**NO. 60**

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

# REQUEST FOR PROPOSAL

**STATE FEDERAL AID PROJECT NO. ITS-9-999(447) (PCN-22936)**

0.000 Miles

MAINTENANCE OF ENVIRONMENTAL SENSOR STATIONS (ESS), SURVELLIANCE CAMERA SYSTEMS (CAMERA) AND DYNAMIC MESSAGE SIGNS (DMS)

VARIOUS HWY STATEWIDE - 2021 ITS

)UNN, GRAND FORKS, GRANT, LAMOURE, MCKENZIE, MCLEAN, MORTON, MOUNTRAIL, PEMBINA, RAMSEY, RIC

DBE Race Neutral Goal - 0%

**BID OPENING:** The bidder's proposal will be accepted via the Bid Express on-line bidding exchange at www.bidx.com until **09:30AM Central Time on March 12, 2021.**

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)

PAGE INTENTIONALLY LEFT BLANK

**Project:** ITS-9-999(447) (PCN-22936)

---

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

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:** ITS-9-999(447) (PCN-22936)

---

**PERMISSIBLE DISCOUNT (optional)**

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

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

Space for Offering Discounts:

_____
_____
_____

Item No:_____

Description:_____

Unit:_____

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

Item No:_____

Description:_____

Unit:_____

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

Item No:_____

Description:_____

Unit:_____

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

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:** ITS-9-999(447) (PCN-22936)

---

**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: ITS-9-999(447) (PCN-22936)**

**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 | 702 | 0100 | MOBILIZATION | L SUM | 1. | | | | |
| 003 | 704 | 0100 | FLAGGING | MHR | 160. | | | | |
| 004 | 704 | 1000 | TRAFFIC CONTROL SIGNS | UNIT | 2,304. | | | | |
| 005 | 704 | 1048 | PORTABLE RUMBLE STRIPS | EA | 2. | | | | |
| 006 | 704 | 1060 | DELINEATOR DRUMS | EA | 75. | | | | |
| 007 | 704 | 1067 | TUBULAR MARKERS | EA | 40. | | | | |
| 008 | 704 | 1087 | SEQUENCING ARROW PANEL-TYPE C | EA | 2. | | | | |
| 009 | 754 | 0210 | GALV STEEL POST-STANDARD PIPE | LF | 16. | | | | |
| 010 | 754 | 0534 | PANEL FOR SIGNS-TYPE IV REFLECTIVE SHEETING | SF | 35. | | | | |
| 011 | 754 | 1100 | CLASS AE CONCRETE-SIGN FOUNDATIONS | CY | .700 | | | | |
| 012 | 754 | 1104 | REMOVE SIGN FOUNDATION | EA | 1. | | | | |
| 013 | 754 | 8025 | REVISE DYNAMIC MESSAGE SIGN | EA | 5. | | | | |
| 014 | 772 | 9151 | INSTALL ESS STATION/RWIS | EA | 5. | | | | |
| 015 | 772 | 9156 | REVISE ESS STATION/RWIS | EA | 7. | | | | |
| 016 | 772 | 9305 | REVISE SURVEILLANCE CAMERA SYSTEM | EA | 21. | | | | |

**BID ITEMS**

**Project: ITS-9-999(447) (PCN-22936)**

**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 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | **TOTAL SUM BID** | | | | | | |

**Project:** ITS-9-999(447) (PCN-22936)

**Type of Work:** MAINTENANCE OF ENVIRONMENTAL SENSOR STATIONS (ESS), SURVELLIANCE CAMERA SYSTEMS (CAMERA) AND DYNAMIC MESSAGE SIGNS (DMS)

**Counties:** BARNES, BENSON, BILLINGS, BOTTINEAU, BOWMAN, BURLEIGH, CASS, DIVIDE, DUNN, GRAND FO

**Length:** 0.0000 Miles

---

**TIME FOR COMPLETION:**

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

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

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

**COMPLETION DATE CONTRACT** The project completion date is **11/06/2021**. 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.

**Project:** ITS-9-999(447) (PCN-22936)

**Type of Work:** MAINTENANCE OF ENVIRONMENTAL SENSOR STATIONS (ESS), SURVELLIANCE CAMERA SYSTEMS (CAMERA) AND DYNAMIC MESSAGE SIGNS (DMS)

**Counties:** BARNES, BENSON, BILLINGS, BOTTINEAU, BOWMAN, BURLEIGH, CASS, DIVIDE, DUNN, GRAND FO

**Length:** 0.0000 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 # 60, ITS-9-999(447)

Maintenance of Environmental Sensor Stations (ESS), Surveillance Camera Systems (Camera) & Dynamic Message Signs (DMS)

## INDEX OF PROVISIONS


Road Restriction Permits

Hot Line Notice

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

SP DBE Program - Race Neutral dated February 1, 2018

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

Appendix A of the Title VI Assurances dated September 8, 2020

Appendix E of the Title VI Assurances dated September 8, 2020

SP Cargo Preference Act

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

SP Certified Payrolls, dated 9-6-17

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

NOTICE - Electrician

Labor Rates from U.S. Department of Labor dated January 1, 2021

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

SSP 5 Limitations of Operations

SSP 8 Federal Prohibition on Certain Technological Hardware

SP 114(20) Surveillance Camera System

SP 115(20) Environmental Sensor Station

SP 116(20) Dynamic Message Sign - Walk-in Color

**INDEX OF PROVISIONS**


SP 117(20) Dynamic Message Sign – Camera

PSP 2 Permits and Environmental Considerations

SP Fuel Cost Adjustment Clause dated September 8, 2006

# NOTICE

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

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

A. The contractor may purchase up to 10 single trip permits for each NDDOT highway construction project at a cost ranging from $20 to $70 each. These permits must be purchased from the Motor Carrier Division of the Highway Patrol at the central office of the NDDOT in Bismarck, North Dakota.

B. The $1 per mile fee will not be charged for Gross Vehicle Weights (GVW) exceeding 105,500 pounds, 105,500 pounds, and 105,000 pounds for highways Restricted by Legal Weights, 8 Ton, and 7 Ton highways respectively.

C. The $5 per ton per mile fee will be charged only for loads exceeding a GVW of 130,000 pounds, 120,000 pounds, 110,000 pounds and 80,000 pounds for highways Restricted by Legal Weights, 8 Ton, 7 Ton, and 6 Ton highways respectively.

D. The maximum weights per axle for each of the class restrictions still apply. If it is shown that more axles cannot be added, movement may be authorized; however, a $1 per ton per mile fee will be charged for all weight in excess of the restricted axle limits.

E. These construction equipment single trip permits apply to State and US Highways only.

F. The District Engineers and Highway Patrol will select the route of travel.

G. Contractors moving equipment to other than NDDOT highway construction projects are subject to all fees as shown in the Road Restriction Permit Policy.

H. Contractors must call the Highway Patrol prior to movement of all overweight loads on all State and US Highways.

NDDOT ROAD AND VEHICLE RESTRICTIONS Date Revised 05-22-10

ROAD RESTRICTION PERMITS

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

| RESTRUCTION CLASSIFICATIONS WITH ALLOWABLE AXLE WEIGHTS AND GROSS VEHICLE WEIGHTS | PERMIT AND TON/MILE FEES |
|---|---|
| Highways Restricted by Legal Weight<br><br>Single Axle -- 20,000 lbs.<br>Tandem Axle -- 34,000 lbs.<br>Triple Axle -- 48,000 lbs.<br>4 Axles or more -- 15,000 lbs. per axle<br><br>Gross Vehicle Weight -- 105,500 lbs.<br><br>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. | Permit Fee: $20-$70 per trip<br><br>Ton Mile Fee:<br><br>105,501 lbs. to 130,000 lbs. GVW -- $1 per mile<br><br>Over 130,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceeding 130,000 lbs. GVW<br><br>Exceeding axle limits -- $1 per ton per mile |
| 8-Ton:<br><br>Single Axle -- 16,000 lbs.<br>Tandem Axle -- 32,000 lbs.<br>3 Axles or more -- 14,000 lbs. per axle<br><br>Gross Vehicle Weight -- 105,500 lbs. | Permit Fee: $20-$70 per trip<br><br>Ton Mile Fee:<br><br>105,501 lbs. to 120,000 lbs. GVW -- $1 per mile<br><br>Over 120,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceeding 120,000 lbs. GVW<br><br>Exceeding restricted axle limits -- $1 per ton per mile |
| 7-Ton:<br><br>Single Axle -- 14,000 lbs.<br>Tandem Axle -- 28,000 lbs.<br>3 Axles or more -- 12,000 lbs. per axle<br><br>Gross Vehicle Weight -- 105,500 lbs. | Permit Fee: $20-$70 per trip<br><br>Ton Mile Fee:<br><br>105,500 lbs. to 110,000 lbs. GVW -- $1 per mile<br><br>Over 110,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceeding 110,000 lbs. GVW<br><br>Exceeding restricted axle limits -- $1 per ton per mile |
| 6-Ton:<br><br>Single Axle -- 12,000 lbs.<br>Tandem Axle -- 24,000 lbs.<br>3 Axles or more -- 10,000 lbs. per axle<br><br>Gross Vehicle Weight -- 80,000 lbs. | Permit Fee: $20-$70 per trip<br><br>Ton Mile Fee:<br><br>$5 per ton per mile for all weight exceeding 80,000 lbs. GVW<br><br>Exceeding restricted axle limits -- $1 per ton per mile |
| 5-Ton:<br><br>Single Axle -- 10,000 lbs.<br>Tandem Axle -- 20,000 lbs.<br>3 Axles or more -- 10,000 lbs. per axle<br><br>Gross Vehicle Weight -- 80,000 lbs. | No overweight movement allowed |

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

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

1. Permit Fee: $25 per trip

2. $1 per ton per mile for all weight in excess of restricted axle limits or in excess of legal limits on state highways in areas where road restrictions are in force. When the gross weight of an axle grouping exceeds 48,000 pounds, the $1 per ton per mile shall apply to all weight in excess of 15,000 pounds per axle (see weight classification chart in section C.)

3. $5 **per ton per mile** for all movements exceeding the following gross vehicle weight limits:

    a. 105,500 lbs. GVW on unrestricted state highways, other than interstate highways, in areas where road restrictions are in force.
    b. 105,500 lbs. GVW on 8-ton highways.
    c. 105,500 lbs. GVW on 7-ton highways.
    d. 80,000 lbs. GVW on 6-ton highways.
    e. No overweight movement allowed on 5-ton highways

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

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

# NOTICE

## U.S. DEPARTMENT OF TRANSPORTATION

## "HOT LINE"

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

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

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

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

**Email:** hotline@oig.dot.gov

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

**CHICAGO REGIONAL OFFICE**

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

**10/1/2014**

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

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

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

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

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

[2] 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.

[3] 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 ITS-9-999(447) (PCN-22936)**

## RACE/GENDER NEUTRAL GOAL: 0%

| NDDOT Contact Information | |
|---|---|
| Contractor Sign In & Submit Advertisements<br>https://apps.nd.gov/dot/cr/csi/login.htm | Amy Conklin, DBE Program Administrator<br>701-328-3116 - or - aconklin@nd.gov |
| Submit quotes and post-bid documentation to:<br>subquotes@nd.gov or Fax: 701-328-0343 | Ramona Bernard, Civil Rights Division Director<br>701-328-2576 - or - rbernard@nd.gov |
| DBE Directory<br>https://dotnd.diversitycompliance.com/ | All times are stated in Central Time. **The day of the bid opening is not counted as one of the business days.** |

## PURPOSE

These provisions:

1. Provide an explanation of the federal law and outline the obligations to comply with the Federal 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 for failing to comply with DBE program requirements.

## QUOTES:

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) should submit a completed SFN 52013-List of Businesses Submitting Quotes by 4:00 pm CST, within 5 business days after the bid opening. **(Copies of quotes are no longer accepted).** 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.

**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.**

**All DBEs quoting on this project should submit all quotes and a list of contractors they quoted to NDDOT no later than 9 PM the day before each bid opening.**

Prime contractors preparing to bid on NDDOT highway projects have requested that quotes be sent to them the day before the bid opening by:

2 PM Central - Suppliers (brokers/regular dealers), vendors, & manufacturers
5 PM Central - Subcontractors under $500,000
8 PM Central - Subcontractors over $500,000

## REQUIREMENTS FOR ALL BIDDERS:

- ALL BIDDERS are strongly encouraged to submit all documentation at the time of bid opening.
- Must submit Form A with bid package at the time of bid opening.
- Must submit Form C (Notification of Intent to use) for DBE (if used) by 4:00 pm CST, within 2 business days after the bid opening. If no DBE's are used, Form C is not required.
- Completed Form B, or a spreadsheet containing all the information on Form B, should be submitted by 4:00 pm, CST within 5 business days after the bid opening.
- Prime contractors are strongly encouraged to submit their bid documentation in one electronic file. Forms incorrectly submitted could result in a technicality, forcing the Department to award to the next responsive bidder.

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 electronic DBE Advertisement System.

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

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

- Make contact with DBEs no later than 5 PM 7 calendar days before the bid opening.
- Use the DBE Directory to determine the DBE firms certified in the work to be subcontracted.

Either method of advertisement should:

- Provide the name, email address, telephone, and fax number of the company contact who will be available to discuss and/or receive quotes.
- Offer assistance to DBEs in interpreting plans; quantities; expected overtime; project scheduling; pit and batch plan locations, length of haul, type of road; method of measurement (seeding by the mile or acre, hauling by hour or by ton-mile) or other issues that may affect a price quote.

**Indicate your intention to bid** and/or receive quotes on specific jobs by using the Department's Bid Opening Sign in System

- The **Bid Opening Sign-In** web application located at https://apps.nd.gov/dot/cr/csi/login.htm.

  Sign-In opens at 8 AM 7 calendar days prior to the bid opening and closes at 11 AM the day before the bid opening.

- Fill in the online form fields as required.

- Log in to download the "Bid Opening Contact Report" at https://apps.nd.gov/dot/cr/csi/public/listBidOpenings.htm

## RECEIVE & EVALUATE ALL QUOTES GIVEN

All prime contractors and all subcontractors over $500,000 should receive and evaluate all quotes offered.

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

## FEDERAL AUTHORITY

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

> The contactor or all tiers of subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR § 26.13 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as NDDOT deems appropriate which may include, but is not limited to:
>
> (1) Withholding monthly progress payments;
> (2) Assessing sanctions;
> (3) Liquidated damages; and/or
> (4) Disqualifying the contractor from future bidding as non-responsible

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

## 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 used to meet the project goal. **Payments on the contract must be entered and stored in the CCS. Use of CCS on the project eliminates the requirement to submit SFN 60638 and SFN 14268.**
- Invite and encourage all subcontractors and all DBEs listed on Form C to the pre-construction conference.
- Provide minutes to any DBE not in attendance at the pre-construction conference.
- Ensure their firm as well as any subcontractors, manufacturers, and regular dealers/suppliers comply with the requirements of this special provision.
- Provide all subcontractors with Proposed Project Schedules and any necessary updates.
- Monitor DBE performance on the project.
    - Submit SFN 60597, DBE Performance – Commercially Useful Function (CUF) Certification to the project engineer with SFN 5682, Prime Contractor's Request to Sublet. Project engineers will not approve Requests to Sublet without the CUF Certification.
- 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).
    - 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.

**If SFN 60597, and reports of payment are not received in a timely manner, progress payments will be withheld from the prime until submitted.**

## NDDOT MONITORING AND ENFORCEMENT MECHANISMS

The Department will bring any false, fraudulent, or dishonest conduct in connection with the DBE program to the attention of USDOT. USDOT may pursue action as provided in 49 CFR § 26.107. Actions include referral to the Department of Justice for criminal prosecution or referral to the USDOT Inspector General for action under suspension and debarment, or Program Fraud and Civil Remedies rules. The Department will also consider similar action under its own legal authority, including responsibility determination in future contracts.

## COMMERCIALLY USEFUL FUNCTION

DBEs are required to perform a commercially useful function (CUF). CUF refers to those services the DBE is certified to perform. Certified services for each DBE are listed in the online DBE Directory. It is a DBE's responsibility to immediately notify the prime contractor in writing if the DBE is unable to perform a CUF or the services indicated on Form C.

The contractor must certify that DBEs working on the prime's contract are performing a commercially useful function. Submit SFN 60597, DBE Performance – Commercially Useful Function Certification to the project engineer with SFN 5682 -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 CFR § 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 expediter) 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 Certification & Compliance System (CCS)** 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.

# 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 11246, 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 debarred 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, termina-

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 contacting 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.

09/06/2017

**CONTRACT SPECIAL PROVISION**
**MANDATORY USE OF ONLINE**
**DBE PROJECT PAYMENT REPORTING**

Payments made to all tiers of subcontractors must be reported electronically using the B2GNow system. Paper forms (Monthly Record of DBE Project Payments – SFN 60638) will no longer be accepted.

After award, the Prime Contractor (Prime) must:

1. Create a new account if not already in the system. Create a user for each employee who will use the system. If there is no account already set up, you can email Customer Support directly from the Account Lookup page. Your email address will be your user ID. Customer Support will email you with the information you need to log in.

2. Once the project has been awarded and the Utilization Plan (UP) has been created in the system and assigned to the contractor it must be filled out and submitted. An automated email message will be sent to a designated individual within the company alerting them that a UP is pending. Log into the system using the link provided in the email. For each contract the Prime must add all DBE and non-DBE subs being used on the project. When all information has been provided submit the UP. Civil Rights will review the UP and if everything is in order it will be approved. If changes need to be made the UP will be returned to the contractor and they will have 7 days to make the necessary adjustments and resubmit. If DBE or non-DBE subcontractors are added after the initial UP is set up the Prime can submit a request for them to be added.

3. Once the UP is submitted the project is "locked in" after Financial Management has processed the project in their system. After a UP is locked in payments from NDDOT to the Prime are reported through the system. The Prime must start reporting DBE and non-DBE subcontractor payments through the system in accordance with prompt pay guidelines outlined in the contract.

4. A user manual for UP's and recording project payments is available to the contractors within the system. After login they can go to View>>My Utilization Plans and they will find the guide on the top of the Utilization Plan screen. They do not have to have a current UP assigned to them to see this guide. The guide is also on the actual UP page when a UP is assigned to them.

5. For further information on the Certification and Compliance System, go to the NDDOT Civil Rights page at https://www.dot.nd.gov/divisions/civilrights/civilrights.htm. There is various training available on a regular basis, to sign up for training go to the main Certification and Compliance System page and click the "Training and Events" box. Contractors that need to obtain an account or need subcontractors set up within the system should call the NDDOT Civil Rights Division at (701) 328-3116 or email civilrights@nd.gov

10/3/2017

# NOTICE:

Electrical work done outdoors on highway construction projects is covered by the Line Construction rates rather than Electrician rates. When electrical work is performed on or within a commercial building only, such as a rest area, the job classification Electrician is to be used. Any other electrical work on a federal-aid highway construction project in North Dakota is covered by the line construction rates. The minimum wage and fringe amount stated in the attached wage determination within this proposal is required for such classification.

Apprentices in Line Construction: Apprentices in Line Construction must be classified and paid as Apprentice Linemen with a percentage of journeyman's pay that reflects the apprentice's progress level of training. Additionally, they must be enrolled in a bona fide lineman Apprentice Program regardless if they are also enrolled in an indoor Electrical Apprentice Program.

Electrical work may not be done by any Laborer classification under the ND Century Code. The Group 2 Laborer, Conduit Layer may only handle low voltage data or telephone lines and may not install or handle electrical conduit.

For assistance or questions concerning Davis-Bacon Wages and Requirements, go to:

https://www.dot.nd.gov/manuals/civilrights/davisbacon.pdf

Or contact:

Civil Rights Division
North Dakota Department of Transportation
608 East Boulevard Avenue
Bismarck, ND 58505-0700
Phone: 701-328-2605 Email: civilrights.nd.gov

NDDOT's *Davis-Bacon Wage and Payroll Requirements Handbook* is available at:
www.dot.nd.gov/manuals/civilrights/davisbacon.pdf

**U.S. DEPARTMENT OF LABOR**

STATE NORTH DAKOTA | COUNTY STATEWIDE | 20210054 Page 1

DATE OF DECISION 01-01-21

| | Basic Hourly Rates | Fringe Benefits Payments H & W/Pensions |
|---|---|---|
| **CARPENTERS** | $30.60 | $ 7.60 |
| **CEMENT MASONS/FINISHERS** | 30.60 | 7.60 |
| **LINE CONSTRUCTION:** | | |
| Lineman | 43.50 | 5.75 + 29% |
| Cable Splicer | 43.50 | 5.75 + 29% |
| Line Equipment Operator | 36.93 | 5.75 + 29% |
| Groundman | 24.62 | 5.75 + 29% |
| **ELECTRICIANS:** | | |
| Electrician | 34.92 | 11.40 + 11.5% |
| Cable Splicer | 36.67 | 11.40 + 11.5% |
| (Adams, Billings, Bottineau, Bowman, Burke, Divide, Dunn, Emmons, Golden Valley, Grant, Hettinger, McHenry, McKenzie, Mclean, Mercer, Mountrail, Oliver, Pierce, Renville Rolette, Sheridan, Sioux, Slope, Ward and Williams Counties) | | |
| Electrician | 32.35 | 11.35 +11.5% |
| Cable Splicer | 33.97 | 11.35 +11.5% |
| (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 | 34.70 | 11.40 + 11.5% |
| Cable Splicer | 34.64 | 11.40 + 11.5% |
| (Burleigh, Morton and Stark Counties) | | |
| Electrician | 14.72 | 3.40 |
| (Cass County) | | |
| **WELDERS:** | | |
| Receive rate prescribed for craft performing operation to which welding is incidental | | |

| | Basic Hourly Rates | Fringe Benefits Payments H & W/Pensions |
|---|---|---|
| **LABORERS:** | | |
| **Group 1**<br>General Construction Laborers: Sack Shaker (cement and mineral filler), pipe handler, drill runner tender, salamander heater and blower tender, light truck, pickup driver, flaggers and pilot car drivers | $22.65 | $ 3.15 |
| **Group 2**<br>Semi Skilled Laborer: bulk cement handler, conduit layer, telephone or electrical, form setter (pavement), gas electric or pneumatic tool operator, chipping hammer, grinders and paving breakers (tamper-dirt), concrete vibrator operator, chain saw operator, concrete curing man (not water), bituminous worker (shoveler, dumper, raker and floated), kettleman,(bituminous or lead), concrete bucket signalman, power buggy operator, brick and mason tender, muti-plate pipelayer, culvert pipe layers, carpenters tenders | 22.90 | 3.15 |
| **Group 3**<br>Caisson Worker: Bottom Man (Sanitary sewer, storm sewer, water and gas liners): Concrete Mixer Operator (one bag capacity); Mortar Mixer | 23.05 | 3.15 |
| **Group 4**<br>Drill Runner (includes Wagon Chum or Air Track); Pipe Layers (sanitary sewer, storm sewer, water, and gas lines); Powderman, gunite and sandblast; Nozzleman; Rein forcing Steel Sellers/Tiers: Concrete Finisher Tender | 23.80 | 3.15 |
| **POWER EQUIPMENT OPERATORS:** | | |
| **Group 1**<br>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 Tunne Mucking Machine; Power Shovel;3-1/2 CY. and over; Traveling Tower Crane) | 31.05 | 18.00 |
| **Group 2**<br>All Cranes 40 tons and up to 59 tons; Backhoe Operator 3 CY. and over; Creter Crane; Dredge Operator 12” and over; Equipment Dispatcher; Equipment Dispatcher, Finish Motor Grader; Front End Loader Operator 8 CY. and over,; Master Mechanic (when supervising 5 or more Mechanics), Mon-O-Rail Hoist Operator, Power Shovel up to and including 3 CY. and Tugboat | 29.65 | 18.00 |

| POWER EQUIP.OPERATORS: (CONT.) | Basic Hourly Rates | Fringe Benefits Payments H & W/Pensions |
|---|---|---|
| **Group 3**<br>All Cranes 39 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; Rota 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,<br>100 H.P. and over). | $29.40 | $18.00 |
| **Group 4**<br>Articulated/Off Road Hauler; Asphalt Dump Person; Asphalt Paving Screen Operator; Backhoe, up to and including 1/2 CY; Boring Machine Locator; Console 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; Lazar Screed Operator; longitudinal Float and Spray Operator; Micro Surfacer Machine; Motor Grader Operator (Haul Roads); Paving Breaker Hydro Hammer Type; Pugmill Operator; Push Tractor; Roller, Steel and Rubber on Hot Mix Asphalt Paving; Rotomilling Machine (Surface Planer), up to and including 42"; Rumble Strip Machine; Sand and Chip Spreader, Self-Propelled Sheepsfoot Packer with or without Blade Attachment; Self Propelled Traveling Soil Stabilizer; Sheepsfoot 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 | 29.25 | 18.00 |
| **Group 5**<br>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; Power Actuated Auger and Horizontal Boring Machine Operator, up to and including 5"; Roller (on other than hot mix asphalt | | |

| | Basic Hourly Rates | Fringe Benefits Payments H & W/Pensions |
|---|---|---|
| **POWER EQUIP.OPERATORS: (CONT.)** | | |
| **Group 5 (CONT.)** paving); Oilers; Vibrating Packer Operator (Pad Type) (Self Propelled); Water Spraying Equipment, Self Propelled; Skidsteer Operator with attachments | $28.40 | $18.00 |
| **Group 6** Assistant/Apprentice Operator; Brakeman or Switchman; Dredge or Tugboat Deckhand; Drill Truck Gravel/Testing Operator; Form Trench Digger (Power); Gunite Operator Gunall; Paint Machine Striping Operator; Pickup Sweeper, 1 CY and over Hopper Capacity; Scissor Jack {Self -Propelled) Platform Lilt; Straw Mulcher, Blower and straw press; Stump Chipper Operator; Tillage Equipment Operator; Tractor Pulling Compaction or Aerating Equipment and no till drills; Trenching Machine Operator, up to and including 45 H.P. | 27.10 | 18.00 |
| **TRUCK DRIVERS:** | | |
| Single-Axle Truck | 29.12 | 14.95 |
| Tandem- and Tri-Axle Truck | 29.24 | 14.95 |
| Tandem- and Tri-Axle Semi Lowboy | 29.55 | 14.95 |
| Off Road Heavy Duty End Dumps, 20 Yards and Under | 29.55 | 14.95 |
| Euclid, Over 20 Yards | 31.07 | 14.95 |

Unlisted classifications needed for work not included within the scope of the classifications listed may be added alter 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 ($15^{th}$) 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

# 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

# FEDERAL PROHIBITION ON CERTAIN TECHNOLOGICAL HARDWARE

## DESCRIPTION

This Special Provision details technological items that are prohibited from use on Department contracts. The contents of this SP take precedent over requirements regarding affected equipment in all other contract documents.

## CONTRACT REQUIREMENTS

**A. Technological Equipment Prohibitions.**

Equipment, services, and systems using telecommunications equipment or services are prohibited from containing equipment produced by:

- Huawei Technologies Company;
- ZTE Corporation; and
- Any subsidiary or affiliate of the named entities.

Video surveillance and telecommunications equipment are prohibited from containing equipment produced by:

- Hytera Communications Corporation;
- Hangzhou Hikvision Digital Technology Company;
- Dahua Technology Company; and
- Any subsidiary or affiliate of the named entities.

**B. Contractor Certification.**

The Prime Contractor must complete the information below, sign this Special Provision, and submit the signed document to the Engineer at the preconstruction conference. This signature affirms that no prohibited products will be used in the project.

Project Number(s): _____ PCN(s): _____

Company Name: _____

Signatory Name (printed): _____

Signature: _____ Date: _____

# NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

# SPECIAL PROVISION

# SURVEILLANCE CAMERA SYSTEM

# PROJECT ITS-9-999(447) – PCN 22936

## DESCRIPTION

Furnish and install a complete operational camera system as required in these documents or any additional items that may be unique to the design of the system or needed to meet the contract requirements. They will be furnished by the Contractor even though not individually specified.

## MATERIALS

**A. General.**

Ensure the Manufacturer provides technical assistance and support for all systems and components with a toll-free telephone number.

Verify that the systems and components are new and have been tested.

Use only components designed for 10 years or more of industrial use.

Materials and equipment conform to these special provisions, NEMA, the Electronics Industries Association, National Electrical Code, and the Telecommunications Industries Association.

**B. Work Drawings.**

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following work drawings:

- Truss Tower and Foundation
- Cabinet
- Modem
- Ethernet Switch
- Remote Power Control
- Camera
- Memory Card
- Pull Box
- Conduit Plugs
- Power Conductor
- Ethernet Cable

**C. Ground-Mounted Cabinet.**

Supply a NEMA 3R rated ground-mounted cabinet and door designed according to the AASHTO Standard Specification of Structural Support for Highway Signs, Luminaries and Traffic Signals that meets the following:

1. Dimensions
   a. 24” wide x 24” deep
   b. Height minimum 60”
   c. Space reserved for spread spectrum transceiver or fiber optic modem.
2. Electronics Industries Association (EIA) equipment rack with 2 adjustable shelves
   a. 19” EIA Rack
   b. Rack minimum 30” high
   c. Place rack above the RPU
3. Pull-out drawer and shelf, mounted on ball-bearing slides capable of supporting 20 pound test equipment.
4. Removable pleated paper air filter
   a. Outside dimensions of 10” x 10” x 0.88”
   b. Filter intake located near the bottom of the cabinet.
5. Exhaust fans located near the top of the cabinet and adjustable thermostat
6. Rack Mounted Power Distribution Assembly that provides the protection and distribution of AC power and DC power.
7. Provide 2 - NEMA Type 5-15 R Duplex 120 VAC convenience outlets, a single 15 amp GFCI including breakers for the receptacles, and a main breaker for the power distribution assembly.
8. Remote Power Control Rack Mounted Outlet Strip
9. Surge Protection and lightning protection
   a. Ensure the devices are protected against lightning, electrostatic discharge and other transient high voltage surges. Meet all applicable surge test requirements of the latest Institute of Electrical and Electronics Engineers (IEEE) Test Standard, will operate under the specified environmental conditions, and meet the Manufacturer specifications.
   b. Provide a 6-outlet AC-Line Protector Unit for the 120-volt, 60-Hz power source. Include a thermal circuit breaker, and EMI/RFI noise suppression for diverting and clamping high voltage surges so as to limit the maximum voltage reaching the sensitive electronic equipment during a transient pulse. Ensure the unit is approved by UL. Provide protection against transients which may enter electronic equipment through line Neutral paths (Differential Mode) or through line or Neutral to Ground paths (Common Mode).
   c. Contain this unit in a single enclosure with appropriate terminations for interconnecting cables to those assemblies requiring 120-volt, 60-Hz protected power.
10. Connect the cabinet to the tower grounding system
11. LED lamp at top of cabinet with door switch actuation
12. Cabinet label
13. Cabinet electrical diagram and drawing storage
14. Cabinet weather proofing
    a. Door gasket in channels or L bracket with 3/8” nonabsorbent material.
15. Cabinet door with a lockable latching handle and 2 keys
16. All seams continuously welded
17. Constructed of mill finish aluminum

**D. 4G Cellular Modem.**

Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. Supports LTE 700MHz band

2. Has the following Security Features:
   a. IPsec VPN,
   b. GRE Tunneling,
   c. MAC Address Filtering,
   d. IP Filtering,
   e. Port Filtering, and
   f. SSH and HTTPS

3. Works in the following Atmospheric Conditions:
   a. Operating Temperature: -30ºC to +70ºC (-22ºF to 158ºF)
   b. Storage Temperature: -40ºC to +85ºC (-40ºF to 185ºF)

4. Uses an Ethernet Host interface that meets the following:
   a. 10/100 Mbps RJ-45,
   b. RS-232, and
   c. DB9 DCE (300-230400 baud)

5. Antenna Connections:
   a. Cellular – 50 Ohm SMA, and
   b. Receive Diversity – 50 Ohm SMA

6. Application Interfaces:
   a. TCP/IP,
   b. UDP/IP,
   c. DHCP,
   d. HTTP,
   e. SNMP,
   f. SMTP,
   g. SMS,
   h. MSCI,
   i. Modbus, and
   j. Binary

7. Has LED indicator lights for the following:
   a. Network,
   b. Signal,
   c. Activity,
   d. Service, and
   e. Power

**E. Ethernet Switch.**

Supply an Ethernet Switch with the necessary hardware required for operation. Provide the Ethernet Switch, enclosure, mount and cables with standard accessories.

Provide an Ethernet Switch that meets the following:

- Ruggedized construction,
- Powered by 24V DC,
- Has 4-10/100TX Ports, and

- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

**F. Ethernet Lightning Surge Suppressor.**

Provide an Ethernet Lightning Suppressor that meets the following:

- Ensure this unit is in a cast metal box with shielded connections,
- Clamping voltage of 65 Volts,
- Cat 6 outdoor direct burial cabling at 10/100/1000 speed,
- Ensure the unit is compatible with Power over Ethernet cable, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

**G. Remote Power Control Rack Mounted Outlet Strip.**

Supply Remote Power Control that meets the following:

- Web-accessible IP-based power controller for minimum eight independently controlled outlets.
- NEMA Type 5-15 input power cord and outlets
- Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
- 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.
- Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
- Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.

**H. Hinged Truss Tower.**

Supply a Hinged Truss Tower that meets the following:

1. Withstand a wind velocity of 85 mph with a maximum of 6 square feet area of attached equipment.
2. Fabricated from Aluminum 6061 T6 with an anodized finish or A36 Steel with a hot dipped galvanized coating.
3. Fold-Over Assembly
4. A mast pole with a 2 3/8” outside diameter and a length of 5’ at top of pole
5. Secured winch
6. Provide a hinged base footing assembly
7. Lightning rod kit and mounting hardware.
8. Ground rod kit
9. Three 120” anti-climbing panels

**I. Pan Tilt Zoom Camera.**

Supply a camera that includes the cables, adapters, power supplies, and mounting hardware required to operate the camera.

The camera must be compatible with the Department Advanced Traffic Management System (ATMS) and travel information map functions. Use the following camera:

- Axis Q6075-E or current model, or
- Approved equal.

Ensure the camera, enclosure, mount, power supplies and cables are standard production of the latest model. Provide a camera that features streaming video capability, built-in web server for configuration and image viewing, capable of providing full motion streaming video

in all hardwired applications and wireless applications where proper signal strength is available, thermostatically controlled heater, and surge protection. Provide a camera that meets the following:

1. Pan/tilt/zoom
    a. Minimum of 8 preset positions capable of automatically uploading images when on tour.
    b. Pan: 360°endless
    c. Tilt: 180°
    d. Minimum Zoom: 30x optical and 2x digital
2. Video Streaming: Configurable streams in H.264 and Motion JPEG, Controllable frame rate and bandwidth VBR.CBR H.264
3. Frame Rate: H.264: Up to 30 fps in all resolutions; Motion JPEG: Up to 30 fps in all resolutions
4. Minimum Video Resolution: 1920x1080 (1080p)
5. Iris: Automatic
6. Minimum Illumination: Color: 0.5 lux; B/W: 0.03 lux
7. Operating temperature: -30°C to 50°C (-22°F to +122°F)
8. Power: Power over Ethernet (PoE) IEEE 802.3at, Max. 60 W
9. Communication cable
    a. Black Category 6 Outside Plant (OSP)
    b. Copper-clad steel armor shield
    c. Weather resistant polyethylene outer jacket
    d. Gel-filled, water repellent core
    e. Solid annealed copper conductor
    f. Dry block between shield/armor and inner jacket
    g. 4 pair count
10. Enclosure: IP66 and NEMA 4x rated
11. Enclosure: Fan assisted heater
12. Tour: Capable of automatically uploading images at each preset with unique file names using FTP
13. Display: Capable of an informational overlay on the camera image to include Date, Time, and Camera location.
14. System Integration: File upload via FTP and SFTP
15. Security: Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
16. Connectors: IP66-rated
17. Mount: Provide all equipment to mount the camera to a tower mast.

**J. Memory Card.**

Supply a memory card compatible with the camera and meets the following requirements:

1. Secure Digital Extended Capacity (SDXC)
2. Storage Capacity: 64 GB
3. Speed Class: 10
4. UHS Speed Class: U1
5. Operating Temperature: -13°F to 185°F (-25°C to +85°C)

**K. Infrared Illuminator.**

Supply an infrared illuminator including all necessary equipment and mounting hardware required for operation. Provide an infrared illuminator that meets the following requirements:

1. Angle: 60°
2. Operating Temperature: -40°F to 120°F (-40°C to +50°C)
3. Enclosure/Housing: IP66- rated
4. Power Supply: Sufficient capacity to operate the illuminator from a dead start
5. SOOW Power Cable
   a. 14-2 600V
   b. Black flexible heat, moisture and oil resistant EPDM rubber jacket
   c. Temperature Rating: -40°C to +90°C
   d. UL and CSA listed for continuous submersion in water
   e. RoHS compliant, UL listed and CSA certified for outdoor use
6. Illuminator Distance:100m
7. Mount: Provide all equipment to mount illuminator to tower.

**L. Pull Box.**

Supply a round PVC pull box as shown on the detail. Use a gasket around the opening and around each of the screw holes.

Compact the soil around the pull boxes. Provide a sufficient drainable base to protect against water infiltration. Ensure the pull boxes are sufficient size to accommodate all wiring and conduit without crimping or bending the wires.

## CONSTRUCTION REQUIREMENTS

**A. General.**

The Contractor is responsible for all wire termination.

Ensure the conduit and cabinet are sealed and watertight.

Install a subsurface temperature probe in the roadway near a surface sensor at a depth of 72 inches measured from the bottom of pavement.

Install the wind speed and direction sensor at the top of the ESS tower structure.

Mount the modem antenna on the top of the cabinet.

Plug all holes made or existing in the pull box for conduit access. Ensure these holes are sealed and watertight. Extend all conduit in the pull box to within 8 inches of the cover.

Use stainless steel hardware (for example mounting bolts, nuts, washers, and external hinges) on outdoor components.

Round and smooth sharp corners and edges of all systems components.

**B. Removal of Equipment.**

Where pull box removal is specified in the plans; remove the pull box and disconnect the wires.

Where cabinet removal is specified in the plans; remove the cabinet, the entire foundation and working slab, and disconnect the wires.

Where truss tower or breakaway steel pole removal is specified in the plans, remove the pole or tower, disconnect the sensors. Remove the foundation a minimum depth of 3 feet below the ground line. If the plan notes designate the sensors as salvage, refer to the plan notes.

Where removal of feed point is specified in the plans; remove the perforated tube supports, switch box, and meter trim. The local utility company will remove the meter.

Terminate all conduit and conductor 2 feet below ground level.

Restore the ground to match the adjacent ditch grade. Reseed areas all areas of disturbed ground with hydraulic mulch.

**C. Earthwork.**

Excess excavation obtained from construction activities becomes property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

**D. Seeding.**

Restore ground disturbed by construction activities to the original grade. Reseed these areas with Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, and feed points.

**E. Labeling Cables and Components.**

Secure permanent identifying labels to each cable and component; including any required cross connects to communications equipment; Use self-laminating vinyl labels at least 1-inch wide and long enough that the translucent portion of the label completely covers the white area bearing the legend. Use vinyl with a layer of pressure sensitive acrylic adhesive. Use labels that resist oil, water, and solvents and are self-extinguishing. Use a machine to print the legend in letters at least 1/8 inch high.

Labeling components, wire, and cable are incidental to the installation of the ESS.

**F. Manuals.**

Provide 3 service and operating manuals for the ESS. The Engineer will distribute the manuals to the ESS cabinet, District IT Division, and the Maintenance Division.

Include the following information in the service manuals:

1. Detailed description of operation and instructions for initial set-up
2. All schematics and wiring diagrams of the unit
3. Recommended servicing and service hints
4. Complete parts list including model and serial numbers
5. Recommended spare parts list

**G. External Grounding System.**

Provide bonding and grounding in accordance with NEC and IRD's instructions. Provide ground conductor that is No. 2/0 AWG copper conductor. Each ground rod must be 5/8 inch diameter and 10 feet long.

Clean each grounding component with 300-grit emery cloth before applying a mineral oil based oxide inhibitor to the bonding area.

Connect all electrical service grounds to the grounding ring.

Route each ground conductor to the ground buss via the straightest route that does not hinder maintenance or installation activities.

Place ground rods at all 4 corners of the cabinet foundation. Bond the ground conductor to the cabinet using a ground ring. Ensure the total length of the ground ring is less than 20 feet in circumference.

Bury the ground ring a minimum of 20 inches below ground level. Provide the ground ring in a trench around the cabinet, attached to all the ground rods. Route the ground cable from the buss bar inside the cabinet through ¾ inch flex conduit to the first ground rod next to the cabinet foundation. Seal conduit ends using conduit plugs.

Inspection of all underground work will be completed by the Engineer before it is covered. Connect all underground site connections using the exothermic weld process.

Test the earth ground resistance to 25 ohms or less, using an earth-ground resistance tester. Install additional ground rods to achieve the 25 ohms or less earth ground resistance. Document all results and furnish to the Engineer in a clean organized format.

Provide 2 ground rods on each tower leg. Connect all 3 tower legs, ground buss bars, and metal cabinet to the ground ring as shown in the detail.

**H. Sawing and Sealing Slots.**

Install saw slots according to Section 772.04 E.4, "Saw Cut" to a depth of 2 inches or as recommended by the Manufacturer.

Seal slots according to Section 772.04 E.7 "Saw Cut Seal". Do not use Hot Poured Joint Seal for sealing slots.

**I. Conduit.**

Provide conduit that meets the requirements of Section 896.01 B.2 "HDPE". Bury the 2 inch conduit a minimum of 24" below finished grade. Install conduit as a continuous run from the pull box to the cabinet.

Provide a temporary conduit seal in both ends with steel wood immediately after installation and reinstall after each phase of construction.

Provide permanent conduit plugs to seal the ends of the conduit after the conductor has been pulled through. Provide plugs that meet these requirements:

- Removable and reusable
- Split type that permit installation or removal without removing cables.
- Contain an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

**J. Cabinet Foundation.**

Construct the ESS cabinet foundation and working slab according to the detail sheet.

Construct a 4 foot by 4-foot concrete working slab, 4 inches thick, next to the cabinet foundation on both door sides of cabinet.

Construct the cabinet foundation so there is a minimum of 3 Inches of clearance from the outside edge of the cabinet to the outside edge of the foundations on all sides.

Caulk joint between the cabinet and the foundation except where the V-groove is. Install copper or stainless mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four corners. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

The Contractor is responsible for all conductor termination. Crimp and solder all lug terminals for conductor termination in the cabinet.

Follow provisions for rodent protection as found in Section 772.04 G.5, “Traffic Signal Standards and Combination Signal and Light Standards”.

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

**K. Concrete Foundation for Truss Tower and Steel Pole.**

Provide concrete foundations as shown in the plans. Ensure the foundation meets the following:

- Cast concrete foundations in place,
- Do not grout between the foundation and the pole base,
- Install the top of the concrete foundation flush with the ground level, and
- Install a grounding lug inside the base.
- Install and tighten anchor bolts as specified in Section 754.04 D.5, “Overhead Sign Structures”.

**L. Configuration by NDDOT.**

Integrate this system with the existing software and servers at the NDDOT. Procure data connections working with Department ITS Engineer:

Travis Lutman
608 E. Blvd. Ave

Bismarck, ND 58505
Telephone: (701) 328-4274
tlutman@nd.gov

Send the following items for system configuration:

- Modem
- Camera
- Memory Card
- Remove Power Control Outlet Strip

Ship these items to the Department ITS Engineer and include return shipping or delivery fees. Provide package insurance for all items. Allow at least 1 week to configure these devices.

**M. Stand-Alone Test.**

Perform an approved stand-alone test of the equipment installed at the field site. Submit the stand-alone Test Plan to the Engineer for approval, and receive approval prior to starting the stand-alone test. Submit test results to the Engineer for approval.

Complete form SFN 60717 which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the completed form to the NDDOT ITS Engineer.

**N. Central Test.**

After the successful completion of the stand-alone test the NDDOT will complete a central test. This test will consist of testing the system remote control functionality from the NDDOT central office.

**O. Warranty, Maintenance, and Support.**

Equipment furnished under this Specification must be guaranteed to perform according to these specifications and to the Supplier's published specifications. Warranty equipment for a minimum of 3 years against defects or failure in design, materials and workmanship. Final acceptance of the system by the Department is the date the warranty becomes effective. The Supplier must assign to the Department all Manufacturer's normal warranties or guarantees, on all such electronic, electrical and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Defective equipment must be repaired or replaced, at the Supplier's option, during the warranty period at no cost to the Department.

Software and firmware must also be warranted for 3 years to include updates, patches, and fixes.

**METHOD OF MEASUREMENT**

The Engineer will measure each SURVEILLANCE CAMERA SYSTEM and REVISE SURVEILLANCE CAMERA SYSTEM installed at each location.

**BASIS OF PAYMENT**

| Pay Item | Pay Unit |
|---|---|
| Surveillance Camera System | Each |
| Revise Surveillance Camera System | Each |

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

# NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

# SPECIAL PROVISION

# ENVIRONMENTAL SENSOR STATION

# PROJECT ITS-9-999(447) – PCN 22936

**DESCRIPTION**

This special provision lists components and work for a complete Environmental Sensor Station (ESS). Some sites require maintenance only. Refer to the plans for the work that will be required at each site.

Furnish and install an ESS. Install equipment specified in this document as described in plan sheets. Integrate this system with the existing software and servers at the NDDOT.

A. Ensure the pavement sensors report:
   1. Surface condition
   2. Surface temperature
B. Ensure ESS monitors and displays:
   1. Pavement Surface Conditions:
      a. Dry
      b. Wet
      c. Friction
      d. Frost
      e. Snow or ice warnings
   2. Pavement Temperature
   3. Atmospheric Conditions
      a. Ambient Air Temperature
      b. Relative Humidity
      c. Dew Point
      d. Precipitation Classification
      e. Visibility
      f. Barometric Pressure
      g. Solar Radiation
      h. Water Level
      i. Wind Speed and Direction
   4. Color Still frame images of roadway (Daytime)
   5. Black and White Still frame images of roadway (Nighttime)
   6. Streaming Video of roadway surface

C. Include all hardware, software, and licenses to operate as follows:
   1. An operating system capable of multi-tasking operations to optimize data acquisition from all connected devices.
   2. Ensure the RPU processes and temporarily stores output:
      a. Traffic counters
      b. Pavement sensors
      c. Atmospheric sensors

3. RWIS server will poll each RPU as scheduled, then the RPU responds and transfers the data.
4. Data transfers are compliant with the most current Federal NTCIP ESS requirements.
5. RWIS server will store the ESS data in a standard SQL Server database.
6. RWIS user displays include all sensor and video data in a browser-based data display format.

## MATERIALS

### A. General.

Ensure the Manufacturer provides technical assistance and support for all systems and components with a toll-free telephone number.

Verify that the systems and components are new and have been tested.

Use only components designed for 10 years or more of industrial use.

Materials and equipment conform to these special provisions, NEMA, the Electronics Industries Association, National Electrical Code, and the Telecommunications Industries Association.

### B. Work Drawings.

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following work drawings:

- Truss Tower and Foundation
- Breakaway Steel Pole and Foundation
- Cabinet
- Modem
- Ethernet Radio System
- Ethernet Switch
- Remote Power Control
- RPU
- Non-Intrusive Pavement Condition Sensor
- Non-Intrusive Pavement Temp. Sensor
- Temp./Relative Humidity Sensor
- Deep Subsurface Temp. Probe
- Precipitation Occurrence Sensor
- Wind Speed/Direction Sensor
- Barometric Pressure Sensor
- Radiation Sensor
- Microwave Vehicle Detection System
- Camera
- Memory Card
- Pull Box
- Conduit Plugs

- Power Conductor
- Ethernet Cable

**C. Ground-Mounted Cabinet.**

Supply a NEMA 3R rated ground-mounted cabinet and door designed according to the AASHTO Standard Specification of Structural Support for Highway Signs, Luminaries and Traffic Signals that meets the following:

1. Dimensions
   a. 24” wide x 24” deep
   b. Height minimum 60”
   c. Space reserved for spread spectrum transceiver or fiber optic modem.
2. Electronics Industries Association (EIA) equipment rack with 2 adjustable shelves
   a. 19” EIA Rack
   b. Rack minimum 30” high
   c. Place rack above the RPU
3. Pull-out drawer and shelf mounted on ball-bearing slides capable of supporting 20-pound test equipment.
4. Removable pleated paper air filter
   a. Outside dimensions of 10” x 10” x 0.88”
   b. Filter intake located near the bottom of the cabinet.
5. Exhaust fans located near the top of the cabinet and adjustable thermostat
6. Rack Mounted Power Distribution Assembly that provides the protection and distribution of AC power and DC power.
7. Provide 2 - NEMA Type 5-15 R Duplex 120 VAC convenience outlets, a single 15 amp GFCI including breakers for the receptacles, and a main breaker for the power distribution assembly.
8. Remote Power Control Rack Mounted Outlet Strip
9. Surge Protection and lightning protection
   a. Ensure the devices are protected against lightning, electrostatic discharge and other transient high voltage surges. Meet all applicable surge test requirements of the latest Institute of Electrical and Electronics Engineers (IEEE) Test Standard, will operate under the specified environmental conditions, and meet the Manufacturer specifications.
   b. Provide a 6-outlet AC-Line Protector Unit for the 120-volt, 60-Hz power source. Include thermal circuit breaker, and EMI/RFI noise suppression for diverting and clamping high voltage surges so as to limit the maximum voltage reaching the sensitive electronic equipment during a transient pulse. Ensure the unit is approved by UL. Provide protection against transients which may enter electronic equipment through line Neutral paths (Differential Mode) or through line or Neutral to Ground paths (Common Mode).
   c. Contain this unit in a single enclosure with appropriate terminations for interconnecting cables to those assemblies requiring 120-volt, 60-Hz protected power.
10. Connect the cabinet to the tower grounding system
11. LED lamp at top of cabinet with door switch actuation
12. Cabinet label
13. Cabinet electrical diagram and drawing storage
14. Cabinet weather proofing
    a. Door gasket in channels or L bracket with 3/8” nonabsorbent material.
15. Cabinet door with a lockable latching handle and 2 keys

16. All seams continuously welded
17. Constructed of mill finish aluminum

**D. 4G Cellular Modem.**

Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. Supports LTE 700MHz band

2. Has the following Security Features:
   a. IPsec VPN,
   b. GRE Tunneling,
   c. MAC Address Filtering,
   d. IP Filtering,
   e. Port Filtering, and
   f. SSH and HTTPS

3. Works in the following Atmospheric Conditions:
   a. Operating Temperature: -30ºC to +70ºC (-22ºF to 158ºF)
   b. Storage Temperature: -40ºC to +85ºC (-40ºF to 185ºF)

4. Uses an Ethernet Host interface that meets the following:
   a. 10/100 Mbps RJ-45,
   b. RS-232, and
   c. DB9 DCE (300-230400 baud)

5. Antenna Connections:
   a. Cellular – 50 Ohm SMA, and
   b. Receive Diversity – 50 Ohm SMA

6. Application Interfaces:
   a. TCP/IP,
   b. UDP/IP,
   c. DHCP,
   d. HTTP,
   e. SNMP,
   f. SMTP,
   g. SMS,
   h. MSCI,
   i. Modbus, and
   j. Binary

7. Has LED indicator lights for the following:
   a. Network,
   b. Signal,
   c. Activity,
   d. Service, and
   e. Power

**E. Ethernet Radio System**

Provide an Ethernet Radio System that meets the requirements for a Point-to-Point wireless network device as detailed in this section. The devices must provide wireless access points and wireless client units. Where different specifications apply to each device, separate subsections will be included.

1. General Requirements
    a. Incorporate a wireless point to point access point device with field equipment.
    b. Ensure the wireless network complies with all Ethernet applicable transport standards.
    c. Ensure the wireless nodes and wireless access points are environmentally hardened and suitable for installation in outdoor environments.
    d. Provide access functionality in 5.8 GHz spectra at the wireless access point.
    e. Include an access point controller or similar device (hardware or software) to manage client authentication.

2. Networking
    a. Standards
        i. Ensure the wireless nodes support IEEE 802.3 Ethernet transport standards.
        ii. Ensure the nodes support IEEE 802.1p standards for Quality of Service and traffic prioritization.
        iii. Ensure the wireless nodes support, at a minimum IPV4, UDP, TCP, ICMP.
    b. Interfaces
        i. Ensure the wireless nodes support at least one 10/100Base-T Ethernet port.
        ii. Ensure the wireless access point provides the ability to seamlessly integrate with a backbone Ethernet/IP network.
        iii. Ensure the wireless network supports VLAN trunking.
        iv. Ensure the wireless access point supports multiple independent VLANs.
        v. Ensure the wireless networks support configuration of static routes.
        vi. Ensure the wireless network supports manual configuration of links.
        vii. Ensure the wireless access point supports DHCP client as well as DHCP server functionality.
    c. Quality of Service
        i. Ensure the wireless network have simultaneous support for video, data services.
        ii. Ensure the wireless nodes support 802.1p standards based QoS.
        iii. Ensure the wireless access point supports multicast traffic (voice, video and data).

3. Radio Requirements
    a. Provide wireless nodes and wireless access point radios that are FCC certified.
    b. Ensure the wireless node operates in a 5.8 GHz band.
    c. Ensure the wireless node and wireless access points provide a mechanism for selecting channels within the operating frequency band.
    d. Ensure the wireless node and wireless access point supports a maximum Effective Radiated Power of at least 28 dBm.
    e. Ensure the wireless access points and nodes support a minimum receive sensitivities of at least -86 dBm at 2 Mbit/sec sustained throughput.

f. Ensure the wireless nodes provide the ability to configure any channel in the specified frequency bands.

4. Performance Requirements
    a. Ensure the wireless nodes and access point support a minimum data rate of 10 Mbps under ideal design conditions.
    b. Ensure the wireless node latency does not exceed 7 ms (average).

5. Antenna System Requirements
    a. Ensure the wireless node and wireless access point support external antenna enhancements.
    b. Ensure antenna enhancements provide a minimum of 16 dB gain over integrated or standard antenna solutions.

6. Management Requirements
    a. Ensure the wireless nodes and wireless access points provide management interfaces via:
        i. HTTP via a web-based interface
        ii. SNMP
        iii. Telnet with command-line interface
    b. Ensure software provides statistics, alarms, and events on a per device basis.
    c. Ensure the wireless node and wireless access point supports remote software upgradeability.

7. Security Requirements
    a. Ensure the wireless nodes and wireless access points support username and password security for all networking interfaces.
    b. Ensure the wireless nodes support hardware-based encryption.
    c. Ensure the wireless nodes and wireless access points support 128-bit AES.
    d. Ensure the wireless nodes have the capability to distinguish between radios that are part of their network from radios that are not, even if those radios are from the same manufacturer and operate on the same radio channel.
    e. Ensure the security encryption standards on the wireless nodes and wireless access points are FIPS certifiable.
    f. Ensure the wireless access point supports VPN tunneling.

8. Physical & Environmental Requirements
    a. Mounting
        i. Obtain NDIT Manager approval at least 2 days before working on the radio tower.
        ii. Coordinate with the Department IT Technician to be on site while working on the tower.
        iii. Drilling into the radio tower is not allowed.
        iv. Provide installers who are experienced with this type of work.
        v. Mount the point-to-point Access Unit at the tower specified in the plans.
        vi. Mount the Subscriber Unit at the site as specified in the plans.
    b. Environmental
        i. Ensure the outdoor devices are pole mountable (with low profile mounting).
        ii. Ensure the wireless nodes and wireless access points enclosure is rugged NEMA 4X/IP67 rated for outdoor deployments.

iii. Ensure the wireless nodes support surge suppression protection.
iv. Ensure the outdoor nodes and wireless access points have weatherproof antenna connectors (IP64 minimum) where applicable.
v. Ensure the outdoor wireless nodes and access points have the following environmental specifications:
    1. Operating temperature: -40ºC to +55ºC (-40ºF to +131ºF)
    2. Humidity (non-condensing) - 10% to 90%

c. Power
    i. Provide wireless hardware units that support 120 VAC,60 Hz, 0.9A or 12-30 V DC+/- 15%.
    ii. Ensure the outdoor wireless nodes support 802.3af PoE standard (PS: Power Source) and are able to power two devices that are capable of deriving power over Ethernet (PoE).
    iii. Ensure the wireless access point supports 90–240 VAC, 50/60 Hz.

9. Ice Shield
    a. Install an ice shield above the point to point Access Unit.
    b. Ensure the ice shield and mounting hardware are made of galvanized steel.
    c. Ensure the shield extends 6 inches beyond the borders of the point to point Access Unit.
    d. Ensure the shield can protect the unit from falling ice.

**F. Ethernet Switch.**

Supply an Ethernet Switch with the necessary hardware required for operation. Provide the Ethernet Switch, enclosure, mount and cables with standard accessories.

Provide an Ethernet Switch that meets the following:

- Ruggedized construction,
- Powered by 24V DC,
- Has 8-10/100TX Ports, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

**G. Ethernet Lightning Surge Suppressor.**

Provide an Ethernet Lightning Suppressor that meets the following:

- Ensure this unit is in a cast metal box with shielded connections,
- Clamping voltage of 65 Volts,
- Cat 6 outdoor direct burial cabling at 10/100/1000 speed,
- Ensure the unit is compatible with Power over Ethernet cable, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

**H. Remote Power Control Rack Mounted Outlet Strip.**

Supply Remote Power Control that meets the following:

- Web-accessible IP-based power controller for minimum eight independently controlled outlets.
- NEMA Type 5-15 input power cord and outlets
- Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
- 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.

- Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
- Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F).

**I. Remote Processing Unit (RPU).**

Supply and install a Remote Processing Unit. Include the necessary cables, adapters, and mounting hardware required to operate the RPU. Provide the RPU and cables that are standard production of the latest model with standard accessories and in addition meet following specifications:

1. Provide the RPU with at least eight differential inputs or 16 single-ended (SE) individually configured analog inputs. Channel expansion capability to be provided by multiplexers.

2. Provide RPU to meet the following values not including sensors and measurement noise.
   a. ±(0.06% of reading + offset) at 0°C to 40°C (32°F to 104°F)
   b. ±(0.12% of reading + offset), -25°C to 50°C (-13°F to 122°F)
   c. ±(0.18% of reading + offset), -55°C to 85°C (-67°F to 185°F)

3. Provide RPU with a minimum of eight ports that are software selectable as binary inputs or control outputs. Ensure the ports provide subroutine interrupts/wake up, switch closure pulse counting, high frequency pulse counting, asynchronous communications (UARTs), SDI-12 communications, and SDM communications.

4. Provide RPU with the following communications ports:
   a. 9-pin: DCE (not electrically isolated) for battery-powered computer or modem connection. Four independent Tx/Rx pairs on control ports (non-isolated); 0 to 5 Vdc UART Baud Rates: selectable from 300 bps to 115.2 kbps. Default Format: 8 data bits; 1 stop bits; no parity Optional Formats: 7 data bits; 2 stop bits; odd, even parity
   b. Peripheral port: 40-pin interface for attaching CompactFlash or Ethernet peripherals

5. Provide RPU to be IP addressable and communicate through an integrated RJ45 Ethernet connector.

6. Provide RPU to support the following communication protocols: PakBus, Modbus, DNP3, FTP, HTTP, XML, POP3, SMTP, Telnet, NTCIP, NTP, SDI-12, SDM.

7. Provide support software that enables a qualified Technician to test all features and functions of the device when locally connected to the RPU and perform all set-up procedures with a web-based interface. Provide a CD containing software to be installed on other computers. Provide the Department with unlimited number of copies of this software.

8. Accuracy of temperature measurement: ±0.2°C from -10°C to 10°C. If outside this range it may be ±0.5°C.

9. Support an open architecture for communications.

**J. Non-Intrusive Pavement Condition Sensor.**

Supply Non-intrusive Pavement condition sensors with all components required for operation and that meets the following requirements:

1. Accurately measure presence of water, ice, slush, snow, or frost
2. Measure the level of grip or friction coefficient of the roadway with 0.01 resolution
3. Accurate measurements obtained from 10 to 50 feet from the roadway
4. Power: 9 – 30 VDC source and no more than 4 watts of power
5. Operating Temperature Range of -40°C to 60°C (-40°F to 140°F) at 0 to 95% RH.
6. Measuring Range:
   a. Friction: 0.01 to 1.00
   b. Snow: 0.00 to 10 mm
   c. Ice: 0.00 to 2 mm
   d. Water: 0.00 to 2 mm
7. Provide data communication interfaces compatible with RPU and be capable of operation on cable lengths up to 300 feet from RPU.

**K. Non-Intrusive Pavement Temperature Sensor.**

Supply Non-intrusive Pavement temperature sensor with all components required for operation and that meets the following requirements:

1. Accurately measure road surface temperature
2. Operating Temperature Range of -40°C to 60°C (-40°F to 140°F) at 0 to 95% RH.
3. Accurate measurements obtained from 10 to 45 feet from roadway
4. Measuring range: -40°C to 60°C (-40°F to 140°F) with 0.1°C resolution
5. Provide data communication interfaces compatible with RPU and be capable of operation on cable lengths up to 300 feet from RPU

**L. Temperature/Relative Humidity Sensor.**

Supply Temperature/Relative Humidity sensor with all components required for operation and that meets the following requirements:

1. Temperature Measurement Range of -30°C to 50°C (-22°F to 122°F),
2. Relative Humidity Measurement Range of 0 to 100%,
3. Temperature accuracy of ±0.3°C at 20°C (±0.5°F at 68°F),
4. Relative humidity accuracy of ±2% over 0-90% RH, and ±3% over 90-100% RH,
5. Operating Temperature Range of -30°C to 50°C (-22°F to 122°F),
6. Support an open architecture for communications

**M. Deep Subsurface Temperature Probe.**

Provide subsurface temperature probes with all necessary cables and power supplies required to operate. Meet the following criteria:

1. Operating temperature range of -30°C to 70°C (-22°F to 158°F)
2. Accuracy of temperature measurement: ±0.2°C (-10°C to 10°C), otherwise ±0.5°C
3. Minimum 15 readings at following spacing in inches: 0,3,6,9,12,18,24,30,36,42,48,54,60,66,72
4. Support an open architecture for communications

Supply a waterproof molded cable capable of operating at extended cable lengths up to 1000 feet from the RPU.

**N. Precipitation Occurrence Sensor.**

Supply the sensor with internal heating elements for moisture control and that meet the following requirements:

1. Operation temperature of -30°C to 70°C (-22°F to 158°F)
2. Precipitation quantity/type repeatability > 90%
3. Precipitation type distinction: rain, snow, hail, freezing rain, sleet
4. Precipitation amount options: 0.1 mm, 0.01mm, 0.001mm
5. Detect precipitation intensity
6. Support an open architecture for communications

**O. Wind Speed/Direction Sensor.**

Ensure the sensor meets the following requirements:

1. Wind speed range of 0 to 50 m/s
2. Wind direction range of 0 to 360 Degrees
3. Wind speed accuracy of ±0.135m/s or ±3% of reading
4. Wind direction accuracy of ±2°
5. Operating temperature range of -40°C to 50°C (-40°F to 122°F)
6. Must have a heater associated with the sensor
7. Support an open architecture for communications

**P. Barometric Pressure Sensor.**

The requirements for a barometric pressure sensor are:

1. Pressure measurement range of 500 to 1100 hPa
2. Accuracy of ±0.30 hPa at 20°C
3. Operating temperature range of -40°C to 55°C (-40°F to 131°F)
4. Support an open architecture for communications

**Q. Radiation Sensor.**

The requirements for a radiation sensor are:

1. Operating temperature range of -40°C to 70°C (-40°F to 158°F)
2. Provide downward welling shortwave and longwave radiation
3. Expected accuracy for daily totals of ±10%
4. Sensitivity range of 10 to 20 μV $W^{-1}m^2$
5. Support an open architecture for communications

**R. Microwave Vehicle Detection System.**

Install a Microwave Vehicle Detection System (MVDS) including lightning surge protection, AC/DC power converter and a media converter for Ethernet communications for the purposes of detecting vehicular speed, volume counts, classification by length, and lane occupancies.

Include all the cables, connectors, and mounting hardware recommended by the Manufacturer for proper operation of the system. Provide a detector, lightning surge protection, AC/DC power converter and a media converter that meets the following requirements:

1. Able to measure volume, classification by length, occupancy (including slow moving or stationary vehicles), and speed, when in a side fire configuration.

2. Suitable for polled operation using multipoint RS-232 communication at 9600 bits per second.

3. Meet the following parameters:
    a. Detection range: 10 to 250 feet
    b. Detection Zone: up to 10 traffic lanes simultaneously
    c. Frequency Band: 10.525 GHz +/-25MHz
    d. Instantaneous bandwidth: 45 MHz
    e. Transmitter power: 10 mW
    f. Operating temperature range: -37°C to 74°C (-35°F to 165°F)
    g. Operating humidity range from 5 to 95% RH
    h. Meets FCC rules Part 15 for interference
    i. Occupies no more than 0.6 cubic feet
    j. Weighs no more than 15 lbs
    k. Housing sealed to withstand rain (or snow) up to a rate of 4 inches per hour or wind loads up to 90mph

4. Includes a mounting assembly for each microwave detector with the following requirements: stainless steel or all aluminum construction, capable of supporting a load of 20 lb., approved by the manufacturer of the microwave detector.

5. Includes a twisted-pair cable between the cabinet and each microwave detector with the following requirements: provides both power and serial communication, UV-resistant and rated for 300 volts, terminate on a single MS connector.

6. Provide support software that enables a technician to test all features and functions of the detector and perform all set-up procedures with a web-based interface. Deliver this software on a CD so that it can be installed on other computers. Ensure that the Engineer has the right to make and use an unlimited number of copies of this software.

7. NTCIP compliant, ensure that the detector adheres to the version of the following standards that is current at the time of bidding:
    a. Information level: NTCIP Standard 1209, including implementation of the TSS Data Collection conformance group.
    b. Application level: NTCIP Standard 1101, Compliance Level 2.
    c. Transport level: Null protocol
    d. Subnetwork level: NTCIP Standard 2101

8. Supply full documentation of all Manufacturer-specific objects supported by the detector. Submit this in the form of a CD containing ASCII versions of a MIB in ANSI format. Ensure that the MIB contains accurate and meaningful description fields and supported ranges indicated in the syntax field of the object-type macros. Ensure that the Manufacturer will allow the use of any and all of the documentation described above by the Engineer for system integration purposes at any time, regardless of what parties are involved in the system integration effort.

9. Provide a device server that will allow the detector to communicate over the Ethernet IP network when the detector is connected to an Ethernet network device. Provide a device server that meets the following requirements:
    a. Able to convert half-duplex serial communication to Ethernet and vice versa
    b. Include multiple communication ports: Ethernet, RS-485, RS-232 DTE
    c. Use either Ethernet or serial interfaces to configure baud rates

d. Operating temperature range: -34°C to 74°C (-29°F to 165°F)
e. Operating humidity range from 5 to 95% RH
f. Input voltage range between 10 to 30 VDC

10. Provide a surge protector or approved equal that meets the following requirements:
    a. Three-stage surge suppression design over DC, RS-232 and RS-485 lines
    b. Meets NEMA TS2-1998 environmental testing and IEC 61000-4-5 electrical surge test. Use this inside the cabinet in order to protect both the power and the communication lines.

11. Provide a AC/DC power converter or approved equal that meets the following requirements:
    a. Provide 24 VDC at currents of 1 amp.
    b. Provide main buffering greater than 20ms under full load.

12. Install in accordance with the Manufacturer's recommended procedure for side-fired installation. Determine proper mounting height of the detector being supplied based on offset, height, and lanes to be detected. Note that the recommended mounting height is relative to the road surface, not the base of the pole. Aim the detector to detect vehicles in the lanes indicated at the particular location.

13. Specify the length of control cable/harness required to the detector supplier.

14. The set up includes speed calibration using measured (not estimated) reference speeds with a radar gun. When the setup is complete and the detector is ready for operation, deliver the values of all parameters that were set during the process to the Engineer in printed or computer-readable form. Provide all equipment, such as a radar gun, software, laptop computer, tools and cables, needed for the set-up work.

**S. Hinged Truss Tower.**

Supply a Hinged Truss Tower that meets the following:

1. Withstand a wind velocity of 85 mph with a maximum of 6 square feet area of attached equipment.
2. Fabricated from Aluminum 6061 T6 with an anodized finish or A36 Steel with a hot dipped galvanized coating.
3. Fold-Over Assembly.
4. A mast pole with a 2 3/8” outside diameter and a length of 5’ at top of pole
5. Secured winch.
6. Provide a hinged base footing assembly.
7. Lightning rod kit and mounting hardware.
8. Ground rod kit.
9. Three 120” anti-climbing panels.

**T. Breakaway Steel Pole.**

Refer to standard drawing D-770-1 “Light and Signal Standard Foundation”, “Light & Signal Foundation Table”, “Anchor Bolt Detail”, and light & signal standard foundation notes.

Provide a pole that meets the requirements of Section 770.04 G “Light Standards” and Section 895.05 A “General”, B.1 “Galvanized Material”, D.3 “Transformer Base”

Pole specifications:

- Provide a transformer base,
- Install a minimum of 4 anchor bolts to the bottom of the pole,
- Cap the top of the pole,
- Run cables inside the pole and through the 2-inch conduit in the base,
- Locate the top of the slip base above the ground surface no more than 4-inch, and
- Provide a pole that is round or multi-sided 11-gauge steel.

**U. Pan Tilt Zoom Camera.**

Supply a camera that includes the cables, adapters, power supplies, and mounting hardware required to operate the camera.

The camera must be compatible with the Department Advanced Traffic Management System (ATMS) and travel information map functions. Use the following camera:

- Axis Q6075-E or current model, or
- Approved equal.

Ensure the camera, enclosure, mount, power supplies and cables are standard production of the latest model. Provide a camera that features streaming video capability, built-in web server for configuration and image viewing, capable of providing full motion streaming video in all hardwired applications and wireless applications where proper signal strength is available, thermostatically controlled heater, and surge protection. Provide a camera that meets the following:

1. Pan/tilt/zoom
    a. Minimum of 8 preset positions capable of automatically uploading images when on tour.
    b. Pan: 360°endless
    c. Tilt: 180°
    d. Minimum Zoom: 30x optical and 2x digital
2. Video Streaming: Configurable streams in H.264 and Motion JPEG, Controllable frame rate and bandwidth VBR.CBR H.264
3. Frame Rate: H.264: Up to 30 fps in all resolutions; Motion JPEG: Up to 30 fps in all resolutions
4. Minimum Video Resolution: 1920x1080 (1080p)
5. Iris: Automatic
6. Minimum Illumination: Color: 0.5 lux; B/W: 0.03 lux
7. Operating temperature: -30°C to 50°C (-22°F to +122°F)
8. Power: Power over Ethernet (PoE) IEEE 802.3at, Max. 60 W
9. Communication cable
    a. Black Category 6 Outside Plant (OSP)
    b. Copper-clad steel armor shield
    c. Weather resistant polyethylene outer jacket
    d. Gel-filled, water repellent core
    e. Solid annealed copper conductor
    f. Dry block between shield/armor and inner jacket
    g. 4 pair count
10. Enclosure: IP66 and NEMA 4x rated
11. Enclosure: Fan assisted heater
12. Tour: Capable of automatically uploading images at each preset with unique file names using FTP

13. Display: Capable of an informational overlay on the camera image to include Date, Time, and Camera location.
14. System Integration: File upload via FTP and SFTP
15. Security: Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
16. Connectors: IP66-rated
17. Mount: Provide all equipment to mount the camera to a tower mast.

**V. Memory Card.**

Supply a memory card compatible with the camera and meets the following requirements:

1. Secure Digital Extended Capacity (SDXC)
2. Storage Capacity: 64 GB
3. Speed Class: 10
4. UHS Speed Class: U1
5. Operating Temperature: -13°F to 185°F (-25°C to +85°C)

**W. Infrared Illuminator.**

Supply an infrared illuminator including all necessary equipment and mounting hardware required for operation. Provide an infrared illuminator that meets the following requirements:

1. Angle: 60°
2. Operating Temperature: -40°F to 120°F (-40°C to +50°C)
3. Enclosure/Housing: IP66- rated
4. Power Supply: Sufficient capacity to operate the illuminator from a dead start
5. SOOW Power Cable
   a. 14-2 600V
   b. Black flexible heat, moisture and oil resistant EPDM rubber jacket
   c. Temperature Rating: -40°C to +90°C
   d. UL and CSA listed for continuous submersion in water
   e. RoHS compliant, UL listed, and CSA certified for outdoor use
6. Illuminator Distance:100m
7. Mount: Provide all equipment to mount illuminator to tower.

**X. Pull Box.**

Provide a round PVC pull box as shown on the detail. Provide a pull box cover that is watertight using a gasket around the opening and each of the screw holes. Provide an eye bolt on the upper side wall of the pull box. Ensure the bolt diameter is 2.5 inches.

Provide a drainable base to protect against water infiltration. Install pull boxes of sufficient size as to accommodate all wiring and conduit without crimping or bending the wires.

## CONSTRUCTION REQUIREMENTS

**A. General.**

The Contractor is responsible for all wire termination.

Ensure the conduit and cabinet are sealed and watertight.

Install a subsurface temperature probe in the roadway at a depth of 72 inches measured from the bottom of pavement.

Mount the modem antenna on top of the cabinet.

Compact the soil around the pull boxes. Plug and seal all holes in the pull box. Attach the loop splices to the eye bolt using cable ties. Extend all conduit in the pull box to within 12 inches of the cover.

Use stainless steel hardware (for example mounting bolts, nuts, washers, and external hinges) on outdoor components.

Round and smooth sharp corners and edges of all systems components.

**B. Removal of Equipment.**

Where pull box removal is specified in the plans; remove the pull box and disconnect the wires.

Where cabinet removal is specified in the plans; remove the cabinet, the entire foundation and working slab, and disconnect the wires. If the plans designate electronic equipment as salvage, refer to the plan notes.

Where truss tower or breakaway steel pole removal is specified in the plans, remove the pole or tower, disconnect the sensors. Remove the foundation a minimum depth of 3 feet below the ground line. If the plan notes designate the sensors as salvage, refer to the plan notes.

Where removal of feed point is specified in the plans; remove the perforated tube supports, switch box, and meter trim. The local utility company will remove the meter.

Terminate all conduit and conductor 2 feet below ground level.

Restore the ground to match the adjacent ditch grade. Reseed areas all areas of disturbed ground with hydraulic mulch.

**C. Earthwork.**

Excess excavation obtained from construction activities becomes property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

**D. Seeding.**

Restore ground disturbed by construction activities to the original grade. Reseed these areas with Hydraulic Mulch using Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, feed points, and areas with removed equipment.

**E. Labeling Cables and Components.**

Secure permanent identifying labels to each cable and component; including any required cross connects to communications equipment; Use self-laminating vinyl labels at least 1-inch wide and long enough that the translucent portion of the label completely covers the white area bearing the legend. Use vinyl with a layer of pressure sensitive acrylic adhesive. Use labels that resist oil, water, and solvents and are self-extinguishing. Use a machine to print the legend in letters at least 1/8 inch high.

Labeling components, wire, and cable are incidental to the installation of the ESS.

**F. Manuals.**

Provide 3 service and operating manuals for the ESS. The Engineer will distribute the manuals to the ESS cabinet, District IT Division, and the Maintenance Division.

Include the following information in the service manuals:

- Detailed description of operation and instructions for initial set-up,
- All schematics and wiring diagrams of the unit,
- Recommended servicing and service hints,
- Complete parts list including model and serial numbers, and
- Recommended spare parts list.

**G. External Grounding System.**

Provide bonding and grounding in accordance with NEC and IRD's instructions. Provide ground conductor that is No. 2/0 AWG copper conductor. Each ground rod must be 5/8 inch diameter and 10 feet long.

Clean each grounding component with 300-grit emery cloth before applying a mineral oil-based oxide inhibitor to the bonding area.

Connect all electrical service grounds to the grounding ring.

Route each ground conductor to the ground buss via the straightest route that does not hinder maintenance or installation activities.

Place ground rods at all 4 corners of the cabinet foundation. Bond the ground conductor to the cabinet using a ground ring. Ensure the total length of the ground ring is less than 20 feet in circumference.

Bury the ground ring a minimum of 20 inches below ground level. Provide the ground ring in a trench around the cabinet, attached to all the ground rods. Route the ground cable from the buss bar inside the cabinet through ¾ inch flex conduit to the first ground rod next to the cabinet foundation. Seal conduit ends using conduit plugs.

Inspection of all underground work will be completed by the Engineer before it is covered. Connect all underground site connections using the exothermic weld process.

Test the earth ground resistance to 25 ohms or less, using an earth-ground resistance tester. Install additional ground rods to achieve the 25 ohms or less earth ground resistance. Document all results and furnish to the Engineer in a clean organized format.

Provide 2 ground rods on each tower leg. Connect all 3 tower legs, ground buss bars, and metal cabinet to the ground ring as shown in the detail.

**H. Sawing and Sealing Pavement.**

Install saw slots according to Section 772.04 E.4, “Saw Cut” to a depth of 2 inches or as recommended by the Manufacturer.

Seal slots according to Section 772.04 E.7 “Saw Cut Seal”. Do not use Hot Poured Joint Seal for sealing slots.

Remove the pavement material to install the deep subsurface probe. Install the probe according to the manufacturer instructions. Test the probe for proper operation. Fill in the pavement and saw slot with one of the fill options shown:

- Ceratec Pavemend 15.0,
- SpecChem RepCon® 928, or
- BASF MasterEmaco® T 1060 or T 1061.

Ensure the finished surface is flush with the adjacent pavement.

**I. Conduit.**

Provide steel conduit for all conduit above ground on the steel pole and truss tower.

Provide conduit that meets the requirements of Section 896.01 B.2 “HDPE”. Bury the 2 inch conduit a minimum of 24” below finished grade. Install conduit as a continuous run from the pull box to the cabinet.

Provide a temporary conduit seal in both ends with steel wood immediately after installation and reinstall after each phase of construction.

Provide permanent conduit plugs to seal the ends of the conduit after the conductor has been pulled through. Provide plugs that meet these requirements:

- Removable and reusable
- Split type that permit installation or removal without removing cables.
- Contain an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

**J. Cabinet Foundation.**

Construct the ESS cabinet foundation and working slab according to the detail sheet.

Construct a 4 foot by 4-foot concrete working slab, 4 inches thick, next to the cabinet foundation on both door sides of cabinet.

Construct the cabinet foundation so there is a minimum of 3 Inches of clearance from the outside edge of the cabinet to the outside edge of the foundations on all sides.

Caulk joint between the cabinet and the foundation except where the V-groove is. Install copper or stainless mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four corners. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

The Contractor is responsible for all conductor termination. Crimp and solder all lug terminals for conductor termination in the cabinet.

Follow provisions for rodent protection as found in Section 772.04 G.5, "Traffic Signal Standards and Combination Signal and Light Standards".

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

**K. Concrete Foundation for Truss Tower and Steel Pole.**

Provide concrete foundations as shown in the plans. Ensure the foundation meets the following:

- Cast concrete foundations in place,
- Do not grout between the foundation and the pole base,
- Install the top of the concrete foundation flush with the ground level, and
- Install a grounding lug inside the base.
- Install and tighten anchor bolts as specified in Section 754.04 D.5, "Overhead Sign Structures".

**L. Configuration by NDDOT.**

Integrate this system with the existing software and servers at the NDDOT. Procure data connections working with Department ITS Engineer:

Travis Lutman,
608 E. Blvd. Ave,
Bismarck, ND 58505,
Telephone: (701) 328-4274,
tlutman@nd.gov.

Send the following items for system configuration:

- Modem
- Camera
- Memory Card
- Remove Power Control Outlet Strip
- Point to Point/Point to Multipoint Radios

Ship these items to the Department ITS Engineer and include return shipping or delivery fees. Provide package insurance for all items. Allow at least 1 week to configure these devices.

**M. Training.**

Provide one 8-hour training class for Department personnel. Include manuals, displays, notes, and visual aids, that may be needed in the operations and maintenance of the ESS.

Submit a training outline to the Engineer for review at least 30 days prior to its proposed use. Do not use the material for training prior to receiving the Engineer's approval. Provide

approved material for 12 people to attend the training class. The Engineer may lengthen or shorten the training time period. Provide training in a classroom setting at the NDDOT District office with substantial "hands-on" experience at the ESS site.

Provide training that includes:

- Support software setup and operation
- Troubleshooting and diagnostics
- Periodic and preventative maintenance procedures
- Installation and replacement of spare parts and consumables
- Operation of custom objects not covered by NTCIP, if applicable

Provide training within 2 weeks after system commissioning unless approved by the Engineer.

**N. Commissioning.**

Provide a qualified Technician, from the systems Manufacturer, to start-up and test the entire system. Notify NDIT Manager when the system will be commissioned.

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

The qualified Technician will perform:

- Final sensor connections to the RPU,
- Final system checks,
- Sensor alignments,
- Software setup, and
- Software configuration to provide a fully operational ESS system

**O. Stand-Alone Test.**

Perform an approved stand-alone test of the equipment installed at the field site. Provide photographic proof of the non-intrusive pavement sensor alignment. Submit this information along with infrared illuminated pictures.

Submit the stand-alone Test Plan to the Engineer for approval and receive approval prior to starting the stand-alone test. Submit test results to the Engineer for approval.

Complete form SFN 60717 which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the completed form to the NDDOT ITS Engineer.

**P. Central Test.**

After the successful completion of the stand-alone test the NDDOT will complete a 72 hour central test. This test will consist of testing the system remote control functionality from the NDDOT central office.

After a successful 72 hour test period, the Department will deliver test reports to the Engineer.

If system tests fail because of any components in the subsystem, correct the particular components or substitute with other components and repeat the tests. If a component has been modified as a result of the system test failure, prepare a report and deliver to the Engineer prior to retest.

**Q. Warranty.**

Equipment furnished under this Specification must be guaranteed to perform according to these specifications and to the Supplier's published specifications. Warranty equipment for a minimum of 3 years against defects or failure in design, materials and workmanship. Final acceptance of the system by the Department is the date the warranty becomes effective. The Supplier must assign to the Department all Manufacturer's normal warranties or guarantees, on all such electronic, electrical and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Defective equipment must be repaired or replaced, at the Supplier's option, during the warranty period at no cost to the Department.

Software and firmware must also be warranted for 3 years to include updates, patches, and fixes.

Provide a signed warranty certificate which includes:

- Contract information,
- Start dates,
- End dates.

**METHOD OF MEASUREMENT**

The Engineer will measure each INSTALL ESS STATON/RWIS and REVISE ESS STATION/RWIS installed at each location.

**BASIS OF PAYMENT**

| **Pay Item** | **Pay Unit** |
|---|---|
| Install ESS Station/RWIS | Each |
| Revise ESS Station/RWIS | Each |

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

# NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

# SPECIAL PROVISION

# DYNAMIC MESSAGE SIGN
# WALK-IN ACCESS - FULL MATRIX - FULL COLOR - LED BASED

# ITS-9-999(447) – PCN 22936

## DESCRIPTION

Furnish, install, and test a walk-in, full-matrix, Light Emitting Diode (LED) based Dynamic Message Sign (DMS) at the location designated on the plans. Install the DMS on the sign structures as shown in the plans. Ensure the DMS includes operational software, Sign Controller Unit (SCU) and communication unit. Also include DMS specific cabling from the controller cabinet to the DMS, all mounting hardware, grounding and surge protection, display modules, power supplies, delivery, training, on-site installation support and acceptance testing, maintenance and operation manuals, and transfer of guarantees and warranties. Also to be furnished: ground mounted controller cabinets, power cabling, and communication hardware and software.

## MATERIALS

**A. General.**

Ensure the Manufacturer provides technical assistance and support for all systems and components with a toll-free telephone number.

Use only components designed for 10 or more years of industrial use.

Materials and equipment conform to these special provisions, NEMA, the Electronics Industries Association (EIA), National Electrical Code (NEC), and the Telecommunications Industries Association and Underwriters Laboratories (UL).

**B. Work Drawings.**

Furnish work drawings within 50 days after the date of contract execution. Submit to the Engineer for approval, cut sheets and data sheets for all hardware to be supplied.

Ensure that work drawings showing multiple items or product numbers are annotated to indicate which item the Contractor is proposing to use.

Submit the following work drawings:

1. The LED Manufacturer’s technical specification sheets showing compliance with the requirements.
2. LED display modules,
3. Matrix driver and display boards,
4. DMS controller unit,
5. DMS cabinet,
6. Communications equipment,
7. Power supplies,
8. Ethernet switch,
9. Remote Power Control Rack Mounted Outlet Strip,
10. Ethernet lightning suppressor,

11. Uninterruptible power supply,
12. 4G cellular modem or Ethernet Radio System,
13. Surge and lightning protection devices,
14. CAT 6 OSP Communications Cable,
15. Fiber Optic Communications Cable,
16. System Block Diagram illustrating the relationship between the various components. Include a drawing defining the operational configuration of the DMS, the sign controller, system computer, and communication devices,
17. Diagram of system power and communications wiring, divided into “factory” and “field” wiring,
18. One-line diagram of power service requirements for each location,
19. Details of LED dimming circuit,
20. Drawings showing configurations and arrangement of matrix display units and pixel arrangement and configuration on each display unit, to obtain the specified number of characters per line, number of lines and character display. Include typical message displays using the proposed configuration,
21. Scaled fabrication drawings and mounting details for each DMS. Calculation and details for DMS sign. Ensure mounting details include conduit connections to DMS sign,
22. Detailed drawings for all equipment to be used in the System, including physical layout of internal components and proposed mounting or installation locations. Include cut sheets of any enclosures used,
23. Design of ventilation, heating, and cooling systems required for the sign enclosure or any other equipment enclosures, and
24. Design calculations for supports.
25. Design calculations for DMS concrete foundation.

Furnish as-built drawings and submit for approval, all equipment layouts, cabling, and conduit installations.

The DMS Supplier must prepare and submit detailed work drawings indicating types of materials proposed for each component of the signs, parts lists, assembly techniques, layout of all display elements, and wiring schematics. Also required is a drawing of the cabinet structural attachment locations and details with calculated static and dynamic forces indicated. Parts lists must include circuit and board designation, part type and class, power rating, component Manufacturer, and mechanical part Manufacturer.

As part of the submittals for the DMS assembly, the DMS Supplier must submit an engineering drawing illustrating the DMS character set including 26 upper case letters, 10 numerals, a dash (-), a plus sign (+) and slash (/). The DMS Supplier must also submit complete technical information, work drawings, photographs, graphs, circuit diagrams, instruction manuals, security provisions, and any other documents to describe the DMS and associated equipment.

Supply software with documentation and a CD containing ASCII versions of the following Management Information Base (MIB) files in Abstract Syntax Notation1 (ASN.1) format:

1. The relevant version of each official National Transportation Communications for ITS Protocol (NTCIP) Standard MIB Module referenced by the device functionality.
2. If the device does not support the full range of any given object within a Standard MIB Module, a Manufacturer specific version of the official Standard MIB Module with the supported range indicted in ASN.1 format in the SYNTAX and/or DESCRIPTION fields

of the associated OBJECT TYPE macro. Ensure the filename is identical to the standard MIB MODULE, except that it will have the extension ".man".

3. A MIB MODULE in ASN.1 format containing any and all Manufacturer-specific objects supported by the device with accurate and meaningful DESCRIPTION fields and supported ranges indicated in the SYNTAX field of the OBJECT-TYPE macros.
4. A MIB containing any other objects supported by the device and firmware/software

**C. General NTCIP Requirements.**

Ensure the sign controller implements the most recent version of the NTCIP Standards.

**1.** Information Level.

Ensure each NTCIP component provides FSORS of all objects required by these Specifications, unless otherwise indicated below or approved by the Engineer. The maximum Response Time for any object or group of objects shall be 1 second.

a) Ensure the DMS supports all of the Mandatory Conformance Groups as defined in NTCIP 1201 and NTCIP 1203 as follows:

- Configuration
- Security
- Sign Configuration
- Message Table
- Sign Control

b) In addition, the DMS must support the following Optional Conformance Groups as defined in NTCIP 1201 and NTCIP 1203 as follows:

- Scheduling
- Time Management
- Time base Event Schedule
- Report
- GUI Appearance
- Font Configuration
- VMS Configuration
- MULTI Configuration
- MULTI Error Configuration
- Illumination Brightness Control
- Auxiliary I/O
- Pixel Error Status
- Enhanced Sign Control
- Default Message
- Enhanced Error
- Temperature status
- Pixel Service
- Status error
- Sign status

2. Application Level

Ensure that each DMS conforms to NTCIP 2301 as a Managed Agent and meets the requirements for Conformance Level 1. A NTCIP Component may support additional Application Profiles at the Manufacturer's option. Guarantee the responses use the same Application Profile used by the request. Confirm each NTCIP Component supports the receipt of Application data packets at any time allowed by the subject standards.

3. Transport Level

Certify each NTCIP Component complies with NTCIP 2201. Use Response datagrams the same Transport Profile used in the request. Confirm each NTCIP Component supports the receipts of datagrams conforming to any of the identified Transport Profiles at any time.

4. Subnet Level

Ensure the primary communications link between the DMS Sign Controller and the DMS Control Computer is TCP/IP. Guarantee each NTCIP Component conforms to NTCIP

2202 Internet Transport Profile and NTCIP 2104 Ethernet Profile over a 10/100 Ethernet connection; provide a LTE Digital Cellular Modem with an “Always on” connection and be capable of being remotely managed through the network.

**D. DMS Sign**

Provide a DMS that is a Walk-in LED full matrix sign utilizing RGB full color, 20mm pixel pitch and capable of displaying 3 lines of text, 17 characters per line, 18-inch characters, in 23X15 font, 96 by 336 pixel layout with 30° viewing angle, pure LED characters and minimum housing dimensions of 7 feet high, 24 feet wide, and 4 feet deep. Provide access doors with door alarm sensors in each end of the display cabinet. Ensure the DMS display has a redundant power supply.

Ensure the DMS complies with current NTCIP guidelines and standards.

Pre-Approved Models:

- VF-2020-96x336-20-RGB 20mm, manufactured by,
  DAKTRONICS, Inc.
  P.O. Box 5128
  331 32nd Avenue
  Brookings, SD 57006
  Phone (605) 697-4300

- VMSLED-W-20F-96x336-RGB-I 20 mm, manufactured by,
  Skyline Products, Inc.
  2903 Delta Drive
  Colorado Springs, CO 80124
  Phone (719) 494-4871

- Or A Pre-Approved equal. To become Pre-Approved, a DMS Supplier submits signs for testing according to Pre-Approval Procedures. Contact NDDOT ITS Engineer for Pre-approval procedures.

1. General.

The DMS equipment consists of the following:

a) Dynamic Message Sign Walk-in,
b) DMS case including contents,
c) Display modules,
d) Power supplies,
e) The SCU and communication unit and associated equipment and accessories described in this document,
f) The SCU cabinet, ground mounted equipment cabinet,
g) Control and power cabling from the SCU and the signs to the cabinet,
h) All mounting hardware,
i) Grounding and surge protection, and
j) Delivery, training, on-site installation support and acceptance testing, maintenance and operation manuals.

Confirm a Certified Technician is present and coordinates the connections between the DMS case and the SCU with the Contractor. The Certified Technician must furnish certification that installation methods meet approved Manufacturer’s requirements.

The DMS controller must be capable of displaying a message downloaded from:

a) The central communications software from the NDDOT offices.
b) A message downloaded from a local computer, or
c) A pre-stored message in the SCU's own memory.

The SCU must perform through the sign electronics and the SCU must process and format a status message for transmission to the central communication location.

Ensure all sign cases are dust-proof and watertight. Design the sign case according to the Manufacturer's recommendations for attachment to its associated overhead sign support structure. Perform all welding in accordance with ANSI/AWS D1.2 Structural Welding Code-Aluminum (2003).

Construct all sign cases of unfinished welded aluminum. Continuously weld all seams. Ensure the DMS is fitted with knockouts for 1-4" and 1-2" conduits.

Provide characters formed from light and are readable without the aid of reflective or non-reflective disks. Confirm reflective techniques are not used to increase target value and legibility distance.

2. Exterior Skin.
Provide exterior skin of the housing of 5052-H32 aluminum alloy sheet 0.125 inches thickness.

Seal all exterior seams and joints to form a rain and weather tight enclosure.

Stitch-weld the skin material to the internal structural members to form a unitized structure.

3. Internal Structure.
Construct the interior housing structural members from 6061-T6 and 6063-T5 aluminum alloy extrusions.

4. Environmental.
All field equipment must remain fully functional over an ambient temperature range of -40$^{O}$ F to +165$^{O}$ F and an outdoor ambient humidity range of 0% to 100% noncondensing.

All field equipment must be designed to and withstand 120 mph winds with 30% gust factors according to the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals.

All field equipment enclosures must be designed to and withstand the effects of sand, dust, and hose-directed water. All connections must be watertight. Inside DMS temperatures must not exceed +150$^{O}$ F for LED signs. Ambient temperatures are expected to exceed +100$^{O}$ F.

5. Power Requirements.
The incoming power to the service cabinet and SCU must be 120 VAC or 120/240 VAC, 60 Hz. The total power requirement for the signs and SCU must not exceed 4000 watts during the operation of a user-selected message with all 54 characters being displayed

to the public. An average of 15 pixels per character will be used for calculation verification.

6. Relationship of Parts.
   DMS contents include:
   a) DMS cabinet,
   b) mounting brackets,
   c) control cables,
   d) presentation medium,
   e) photo-sensing equipment,
   f) transparent anti-glare cover,
   g) heat and ventilation system,
   h) conduit, and
   i) fittings.

   Install the SCU in a ground-mounted cabinet with the following contents:
   a) local controller with software,
   b) current electrical diagram,
   c) power and electrical termination blocks, and
   d) power distribution center as required.

   The DMS display assembly must also contain the following assemblies:
   a) Remote control panel,
   b) Local control LED indicator,
   c) Latching handle with padlock option.

7. Transparent - Anti-Glare Sign Case Front.
   Manufacture the sign face of clear polycarbonate sheets of GE Lexan Type XL10 with a KYNAR 500 coated aluminum mask over a clear glazing. Paint the aluminum panel black.

8. LED's.
   Ensure each pixel contains two strings of LEDs. Power the pixel strings from a regulated DC power source. Maintain the LED current to maximize life of the pixel. Guarantee the failure of an LED in one string within a pixel does not affect the operation of any other string or pixel.

   Individually mount the LEDs directly to a printed circuit board. Ensure they are replaceable and individually removable using conventional electronics repair methods.

   Sign brightness shall meet NEMA TS4-2005, Section 5, (12,400 cd/$m^2$ minimum white brightness.) The LED drive current – Red less 30mA, Blue & Green less than 15mA.

   The DMS Supplier must provide batch numbers to show that the LED's are rated for the brightness specified, and the average light intensity must be within 1.0 candela per pixel. All pixels must have equal color and on-axis intensity.

   LED's must not emit light except when a message has been user commanded.

   All primary DMS components must be easily removable with common hand tools. The DMS display module and lens must be accessible and maintainable from inside the sign case.

Red LED's must be Aluminum Indium Gallium Phosphide-type (AlInGaP) LED's, Green and Blue LED's must utilize InGaN technology, with a viewing cone of 30 degrees. Wavelengths must meet chromaticity requirements and must be approximately 615nm – 635nm for red LED's, 520nm – 535nm for green LED's and 464nm - 470nm for blue LED's. LED's must be rated for 100,000 hours MTBF under continuous operation at 20 ma. Light output degradation must be less than 50% after 100,000 hours. Cone visibility must be declared by the DMS Supplier. Since there are numerous options of LED visibility cones, the DMS Supplier must prove that legibility requirements are met prior to installation. Sign cabinet must be ventilated sufficiently to allow the LED's to operate in the LED manufacturer's recommended temperature range.

9. Display Matrix.
   The display must be a full matrix design. Characters forming words must be readable by a person with 20/20 corrected vision within a range of 100 to 1,100 feet in advance of the sign at an eye height of 1.067 m (3.5 feet) within a 30-degree cone of vision about the optical axis.

   The sign display must be clearly visible from a distance of 1000 feet within a 30-degree cone centered about the axis under normal atmospheric conditions and under any lighting condition, using 18-inch-high characters.

10. Ventilation.
    All sign cases must be equipped with a positive ventilation system. Changeable filtration devices must be provided at drain holes and at all points where air enters the enclosure.

    Defog System must keep the front face clear from condensation. The defog system must be controlled automatically by the controller and controllable remotely from either the central computer or the laptop computer connected at the SCU.

11. Ambient Light Photo Sensor System.
    The DMS must incorporate a menu of changing the lighting level provided by the LEDs automatically in response to ambient lighting conditions as detected by the photocell, and remotely in response to commands received from the SCU. The photocells must be positioned to sense behind the sign, in front of the sign and below the sign.

    Ensure the sign controller monitors the photocell circuits in the sign and converts the measured light intensity into the desired pixel brightness. Correlate the photo circuit readings with a brightness table in the sign controller. Provide the brightness table with a minimum of 248 brightness levels. Ensure each sign has its own independent brightness table. Certify the brightness table in each individual sign controller is locally downloadable and can be customized according to the requirements of the installation site.

    These devices must direct the Sign Controller to modify the intensity of the light produced by the pixel elements. The mounting devices for the photoelectric cells must allow full adjustment of the cell orientation.

    The photoelectric cells must be located so they are easily accessible for maintenance.

If the photocell fails, the sign must remain in the normal brightness mode and an error message sent to the SCU. The SCU must transmit the failure state back to the central control location.

12. Additional requirements.
    All Printed Circuit Boards (PCBs) shall be completely conformal coated with a silicone resin or acrylic conformal coat. The material used to coat the PCBs shall meet the military specification: MIL-I-46058C Type SR and IPC-CC-830. All PCBs shall be finished with a solder mask and a component identifier silk screen.

    Writing speed must appear to write the entire sign instantly and must be 80 cps, minimum.

    The DMS Supplier must provide lugs for grounding the DMS to the DMS structure.

13. Spare Parts.
    Furnish the following spare parts with each DMS unit purchased.
    a) 1 – Power supply
    b) 2 – Display Modules
    c) 1 – Main Distribution Board
    d) 1 – Complete set vent filters

**E. Central Control Software.**

The Supplier must furnish the latest version of the DMS central control software with each DMS unit purchased. The control software must operate using most current version of Windows Operating Systems. Command and control of the following functions must be provided:

1. DMS Control.
   Central Software retrieves, displays, updates and downloads/uploads the following functional parameters to the local sign controller in response to user-initiated instructions. The control software performs the following operations in conjunction with its monitoring and logging functions:
   a) Display a message,
   b) Blank the current message,
   c) Change message priority,
   d) Set time and date in the sign controller,
   e) Retrieve sign controller ID, type, and Manufacturer,
   f) Perform pixel tests,
   g) Perform pixel reads,
   h) Provide power supply status, and
   i) Provide Temperature status.

2. Communications.
   Ensure communications between the central control software and sign controller are NTCIP compliant, as indicated in these specifications.

   The central control software checks all communications for errors. If a response from a sign controller contains a communication error, or if there is no response, the central control Software attempts to re-establish communications.

3. Data Collection.
   The central control software retrieves errors detected, message number currently being displayed, and current message priority. Using different commands, the software retrieves message MULTI strings, a map of defective pixels, the time and date, the event schedule, and configuration parameters.

4. Message Library.
   The central control software stores messages and transfers messages to a sign for storage and display. When a user desires to send a message to a sign, the central control software offers as choices only those messages compatible with that sign. The central control software allows message names of up to 100 characters.

   Provide programmable access by levels for each user and entitle the user to access only those functions which they are cleared to access.

5. System event Logging.
   Each event, including log on attempts by non-authorized users, is recorded in a log file. The record includes:
   a) Date/time,
   b) sign name,
   c) username, and
   d) event description.

   Status logs and message libraries are stored to the hard drive. Clear sign commands are considered an event and need to be logged.

   When a library message is downloaded to a sign, the message name is logged.

   The central controller software displays and prints any log file on the system sorted by user, sign event, date, time, sign location or any combination of these.

**F. Controller Unit and Cabinet.**

Provide a cabinet that is large enough to house all equipment specified and accommodate future expansion. Design the cabinet top to be waterproof with a 0.5-inch crown or slanted to the rear. Secure the cabinet to a concrete foundation. Provide the cabinet opening with a full-sized door with a gasket made of natural sponge rubber. Cover the keyhole of the lock with a swing away cover made of stainless steel. Supply 2 keys for each cabinet.

Size copper conductors according to the National Electrical Code (NEC) and Section 10 of the National Electrical Manufacturers Association (NEMA) Standards Publication TS-1. Finish all cabinet wiring in a neat and organized fashion. Furnish all assemblies and panels to be easily accessible for maintenance purposes. Label live wires inside the cabinet.

Equip the cabinet with a main circuit breaker used to disconnect the incoming AC service entrance. Provide a duplex Ground Fault Circuit Interrupt (GFCI) and a duplex non-GFCI in the control cabinet.

Provide conductors that meet the requirements of Section 896.02 A, “Feeder”.

The sign controller assembly and all major components must conform to the requirements of paragraphs 2.1.12, and 2.1.13 of NEMA Standards Publication TS-1 1998, or equivalent MIL specifications. The sign controller cabinet must be UL labeled or listed.

The sign controller assembly and all major components must withstand transients normally experienced on AC power lines and conform to the requirements of paragraph 2.1.6.1, 2.1.6.2, 2.1.8, 2.1.12, and 2.1.13 of NEMA Standards Publication TS-1, 1988, or equivalent MIL specifications. The Contractor must furnish 1 SCU (Type 2070 or PC based controller) and cabinet to the DMS site. This controller must be an integral unit containing a dedicated power supply.

The SCU must meet the following requirements:

a) Controller Address – A unique address must be assigned to the SCU. All commands from the central control location to this sign must be prefaced with this address. The SCU must compare this received address with the assigned address and must accept the command only if the addresses match.

   The address must be readily changeable through the DMS controller keypad or through changing jumpers in the control cabinet.

b) Message Storage Capacity – The SCU must store a minimum of 16 messages of 128 characters each in non-volatile random-access memory. Each of the messages must be addressable from the central control location through the communications network. The 16 messages must also be addressable from the front panel of the SCU.

c) Log all controller activities and errors locally on the SCU in nonvolatile memory.

d) Communicate with the central computer system using TCP.

e) DMS Controller Front Panel Controls and Local Display

The front panel of the SCU must have the following:

a) On/Off Switch – This switch must control the power to the DMS and the controller. It may be located elsewhere in the cabinet with the approval of the Engineer.

b) Local/Remote Switch – In the Local position, control of the sign must be by the local message select or diagnostic switches located on the SCU front panel. In the Remote position, control of the sign must be by messages received from the central control location.

c) Front Panel Controls – Message Selection must be capable of selecting any 1 of the 16 messages stored in the SCU.

Diagnostics must be performed through the SCU Test Equipment laptop computer. The front panel must also be able to display the current lamp status. If LED’s are used, the LED’s must have a minimum 100,000-hour life and must be amber or green with a minimum 0.3 candela brightness.

The front panel of the DMS controller must have the following displays:
a) Controller on,
b) Number of messages displayed, and
c) Error fault detected with an indication of type of error.

1. **Controls from Laptop Computer.**
   The SCU must allow local network access with laptop computer.

2. **Types of Messages.**
   The DMS with the SCU must display the following three types of messages:

   a) Static Message,
   b) Blinking Message, and
   c) Alternating Messages – A selected portion of the chosen sign must display 2 messages alternately with a repetition interval from one to ten seconds. The duration of each message displayed must be independently selectable in 0.5 second increments.

3. **Failure Detection.**
   The SCU must detect the following failures and report them to the remote controller and notebook computer:

   a) Power supply monitor circuitry must be provided to detect power failure,
   b) The SCU must detect data transmission errors by performing longitudinal redundancy checks and parity checks on all transmissions received,
   c) The SCU must monitor the data in the communications network and detect communications failure in the absence of data for a predetermined period of time,
   d) Display ventilation fan failure,
   e) Display AC power surge protection failure,
   f) Photocell failure,
   g) Uninterruptible Power Supply (UPS) failure and battery, and
   h) Environmental limit failure.

4. **Message Status Monitoring.**
   The SCU must transmit to the central control location a return message when it received a valid transmission and when it is being addressed. The return message must be in ASCII or NTCIP and the format must be selected by the DMS Supplier subject to the Engineer's approval. The message format, in general, must contain the:
   a) sign address,
   b) sign message being displayed,
   c) mode of operation,
   d) contents of any message stored in memory (if required from the central control location),
   e) current sign illumination level,
   f) cabinet temperature,
   g) UPS status,
   h) power supply voltage levels,
   i) battery status, and
   j) the presence and type of failures detected.

5. **Controller Start Up.**
   After power is turned on, the SCU must retain the displayed message until a command to display a different message is received from the central control location or from the control switches on the SCU front panel.

   After a power outage, the DMS must automatically return a command condition it was maintaining prior to losing power. Any message being displayed prior to the loss of

power must return without any input required from either the central controller or local controller.

**6. Sign Controller Cabinet.**

The cabinet and door must be designed for the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals for wind loading of 120 mph with 30% gusts. Easy access to all cabinet equipment must be provided. If access is required to the backside of any components in the cabinet, rear cabinet doors must be provided. All cabinet doors must withstand a 200 lb. vertical load applied anywhere on the door. Each door must be provided with a latching handle with locking in the closed position. The locks must be brass. The integral door lock must be a latching handle with lock where the key is removable only in the locked position. All locks must be keyed alike. The Contractor must supply 2 lock keys for each sign cabinet installed. A removable air filter must be housed behind the door vents. The filter must be pleated paper filter with outside dimensions of 10 inches by 10 inches by 0.88 inches. The doors must have catches to hold the doors open at 90 and 135 degrees. Doors must have gasket in channels or L brackets with a 3/8” gasket made of non-absorbent material and must maintain its resiliency after long-term exposure to the outdoor environment.

Each cabinet must be supplied with the following:

a) Minimum 24” width x 24” depth x 60” height
b) Removable pleated paper air filter,
c) SCU and DMS components required to be in the cabinet,
d) Front and rear door with door alarms
e) Fans and thermostat,
f) 4 - NEMA Type 5-15 R Duplex 120 VAC convenience outlet,
g) Rack mounted outlet strip (8 outlets)
h) Remote Power Control Rack Mounted Outlet Strip
i) UPS,
j) Surge Protection and lightning protection,
k) Rack Mounted power input junction terminal, including 1-30A breaker, 2-15A breakers,
l) Termination panel and terminal blocks,
m) Harnesses and connectors,
n) Provisions for grounding,
o) LED light at top of cabinet with door switch actuation,
p) Cabinet label,
q) EIA equipment rack with adjustable shelves as required,
r) Space reserved for spread spectrum transceiver or fiber optic modem,
s) Cabinet electrical diagram and drawing storage,
t) Cabinet weatherproofing,
u) Cabinet doors with lock and keys, and
v) Pull-out drawer and shelf, mounted on ball-bearing slides capable of supporting 20-pound test equipment.

Construct the SCU cabinet of mill finish aluminum.

The SCU cabinet must be NEMA 3R or NEMA 4 rated and all seams must be continuously welded.

The cabinet must be capable of being located up to 200 feet from the DMS structure and must meet the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signal for Roadside Design Guide requirements.

**7. Structural Steel and Aluminum.**

Cabinets must be constructed of sheet aluminum or extruded aluminum meeting the requirements of 10.7.

Rod, Bar, and extruded aluminum must be Type 6061-T6 or equivalent. Stainless steel sheet must be annealed or one-quarter-hard complying with the ASTM Designation: A666 for Type 304, Grades A or B, stainless steel sheet.

Plate all cold rolled steel. All plating must be either cadmium plating meeting the requirements of Federal specification QQ-P-416C, Type 2 Class 1 or zinc plating meeting the requirements of Federal specification QQ-Z-325B, Type 2 Class 1.

Cold rolled steel sheet, rod, bar, and extruded must be Type 1018/1020.

All materials must be new, corrosion resistant and follow these specifications.

Provide a DMS assembly that is listed by an accredited third-party testing organization for conformance to Underwriters Laboratories (UL) standards 48 and 1433. Conformance to this is provided with work drawings.

**8. Cabinet Grounding.**

The cabinet must be grounded following NEC and IEEE requirements by the Contractor. The DMS Supplier must verify and inspect all existing ground connections to ensure they are acceptable.

**9. UPS.**

A UPS must be provided to allow the sign controller to notify the central controller when an improper power condition exists at the DMS for longer than 30 seconds.

The UPS must be UL listed and cUL certified and meet the following requirements:

a) Communications port (DB-9 connector) utilizing contact closures,
b) 250 VA minimum outputs to allow for 10 minutes of sign controller operation during power outage, Battery Back-up operation, low runtime remaining, and overload alarms,
c) Input power: 120 ±15VAC, 60 ±3Hz,
d) Minimum output: 500 W,
e) NEMA 5-15 input power cord and outlets,
f) Automatic output protection (over current, short circuit, and over voltage),
g) Surge protected as per ANSI/IEEE C62.41 categories A and B, and
h) Operating environment of $32^{O}$ F to $104^{O}$ F, 0 - 95% relative humidity.

**10. Shelves and Rack.**

Shelf space must be according to Manufacturer's recommendation. The cabinet must contain a 19 inches EIA rack. The angles must comply with EIA RS-310B. The cage must be retractable or must be bolted at 4 points both top and bottom to the cabinet using the housing cage supports and spacers.

**11. Serial Number.**
Cabinets must be supplied with a serial number unique to the Manufacturer. The number must be displayed within the cabinet.

**G. 4G Cellular Modem.**
Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. Supports LTE 700MHz band

2. Has the following Security Features:
   a) IPsec VPN,
   b) GRE Tunneling,
   c) MAC Address Filtering,
   d) IP Filtering,
   e) Port Filtering, and
   f) SSH and HTTPS

3. Works in the following Atmospheric Conditions:
   a) Operating Temperature: -30ºC to +70ºC (-22ºF to 158ºF)
   b) Storage Temperature: -40ºC to +85ºC (-40ºF to 185ºF)

4. Uses an Ethernet Host interface that meets the following:
   a) 10/100 Mbps RJ-45,
   b) RS-232, and
   c) DB9 DCE (300-230400 baud)

5. Antenna Connections:
   a) Cellular – 50 Ohm SMA, and
   b) Receive Diversity – 50 Ohm SMA

6. Application Interfaces:
   a) TCP/IP,
   b) UDP/IP,
   c) DHCP,
   d) HTTP,
   e) SNMP,
   f) SMTP,
   g) SMS,
   h) MSCI,
   i) Modbus, and
   j) Binary

7. Has LED indicator lights for the following:
   a) Network,
   b) Signal,
   c) Activity,
   d) Service, and
   e) Power

**H. Ethernet Radio System.**

Provide an Ethernet Radio System that meets the requirements for a Point-to-MultiPoint wireless network device as detailed in this section. Ensure the devices provide wireless access points (multipoint “hubs”) and wireless client (multipoint “subscriber”) units. Where different specifications apply to each device, separate subsections will be included. The Ethernet Radio System will provide communications to both Dynamic Message Signs. Provide Subscriber units for each DMS with the following requirements.

1. General Requirements
    a. Incorporate a wireless point to multipoint access point device with field equipment.
    b. Ensure the wireless network complies with all Ethernet applicable transport standards.
    c. Ensure the wireless nodes and wireless access points are environmentally hardened and suitable for installation in outdoor environments.
    d. Provide a minimum 3 year Manufacturer’s warranty against defects in materials and workmanship. Use the Manufacturer’s standard warranty if it is for a longer duration.
    e. Provide access functionality in 5.8 GHz spectra at the wireless access point.
    f. Include an access point controller or similar device (hardware or software) to manage client authentication.

2. Networking
    a. Standards
        i. Ensure the wireless nodes support IEEE 802.3 Ethernet transport standards.
        ii. Ensure the nodes support IEEE 802.1p standards for Quality of Service and traffic prioritization.
        iii. Ensure the wireless nodes support, at a minimum IPV4, UDP, TCP, ICMP.
    b. Interfaces
        i. Ensure the wireless nodes support at least one 10/100Base-T Ethernet port.
        ii. Ensure the wireless access point provides the ability to seamlessly integrate with a backbone Ethernet/IP network.
        iii. Ensure the wireless network supports VLAN trunking.
        iv. Ensure the wireless access point supports multiple independent VLANs.
        v. Ensure the wireless networks support configuration of static routes.
        vi. Ensure the wireless network supports manual configuration of links.
        vii. Ensure the wireless access point supports DHCP client as well as DHCP server functionality.

c. Quality of Service
    i. Ensure the wireless network have simultaneous support for video, data services.
    ii. Ensure the wireless nodes support 802.1p standards based QoS.
    iii. Ensure the wireless access point supports multicast traffic (voice, video and data).
d. Scalability
    i. Supports networks of up to 50 nodes.
    ii. Ensure the wireless nodes provide the ability to bridge multiple wireless networks over IP.
    iii. Ensure the wireless nodes support a minimum of one gateway interface.

3. Radio Requirements
    a. Provide wireless nodes and wireless access point radios that are FCC certified.
    b. Ensure the wireless node operates in a 5.8 GHz band.
    c. Ensure the wireless node and wireless access points provide a mechanism for selecting channels within the operating frequency band.
    d. Ensure the wireless access point supports at least 20 concurrent users at the same time.
    e. Ensure the wireless node and wireless access point supports a maximum Effective Radiated Power of at least 28 dBm.
    f. Ensure the wireless access points and nodes support a minimum receive sensitivities of at least -86 dBm at 2 Mbit/sec sustained throughput.
    g. Ensure the wireless nodes provide the ability to configure any channel in the specified frequency bands.

4. Performance Requirements
    a. Ensure the wireless nodes and access point support a minimum data rate of 10 Mbps under ideal design conditions.
    b. Ensure the wireless node latency does not exceed 7 ms (average).

5. Antenna System Requirements
    a. Ensure the wireless node and wireless access point support external antenna enhancements.
    b. Ensure antenna enhancements provide a minimum of 16 dB gain over integrated or standard antenna solutions.

6. Management Requirements
    a. Ensure the wireless nodes and wireless access points provide management interfaces via:
        i. HTTP via a web-based interface
        ii. SNMP
        iii. Telnet with command-line interface
    b. Ensure software provides statistics, alarms, and events on a per device basis.
    c. Ensure the wireless node and wireless access point supports remote software upgradeability.

7. Security Requirements
    a. Ensure the wireless nodes and wireless access points support username and password security for all networking interfaces.
    b. Ensure the wireless nodes support hardware-based encryption.
    c. Ensure the wireless nodes and wireless access points support 128-bit AES.

d. Ensure the wireless nodes have the capability to distinguish between radios that are part of their network from radios that are not, even if those radios are from the same manufacturer and operate on the same radio channel.
e. Ensure the security encryption standards on the wireless nodes and wireless access points are FIPS certifiable.
f. Ensure the wireless access point supports VPN tunneling.

8. Physical & Environmental Requirements
    a. Mounting
        i. Obtain NDIT Manager approval at least 2 days before working on this installation.
        ii. Coordinate with the Department IT Technician to be on site while working on the tower.
        iii. Drilling into the radio tower is not allowed.
        iv. Provide installers who are experienced with this type of work.
        v. Mount the point-to-point Access Unit at the tower specified in the plans.
        vi. Mount the Subscriber Unit at the site as specified in the plans.

    b. Environmental
        i. Ensure the outdoor devices are pole mountable (with low profile mounting).
        ii. Ensure the wireless nodes and wireless access points enclosure is rugged NEMA 4X/IP67 rated for outdoor deployments.
        iii. Ensure the wireless nodes support surge suppression protection.
        iv. Ensure the outdoor nodes and wireless access points have weatherproof antenna connectors (IP64 minimum) where applicable.
        v. Ensure the outdoor wireless nodes and access points have the following environmental specifications:
            1. Operating temperature: -40ºC to +55ºC (-40ºF to +131ºF)
            2. Humidity (non-condensing) -10% to 90%
    c. Cable
        i. Black Category 5e Outside Plant (OSP).
        ii. Copper-clad steel armor shield.
        iii. Weather resistant polyethylene outer jacket.
        iv. Gel-filled, water repellent core.
        v. Solid annealed copper conductor.
        vi. Dry block between shield/armor and inner jacket.
        vii. 4 pair count.

    d. Power
        i. Provide wireless hardware units that support 120 VAC,60 Hz, 0.9A or 12-30 V DC+/- 15%.
        ii. Ensure the outdoor wireless nodes support 802.3af PoE standard (PS: Power Source) and are able to power two devices that are capable of deriving power over Ethernet (PoE).
        iii. Ensure the wireless access point supports 90–240 VAC, 50/60 Hz.

9. Ice Shield
    a. Install an ice shield above point to point Access Unit.
    b. Ensure the ice shield and mounting hardware are made of galvanized steel.
    c. Extend the shield  a minimum of 6 inches beyond the borders of the point to point Access Unit.

d. Ensure the shield can protect the unit from falling ice.

**I. Ethernet Lightning Surge Suppressor.**

Provide an Ethernet Lightning Suppressor that meets the following:

a) Ensure this unit is in a cast metal box with shielded connections,
b) Clamping voltage of 65 Volts,
c) Ensure the unit is compatible with Power over Ethernet cable, and
d) Operating temperature: -40°C to 49°C (-40°F to 120°F).

**J. Ethernet Switch.**

Supply an Ethernet Switch including all necessary equipment, enclosures, cables and mounting hardware required for operation. Provide an Ethernet switch that meets the following requirements:

a) Ruggedized construction,
b) Dedicated power supply,
c) 8-10/100TX Ports, and
d) Operating Temperature: -40°C to 49°C (-40°F to 120°F)

**K. CAT 6 OSP Communication Cable.**

Must be used if Ethernet is the method of communications between SCU and display.

a) Copper-clad steel armor shield
b) Weather resistant polyethylene outer jacket
c) Gel-filled, water repellent core
d) Solid annealed copper conductor
e) Dry block between shield/armor and inner jacket
f) 4 pair count

**L. Fiber Optic Communications Cable.**

Must be used if fiber is the method of communications between SCU and display.

a) PVC outer jacket
b) Minimum bend radius 4.95”
c) Operating Temperature of -40°C to 85°C
d) UL Listed
e) Meets NEC sections 770-51 (b) and (c) and 770-53 (b) and (c)

**M. Remote Power Control Rack Mounted Outlet Strip.**

Supply a Remote Power Control that meets the following:

a) Web-accessible IP-based power controller for minimum eight independently controlled outlets.
b) NEMA Type 5-15 input power cord and outlets
c) Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
d) 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.
e) Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
f) Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.

**N. Surge Protection and Lightning Protection.**

Power line surge protectors must be installed between the line conductors and equipment ground. All conductors entering and leaving the cabinet must be protected by surge protectors and lightning arresters.

Copper data lines between the SCU and the sign case must also contain surge protection. Power line surge protection must conform to the following requirements:

| | |
|---|---|
| a) Peak surge current occurrences | 20 minimum |
| b) Peak 8x20 msec wave shape | 20K amps |
| c) Clamp voltage at 20K amps | 250 maximum |
| d) Response | V < 250 during all portions of surge |
| e) Max. current at 120 VAC, 60Hz | 10 amps |
| f) Series inductance | 200 microhenries |
| g) Temperature | NEMA TS-1 |
| h) Maximum Dimensions | 3.25 x 7.25 x 2.5 |

**O. Sign Structure.**

Ensure the supporting structure and foundation for the Dynamic Message Signs meets the requirements of most current AASHTO publication, Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals. Use a wind velocity of 90 mph with the Wind Importance and Velocity Conversion Factors based on a 50 year recurrence interval. Adjust the wind pressure for the appropriate height and exposure factors. NCHRP Report 411 provides some information regarding the design of DMS supporting structures. Design each structural component using the requirements of Table 11-1 Fatigue Importance Factors, $I_f$, Fatigue Category 1 for DMS Supporting Structure. Conform the supporting structure to Section 894.05 A and B “Structures for Overhead Signs”.

## CONSTRUCTION REQUIREMENTS

**A. General.**

The Contractor is responsible for all wire termination.

Ensure that the conduit and cabinet is sealed and watertight.

Mount the permanent DMS to support structures following the Manufacturer’s recommendations and as shown on the plans. The details of the sign mounting must be coordinated between the DMS Supplier and the Contractor, including attachment point locations and details and gravity and wind loading locations and magnitudes.

Follow provisions for rodent protection as found in Section 772.04 G.5, “Traffic Signal Standards…”

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

Complete field measurements and adjustments to height or orientation to ensure that minimum vertical clearance and legibility distances are achieved, as shown in the plans. Make adjustments to the photo sensor control thresholds to ensure the legibility distance is maintained under all ambient light conditions.

Provide and bear all costs for the electrical service necessary to operate and maintain the DMS system until the site is accepted by the Engineer.

**B. Earthwork.**

Excess excavation obtained from construction activities becomes property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

**C. Seeding.**

Restore ground disturbed by construction activities to the original grade. Reseed these areas with Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, and feed points.

**D. Conduit.**

Provide steel conduit for all conduit above ground at the DMS.

Provide conduit that meets the requirements of Section 896.01 B.2 “HDPE”. Bury the 2 inch conduit a minimum of 24” below finished grade. Install conduit as a continuous run from the pull box to the cabinet.

Provide a temporary conduit seal in both ends with steel wood immediately after installation and reinstall after each phase of construction.

Provide permanent conduit plugs to seal the ends of the conduit after the conductor has been pulled through. Provide plugs that meet these requirements:

- Removable and reusable
- Split type that permit installation or removal without removing cables.
- Contain an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

**E. Cabinet Foundation and Installation.**

Construct the cabinet foundation and working slab according to the detail sheet.

Construct a 4 foot by 4-foot concrete working slab, 4 inches thick, next to the cabinet foundation on both door sides of cabinet.

Construct the cabinet foundation so there is a minimum of 3 Inches of clearance from the outside edge of the cabinet to the outside edge of the foundation on all sides.

Caulk saw cuts between the cabinet and foundation except where the V-groove is. Install copper or stainless mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four sides. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

Mount the modem antenna on the roof of the cabinet.

The Contractor is responsible for all conductor termination. Crimp and solder all lug terminals for conductor termination in the cabinet.

The DMS structures will not require any walkway or handrail.

Follow provisions for rodent protection as found in Section 772.04 G.5, “Traffic Signal Standards and Combination Signal and Light Standards”.

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

**E. Configuration by NDDOT.**

Integrate this system with the existing software and servers at the NDDOT. Procure data connections working with Department ITS Engineer:

Travis Lutman
608 E. Blvd. Ave
Bismarck, ND 58505
Telephone: (701) 328-4274
tlutman@nd.gov

Send the following items for system configuration:

- Modem
- Camera
- Memory Card
- Remote Power Control Outlet Strip

Ship these items to the Department ITS Engineer and include return shipping or delivery fees. Provide package insurance for all items. Allow at least 1 week to configure these devices.

**F. Certified Technician.**

The DMS Supplier’s Certified Technician provides on-site technical assistance in the following areas:

- Sign to controller cabling,
- Power and communication connections at controller,
- Verification of proper mounting of SCU cabinet and equipment, and
- Verification of proper sign to structure connection.

Ensure initial powering up of the sign is not executed without permission from the Certified Technician.

**G. Testing.**

The equipment covered by this Specification must be subjected to:

a) design approval tests (DAT),
b) Department demonstration test if DMS is not currently approved,
c) stand-alone tests,
d) systems tests, and
e) 72 hour and
f) 90-day test periods.

The Engineer will accept certification by an independent testing lab in place of the design approval tests to verify that the design approval tests have been completed.

The DMS Supplier must arrange for and conduct the tests in accordance with the testing requirements stated herein. Unless otherwise specified, the DMS Supplier is responsible for satisfying all inspection requirements prior to submission for the Engineer's inspection and acceptance. The contract periods will not be extended for time lost or delays caused by testing prior to final Department approval of any items. The Engineer reserves the right to have his representative witness any tests. The results of each test must be compared with the requirements specified in this document. Failure to conform to the requirements of any test must be counted as a defect, and the equipment shall be subject to rejection by the Engineer. Rejected equipment may be offered again for a retest, provided that any non-compliance has been corrected and retest by the DMS vendor and evidence thereof submitted to the Engineer.

Final inspection and acceptance of equipment must be made after installation at the designated location.

**a. Design Approval Tests.**

Design approval tests must be conducted by the DMS vendor on one or more samples of equipment of each type, to determine if the design of the equipment meets the requirements of this specification.

Ensure the design approval tests are completed by an independent testing lab, and cover the following:

1. Temperature and Condensation
   The DMS sign system equipment must successfully perform all the functionality requirements listed in this Specification under the following conditions in the order specified below:
   a) The equipment must be stabilized at –40 degrees F. After stabilization at this temperature, operate the equipment without degradation for 2 hours.
   b) Moisture is to condense on the equipment by allowing it to warm up to room temperature in an atmosphere with relative humidity at least 40 percent and the equipment must be operated for 2 hours while wet.
   c) The equipment must be stabilized at 149 degrees F. After stabilization, the equipment shall be operated for 2 hours without degradation or failure.

2. Primary Power Variation
   The equipment must meet the performance requirements when the nominal input voltage is 115 V +/- 15 V. The equipment must be operated at the extreme limits at least 15 minutes during which the operational test of the FDT is performed.

3. Relative Humidity
   The equipment must meet its performance requirements when subjected to a temperature of 149 degrees F and a relative humidity of 90%. The equipment must be maintained at the above condition for 48 hours. At the conclusion of the 48-hour soak, the equipment must meet the requirements of the operational test of the FDT within 30 minutes of beginning the test.

4. Vibration
   The equipment (excluding cabinets) must show no degradation of mechanical structure, soldered components, or plug-in components and must operate in accordance with the Manufacturer's equipment specifications after being subjected to the vibration tests as described in Section 2.2.5, "Vibration Test", of the NEMA standard TS1.

5. Power Service Transients
   Ensure the equipment meets the performance requirements, specified in the parent specification, when subjected to the power service transient specified in Section 2.1.6, "Transient, Power Service", of the NEMA standard TS4.

**b. Stand Alone Tests.**

The DMS Supplier shall conduct an approved stand-alone test of the equipment installation at the field site. Submit a Stand-Alone Test Plan to the Engineer for approval and receive approval prior to starting the Stand-Alone Tests. Ensure the test, exercises all stand-alone (non-network) functional operations of the field equipment with all of the equipment installed according to the plans or as directed by the Engineer.

Complete approved data forms and give to the Engineer as the basis for review and rejection or acceptance. Provide at least 5 working days' notice prior to all tests to permit the Engineer or his representative to observe each test.

If any unit fails to pass its stand-alone test, correct the unit or substitute another unit in its place and repeat the test. If a unit has been modified as a result of a stand-alone test failure, prepare a report and deliver to the Engineer prior to re-testing the unit. In the report, describe the nature of the failure and the corrective action taken.

If a failure pattern develops, the Engineer may direct that design and construction modifications be made to all units without additional cost to the Department or extension of the contract period.

**c. 72 Hour Test.**

Begin the 72 Hour Test Period after the successful DMS System Test. The Department will remotely poll the status of the DMS every 2 hours, perform Pixel Tests and Diagnostics daily, display Test Messages daily. After a successful 72 Hour Test period, the Department will deliver test reports to the Engineer.

If system tests fail because of any components in the subsystem, correct the particular components or substitute with other components and repeat the tests. If a component has been modified as a result of the system test failure, prepare a report and deliver to the Engineer prior to retest.

**d. 90 Day Test.**

After the installation the successful completion 72 Hour Test, the Department will conduct a 90-day test. The tests consist primarily of exercising all control, monitor and communications functions of the field equipment by the central equipment.

Commence the 90-day test period on the first day after the completion of the approved Stand Alone and System Tests and 72 Hour Tests.

During the 90-day test period, ensure downtime, due to mechanical, electrical or other malfunctions, does not exceed 5 working days. The Engineer may extend the 90-day test period by a number of days equal to the downtime in excess of 5 working days.

The Engineer may at their discretion, discontinue the 90-day test period if the DMS has performed successfully with no errors or downtime and all of the tests completed without error.

The Engineer will furnish the DMS Supplier with a letter of approval stating the first day of the 90-day test period.

**e. Final Acceptance.**
Final system acceptance is defined as all work and materials provided in this item have been furnished and installed, and all parts of the work have been approved and accepted by the Engineer and the DMS System has been operated continuously and successfully for 90 calendar days, with no more than 5 working days downtime due to mechanical, electrical or other malfunctions, in addition to the completion and certification of the NTCIP tests.

**H. Liquidated Damages.**
Liquidated damages will be assessed as stated in Section 108.07 “Unsatisfactory Progress” and based on the schedule below. The Engineer may adjust the dates to compensate for delays in delivery of signs from the Manufacturer.

| Description | Deadline to Avoid Liquidated Damages |
|---|---|
| Completion of Installation | October 16, 2021 |
| Completion of Stand-Alone Tests and System Tests | November 6, 2021 |
| Completion of Final Acceptance Test | January 29, 2022 |

**I. Training.**
Provide one 8-hour training class for Department personnel, including necessary manuals, displays, notes, and visual aids, in the operations and maintenance of the sign and control equipment.

Submit a training outline to the Engineer for review at least 30 days prior to its proposed use. Provide approved material for 12 people to attend the training class. The Engineer may lengthen or shorten the training time. Training consists of classroom time and hands-on experience at the sign site and central control location.

Training shall include:

- Central software setup and operation,
- Troubleshooting and diagnostics,
- Periodic and preventative maintenance procedures,
- Installation and replacement of spare parts and consumables, and
- Operation of custom objects not covered by NTCIP, if applicable.

The training period may run concurrently with construction or may start with the 90-day system test period. The training period must be concluded within two weeks after the start of the 90-day system test period.

**J. Manuals.**

Provide 3 service and operating manuals for the DMS. The Engineer will distribute the manuals to the control cabinet, District IT Division, and the Maintenance Division. Include the following information in the service manuals:

- Detailed description of operation and instructions for initial set-up
- All schematics and wiring diagrams of the unit
- Recommended servicing and service hints
- Complete parts list including model and serial numbers
- Recommended spare parts list

**K. Warranty.**

Equipment furnished under this specification must be guaranteed to perform according to these specifications and to the Supplier's published specifications. Equipment must be warranted for a minimum of seven years against defects and/or failure in design, materials and workmanship. Warranty coverage shall become effective on the date of final acceptance of the system by the Department. The Supplier must assign to the Department all Manufacturer's normal warranties or guarantees, on all such electronic, electrical and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Defective equipment must be repaired or replaced, at the Supplier's option, during the warranty period at no cost to the Department.

Software and firmware must also be warranted for 7 years to include updates, patches, and fixes. For years 8 through 14, Department may consider entering into an extended warranty with the Supplier for continued maintenance of the software and firmware.

Provide a signed warranty certificate which includes:

- Contact information,
- Start dates,
- End dates.

**L. Payment.**

Payment will be made as follows:

- 50% of the bid price of each DMS will be paid upon completion of installation.
- 40% of the bid price of each DMS will be paid upon completion of the 72 Hour Test
- 10%, less any liquidated damages, will be paid upon completion of Final Acceptance Test.

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

**METHOD OF MEASUREMENT**

The Engineer will measure each DYNAMIC MESSAGE SIGN and REVISE DYNAMIC MESSGE SIGN installed at each location.

**BASIS OF PAYMENT**

| Pay Item | Pay Unit |
|---|---|
| Dynamic Message Sign | Each |
| Revise Dynamic Message Sign | Each |

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

# NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

# SPECIAL PROVISION

# DYNAMIC MESSAGE SIGN CAMERA SYSTEM

# PROJECT ITS-9-999(447) – PCN 22936

## DESCRIPTION

Furnish and install a Camera System. Install equipment specified in this document on the pole as described in the plans. Integrate this system with existing software and servers at the Department.

Supply a camera system that is capable of providing color still images and streaming video of the roadway surface.

## MATERIALS

### A. General.

Ensure the Manufacturer provides technical assistance and support for all systems and components with a toll-free telephone number.

Verify that the systems and components are new and have been tested.

Use only components designed for 10 years or more of industrial use.

Materials and equipment conform to these special provisions, NEMA, the Electronics Industries Association, National Electrical Code, and the Telecommunications Industries Association.

### B. Work Drawings.

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following working drawings:

- Camera,
- Memory Card,
- Infrared Illuminator,
- Power Conductor, and
- Ethernet Cable.

### C. Pan Tilt Zoom Camera.

Supply a camera that includes the cables, adapters, power supplies, and mounting hardware required to operate the camera.

The camera must be compatible with the Department Advanced Traffic Management System (ATMS) and travel information map functions. Use the following camera:

- Axis Q6075-E or current model, or

- Approved equal.

Ensure the camera, enclosure, mount, power supplies and cables are standard production of the latest model. Provide a camera that features streaming video capability, built-in web server for configuration and image viewing, capable of providing full motion streaming video in all hardwired applications and wireless applications where proper signal strength is available, thermostatically controlled heater, and surge protection. Provide a camera that meets the following:

1. Pan/tilt/zoom
   a. Minimum of 8 preset positions capable of automatically uploading images when on tour.
   b. Pan: 360°endless
   c. Tilt: 180°
   d. Minimum Zoom: 30x optical and 2x digital
2. Video Streaming: Configurable streams in H.264 and Motion JPEG, Controllable frame rate and bandwidth VBR.CBR H.264
3. Frame Rate: H.264: Up to 30 fps in all resolutions; Motion JPEG: Up to 30 fps in all resolutions
4. Minimum Video Resolution: 720x480
5. Minimum Horizontal Resolution: 540 lines
6. Iris: Automatic
7. Minimum Illumination: Color: 0.5 lux; B/W: 0.008 lux
8. Operating temperature: -30°C to 50°C (-22°F to +122°F)
9. Power: Power over Ethernet (PoE) IEEE 802.3at, Max. 60 W
10. Communication cable
    a. Black Category 6 Outside Plant (OSP)
    b. Copper-clad steel armor shield
    c. Weather resistant polyethylene outer jacket
    d. Gel-filled, water repellent core
    e. Solid annealed copper conductor
    f. Dry block between shield/armor and inner jacket
    g. 4 pair count
11. Enclosure: IP66 and NEMA 4x rated
12. Enclosure: Fan assisted heater
13. Tour: The camera tour shall be capable of automatically uploading images at each preset with unique file names using FTP
14. Display: Shall be capable of an informational overlay on the camera image to include Date, Time, and Camera location.
15. System Integration: File upload via FTP
16. Security: Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
17. Connectors: IP66-rated
18. Mount: All equipment required to mount the supplied camera to a tower mast shall be provided.

**D. Memory Card.**

Supply a memory card compatible with the camera and meets the following requirements.

1. Secure Digital Extended Capacity (SDXC)
2. Storage Capacity: 64 GB

3. Speed Class: 10
4. UHS Speed Class: U1
5. Operating Temperature: -13°F to 185°F (-25°C to +85°C)

**E. Infrared Illuminator.**

Supply an infrared illuminator including all necessary equipment and mounting hardware required for operation. Provide an infrared illuminator that meets the following requirements:

1. Angle: 60°
2. Operating Temperature: -40°F to 120°F (-40°C to +50°C)
3. Enclosure/Housing: IP66- rated
4. Power Supply: The power supply shall have sufficient capacity to operate the illuminator from a dead start
5. SOOW Power Cable
   a. 14-3 600V
   b. Black flexible heat, moisture and oil resistant EPDM rubber jacket
   c. Temperature Rating: -40°C to +90°C
   d. UL and CSA listed for continuous submersion in water
   e. RoHS compliant, UL listed and CSA certified for outdoor use
6. Illuminator Distance: 100m
7. Mount: All equipment required to mount supplied illuminator to structure shall be provided.

## CONSTRUCTION REQUIREMENTS

**A. General.**

The Contractor is responsible for all wire termination.

Ensure the conduit is sealed and watertight.

Use stainless steel hardware (for example mounting bolts, nuts, washers, and external hinges) on outdoor components.

Use only components designed for 10 or more years of industrial use.

**B. Manuals.**

Provide 3 service and operating manuals for the camera system. The Engineer will distribute the manuals to the camera cabinet, District IT Division, and the Maintenance Division.

Include the following information in the service manuals:

- Detailed description of operation and instructions for initial set-up,
- All schematics and wiring diagrams of the unit,
- Recommended servicing and service hints,
- Complete parts list including model and serial numbers, and
- Recommended spare parts list.

**C. Configuration by NDDOT.**

Integrate this system with the existing software and servers at the NDDOT. Procure data connections working with Department ITS Engineer:

Travis Lutman
608 E. Blvd. Ave
Bismarck, ND 58505
Telephone: (701) 328-4274
tlutman@nd.gov

Send the following items for system configuration:

- Modem
- Camera
- Memory Card

Ship these items to the Department ITS Engineer and include return shipping or delivery fees. Provide package insurance for all items. Allow at least 1 week to configure these devices.

**D. Commissioning.**
Notify NDIT when the system will be commissioned.

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

Make all final site connections, checks, and sensor alignments

**E. Stand-Alone Test.**
Perform an approved stand-alone test of the equipment installed at the field site. Submit the stand-alone Test Plan to the Engineer for approval and receive approval prior to starting the stand-alone test. Submit test results to the Engineer for approval.

Complete form SFN 60717 which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the completed form to the Engineer.

**F. Central Test.**
After the successful completion of the stand-alone test the contractor will coordinate with the NDDOT to complete a central test. This test will consist of testing the system remote control functionality from the NDDOT central office.

**G. Warranty, Maintenance, and Support.**
Equipment furnished under this specification must be guaranteed to perform according to these specifications and to the Supplier's published specifications. Warranty equipment for a minimum of 3 years against defects, failure in design, materials and workmanship. The Supplier must assign to the Department all Manufacturer's normal warranties or guarantees, on all such electronic, electrical and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Defective equipment must be repaired or replaced, at the Supplier's option, during the warranty period at no cost to the Department.

Firmware must also be warranted for 3 years to include updates, patches, and fixes.

Provide a signed warranty certificate which includes:

- Contact information,
- Start dates,
- End dates.

**METHOD OF MEASUREMENT**

The Engineer will measure each DYNAMIC MESSAGE SIGN and REVISE DYNAMIC MESSAGE SIGN installed at each location.

**BASIS OF PAYMENT**

| Pay Item | Pay Unit |
|---|---|
| Dynamic Message Sign | Each |
| Revise Dynamic Message Sign | Each |

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

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION**

**PERMITS AND ENVIRONMENTAL CONSIDERATIONS**

**NON-REPORTING NATIONWIDE 12 SECTION 404 PERMIT**
**UTILITY LINE ACTIVITIES**

This Special Provision incorporates a Non-Reporting US Army Corps of Engineers (USACE) Nationwide 12 Section 404 Permit. A Non-Reporting Nationwide 12 404 Permit is utilized in situations where impacts to USACE jurisdictional waters meet specific criteria which allow work in the wetland without preconstruction notification (permit application). To use the Non-Reporting Permit the conditions listed in the attached Fact Sheets and Regional Conditions must be followed.

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

- **Nationwide 12 Non-Reporting Section 404 Permit**
  A Nationwide 12 Non-Reporting 404 Permit situation authorizes utility work which will result in temporary impacts to jurisdictional waters of the US and/or permanent impacts to jurisdictional waters of the US as long as the permanent impact is not greater than 0.10 acre. All temporarily impacted areas will be restored to original contours.

The contractor shall be responsible for obtaining permits for impacts not authorized by this Non-Reporting Nationwide 12 Permit.

**FACT SHEET**
**NATIONWIDE PERMIT 12**
**(2017)**

## UTILITY LINE ACTIVITIES

Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project. Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A ''utility line'' is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and internet, radio, and television communication. The term ''utility line'' does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area. Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.
Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities. Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.
Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non- tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or

geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows. This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit. This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre- construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.
Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) The activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10- acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 32.) (Sections 10 and 404)

Note 1: Where the utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

Note 3: Utility lines consisting of aerial electric power transmission lines crossing navigable waters of the United States (which are defined at 33 CFR part 329) must comply with the applicable minimum clearances specified in 33 CFR 322.5(i).

Note 4: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 5: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 6: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 7: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Note 8: For NWP 12 activities that require pre-construction notification, the PCN must include 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 that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, ''District Engineer's Decision.'' The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

## 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 NWPs, 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 and 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. <u>Discovery of Previously Unknown Remains and Artifacts.</u>**

If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid

construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

**22. 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 NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 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. <u>Safety of Impoundment Structures.</u>**

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. <u>Water Quality.</u>**

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, II and Class III rivers and streams or classified lakes listed in Appendices I and II of the standards, individual certification must be obtained. For project 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

NORTH DAKOTA
DEPARTMENT of HEALTH

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

## Construction and Environmental Disturbance Requirements

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

### Soils

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

### Surface Waters

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

### Fill Material

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

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:

$$\textbf{Fuel Ratio}_{(x, y, z)} = \textbf{Affidavit Cost}_{(x, y, z)} / \textbf{Original Contract Amount}_{(x, y, z)}$$

| | | |
|---|---|---|
| (x) | = | Motor Fuel (Diesel) |
| (y) | = | Motor Fuel (Unleaded) |
| (z) | = | Burner Fuel |
| $\text{Fuel Ratio}_{(x, y, z)}$ | = | Fuel ratio of the contract for each respective fuel type |
| $\text{Affidavit Cost}_{(x, y, z)}$ | = | Fuel costs from Fuel Adjustment Affidavit (SFN 58393) |
| $\text{Original Contract Amount}_{(x, y)}$ | = | Total of the original contract amount excluding lane rental, and Part B of the bid (when A+B bidding is used), if applicable. |
| $\text{Original Contract Amount}_{(z)}$ | = | Total original contract amount for all hot bituminous pavement bid items combined, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation. |

Cost Change

The monthly change in fuel costs will be determined by the following equation:

$$\textbf{Cost Change}_{(x, y, z)} = ( \textbf{CFI}_{(x, y, z)} - \textbf{BFI}_{(x, y, z)} ) / \textbf{BFI}_{(x, y, z)}$$

| | | |
|---|---|---|
| (x) | = | Motor Fuel (Diesel) |
| (y) | = | Motor Fuel (Unleaded) |
| (z) | = | Burner Fuel (use diesel prices) |
| $\text{Cost Change}_{(x, y, z)}$ | = | The relative change in the current CFI and the BFI for each fuel type |
| $\text{CFI}_{(x, y, z)}$ | = | Current Fuel Index for each fuel type |
| $\text{BFI}_{(x, y, z)}$ | = | Base Fuel Index for each fuel type |

Contract Adjustments

Contract adjustments will be made for the cost of motor and burner fuels whenever the cost change exceeds a ±0.10 threshold. No fuel cost adjustment will be made for work done under liquidated damages. Adjustments will be determined for Motor Fuel (diesel), Motor Fuel (unleaded), and Burner Fuel (burner) separately and shall be computed on a monthly basis.

When the cost change is greater than 0.10, the rebate to the Contractor for each fuel type shall be computed according to the following formulas:

$$\mathbf{FCA_{(x,\,y,\,z)} = Fuel\ Ratio_{(x,\,y,\,z)} \times Estimate_{(x,\,y,\,z)} \times ( Cost\ Change_{(x,\,y,\,z)} - 0.10 )}$$

| | | |
|---|---|---|
| (x) | = | Motor Fuel (Diesel) |
| (y) | = | Motor Fuel (Unleaded) |
| (z) | = | Burner Fuel |
| $FCA_{(x,\,y,\,z)}$ | = | Fuel Cost Adjustment for each of the fuel types |
| $Fuel\ Ratio_{(x,\,y,\,z)}$ | = | Fuel Ratio for each of the fuel types |
| $Estimate_{(x,\,y)}$ | = | 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. |
| $Estimate_{(z)}$ | = | 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. |
| $Cost\ Change_{(x,\,y,\,z)}$ | = | 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:

$$\mathbf{FCA_{(x,\,y,\,z)} = Fuel\ Ratio_{(x,\,y,\,z)} \times Estimate_{(x,\,y,\,z)} \times ( Cost\ Change_{(x,\,y,\,z)} + 0.10 )}$$

| | | |
|---|---|---|
| (x) | = | Motor Fuel (Diesel) |
| (y) | = | Motor Fuel (Unleaded) |
| (z) | = | Burner Fuel |
| $FCA_{(x,\,y,\,z)}$ | = | Fuel Cost Adjustment for each of the fuel types |
| $Fuel\ Ratio_{(x,\,y,\,z)}$ | = | Fuel Ratio for each of the fuel types |
| $Estimate_{(x,\,y)}$ | = | 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. |
| $Estimate_{(z)}$ | = | 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. |
| $Cost\ Change_{(x,\,y,\,z)}$ | = | 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)



**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.

☐ Diesel ☐ Unleaded ☐ Burner

Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price? No adjustments in fuel prices will be made if **No** is checked . ☐ Yes ☐ 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) | |