental to the contract.

l) **FINISHING:**

- (i) Concrete slab for the ball dispenser shall be struck off and wood floated then lightly steel troweled to a smooth finish. Edges shall be radiused and troweled smooth.
- (ii) Range tee and any concrete cart path paving shall be struck off and finished with a medium broom finish. Edges shall be radiused and troweled smooth.

m) **SETTLEMENT:**

- (i) Fill and backfill shall be compacted sufficiently to prevent future settlement or displacement of lawns. Particular emphasis shall be directed to utility trenches or deep excavations. If settlement does occur within one year guarantee period, Golf Course Specialist shall correct the settlement conditions including replacement of concrete paving, granular base and resetting of any structures at no expense.
- (ii) Utilizing a ten foot straight edge, the tolerance for settlement shall not be greater than 1 inch over a 10 foot span.

**G. Site Drainage**

1. General

a) **SUMMARY:**

- (i) The work covered by this section of the specifications shall consist of furnishing all labor, equipment and materials necessary to complete the Work

in accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the Contract.

(ii) In general, the scope of work includes, but is not necessarily limited to, the following:

- *Digging trenches.*
- *Installing perforated and non-perforated under-drain pipe.*
- *Making all connections as shown on Plans.*
- *Cutting through and removing any debris or other foreign materials encountered during excavation of trenches and disposing of them.*
- *The installation of tile inlets, grates, catch basins, sumps, lake outlets, and cleanouts.*

b) SUBMITTALS:

(i) Product Data: For water-level control structures, catch basins, inline inlets, manholes, drainage conduit and drainage gravel.

## 2. PRODUCTS

a) DRAIN PIPE:

- (i) Perforated drain pipe shall be double wall, smooth flow type, corrugated polyethylene plastic tube as manufactured by ADS, Prinsco, Hancor or other as approved by the Architect.
- (ii) Non-perforated drain pipe shall be double wall, smooth flow type corrugated polyethylene plastic pipe with premium grade gaskets (water resistance) unless otherwise specified as manufactured by ADS, Prinsco, Hancor or other as approved by the Architect.
- (iii) All pipe installation shall include tracer wire.

b) CATCH BASINS AND INLETS:

(i) Catch basins and inline drain inlets shall be manufactured by Nyloplast, Neenah, Hancor or approved equal.

c) SOIL MATERIALS:

- (i) Pea Gravel: Washed gravel or crushed stone placed to the minimum thickness as shown on the Plans. Material size shall range from 1/4 inch to 3/8 inch in diameter
- (ii) Related Section: See "Greens, Tees and Sand Bunkers."

## 3. EXECUTION

a) PIPING INSTALLATION:

- (i) General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Exact location and arrangement of piping layout shall take design considerations, existing site elements, and trees into account. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions. Any deviations from plans shall be approved by the Architect.
- (ii) Install piping beginning at low points of system, true to grades and alignment

indicated, with unbroken continuity of invert. Bed piping with full bearing in filtering material. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions and other requirements indicated.

- *Install piping pitched down in direction of flow, at a minimum slope of 0.5 percent.*
  - *Lay perforated pipe with perforations down.*
  - *Excavate recesses in trench bottom for bell ends of pipe. Lay pipe with bells facing upslope and with spigot end entered fully into adjacent bell.*
- (iii) All trenches shall be excavated to a depth as shown on the drainage plans to ensure proper drainage. The bottom of the trench shall be true to line and unyielding.
- *The ends of the pipe are to be laid in such a manner that there shall be no shoulder or lack of uniformity of interior surface concentricity. The joints of all pipe shall be laid in such a manner conforming to the Plans and Details.*
  - *Non-Perforated Pipe: Width of trench shall be 2 inches minimum, 8 inches maximum on each side of the pipe. The bottom of the trench shall be rounded so that the pipe rests on undisturbed soil.*
  - *Perforated Pipe- Greens and Sand Bunkers: Width of trench shall be 2 inches minimum, 8 inches maximum on each side of the pipe. Trench depth from sub-grade to be not less than 10 inches or as required to allow for 4 inches of gravel above the pipe.*
  - *All pipe installation shall include tracer wire.*
  - *Perforated Pipe- Fairways: Width of trench shall be 4 inches minimum, 6 inches maximum on each side of the pipe. Trench depth from finish grade to top of pipe to be not less than 48 inches.*
- (iv) Use increasers, reducers, and couplings made for different sizes or materials of pipes and fittings being connected. Reduction of pipe size in direction of flow is prohibited.
- (v) Install all piping according to manufacturer's recommendations and ASTM D 2321.
- (vi) Clear interior of piping and manholes of dirt and superfluous materials as work progresses.
- (vii) Exposed ends of the pipe shall be cut to match the slope at point of daylight and rip-rapped as shown on the plans.

b) **BACKFILLING:**

- (i) All trenches that contain perforated under-drain pipe shall be backfilled with clean gravel and capped with sand or other porous material approved by the Architect as indicated on the plans.

c) **MANHOLES, CATCH BASINS AND INLETS:**

- (i) All catch basins and inlets shall be finished with the appropriate reducing rings and cast iron grates as specified in the details.
- (ii) All pipe ends inside concrete manholes or catch basins shall be cut flush and grouted or sealed to prevent water loss of soil infiltration.
- (iii) Manholes, catch basins and inlets shall be set on a minimum 6 inch compacted gravel base.

- (iv) Catch basins should be protected during construction to prevent sediment from washing in to them. Perforate sides of basin and surround basin with gravel to allow water to evacuate.
- d) PIPE JOINT CONSTRUCTION:
  - (i) Join perforated, PE pipe and fittings with couplings for soil-tight joints according to according to ASTM D 2321.
- e) FIELD QUALITY CONTROL:
  - (i) Testing: After installing drainage fill to top of pipe, test drain piping with water to ensure free flow before backfilling. Remove obstructions, replace damaged components, and repeat test until results are satisfactory.
- f) CLEANING:
  - (i) Clear interior of installed piping and structures of dirt and other superfluous material as work progresses.
- g) AS-BUILT DRAWINGS:
  - (i) The Golf Course Specialist shall provide and keep up to date a set of as-built drawings which shall be corrected daily to show any deviation from the original plan.
  - (ii) Upon completion of the work, the Golf Course Specialist shall furnish the Architect with a complete reproducible set of as-built drawings showing the system as installed, including catch basin locations and pipe sizes. The as-built plan shall reflect actual field measurements indicating the location of all catch basins, turf inlet/outlets, sumps, cleanouts or wye connections from established reference features such as catch basins or manholes, major trees or structures.

## **H. Greens, Tees and Sand Bunkers**

### **1. General**

- a) SCOPE:
  - (i) The work covered by this section of the Specifications consists of furnishing all labor, appliances, and materials necessary to perform all operations in connection with this section of the Specifications and the applicable Drawings and subject to the terms and conditions of the Contract.
  - (ii) In general, this section of the Specifications includes, but is not necessarily limited to the following:
    - *Construction of putting greens*
    - *Construction of sand bunkers*
    - *Construction of teeing areas*
- b) DISPOSITION OF EXCAVATED MATERIAL:
  - (i) All construction material not suitable for construction shall be taken to an appropriate disposal facility outside the construction limits of this project or as directed by the Architect.



c) PROTECTION:

- (i) Any area outside the construction limits which are disturbed will be returned to its original condition by the Golf Course Specialist at his expense.
- (ii) It shall be the Golf Course Specialist's responsibility to protect all utilities whether or not they are shown on the drawings, identified in the specifications, or identified in the field by the respective utilities.

2. MATERIALS

a) TOPSOIL:

- (i) Strip, stockpile and replace a minimum of six inches of native topsoil. Topsoil does not need to be screened or pulverized but should be free from debris, sticks or rocks.

b) TARGET BUNKER LIMESTONE GRAVEL

- (i) Target bunker limestone shall be 3/8 minus limestone.

c) SAND AND GRAVEL:

- (i) All sand for green mix or tee mix shall be coarse, clean, washed sand of uniform grade as purchased from local sources. Architect shall approve sand prior to mixing or installation. The gradation of sand and gravel shall be as follows:

% Particle Size Distribution

<u>Sieve Size</u> <u>U.S. Standard</u>	<u>Green Mix</u> <u>Sand</u>	<u>Tee Mix</u> <u>Sand</u>	<u>Bunker</u> <u>Sand</u>	<u>Pea</u> <u>Gravel</u>	<u>Lime</u> <u>Gravel</u>
1/2"				100	
3/8"				>85	
No. 4				<10	
No. 8				<5	92
No. 1	<3	<3			
No. 18	7-10	7-10	<5		80
No. 35	*20-40	20-40	20-30		
No. 60	*40-70	40-70	50-60		65
No. 100	<20	<20	<20		
No. 270	<5	<5	<5		

\*At least 60% of particles for green mix shall be in this range.

- (ii) Sand for bunkers shall meet USGA gradation with not less than 20 inches per hour percolation rate.
- (iii) Prior to the delivery of sand to the site, the Golf Course Specialist shall submit samples of sand to an approved testing laboratory to determine particle size distribution, infiltration rate and conformity to USGA specifications. Test results shall be submitted directly to the Architect.
- (iv) Approved testing laboratories for rootzone mix and sand include:
  1. Hummel Laboratories - Trumansburg, NY. (607)387-5694
  2. Turf Diagnostics – Linwood, KS.(913)723-3700
  3. Tifton Physical Laboratories - Tifton, GA. (229) 382-7292

d) PEAT:

- (i) Peat for use in green mix shall be uniform in color, texture and quality. Generally color should be brown. No sticks, partially decomposed vegetation or debris shall be acceptable. All peat should be from a single source and Golf Course Specialist shall submit sample and source location to Architect for approval prior to site delivery. Architect shall approve peat prior to mixing or installation.

e) WICKING BARRIER:

- (i) Wicking barrier shall be 14 inch high-density polyethylene plastic. Stakes shall be 12 inch landscape edging stakes or timber spikes at 24 inch on center.

f) ROOT ZONE MIX:

- (i) Prior to the onset of the mixing operations, the Golf Course Specialist shall submit individual samples of the sand and peat to an approved testing laboratory to determine green mix composition and percentages. If the lab determines that the sample meets USGA requirements for the project, the test results shall become the target for all subsequent quality control testing. Test results shall be submitted directly to the Architect.
- (ii) In addition, at the beginning of the blending process and again for every 400 tons of green root zone mix, the Golf Course Specialist shall submit samples to an approved testing laboratory to ensure quality control and consistency. Test results shall be submitted directly to the Golf Architect.
- (iii) The root zone soil mix shall follow USGA specifications and consist of the following items:

Green Mix	Sand	88 percent
	Dakota Peat	12 percent
Tee mix	Sand	80 percent
	Dakota Peat	20 percent

Root zone mix shall be mixed by mechanical means using variable-flow, belt-feed with individual material bins.

- (iv) Root zone mix for greens shall possess the following properties:

Total Porosity	35%-55%
Air filled Porosity	15%-30%
Capillary Porosity	15%-25%

Saturated Conductivity

Normal	6-12 inches/hour
Accelerated	12-24 inches/hour

g) DRAIN PIPE:

- (i) All drain pipe for greens and otherwise shall be 4 inch flexible, perforated as

manufactured by ADS, Prinsco or Hancor unless otherwise noted on the plans. All fittings, tees and wyes shall be from the same manufacturer and shall be considered incidental to the work.

### 3. EXECUTION

#### a) FINISH GRADING:

- (i) Where the grades are established as shown on the Grading Plans and Green Details, the surface of the land shall be brought by cutting and filling, as shown, to a sub-grade of proper elevation to allow for proposed construction.
- (ii) Site grading shall be finished in a workmanlike manner, true to grade and cross section within 0.20 foot of finish grade shown on the Plans. Any areas that have been compacted by trucks or other vehicles or storage of materials shall be plowed, disked and dragged to match the texture of remaining finish graded areas. Grade all surfaces to drain
- (iii) After necessary grading on the ground has been completed, the areas to be seeded shall be thoroughly plowed, disked, or roto-tilled, harrowed and dragged until smooth. All holes, depressions, rivulets shall be filled in and brought to a smooth, harmonious grade. Any sticks, branches, or stones (3/4 inch or larger) within the top 6 inches shall be picked from the topsoiled areas surrounding the greens, tees and bunkers and removed from the premises.

#### b) TARGET GREENS:

- (i) Target greens shall be constructed of 6 inches of topsoil but without gravel or drain tile. The sub-grades for the greens shall be established at 6 inch below the final finished grade for the target surface and shall conform to the finish grades as indicated on the green drawings. Final adjustments may be made as directed by the Architect as required to correct drainage or appearance or, as requested by the Golf Course Specialist and approved by the Architect.
- (ii) The Golf Course Specialist should install a uniform depth of not less than 6 inches (settled depth) of topsoil over the entire putting/target surface. The topsoil mix should be rolled and watered to achieve consistent firmness throughout.
- (iii) Unless specifically noted on the plans or requested by the Architect, the slopes of the green surrounds for the target greens shall not be steeper than 6 feet horizontal to 1 foot vertical. The Golf Course Specialist shall bring any discrepancies to the attention of the Architect for clarification

#### c) PUTTING GREENS:

- (i) Sub-grades for all greens shall be established 16 inches below the finish grades of the proposed putting surface and shall conform to the finish grades as indicated on the green drawings. The Golf Course Specialist shall be expected to precisely follow the green drawings - they are not to be considered "typical". Final adjustments may be made as directed by the Architect as required to correct drainage or appearance or, as requested by the Golf Course Specialist and approved by the Architect. The Golf Course

Specialist shall not place gravel layer or drain tile until sub-grade for each green is approved by the Architect.

- (ii) Proper drainage on all putting surfaces will be provided by cutting trenches in the sub-grade and installing of 4 inch perforated ADS, Prinsco or Hancor type pipe. Trenches shall follow the contour of the sub-grade, be of uniform depth and free of all loose soil or excavated material. Drain pipe shall be covered with 4 inches of washed pea gravel. The main drain line at each green shall begin no less than 5 feet from the edge of the putting surface and shall be capped with a 4 inches green grated cover or valve box, as manufactured by NDS or approved equal, to be used as a clean-out. Drain pipe shall be run to dry wells or to daylight with rodent guard cap at pond edges as indicated on the green drawings. Do not locate dry wells, catch basins, valve boxes or daylighted drain pipe within the fairway, uphill from cart paths or in front of greens.
- (iii) Upon completion of the gravel layer and drainage, install wicking barrier around the entire putting green. Barrier shall be staked horizontally at not more than 24 inches on center using timber spikes or landscape edging spikes. Barrier shall remain vertical and shall not be allowed to collapse or vary by more than 1 inch. Barrier shall be installed at the gravel layer and extend up through the rootzone mix. Barrier shall not extend within 2 inch of the surface.
- (iv) The Golf Course Specialist should install a uniform depth of not less than 12 inches (settled depth) of green mix throughout the entire putting surface. The sand, topsoil and peat shall be measured by volume and mixed by utilizing individual product bins and with a variable speed control belt feed. Output control shall be capable of metering with a tolerance of 1.5%. The materials shall be properly mixed to meet the approval of the Architect. The green mix should be lightly rolled and watered to achieve consistent firmness throughout. Particular attention should be paid to the edge of the putting green cavity at fall lines to avoid "collar dams" at the sod interface. The Golf Course Specialist shall submit a sample for every 400 tons to an approved testing laboratory listed above.
- (v) Upon completion of the rootzone mix installation, the Golf Course Specialist shall install a collar not less than 60 inches wide around the entire green perimeter. This collar should be constructed with 6 inches of topsoil and 3 inches of rootzone mix and raked to blend smoothly to the putting surface and surrounding grade. Sod or seed and erosion mat as specified shall be placed around the green complex as indicated on the plans to prevent erosion and seed migration. Care should be taken to ensure that the sodded and seeded surfaces are carefully matched to provide a smooth and uniform transition.
- (vi) Unless specifically noted on the plans or requested by the Architect, the slopes of the green surrounds shall not be steeper than 5 feet horizontal to 1 foot vertical. The Golf Course Specialist shall bring any discrepancies to the attention of the Architect for clarification
- (vii) Prior to sodding, the Golf Course Specialist shall "key-in" the sod at the edge of the green to ensure that the putting surface drains properly. Install a continuous strip of sod not less than 30 inches wide around the entire collar perimeter as indicated on the plans.

- Golf Course Specialist shall provide for handicap accessibility to all greens as indicated on the plans. A five foot wide corridor with a slope not exceeding 1:20 shall be provided allow for handicap access on each green.

d) PRACTICE GREENS:

- (i) Practice greens shall be constructed of 12 inches of root zone mix with 4-inch tile and gravel over the tile only. The sub-grades for the greens shall be established at 10 inches below the final finished grade for the green surface and shall conform to the finish grades as indicated on the green drawings. Final adjustments may be made as directed by the Architect as required to correct drainage or appearance or, as requested by the Golf Course Specialist and approved by the Architect.
- (ii) The Golf Course Specialist should install a uniform depth of not less than 12 inches (settled depth) of root zone mix over the entire putting surface. The topsoil mix should be lightly rolled and watered to achieve consistent firmness throughout.
- (iii) Unless specifically noted on the plans or requested by the Architect, the slopes of the green surrounds shall not be steeper than 5 feet horizontal to 1 foot vertical. The Golf Course Specialist shall bring any discrepancies to the attention of the Architect for clarification.

e) TEES:

- (i) The tees are to be located as shown on the plans and are to conform to the lines and grades as shown on those plans. The Golf Course Specialist shall exercise care to ensure that the tees are perfectly level from side to side. Tees shall not slope from side to side.
- (ii) The root zone mix shall be free of stones, sticks or vegetation. The upper 4 inches shall consist of root zone mix. The entire tee surface shall be graded to an even, smooth finish so as to prevent any depressions or areas that may hold water.
- (iii) Unless specifically noted on the plans or requested by the Architect, the slopes of the tee surrounds under this Contract shall not be steeper than 5 feet horizontal to 1-foot vertical. The Golf Course Specialist shall bring any discrepancies to the attention of the Architect for clarification
- (iv) Prior to sodding the tee complex, the Golf Course Specialist shall "key-in" the sod at the edge of the tee. Install a continuous strip of sod not less than 24 inches wide around the entire tee perimeter as indicated on the plans.
- (v) Golf Course Specialist shall provide for handicap accessibility to the tees as indicated on the plans. A five foot wide corridor with a slope not exceeding 1:20 shall be provided allow for access.

f) SAND BUNKERS:

- (i) Sub-grades for all sand bunkers shall be established 4 inches below the proposed finish grades as indicated on the drawings. The shape and size of the bunkers shall generally conform to those indicated on the drawings. Once the Golf Course Specialist has rough graded the bunkers, the Architect shall paint or otherwise mark the bunker shape and contour so that the Golf Course Specialist may shape the bunker and install drainage.

- (ii) The sub-grade shall be compacted until it is smooth and firm. No topsoil shall be placed within the area proposed for the sand. Install sod around the bunker perimeter as indicated on the plans to prevent erosion and contamination from adjacent seeded areas. Final sub-grade shall be 4 inches below the proposed finished elevations for sand.
  - (iii) Proper drainage for all sand bunkers will be provided by cutting trenches in the sub-grade and installing of 4 inch perforated ADS, Prinsco or Hancor type pipe (no filter guard). Trenches shall follow the contour of the sub- grade, be of uniform depth and free of all loose soil or excavated material. Drain pipe shall be run to dry wells or to daylight with screen guard cap at pond edges as indicated on the drawings. The Golf Course Specialist shall not install drainage or edge the bunker until the sub-grade for each bunker is approved by the Architect. Final adjustments may be made as directed by the Architect as required to correct drainage or appearance.
  - (iv) Golf Course Specialist shall install and rake smooth 4 inches of compacted coarse washed sand as approved by the Architect.
- g) **TARGET BUNKERS:**
  - (i) Target bunkers shall be constructed of 6 inches of light-colored compacted limestone gravel to provide a firm well drained surface capable allowing the ball picking equipment to operate without damage to the target bunker or target.
  - (ii) Unless specifically noted on the plans or requested by the Architect, the slopes around the target bunker shall not be steeper than 8 feet horizontal to one (1) foot vertical. The Golf Course Specialist should immediately bring to the attention of the Architect, any discrepancies for clarification.
- h) **DRAINAGE:**
  - (i) Golf Course Specialist shall be responsible for constructing the features of the golf course per the drawings, specifications and direction by the Architect. Particular attention should be given to ensuring that water does not run from the green surfaces or fairways into sand bunkers and that all areas drain
- i) **SETTLEMENT:**
  - (i) Utilizing a ten-foot straight edge, the tolerance for settlement shall not be greater than 0.10 feet over a ten foot span.
- j) **GOLF COURSE SPECIALIST'S RESPONSIBILITY:**
  - (i) Golf Course Specialist shall be responsible for final placement or disposition of any of his materials resulting from work under his contract.
  - (ii) The Golf Course Specialist shall be responsible for coordinating all mixing, drainage, excavation and earthwork by the subcontractors.

## I. Sodding

### 1. General

#### a) SCOPE:

- (i) The Work under this Section consists of furnishing all labor, materials, equipment and related services required for all sodding indicated on the Drawings and as specified herein.

#### b) LIMITS OF WORK:

- (i) Sod all areas indicated on the Drawings.

### 2. Materials

#### a) SOD:

- (i) Sod shall include a maximum of the top 1 inch of well-established cultured highland sod consisting of Kentucky Bluegrass or Kentucky Bluegrass/Fescue blend or creeping bentgrass, depending on the application. Sod shall be free from noxious weeds and relatively free from all other weeds, and free from roots, stones and other objectionable materials. Sod shall resist normal handling without undue breaking or tearing. Sod shall be cut in uniform strips 24 inch minimum width and shall be cut to a uniform thickness so a dense root system will be retained but be exposed on the bottom side of the sod. When the sod is cut, it shall be sufficiently moist to withstand exposure and handling during the transplant operations. If necessary, the sod shall be watered before cutting.
- (ii) Prior to delivery, sod shall be cut to the following heights:
  - (i) *Rough sod shall be cut at 1 1/2 inch*
  - (ii) *Fairway and tee sod to be cut at 1 inch*
- (iii) Sod shall be comprised of the following certified seed or similar as approved by the Golf Architect:
  - (i) *Rough, tees and fairways - Elite (Dark Blue) Kentucky Bluegrass consisting of:*

Dakota Land Sod Farms

24.94% Rush Kentucky Bluegrass  
24.87% New Chicago Kentucky Bluegrass  
24.79% Everglade Kentucky Bluegrass  
24.73% Freedom III Kentucky Bluegrass

or

Olson Sod Farms

20% America Kentucky Bluegrass  
20% Prosperity Kentucky Bluegrass  
20% Blue Velvet Kentucky Bluegrass  
20% Midnight Star Kentucky Bluegrass  
20% Bedazzled Kentucky Bluegrass

or

Kathol Sod arms

24.50% Beyond Kentucky Bluegrass  
24.50% Concerto Kentucky Bluegrass  
24.50% Arrowhead Kentucky Bluegrass  
24.50% Solar Eclipse Kentucky Bluegrass

or

Double Eagle Sod Blend – Jirik Sod Farms

29.3% Hampton Kentucky Bluegrass  
29.3% Midnight II Kentucky Bluegrass  
24.79% Envicta Kentucky Bluegrass  
14.87% Avalanch Kentucky Bluegrass

or

Premium Kentucky Bluegrass Blend – Central turf Farms

25.0% NuDestiny Kentucky Bluegrass  
25.0% Award Kentucky Bluegrass  
25.0% Everest Kentucky Bluegrass  
25.0% Everglade Kentucky Bluegrass

b) SOURCE:

- (i) Sod may be available from the following sources:
  - (i) Dakota Land Sod - Sioux Falls, SD. Attn: Tony. Phone: (605)368-2253
  - (ii) Olson Sod - Yankton, SD. Attn: Chris. Phone: (605)624-6730.
  - (iii) Kathol Sod - Hartington, NE. Attn: Lynn. Phone: (402)254-6252.
  - (iv) Jirik Sod Farms, Farmington, MN. Phone: (651)460-6555
  - (v) Central Turf Farms, Forest Lake, MN Phone: (651)464-2130.

c) FERTILIZER:

- (i) Fertilizer shall be a commercial formula, containing minor trace elements and conforming to applicable State fertilizer laws. Specific formula is noted elsewhere in these Specifications.

d) TOPSOIL:

- (i) Topsoil shall be natural, friable, fertile loam or sandy loam possessing the characteristics of the representative topsoil in the vicinity that produces heavy growths of vegetation. The topsoil shall be free from subsoil, noxious weeds, stones, lime, concrete, ashes, slag, or other deleterious matter and shall be well drained in its original condition and free of acid or alkaline elements.

3. EXECUTION

a) GROUND PREPARATION:

- (i) Areas to be sodded shall have a 3 inch depth of topsoil or native loam soil



cover as specified and as approved by the Architect. All holes, depressions and rivulets shall be filled in to ensure no disruption of established drainage patterns. All rubble, sticks, branches or stones and extraneous material over 3/4 inch diameter shall be removed from the top 6 inches of soil and removed from the job site or buried in approved locations. The Golf Course Specialist shall use equipment design specifically for the purpose of removing rock from the topsoil and shall repeat the procedure until areas are inspected and approved by the Architect.

- (ii) Immediately prior to sodding, the Golf Course Specialist shall loosen topsoil to a depth of 3 inch on all areas except slopes steeper than 2 horizontally to 1 vertically using discs, harrows, tiller or rakes to produce fine grade. On slopes steeper than 4:1, use cultivating equipment in general direction at right angles to the direction of surface drainage wherever practical.

b) FERTILIZING:

- (i) Prior to sodding, fertilize all areas to be sodded with 10-10-10 starter fertilizer at a rate of 400 lbs./acre.
- (ii) Fertilizer shall be applied to a properly prepared soil bed prior to sodding with a mechanical spreader and thoroughly mixed in by raking or other approved method in top 3 inches. Fertilizer must be dry and free flowing when applied.

c) SODDING:

- (i) Precautions shall be taken to prevent sod from drying out and from heating. Sod that shows visible signs of heating shall not be incorporated in the project.
- (ii) Strips shall be placed tightly against each other so that no open joints are apparent. Joints between ends of strips shall be staggered at least one foot between adjacent rows. Sod shall be placed without stretching.
- (iii) On slopes, the sodding shall begin at the bottom and progress upward with strips laid transverse to the flow of water. Stake all slopes of 4:1 or greater.
- (iv) At the top of the slopes, sod will be laid so water from adjacent areas will have free flow into sodded areas.
- (v) All sodding shall be done between April 15 and October 15 unless approved by the Architect.
- (vi) Sod shall be watered and compressed into the underlying soil by rolling, or tamped into place. The initial watering and rolling shall provide firm contact and bond between the sod and the underlying soil. The rolling shall result in a smooth even surface free of humps and depressions but shall not cause excessive compaction.

d) MAINTENANCE:

- (i) Upon completion of the work, the Golf Course Specialist shall notify the Architect and request approval of the work. Upon final approval of the work, all maintenance shall become the responsibility of the Edgewater Country Club.

- e) ESTABLISHMENT AND REPLACEMENT:
  - (i) Any sod which dries out or fails to become established shall be replaced immediately by the Golf Course Specialist.
- f) CLEAN-UP:
  - (i) All soil or similar material brought into paved areas by work operations shall be removed promptly, keeping these areas clean at all times. Upon completion of sodding, excess soil, stones, and debris not previously cleaned up shall be disposed of as directed by the Project Representative.
  - (ii) All ground areas disturbed as a result of sodding shall be restored to their original condition or to the desired new appearance.

## J. Seeding

### 1. GENERAL

- a) SCOPE:
  - (i) The Work under this Section consists of furnishing all labor, materials, equipment and related services required for all seeding indicated on the Drawings and as specified.
- b) LIMITS OF WORK:
  - (i) Seed all disturbed areas which are not to be sodded as indicated on the Drawings.

### 2. MATERIALS

All materials shall conform to the following requirements:

- a) SEED:
  - (i) Seed shall be certified as to variety and delivered to the site premixed in dry stitch sewn bags. Each bag shall clearly identify the year grown, percent composition by weight, percent of purity, percent at age of germination, supplier's name, and the date and location of the test by which germination and purity were determined. The following seed mixes shall be provided:
    - *Greens: 100% Dominant 7 Certified Creeping Bentgrass*

99.5% Purity	97.0% Germination
Seeding rate:	1.75 lbs. per 1,000 square feet

\*Reduce rate to 50% and seed in two directions.
    - *Fairway: Kentucky Bluegrass and fine fescue fairways consisting of:*

30% Award Kentucky Bluegrass
25% Rugby II Kentucky Bluegrass
25% Everest or NuDestiny Kentucky Bluegrass
20% CSI Perennial Ryegrass

Seeded rate: 200 lbs per acre  
98% Purity 85.0% Germination

- *Tees: Elite Kentucky Bluegrass consisting of:*

30% Award Kentucky Bluegrass  
25% Rugby II Kentucky Bluegrass  
25% Everest or NuDestiny Kentucky Bluegrass  
20% CSI Perennial Ryegrass

98% Purity 85.0% Germination

Seeding rate: 4.5 lbs. per 1,000 sf.

- *Primary Rough: Elite Kentucky Bluegrass consisting of:*

25% Award Kentucky Bluegrass  
20% Rugby II or NuDestiny Kentucky Bluegrass  
15% Jackpot Kentucky Bluegrass  
20% J-5 Chewing Fescue  
20% Lighthouse Slender Creeping Red Fescue

98% Purity 85.0% Germination

Seeding rate: 260 lbs. per acre

b) FERTILIZER:

- (i) Fertilizer shall be a commercial formula, containing minor trace elements and conforming to applicable State fertilizer laws. Specific formula is noted elsewhere in these Specifications.

c) TOPSOIL:

- (i) Topsoil shall be natural, friable, fertile fine sandy loam possessing the characteristics of the representative topsoil in the vicinity that produces heavy growths of vegetation. The topsoil shall be free from subsoil, noxious weeds, stones, lime, concrete, ashes, slag, or other deleterious matter and shall be well drained in its original condition and free of acid or alkaline elements.

3. EXECUTION

a) GROUND PREPARATION:

- (i) All holes, depressions and rivulets shall be filled in to ensure no disruption of established drainage patterns. All rubble, sticks, branches or stones and extraneous material over 3/4 inch diameter shall be removed from the top 6 inches of soil and shall be removed from the job site or buried in approved locations. The Golf Course Specialist shall use equipment design specifically for the purpose of removing rock from the topsoil and shall repeat the

procedure until areas are inspected and approved by the Architect.

- (ii) Immediately prior to seeding, the Golf Course Specialist shall loosen topsoil to a depth of 3 inches on all areas using discs, harrows, or rakes to produce a firm, smooth seed bed.
- (iii) In areas with actively growing vegetation the use of herbicides may be permitted if necessary.

b) GREENS:

- (i) Fertilizer and soil amendments shall be incorporated into the top 3-4 inches of soil mix.
- (ii) Irrigate the sand profile uniformly prior to seeding and fertilizing.
- (iii) Prior to seeding, fertilize all seeded sand-based soil mixtures on greens with:
  - Starter Fertilizer 19-25-5/35% SAN at a rate of 8 lbs./1,000 Sq. ft.,
  - 28-5-10 at rate of 5 lbs./1,000 sf.,
  - A-TEP Hi-Mag (micronutrients) at 12.0 lbs. per 1,000 sq. ft. and
  - Promote, Soil Life Bio-stimulant or approved equal per manufacturer's recommendations.
- (iv) Soil testing to determine pH and the need for additional micronutrient requirements shall be the responsibility of the Golf Course Specialist.
- (v) Grass seed shall be applied to the greens with a drop spreader and evenly distributed in two applications with the second application being at a 90 degree angle the first. Seed shall then be lightly raked and rolled in two directions. Do not apply seed to greens if wind conditions are in excess of 3 miles per hour.
- (vi) Seeding dates shall be between May 1st and September 1st unless approved by the Architect.

c) TEES:

- (i) Fertilizer and soil amendments shall be incorporated into the top 3-4 inches of soil mix.
- (ii) Irrigate the sand profile uniformly prior to seeding and fertilizing.
- (iii) Prior to seeding, fertilize all seeded sand-based soil mixtures on tees with:
  - Starter Fertilizer 19-25-5/35% SAN at a rate of 8 lbs./1,000 Sq. ft. and
  - Promote, Soil Life Bio-stimulant or approved equal per manufacturer's recommendations.
- (iv) Soil testing to determine pH and the need for additional micronutrient requirements shall be the responsibility of the Golf Course Specialist.
- (v) Grass seed shall be applied to the tees with a drop-type spreader and evenly distributed in two applications with the second application being at a 90 degree angle the first. Seed shall then be lightly raked and rolled in two directions.
- (vi) Seeding dates shall be between May 1st and September 1st unless approved by the Architect.

d) FAIRWAYS AND ROUGH:

- (i) Prior to seeding, the Golf Course Specialist shall survey and flag the fairway boundary for approval by the Golf Architect.

- (ii) Prior to seeding, fertilize all fairway areas with:
    - Starter Fertilizer 19-25-5/35% SAN at a rate of 348 lbs. per acre,
    - 28-5-10 at rate 220 lbs./acre and
    - Promote, Soil Life Bio-stimulant or approved equal per manufacturer's recommendations..
  - (iii) Soil testing to determine pH and the need for micronutrient requirements shall be the responsibility of the Golf Course Specialist.
  - (iv) Seeding of fairways and roughs shall be done with a Brillion seeder and then culti-packed in two directions to ensure good seed to soil contact.
  - (v) All tees surfaces, all fairways, roughs and low maintenance areas shall be stabilized with a hydraulically applied mulch with tackifier suitable for slopes up to 3:1 such as Profile Pro-Matrix, Rainier Fiber BFM at a rate pf 3,000 pounds per acre. Greens and sod areas shall not be hydraulically mulched.
  - (vi) Seeding dates shall be May 1st to September 1st unless approved by the Architect.
- e) SOURCE:
- (i) Seed may be available from the following vendors:
    - *Twin City Seed, Edina, MN (952)944-7105*
    - *United Seeds of Des Moines, Iowa (515)282-1750.*
    - *Zimco Supply of Sioux City, Iowa. (800)252-1604.*
    - *Milborn Seed, Brookings, SD. (605) 697-6306*
    - *MTI Distributing, Plymouth, MN. (763)592-5636*
    - *Chesak Seed House – Bismarck, ND. (701)223-0391*
    - *Dakota Cover Crop and Forage – Dickenson, ND (701)483-7645*
    - *Agassiz Seed – Fargo, ND (701) 282-8118*
- f) MAINTENANCE:
- (i) Upon completion all grassing procedures, the Golf Course Specialist shall notify the Architect and request approval of the work.
- g) CLEAN-UP:
- (i) All soil, sand, gravel or debris brought onto the site by work operations shall be removed promptly, keeping these areas clean at all times. Upon completion of seeding excess soil, stones, and debris not previously cleaned up shall be disposed of as directed by the Architect.
  - (ii) All ground areas disturbed as a result of seeding shall be restored to their original condition or to the desired new appearance.
- h) ADDITIONAL MATERIALS:
- (i) Incidental to the work, the Golf Course Specialist shall provide the following quantities of seed for future repair and over-seeding of the golf course:
    - \*50 lbs. of green seed
    - \*50 lbs. of rough seed mix.
    - \*100 lbs. of fairway seed mix.
    - \*50 lbs. of tee seed mix.

- i) **WARRANTY:**
  - (i) Golf Course Specialist shall be responsible for reseeding all areas which do not germinate within 30 days of final acceptance of the Work. It will be Edgewater Country Club's responsibility to maintain all areas following final acceptance of the work by the Architect.

## **K. Low Maintenance Seeding**

### **1. GENERAL**

- a) **SCOPE:**
  - (i) The Work under this Section consists of furnishing all labor, materials, equipment and related services as indicated on the Drawings, and as specified herein.
  - (ii) Work shall consist of site prep, seeding of grasses and forbs (wildflowers) including maintenance.
- b) **LIMITS OF WORK:**
  - (i) Seed, plant, mulch, all areas indicated on the Drawings.
- c) **PROTECTION:**
  - (i) The Golf Course Specialist shall protect that which is to remain and shall conduct all seeding operations in a manner that will not damage or jeopardize the surrounding plant life designated on the Drawings to remain.
- d) **SUMBITTALS**
  - (i) Golf Course Specialist shall submit seed tags which clearly identify the year grown, percent composition by weight, percent of purity, percent at age of germination, supplier's name, and the date and location of the test by which germination and purity were determined.

### **2. MATERIALS**

All materials shall conform to the following requirements:

- a) **SUBMITTALS**
  - (i) Prior to planting, the seed mixes shall be provided for review, and shall include seed labels, origin of seed, proposed equipment specifications, and seeding action plan.
  - (ii) Prior to mulching, the selected mulch shall be presented for inspection, and shall have its origin identified.
- b) **SEED:**
  - (i) Seed for low maintenance areas shall be delivered to site in dry pre-labeled bags. Each bag shall clearly identify the year grown, percent composition by weight, percent of purity, percent germination, supplier's name, and the date and location of the test by which germination and purity were determined. The following seed mixes shall be provided:

(i) *Secondary Rough/Low Maintenance Area Grasses*

Blue Grama Grass ( <i>Bouteloua gracilis</i> )	9 lbs./acre
Buffalo Grass ( <i>Bouteloua dactyloides</i> )	3 lbs/acre
Little Bluestem ( <i>Andropogon scoparius</i> )	1 lbs/acre
Side Oats Grama ( <i>Bouteloua curtipendla</i> )	1 lbs/acre
June Grass ( <i>Koeleria macrantha</i> )	1 lbs/acre
Oats	30lbs/acre

Seeding rate: 45.0 lbs. per acre

(ii) *Low Maintenance Area Forbs*

16.0 oz.	Purple Prairie Clover ( <i>Petalostemum purpureum</i> )
13.0 oz.	Purple Coneflower ( <i>Echinacea purpurea</i> )
1.0 oz.	Western Yarrow ( <i>Achillea</i> )

Seeding rate: 1.875 lbs. per acre

c) SEED DELIVERY, STORAGE, AND HANDLING:

- (i) Seed for low maintenance areas shall be delivered to site in dry pre-labeled bags. Each bag shall clearly identify the year grown, percent composition by weight, percent of purity, percent at age of germination, supplier's name, and the date and location of the test by which germination and purity were determined. No seed will be accepted unless the test date is within 12 months of planting date.
- (ii) Seed shall be stored to be protected from the weather or other conditions that would damage or limit successful germination and establishment. All seed that becomes wet, moldy, or delivered within a damaged container will be rejected.
- (iii) Seed shall be blended by the vendor, and ratio guaranteed by the vendor. Legumes shall be inoculated with appropriate rhizobia prior to planting. Seed shall be true to the name specified, and shall have a genetic origin as close to the project area as possible.
- (iv) All species substitutions shall be approved prior to use.

d) SEED SOURCE:

- (i) Seed shall come from local sources grown within 600 miles of the project site.
- (ii) Possible sources for low maintenance areas include:
  - (i) *Prairie Restorations - Princeton, MN. (800)837-5986.*
  - (ii) *Wetland Habitat Restorations – Minneapolis, MN (612)385-9105*
  - (iii) *Minnesota Native Landscapes - Otsego, MN (763) 295-0010*
  - (iv) *Chesak Seed House – Bismarck, ND. (701)223-0391*
  - (v) *Dakota Cover Crop and Forage – Dickenson, ND (701)483-7645*
  - (vi) *Agassiz Seed – Fargo, ND (701) 282-8118*

e) FERTILIZER:

- (i) None required

3. EXECUTION

a) GENERAL REQUIREMENTS

- (i) Golf Course Specialist shall use every reasonable precaution to prevent damage to existing conditions such as structures, utilities, vegetation, and completed portions of the project. The Golf Course Specialist will be responsible for any damages, which shall be repaired at the Golf Course Specialist's expense.

b) GROUND PREPARATION

- (i) For areas where site grading has not already removed the existing vegetation, the Golf Course Specialist shall prepare the site as follows. Prior to seeding, the Golf Course Specialist shall spray the proposed seeding area with a non-selective glyphosate herbicide. Approximately 28 days later the site should be cultivated using a deep-tine plow and then disked to produce a smooth firm seed bed. Allow weed seeds to germinate and weeds to grow to a height of 4 to 6 inches. Prior to seed production, treat the site with a second herbicide application. Wait 10 days and then shallow till the soil to a depth of 1 inch.
- (ii) Once the area to be planted has been properly prepared, the Golf Course Specialist shall commence with seeding.

c) SEEDING:

- (i) Seeding can take place during two periods of the year. The first window of opportunity is in the before August 20th. The second period is between October 1st and freeze-up.
- (ii) All grass seed should be applied with a seed drill, which has been calibrated to sow at the proper seeding rate for the seed mixture being applied. In areas too narrow or steep for equipment, seed may be hand broadcast.
- (iii) Wildflower/forb seed shall be broadcast following the seeding of the grass seed. Hand seeding shall be done by mixing the seed with a larger volume of a lightweight inert material such as sawdust, peat or vermiculite that has been slightly moistened so that seed will stick to it. Mix the seed evenly into the material. Spread on half of the total mix and spread it across the proposed area to be planted. Complete the seeding by spreading the remaining seed mix at 90 degree angle to the first seeding.
- (iv) Raking or dragging and rolling shall follow all seeding to ensure good soil contact.
- (v) Hydraulic seeding may be substituted in wet areas with approval of the Architect.

d) MULCHING:

- (i) The Golf Course Specialist shall stabilize all native areas with a hydraulically applied mulch with tackifier suitable for slopes up to 3:1 such as Profile Pro-Matrix, Rainier Fiber BFM at a rate pf 3,000 pounds per acre.



- e) **CLEAN-UP:**
  - (i) All soil, seed bags, fertilizer, or similar material brought onto the site by work operations shall be removed promptly, keeping these areas clean at all times. Upon completion of seeding excess soil, stones, and debris not previously cleaned up shall be disposed of as directed by the Architect.
  - (ii) All ground areas disturbed as a result of seeding is to be restored to their original condition or to the desired new appearance.
- f) **WARRANTY:**
  - (i) Reseed all areas that do not germinate within the warranty period. Areas that do not germinate due to lack of rainfall or other natural causes are not required to be reseeded under the Contract.
  - (ii) It will be Edgewater Country Club's responsibility to maintain all areas upon final acceptance of the project by the Architect.
  - (iii) The Golf Course Specialist is responsible for the repair and reseeding of all eroded areas or areas which do not germinate within 30 days of seeding.
- g) **ADDITIONAL MATERIALS:**
  - (i) Incidental to the work, Provide the following quantities of seed for future repair and over-seeding by Edgewater Country Club:
    - \*20 lbs. of low maintenance grass seed

## **L. Miscellaneous Site Furnishings**

### **1. GENERAL**

- a) **SCOPE:**
  - (i) The Work covered by this section of the Specifications consists of furnishing all labor, equipment, and materials, in order to perform all operations necessary to the construction, installation and fabrication of the site elements included herein and shown on the Drawings.
- b) **PROTECTION:**
  - (i) Protect that which is to remain and conduct all installation operations in a manner that will not damage or jeopardize the surrounding site elements, sidewalks, building facades, etc.

### **2. SITE FURNISHINGS**

All site furnishing to be furnished and installed by the bidder per the drawings and manufacturer's instructions.

- a) **DRIVING RANGE BALL DISPENSERE:**
  - (i) Permanently install 1 driving range ball dispenser such as Wittek, Easy Picker, Range Servant or approved equal.
  - (ii) Supply 1 ball dispenser unit that includes the following features:
    - *Adjustable ball dispenser count*
    - *6,500 ball capacity*
    - *110v electric operation*

- *Weather-tight construction (for outdoor use /not covered)*
- *Token operation*
- *Minimum 200 tokens included*
- *2-year warranty*

b) RANGE MATS:

- (i) Driving range mats as manufactured by Wittek, Easy Picker or Range Servant or approved equal.
- (ii) Supply 25 mats that includes the following:
  - *Minimum size 58 inchx58 inch*
  - *Heat bonded nylon turf construction with closed cell foam backing*
  - *Permanently mounted at two corners*
  - *Dense turf construction to accept standard golf tee*

c) TRASH CAN:

- (i) Trash cans are to be Tapered Litter Caddie as manufactured by Standard Golf or approved equal.
- (ii) Install Trash cans per manufacturer's instructions.
- (iii) Supply 7 trash cans that includes the following:
  - *Green in color*
  - *20 gauge steel mesh with powder coated finish*
  - *9 gallon capacity*
  - *Free-standing tapered design*

3. EXECUTION

a) LOADING AND SHIPMENT:

- (i) Pack materials for transportation with all customary and reasonable precautions against damage in transit.
- (ii) All materials shall be unloaded at site with care to avoid damage or staining.
- (iii) Materials shall be stored clear of the ground on non-staining wood skids and covered to prevent staining or theft.

b) PROTECTION OF WORK:

- (i) Golf Course Specialist shall prevent staining. Remove any foreign material in contact immediately.
- (ii) Golf Course Specialist shall protect site furnishings by use of ground coverings, such as pallets or tarps.

c) FINAL CLEANING:

- (i) Upon completion of work, Golf Course Specialist shall remove rubbish, debris, dirt, equipment and excess material from the site.

d) SOURCE:

- (i) Possible suppliers may include:
  - (i) *Wittek – (800)869-1800*

- (ii) *Range Servant – (800)878-8050*
- (iii) *Easy Picker – (800)641-4653 email: salesdept@easypicker.com*
- (iv) *Standard Golf – (866)743-9773*

## **M. Golf Course Signage**

### **1. General**

#### **a) SCOPE:**

- (i) Golf Course Specialist shall provide all labor, materials, and related services necessary to furnish and install the work as indicated on the Drawings and specified herein.
- (ii) Remove the existing tee signs, place them on pallets and put them in storage in a location designated by the Edgewater Country Club. Signs will remain the property of Edgewater Country Club.
- (iii) Manufacture and install 9 granite tee signs as indicated on the plans. Stone signs shall be constructed as follows:
  - *granite with a honed finish on front and back sides.*
  - *Split-faced/ natural edge on top and sides*
  - *recessed letters, numbers and hole layout.*
  - *direct burial – 18 inch below ground set in concrete*
  - *signage to indicate hole number, hole yardages, hole handicap and hole layout.*
  - *approximate size 60 inch x 14 inch x 4.5 inch above ground*
- (iv) Manufacture and install 3 directional signs. Stone signs shall be constructed as follows:
  - *One sign indicating “Driving range & 1st tee” with arrow*
  - *One sign indicating “4th tee & clubhouse” with arrow*
  - *One sign indicating “7th tee & clubhouse” with arrow*
  - *granite with a honed finish on front and back sides.*
  - *Split-faced/ natural edge on top and sides*
  - *recessed letters, numbers and hole layout.*
  - *direct burial – 18 inch below ground set in concrete*
  - *approximate size 30 inch x 14 inch x 2.5 inch above ground*
- (v) This Work is recognized as being a custom fabrication, however it shall accurately represent the style and typography of Edgewater Country Club’s ‘camera ready’ (such as a .jpeg file) design to protect any copyrights and preserve recognition with other marketing material used to promote the Project. Edgewater Country Club and the Architect must approve all variations from the original design prior to fabrication.
- (vi) Final location and position of monuments and signs shall be field verified by the Architect.
- (vii) Golf Course Specialist shall coordinate the timing and placement of sign elements with work to be performed by other trades and crafts.

## 2. Material

### a) STONE SIGN ELEMENTS:

- (i) Golf Course Specialist shall verify type design and any modifications, material, color, and sizes with Architect prior to ordering of materials.
- (ii) Granite stone sign monuments will be constructed to match the existing course signage.
- (iii) The Golf Course Specialist shall verify materials, colors, and sizes with Architect prior to ordering materials.

### b) PAINT

- (i) Paint shall be UV resistant lithichrome paint as manufactured by Cleveland Lithichrome for use on stone. Golf Course Specialist shall verify type design and any modifications, material, color, and sizes with Architect prior to ordering of materials.
- (ii) Clear coat shall be UV resistant lithichrome clear coat as manufactured by Cleveland Lithochrome for use on stone.

## 3. EXECUTION

### a) LOADING AND SHIPMENT:

- (i) Materials shall be packed for transportation with reasonable precautions against damage in transit.
- (ii) All materials shall be unloaded at site with care to avoid damage or staining.
- (iii) Materials shall be stored clear of the ground on non-staining wood skids and covered to prevent staining.

### b) SIGN CONSTRUCTION:

- (i) The lettering and logo elements shall be sandblasted or etched into the stone surface.
- (ii) Edgewater Country Club to supply graphics and course yardage.
- (iii) Use materials of size and thickness indicated or, if not indicated, as required to produce strength and durability in finished product for intended use. Work to dimensions shown on the plans or approved shop drawings. Use specified materials as shown for various components of work.

### c) SHOP PAINTING:

- (i) All metal surfaces shall be cleaned, washed, degreased, sandblasted, etc. to remove existing residue, which may inhibit proper adhesion.
- (ii) Apply paint and clear coat to recessed areas by spraying or with a brush per manufacturer's specifications. Coating thickness to be 3 mils.

### d) PROTECTION OF WORK:

- (i) Golf Course Specialist shall prevent paint or adhesive stains on the stonework. Remove any foreign material in contact immediately.
- (ii) Golf Course Specialist shall protect signs by use of ground coverings, such as straw or wood mulch.

- e) FINAL CLEANING:
  - (i) Upon completion of work, Golf Course Specialist shall remove rubbish, debris, dirt, equipment and excess material from the site.
- f) SOURCE:
  - (i) Possible suppliers may include:
    - *Dakota Monument Company – Minot, ND (701)2137-4343 Dustin*
    - *Jack Monument – Minot, ND (701)720-3684 Doug*
    - *Granite City Tool – Waite Park, MN (320)251-8600*

## N. Golf Course Maturation

### 1. GENERAL

- a) MATURATION AND MAINTENANCE
  - (i) Upon completion of the grassing and Preliminary Acceptance by the Architect for each phase of work the Golf Course Specialist shall proceed with the turf maturation and maintenance of the course.
  - (ii) Maturation and grow-in of the golf course shall include providing all materials, labor and equipment including watering, mowing, maintenance of drainage systems, sod repair, over-seeding, repair of eroded areas, insect and disease control, fertilizer and topdressing of greens as required to make the course playable and usable for its intended use.
  - (iii) The Golf Course Specialist shall be solely responsible for maintenance until final acceptance. Maturation and maintenance includes but is not limited to:
    - Watering and syringing of greens and turf areas to facilitate germination and healthy turf. Temporary irrigation will not be required in non-irrigated areas.
    - Maintaining the irrigation system including adjusting and resetting any uneven heads and repair of settled irrigation trenches.
    - Fertilizing of turf with golf course grade materials to promote rapid and healthy growth. Prior to maturation, the Golf Course Specialist shall conduct soil and water tests to determine existing pH and nutrient deficiencies. Adjustments to fertilizer and amendment composition may be allowed with prior approval from the Architect. No additional compensation shall be allowed for adjustments to amendments.

#### Greens

week 1	14-28-10 50%	4lbs/ product/1000 sqft
week 2	14-28-10 50%	4lbs/ product/1000 sqft
week 3	16-4-8	3lb/product/1000 sqft
week 4	16-2-18 w/minors	3lb/product/1000 sqft
week 5	16-4-8	3lb/product/1000 sqft
week 6	16-2-18 w/minors	3lb/product/1000 sqft
week 7	16-4-8	1.5lb/product/1000 sqft
week 8	16-2-18 w/minors	1.5lb/product/1000 sqft
week 9	16-4-8	1.5lb/product/1000 sqft
week 10	16-4-8	1.5lb/product/1000 sqf
week 11	16-4-8	1.5lb/product/1000 sqft
week 12	16-4-8	1.5lb/product/1000 sqf

Tees

week 1	14-28-10 50%	4lbs/ product/1000 sqft
week 2	14-28-10 50%	4lbs/ product/1000 sqft
week 3	16-4-8	3lb/product/1000 sqft
week 4	16-2-18 w/minors	3lb/product/1000 sqft
week 5	16-4-8	3lb/product/1000 sqft
week 6	16-2-18 w/minors	3lb/product/1000 sqft
week 7	16-4-8	3lb/product/1000 sqft
week 8	16-2-18 w/minors	3lb/product/1000 sqft
week 9	16-4-8	3lb/product/1000 sqft
week 10	16-2-18 w/minors	3lb/product/1000 sqft
week 11	16-4-8	3lb/product/1000 sqft
week 12	16-2-18 w/minors	3lb/product/1000 sqft

Fairway and Rough

week 1	16-25-12 70%CRN	4lb/product/1000 sqft
week 1	28-3-10 50%CRN	4lb/product/1000 sqft
week 3	28-3-10 50%CRN	4lb/product/1000 sqft
week 7	28-3-10 50%CRN	4lb/product/1000 sqft
week 9	28-3-10 50%CRN	4lb/product/1000 sqft

Secondary Rough/Low Maintenance Areas

No fertilizer required.

- Maintaining drainage systems including adjusting and resetting any uneven catch basins and repair settled drainage lines.
- Repair of erosion damage and removal of sediment.
- Maintenance of erosion and sediment control devices.
- Reseeding or sodding of poor turf areas.
- Removal and management of broadleaf weeds and grasses.
- Cleaning of cart paths.
- Mowing of turf.
- Management and prevention of disease through best management practices.
- Sand topdressing of each green twice prior to final acceptance. Sand shall be the same sand used during green construction but without peat.
- Supply, installation and removal of winter green covers or hydraulic-mulching of greens at a rate of 2,000 lbs per acre prior to winter.
- Maintenance of sand bunkers including removal of weeds and silt/soil contamination, edging and delivery with four inches of sand.
- Watering and maintenance of trees and shrubs.
- Maintenance of low maintenance areas including:
  - *When the seeded area has reached a height of 16-18 inches, a flail-type mower shall be used to cut weeds and low maintenance plantings to a height of 4-6 inches. Rotary mowers, string trimmers and sickle bar mowers are acceptable in wet areas. In no case shall the seeded area be allowed to go to seed or exceed 24 inches in height during the first season. Mow to cut back seeded areas approximately once each month to prevent the production of weed seeds and to reduce shade on the maturing plantings.*

- *In the spring of the second season, the plantings should be mowed again. Mowing should occur approximately 2-3 times during the second season. If weeds continue to persist during the second year, additional mowing may be required. Do not let weeds go to seed.*
- (d) The golf course shall be considered playable and usable at such time as:
  - (i) Golf course is sufficiently mature and turf is of a density that it can be maintained to generally accepted industry standards as defined herein.
  - (ii) 100% of the greens have 95% turf coverage. Greens shall be weed free. Cutting heights shall be .125 inch.
  - (iii) 100% of the tee surfaces have 90% turf coverage and mowing heights are 3/4 inch without scalping. Tees shall be weed free. Washouts or rivulets larger than 1 inch wide and 1 inch deep shall be sodded or seeded and mulched.
  - (iv) 100% of the fairway areas have 90% turf coverage and mowing heights are 3/4 inch without scalping. Washouts or rivulets larger than 2 inch wide and 1 inch deep shall be sodded or seeded and mulched. Weeds shall not exceed one weed per 28 square feet. Determination of acceptable weed coverage shall be based on the presence of not more than one broadleaf weed within four randomly selected 3 foot diameter circles on each hole.
  - (v) 100% of the turf grass rough areas have 90% turf coverage and cutting heights are 2.5 inch without scalping. Weed coverage shall be less than one weed per 28 square feet. Determination of acceptable weed coverage shall be based on the presence of not more than one broadleaf weed within four randomly selected 3 foot diameter circles on each hole.
  - (vi) Low maintenance areas are mowed and free of washouts or rivulets greater than 4 inches wide or 1 inch deep. Bare areas without vegetative cover larger than 8 square feet shall be reseeded and mulched.
  - (vii) Irrigation system and pumping system are fully operational in all modes and continuously pressurized.
  - (viii) Required GPS as-built drawings, operation manuals and irrigation equipment have been provided.
- (e) Upon final acceptance of the Work by the Architect, the Edgewater Country Club shall become responsible for all maintenance including watering, fertilizing, mowing and erosion control.

### **III. Golf Course Closeout**

#### **A. SUBSTANTIAL COMPLETION AND PUNCHLIST OF THE GOLF COURSE**

1. Upon receipt of written notice that the work is substantially complete and ready for review and acceptance, the Architect will promptly review the work. Substantial completion shall be defined as having substantially completed the construction and maturation including the grading, grassing, irrigating and maintenance of all areas as indicated in the plans and specifications. All areas shall be sodded or seeded and the entire golf course irrigation system shall be functioning properly. This is a "punch list" process.

2. If such Work is not acceptable to the Architect at the time of this review, he will advise in writing as to the particular defects to be remedied before Substantial Completion can be approved.
3. Prior to Substantial Completion, the Golf Course Specialist shall be responsible for watering, maintenance and maturation of landscape plantings and any seeded or sodded areas. Upon granting Substantial Completion, the Golf Course Specialist shall proceed with Maturation/Maintenance as outlined.

**B. GOLF COURSE COMPLETION/FINAL ACCEPTANCE**

1. Upon receipt of written notice that the work and turf maturation is complete and is ready for final acceptance and turnover of the project to the Edgewater Country Club, the Architect shall promptly review the work, and when he finds the work acceptable he shall, within 48 hours, issue a certificate of final completion, with his own signature, recommending any final conditions or defects to the Golf Course Specialist, stating that the work provided has been completed and is accepted by him under the terms and conditions thereof and that the entire balance found to be due the Golf Course Specialist, and noted in said final certificate, is due and payable.
2. If, within a period of 10 days after such notification, the Golf Course Specialist has not taken steps to speedily correct any defects in the Work as directed, the Architect may, without further notice and without in any way impairing the Contract, make other arrangements as he may deem necessary to have such Work completed in a satisfactory manner. The cost of so completing such Work shall be deducted from any monies due, or which may become due the Golf Course Specialist on his Contract

**C. RECORD DRAWINGS**

1. At the date of Substantial Completion the Golf Course Specialist shall submit to the Architect a digital copy of any required Drainage and Irrigation As-Built Record Drawings marked to indicate all changes made to the Work during construction.

**D. MATERIALS**

1. Turn over all extra or "additional materials" (if any) to the Edgewater Country Club, and provide a written checklist to the Architect of all such materials.

**E. ACTIVATION OF WARRANTIES**

1. Prepare and submit to appropriate manufacturers, all data required by such manufacturers for activation of warranties and shall submit evidence to the Architect that such data has been submitted. Neither the Architect nor the Department shall be responsible for the submission of data unless otherwise noted and as requested in writing by the Golf Course Specialist.

**F. OPERATING INSTRUCTIONS AND MANUALS**

1. After installation is complete, the Golf Course Specialist shall arrange to meet with the Edgewater Country Club representatives and instruct them in the use, operation, care



and cleaning of the equipment. Only qualified personnel, thoroughly familiar with the use and maintenance of the equipment shall give instructions.

2. The Golf Course Specialist shall prepare and submit 2 copies of Operating and Maintenance Manuals to the Architect for delivery to the Edgewater Country Club. All material shall be provided using a word processing software such as Microsoft Word and neatly printed or typewritten, labeled, indexed and securely bound. A digital copy shall be provide in a PDF or Word format.
3. All Operating and Maintenance Manuals shall contain the following information:
  - a) Manufacturer's complete data sheets.
  - b) Complete operating instructions and recommendations for the fuel type or any other materials used with the item.
  - c) Maintenance data, repair and adjustment data including manufacturer's instructions.
4. List of parts and part numbers, recommendations for spare parts to stock, and location of the nearest parts supply and service organization.
  - a) Assembly drawings, wiring diagrams, mechanical diagrams, installation diagrams and instructions.
  - b) Inspection Certificates required (if any), properly signed, for electrical, electronic, mechanical or other systems.
  - c) Copies of all written guarantees or warranties as required by the Contract Documents for specified products or systems, and a checklist of all such items organized by section number.
  - d) Complete lubrication data and schedules.
  - e) Complete cleaning instructions including a listing of all recommended cleaning materials and systems.
5. Provide special tools required by this Special Provision and referenced by the Operating and Maintenance Manuals (if any) that are required for maintenance purposes (such as wrenches for door closers).

#### **IV. Basis of Payment**

Include all costs for the materials, equipment, and labor associated this Special Provision and Section 199 in the unit price for "Golf Course".

<b>Bid Item</b>	<b>Unit</b>
Golf Course	Lsum

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

- Final Payment will not be approved until:
  - All necessary drawings are received.
  - Equipment manuals are received.
  - Additional materials are delivered.
  - Warranty evidence is received.
  - Special tools for equipment are delivered.

**A. Unit Prices as a Basis for Quantity Changes**

Submit the information below within 10 business days after the bid opening to the NDDOT Construction Services Division. The unit prices will be used as a basis in negotiating change orders.

**Golf Course Unit Prices**

**The prices listed below shall include all labor, materials, taxes, overhead, general conditions and supervision.**

UNIT PRICES

- |                |  |         |
|----------------|--|---------|
| Unit Price #1  | Supply and install 2" cal. BB deciduous tree per each.                       | \$_____ |
| Unit Price #2  | Supply and install 36" height Buffalo Berry shrub per each.                  | \$_____ |
| Unit Price #3  | Provide and install additional green root zone mix per cubic yard.           | \$_____ |
| Unit Price #4  | Provide and install additional tee root zone mix per cubic yard.             | \$_____ |
| Unit Price #5  | Provide and install hydraulic-mulching with tackifier per 10,000 sf.         | \$_____ |
| Unit Price #6  | Provide and install straw mulch and disc-anchoring per 10,000 sf.            | \$_____ |
| Unit Price #7  | Provide and install Futerra Enviro-net erosion blanket per sq. foot.         | \$_____ |
| Unit Price #8  | Provide and install Curlex-I Erosion Control blanket per sq. foot.           | \$_____ |
| Unit Price #9  | Provide and install straw bale check erosion control per lineal foot.        | \$_____ |
| Unit Price #10 | Provide and install straw wattles erosion control per lineal foot.           | \$_____ |
| Unit Price #11 | Provide and install highland/mineral Kentucky Bluegrass sod per square yard. | \$_____ |
| Unit Price #12 | Provide & install Dominant 7 bent grass sod per square yard.                 | \$_____ |
| Unit Price #13 | Provide & install 4" perforated drain tile with gravel per lineal foot.      | \$_____ |
| Unit Price #14 | Provide & install 4" non-perforated dual wall drain tile per lin foot.       | \$_____ |
| Unit Price #15 | Provide & install 6" non-perforated dual wall drain tile per lin foot.       | \$_____ |

Unit Price #16	Provide & install 8" non-perforated dual wall drain tile per lf. foot.	\$ _____
Unit Price #17	Provide & install 10"non-perforated dual wall drain tile per lin. foot.	\$ _____
Unit Price #18	Provide & install 12"non-perforated dual wall drain tile per lin. foot.	\$ _____
Unit Price #19	Provide & install 18" HDPE catch basin with sump & metal grate.	\$ _____
Unit Price #20	Provide & install 24" HDPE catch basin with sump & metal grate.	\$ _____
Unit Price #21	Provide and install 7' wide <i>asphalt</i> cart path per lineal foot including sub-cut and 8' wide granular base.	\$ _____
Unit Price #22	Provide and install 8' wide <i>gravel</i> cart path per lineal foot including sub-cut.	\$ _____
Unit Price #23	Provide and install 7' wide bituminous cart path – paving only.	\$ _____
Unit Price #24	Provide and install 4" bituminous curb per lineal foot.	\$ _____
Unit Price #25	V-I-H part circle sprinkler contingency (20) as included in bid.	\$ _____
Unit Price #26	Provide and install additional full circle valve-in-head sprinkler with swing joint and 80 feet of pipe and wire per each.	\$ _____
Unit Price #27	Provide and install additional part circle valve-in-head sprinkler with swing joint and 80 feet of pipe and wire per each.	\$ _____
Unit Price #28	Provide and Install additional 1" quick coupler valve with swing joint and stabilizer.	\$ _____
Unit Price #29	Lateral Isolation 90° assembly (as specified) per each.	\$ _____
Unit Price #30	Resilient Wedge Isolation Valve (as specified), 2 1/2 " per each.	\$ _____
Unit Price #31	Resilient Wedge Isolation Valve (as specified), 3" per each.	\$ _____
Unit Price #32	Resilient Wedge Isolation Valve (as specified), 4" per each.	\$ _____
Unit Price #33	Resilient Wedge Isolation Valve (as specified), 6" per each.	\$ _____
Unit Price #34	Resilient Wedge Isolation Valve (as specified), 2" per each.	\$ _____
Unit Price #35	Provide and install 2" Nibco T113 isolation valve per each.	\$ _____
Unit Price #36	Provide and install 2" Class 200 PVC pipe per lineal foot.	\$ _____
Unit Price #37	Provide and install 2 1/2" Class 200 PVC pipe per lineal foot.	\$ _____
Unit Price #38	Provide and install 3" Class 200 PVC pipe per lineal foot.	\$ _____
Unit Price #39	Provide and install 4" Class 200 PVC pipe per lineal foot.	\$ _____
Unit Price #40	Provide and install 6" Class 200 PVC pipe per lineal foot.	\$ _____
Unit Price #41	#8 type UF/UL single conductor for underground burial per lin. ft in main line pipe trench - only for disturbed areas	\$ _____
Unit Price #42	#10 type UF/UL single conductor for underground burial per	\$ _____

lin. ft in main line pipe trench - only for disturbed areas

Unit Price #43 #12 type UF/UL single conductor for underground burial per  
lin. ft in main line pipe trench - only for disturbed areas \$\_\_\_\_\_

Unit Price #44 #14 type UF/UL single conductor for underground burial per  
lin. ft in main line pipe trench - only for disturbed areas \$\_\_\_\_\_

END

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION**

**MACHINERY HYGIENE**

**Project AC-NH-SOIB-7-023(041)925 – PCN 19862**

**1. GENERAL**

Decontaminate off-road equipment prior to accessing US Army Corps of Engineer (USACE) lands to prevent the spread of noxious weeds.

**Definitions:**

**A. Contractor Controlled Areas** are 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 or waste areas, etc.).

**B. Decontaminate** means to remove all mud, dirt, and plant material.

**C. Decontamination Site** refers to an onsite decontamination area, which shall be situated on level ground away from drainages and waterways.

**D. Noncompliance** is any action or inaction that violates the regulations imposed by the applicable permits or the requirements of this Special Provision or other contract documents.

**E. Noxious Weeds** are those plants deemed detrimental to public health, agriculture, recreation, wildlife and/or property by the North Dakota Department of Agriculture and Mountrail County Weed Board.

**F. Noxious Weed Infested Areas** are those areas where noxious weed species are present, as determined by USACE and the applicable County Weed Control Officer(s) as described herein.

**G. Off-Road Equipment** includes any non-road engines (e.g. generators, welders, etc.), equipment and vehicles that leave the roadway, and any licensed trucks and vehicles used to excavate, remove, and haul vegetation, debris, topsoil, aggregate, and borrow materials.

**H. Service Vehicles** include vehicles that stay on the roadway, travelling frequently in and out of the project area, that are used to transport personnel, tools, equipment, supplies, and construction materials to and from the project site, with the exception of excavated materials (borrow, topsoil, aggregate, etc.).

**I. USACE Lands** are those owned by USACE.

## **2. CONSTRUCTION REQUIREMENTS**

### **A. Coordination**

At least 10 work days prior to commencement of any construction activities, coordinate with the Engineer, USACE (Mike Morris, (701) 654-7759, or Jeremy Thury, (701) 654-7761; 201 1st Street, Riverdale, North Dakota 58565), and the applicable Weed Control Officer(s) for Mountrail County (Jim Hennessy, 701-628-2835) to establish the absence of noxious weeds along the project corridor where existing (including newly acquired) right-of-way or easements occur, as well as in areas outside of right-of-way, such as borrow and/or waste sites, haul routes, and any other contractor controlled areas. If noxious weeds are found to be present in these areas, treat or remove said vegetation in a manner acceptable to USACE and County Weed Control Officer. This clearance must be obtained at the start of each growing season during which construction occurs.

### **B. Decontamination Requirements**

Decontaminate all off road equipment before entering USACE lands for the first time. Equipment used within areas established to be free of noxious weed as described herein does not need to be decontaminated each time it enters USACE lands. Repeat decontamination of any equipment utilized on another job prior to reentry of USACE lands. Conduct decontamination outside of USACE lands.

Service vehicles do not need to be decontaminated.

### **C. Decontamination Procedures**

Pressure wash all off-road equipment to remove all caked on dirt and mud prior to arrival at the project site. Pressure washing shall be conducted at an offsite, dedicated washing station, with assurances of the proper containment and disposal of wash water and solid waste to avoid the spread of noxious weeds.

Inspect all off-road equipment prior to accessing USACE lands to ensure the absence of mud, dirt, and plant material. Tools needed for inspection typically include, mirrors, tools necessary to access internal components, probes, gloves,

safety glasses, containers for contaminated material, and a checklist of inspection points (including, but not limited to, components of the cabin, engine, underside, tracks/wheels, blades/buckets, booms/arms, accessories/attachments, bumper/brush guard, and running boards).

Decontamination at decontamination site(s) shall consist of vacuuming/sweeping, physical removal, and air blasting. Use of water for decontamination is prohibited at the decontamination site(s). Cabins shall be swept and/or vacuumed. Caked on mud/dirt and large vegetative debris shall be physically removed using hand tools, including, but not limited to, brooms, brushes, scrapers, and shovels. Air blasting with compressed air shall be done to decontaminate dry, dusty equipment in such a way to limit dispersal of debris. Waste and debris removed shall be collected, sealed in refuse containers, and disposed of at a designated landfill.

#### **D. Documentation and Reporting**

Document all decontamination (both on and off project site) and inspection of all off-road equipment that accesses USACE lands. Maintain a log book by the Machinery Hygiene Supervisor to document for each piece of off-road equipment accessing USACE lands 1) was pressure washed prior to arrival at the project site, 2) was decontaminated onsite, and 3) was inspected for noxious weeds and passed said inspection (i.e., was free of mud, dirt and vegetative debris). The log book shall include applicable equipment identification, dates, responsible parties, locations, and methods. Provide within three working days of inspection, copies of this documentation to the Engineer, USACE Garrison Project Natural Resource Office (Mike Morris, (701) 654-7759, or Jeremy Thury, (701) 654-7761; 201 1st Street, Riverdale, North Dakota 58565).

### **3. PERSONNEL**

#### **A. Machinery Hygiene Supervisor**

1. **Qualifications.** The Prime Contractor shall name a supervisor that:
  - a) Is an employee of the Prime Contractor.
  - b) Is familiar with project specifications, plans and this Special Provision.
  - c) Has the ability to identify noxious weeds that may be present in Mountrail County, North Dakota.
  - d) Has at least one year of experience supervising personnel.

**2. Duties.** Have the supervisor:

- a) Adhere to this Special Provision.
- b) Be on the decontamination site to supervise the decontamination and inspection of equipment, and required documentation.
- c) Distribute documentation of decontamination and inspection as describe herein.

**4. PERFORMANCE**

The Engineer will determine whether the Prime Contractor is in compliance through inspection of the log book as described herein. Equipment that is in non-compliance will not be allowed to be remain on the project site until decontamination has occurred.

**5. BASIS OF PAYMENT**

Include all labor, materials, equipment and fees required to comply with this Special Provision in the lump sum price bid for 902-0400 "Machine Hygiene." When the listed percentage of the original total Contract is earned, the percentage of the amount bid for "Machine Hygiene" will be paid based on the following table:

<b>Amount of Total Contract Earned</b>	<b>Payment of "Machine Hygiene"</b>
5%	25%
25%	50%
75%	75%
95%	100%



**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION****SPECIAL PROVISION****CONSTRUCTION MONITORING AND DISCOVERY PLAN****AC-NH-SOIB-7-023(041)925 - PCN 19862****Construction Monitoring**

Construction monitoring is to occur in two project areas: 1) on US Army Corps of Engineers (USACE) lands and 2) the area north of 40<sup>th</sup> St NW (Stations 48920+00 to 48945+00). While there are no known cultural sites in these areas, USACE has expressed interest in monitoring construction on USACE lands and, based on soil types, there is the potential for deeply buried cultural sites north of 40<sup>th</sup> St NW. Prior to monitoring on USACE lands, the Cultural Resources Contractor must obtain an Archaeological Resources Protection Act (ARPA) permit from the USACE Garrison Project/Lake Sakakawea Dam Project.

Construction monitoring will take place during ground disturbance activities. The focus of the monitoring will be on soils extending through Holocene deposits. Soil will be removed in 6 inch increments until soils below the Holocene deposit are reached. Monitoring does not need to take place below Holocene deposits and does not need to include shaping or movement of excavated materials. Definitions of construction monitoring activities and perspectives, along with individual participant experience, positions, duties and related cost bases are presented in Attachment A.

Depending upon the work plan of the Contractor to complete construction of the project, more than one monitoring crew may be needed. The number may be changed in response to this need. The crew work schedules will include a weekly meeting to discuss results and devise appropriate responses to issues, including communication between crews and approach to specific discoveries and monitoring issues. This should be scheduled in conjunction with the weekly planning and reporting meeting. An NDDOT Archaeologist and, for USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist, will participate in these meetings as they see appropriate and needed.

**Discovery Plan**

In the event of an inadvertent discovery, NDDOT Cultural Resource Section staff and, for USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist, shall be the first contact(s) and will coordinate all subsequent notifications and communications to the appropriate parties. If burials or other cultural features are noted during construction all work in the immediate vicinity shall stop and the NDDOT Cultural Resource Section (Bob Christensen 701-328-4539, Jeani Borchert 701-328-4378, or Greg Wermers 701-328-2731) and, if on USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist (Richard Rogers 701-654-7744) shall be notified. "Immediate vicinity" should be taken to mean an entire isolated landform (e.g., hilltop, knoll), or 300-foot radius around the discovery when an isolated landform is not present. The discovery area shall be protected from any further disturbance to the extent possible. This includes using a tarp or plastic to cover the area if it is practical to do so, and it includes other measures as necessary, and as coordinated with the NDDOT Cultural Resource Section staff. Construction may continue on other areas of the project away from the discovery.

### Legal Requirements

Depending on the type of inadvertent discovery, several Federal and State laws and regulations will govern the process after the discovery is made. The National Historic Preservation Act regulations (36 CFR Part 800.13) define requirements for post-review discoveries. NAGPRA 43 CFR 10, Subpart B applies to the inadvertent discovery of human burials on Federal or Tribal land. This Discovery Plan is intended to serve the function defined in 800.13(a)(2). Administrative Rule 40-02, in accordance with State Law 23-06-27 protects of human burial sites, human remains, and burial goods. There may be other laws and regulations which apply depending on the location and ownership of the land where the discovery is made.

### Discoveries on an Indian Reservation

This project is entirely within the exterior boundaries of the Fort Berthold Indian Reservation. If an inadvertent discovery is made on this project, the Archaeological Resources Protection Act (ARPA – 16 USC 470aa et seq) and its implementing regulations will dictate the process to be followed. This is summarized:

- 1) Stop Work and protect the discovery from further disturbance.
  - a. Work may continue on other areas of the project, at least 300 feet away from the discovery and off the landform on which the discovery was made (hill, terrace, etc).
- 2) Notify the responsible Indian tribe official (Tribal Chairman Mark Fox) by telephone, and provide written confirmation to the responsible Federal official (BIA archaeologist – if there will be excavations, a BIA permit is required).
- 3) The Indian tribe official will dictate the process to follow. This official has three days to respond. If no response is made, activity that resulted in the discovery may resume 30 days after the Indian tribe official certifies receipt of notification.

There may be conditions in the USACE Section 404 Permit that dictate the process to follow for lands under the jurisdiction of USACE. Be aware of all conditions and commitments that are in effect for the project.

### Burial Discovery

In the case of discovery of a burial on Federal or Tribal land, regardless of who makes the discovery, the following will take place in accordance with procedures defined in NAGPRA 43 CFR 10, Subpart B. Since this project is entirely within the exterior boundaries of the Fort Berthold Indian Reservation, any inadvertent discoveries of human burials will be handled according to the process dictated in NAGPRA. This process is summarized below:

- 1) Stop work in the vicinity of the human burial discovery and protect the discovery from further disturbance.
- 2) NDDOT CRS and/or the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist will notify Three Affiliated Tribes Chairman Mark Fox in writing via certified mail.
- 3) Within three working days, Chairman Fox may:
  - a. Certify receipt of the notification.
  - b. Take further steps to secure and protect the discovery, if necessary.
  - c. If the remains must be removed, follow the requirements and process set forth in 10.3(b) of

the NAGPRA regulations, and

- d. Ensure disposition of the human remains is carried out following 10.6 of the NAGPRA regulations.

#### Other Cultural Feature Discovery

This Discovery Plan is not intended to stop construction for non-feature related discoveries. The NDDOT archaeologist and/or the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist, in consultation with the Tribal Historic Preservation Office (THPO) as necessary, shall have the discretion to determine significant finds which would constitute a 'discovery.'

If hearth features, cache pits, post molds, roasting pits, chipping stations, and/or other discrete artifact concentrations are exposed during monitoring or general construction activities, including on material source locations, construction activities in the immediate vicinity will cease and the area will be protected from additional disturbance.

If they are not already present, the discovery of subsurface features will be reported immediately to the NDDOT CRS and, if on USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist. The NDDOT archaeologist or, if on USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist has authority to explore suspected discovery areas while attempting to define cultural features/sites. Further, the NDDOT archaeologist or, if on USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist, has the authority to determine whether or not a suspected area constitutes discovery of a cultural feature. NDDOT CRS and/or the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist will notify the appropriate tribes, THPO, the State Historic Preservation Office (SHPO) and the USACE North Dakota Regulatory Office (NDRO) (if applicable for the Section 404 Permit) of identified cultural features within 24 hours, if possible. The NDRO will receive written confirmation within 48 hours if the discovery is on land under jurisdiction of the USACE.

The NDDOT archaeologist or, if on USACE lands, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist (in consultation with THPO and tribal personnel/members who may be present, and the NDRO if on land under jurisdiction of the USACE), will decide whether or not to salvage isolated features. At a minimum feature characteristics will be noted, the feature(s) will be photographed, and feature location will be recorded using GPS technology. All recorded information will be compiled into a report on discoveries for the project which will be filed with the NDDOT, the USACE Garrison Project/Lake Sakakawea Dam Project (if on USACE lands), THPO, SHPO and NDRO (if appropriate for the Section 404 Permit).

An attempt will be made to determine if the feature is clearly part of a larger site area. If a site is defined or if it is believed that further work in the immediate vicinity will disturb associated intact deposits, the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist (if on USACE lands), NDRO (if appropriate for the Section 404 Permit), THPO, SHPO, and the Advisory Council on Historic Preservation (ACHP). Comments received within 48 hours of notification will be considered in

developing a plan of how to proceed. Discussions with these interested parties may be informal (e.g., phone, email). The resulting plan will be documented in writing and delivered to consulting parties electronically, if possible. A written report on implementation of the plan, and documentation of results, including analysis of recovered materials, will be completed and transmitted to the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist (if on USACE lands), NDRO (if appropriate for the Section 404 Permit), THPO, SHPO and ACHP.

All excavation efforts will be in compliance with the NDDOT Test Excavation Standards and, if on USACE lands, in accordance with the ARPA permit conditions and stipulations, unless specifically noted in the plan discussed above, or documented with justification in the resulting report. A sample of feature fill will be reserved for waterscreen or floatation processing. Feature cross-section and plan-view maps will be recorded to scale. Each feature will be photographed before and after excavation. Analysis of artifacts and reporting will also be in compliance with NDDOT Test Excavation Standards and, if on USACE lands, in accordance with the ARPA permit conditions and stipulations.

Work will be allowed to continue in the discovery area when planned cultural resource work is completed. If the discovery is on land under the jurisdiction of the USACE for Section 404, work may resume when the NDRO gives verbal permission to proceed. If the discovery is on USACE lands, work may resume when the USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist gives verbal permission to proceed.

#### Documentation and Reporting

The PI will ensure that tribally sensitive and legally required documentation of monitoring activities, discoveries and results are produced. This documentation will include dates, participants, decisions, and results. It will also be the responsibility of the Archaeological PI to produce weekly email reports to the NDDOT Cultural Resource Section and email them to Jeani Borchert at [jborchert@nd.gov](mailto:jborchert@nd.gov) and Bob Christensen at [rchriste@nd.gov](mailto:rchriste@nd.gov), and for USACE lands, also emailed to Richard Rogers at [richard.r.rogers@usace.army.mil](mailto:richard.r.rogers@usace.army.mil). Further, it will be the responsibility of the Cultural Resources Contractor to ensure production of a final report on the monitoring effort for submission to the NDDOT and USACE Garrison Project/Lake Sakakawea Dam Project Senior Archaeologist. The final report will summarize the monitoring effort and results, discuss the implementation process, and discuss the adequacy of monitoring as a tool to accomplish the intent set forth in this document, and make recommendations for intent and implementation on any future monitoring projects undertaken by the NDDOT. The NDDOT will distribute this report, after review and production of a final report, to SHPO, THPO and the Tribal Consultation Committee (TCC).

## **Attachment A**

### **Definitions and Cost Basis**

**Construction Monitoring:** Construction monitoring will be completed in two project areas: 1) on US Army Corps of Engineers (USACE) lands and 2) the area north of 40<sup>th</sup> St NW (Stations 48920+00 to 48945+00). Monitoring shall be conducted by individual crews walking areas of recently disturbed ground during the process of removal of material with construction machinery. Construction monitoring requires that fresh passes of material removal are inspected. Safe and effective monitoring requires good understanding of construction and monitoring activities by individuals involved and effective means of communication between construction and monitoring crews.

Construction implementation plans should consider how best to approach the project with construction monitoring crews, including monitoring safety and project construction needs. Coordination with monitoring crews and setting a process for education of all project crews to each other's duties will be the responsibility of the Contractor.

If construction activity involving excavation of materials is taking place in multiple areas of the project at the same time, multiple monitoring crews will be needed. Training, coordination, and pairing of monitoring and construction activities will take place in a manner to allow for effective and safe monitoring for discovery of human remains and archaeological features and completion of project construction needs and is the responsibility of the Contractor.

**Archaeological Principal Investigator (PI):** An Archaeological PI for work in North Dakota must be permitted by the State Historical Society of North Dakota. Further, the NDDOT requires this individual to have documented and successful experience in working with the Tribes, documented experience in site excavation, a working knowledge of appropriate excavation techniques, ability for identification of soils, and extensive experience and knowledge in identification of human remains and faunal analysis. The NDDOT requires this individual to identify, as necessary, when construction has proceeded beyond Holocene deposits, and to instruct Archaeological Field Technicians on the monitoring crews (and others working on the project who request to participate in this training at the discretion of the Engineer and the Contractor) in the identification of human remains. The NDDOT requires this individual to ensure appropriate documentation of discoveries, with consideration to Tribal sensitivity and legal requirements. The NDDOT requires this individual to ensure completion of a report on the results of monitoring for NDDOT, USACE Garrison Project/Lake Sakakawea Dam Project, THPO, SHPO and TCC. On USACE lands, the PI must be qualified according to the ARPA permit conditions and stipulations.

The hourly rate of the PI will be set by the Cultural Resources Contractor. Other Cultural Resources Contractor costs, such as those for archaeological assistants or support personnel, will also be set by the Cultural Resources Contractor. Costs for post construction reporting by the Cultural Resources Contractor can be based on an estimated timeframe and salaries of necessary personnel or as a lump sum cost.

The PI or a field director/crew chief will be in direct charge of the archaeologists during fieldwork. The PI will be tasked with notifying and coordinating the archaeologists and Tribal Traditional Cultural Specialists (TCS).

**Field Director/Crew Chief:** The PI may act as the field director/crew chief. Alternately a field director/crew chief may be in direct charge of archaeologists during fieldwork. This field director/crew chief will have a minimum of a Bachelors of Art Degree in Anthropology and will have three or more years' experience. On USACE lands, the Field Director/Crew Chief must be qualified according to the ARPA permit conditions and stipulations.

**Archaeological Field Technicians:** Archaeological Field Technicians will have a minimum of a Bachelors of Art Degree in Anthropology and will have experience serving on a field crew.

**Tribal Traditional Cultural Specialists (TCS):** TCS will be obtained through contact with the Three Affiliated Tribes:

MR. ELGIN CROWSBREAST  
THREE AFFILIATED TRIBES, THPO  
PO BOX429  
PARSHALL, ND 58770  
redhawk@mhanation.com  
Office: 701-862-2474; Cell: 701-421-8400

TCS will be compensated at a rate of \$50/hour based on an 8-hour day plus overtime at a rate of 1.5 times base compensation (i.e., \$75/hour). Per Diem will be provided at established rate (at a minimum to meet State rates). Appropriate housing will be provided for the TCS. For the purposes of the project, TCS will act as independent contractors under the Cultural Resources Contractor hired by the Engineer.

#### **Basis of Payment**

All costs associated with providing appropriate safety training, coordination planning and pairing of monitoring and construction activities will not be the responsibility of the Contractor.

NDDOT will pay for all costs for the Cultural Resources Contractor, Archaeological PI, Field Director/Crew Chief, Archaeological Field Technicians, and TCS.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION**

**FLEXIBLE PAVEMENT SURFACE TOLERANCE**

**Project # 7-023(041)048 – PCN 19862**

**DESCRIPTION**

This provision details the surface tolerance requirements, corrective actions, performance incentives, and contract price adjustments for flexible pavement.

**CONSTRUCTION REQUIREMENTS**

**A. Applicable Areas and Exceptions.**

The pavement smoothness will be determined by profiling the finished surface of the mainline pavement. All finished bituminous surfaces will be profiled with the following exceptions:

1. Bridge decks and/or approach slabs and 150 feet on either side.
2. Side roads and approaches.
3. Shoulders, ramps and gore areas.
4. At-grade railroad crossings and 150 feet on either side.
5. Beginning and end of the project and 50 feet on either side of these boundaries.
6. 50 feet from areas that are not receiving surfacing.
7. Where safety and roadway geometrics do not allow the proper operating speed for the profiler to collect data. These areas will be determined by the Engineer.

On surfaces exempt from the profile testing, the Engineer will determine the pavement smoothness in accordance with Section 430.04 K, "Tolerances".

**B. Profiler.**

The Engineer will furnish and operate the data collection equipment. The smoothness of the final roadway surface profile will be measured and analyzed using the International Roughness Index (IRI) to the nearest 0.1 inch. The Engineer will use a Class 1 profiler meeting ASTM E 950.

**C. Operation.**

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

The Engineer will trace the profile at approximately 31 and 97 inches, measured from the left edge of the lane, as determined by the direction of traffic. Provide traffic control for 500 feet beyond the ends of the project to facilitate the collection of profile data.

The data will be marked and labeled at the beginning and end of each trace, and event markers as identified by the Engineer.

Each trace will be labeled showing:

- Project;
- Location;
- Lane;
- Date tested; and
- Operator's name.

The Engineer will not test the roadway between November 30 and May 15. The Engineer will not test when the ambient temperature is below 32°F, or while it is raining or under inclement weather conditions. The Engineer will test when the pavement is dry and at an agreed upon time between the Engineer and the Contractor.

Prepare the surface for profile collection to ensure a clean surface for accurate testing. The Engineer will collect the profile at the agreed upon time, regardless of the condition of the final surface.

After the final lift of pavement is complete, schedule a time for the profile to be collected. The Engineer will collect the profile within 5 working days after notification. Data will be collected and the results submitted to the contractor a maximum of 5 working days after the testing date.

If the final lift of pavement cannot be completed before November 30, the Engineer will collect data for all portions of the roadway that have the final lift in place. Profile data for the unfinished portion of the roadway will be collected after May 15 of the following year.

#### **D. Evaluation.**

A lot is defined as a 528 foot road segment, one lane wide. The Engineer will include a partial lot less than or equal to 370.0 feet in the previous lot. The Engineer will treat a lot greater than 370.0 feet as an independent lot. The MRI will be determined by averaging the IRI values from the right and left wheel paths to the nearest 0.1 inch.

The Engineer will evaluate the data and the data will remain the property of the Department. The MRI data will be used to determine performance incentives, contract price adjustments, and the need for corrective action.

#### **E. Corrective Actions.**

Areas that would result in a contract price adjustment may be ground to a lower lot MRI. If grinding occurs and results in an MRI of less than 50.0, the Engineer will not apply a performance incentive to that lot. Lots with an initial MRI of 42.0 or less will receive a performance incentive based on the initial readings, before grinding.

Submit a detailed corrective action plan. Corrective action can include a mill and overlay or diamond grinding. Perform corrective action in accordance with the relevant specifications. If the corrective action includes diamond grinding, apply a fog coat to the ground areas.

Do not perform corrective actions until the Engineer has approved the corrective action plan.



Grind lots to a maximum MRI of 70.0 in /mile.

The Engineer will collect a second profile a maximum of 5 working days after the completion of corrective action. If additional corrective action is necessary, the Engineer will apply a liquidated damage of \$1,500 per trip for each profile collected after the second profile.

Perform corrective action on surface irregularities that exceed the requirements of Section 430.04 K, "Tolerances

**F. Grinding.**

Use equipment that does not cause strain or damage to the underlying surface of the pavement. Do not cause excessive ravels, aggregate fractures, or disturbance of the joints.

Perform grinding in the longitudinal direction so grinding begins and ends at lines normal to the pavement centerline. Do not overlap more than 2 inches between passes and ensure the depth variance between adjacent passes is less than 1/8 inch. Feather the grinding at the beginning and end of each pass.

Grind high shoulders to provide drainage and safety.

Grind the full width of the lane and daylight grinding on the shoulder by performing a feather pass.

Grind a minimum length of 30 feet. Join grind sections if the distance between grind sections is less than 60 feet.

When grinding in areas with speeds less than 45 MPH, areas with curb and gutter, and areas adjacent to waterways continuously collect all slurry or residue resulting from the grinding operation. Dispose of the slurry or residue as specified in Section 107.17, "Removed Material".

**BASIS OF PAYMENT**

**A. Liquidated Damages.**

If the project would be considered substantially complete, as specified in Section 108.07 B, "Failure to Complete within the Contract Time" and corrective action is required, the Engineer may suspend time charges and the assessment of liquidated damages for up to 21 calendar days after the contract time has expired. If the corrective action is not complete within 21 calendar days after the contract time has expired, the Engineer will restart time charges and will assess liquidated damages.

**B. Ride Quality.**

The Engineer will pay a performance incentive for ride quality based on Table 1.

**Table 1**  
**Ride Quality Performance**  
**Incentives**

<b>MRI Range</b>	<b>Performance Incentive per Lot</b>
$\leq 32.0$	\$400
32.1 to 36.0	\$300
36.1 to 39.0	\$200
39.1 to 42.0	\$100
42.1 to 50.0	\$0

The Engineer will process contract price adjustments for ride quality based on Table 2.

**Table 2**  
**Ride Quality Contract Price**  
**Adjustments**

<b>MRI Range</b>	<b>Contract Price Adjustment per Lot</b>
42.1 to 50.0	\$0
50.1 to 57.0	(\$100)
57.1 to 64.0	(\$200)
64.1 to 70.0	(\$400)
70.1 $\geq$	Corrective Action

### **C. MISCELLANEOUS**

Include costs necessary to prepare the roadway for testing in the contract unit price for asphalt pavement items.

Traffic control items, including flagging and pilot cars will be paid for according to Section 109.03, "Compensation for Contract Revisions".

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**  
**SPECIAL PROVISION**  
**REMOVAL OF BUILDINGS**

**Project: AC-NH-SOIB-7-023(041)925 – PCN 19862**

**REFERENCE STANDARDS**

- 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

**PRE-DEMOLITION**

- Demolition Plan: Submit demolition plan as specified by OSHA (1926.850 Subpart T, 1903, 1904, 1910) and local authorities to the project Engineer a minimum of ten (10) days prior to the Pre-Installation meeting for approval.
  - Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
  - Identify demolition firm and submit qualifications.
  - Include a summary of safety procedures.
- Demolition Application and approval from the city of New Town.
- Hold a pre-demolition meeting to discuss the demolition plan a minimum of one week prior to the demolition of any building sites with the project Engineer.

**POST-DEMOLITION SUBMITTALS**

Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction. Photos of building before demolition.

**QUALITY ASSURANCE**

Demolition Firm Qualifications: Company specializing in the type of work required with a minimum of 3 years of documented experience.

**PRE- DEMOLITION MEETINGS**

- Convene minimum of one week prior to the demolition of any building sites.

## **EXECUTION**

### **SCOPE**

- Remove the entire building or buildings and associated items including foundations. Removal of buildings includes asbestos abatement. See Asbestos Survey Report dated June 2017, prepared by KLJ.
- Remove pavement and curbs as required to accomplish work.
- Remove utilities to 5-feet outside of foundation walls. Identify utilities at termination of demolition. Record termination or capped location on Record Documents.
- Remove foundation walls and footings completely.
- Remove concrete slabs under the maintenance building and cart sheds.
- Remove items indicated in plans for salvage, relocation, and/or recycling.
- Remove miscellaneous items within removal limits (e.g., posts, signs, lights).
- Remove existing septic tank and drain field according to NDDOH and EPA Regulations.
- Backfill excavations, open pits, and holes in ground areas generated as result of removals. Place backfill in accordance with Section 203 of the Standard Specifications (Compaction – Type B).
- Rough grade and compact areas affected by demolition to accommodate subsequent construction operations.
- Demolish of designated buildings, slabs-on-grade, foundations, equipment, and fixtures.
- Protect items designated to remain.
- Remove demolished materials

### **GENERAL PROCEDURES AND PROJECT CONDITIONS**

- Examine and photograph existing buildings before demolition.
- Buildings indicated to be demolished must be vacated before start of work.
- Determine where removals may result in structural deficiency or unplanned building collapse during demolition. Coordinate demolition sequence and procedures to prevent structures from becoming unstable.
- Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - Do not proceed until receipt of notification from the Engineer.
  - Obtain required permits.
  - Comply with applicable requirements of NFPA 241.
  - Use of explosives is not permitted.
  - Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within

- range of potential collapse of unstable structures.
- Provide, erect, and maintain temporary barriers and security devices.
  - Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
- Erect and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the public, and existing improvements indicated to remain.
- Before demolishing the clubhouse salvage:
  - Edgewater Country Club signing.
  - Flagpole.
  - Edgewater monument.
- Provide bracing and shoring.
- Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- Obtain the necessary permissions from the city of New Town.
- Hazardous materials: Remove hazardous materials before start of the demolition. Asbestos inspections for the facility were completed June 2017. The findings of these inspections are attached. North Dakota Department of Health SFN 17987 must be completed by the Contractor.
- If hazardous materials, other than what is disclosed in the Asbestos Report, are discovered during removal operations, stop work, and notify the project Engineer; hazardous materials include regulated asbestos containing materials, PCB's, and mercury.
- Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.
- Verify hazardous material abatement is complete before beginning demolition.

## **EXISTING UTILITIES IN THE BUILDING**

- Coordinate work with utility companies; notify not less than 3 working days before starting work and comply with their requirements.
- Protect existing utilities to remain from damage.
- Do not disrupt utilities without completing the utility owner's required documentation.
- Do not close, shut off, or disrupt existing life safety systems that are in use without 3 days prior written notification to Edgewater Country Club.
- Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without 3 days prior written notification to Edgewater Country Club.
- Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- Remove exposed piping, valves, meters, equipment, supports, and foundations

of disconnected and abandoned utilities.

- Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

## **DEBRIS AND WASTE REMOVAL**

- Continuously clean-up and remove debris, junk, and trash from site. Do not allow materials to accumulate on site.
- Leave site in clean condition, ready for subsequent work.
- Do not burn or bury materials on site.
- Clean up spillage and wind-blown debris from public and private lands
- Remove temporary work.

## **BASIS OF PAYMENT**

- Include the labor, materials, permits, disposal requirements and equipment described in this SP in the following bid items:
  - "Removal of Building-Site 1" - Lump Sum for Maintenance shed
  - "Removal of Building-Site 2" - Lump Sum for Cart sheds
  - "Removal of Building-Site 3" - Lump Sum for Clubhouse

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**  
**SPECIAL PROVISION**

**SPILL PREVENTION AND EMERGENCY RESPONSE**

**Project AC-NH-SOIB-7-023(041)925 – PCN 19862**

**1. DESCRIPTION**

This Special Provision details specific requirements pertaining to spill prevention and the storage of materials on US Army Corps of Engineers (USACE)-owned property. Except as modified herein, work shall conform to the North Dakota Department of Transportation's *Standard Specifications for Road and Bridge Construction* (2014) and the Special Provisions designated for the project.

**2. DEFINITIONS**

**A. Hazardous substances**, according to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC 9601(14)), are defined as:

(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33;

(B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title;

(C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, (42 USC 6921);

(D) any toxic pollutant listed under section 1317(a) of Title 33;

(E) any HAP listed under section 112 of the CAA (42 USC 7412); and

(F) any imminently hazardous chemical substance or mixture with respect to which the Administrator of the USEPA has taken action pursuant to section 2606 of Title 15.

The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

**B. Hazardous materials**, according to the Hazardous Materials Transportation Act (49 CFR 171.8), are defined as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions" in 49 CFR Part 173.

**C. Hazardous waste**, according to RCRA (42 USC 6903), is defined as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an

increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.”

### 3. SPILL PREVENTION

All hazardous (as defined above) and non-hazardous (e.g., petroleum products, except waste oil) fluids will be managed by the Contractor in a way that prevents release.

- *Container Management:*

- All containers and barrels will be in good condition and compatible with the materials stored within.
- All substance containers will be accessible and spacing between containers will provide sufficient access to perform periodic inspections and respond to releases.
- Any spills on the exterior of the container will be cleaned immediately.
- Flammable materials stored or dispensed from drums or totes will be grounded to prevent static spark.
- Waste drums will not be overfilled and a minimum of six inches of headspace will remain to allow for expansion.

- *Good Housekeeping:*

- All chemicals that are transferred from larger to smaller containers will be transferred by use of a funnel or spigot.
- All substance containers will be closed while not in use.
- Drip pans or other collection devices will be used to contain drips or leaks from dispensing containers and equipment.
- All spills and/or leaks, regardless of size, will be immediately cleaned up and properly managed.
- All equipment storage areas will be monitored for the presence of leaks or spills.
- All work areas storage areas will be kept clean and in good general condition.

- *Secondary containment:*

- Secondary containment will be implemented around all barrels and equipment during filling operations.
- All hazardous substances will be stored in double walled containers.
- Secondary containment systems will be checked daily, and any spills identified in secondary containment will be immediately cleaned up and removed.



- *Marking/labeling:*
  - Ensure all substances are properly marked and labeled in accordance with all federal, state and local regulations.
  - Empty hazardous substance containers (drums) will have all markers and labels removed and the container marked with the word “empty”.
  - Ensure that hazardous substances transferred to small containers are marked with the chemicals name (e.g. “Isopropyl Alcohol”) and hazard type (e.g. “Flammable”).

Employee Training: The Contractor will provide training to ensure that all employees and subcontractors working on USACE-owned property are familiar with the spill prevention and emergency response plans associated with the project. Training will include a review of the spill prevention and emergency response plan, and a review of the location and use of emergency response equipment and spill prevention kit. Documentation of this training will be maintained and made available to the Engineer and/or USACE upon request.

Hazardous Substance Inventory: The Contractor will provide the Engineer a comprehensive inventory of all hazardous substances that will be stored on USACE-owned property. This inventory will also detail the storage and containment measures for each substance. The Engineer will provide this inventory to USACE. USACE has the authority to request additional containment measures or alternate storage locations at any time.

Spill Response Equipment: Spill response equipment, including absorbent booms, will be located on site as well as on all barges, tug boats and temporary work platforms. The number, type and length of boom and/or absorbent materials must be sufficient to address the types and volumes of materials stored at the project site.

Spill Prevention, Control and Countermeasure Plan: The Contractor will comply with the US Environmental Protection Agency Spill Prevention, Control and Countermeasure (SPCC) Rule as discussed in Environmental Note EN-3 SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN.

#### **4. EMERGENCY RESPONSE**

Response actions in the event of a spill or release:

In the event of a spill or release, the Contractor will immediately take the following measures to keep the spill from entering the river, or affecting human health. In all cases, caution will be maintained with the primary goal being to prevent and/or limit personal injury.

The Contractor will stop, contain, and clean up the spill if:

- The spilled substance and its hazardous properties can be identified;
- The spill is small and easily contained;
- Responder is aware of the hazardous properties of the substance.

If a spill or release cannot be controlled, or injuries have occurred due to the release, the Contractor will implement the following procedures:

- Summon help or alert others of the release;
- Evacuate immediate area, and provide care to the injured- Call 911;
- If potential fire or explosion hazards exist, evacuate all personnel from the project area - Call 911;
- Respond defensively to any uncontrolled spills:
  - Use appropriate personal protective equipment;
  - Attempt to shut off the source of the release (if safe to do so);
  - Eliminate sources of ignition (if safe to do so);
- Coordinate response activities with local emergency personnel;
  - Be prepared to provide material safety data sheet (MSDS) information to fire department, emergency medical technician (EMT), hospital and/or physician(s);
  - Notify appropriate agency if a release has entered the environment. Refer to Notification and Reporting section for reporting thresholds as they pertain to surface water. The Contractor will report any observed sheen on the river.

#### Notification and Reporting:

If a spill has been released to surface water, the Contractor will immediately notify the following agencies, according to "Emergency Contact Information," below:

- **ND Department of Emergency Services** (any release that poses an immediate threat to human health, property or the environment);
- **ND Department of Health** (any release);
- **US Army Corps of Engineers** (any release);
- **National Response Center** (release of oil or fuel to surface water, or a release of a chemical with an established Reportable Quantity as defined by the Environmental Protection Agency)

The Contractor will provide the following information when reporting a release:

- Name and telephone number;
- Latitude and Longitude;
- Date, time, cause and type of incident (e.g., fire, air release, spill, etc.)
- Material and quantity of the release, to the extent known;
- Action(s) taken to contain the spill;
- Extent of injuries, if any; and

- Possible hazards to the public health and/or environment outside of the facility.

## **5. EMERGENCY CONTACT INFORMATION**

- **Fire/Paramedics/Police** – 911
- **ND Department of Health: Division of Water Quality** – (701) 328-5210
- **ND Department of Emergency Services** – (800) 472-2121
- **National Response Center** – (800) 424-8802
- **US Army Corps of Engineers (Riverdale)** – Mike Morris (701) 654-7759 or Jeremy Thury (701) 654-7761
- **Environmental Protection Agency (Region 8)** – (800) 227-8917

## **6. BASIS OF PAYMENT**

All costs associated with the requirements of this Special Provision shall not be paid for separately, but shall be included in the price bid for mobilization.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION**

**PERMITS AND ENVIRONMENTAL CONSIDERATIONS**

**PROJECT NUMBER: AC-NH-SOIB-7-023(041)925 - PCN 19862**

This Special Provision incorporates the US Army Corps of Engineers (USACE) Section 404 Permit obtained by the North Dakota Department of Transportation (NDDOT) into the bidder's proposal.

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

- **Section 404 Permit**

The Section 404 Permit number NWO-2015-02027-BIS authorizes fill placed within USACE jurisdictional waters. This 404 permit authorizes 0.01 acre of temporary and 0.14 acre of permanent wetland impacts to jurisdictional waters. Temporary impacts were assumed by the designer and will be restored to preconstruction contours.

See the Section 75 sheets of the design plans for the permitted impact areas. The Section 404 Permit is attached.

The contractor is responsible for impacts not authorized by the attached Permit(s) obtained by the NDDOT.



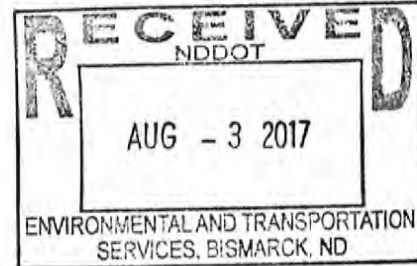
DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
NORTH DAKOTA REGULATORY OFFICE  
1513 SOUTH 12TH STREET  
BISMARCK ND 58504-6640

July 28, 2017

North Dakota Regulatory Office

NWO-2015-02027-BIS

North Dakota Department of Transportation  
Attn: Mr. Steve Kessler  
608 E Boulevard Avenue  
Bismarck, North Dakota 58505-0700



Dear Mr. Kessler:

We are responding to your 07/14/2017 request for a Department of the Army permit for the construction of the New Town Northwest Truck Reliever Route (PCN 19862). The project site is located in Sections 8 and 18, Township 152 North, Range 92 West, Latitude 47.984144°, Longitude -102.512206°, Mountrail County, North Dakota.

Based on the information you provided to this office, the project will begin at the junction of ND 1804 and connect with ND Highway 23, west of New Town. The Edgewater Country Club will be bisected by the new construction. As a result of construction activities, 0.01 acres of temporary and 0.14 acres of permanent impacts to aquatic resources will occur. The North Dakota Department of Transportation requested that the U.S. Army Corps of Engineers waive mitigation requirements, as permanent impacts will occur in a man-made ditch constructed to convey water from the golf course to Lake Sakakawea. Mitigation for impacts to these man-made features (Wetlands 3h, 3i, 3j, and 3k) has been waived.

We have determined activities in waters of the U.S. associated with the project are authorized by Nationwide Permit Number (NWP) NWP 14 Linear Transportation Projects, found in the January 6, 2017 Federal Register (82 FR 1860), Reissuance of Nationwide Permits. Enclosed is a fact sheet that fully describes this Nationwide Permit and lists the General, Regional and Water Quality Conditions that must be adhered to for this authorization to remain valid. **Please note that deviations from the original plans and specifications of your project could require additional authorization from this office.**

This determination is applicable only to the permit program administered by the Corps of Engineers, North Dakota Regulatory Office. **It does not eliminate the need to obtain other Federal, state, tribal and local approvals before beginning work.**



You are responsible for all work accomplished in accordance with the terms and conditions of the Nationwide Permit, including the Regional Conditions specific to projects undertaken in North Dakota. Information about the NWP and regional conditions are available on our website at <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota>. If a contractor or other authorized representative will be accomplishing the work authorized by the Nationwide Permit on your behalf, it is strongly recommended that they be provided a copy of this letter and the attached conditions so that they are aware of the limitations of the applicable Nationwide Permit. Any activity that fails to comply with all of the terms and conditions of the Nationwide Permit will be considered unauthorized and subject to appropriate enforcement action.

In addition, your work must comply with the following special conditions:

**1. This verification is not valid until water quality certification under Section 401 of the Clean Water Act has been issued or waived for the activities requiring a permit from this office. Once you receive water quality certification or a waiver, the activities are considered verified and the work may proceed subject to any conditions of the water quality certification provided by the Environmental Protection Agency (EPA), Region 8 Office.**

**Within 30 days after completion of the authorized work, you must sign the enclosed Compliance Certification and return it to this office.**

This verification will be valid until March 18, 2022. If the nationwide permit is modified, suspended, or revoked prior to this date, but is reissued without modification or the activity complies with any subsequent modification, this authorization remains valid until the expiration date. All of the existing nationwide permits are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent upon you to remain informed of changes to the nationwide permits. We will issue a public notice when the nationwide permits are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation to complete the activity under the present terms and conditions.

The Omaha District, North Dakota Regulatory Office is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey). If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return to us by mail or fax.

Please refer to identification number **NWO-2015-02027-BIS** in any correspondence concerning this project. If you have any questions, please contact Swade Hammond by email at [Swade.D.Hammond@usace.army.mil](mailto:Swade.D.Hammond@usace.army.mil), or telephone at (701) 255-0015 X 2012.

Sincerely,

A handwritten signature in black ink, appearing to read "Patricia L. McQueary". The signature is fluid and cursive, with a long, sweeping tail on the last name.

Patricia L. McQueary  
Regulatory Program Manager  
North Dakota

Enclosures

## COMPLIANCE CERTIFICATION

**Permit File Name:** New Town Northwest Truck Reliever Route/Bypass; NDDOT

**Action ID:** NWO-2015-02027-BIS

**Nationwide Permit Number:** NWP 14 Linear Transportation Projects.

**Permittee:** North Dakota Department of Transportation  
Attn: Mr. Steve Kessler  
608 E Boulevard Avenue  
Bismarck, North Dakota 58505-0700

**County:** Mountrail

**Date of Verification:** July 28, 2017

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers, Omaha District  
North Dakota Regulatory Office  
1513 South 12<sup>th</sup> Street  
Bismarck, North Dakota 58504  
[CENWO-OD-RND@usace.army.mil](mailto:CENWO-OD-RND@usace.army.mil)

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the U.S. Army Corps of Engineers.

\* \* \* \* \*

***I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.***

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Date





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

**MAR 03 2017**

Ref: 8WP-AAP

Patricia L. McQueary  
Regulatory Program Manager  
Corps of Engineers, Omaha District  
North Dakota Regulatory office  
1513 South 12<sup>th</sup> Street  
Bismarck, North Dakota 58504-6640

Dear Ms. McQueary:

The Environmental Protection Agency Region 8 (EPA) has responsibility under § 401 of the Clean Water Act to evaluate and certify water quality protections for federal permits or licenses issued for work on most tribal lands within Region 8. We have reviewed the U.S. Army Corps of Engineers' (Corps) January 6, 2017 Federal Register Notice announcing the reissuance of the Corps' Nationwide Permits (NWP) along with the proposed North Dakota Regional Conditions submitted to the EPA on January 9, 2017, and are transmitting our programmatic CWA § 401 water quality certification (certification) for these NWPs. The enclosed conditions become binding requirements of any NWP issued for work on tribal lands within North Dakota for Tribes without Treatment in a Manner Similar to States (TAS) for water quality standards and CWA Section 401 programs. We request that the Corps provide this certification letter to applicants for NWPs within North Dakota as well as post this certification letter on the appropriate Corps website to assure that applicants are aware of the conditions for certification.

In summary, we are certifying 11 of the 52 NWPs with general conditions, including a preconstruction notification requirement. We are denying certification for 41 of the 52 NWPs, all NWPs granted waivers on limits, all "After-the-Fact" NWPs, and all provisional NWPs. We believe this action will help protect water quality and help ensure that the NWP program will have no more than minimal adverse impacts on the aquatic environment on tribal lands.

Projects that qualify for the use of a NWP for which certification has been granted must notify the appropriate Tribal Environmental Program and the EPA in accordance with general condition five of this certification, but may proceed without further written verification from the EPA. Projects that qualify for the use of a NWP for which certification has been denied must request an individual project certification from the EPA.

We are certifying under the information presented in the January 6, 2017 Federal Register. We also are

adopting the Corps' North Dakota Regional Conditions, as submitted to the EPA on January 9, 2017, as § 401 conditions for all NWP's issued for Tribal waters. If the Corps eliminates or makes substantial changes to any of the published NWP's or conditions, we reserve the right to amend our certification to address any and all changes.

Please send all correspondence to:

**1002 E O 243**

United States Environmental Protection Agency, Region 8  
401 Certification Program - 8WP-AAP  
1595 Wynkoop Street  
Denver, Colorado 80202-1129

Thank you for your ongoing partnership in the implementation of the regulatory programs of the CWA. If you have questions about this certification, the most knowledgeable person on Region 8 staff is Toney Ott who may be reached at 303-312-6909, or email at [ott.toney@epa.gov](mailto:ott.toney@epa.gov)

Sincerely,



Darcy O'Connor  
Assistant Regional Administrator  
Office of Water Protection

Enclosure

CWA Section 401 Water Quality Certification for 2017 Nationwide Permits

Cc: Myra Pearson, Chairwoman  
Spirit Lake Nation

Dave Archambault, II, Chairman  
Standing Rock Sioux Tribe

Mark Fox, Chairman  
Three Affiliated Tribes

Wayne Keplin, Chairman  
Turtle Mountain Band of Chippewa

**ENCLOSURE**  
**CWA Section 401 Water Quality Certification for 2017 Nationwide Permits**

**General Conditions**

- 1) A copy of the certification documentation must be on-site.
- 2) This programmatic certification does not authorize construction of on-site septic systems in waters of the U.S.
- 3) Certification is denied for all activities affecting fens, springs, hanging gardens and difficult to replace wetlands as described in 33 CFR 332(e)(3).
- 4) All equipment must be inspected for fluid leaks and invasive species prior to use on a project. All fluid leaks shall be repaired and cleaned prior to use or when discovered, or if the fluid leak can't be repaired, the equipment shall not be used on site. Equipment used in waters with the possibility of aquatic nuisance species infestation must be thoroughly cleaned before they are used on the project.
- 5) For NWP's for which certification has been granted, the Applicant must notify the EPA and the Tribal Environmental Program of the use of all NWP's prior to the commencement of the project. This notification will include a short summary of the proposed activity, complete contact information of the applicant and contractor, and a summary of contact/discussions with the affected Tribe's water quality staff regarding the project.
- 6) For NWP's for which certification has been denied, the Applicant must provide to the EPA and the Tribal Environmental Program a certification application which includes the following:
  - i) The information required in Corps of Engineers Nationwide Permits General Condition 31(b), "Contents of Pre-Construction Notification."
  - ii) A summary of contacts/discussions with the affected Tribe's water quality staff regarding the project.
  - iii) A summary of tribally identified aquatic resource concerns, if any.
  - iv) A description of best management practices (BMPs) and how the project will utilize construction BMPs to reduce or eliminate water quality degradation as a result of the project.
  - v) A discussion of how the project has been designed to be resilient to the effects of climate change. Provide in the discussion a projection of future climate in the project area including a reference to how the projection was made.
- 7) All Corps of Engineers Regional Conditions.

8) Any additional information submitted to the Corps, such as cultural resource reports or summaries, biological assessment for endangered species, etc., must be included in the certification application.

### **Deny**

After-the-Fact Nationwide Permits  
Provisional Nationwide Permits  
Nationwide Permits granted waivers on limits by the District or Division Engineer

- 1 Aids to Navigation
- 2 Structures in Artificial Canals
- 4 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
- 6 Survey Activities which include trenching
- 7 Outfall Structures and Associated Intake Structures
- 8 Oil and Gas Structures on the Outer Continental Shelf
- 9 Structures in Fleeting and Anchorage Areas.
- 10 Mooring Buoys
- 12 Utility Line Activities
- 13 Bank Stabilization
- 14 Linear Transportation Projects
- 15 U.S. Coast Guard Approved Bridges
- 16 Return Water from Upland Contained Disposal Areas
- 17 Hydropower Projects
- 18 Minor Discharges
- 20 Response Operations for Oil and Hazardous Substances
- 21 Surface Coal Mining Activities
- 22 Removal of Vessels
- 24 Indian Tribe or State Administered Section 404 Programs
- 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities
- 29 Residential Developments
- 31 Maintenance of Existing Flood Control Facilities
- 33 Temporary Construction, Access, and Dewatering
- 34 Cranberry Production Activities
- 36 Boat Ramps
- 37 Emergency Watershed Protection and Rehabilitation
- 38 Cleanup of Hazardous and Toxic Waste
- 39 Commercial and Institutional Developments
- 40 Agricultural Activities
- 41 Reshaping Existing Drainage Ditches
- 42 Recreational Facilities
- 43 Stormwater Management Facilities
- 44 Mining Activities
- 45 Repair of Uplands Damaged by Discrete Events
- 46 Discharges in Ditches
- 48 Commercial Shellfish Aquaculture Activities
- 49 Coal Remining Activities



- 50 Underground Coal Mining Activities
- 51 Land-Based Renewal Energy Generation Activities
- 52 Water-Based Renewable Energy Generation Projects
- 53 Removal of Low-Head Dams
- 54 Living Shorelines

### **Certify with General Conditions**

- 3 Maintenance
- 5 Scientific Measurement Devices
- 6 Survey Activities which do not include trenching
- 11 Temporary Recreational Structures
- 19 Minor Dredging
- 23 Approved Categorical Exclusions
- 25 Structural Discharges
- 28 Modifications of Existing Marinas
- 30 Moist Soil Management for Wildlife
- 32 Completed Enforcement Actions for projects
- 35 Maintenance Dredging of Existing Basins

### **All NWP's with Recommendations**

- 1 Aids to Navigation – Deny
- 2 Structures in Artificial Canals – Deny
- 3 Maintenance – Certify with General Conditions
- 4 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities – Deny
- 5 Scientific Measurement Devices – Certify with General Conditions
- 6 Survey Activities – Certify with General Conditions except Deny when there is a trenching activity
- 7 Outfall Structures and Associated Intake Structures – Deny
- 8 Oil and Gas Structures on the Outer Continental Shelf – Deny
- 9 Structures in Fleeting and Anchorage Areas – Deny
- 10 Mooring Buoys – Deny
- 11 Temporary Recreational Structures – Certify with General Conditions
- 12 Utility Line Activities – Deny
- 13 Bank Stabilization – Deny
- 14 Linear Transportation Projects – Deny
- 15 US Coast Guard Approved Bridges – Deny
- 16 Return Water from Upland Contained Disposal Areas – Deny
- 17 Hydropower Projects – Deny
- 18 Minor Discharges – Deny
- 19 Minor Dredging – Certify with General Conditions
- 20 Response Operations for Oil and Hazardous Substances – Deny
- 21 Surface Coal Mining – Deny
- 22 Removal of Vessels – Deny
- 23 Approved Categorical Exclusions – Certify with General Conditions
- 24 Indian Tribe or State Administered 404 Programs – Deny
- 25 Structural Discharges – Certify with General Conditions
- 26 – Reserved

- 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities – Deny
- 28 Modifications of Existing Marinas – Certify with General Conditions
- 29 Residential Developments – Deny
- 30 Moist Soil Management for Wildlife – Certify with General Conditions
- 31 Maintenance of Existing Flood Control Activities – Deny
- 32 Completed Enforcement Activities – Certify with General Conditions
- 33 Temporary Construction, Access, and Dewatering – Deny
- 34 Cranberry Production Activities – Deny
- 35 Maintenance Dredging of Existing Basins – Certify with General Conditions
- 36 Boat Ramps – Deny
- 37 Emergency Watershed Protection and Rehabilitation – Deny
- 38 Cleanup of Hazardous and Toxic Waste – Deny
- 39 Commercial and Institutional Developments – Deny
- 40 Agricultural Activities – Deny
- 41 Reshaping Existing Drainage Ditches – Deny
- 42 Recreational Facilities – Deny
- 43 Stormwater Management Facilities – Deny
- 44 Mining Activities – Deny
- 45 Repair of Uplands Damaged by Discrete Events – Deny
- 46 Discharges in Ditches – Deny
- 47 – Reserved
- 48 Existing Commercial Shellfish Aquaculture Activities – Deny
- 49 Coal Remaining Activities – Deny
- 50 Underground Coal Mining Activities – Deny
- 51 Land-Based Renewal Energy Generation Activities – Deny
- 52 Water-Based Renewable Energy Generation Projects – Deny
- 53 Removal of Low-Head Dams – Deny
- 54 Living Shorelines – Deny



**FACT SHEET  
NATIONWIDE PERMIT 23  
(2017)**

**APPROVED CATEGORICAL EXCLUSIONS**

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

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

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

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

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO).

Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are: the Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at: <http://www.usace.army.mil/Portals/2/docs/civilworks/RGLS/rgl05-07.pdf>. Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same Web site.

**Nationwide Permit General Conditions**

**Note:** To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/ or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain

permit authorization under one or more NWP, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

### **1. Navigation.**

- (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

### **2. Aquatic Life Movements.**

No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

### **3. Spawning Areas.**

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

### **4. Migratory Bird Breeding Areas.**

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

### **5. Shellfish Beds.**



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

#### **6. Suitable Material.**

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

#### **7. Water Supply Intakes.**

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

#### **8. Adverse Effects from Impoundments.**

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

#### **9. Management of Water Flows.**

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

#### **10. Fills Within 100-Year Floodplains.**

The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

#### **11. Equipment.**

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

#### **12. Soil Erosion and Sediment Controls.**

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

### **13. Removal of Temporary Fills.**

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

### **14. Proper Maintenance.**

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

### **15. Single and Complete Project.**

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

### **16. Wild and Scenic Rivers.**

(a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

### **17. Tribal Rights.**

No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

## **18. Endangered Species.**

(a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre- construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non- Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

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

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt,

shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> or [http:// www.fws.gov/ipac](http://www.fws.gov/ipac) and [http:// www.nmfs.noaa.gov/pr/species/esa/](http://www.nmfs.noaa.gov/pr/species/esa/) respectively.

## **19. Migratory Birds and Bald and Golden Eagles.**

The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

## **20. Historic Properties.**

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

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may

be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any

views obtained from the applicant, SHPO/ THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

## **21. Discovery of Previously Unknown Remains and Artifacts.**

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

## **22. Designated Critical Resource Waters.**

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

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

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

## **23. Mitigation.**

The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

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

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre- construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally

appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns.

Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the

United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

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

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

## **24. Safety of Impoundment Structures.**

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

## **25. Water Quality.**

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



result in more than minimal degradation of water quality. *Specifically for North Dakota, the North Dakota Department of Health has denied water quality certification for all projects proposed to affect Class 1 and 1A rivers and streams, and classified lakes in Appendix I and II of the standards, and individual certification must be obtained. For projects proposed to affect any other waters, the North Dakota Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed. The Standards may be found at <http://www.legis.nd.gov/information/acdata/pdf/33-16-02.1.pdf?2016031115632>*

*On Tribal Lands, Water Quality Certification is denied for all Nationwide Permits. Applicants must work with EPA to obtain individual water quality certification. Contact: USEPA, Region 8, 401 Certification Program – 8WP-AAP, 1595 Wynkoop Street, Denver, Colorado 80202-1129. (303-312-6909)*

## **26. Coastal Zone Management.**

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

## **27. Regional and Case-By-Case Conditions.**

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

## **28. Use of Multiple Nationwide Permits.**

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

## **29. Transfer of Nationwide Permit Verifications.**

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

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

\_\_\_\_\_ (Transferee) \_\_\_\_\_ (Date)

### **30. Compliance Certification.**

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

- (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

### **31. Activities Affecting Structures or Works Built by the United States.**

If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre- construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

### **32. Pre-Construction Notification.**

- (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of

receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no

more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act.

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it

is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) All NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or email that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

**Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

**2017 NATIONWIDE PERMITS  
REGIONAL CONDITIONS  
OMAHA DISTRICT  
STATE OF NORTH DAKOTA**

The following Nationwide Permit Regional Conditions will be used in the State of North Dakota. Regional conditions are placed on Nationwide Permits to ensure projects result in no more than minimal adverse impacts to the aquatic environment and to address local resource concerns.

**1. Wetlands Classified as Peatlands – Revoked for use**

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38 and 45, are revoked for use in peatlands. Peatlands are permanently or seasonally saturated and inundated wetlands where conditions inhibit organic matter decomposition and allow for the accumulation of peat. Under cool, anaerobic, and acidic conditions, the rate of organic matter accumulation exceeds organic decay.

**2. Wetlands Classified as Peatlands – Preconstruction Notification Requirement**

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

**3. Waters Adjacent to Natural Springs – Preconstruction Notification Requirement**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 32 (Pre-Construction Notification) for regulated activities located within 100 feet of the water source in natural spring areas. For purposes of this condition, a spring source is defined as any location where there is flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

**4. Missouri River, including Lake Sakakawea and Lake Oahe – Pre-construction Notification Requirement**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 32 (Pre-Construction Notification) prior to initiating any regulated activity occurring in or under the Missouri River, including Lake Sakakawea and Lake Oahe. In addition, any activity occurring in an off channel area (marinas, bays, etc.) of any of these waterbodies, a preconstruction notification is required.

**5. Spawning Areas**

Spawning restrictions and important fish habitat areas, if applicable, can be accessed on the North Dakota Game & Fish Department's website at:

<http://gf.nd.gov/gnf/conservation/docs/spawning-restriction-exclusions.pdf>

No regulated activity within the Red River of the North shall occur between 15 April and 1 July. Spawning season restrictions do not apply to projects involving dredging or other discharges of less than 25 cubic yards of material in any jurisdictional water.

#### **6. Counter-Sinking Culverts and Associated Riprap – All Nationwide Permits**

In streams with intermittent or perennial flow and a stable stream bed, culvert stream crossings shall be installed with the culvert invert set below the natural streambed according to the table below. This regional condition does not apply in instances where the lowering of the culvert invert would allow a headcut to migrate upstream of the project into an unaffected stream reach or result in lowering the elevation of the stream reach.

Riprap inlet and outlet protection shall be placed to match the height of the culvert invert.

Culvert Type	Drainage Area	Minimum Distance Culvert Invert Shall Be Lowered Below Stream Flow Line
All culvert types	≤ 100 acres	Not required
Pipe diameter <8.0 ft	100 to 640 acres	0.5 ft
Pipe diameter <8.0 ft	>640 acres	1.0 ft
Pipe diameter ≥ 8.0 ft	All drainage sizes	1.0 ft
Box culvert	All drainage sizes	1.0 ft

### **REGIONAL CONDITIONS APPLICABLE TO SPECIFIC NATIONWIDE PERMITS**

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

**Intake Structures** – Intake screens with a maximum mesh opening of ¼-inch must be provided, inspected annually, and maintained. Wire, Johnson-like, screens must have a maximum distance between wires of 1/8-inch. Water velocity at the intake screen shall not exceed ½-foot per second.

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

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

- The intakes shall be floating.
- At the beginning of the pumping season, the intake shall be placed over water with a minimum depth of 20 feet.
- If the 20-foot depth is not attainable, then the intake shall be located over the deepest water available.



- If the water depth falls below six feet, the intake shall be moved to deeper water or the maximum intake velocity shall be limited to ¼ foot per second.

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

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

Intakes and associated utility lines that are proposed to cross sandbars in areas designated as piping plover critical habitat are prohibited.

### **Utility Lines**

- Any temporary open trench associated with utility lines are to be closed within 30 days of excavation. This time limit may be extended by notifying the North Dakota Regulatory Office and receiving a written response that the extension is acceptable.

### **Nationwide Permit 11 – Temporary Recreational Structures – Boat Docks**

To ensure that the work or structure shall not cause unreasonable obstruction to the free navigation of the navigable waters, the following conditions are required:

- No boat dock shall be located on a sandbar or barren sand feature. The farthest point riverward of a dock shall not exceed a total length of 30 feet from the ordinary high watermark. Information Note: Issuance of this permit does not supersede authorization required by the North Dakota State Engineer's Office.
- Any boat dock shall be anchored to the top of the high bank.
- Any boat dock located within an excavated bay or marina that is off the main river channel may be anchored to the bay or marina bottom with spuds.

Section 10 Waters located in the State of North Dakota are:

Bois de Sioux River  
James River  
Missouri River  
Red River of the North  
Upper Des Lacs Lake  
Yellowstone River

### **Nationwide Permit 13 – Bank Stabilization**

Permittees must notify the Corps in accordance with General Condition No. 32 (Pre-Construction Notification) prior to initiating any regulated activity. The notification must also include photo evidence of erosion in the area. Prohibited materials found at

<http://www.nwo.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/2034/Article/487696/prohibited-restricted-materials.aspx> cannot be used in waters of the United States.

### **Nationwide Permit 23 – Approved Categorical Exclusions**

Permittees must notify the Corps in accordance with General Condition No. 32 (Pre-Construction Notification) prior to initiating any regulated activity. In addition to information required by General Condition 32 (Pre-Construction Notification), permittees must identify the approved categorical exclusion that applies and provide documentation that the project fits the categorical exclusion.

## **GENERAL CONDITIONS (REGIONAL ADDITIONS)**

### **General Condition 32 Notification– Pre-construction Notification**

Prospective permittees should be aware that a field aquatic resources delineation may be required for applications where notification is required in accordance with General Condition 32 (Pre-Construction Notification) and/or mitigation may be required. Specific guidelines outlining the aquatic resources delineation process in the State of North Dakota and the Corps 1987 Wetland Delineation Manual and applicable Regional supplements to the Manual can be accessed on the North Dakota Regulatory Office's website at:

<http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/NorthDakota.aspx>

## Kessler, Steven E.

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**From:** Hamilton, Karen <Hamilton.Karen@epa.gov>  
**Sent:** Thursday, September 21, 2017 1:58 PM  
**To:** Kessler, Steven E.  
**Cc:** Garcia, Bert; Ott, Toney; Swade.D.Hammond@usace.army.mil;  
edmundbaker@mhanation.com; miorio@mhanation.com  
**Subject:** CWA Section 401 NWO-2015-02027-BIS

**CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe.

Steve Kessler  
North Dakota Department of Transportation  
Environmental & Transportation Services  
608 E Boulevard Avenue  
Bismarck, North Dakota 58505-0700

Dear Mr. Kessler:

The EPA has reviewed the North Dakota Department of Transportation environmental assessment and the project proposal for the Fort Berthold Indian Reservation. The project is designed to construct a new road northwest of New Town, the project will link Highway ND 23 west of New Town, North Dakota to the intersection of 1804 and ND 23. Based on the concurrence we received from Edmund Baker on September 15, 2017, we are waiving our CWA Section 401 certification for the Army Corps of Engineers permit NWO-2015-02027-BIS. We appreciate the professional working relationship we have with you and your understanding as we manage our work load as expeditiously as we can.

If you have any questions, or need further assistance, please feel free to contact me or Toney Ott at [ott.toney@epa.gov](mailto:ott.toney@epa.gov) or 303 312 6909.

Thank you,

*Karen*

Karen Hamilton  
Manager, Aquifer and Aquatic Resource Protection Unit  
US Environmental Protection Agency Region 8  
1595 Wynkoop St.  
Denver, CO 80202  
303 312 6236

Protect our Nation's waters

cc: Swade Hammond [Swade.D.Hammond@usace.army.mil](mailto:Swade.D.Hammond@usace.army.mil)  
Edmund Bake [edmundbaker@mhanation.com](mailto:edmundbaker@mhanation.com)  
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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:

<b>Fuel Ratio<sub>(x, y, z)</sub> = Affidavit Cost<sub>(x, y, z)</sub> / Original Contract Amount<sub>(x, y, z)</sub></b>		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
Fuel Ratio <sub>(x, y, z)</sub>	=	Fuel ratio of the contract for each respective fuel type
Affidavit Cost <sub>(x, y, z)</sub>	=	Fuel costs from Fuel Adjustment Affidavit (SFN 58393)
Original Contract Amount <sub>(x, y)</sub>	=	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 <sub>(z)</sub>	=	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:

<b>Cost Change<sub>(x, y, z)</sub> = ( CFI<sub>(x, y, z)</sub> - BFI<sub>(x, y, z)</sub> ) / BFI<sub>(x, y, z)</sub></b>		
(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel (use diesel prices)
Cost Change <sub>(x, y, z)</sub>	=	The relative change in the current CFI and the BFI for each fuel type
CFI <sub>(x, y, z)</sub>	=	Current Fuel Index for each fuel type
BFI <sub>(x, y, z)</sub>	=	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:

<b><math>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)</math></b>		
(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:

<b><math>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)</math></b>		
(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  
6 of 6

**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 <b>No</b> 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)	