

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION



BID PROPOSAL

CONTRACT T200707404

BR 1-488N&S ON N001 US13 OVER BLACKBIRD CREEK

Federal Aid No. EBRN-N016(3)
CFDA: 20.205

Advertisement Date: August 23, 2024

INCLUDED IN THIS DOCUMENT:

BID PROPOSAL:

*GENERAL DESCRIPTION
PROSPECTIVE BIDDERS NOTES
GENERAL NOTICES
PREVAILING WAGES
SPECIAL PROVISIONS
STATEMENTS
QUANTITY SHEET SUMMARY*

ADDITIONAL BID PROPOSAL ITEMS:

ATTACHED OR POSTED DOCUMENTS:

*PROJECT PLANS
QUESTIONS & ANSWERS (if posted)
DIESEL FUEL FORM
STEEL COST FORM*

**PAPER BIDDERS CONTACT DELDOT
FOR BID SUBMITTAL DOCUMENTS:**

*DRUG TESTING AFFIDAVIT
CERTIFICATION FORM
BID BOND FORM
CD FOR BID PRICE ENTRY & PRINTING*

This Bid Proposal and related documents can be viewed on bids.delaware.gov and bidx.com/de/

Internet Bids for Bidders with Bid Express® accounts can be submitted at [BIDX.com/de](https://bidx.com/de/); **OR**;

Paper Bids with CD will be received in the Bidder's Room at the DelDOT Administration Building, Dover, DE;

ALL BIDS DUE PRIOR TO 2:00 P.M. Local Time, SEPTEMBER 24, 2024

GENERAL DESCRIPTION

A. BIDS DUE: **SEPTEMBER 24, 2024** **PRIOR TO 2:00 P.M. Local Time** – unless changed via Addendum.

BIDS MUST BE SUBMITTED VIA:

(a) **Internet** - Bidders with DelDOT Bid Express® accounts can submit bids at www.bidx.com/de/.

OR:

(b) **Paper Bid Delivered To:** Delaware Department of Transportation, Administration Building
North Entrance, Bidders Room, 800 Bay Road, Dover, DE 19901

For paper bids, contact DelDOT at dot-ask@delaware.gov or (302) 760-2031 to request a CD for bidding, required forms, and instructions. Bidders enter their Bid Item prices onto the supplied CD then print the form and deliver in a sealed envelope; the Bid Form, completed CD, and required documents prior to the Bid due date and time.
(CD's cannot be used to submit bids to bidx.com)

Do not submit both Internet and Paper Bids. If so, the Internet bid and documents will be rejected.

BID OPENING: Bids will be publicly opened and read aloud at the Date and Time of the Bid Opening. The Bid Opening will be held at the 'Paper Bid Delivered To' address shown above. Bidder bears the risk of late delivery, bids received after the stated time will be returned unopened.

Attendance is not required. DelDOT offers a call-in number to hear the Bid Opening telephonically. The telephone number to call is (408) 418-9388.

When prompted, enter Meeting number (access code): 173 970 0618#

It is anticipated the telephone access information will remain the same for all Bid Openings.

B. PRE-BID MEETING: Yes - MANDATORY; DATE: THURSDAY, SEPTEMBER 5, 2024 TIME: 9:00 AM

LOCATION: Bidder's Room DelDOT Administration Bldg. 800 S. Bay Rd, Dover, DE 19901

C. DBE GOAL: 15% Disadvantaged Business Enterprise Goal

D. OJT TRAINEES: n/a

E. LOCATION: New Castle County

These improvements are more specifically shown on the Location Map(s) of the attached Plans.

F. DESCRIPTION: The improvements consist of furnishing all labor and materials for this project which involves the replacement of the existing Bridges 1-488N&S, which are concrete arches. The proposed bridges will be adjacent pre-stressed concrete deck bulb tee beams on stub abutments. Additional work includes raising the roadway profile of US13 by reconstructing the roadway approaches, installing guardrail, and placing riprap in the stream for scour protection. Follow other incidental construction in accordance with the location, notes and details shown on the plans, and as directed by the Engineer.

G. BUY AMERICA REQUIREMENTS APPLY – Build America, Buy America Act, refer to 'GENERAL NOTICES'.

H. COMPLETION TIME: All work on this contract must be complete within 284 Calendar Days.

Extensions of contract time due to weather are specified in the Standard Specifications Section 108.7F, weather days.

It is estimated a Notice to Proceed is issued such that work starts on or about January 6, 2025.

I. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DELAWARE DEPARTMENT OF TRANSPORTATION, JANUARY 2024 apply to this Bid Proposal and Project. The Contractor shall make himself aware of any revisions and corrections (Supplemental Specifications, if any) and apply them to the applicable item(s) of this contract. The Standard and Supplemental Specifications can be viewed [here](#). Units of Measure can be found at 101.4.

- J. ATTACHMENTS:** Included as part of this Bid Proposal are; *Project Plans*; *Questions & Answers* (if posted); *Addenda*, *Referenced Documents*, *Documents Posted with this Bid Proposal*; and *Bid documents mailed to contractors*.
- K. ADDENDA:** All Addenda are posted on the internet at bids.delaware.gov, and bidx.com/de/ and are included as part of the Bid Proposal. The Bidder is responsible to check the Website as needed to ensure that the Bidder is aware of Addenda that are included in the Bid Proposal. If Addenda are issued, the final Addendum will be posted no later than the end of the day two business days prior to the bid date. Each Addendum number and issue date must be entered on the submitted Certification Form. This original Bid Proposal will not be updated, you must refer to each Addendum.
- L. QUESTIONS:** E-MAIL TO; dot-ask@delaware.gov
 Questions regarding this project are to be e-mailed to the above address no less than **six business days** prior to the bid opening date in order to receive a posted response. Please include the Contract number in the subject line. Questions and responses are posted at bids.delaware.gov, and bidx.com/de/. The date of the final posted Questions and Answers document must be entered on the submitted Certification Form.

M. INCENTIVE/DISINCENTIVE LANGUAGE:

As detailed in the Plans, all work in Phase 2 shall be completed, and the road fully reopened to traffic within 45 calendar days. The Contractor will be paid an incentive at the rate of \$20,000 per day for each full calendar day the Phase 2 work is substantially complete, and the road is fully open to traffic prior to the 45th calendar day of Phase 2. The incentive will be applied to each direction of US 13 separately. The maximum incentive payment for the contract will not exceed \$200,000.00 for early completion of the work. No payment shall be made for partial calendar days.

Example Calculation for assessment of Incentives:

For use of this example, the detour for Phase 2 was installed at 8:00 AM and the construction duration is 45 calendar days.

1. US 13 Northbound is reopened at 7:59 AM on the 43rd calendar day. US 13 Southbound was opened at 1:00 PM on the 45th calendar day.
 - Incentive Amount for US 13 NB = (2) Calendar Days x \$20,000 = \$40,000
 - Incentive Amount for US 13 SB = \$0.00 for opening on time
2. US 13 Northbound and Southbound are reopened at 7:59 AM on the 41st calendar day.
 - Incentive Amount for US 13 NB = (4) Calendar Days x \$20,000 = \$80,000
 - Incentive Amount for US 13 SB = (4) Calendar Days x \$20,000 = \$80,000
 - Total Project Incentive = \$160,000

The Department shall assess the Contractor a disincentive for failure to have the road fully open to traffic in Phase 2 within 45 calendar days. The disincentive will be \$40,000.00 for each calendar day the work remains incomplete and the road is not fully open to traffic in Phase 2.

The incentive will be applied to each direction of US 13 separately. This assessment will not exceed a maximum of \$800,000.00.

Example Calculation for assessment of Disincentives:

For use of this example, the detour was installed at 8:00 AM and the construction duration is 45 calendar days.

3. US 13 Northbound is reopened at 8:05 AM on the 49th calendar day. US 13 Southbound was opened at 7:59 AM on the 45th calendar day.
 - Disincentive Amount for US 13 NB = (4) Calendar Days x \$40,000 = \$160,000
 - Disincentive Amount for US 13 SB = \$0.00 for opening on time

4. US 13 Northbound and Southbound are reopened at 7:59 AM on the 50th calendar day.

- Disincentive Amount for US 13 NB = (5) Calendar Days x \$40,000 = \$200,000
- Disincentive Amount for US 13 SB = (5) Calendar Days x \$40,000 = \$200,000
- Total Project Disincentive = \$400,000

The assessment may be deducted from any monies due or to become due to the Contractor. This assessment will be in addition to any liquidated damages required per Section 108.8, which would be assessed on the contract as a whole until such time that all of the work is complete.

A calendar day for the determination of incentives and disincentives will be calculated as the 24- hour period beginning at the time the road closure begins. For example, if the road closure begins at 8:00 pm, one calendar day will be up to 7:59 pm the following day. As such, no consideration will be given for partial calendar days.

N. FLAGGERS:

- A. Included in the Bid Proposal are the prevailing wages for highway construction as determined by the Department of Labor of the State of Delaware in accordance with [Title 29 Del. C. §6960](#), relating to wages and the regulations implementing that Section.
- B. Flagger must be bid at a minimum equal to the Laborer wage rate and may be bid up to, but not to exceed, 3 times the Laborer wage rate in accordance with the County where the Work is being performed.
- C. The Department will adjust the bid to the minimum for prices bid below the minimum acceptable bid and to the maximum for prices bid above the maximum allowable bid prior to award of the Contract.
 1. Flagger overtime must be bid at minimum of 1.45 times and may be bid up to a maximum of 4.35 times, the Laborer wage rate in accordance with the County where the Work is being performed.
 2. When a Contract for a Project contains both Federal Davis-Bacon and State of Delaware prevailing wage standards, the employer's minimum wage obligations are determined by whichever standards are higher.
- D. Overtime:
 1. Payment for overtime will be considered on a weekly basis for time worked in excess of 40 hours for a continuous 7-day period beginning Monday and ending Sunday inclusive.
 2. Time worked on other Projects or Work activities other than flagging will not be counted in the normal 40 hours or the overtime.
- E. The cost of the flagging operation when performed by others who are not the Contractor's employees will not be included in the 50% subcontracting limit as outlined in Section 108.1.

O. PROSPECTIVE BIDDERS NOTES:

1. **BIDDERS MUST BE REGISTERED** with DelDOT in order to submit a bid. E-Mail dot-ask@delaware.gov or call (302) 760-2031 to request registration information.
2. **SURETY BOND** - Each proposal must be accompanied by a deposit of either surety bond or security for a sum equal to at least 10% of the amount bid.
3. **DELAWARE'S CONTRACTOR REGISTRATION ACT** - 19 Del.C. §§ 3601 *et seq.*, requires all contractors and subcontractors to register with the Delaware Department of Labor before performing construction services or maintenance. Refer to the GENERAL NOTICES section for further information.
4. **DRUG TESTING** - Regulation 4104; The state Office of Management and Budget has developed regulations that require Contractors and Subcontractors to implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds pursuant to 29 Del.C. §6908(a)(6). **Refer to the full requirements at the following link:**
<https://regulations.delaware.gov/AdminCode/title19/4000/4100/4104.shtml#TopOfPage>
 Note a few of the requirements;

- * At bid submission - Each bidder must submit with the bid a single signed affidavit certifying that the bidder and its subcontractors has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation (*a blank affidavit form is attached*);
 - * At least two business days prior to contract execution - The awarded Contractor shall provide to DelDOT copies of the Employee Drug Testing Program for the Contractor, each participating DBE firm, and all other listed Subcontractors;
 - * Subcontractors - Contractors that employ Subcontractors on the job site may do so only after submitting a copy of the Subcontractor's Employee Drug Testing Program along with the standard required subcontractor information. A Subcontractor shall not commence work until **DelDOT** has approved the program in writing.
5. **PERFORMANCE-BASED RATING SYSTEM** - 29 Del.C. §6962 (c)(12)(a) requires DelDOT to include a performance-based rating system for contractors. The Performance Rating for each Contractor shall be used as a prequalification to bid at the time of bid. Refer to '*General Notices*' for details.
6. **NO RETAINAGE** will be withheld on this contract unless through the Performance-Based Rating System.
7. **EXTERNAL COMPLAINT PROCEDURE** can be viewed on DelDOT's Website, https://deldot.gov/Business/cr/index.shtml?dc=civil_rights_eeo or request a copy by calling (302) 760-2555.
8. **DBE PROGRAM REQUIREMENTS** (49CFR §26.53(b)(3)(i)(B)) require submission of DBE participation information from the apparent low bidder no later than five (5) calendar days after bid opening.
9. **FLATWORK CONCRETE TECHNICIAN CERTIFICATION TRAINING:**
Section 501.3, 503.3, 505.3, 610.3, 701.3 and 702.3 of the 2024 Standard Specifications require contractors to provide an American Concrete Institute (ACI) or National Ready-Mix Concrete Association (NRMCA) certified concrete flatwork technician to supervise all finishing of flatwork concrete.
10. NOTE that FHWA Form 1273 (attached) has been modified effective October 23, 2023. Changes are [reviewed here](#).
11. **SIGNAGE LANGUAGE:** **NEW** 
In order to maintain effective communication with the traveling public, only place signs, banners, flags, or other displays within the projects limits that meet the requirements of the latest version of the Delaware Manual on Uniform Traffic Control Devices. Any signs or other materials which deviate from the MUTCD, must be preapproved by the Engineer. The only signage and materials which may be displayed upon vehicles and equipment within the Project area are signs denoting the name of the Contractor and any subcontractors and other signs and/or materials required and approved pursuant to the MUTCD and the Engineer. Contractor shall immediately remove any signs or materials within the Project that does not meet these requirements immediately upon notification by the Engineer. Failure to remove signs or other materials following notification from the Engineer will result in Liquidated Damages being assessed in the manner and amount specified in the Standard Specifications section 108.9.A.
12. **DIESEL FUEL COST PRICE ADJUSTMENT FORM** is posted and part of this Bid Proposal.
13. **STEEL COST PRICE ADJUSTMENT FORM** is posted and part of this Bid Proposal.

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GENERAL NOTICES

CONTRACTOR REGISTRATION ACT

On July 1, 2021, the Contractor Registration Act, as codified in 19 Del.C. §§ 3601 *et seq*, took effect. This law requires all contractors to register with the Delaware Department of Labor before performing construction services or maintenance. The Contractor Registration Act applies to all contractors that engage in construction and maintenance within the State of Delaware. Additionally, it requires contractors to have Delaware workers' compensation insurance where required, compliance with labor laws, and proof of a state business license. The Delaware Department of Labor's Office of Contractor Registration is responsible for enforcement of the requirements of the Contractor Registration Act. If you have any questions about the contractor registration process, please call 302-430-7739 or email Contract.Registry@delaware.gov. Registration at <https://onestop.delaware.gov/>.

BUY AMERICA REQUIREMENT

NEW 

The Build America, Buy America Act (BABA), enacted as part of the Bipartisan Infrastructure Law (BIL) requires iron, steel, manufactured products, and construction materials used in infrastructure projects funded by Federal financial assistance to be produced in the United States.

In accordance with 23 U.S.C. 313, and 23 CFR 635.410, all iron and steel materials permanently incorporated into this project will be produced in the United States and that all manufacturing processes involving these materials will occur in the U.S., except that a minimal amount of foreign steel or iron materials may be used, provided the cost of the foreign materials does not exceed 0.1 percent of the total Contract cost or \$2,500.00, whichever is greater. If such minimal amount of foreign steel is used, the Contractor shall maintain a record of the costs to ensure that the allowable limit is not exceeded.

Manufactured products are currently exempt from the Buy America requirements included in BABA in accordance with a waiver issued for such products by the FHWA in 1983. The 1983 waiver does not supersede 23 CFR 635.410 which requires all manufacturing processes involving the steel or iron used occur in the U.S., except that a minimal amount of foreign steel or iron materials may be used, provided the cost of the foreign materials does not exceed 0.1 percent of the total Contract cost or \$2,500.00, whichever is greater. If such minimal amount of foreign steel is used, the Contractor shall maintain a record of the costs to ensure that the allowable limit is not exceeded.

All construction materials permanently incorporated into this project are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States. Construction materials which are exempt from BABA requirements include cement and cementitious materials, aggregates such as stone, sand, or gravel, and aggregate binding agents or additives.

The Department maintains a list of all pay items, the applicable BABA category designation, and additional guidance at the following address: <https://deldot.gov/Business/prodlists/index.shtml?dc=buyAmerica>.

By signing and submitting this proposal, the bidder certifies that:

“All materials that will be permanently incorporated into this project will meet the Buy America material requirements. At the Department's request, I/we will provide manufacturer's/supplier's documentation verifying domestic origin as defined in the Contract. All Materials accepted on the basis of such Certificate of Compliance may be sampled by the Department and tested at any time. Use of Material on the basis of Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating Material in the Project conforming to the requirements of the Contract. Any Material not conforming to such requirements will be subject to rejection whether in place or not. The Department reserves the right to refuse to permit the use of Material on the basis of Certificate of Compliance.”

SPECIFICATIONS :

The Delaware specifications entitled "*Standard Specifications for Road and Bridge Construction*, with the applicable version defined in the 'GENERAL DESCRIPTION' and hereinafter referred to as the *Standard Specifications*; shall govern the work to be performed under this contract. The Contractor shall make itself aware of these specifications, revisions and corrections, and apply them to the applicable item(s) of this contract.

CLARIFICATIONS :

Under any Section or Item included in the Contract, the Contractor shall be aware that when requirements, responsibilities, and furnishing of materials are outlined in the details and notes on the Plans and in the paragraphs preceding the "Basis of Payment" paragraph in the Standard Specifications or Special Provisions, no interpretation shall be made that such stipulations are excluded because reiteration is not made in the "Basis of Payment" paragraph.

The Department requires the use of various electronic applications for various documentation processes. These processes will be identified, and the Contractor's required use will be detailed during the Preconstruction Meeting. No additional payments will be made to the contractor to use or interface with the applications.

ATTESTING TO NON-COLLUSION :

The Department requires as a condition precedent to acceptance of bids a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract. The form for this sworn statement is included in the proposal and must be properly executed in order to have the bid considered.

QUANTITIES :

The quantities shown are for comparison of bids only. The Department may increase or decrease any quantity or quantities without penalty or change in the bid price.

PERFORMANCE-BASED RATING SYSTEM

29 Del.C. §6962 (c)(12)(a) requires a Department of Transportation project, excluding a municipal street aid contract, to include a performance-based rating system. At the time of bid, the Performance Rating for each Contractor shall be used as a prequalification to bid.

Bidders with Performance Rating scores equal to or greater than 85% shall be permitted to bid. Bidders with scores of less than 85% who comply with the retainage requirements of 29 Del.C. §6962 shall be permitted to bid provided the *Agreement to Accept Retainage* (located on the Certification Page) is executed and submitted with the bid. Lack of an executed *Agreement to Accept Retainage* will result in the rejection of the bid by the Department. Successful bidders awarded Department contracts who have no performance history within the last five (5) years will be assigned a provisional Performance Rating of 85% at the date of advertisement.

Notification of Performance Rating. The Department shall post publicly the Performance Rating for all Contractors on the Department's [website](#). DelDOT will complete performance-based evaluations on the construction company contracted by the Department to build the project (the "Contractor"). Provisions to appeal Performance Ratings are described in the regulations. The regulations are set forth in Section 2408 of Title 2, Delaware Administrative Code, found [here](#).

EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS :

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (7) states;

- a. As a condition of the awarding of any contract for public works financed in whole or in part by State appropriation, such contracts shall include the following provisions:

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, gender identity or national origin. The contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: 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. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, gender identity or national origin.
3. The contractor will ensure employees receive equal pay for equal work, without regard to sex. Employee pay differential is acceptable if pursuant to a seniority system, a merit system, a system which measures earnings by quantity or quality of production, or if the differential is based on any other factor other than sex.

TAX CLEARANCE :

As payments to each vendor or contractor aggregate \$2,000, the Division of Accounting will report such vendor or contractor to the Division of Revenue, who will then check the vendor or contractor's compliance with tax requirements and take such further action as may be necessary to ensure compliance.

LICENSE :

A person desiring to engage in business in this State as a contractor on a project designated to include federal funds, shall obtain a Delaware business license upon making application to the Division of Revenue. Proof of said license compliance to be made prior to, or in conjunction with, the execution of a contract to which he has been named.

SUBCONTRACTOR LICENSE: 29 DEL. C. §6967:

- (c) Any contractor that enters a public works contract must provide to the agency to which it is contracting, within 30 days of entering such public works contract, copies of all occupational and business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the contractor entered the public works contract the occupational or business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

DIFFERING SITE CONDITIONS:

SUSPENSIONS OF WORK and SIGNIFICANT CHANGES IN THE CHARACTER OF WORK:

Differing site conditions: During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice. No contract adjustment will be allowed under their clause for any effects caused on unchanged work.

Suspensions of work ordered by the engineer: If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of

such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

Significant changes in the character of work: The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

The term "significant change" shall be construed to apply only to the following circumstances:

- (A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or
- (B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

CONFLICT WITH FEDERAL STATUTES OR REGULATIONS:

Delaware Code, Title 29, Chapter 69, Section 6904, Paragraph (a):

"If any provision of this subchapter conflicts or is inconsistent with any statute, rule or regulation of the federal government applicable to a project or activity, the cost of which is to be paid or reimbursed in whole or in part by the federal government, and due to such conflict or inconsistency the availability of federal funds may be jeopardized, such provision shall not apply to such project or activity."

FEDERAL LABOR AND EMPLOYMENT REQUIREMENTS

Federal Regulation 23 CFR § 635.117(b) Labor and employment, states:

"No procedures or requirement shall be imposed by any State which will operate to discriminate against the employment of labor from any other State, possession or territory of the United States, in the construction of a Federal-aid project."

CONVICT PRODUCED MATERIALS:

(a) Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if such materials have been:

- (1) Produced by convicts who are on parole, supervised release, or probation from a prison or

(2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987.

(b) Qualified prison facility means any prison facility in which convicts, during the 12-month period ending July 1, 1987, produced materials for use in Federal-aid highway construction projects.

RIGHT TO AUDIT

The Department shall have the right to audit the books and records of the contractor or any subcontractor under this contract or subcontract to the extent that the books and records relate to the performance of the contract or subcontract. The books and records shall be maintained by the contractor for a period of 3 years from the date of final payment under the prime contract and by the subcontractor for a period of 3 years from the date of final payment under the subcontract (29 Del.C. §6930)

TO REPORT BID RIGGING ACTIVITIES:

The U. S. Department of Transportation (DOT) operates the below toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

TO REPORT BID RIGGING ACTIVITIES
CALL 1-800-424-9071

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment 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:

Goals for Minority Participation In
Each Trade

12.3% (New Castle County)
14.5% (Kent & Sussex Counties)

Goals for Female Participation In
Each Trade

6.9% (Entire State)

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 of 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 its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the Executive Order and the regulations in CFR Part 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. 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 provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the County specified in the General Description section.

REV. 11-3-80

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 solicitation 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:
 - i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii. 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
 - iv. 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 or 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 solicitations 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 7p 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. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Program Office or from the Federal procurement contracting offices. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
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.

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 unions have employment opportunities available, and maintain a record of the organizations' 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 such 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 therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person 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 Foreman, 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 the Contractor's EEO policy with other 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 minority persons 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 a 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 employees 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 nonsegregated 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 subcontractors 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 obligations.
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 participating, 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. A single goal 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 minority groups, 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 under utilized).
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, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Order 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 the 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).

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TRAINING SPECIAL PROVISIONS

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities", (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved.

The number of trainees to be trained under the special provision will be as set forth in the General Description section of this document. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also ensure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year apprenticeship or training.

The number of trainees shall be distributed among the work classification on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Department of Highways and Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Department of Highways and Transportation and the Federal Highway Administration. The Department of Highways and Transportation and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid

highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work the classification covered by the program. It is the intention of these provisions that the training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other sources does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for off-site training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training; provides the instruction of the trainee; or pays the trainee's wages during the off-site training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainees as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid a least 60 percent of the appropriate minimum journeymen's rate specified in the contract for the first half of the of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees is an approved existing program are enrolled as trainees on this project. In fact case, the appropriate rates approved by the Department of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provisions.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training.

The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

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INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT
& TRANSPORTATION EQUITY ACT

Recipients of Federal-aid highway funds authorized under Titles I (other than Part B) and V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), or Titles I, III, and V of the Transportation Equity Act for the 21st Century (TEA-21) are required to comply with the regulations of 49 Code of Federal Regulations (CFR) Part 26 - Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

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DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM SPECIFICATION

The U.S. Department of Transportation (DOT) requires that the Delaware Department of Transportation continue the established Disadvantaged Business Enterprise (DBE) Program for participation in U.S. DOT programs and that the program follow the final rules as stated in 49 CFR Part 26 and the Department's approved DBE Program plan.

The following definitions apply to this subpart:

Disadvantaged Business Enterprise or DBE means a for-profit small business concern (1) that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and, (2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

DOT-assisted contract means any contract between a recipient and a contractor (at any tier) funded in whole or in part with DOT financial assistance, including letters of credit or loan guarantees, except a contract solely for the purchase of land.

Good Faith Efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

Joint Venture means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Race-conscious measure or program is one that is focused specifically on assisting only DBEs, including women-owned DBEs.

Race-neutral measure or program is one that is, or can be, used to assist all small businesses. For the purposes of this part, race-neutral includes gender neutrality.

Small Business concern means, with respect to firms seeking to participate as DBEs in DOT-assisted contracts, a small business concern as defined pursuant to section 3 of the Small Business Act and Small Business Administration regulations implementing it (13 CFR part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR §26.65(b).

Socially and economically disadvantaged individuals means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is - (1) any individual who a recipient finds to be a socially and economically disadvantaged individual on a case-by-case basis; (2) any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

- (i) Black Americans which includes persons having origins in any of the Black racial groups of Africa;
- (ii) Hispanic Americans which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
- (iii) Native Americans which includes persons who are American Indians, Eskimos, Aluets, or Native Hawaiians;
- (iv) Asian-Pacific Americans which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kirbati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
- (v) Subcontinent Asian Americans which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- (vi) Women;
- (vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

DelDOT will establish specific goals for each particular DOT-assisted project which will be expressed as a percentage of the total dollar amount of contract bid. The specific contract goals for this contract are specified in the General Description section of this document.

DelDOT continues to reserve the right to approve DBE subcontractors and all substitutions of DBE subcontractors prior to award and during the time of the contract.

Bidders are required to submit with their bids the completed DBE Program Assurance portion of the Certification document which will state the bidders intent of meeting the goals established for this contract; or in the instance where a contractor cannot meet the assigned DBE Goals for this contract, he/she shall at the time of bid submit documentation required to verify that he/she has made a Good Faith Effort to meet the DBE Goals. Guidance for submitting a Good Faith Effort is identified in the next section and in the DBE Program Plan. Further, the apparent low bidder must submit to DelDOT within five (5) calendar days after the bid opening, executed originals of each and every DBE subcontract to satisfy contract goals consistent with the DBE Program Assurance submitted as part of the bid package.

No contract work shall be performed by a DBE subcontractor until the executed DBE subcontract is approved in writing by DelDOT and the Department has issued the required Notice to Proceed. Any DBE subcontract relating to work to be performed pursuant to this contract, which is submitted to DelDOT for approval, must contain all DBE subcontractor information, the requirements contained in this contract, and must be fully executed by the contractor and DBE subcontractor.

Each contract between the prime contractor and each DBE subcontractor shall at the minimum include the following:

1. All pertinent provisions and requirements of the prime contract.
2. Description of the work to be performed by the DBE subcontractor.
3. The dollar value of each item of work to be completed by the DBE subcontractor and the bid price of each item of work to be completed by the DBE subcontractor.

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CRITICAL DBE REQUIREMENTS

A bid may be held to be non-responsive and not considered if the required DBE information is not provided. In addition, the bidder may lose its bidding capability on Department projects and such other sanctions as the Department may impose. It is critical that the bidder understands:

1. In the event that the bidder cannot meet the DBE goal as set forth in this specification, he/she shall at the time of bid submit to the Department that percentage of the DBE Goal that will be met, if any, on the written and notarized assurance made a part of this contract. The contractor shall also at the time of bid submit all documentation that the contractor wishes to have the Department consider in determining that the contractor made a Good Faith Effort to meet contract DBE Goals. The Department will not accept Good Faith Effort documentation other than on the scheduled date and time of the bid opening. However, the Department may ask for clarification of information submitted should the need arise.
2. A bid which does not contain either a completely executed DBE Program Assurance and/or Good Faith Effort documentation, where appropriate, shall be declared non-responsive and shall not be considered by the Department.
3. Failure of the apparent low bidder to present originals of all DBE subcontracts to substantiate the volume of work to be performed by DBE's as indicated in the bid within five (5) calendar days after the bid opening shall create a rebuttable presumption that the bid is not responsive.
4. Bidders are advised that failure to meet DBE Goals during the term of the contract may subject them to Department sanctions as identified in the DBE Program Plan.

5. In the execution of this contract, the successful bidder agrees to comply with the following contract clauses:

Prompt Payment: The prime contractor/consultant receiving payments shall, within 30 days of receipt of any payment, file a statement with the Department on a form to be determined by the Department that all subcontractors furnishing labor or material have been paid the full sum due them at the stage of the contract, except any funds withheld under the terms of the contract as required by Chapter 8, Title 17 of the Delaware Code, annotated and as amended. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of DelDOT. This clause applies to both DBE and non-DBE subcontractors.

Retainage: The prime contractor agrees to return retainage to each subcontractor within 15 calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of DelDOT. This clause covers both DBE and non-DBE subcontractors. As guidance, once a subcontractor has satisfactorily completed the physical work, and has given to the prime contractor a certified statement that all laborers, lower tier contractors, and materialmen who have furnished labor and materials to the subcontractor have been paid all monies due them, the prime contractor shall return retainage to the subcontractor within 15 calendar days.

6. In the execution of this contract, the successful bidder agrees to comply with the following contract assurance and will include this same language in each subcontractor contract:

"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 remedy as the recipient deems appropriate." 49 CFR Section 26.13

7. In addition to this specification, bidders must comply with all provisions of the rules and regulations adopted by the U.S. Department of Transportation for DBE participation in U.S. DOT and DelDOT Programs (49 CFR Part 26) and the Delaware Department of Transportation Disadvantaged Business Enterprise Program Plan; each of which is hereby incorporated and made part of this specification. Bidders are also reminded that they must be responsible and responsive bidders in all other aspects aside from the DBE Program in order to be awarded the contract.
8. In accordance with 49 CFR 26.53(f)(1), DelDOT requires that a prime contractor not terminate a DBE subcontractor without prior written consent from the DelDOT Civil Rights Office. This includes, but is not limited to, instances in which a prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

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GUIDANCE FOR GOOD FAITH EFFORT

When the DBE Goals established for a contract by DelDOT are not met, the contractor shall demonstrate good faith efforts to meet the DBE contract goals. The contractor shall demonstrate that the efforts made were those that a contractor actively and aggressively seeking to meet the goals established by DelDOT would make, given all relevant circumstances. Evidence of this good faith effort will be submitted with the bid at the time of the bid opening.

The contractor is expected to demonstrate good faith efforts by actively and aggressively seeking out DBE participation in the project to the maximum extent, given all relevant circumstances. Following are the kinds of efforts that may be taken but are not deemed to be exclusive or exhaustive and DelDOT will consider other factors and types of efforts that may be relevant:

1. Efforts made to select portions of the work proposed to be performed by DBEs in order to increase the likelihood of achieving the stated goal. Selection of portions of work are required to at least equal the goal for DBE utilization specified in this contract.
2. Written notification at least ten (10) calendar days prior to the opening of a bid soliciting DBE interest in participating in the contract as a subcontractor or supplier and for specific items of work.

3. Efforts made to obtain and negotiate with DBE firms for specific items of work:
 - a. Description of the means by which firms were solicited (i.e. by telephone, e-mail, written notice, advertisement).
 - b. The names, addresses, telephone numbers of DBE's contacted, the dates of initial contact; and whether initial solicitations of interest were followed-up by contacting the DBEs to determine with certainty whether the DBEs were interested.
 - c. A description of the information provided to DBE firms regarding the plans, specifications and estimated quantities for portions of the work to be performed.
 - d. A statement of why additional agreements with DBE's were not reached in order to meet the projected goal.
 - e. Listing of each DBE contacted but not contracted and the reasons for not entering a contract.
4. Efforts made to assist DBEs that need assistance in obtaining bonding, insurance, or lines of credit required by the contractor.
5. Reasons why certified DBEs are not available or not interested.
6. Efforts to effectively use the services of available disadvantaged community organizations; disadvantaged contractor's groups; local, state and federal DBE assistance offices; and other organizations that provide assistance in recruitment and placement of DBEs.

The following are examples of actions that may not be used as justification by the contractor for failure to meet DBE contract goals:

1. Failure to contract with a DBE solely because the DBE was unable to provide performance and/or payment bonds.
2. Rejection of a DBE bid or quotation based on price alone.
3. Rejection of a DBE because of its union or non-union status.
4. Failure to contract with a DBE because the contractor normally would perform all or most of the work in the contract.

Administrative reconsideration:

Within five (5) days of being informed by DelDOT that it is not responsive because it has not documented sufficient good faith efforts, a bidder may request administrative reconsideration. Bidder should make this request in writing to the following reconsideration official: Director of Finance, DelDOT, 800 Bay Road, Dover, Delaware 19901, and Email a copy to dot-ask@delaware.gov. The reconsideration official will not have played any role in the original determination that the bidder did not document sufficient good faith efforts.

As part of this reconsideration, the bidder will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The bidder will have the opportunity to meet in person with the reconsideration official, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The final decision made by the reconsideration official will be communicated to the bidder in writing. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

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REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated 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. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. 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, sexual orientation, gender identity, 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, 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. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient 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 recipient 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.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

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 more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHDL/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices (1) Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers 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 as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, 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 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* 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.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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" in paragraph 1 of Section VI 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: (based on longstanding interpretation)

- (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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

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. 2 CFR 180.220 and 1200.220.

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. 2 CFR 180.320.

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. 2 CFR 180.325.

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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

* * * * *

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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. 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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "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 recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

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4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, 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. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**
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.

CARGO PREFERENCE ACT

Requirements in the Federal-aid Highway Program

(a) Agreement Clauses. “Use of United States-flag vessels:

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) Contractor and Subcontractor Clauses. “Use of United States-flag vessels: The contractor agrees—

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, 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.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

NOTE:

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

* * * * *

APPENDICES TO THE TITLE VI ASSURANCE

APPENDIX A

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, (Federal Highway Administration (FHWA), or Federal Transit Authority (FTA)), 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 and the Regulations, 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 (FHWA), or Federal Transit Authority (FTA) 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 (FHWA), or Federal Transit Authority (FTA), 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 (FHWA), or Federal Transit Authority (FTA) may determine to be appropriate, including, but not limited to:
 - withholding payments to the contractor under the contract until the contractor complies;
 - and/or 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 five in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts and the Regulations. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration (FHWA), or Federal Transit Authority (FTA) 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.

APPENDIX E

During the performance of this contract, the contractor or consultant, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination 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. § 460 I), (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 Part27;

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 1975and Section 504 of the Rehabilitation Act of 1973,by expanding the defrnition 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. S 41123) (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 nondiscrimination 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).

* * * * *

PREVAILING WAGES

Included in this proposal are the minimum wages to be paid various classes of laborers and mechanics as determined by the Department of Labor of the State of Delaware in accordance with Title 29 Del.C. §6960, relating to wages and the regulations implementing that Section.

REQUIREMENT BY DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION

Title 29 Del.C. §6960 stipulates;

- (b) Every contract based upon these specifications shall contain a stipulation that the employer shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics. The specifications shall further stipulate that the scale of wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work, and that there may be withheld from the employer so much of accrued payments as may be considered necessary by the Department of Labor to pay to laborers and mechanics employed by the employer the difference between the rates of wages required by the contract to be paid laborers and mechanics on the work and rates of wages received by such laborers and mechanics to be remitted to the Department of Labor for distribution upon resolution of any claims.
- (c) **Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.**

Bidders are specifically directed to note the Department of Labor's prevailing wage regulations implementing §6960 relating to the effective date of the wage rates, at Part VI., Section C., which in relevant part states:

"Public agencies (covered by the provisions of 29 Del.C. §6960) are required to use the rates which are in effect on the date of the publication of specifications for a given project. In the event that a contract is not executed within one hundred twenty (120) days from the date the specifications were published, the rates in effect at the time of the execution of the contract shall be the applicable rates for the project."

PREVAILING WAGE REQUIREMENTS

It is DelDOT's understanding that the Davis-Bacon Act is not a preemptive statute in the broad sense, and does not preempt or displace State of Delaware prevailing wage requirements.

When a contract for a project contains both Federal Davis-Bacon and State of Delaware prevailing wage standards because of concurrent Federal and State coverage, the employer's minimum wage obligations are determined by whichever standards are higher.

Contractors with questions may contact:

Department of Labor, Division of Industrial Affairs, 4425 N. Market Street, Wilmington, DE 19802
Telephone (302) 761-8200

<https://dia.delawareworks.com/labor-law/>

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 318-2769

Mailing Address:
252 Chapman Road
Suite 210
Newark, DE 19702

Located at:
252 Chapman Road
Suite 210
Newark, DE 19702

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2024

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	65.24	65.24	69.05
CARPENTERS	65.85	61.06	49.30
CEMENT FINISHERS	70.64	43.32	44.16
ELECTRICAL LINE WORKERS	35.67	57.63	28.21
ELECTRICIANS	81.62	81.62	81.62
IRON WORKERS	86.81	31.66	33.63
LABORERS	54.96	50.59	49.65
MILLWRIGHTS	21.38	20.75	17.93
PAINTERS	81.29	81.29	81.29
PILEDRIERS	95.51	31.53	88.62
POWER EQUIPMENT OPERATORS	82.31	52.56	48.15
SHEET METAL WORKERS	30.20	26.96	24.40
TRUCK DRIVERS	51.73	37.48	45.64

CERTIFIED: 7/24/24

BY: [Signature]

For Fran Chudzik
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

NOTE: THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 318-2769.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

PROJECT: T200707404 BR 1-488N and S On N001 US13 Over Blackbird Creek, New Castle County



General Decision Number: DE20240005 01/05/2024

Superseded General Decision Number: DE20230005

State: Delaware

Construction Type: Highway

County: **New Castle County in Delaware.**

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024. If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024. The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request. Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/05/2024

ENGI0542-001 07/01/2022

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Backhoe/Excavator/Trackhoe..	\$ 45.34	28.73
Bobcat/Skid Steer/Skid		
Loader.....	\$ 40.28	27.25
Crane.....	\$ 45.34	28.73
Drill.....	\$ 40.28	27.25
Paver (Asphalt, Aggregate		
and Concrete).....	\$ 42.34	27.85
Pounder.....	\$ 28.87	17.75
Roller.....	\$ 39.92	19.14

LABO0199-001 05/01/2022

	Rates	Fringes
LABORER (Asphalt, Includes		
Raker, Shoveler, Spreader and		
Distributor).....	\$ 31.15	16.50

	Rates	Fringes
CARPENTER.....	\$ 50.06	4.32
CEMENT MASON/CONCRETE FINISHER...	\$ 33.03	5.25
ELECTRICIAN.....	\$ 65.99	0.00
FORM WORKER.....	\$ 49.77	3.37
IRONWORKER, REINFORCING.....	\$ 55.67	0.00
LABORER: Common or General.....	\$ 36.33	3.50
LABORER: Mason Tender -		
Cement/Concrete.....	\$ 43.30	1.66
OPERATOR: Bulldozer.....	\$ 37.55	16.19
OPERATOR: Loader.....	\$ 38.36	4.31
OPERATOR: Mechanic.....	\$ 28.11	11.18
OPERATOR: Milling Machine.....	\$ 38.29	11.15
TRAFFIC CONTROL: Flagger.....	\$ 37.49	0.00
TRUCK DRIVER: Dump Truck.....	\$ 29.31	9.84

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this

example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board).

Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION

SPECIAL PROVISIONS

S.P. Code	SPECIAL PROVISION DESCRIPTION
202519-20	FOAMED GLASS AGGREGATE
202560-20	CONTAMINATED MATERIAL
401502-20	ASPHALT CEMENT COST ADJUSTMENT
401510-20	TACK COAT
401580-20	RIDE QUALITY OF BITUMINOUS PAVEMENT
401699-20	QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE
501511-20	RUBBLIZING PCC PAVEMENT
610500-20	ULTRA HIGH PERFORMANCE CONCRETE
612502-20	PRECAST MOMENT SLAB
612504-20	PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS
612511-20	PRECAST CONCRETE ABUTMENT CAP
612512-20	PRECAST CONCRETE T-WALL
613502-20	ELASTOMER WATERPROOFING MEMBRANE, FOR BRIDGE DECKS
621500-20	TEMPORARY TIMBER MAT
626502-20	TWO STRAND TUBE RAIL PARAPET
763501-20	CONSTRUCTION ENGINEERING
763520-20	ELECTRONIC TICKETING
763626-20	DIESEL FUEL COST PRICE ADJUSTMENT
763650-20	STEEL COST PRICE ADJUSTMENT
801500-20	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE
803501-20	PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN

202519 – FOAMED GLASS AGGREGATE**Description:**

This work consists of providing, transporting, placing, and compacting foamed glass aggregate lightweight fill for construction of embankments.

Materials:

A. Foamed Glass Aggregate (FGA). Provide FGA conforming to the following requirements:

TABLE A

Foamed Glass Aggregate Physical Properties

Maximum Dry Loose Bulk Density, as manufactured	ASTM C29/C29M Method C	15 pcf
Maximum Moist Loose Bulk Density, as delivered	ASTM C29/C29M Method C	20 pcf
Minimum Confined Compression Load Required to Obtain 10% Vertical Deformation	EN 1097-11:2013 (modified)	7,000 psf 48.6 psi
Minimum Confined Compression Load Required to Obtain 20% Vertical Deformation	EN 1097-11:2013 (modified)	15,000 psf 104 psi

TABLE B

Foamed Glass Aggregate Size and Grading Requirements, as Manufactured
Based on Laboratory Sieve Tests, ASTM C136/C136M, modified, Square Openings

Sieve Designation	4"	2 ½"	3/8"
Total Percent Passing	100	85-100	0-15

1. Provide material delivered in bulk.
2. Provide manufacturer's name and material physical properties certification showing conformance to the values as specified in Table A and Table B.

- B. Geotextile. Provide a non-woven, needle-punched, polypropylene geotextile meeting the requirements of a Class 2 separation geotextile per AASHTO M 288

Construction:

- A. A Manufacturer's Representative from the FGA supplier must be available on site for the placement of the FGA. No FGA material may be placed if the Manufacturer's Representative is not on site, unless approved otherwise by the engineer.

B. Delivery, Storage, and Handling:

1. Deliver, store, and handle materials in accordance with manufacturer's recommendations.
2. During all stages of manufacture, shipment, storage, and construction, minimize the amount of handling to prevent physical damage to the material.
3. Store material in an area not prone to flooding. Minimize the amount of trafficking on FGA until geotextile and an adequate thickness of capping material (6 inches compacted, minimum) is placed over the FGA.
4. Do not use the FGA placement area as a haul road without an evaluation of the capping material thickness to support the proposed traffic loads. Submit the evaluation to the Department for approval.

C. Geotextile:

1. Remove and replace geotextile damaged during construction.
2. Lap fabric over damaged areas and secure fabric lap with sewing, heat bonding, or by overlapping a minimum of 12 inches in all directions.

D. Placement:

1. The area to be filled should not have any standing water (including ice) in it prior to placement of the FGA.
2. Submit documentation for the equipment make, model, and corresponding ground pressure for compaction / tracked equipment to the engineer for verification and acceptance. Allow two weeks for review and approval of the compaction or tracked equipment to be used for compaction of FGA.
3. Place FGA at locations indicated on the Plans or as directed by the engineer. The FGA manufacturer's representative is to remain on-site for the duration of the placement of the FGA material to answer any questions regarding placement of FGA as deemed necessary by the representative.
4. Before placement of first lift of FGA, place a separation Geotextile in accordance with Section 708 as indicated on the plans.
5. Place FGA in accordance with the plans.

6. Minimize the use of wheeled, tracked, or other equipment on the surface of the FGA for activities other than for placement and compaction of FGA. Rollers are not permitted directly on the FGA layer.
7. During placement of FGA, do not allow storm water to accumulate in the FGA installation area until a sufficient thickness of FGA, embankment material, or capping material is placed above the anticipated flood elevation to act as ballast. Alternatively, a temporary ballast material or system may be used if approved by the engineer to secure the FGA in the event of flooding.
8. For compaction using tracked equipment, place the FGA in maximum uncompacted lift thicknesses of 24 inches. For uncompacted lift thicknesses between 12 and 24 inches, perform compaction with a tracked excavator or dozer with ground pressures of between 625 psf and 1,025 psf. After placing the initial loose lift, compact the FGA by raising the blade or bucket and tracking over the layer. Compaction will be considered complete after making 4 full passes with the tracked equipment after the placement of the lift. One full pass is defined as a minimum of 100 percent coverage of the tracks passing over the top of the lift. Therefore, the equipment has to cross over the site step-wise one-track width at a time to complete 1 full pass.
9. For areas not accessible by tracked equipment (e.g. around structures and utilities), place FGA in maximum uncompacted lifts of 12 inches and compact the material with a plate compactor having a static weight of between 110-220 lbs. Compaction will be considered complete after making 4 full passes with the plate compactor. 1 full pass is defined as a minimum of 100 percent coverage of the plate passing over the top of the lift.
10. Minimize the amount of trafficking on exposed, compacted FGA. Repair rutting from construction equipment or traffic on compacted FGA exceeding 4 inches in depth by excavating and removing FGA to a depth of 5 inches below the bottom of the rut. Place new FGA material and compact using 4 passes of a plate compactor. Before placement of capping material, place a separation geotextile in accordance with Section 708 over the FGA in accordance with the plans.

E. Testing:

1. Test each truckload of delivered FGA for moist loose bulk density (per ASTM C29/C29M Method C, as modified per the NPI Workplan) to ensure it meets specifications as provided in Table A. Perform bulk density testing in the presence of the engineer and manufacturer's representative.

F. Capping Material Placement:

1. Place and compact capping material within 2 weeks after placement of the geotextile.

2. Use one of the following capping materials immediately overlying FGA in accordance with the contract:
 - a. Graded aggregate base course, placed in accordance with Section 301;
 - b. Borrow Type, A and Borrow Type, C, placed in accordance with Section 202;
 - c. Topsoil, placed in accordance with Section 908 below slopes.
 - d. Place, in accordance with the contract, at least 6 inches compacted thickness of capping material over the FGA in all locations. Do not allow the geotextile to be damaged or disturbed by blading out the capping material. To preclude damage to the geotextile, do not use sheeps-foot rollers for compacting the capping material. Complete placement of capping material on top of the FGA prior to using rollers to compact the fill materials overlying the FGA capping material.

Method of Measurement:

The Department will measure foamed glass aggregate by the cubic yard, in place, in its final position in accordance with Section 202.4.1.

Basis of Payment:

- A. The Department will pay for foamed glass aggregate at the contract unit price per cubic yard placed. Price and payment will constitute full compensation for:
 1. Providing all materials;
 2. storing;
 3. placing and compacting FGA and capping material; and
 4. density testing.
- B. The Department will not pay for any material wasted.

4/6/2022

202560 - CONTAMINATED MATERIAL

Description:

Contaminated Material is defined as solids or liquids (including soil) potentially contaminated with a hazardous substance, requiring special handling and/or disposal per state or federal regulation.

Overview of Costs:

A. Potential contaminated solids may affect contractor's costs as follows:

1. Additional cost to normal excavation requirements:
 - a. Cost of 8 mil plastic for placement under and over solid contaminated material,
 - b. Maintaining the segregated contaminated solids staging area.
2. Reduced cost to normal excavation requirements:
 - a. Not required to, or charged for, transport of contaminated material from site.
 - b. Not required to, or charged for, disposal of contaminated soil.

B. Potential contaminated liquids will affect contractor's cost as follows:

1. Additional cost to normal excavation requirements:
 - a. Cost of supplying appropriately sized watertight containers.
 - b. Cost of cleaning of rented frac tanks (if applicable).
2. Reduced cost to normal excavation requirements:
 - a. Not required to, or charged for, transport of contaminated material from site.
 - b. Not required to, or charged for, disposal of contaminated liquids.

Construction Methods and Responsibilities:

A. Contractor's Responsibilities for potential contaminated solids:

1. The Contractor shall provide the appropriate equipment and personnel necessary to excavate, stage, and load contaminated material for off-site disposal. If required for the site, the work will

be performed in accordance with the procedures described in the site specific "Contaminated Materials Management Plan".

2. The Contractor shall immediately be responsible for notifying the Department's HAZMAT Program Manager's office (302-894-6308) for scheduling coordination with the environmental representative. Submit a proposed schedule of work for review and approval prior to any commencement of work on this site. Coordinate with all utility companies prior to excavation. The Department's environmental representative shall be present during all phases of work associated with the excavation and removal of potentially contaminated material.

3. The Contractor shall excavate material in accordance with the project specifications. Separate the contaminated soil from the clean soil as designated by the Department. The contaminated soil shall be placed in the designated staging area. The staging area shall be lined with 8-mil plastic and a berm constructed to minimize storm water run-off. Cover the staging area with 8-mil plastic at the end of each workday. Ensure the cover is secured so the contaminated soil remains entirely under the plastic. The Contractor shall load contaminated soil onto trucks arranged by the Department's environmental representative when the contaminated soil is shipped off-site to a licensed disposal/treatment facility. Backfill and compact the excavated area(s) in accordance with the contract.

B. Contractor's Responsibilities for potential contaminated liquids:

1. The Contractor shall provide the appropriate equipment and personnel necessary to remove and stage contaminated liquids for off-site disposal. If required for the site, the work will be performed in accordance with the procedures described in the site specific "Contaminated Materials Management Plan".

2. The Contractor shall immediately be responsible for notifying the Department's HAZMAT Program Manager's office (302-894-6308) for scheduling coordination with the environmental representative. Submit a proposed schedule of work for review and approval prior to any commencement of work on this site. Coordinate with all utility companies prior to excavation. The Department's environmental representative shall be present during all phases of work associated with the removal of potentially contaminated liquids.

3. The Contractor shall remove liquids in accordance with the project specifications. The potentially contaminated liquids shall be placed in the appropriate watertight container(s). The watertight container(s) shall be placed in the designated staging area. If rented frac tanks are utilized, once removal of the contaminated liquids by the Department's environmental representative is completed, the Contractor shall be responsible to have the frac tanks cleaned prior to ending the rental.

Department's Responsibilities:

A. The Department is responsible for providing:

1. the environmental representative;
2. the transportation of contaminated material for disposal; and
3. the disposal of contaminated material.

B. When issued, the "Contaminated Materials Management Plan" will identify;

1. the procedures to be used to excavate and stage the contaminated material;
2. the licensed treatment/disposal facility where the Department will ship the contaminated material;
3. the method the material will be transported to the treatment/disposal facility; and
4. any additional health and safety requirements for site personnel.

C. The Department's environmental representative will be responsible to:

1. conduct a health and safety briefing prior to commencement of activities on the sites to ensure an understanding of all applicable standards, guidelines, laws, procedures, etc. consistent with successful completion of this type of activity;
2. potentially conduct air monitoring during any excavation activities at the site to identify and mitigate fire, explosion and vapor hazards;
3. coordinate the excavation activities with all applicable local, state, and federal environmental regulatory agencies;
4. oversee the excavation, removal and treatment/disposal of the material in the designated area(s) and perform such tests as field screening for soil contamination utilizing vapor monitoring techniques and collect soil samples for laboratory analysis to meet the requirements of the treatment/disposal facility, DNREC and/or the USEPA;
5. subcontract with the disposal/treatment facility to provide transportation and disposal/treatment of all contaminated materials to be removed as part of the project;
6. measure the quantity of the contaminated material removed, via certified scale weights, for the Department's records.

Method of Measurement:

The Department will not measure contaminated material. It will be included in the excavation quantity.

Basis of Payment:

- A. The Department will make no additional payment for the handling of contaminated material. Price and payment will be included in the excavation items and will constitute full compensation for:
1. excavation and backfilling;
 2. constructing and maintaining soil staging area;
 3. placement of contaminated soil;
 4. providing plastic and daily covering; and
 5. loading of contaminated soil for removing.
- B. The Department reserves the right to delete this contingency item from the contract. The Contractor shall make no claims for additional compensation because of deletion of the item.
- C. No payment will be made for any work done without a Department approved Inspector or environmental representative present to provide environmental oversight.
- D. The Department will pay for the following:
1. the environmental representative;
 2. the transportation of contaminated material for disposal; and
 3. the disposal of contaminated material.

9/16/22

401502 - ASPHALT CEMENT COST ADJUSTMENT

For Sections 304, 401, 402, 403, 404, and 405, payments to the Contractor shall be adjusted to reflect increases or decreases in the Delaware Posted Asphalt Cement Price when compared to the Project Asphalt Cement Base Price, as defined in these Special Provisions.

The Delaware Posted Asphalt Cement Price will be issued monthly by the Department and will be the industry posted price for Asphalt Cement, F.O.B. Philadelphia, Pennsylvania. The link for the posting is https://deldot.gov/Business/bids/index.shtml?dc=asphalt_cement_english.

The Project Asphalt Cement Base Price will be the Delaware Posted Asphalt Cement Price in effect on the date of advertisement.

All deviations of the Delaware Posted Asphalt Cement Price from the Project Asphalt Cement Base Price are eligible for cost adjustment. No minimum increases or decreases or corresponding percentages are required to qualify for cost adjustment.

Actual quantity of asphalt cement qualifying for any Asphalt Cement Cost Adjustment will be computed using the weight of eligible asphalt that is shown on the QA/QC pay sheets as a percentage for the delivered material.

If the mix was not inspected and no QA/QC pay sheet was generated, then the asphalt percentage will be obtained from the job mix formula for that mix ID. The asphalt percentage eligible for cost adjustment shall only be the virgin asphalt cement added to the mix.

There shall be no separate payment per ton cost of asphalt cement. That cost shall be included in the various unit prices bid per ton for those bid items that contain asphalt cement (mentioned above).

The Asphalt cement cost adjustment will be calculated on grade PG 64-22 asphalt regardless of the actual grade of asphalt used.

If the Contractor exceeds the authorized allotted completion time, the price of asphalt cement on the last authorized allotted workday, shall be the prices used for cost adjustment during the time liquidated damages are assessed. However, if the industry posted price for asphalt cement goes down, the asphalt-cement cost shall be adjusted downward accordingly.

NOTE:

Application of Asphalt Cement Cost Adjustment requirements as indicated above shall apply only to those contracts involving items related to bituminous base and pavements, and with bitumen, having a total of 1,000 tons or more of hot-mix bid quantity in case of Sections 401, 402 and 403; and 15,000 gallons or more in case of Sections 304, 404 and 405.

12/14/2020

401510 – TACK COAT**Description:**

The Department will not measure and will make no payment for this item. This language replaces Section 1011 of the Standard Specifications.

SECTION 1011 -TACK COAT**1011.1 Description.**

Provide material in accordance with 1011.2 for thin lift maintenance applications, or as directed by the engineer. Provide material in accordance with Section 1011.3 and selected from the approved product list and in accordance with manufacturer recommendations for all other applications.

1011.2 Asphalt Cement (PG Graded).

Provide PG-64-22 (PG 64S-22) as tack coat in lieu of emulsified asphalts.

1011.3 Emulsified Asphalts.

1. Anionic emulsified asphalt in accordance with M140 except the sieve test requirement for field samples collected at the point of use shall be a maximum of 0.4 percent.
2. Cationic emulsified asphalt in accordance with M208 except the sieve test requirement for field samples collected at the point of use shall be a maximum of 0.4 percent.
3. Polymer-modified cationic emulsified asphalts in accordance with M316 except the sieve test requirement for field samples collected at the point of use shall be a maximum of 0.4 percent.
4. Non-Tracking emulsified asphalt in conformance with Table 1011.3-1.

Table 1011.3-1 Non-Tracking Emulsified Asphalt Requirements.		
Property	Test Method	Requirement
Saybolt Viscosity at 77 F, (SFS)	AASHTO T59	15-100
Storage Stability Test, 24 hours, (%)	AASHTO T59	1 maximum
Residue by Distillation or Residue by Evaporation, (%)	AASHTO T59	50 minimum
Sieve Test, No. 20, (%)	AASHTO T59	0.4 maximum for field samples
Penetration at 77 F, 100 g, 5 s, (dmm)	AASHTO T49	10-40
Solubility in Trichloroethylene, (%)	AASHTO T44	97.5 minimum

6/11/2024

401580 - RIDE QUALITY OF BITUMINOUS PAVEMENT

Description:

This specification outlines requirements for an acceptable ride surface in addition to requirements established in DelDOT Standard Specifications. The Contractor is responsible for providing smoothness characteristics that meet these requirements. The Contractor is responsible for providing equipment, maintenance of traffic (MOT) as required by the Delaware MUTCD, and performing testing in accordance to this specification. All costs for testing and MOT are incidental to this item. Both the International Roughness Index (IRI) and deviations located within a 10' straightedge are used to characterize smoothness in this Special Provision.

Definitions:

Class 1 Project - a project that consists of full depth construction. Full depth construction is considered to be when contract documents or modifications provide opportunity for preparation of the subgrade prior to paving.

Class 2 Project - a project that consists of a minimum of two smoothness opportunities.

Class 3 Project - a project that consists of one smoothness opportunity.

Deviation - a hump or depression that exceeds defined tolerances.

Smoothness Opportunity - a smoothness opportunity is considered to be any of the following; roadway milling, placement of a leveling course, in-place recycling, or placement of a lift of bituminous concrete. The final wearing surface is considered one smoothness opportunity.

Equipment:

The Contractor must have a 10' straightedge available during all paving operations.

The Contractor must also have a high speed or lightweight inertial profiling system that meets requirements of AASHTO M328 capable of collecting data in both wheelpaths simultaneously.

Prior to the start of corrective actions, the Contractor must provide to the Engineer:

1. Manufacturer, Make, and Model of the test system
2. Equipment Owner,
3. Relevant Certifications,
4. Manufacturer Calibration Procedures, and
5. Relevant Operator Training information.

Testing:

The Contractor is responsible for testing the pavement surface using an approved inertial profiler in accordance to manufacturer and AASHTO R57 from the start of paving limits to the end of pavement limits. Testing must be performed 3 times in each lane paved in the direction of traffic flow. Testing must be performed within seven (7) days of completion of project paving operations in each location.

The Contractor is responsible for providing information relative to locations that are to be excluded from calculation of the International Roughness Index. These areas must still meet 10' straightedge requirements.

Areas that are to be tested but will be removed prior to IRI analysis are:

1. 50 feet prior to the first bridge deck expansion joint and 50 feet after the last expansion joint if a bridge deck is excluded from smoothness operations.
2. 50' longitudinally from the center of an existing obstruction within the test area such as a manhole, water main, or catch basin that impedes paving operations.
3. 50' longitudinally from transverse joints that separate it from existing pavement not included on this contract.

Areas that are not to be profiled but are still subject to 10' straightedge requirements are:

1. Shoulder areas
2. Parking lots
3. Ramps, Streets, or Acceleration / Deceleration lanes less than 1000' in length.

Submission Requirements:

Test results must be submitted to the Engineer within five working days of completion of testing. Results not received within the allotted time frame will be assessed a charge of \$1,000.00 per day at the discretion of the Engineer.

The Contractor is required to submit summary table IRI reports from their test equipment for 1 run for each lane and direction of paving. This report must also include:

1. Profiling Company Name
2. Date of Test
3. Contract Number
4. Location Description
5. Testing Personnel

The Contractor is required to submit ERD files for each of the 3 tests run in each lane and direction of paving to the Engineer for analysis. The Contractor must provide to the Engineer written documentation indicating the start and end of bridges and the center of obstructions relative to the stationing used on the testing that are not subject to IRI analysis.

Acceptance and Payment:

Acceptance of the final pavement will be based on Engineer calculated IRI values using ProVAL software upon removal of allowable areas of exemption and the number of deviations found in the pavement surface. The IRI measurements will be calculated in 0.1 mile (528 foot) sections for payment purposes. The average value of the three test runs will be used and the average value will be rounded to the nearest tenth. Payments for each section will be based on estimated tonnage calculated from plan

thickness and widths using the average maximum specific gravity ("Rice") for all surface mix used at that location.

Deviations equal to or in excess of 0.25" in 10' are to be corrected at the Contractor's expense or will have a discount charge of \$200.00 per deviation.

$$\text{Estimated Tonnage} = [L * W * T] * \text{Rice} * 62.4 \text{ (lb/ft}^3\text{)} * (0.0005 \text{ tons} / 12 \text{ in.})$$

Where: L = Length Segment (ft.)

W = Lane Width (ft.)

T = Plan Thickness (in.)

$$\text{IRI Incentive / Disincentive} = \text{Estimated Tonnage} * \text{UP} * (\text{PA} - 100) / 100$$

Where: UP = Contract Unit Price (Dollars)

PA = Pay Adjustment (Table A)

The total pay adjustment for paving work performed on each location is:

$$(\sum \text{IRI adj for each section}) - \text{Total Deviations} * 200$$

It is possible to receive incentive for IRI measurements and a discount charge for excessive deviations on the same project. If a 528' section has an IRI value resulting in a deduction of at least 84% of the section pay, the deviation discount charge for that section is disregarded and the IRI discount charge is the only action taken for that section.

Table A: Payment Adjustments for IRI	
Class 1	
IRI per 0.1 mile Segment (in./mi.)	Pay Adjustment
≤ 50	103%
$> 50 \text{ and } < 145$	$100 + 0.2(65 - \text{IRI})$
≥ 145	84%

Class 2	
IRI per 0.1 mile Segment (in./mi.)	Pay Adjustment
≤ 60	106%
> 60 and < 170	$100 + 0.2(90 - \text{IRI})$
≥ 170	84%

Correction to the paving surface, such as diamond grinding with approved equipment, patching, or other measures may be taken at the Contractor's expense and at the Engineers discretion to correct pavement surfaces assessed a discount charge. The Engineer may require corrective actions including remove & replace if the deviation discount charge exceeds 50% of the cost of materials or the IRI pay adjustment is 84%. Deviations must be corrected if it is determined that they are at a height or depth that may create a safety concern.

4/10/2019

401699 - QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE

.01 Description

This item shall govern the Quality Assurance Testing for supplying bituminous asphalt plant materials and constructing bituminous asphalt pavements and the calculation for incentives and disincentives for materials and construction. The Engineer will evaluate all materials and construction for acceptance. The procedures for acceptance are described in this Section. Include the costs for all materials, labor, equipment, tools, and incidentals necessary to meet the requirements of this specification in the bid price per ton for the bituminous asphalt. Payment to the Contractor for the bituminous asphalt item(s) will be based on the Contract price per ton and the pay adjustments described in this specification.

.02 Bituminous Concrete Production – Quality Acceptance

(a) Material Production - Tests and Evaluations.

All acceptance tests shall be performed by qualified technicians at qualified laboratories following AASHTO or DelDOT procedures and shall be evaluated using Quality Level Analysis. The Engineer will conduct acceptance tests. The Engineer will directly base acceptance on the acceptance test results, the asphalt cement quality, the Contractor's QC Plan work, and the comparisons of the acceptance test results to the QC test results. The Engineer may elect to utilize test results of the Contractor in some situations toward judging acceptance.

Supply and capture samples, as directed by the Engineer under the purview of the Engineer from delivery trucks before the trucks leave the production plant. Hand samples to the Engineer to be marked accordingly. The sample shall represent the material produced by the Contractor and shall be of sufficient size to allow the Engineer to complete all required acceptance tests. The Engineer will direct the Contractor when to capture these samples, on a statistically random, unbiased basis, established before production begins each day based upon the anticipated production tonnage. The captured sample shall be from the Engineer specified delivery truck. The Contractor may visually inspect the specified delivery load during sampling and elect to reject the load. If the contractor elects to reject the specified delivery truck, each subsequent load will be inspected until a visually acceptable load is produced for acceptance testing. All visually rejected loads shall not be sent to a Department project.

The first sample of the production day will be randomly generated by the Engineer between loads 0 and 12 (0-250 tons). Subsequent samples will be randomly generated by the Engineer on 500-ton sub-lots for the production day. Samples not retrieved in accordance with the Contractor's QC plan will be deemed unacceptable and may be a basis for rejection of material produced. Parallel tests or dispute resolution tests will only be performed on material captured at the same time and location as the acceptance test sample. Parallel test samples or Dispute Resolution samples will be created by splitting a large sample or obtaining multiple samples that equally represent the material. The Engineer will perform all splitting and handling of material after it is obtained by the Contractor.

The Contractor may retain dispute resolution samples or perform parallel tests with the Engineer on any acceptance sample.

The Engineer will evaluate and accept the material on a lot basis. All the material within a lot shall have the same JMF (mixture ID). The lot size shall be targeted for 2000 tons or a maximum period of three days,

whichever is reached first. If the 2000th ton target lot size is achieved during a production day, the lot size shall extend to the end of that production day. The Contractor may interrupt the production of one JMF in order to produce different material; this type of interruption will not alter the determination of the size or limits of material represented by a lot. The Engineer will evaluate each lot on a subplot basis. The size for each subplot shall be 100 to 500 tons and testing for the sub lots will be completed on a daily basis. For each subplot, the Engineer will evaluate one sample.

The target size of sub-lots within each lot, except for the first sample of the production day, is equal-sized 500 ton sub lots and will be based upon anticipated production, however, more or fewer sublots, with differing sizes, may result due to the production schedule and conditions. If the actual production is less than anticipated, and it's determined a sample will not be obtained (based upon the anticipated tonnage), a new sample location will be determined on a statistically random, unbiased basis based upon the new actual production. If the actual production is going to be 50 tons or greater over the anticipated sub lot production, a new sample location will be determined on a statistically random, unbiased basis based upon the new actual production. The Engineer will combine the evaluation and test results for all of the applicable sublots in order to evaluate each individual lot.

If the Engineer is present, and the quantity exceeds 25 tons, a statistically random sample will be used for analysis. When the anticipated production is less than 100 tons and greater than 25 tons, and the Engineer is not present, the contractor shall randomly select a sample using the Engineer's random location program. The captured sample shall be placed in a suitable box, marked to the attention of the Engineer, and submitted to the Engineer for testing. A box sample shall also be obtained by the contractor at the same time and will be used as the Dispute Resolution sample if requested by the Engineer. The Contractor shall also obtain one liquid asphalt sample (1 pint) per grade of asphalt used per day and properly label it with all pertinent information.

The Engineer will conduct the following tests in order to characterize the material for the pavement compaction quality and to judge acceptance and the pay adjustment for the material:

- AASHTO T312 - Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- AASHTO T166, Method C (Rapid Method) - Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface Dry Specimens
- AASHTO T308 - Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
- AASHTO T30 - Mechanical Analysis of Extracted Aggregate
- AASHTO T209 - Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt (HMA)
- ASTM D7227 - Standard Practice for Rapid Drying of Compacted Asphalt Specimens using Vacuum Drying Apparatus

(b) Pavement Construction - Tests and Evaluations.

The Engineer will directly base acceptance on the compaction acceptance test results, and on the inspection of the construction, the Contractor's QC Plan work, ride smoothness as referenced in the contract documents, lift thickness as referenced in the contract documents, joint quality as referenced in the contract documents, surface texture as referenced in the contract documents, and possibly the comparisons of the acceptance test results to the independent test results. For the compaction acceptance testing, the Engineer will sample the work on a statistically random basis and will test and evaluate the work based on daily production.

Notify the Engineer of any locations within that road segment that may not be suitable to achieve minimum (93%) compaction due to existing conditions prior to paving the road segment. Schedule and hold a meeting in the field with the Engineer in order to discuss all areas that may potentially be applicable to Table 5a before paving starts. Areas that will be considered for Table 5a will be investigated in accordance with the method described in Appendix B. If this meeting is not held prior to paving, no areas will be considered for Table 5a. Areas of allowable exemptions that will not be cored include the following: partial-depth patch areas, driveway entrances, paving locations of less than 100 tons, areas around manholes and driveway entrances, and areas of paving that are under 400 feet in continuous total length and/or 5 feet in width.

The exempt areas around manholes will be a maximum of 4 feet transversely on either side from the center of the manhole, and 20 feet longitudinally on either side from the center of the manhole. The exempt areas around driveway entrances shall be the entire width of the driveway, and 3 feet from the edge of the longitudinal joint next to the driveway. Areas of exemption that will be cored for informational purposes only include: areas where the mat thickness is less than three times the nominal maximum aggregate size as directed by the Engineer, violations of Section 401.08 in the Standard Specifications as directed by the Engineer, and areas shown to contain questionable subgrade properties as proven by substantial yielding under a fully legally loaded truck. Failure to obtain core samples in these areas will result in zero payment for compaction regardless of the exempt status.

The Engineer will evaluate and accept the compaction work on a daily basis. Payment for the compaction will be calculated by using the material production lots as referenced in **.02 Acceptance Plan (a) Material Production - B Tests and Evaluation** and analyzing the compaction results over the individual days covered in the material production lot. The compaction results will be combined with the material results to obtain a payment for this item.

The minimum size of a compaction lot shall be 100 tons. If the compaction lot is between 101 and 1000 tons, the Engineer shall randomly determine four compaction acceptance test locations. If the compaction lot is between 1001 and 1500 tons, the Engineer shall randomly determine six compaction acceptance test locations. If the compaction lot is between 1501 and 2000 tons, the Engineer shall randomly determine eight compaction acceptance test locations. If the compaction lot is greater than 2000 tons, the Engineer shall randomly determine two compaction acceptance test locations per 500 tons.

If a randomly selected area falls within an Engineer approved exemption area, the Engineer will select one more randomly generated location to be tested per the requirements of this Specification. If that cannot be accomplished, or if an entire location has been declared exempt, the compaction testing shall be performed as per these Specifications, but a note will be added to the results that the location was an Engineer approved exempt location.

Testing locations will be a minimum of 1.0 feet from the newly placed longitudinal joint and 50 feet from a new transverse joint. Cut one six (6) inch diameter core through the full lift depth at the exact location marked by the Engineer. Cores submitted that are not from the location designated by the Engineer will not be tested and will be paid at zero pay. Notify the Engineer prior to starting paving operations with approximate tonnage to be placed. The Contractor is then responsible for notifying the appropriate Engineer test personnel within 12 hours of material placement. The Engineer will mark core locations within 24 hours of notification. After determination of locations, the Contractor shall complete testing within two operational days of the locations being marked. If the cores are not cut within two operational days, the area in question will be paid at zero pay for compaction testing.

Provide any traffic control required for the structural number investigation, sampling, and testing work at no additional cost to the Department. Commence coring of the pavement after the pavement has cooled to

a temperature of 140°F or less. Cut each core with care in order to prevent damaging the core. Damaged cores will not be tested. Label each core with contract number, date of construction, and number XX of XX upon removal from the roadway. Place cores in a 6-inch diameter plastic concrete cylinder mold or approved substitute for protection. Separate cores in the same cylinder mold with paper. Attach a completed QC test record for the represented area with the corresponding cores. The Engineer will also complete a test record for areas tested for the QA report and provide to Materials & Research. Deliver the cores to the Engineer for testing, processing, and report distribution at the end of each production day. Repair core holes per Appendix A, Repairing Core Holes in Bituminous Asphalt Pavements. Core holes shall be filled immediately. Failure to repair core holes at the time of coring will result in zero pay for compaction testing for the area in question.

The Engineer will conduct the following tests on the applicable portion of the cores in order to evaluate their quality:

- AASHTO T166, Method C (Rapid Method) B Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface Dry Specimens
- AASHTO T209 - Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt
- ASTM D7227 - Standard Practice for Rapid Drying of Compacted Asphalt Specimens using Vacuum Drying Apparatus

The Engineer will use the average of the last five test values of the same JMF (mixture ID) material at the production plant in order to calculate the average theoretical maximum specific gravity of the cores. The average will be based on the production days test results and as many test results needed from previous days production to have an average of five samples. If there are less than five values available, the Engineer will use the JMF design value in addition to the available values to calculate the average theoretical maximum specific gravity.

.03 Payment and Pay Adjustment Factors

The Engineer will determine pay adjustments for the bituminous asphalt item(s) in accordance with this specification. The Engineer will determine a pay adjustment factor for the material produced and a pay adjustment factor for the pavement construction. Pay adjustments for material and construction will be calculated independently. When the pay adjustment calculation for either material or construction falls to zero payment per tables 4, 5, or 5a, the maximum pay adjustment for the other factor will not exceed 100.

Pay Adjustment factors will only be calculated on in place material. Removed material will not be used in payment adjustment calculations.

Material Production Pay Adjustments will be calculated based upon 70% of the contract unit price and calculated according to section .03(a) of this specification. Pavement construction Pay Adjustments will be calculated based upon 30% of the contract unit price and calculated according to section .03(b) of this specification.

(a) Material Production - Pay Adjustment.

Calculate the material pay adjustment by evaluating the production material based on the following parameters:

Table 2 - Material Parameter Weight Factors		
Material Parameter	Single Test Tolerance (+/-)	Weight Factor
Asphalt Content	0.4	0.30
#8 Sieve (≥ 19.0 mm)	7.0	0.30
#8 Sieve (≤ 12.5 mm)	5.0	0.30
#200 Sieve (0.075mm Sieve)	2.0	0.30
Air Voids (4.0% Target)	2.0	0.10

Using the JMF target value, the single test tolerance (from Table 2), and the test values, the Engineer will use the following steps to determine the material pay adjustment factor for each lot of material:

- For each parameter, calculate the mean value and the standard deviation of the test values for the lot to the nearest 0.1 unit.
- For each parameter, calculate the Upper Quality Index (QU):

$$QU = ((\text{JMF target}) + (\text{single test tolerance}) - (\text{mean value})) / (\text{standard deviation}).$$
- For each parameter, calculate the Lower Quality Index (QL):

$$QL = ((\text{mean value}) - (\text{JMF target}) + (\text{single test tolerance})) / (\text{standard deviation}).$$
- For each parameter, locate the values for the Upper Payment Limit (PU) and the Lower Payment Limit (PL) from Table 3 - Quality Level Analysis by the Standard Deviation Method. (Use the column for "n" representing the number of sublots in the lot. Use the closest value on the table when the exact value is not listed).
- Calculate the PWL for each parameter from the values located in the previous step:

$$\text{PWL} = \text{PU} + \text{PL} - 100.$$
- Calculate each parameter's contribution to the payment adjustment by multiplying its PWL by the weight factor shown in Table 2 for that parameter.
- Add the calculated adjustments of all the parameters together to determine the Composite PWL for the lot.
- From Table 4, locate the value of the Pay Adjustment Factor corresponding to the calculated PWL. When all properties of a single test are within the single test tolerance of Table 2, Pay Adjustment factors shall be determined by Column B. When any property of a single test is outside of the Single Test Tolerance parameters defined in Table 2, the Material Pay Adjustment factor shall be determined by Column C.
- For each lot, determine the final material price adjustment:

Final Material Pay Adjustment =

(Lot Quantity) x (Item Bid Price) x (Pay Adjustment Factor) x 70%. This final pay calculation will be paid to the cent.

In lieu of being assessed a pay adjustment penalty, the Contractor may choose to remove and replace the material at no additional cost to the Department. When the PWL of any material parameter in Table 2 is below 60, the Engineer may require the removal and replacement of the material at no additional cost to the Department. Test results on removed material shall not be used in calculation of future PWL calculations for Mixture ID.

The test results from the Engineer on production that is less than 100 tons will be combined with the two most recently completed Engineer tests with the same Mixture ID to calculate payment for the lot encompassing the single test. If that cannot be accomplished, the approved JMF will be used to calculate payment for the lot encompassing the single test. Payment for previously closed lots will not be affected by the analysis.

When a sample is outside of the allowable single test tolerance for any Materials criteria in Table 2, that sample will be isolated. For payment purposes, the test result of the out of acceptable tolerance sample will be combined with the two previous acceptable samples of the same JMF and analyzed per this specification. The material that is considered out of the acceptable tolerance will only include the material within the represented sub-lot (i.e., a maximum of 500 tons). If the previous acceptable test result is from the previous production day, only the material produced on the second production day will be considered out of tolerance. All future sub lots will not include the isolated test. The pay factors for the out of tolerance sample lot will be calculated using column C of table 4.

If, during production, a QA sample test result does not meet the acceptable tolerances and the Contractor QC sample duplicates the QA sample test result, the Contractor can make an appropriate change to the mixture (within the JMF boundaries), and request to have that sample further isolated. After the Contractor has made appropriate changes, the Contractor will visually inspect each produced load. The first visually acceptable load will be sampled and tested. If that sample test result shows compliance with the specifications, the material that is considered out of the acceptable tolerance will include the material from the previous acceptable test result to the third load after the initially sampled and tested sample. If the sample does not meet the specification requirements, the Engineer will no longer accept material. Production may resume when changes have been made and an acceptable sample and test result is obtained.

Table 3 B Quality Level Analysis by the Standard Deviation Method							
PU or PL	QU and QL for An@ Samples						
	n = 3	n = 4	n = 5	n = 6	n = 7	n = 8	n = 9
100	1.16	1.50	1.79	2.03	2.23	2.39	2.53
99	-	1.47	1.67	1.80	1.89	1.95	2.00
98	1.15	1.44	1.60	1.70	1.76	1.81	1.84
97	-	1.41	1.54	1.62	1.67	1.70	1.72
96	1.14	1.38	1.49	1.55	1.59	1.61	1.63
95	-	1.35	1.44	1.49	1.52	1.54	1.55
94	1.13	1.32	1.39	1.43	1.46	1.47	1.48
93	-	1.29	1.35	1.38	1.40	1.41	1.42
92	1.12	1.26	1.31	1.33	1.35	1.36	1.36
91	1.11	1.23	1.27	1.29	1.30	1.30	1.31
90	1.10	1.20	1.23	1.24	1.25	1.25	1.26
89	1.09	1.17	1.19	1.20	1.20	1.21	1.21
88	1.07	1.14	1.15	1.16	1.16	1.16	1.17
87	1.06	1.11	1.12	1.12	1.12	1.12	1.12

86	1.04	1.08	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.04	1.04	1.04	1.04
84	1.01	1.02	1.01	1.01	1.00	1.00	1.00
83	1.00	0.99	0.98	0.97	0.97	0.96	0.96
82	0.97	0.96	0.95	0.94	0.93	0.93	0.93
81	0.96	0.93	0.91	0.90	0.90	0.89	0.89
80	0.93	0.90	0.88	0.87	0.86	0.86	0.86
79	0.91	0.87	0.85	0.84	0.83	0.82	0.82
78	0.89	0.84	0.82	0.80	0.80	0.79	0.79
77	0.87	0.81	0.78	0.77	0.76	0.76	0.76
76	0.84	0.78	0.75	0.74	0.73	0.73	0.72
75	0.82	0.75	0.72	0.71	0.70	0.70	0.69
74	0.79	0.72	0.69	0.68	0.67	0.66	0.66
73	0.75	0.69	0.66	0.65	0.64	0.63	0.63
72	0.74	0.66	0.63	0.62	0.61	0.60	0.60
71	0.71	0.63	0.60	0.59	0.58	0.57	0.57
70	0.68	0.60	0.57	0.56	0.55	0.55	0.54
69	0.65	0.57	0.54	0.53	0.52	0.52	0.51
68	0.62	0.54	0.51	0.50	0.49	0.49	0.48
67	0.59	0.51	0.47	0.47	0.46	0.46	0.46
66	0.56	0.48	0.45	0.44	0.44	0.43	0.43
65	0.52	0.45	0.43	0.41	0.41	0.40	0.40
64	0.49	0.42	0.40	0.39	0.38	0.38	0.37
63	0.46	0.39	0.37	0.36	0.35	0.35	0.35
62	0.43	0.36	0.34	0.33	0.32	0.32	0.32

Table 3 B Quality Level Analysis by the Standard Deviation Method

PU or PL	QU and QL for An@ Samples						
	n = 3	n = 4	n = 5	n = 6	n = 7	n = 8	n = 9
61	0.39	0.33	0.31	0.30	0.30	0.29	0.29
60	0.36	0.30	0.28	0.27	0.27	0.27	0.26
59	0.32	0.27	0.25	0.25	0.24	0.24	0.24

Table 4 - PWL Pay Adjustment Factors		
PWL	Pay Adjustment Factor (%) Column B	Pay Adjustment Factor (%) Column C
100	+5	0
99	+4	-1
98	+3	-2
97	+2	-3
96	+1	-4
95	0	-5
94	-1	-6
93	-2	-7
92	-3	-8
91	-4	-9
PWL<91	PWL - 100	PWL - 100

(b) Pavement Construction - Pay Adjustments.

The Engineer will determine the pavement construction pay adjustment by evaluating the construction of the pavement, based on the following parameter:

- Degree of compaction of the in-place material

Using the test values for the cores, the Engineer will use the following steps to determine the pavement construction pay adjustment for each lot of work.

1. Calculate the core bulk specific gravity values from the subplot tests values, to the nearest 0.001 unit. Obtain the Theoretical maximum Specific Gravity values from the corresponding laboratory subplot tests.
2. Calculate the Degree of Compaction:
Degree of Compaction =

$$\left(\frac{\text{Core Bulk Specific Gravity}}{\text{Theoretical Maximum Specific Gravity}} \right) \times 100\%$$
recorded to the nearest 0.1%.
3. The average compaction for the sublots shall be averaged together for the compaction level of the lot. The lots compaction test level shall be averaged and recorded to the nearest whole percent.
4. Locate the value of the Payment Adjustment Factor corresponding to the calculated degree of compaction from Table 5 or Table 5a.
5. Determine the pavement construction price adjustment by using the following formula:
Construction Pay adjustment = (Lot Quantity) x (Bid Price) x (Pay Adjustment Factor) x 30%.

Table 5: Compaction Price Adjustment Highway Locations		
Degree of Compaction (%)	Range	Pay Adjustment Factor (%)
≥ 97.0	≥ 96.75	-100*
96.5	96.26 – 96.74	-5
96.0	95.75 – 96.25	-3
95.5	95.26 – 95.74	-2
95.0	94.75 – 95.25	0
94.5	94.26 – 94.74	0
94.0	93.75 – 94.25	1
93.5	93.26 – 93.74	3
93.0	92.75 – 93.25	5
92.5	92.26 – 92.74	3
92.0	91.75 – 92.25	0
91.5	91.26 – 91.74	0
91.0	90.75 – 91.25	-5
90.5	90.26 – 90.74	-15
90.0	89.75 – 90.25	-20
89.5	89.26 – 89.74	-25
89.0	88.75 – 89.25	-30
88.5	88.26 – 88.74	-50
≤ 88.0	≤ 88.25	-100*

* or remove and replace it at Engineer's discretion

Table 5A: Compaction Price Adjustment Other ¹ Locations		
Degree of Compaction	Range	Pay Adjustment Factor (%)
≥ 97.0	≥ 96.75	-100*
96.5	96.26 – 96.74	-5
96.0	95.75 – 96.25	-3
95.5	95.26 – 95.74	-2
95.0	94.75 – 95.25	0
94.5	94.26 – 94.74	0

94.0	93.75 – 94.25	0
93.5	93.26 – 93.74	1
93.0	92.75 – 93.25	3
92.5	92.26 – 92.74	1
92.0	91.75 – 92.25	0
91.5	91.26 – 91.74	0
91.0	90.75 – 91.25	0
90.5	90.26 – 90.74	0
90.0	89.75 – 90.25	0
89.5	89.26 – 89.74	0
89.0	88.75 – 89.25	-1
88.5	88.26 – 88.74	-3
88.0	87.75 – 88.25	-5
87.5	87.26 – 87.74	-10
87.0	86.75 – 87.25	-15
86.5	86.26 – 86.74	-20
86.0	85.75 – 86.25	-25
85.5	85.26 – 85.74	-30
85.0	84.75 – 85.25	-40
84.5	84.26 – 84.74	-50
=< 84.0	=<84.25	-100*

* or remove and replace at Engineer's discretion

¹ This chart is to be used for areas where the structural value of the area to be paved is less than 1.75 as determined by the Engineer. See Appendix B - Method for Obtaining Cores for Determination of Roadway Structure. This chart is applicable to rehabilitation work only; full depth construction will not be considered for Table 5a.

.04 Dispute Resolution

Disputes or questions about any test result shall be brought to the attention of the Contractor and the Engineer within two operational days of reported test results. The following dispute resolution procedures will be used. The Engineer and the Contractor will review the sample quality, the test method, the laboratory equipment, and the laboratory technician. If these factors are not the cause of the dispute, a third-party dispute resolution will be used.

Third party resolution testing can be performed at either another Contractor's laboratory, the Engineer's laboratory, or an independent accredited laboratory. Unless otherwise mutually agreed upon by DAPA and the Engineer, the Engineer's qualified laboratory in Dover and qualified personnel shall conduct the necessary testing for third party Dispute Resolution after the Engineer has provided reasonable notice to

allow the Contractor to witness this testing. When disputes over production testing occur, the samples used for Dispute Resolution testing will be those samples properly captured, labeled, and stored, as described in the second paragraph of the section of these specifications titled **.02 Acceptance Plan, (a) Material Production - Tests and Evaluations**. If no samples are available, the original testing results will be used for payment calculations.

Dispute Resolution samples for air void content will be heated by a microwave oven.

If there is a discrepancy between the Engineer's acceptance test result and the Contractor's test result, the Contractor may ask for the Dispute Resolution sample to be tested. The Contractor may request up to two dispute resolution samples be tested per calendar year without charge. Any additional Dispute Resolution samples run at the Contractor's request where the results substantiate the acceptance test result will be assessed a fee of \$125. Any additional Dispute Resolution samples that substantiate the Contractor's test result will not be assessed the fee.

When disputes over compaction core test results occur, the Engineer's acceptance core will be used for the dispute resolution sample. The Contractor will be advised on when the testing will occur as referenced above to witness the testing. The results of the dispute resolution testing shall replace all of the applicable disputed test results for payment purposes.

Appendix A - Repairing Core Holes in Bituminous Asphalt Pavement

Description.

This appendix describes the procedure required to repair core holes in a bituminous concrete pavement.

Materials and Equipment.

The following material shall be available to complete this work:

- Patch Material - DelDOT approved High Performance Cold Patch material shall be used.

The following equipment shall be available to complete this work:

- Sponge or other absorbent material - Used to extract water from the hole.
- Compaction Hammer - mechanical (electrical, pneumatic, or gasoline driven) tamping device with a flat, circular tamping face smaller than 6 inches in diameter.

Construction Method.

After core removal from the hole, remove all excess water from within the hole, and prevent water from re-entering the hole.

Place the patch material in lifts no greater than 3 inches and compact with mechanical tamping device. If the hole is deeper than 3 inches, use two lifts of approximately equal depths so that optimum compaction is achieved. Make sure that the patch surface matches the grade of the existing roadway. Make every effort to achieve the greatest possible compaction

Performance Requirements.

The Engineer will judge the patch on the following basis:

- The patch shall be well compacted
- The patch surface shall match the grade of the surrounding roadway surface.

Basis of Payment.

No measurement or payment will be made for the patching work. The Contractor must gain the Engineer's acceptance of the patching work before the Engineer will accept the material represented by the core.

Appendix B - Method for Obtaining Cores for Determination of Roadway Structure

The Contractor is responsible for obtaining cores in areas that they propose are eligible for compaction price adjustments according to Table 5a in this specification. Table 5a is not applicable for new full-depth pavement box construction. Cores submitted for this process shall be obtained according to the following process.

1. Contact Materials & Research (M&R) personnel to determine if information about the area is already available. If M&R has already obtained cores in the location that is being investigated, the contractor may opt to use the laboratory information for the investigation and not core the area on their own.
2. If M&R does not have information concerning the section of the roadway, the contractor needs to contact M&R to arrange for verification of coring operations. Arrangements shall be made to allow for an individual from M&R to be on the site when the cores are obtained. Cores will be turned over to M&R for evaluation.
3. The Contractor is responsible for providing all traffic control and repairing core holes in accordance to 401699 Appendix A - Repairing Core Holes in Bituminous Asphalt Pavements.
4. Cores are to be taken throughout the entire project for the area in question. Cores will be spaced, from the start of the project in increments determined based on field and project specifics. Cores will be evenly distributed throughout the project location. The cores will be taken in the center of the lane in question.
5. Additional cores may be taken at other locations, if surface conditions indicate that there may be a substantial difference in the underlying section. The location of these cores should be documented and submitted to M&R.
6. Cores shall be full depth and include underlying materials. If there is a stone base included in the pavement section, at a minimum 1 core must have information concerning the thickness of the base. This is determined by augering to the subgrade surface.
7. The calculations used to determine the structural capacity of the roadway is as follows. If the contractor finds, upon starting the coring process, that the areas are of greater thickness than applicable to Table 5a, they may terminate the coring process on their own and retract the request.

Structural Number Calculations

Each pavement box material is assigned a structural coefficient based upon AASHTO design guides. The structural coefficient is used to determine the total strength of the pavement section. Materials used in older pavement sections are assigned lower structural coefficients to compensate for aging of the materials. The coefficients used to determine the structural number of an existing pavement are:

Existing Material	Structural Coefficient
HMA	0.32
Asphalt Treated Base	0.26
Soil Cement	0.16
Surface Treatment (Tar & Chip)	0.10
GABC	0.14
Concrete	0 - 0.7*

* The Structural Coefficient of Concrete is dependent upon the condition of the concrete. Compressive strengths & ASR analysis are used to determine condition - contact the Engineer if this situation arises.

Newly placed materials use a different set of structural coefficients. They are as follows:

New Material	Structural Coefficient
HMA	0.40
Asphalt Treated Base (BCBC)	0.32
Soil Cement	0.20
GABC	0.14

Example:

Location includes placement of a 1.25" Type C overlay on 2.25" Type B. Existing roadway is cored and is shown to consist of 2" HMA on 7" GABC.

Calculation:

For the Type B lift the calculation would be:

Existing HMA	2 * 0.32	=	0.64
GABC	7 * 0.14	=	0.98
			<u>1.62</u>

For the Type C lift the calculation would be:

Newly Placed B	$2.25 * 0.4$	=	0.90
Existing HMA	$2 * 0.32$	=	0.64
GABC	$7 * 0.14$	=	0.98
			<u>2.52</u>

11/3/20

501511 - RUBBLIZING PORTLAND CEMENT CONCRETE PAVEMENT

Description:

This work consists of rubblizing and compacting the existing Portland Cement Concrete Pavement in accordance with the locations and details on the Plans and as directed by the engineer.

Materials:

- A. Filler Aggregate Section 1004
1. #57, #67, or #8 stone

Construction:

- A. Prior to rubblizing:
1. Install subgrade drainage systems as required by the Contract.
 2. Remove all bituminous concrete overlays, bituminous concrete patches, and loose materials from the PCC pavement.
 3. Perform widening and/or shoulder work as required to stabilize and support the free edge.
- B. Rubblizing:
1. Schedule the rubblization operations to avoid any forecasted precipitation.
 2. Perform a minimum 60-foot test strip between pavement joints for calibration of the rubblizing equipment and for evaluation and approval by the engineer.
 3. Saw cut at full-depth to sever the existing pavement and reinforcement where concrete pavement or other appurtenances are to remain in place. For jointed pavements, saw cut at an existing joint.
 4. Rubblizing Equipment:
 - a. Multi-Head Breaker system consisting of:
 - i. A self-contained, self-propelled multi-head breaker capable of rubblizing the pavement in full lane widths in a single pass and equipped with a dust-suppressing water system.
 - ii. A Z-pattern steel grid roller. Use a vibratory smooth steel wheel roller with Z-shaped steel treads and a minimum gross weight of 10 tons. Perform two passes with the Z-pattern steel grid roller.

- b. Resonant Frequency Breaker, equipped with a dust-suppression water system, may be used as an alternate to the multi-headed breaker and z-pattern steel grid roller.
5. Rubblize with multi-head breaker and perform 2 passes with a Z-pattern steel grid roller so that the concrete pieces meet the following requirements:
 - a. 3” max. at top surface and 9” max. at bottom surface for plain concrete, or
 - b. 3” max. at top surface and 12” max. at bottom surface for reinforced concrete.
6. Continuously monitor the rubblization operation immediately behind the equipment and adjust the equipment as necessary to continuously meet the breaking requirements.
7. Excavate test holes of nine square feet every 1,500 feet, after any change in operation, where pavement conditions change, and as directed by the engineer. Remove the top layer of material to inspect the bottom layer rubblization size.
8. Avoid damaging base and appurtenances in the breaker operation. Repair all damage to the base, drainage/utility pipes, conduits, valve boxes, manholes or other fixtures, existing and proposed. Alternate rubblization methods may be used adjacent to fixtures or above pipe. In lieu of rubblizing, pavement may be removed, and the resulting void filled with filler aggregate.

C. After rubblizing:

1. Cut below surface and remove any exposed reinforcement. Remove joint sealant material, loose joint filler, expansion material, and other similar items from the rubblized pavement.
2. Perform 1 pass with a pneumatic-tired roller. Do not exceed six (6) feet per second. Use a pneumatic tire roller with a minimum weight of 26 tons. Pressurize tires to the manufacturer’s recommendations.
3. Fill with filler aggregate and compact with the roller any depression greater than ½ inch in depth from the immediate surrounding area. Select size of filler aggregate based on depth of depression being filled or as directed by the engineer.
4. Slowly run a fully-legally loaded tandem axle dump truck across the rubblized base to ensure stability of the rubblized pavement. Remove areas of weakness noticed by pumping and replace with filler material.

D. Prior to paving operations:

1. Do not allow traffic on the rubblized pavement prior to placement of the overlay course, except at restricted crossover and ramp crossings. Maintain crossover and ramp crossings in the same compactive state as other areas until the overlay course is in place.
2. Repair rubblized pavement dislodged by construction traffic prior to the paving operation.

3. Slowly run a fully-legally loaded tandem axle dump truck across the rubblized base to ensure stability of the rubblized pavement. Remove areas of weakness noticed by pumping and replace with filler material.

E. Paving:

1. Perform a single pass with a vibratory steel wheel roller immediately prior to paving. A single pass consists of the coverage of a fixed point twice, once up and once back.
2. When overlaying with bituminous pavement, use a tracked paver to place the first lift of bituminous material over the rubblized surface.

Method of Measurement:

The Department will measure the quantity of rubblizing pcc pavement in square yards of existing PCC pavement rubblized and accepted.

Basis of Payment:

A. The Department will pay for rubblizing pcc pavement at the contract unit price per square yard. Price and payment will constitute full compensation for:

1. Saw cutting,
2. rubblizing,
3. excavating test holes,
4. removal of loose materials,
5. furnishing and placing filler aggregate,
6. compacting,
7. load testing, and
8. incidentals required to complete the Work.

B. The Department will pay for:

1. Removal of bituminous concrete overlays, bituminous concrete patches, and loose materials from the PCC pavement in accordance with Section 202.
2. Subgrade drainage systems in accordance with Section 709.
3. Overlay pavement in accordance with Section 401 or 501.

C. The Department will not pay for:

1. Repairs to damaged base and appurtenances due to breaker operations.

7/01/2024

610500 – ULTRA HIGH PERFORMANCE CONCRETE**Description.**

This work consists of providing, mixing, transporting, placing, finishing, curing, and grinding ultra high performance concrete (UHPC).

Materials.

Use only materials from the same batch or lot.

- A. Fine Aggregate: Crushed Quartz with 100% passing the No. 30 sieve and a maximum of 3% passing the No. 200 sieve.
- B. Cementitious Material Section 1022.
- C. Steel Fibers: ASTM A 820, Type 1 Cold drawn high-carbon steel with a minimum tensile strength of 300 ksi. Minimum steel fiber content will be 2% of the mix's dry volume.
- D. Water Section 1021
- E. Admixtures: Only as directed by the manufacturer's representative
- F. The UHPC will meet the conditions listed in Table 1: UHPC Material Properties after 28-days, unless otherwise noted in the Contract or as directed by the engineer. Material properties listed below will be verified by the manufacturer and submitted for approval in the Placement Plan.

Table 1: UHPC Material Properties		
Description	Test Method	Acceptance Criteria
Compressive Strength Ends of cylinders must be ground flush prior to testing. Saw cutting, capping, and use of neoprene pads are not permitted.	AASHTO T 22 (3"x6" cylinders) (150 psi/sec loading rate)	≥ 22 ksi after 28 days
Shrinkage	AASHTO T 160 / ASTM C 157	≤ 800 micro-strain
Rapid Chloride Ion Penetrability or Surface Resistivity Testing	AASHTO T 277 / ASTM C 1202 or AASHTO TP 95	≤ 350 coulombs
Chloride Ion Penetrability	AASHTO T 259 ($\frac{1}{2}$ " depth)	< 0.1183 lbs/yd ³
Scaling Resistance	ASTM C 672	$Y < 3$
Freeze-Thaw Resistance	AASHTO T 161 / ASTM C 666A (300 cycles)	Relative Dynamic Modulus of Elasticity $> 95\%$
Alkali-Silica Reaction	ASTM C 1567 (Modified)	$\leq 0.08\%$ at 28 days
Slump Flow and Visual Stability	ASTM C1437 / ASTM C 1611	7 inches (Minimum) 10 inches (Maximum) No bleed water Consistent fiber distribution

Construction.

A. Submittals

1. Material Batch. At least 60-days prior to the placement of UHPC, submit a prepackaged batch of dry ingredients and admixtures sufficient for the Department to make a 1-cubic-foot trial batch of UHPC. Any testing for alkali-silica reaction or permeability will be performed on specimens without steel reinforcement. Batch proportions will otherwise remain the same per the prepackaged blend and water to cementitious materials ratio (w/cm).
2. Placement Plan. Submit a Placement Plan in accordance with Section 610.3.1 and the manufacturer's recommendations with a detailed construction work schedule to the engineer for review at least 10-days prior to the scheduled UHPC placement pour. The Placement Plan will address at a minimum:
 - a. The following list is intended as a guide and may not address all the means and methods the Contractor may elect to use. The Contractor is expected to assemble a comprehensive list of all necessary items for executing the placement of UHPC.
 - b. Responsible personnel and hierarchy.
 - c. Equipment – including but not limited to pumps, hoses, mixers, holding tanks, wheelbarrows, scales, meters, thermometers, floats, screeds, burlap, plastic, heaters, blankets, etc.
 - d. Quality Control of batch proportions - including dry ingredients, steel fibers, water, and admixtures.
 - e. Quality Control of mixing time and batch times.
 - f. Batch procedure sequence.
 - g. Form work – including materials and removal.
 - h. Placement procedure – including but not limited to surface preparation (comprising of exposed aggregate surface finish along precast elements and pre-wetting the precast concrete interface to a saturated-surface-dry (SSD) condition before the placement of UHPC), spreading, finishing, and curing protection. Include provisions for acceptable ambient conditions and batch temperatures and corrective measures as appropriate. Include means and methods to ensure all air is displaced by the UHPC and the void is completely filled.
 - i. Threshold limits for ambient temperature, ambient relative humidity, batch consistency, batch temperature, batch times and related corrective actions.
 - j. Construction joints, if needed, within the UHPC should be detailed and approved by the engineer.
 - k. Means and methods for water containment and clean up, for pre-wetting and for watertight integrity testing.
 - l. Arrange for a meeting between the UHPC manufacturer's representative, the Contractor's staff, and representatives from DelDOT Bridge Design, Construction, and Materials and Research to review the Contractor's Placement Plan. No UHPC pour will be permitted until the Placement Plan has been submitted by the Contractor and approved by the engineer.
 - m. Pumping of UHPC is not allowed.

- n. Submit calculations and detailed drawings of the formwork, signed and sealed by a Professional engineer registered in the State of Delaware. The design and fabrication of forms will be consistent with the installation drawings and follow the recommendations of the UHPC manufacturer.
 - o. Construction loads applied to the bridge during UHPC placement and curing are the responsibility of the Contractor. Submit the weight and placement of concrete buggies, grinding equipment or other significant construction loads for review as part of the proposed Placement Plan.
 3. Temperature Control Plan. When temperature ranges fall outside of the manufacturer's recommended placement temperatures, submit a Temperature Control Plan in accordance with Section 610.3.1, ACI 306R as applicable, and the manufacturer's recommendations. No UHPC pour will be permitted until the Temperature Control Plan has been submitted by the Contractor and approved by the engineer.
- B. Storage.
 1. Ensure proper storage of all materials including but not limited to cement, aggregate, steel reinforcement and additives, as required by the supplier's recommendation in order to protect the integrity of the materials against the loss of physical and mechanical properties.
- C. Forming, Mixing, Transporting, Placing and Curing.
 1. The Contractor will arrange for an on-site meeting with the UHPC manufacturer's representative one day before the start of the actual UHPC placement. The Contractor's staff and representatives from DelDOT Bridge Design, Construction, and Materials and Research, will attend the meeting. The objective of the meeting will be to clearly outline the procedures for mixing, transporting, finishing and curing of the UHPC.
 2. Design and fabricate formwork to adhere to Section 604.03.2 and the recommendations of the UHPC manufacturer. Construct forms from a nonabsorbent homogeneous material that is properly sealed and capable of resisting the hydrostatic pressures from UHPC in the unhardened state. Do not remove formwork until a compressive strength of 10 ksi is achieved. Internal vibration of the UHPC is not acceptable. However, rodding may be satisfactory to achieve a suitable blended connection where two successive pours meet.
 3. Cover all UHPC joints with a top form with a moisture barrier. Supplemental heat can be provided to the UHPC and surrounding prefabricated elements to reduce initial set times and accelerate strength gain. Include the proposed method of artificial heating the precast concrete element in the installation drawings. Follow the UHPC manufacturer's recommendations for curing to attain the required strength to meet the project schedule.
 4. When applicable, due to weather constraints, place UHPC in accordance with the approved Temperature Control Plan.
 5. Once the UHPC reaches a compressive strength of 10-ksi, the top forms of the joint may be removed to facilitate grinding of the joint to be even with the top surface of precast concrete element.
 6. Form, batch, place, and cure in accordance with the UHPC manufacturer's recommendations and as submitted and accepted by the engineer.

7. Representatives of the UHPC manufacturer knowledgeable in supplying, mixing, transporting, placing, finishing and curing of the UHPC material must be present during mixing, transporting and placing of the UHPC. The Contractor will arrange for two manufacturer's representatives to be on site for the duration of the UHPC construction; one representative will remain with the mixing operations and the second representative will remain with the placement operations. Do not start mixing or placing UHPC until the manufacturer's representatives are on-site. Place UHPC in accordance with the approved Placement Plan using one continuous pour unless otherwise detailed in the Contract Documents or as approved per the Placement Plan. Do not allow the UHPC to freeze before attaining a compressive strength of 10-ksi.
8. Provide a minimum of two portable batching units for mixing of the UHPC. Mixing equipment which is not supplied by the UHPC manufacturer must be reviewed by the UHPC manufacturer for adequacy. During batching keep the temperature of the UHPC below 90-degrees F; ice may be added to the mix as recommended by the UHPC manufacturer's representative.

D. Acceptance Testing.

1. DelDOT Materials and Research will be on site during the placement of UHPC. To schedule a representative, contact DelDOT Materials and Research a minimum of 48-hours prior to the anticipated UHPC placement. A representative from the Materials and Research section will perform a slump flow test according to ASTM C 1437 / ASTM C 1611 on each batch of UHPC. DelDOT Materials and Research will cast 3-inch x 6-inch cylinders according to AASHTO T 23 at a minimum of once per day. Cast the cylinders in a single lift. Compressive strength testing will be performed at 1, 2, 3, 4 and 28 day cure times. Final acceptance will be based upon 4-day and 28-day strengths. Field coring of UHPC for dispute resolution will not be allowed.
2. Additional specimens will be cast for permeability testing. A minimum of two lots will be selected at random from the permeability specimens and tested in accordance with AASHTO T 277 / ASTM C 1202 and AASHTO TP 95. In the event of a discrepancy between the two methods, results from ASTM C 1202 will supersede. If one specimen from either lot exceeds the maximum permeability, two additional specimens will be selected and tested in accordance with AASHTO T 277 / ASTM C 1202, the average of which will replace the failed specimen result.
3. The Contractor is responsible for providing an adequate location to place acceptance specimens for initial curing prior to transport to the lab. Curing boxes will be equipped with supplemental heat or cooling as necessary to cure specimens in accordance with ASTM C 31. Testing performed by the DelDOT Materials and Research has been summarized in Table 2: DelDOT M&R UHPC Acceptance Testing. Performance frequencies of each test listed in Table 2 are a minimum value. Tests may be performed at more frequent intervals than described in Table 2, at the discretion of the engineer or DelDOT Materials and Research.

Table 2: DelDOT M&R UHPC Acceptance Testing

Description	Test Method	Acceptance Criteria	Frequency
Compressive Strength	AASHTO T 22	≥ 22 ksi after 28 days ≥ 14 ksi after 4 days (3"x6" cylinders) (150 psi/sec loading rate)	At least once per 25 CY or once per 12 hour shift
Rapid Chloride Ion Penetrability or Surface Resistivity Testing	AASHTO T 277 / ASTM C 1202 or AASHTO TP 95	≤ 350 coulombs after 28 days	1 per job (Performed prior to field placement)
Slump Flow and Visual Stability	ASTM C1437 / ASTM C 1611	7 inches (Min.) 10 inches (Max.) No bleed water Consistent fiber distribution	1 per batch

- E. Surface Preparation. Create an exposed aggregate finish on all surfaces of the precast concrete element in contact with UHPC to facilitate bond. The exposed aggregate finish must have a 0.25-inch amplitude. In addition, immediately before concrete placement, wet the clean surface with water to a saturated surface dry (SSD) condition. Saturated surface dry (SSD) is a state where the concrete has absorbed as much water it can possibly absorb without ponding or puddles forming on the surface. Achieve SSD condition by placing wet burlap on the surface for a minimum of 24-hours or by other means submitted for approval by the engineer. Use compressed air, free of oil, to blow out any standing water in areas of concrete removal.
- F. Surface Profile.
1. The finished surface of the UHPC field joints must be flush with adjacent precast elements to within a tolerance of plus $\frac{1}{4}$ inch and minus 0 inches. After curing, grind the UHPC surface smooth with adjacent concrete elements in order to match the profile of the structural elements that are being connected within the acceptable surface tolerance. Grinding of the UHPC surface can be performed when a minimum strength of 10 ksi is achieved. During grinding operations, if steel fiber pullout is observed, suspend the grinding and do not resume until approved by the engineer.
 2. If deemed as necessary by the engineer, perform a watertight integrity test on 10-percent of the joints after grinding has been completed. The test will consist of continuously applying running water at an approximate rate of 300-gallons per hour along the length of the joints to be tested, for a duration of 30-minutes. Inspect the underside of the joint for water leakage at 30-minutes and at 1-hour. The joint is considered watertight if no dripping water or water droplets are visible underneath precast concrete element areas along the full length of the joint. If the results of the watertight integrity test are not satisfactory, the engineer will determine the required corrective action.
- G. Traffic is not permitted on the bridge until the UHPC has achieved a minimum compressive strength of 14-ksi or unless otherwise approved by the engineer.

Method of Measurement

- A. The quantity of Ultra High Performance Concrete will be measured as the number of cubic feet of UHPC placed and accepted. The volume will be computed using the dimensions shown on the plans.
- B. The Department will not measure surface grinding.

Basis of Payment

- A. The Department will pay for UHPC at the contract unit price per cubic foot. Price and payment constitute full compensation for:
 - 1. Preparing and submitting all required submittals to the Department;
 - 2. mixing, transporting, placing, finishing, curing, and grinding;
 - 3. and for all incidentals required to complete the Work.
- B. Additional quantity of material used in the determination of material properties and for acceptance testing will be provided at no additional cost to the Department.
- C. The Department will make no additional payments for any additional Work relating to the placement of UHPC in accordance with the Temperature Control Plan.
- D. The Department will make no additional payments for remediation if the UHPC does not meet the minimal material properties of the contract. Remove and replace or remediate the UHPC to the satisfaction of the engineer.
- E. The Department will make no additional payments for:
 - 1. Watertight integrity tests are required by the engineer;
 - 2. joint surface preparation or grinding procedures; or
 - 3. remedial solutions to insufficient bonding of joints.

7/01/2024

612502 – PRECAST CONCRETE MOMENT SLABS

Description:

This work consists of providing, erecting, and installing precast moment slabs with integral barriers on a prepared base.

Materials:

A. PCC, Class A	Section 1022
B. Bar Reinforcement	Section 1037
C. Concrete Silane Sealer	Section 1045.3
D. Non-shrink Grout	Section 1047.2
E. GABC	Section 1005

Construction:

- A. The provisions of Section 612 apply, except as specified in this special provision.
- B. Submittals
 - 1. Submit Working Drawings in accordance with Section 105.4. In addition to the items listed in Section 612.3.1, include the following in the working drawings:
 - a. Details of placement of all embedded accessories.
 - b. Method and sequence of erection. Include details of all equipment to be used to lift the precast elements. Include locations of cranes and pick radii used to place units at the bridge site.
 - c. Methods and procedures for removing and patching lifting devices, attachment points, and other inserts/blockouts, as applicable.
- C. Precast Element Fabrication.
 - 1. Cast barriers to be integral with the slab.
 - 2. Provide a Class 1 surface finish in accordance with Section 610.3.8 on exposed barrier faces.
 - 3. Apply silane sealer to the barrier faces.
- D. Precast Element Installation
 - 1. Lift precast elements at the approved designated points and by approved lifting devices properly attached to the elements, utilizing proper hoisting procedures. Design the lifting devices and all necessary precast concrete modifications to accommodate handling stresses in the structures.
 - 2. Prepare the bedding area for the coarse aggregate foundation for approval by the engineer prior to foundation construction. Construct GABC foundation as specified in the Plans.

3. Place precast elements. Ensure proper matching and aligning of joints of adjacent elements.
Erect precast structures in accordance with the manufacturer's recommendations and as approved by the engineer.
4. Fill all lifting device pockets and any other holes or pockets with non-shrink grout.

Method of Measurement:

The Department will measure the quantity of precast moment slabs in cubic yards.

Basis of Payment:

- A. The Department will pay for precast moment slabs at the contract unit price per cubic yard. Price and payment will constitute full compensation for:
 1. Preparing and submitting working drawings,
 2. providing and placing all materials,
 3. lifting devices,
 4. fabricating, storing, handling, transporting, and erecting the structures, and
 5. all incidentals required to complete the Work.
- B. The Department will pay for:
 1. GABC in accordance with Section 301.
- C. The Department will not pay for:
 1. Precast elements rejected due to defective construction or improper storing, handling, transporting, or installation.

7/01/2024

612504 – PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS

Description:

This work consists of furnishing, erecting, and installing full-depth precast concrete approach slab panels and precast concrete sleeper slab units on a prepared base.

Materials:

A. PCC, Class D	Section 1022
1. 28-day compressive strength of 5,000 psi	
B. Bar Reinforcement	Section 1037
C. Concrete Silane Sealer	Section 1045.3
D. Non-shrink Grout	Section 1047.2
E. GABC	Section 1005
F. Borrow, Type B	Section 1001

Construction:

- A. The provisions of Section 612 apply, except as specified in this special provision.
- B. Submittals
 - 1. Submit Working Drawings in accordance with Section 105.4. In addition to the items listed in Section 612.3.1, include the following in the working drawings:
 - a. Details of placement of all embedded accessories including expansion joint armoring and blockouts.
 - b. Method and sequence of erection. Include details of all equipment to be used to lift the precast elements. Include locations of cranes and pick radii used to place units at the bridge site.
 - c. Methods and procedures for removing and patching lifting devices, attachment points, and other inserts/blockouts, as applicable.
- C. Precast Element Fabrication.
 - 1. Provide a Class 1 surface finish in accordance with Section 610.3.8:
 - a. Precast approach slab limits: On top and exposed side surfaces.
 - b. Precast sleeper slab limits: On top surface.
 - 2. Provide a 0.25-in amplitude exposed aggregate finish for joint surfaces that will be in filled with UHPC.
 - 3. Apply silane sealer to the top and exposed sides of each unit.
 - 4. Tolerances:

Dimensional Tolerances for Precast Panels/Units	
Panel Dimensions: Length & Width	$\pm 1/4"$
Panel Dimensions: Nominal Thickness	$\pm 1/8"$
Panel Dimensions: Squareness (diagonal difference @ top of panel)	$\pm 3/16"$
Horizontal Alignment	$\pm 1/4"$
Deviation from straightness of mating edge of panels Vertical Alignment - Camber, Horizontal Skew, and Vertical Batter	$\pm 1/8"$
Position of lifting anchors (horizontal location)	$\pm 6.0"$
Position of reinforcement (horizontal & vertical)	$\pm 1/2"$
Position of dowel bar inserts (horizontal & vertical)	$\pm 1/4"$
Dimensions of block outs & UHPC joint pockets	$\pm 1/4"$

D. Precast Element Installation

1. Lift precast elements at the approved designated points and by approved lifting devices properly attached to the elements, utilizing proper hoisting procedures. Design the lifting devices and all necessary precast concrete modifications to accommodate handling stresses in the structures.
2. Prepare the bedding area for the coarse aggregate foundation for approval by the Engineer prior to foundation construction. Construct foundation consisting of Borrow, Type B over GABC as specified in the Plans.
3. Place precast elements. Ensure proper matching and aligning of joints of adjacent elements. Erect precast structures in accordance with the manufacturer's recommendations and as approved by the engineer. Place the precast sections to meet the following placement tolerances:

Precast Approach Slab Panels and Sleeper Slab Units Placement Tolerances	
Horizontal Alignment: Longitudinal centerline to surveyed centerline marked on the surface of the base and adjacent panels.	$\frac{1}{2}"$ maximum
Transverse centerline to surveyed marks on adjacent panels	$\frac{1}{2}"$ maximum

Vertical alignment: Top surface of precast panel with respect to top surface of adjacent panels at any point	1/4" maximum
Gap width at top surface between adjoining panels Note: Maintaining variable longitudinal joint width more than 1/2 inch will be cause for stoppage of panel installation operations until the Contractor states in writing how he plans to correct this deficiency.	½" maximum transverse ½" maximum longitudinal

4. Pour UHPC joint closure pours in accordance with special provision 610500.
5. Fill all lifting device pockets and any other holes or pockets with non-shrink grout.

Method of Measurement:

The Department will measure the quantity of precast approach slab and sleeper slab units in cubic yards.

Basis of Payment:

- A. The Department will pay for precast approach slab and sleeper slab units at the contract unit price per cubic yard. Price and payment will constitute full compensation for:
 1. Preparing and submitting working drawings,
 2. providing and placing all materials,
 3. lifting devices,
 4. fabricating, storing, handling, transporting, and erecting the structures, and
 5. all incidentals required to complete the Work.
- B. The Department will pay for:
 1. GABC in accordance with Section 301.
 2. Borrow, Type B in accordance with Section 207.
 3. Expansion joint armoring in accordance with Section 624.
 4. UHPC closure pours in accordance with Special Provision 610500.
- C. The Department will not pay for:
 1. Precast elements rejected due to defective construction or improper storing, handling, transporting, or installation.

7/01/2024

612500 - PRECAST CONCRETE PIER CAP

612511 – PRECAST CONCRETE ABUTMENT CAP

Description:

This work consists of providing and installing precast concrete abutment caps and precast concrete pier caps.

Materials:

A. PCC	Section 1022
1. Meeting the requirements of 612.2.A.	
B. Elastomeric Leveling Pad	Section 623
C. Corrugated Metal Pipe	AASHTO M36/ M36M
D. Zinc-coated (galvanized) corrugated steel pipe	AASHTO M218
E. Non-Shrink Grout	Section 1047
F. Reinforcing Steel	Section 1037
G. Concrete Silane Sealer	Section 1045
H. Expansion Joint Material	Section 1042
I. Non-Bituminous Joint Sealer	Section 1042
J. Coarse Aggregate	Section 1004

Construction:

A. Perform the Work in accordance with Section 612.3.

B. Working Drawings.

1. Submit Working Drawings for review and concurrence. Working Drawings must be signed and sealed by a registered Professional Engineer in the State of Delaware. Submit Working Drawings a minimum of 30 days prior to the commencement of module fabrication. Do not order materials or begin work until approval of the Working Drawings by the engineer. In addition to the items listed in 612.3.1, include the following in the Working Drawings:

- a. Thermal Control Plan in accordance with Section 610.3.1.A.2c.
- b. Details of placement of all embedded accessories including corrugated metal pipe and dowel sleeves.
- c. Method and sequence of erection. Include details of all equipment to be used to lift pier caps. Include locations of cranes and pick radii used to erect pier cap at the bridge site.
- d. Methods and procedures for removing and patching lifting devices, attachment points, and other inserts/blockouts, as applicable.

- e. An alternate design may be proposed with the approval of the Department. Submit supporting calculations in accordance with the design specification noted in the Contract.

C. Precast Concrete Elements.

1. Precast Element Fabrication.
 - a. Control concrete temperature during curing in accordance with Section 610.3.4.D.3.
 - b. Provide a Class One surface finish in accordance with Section 610.3.8:
 - i. Precast abutment cap limits: On all surfaces of the precast abutment cap sections.
 - ii. Precast pier cap limits: On all surfaces except for the face adjacent to the cast-in-place closure pour connection between precast pier cap sections. Provide a roughened surface, up to 1/4-inch amplitude, along face of the pier cap adjacent to closure pour in accordance with the Contract Documents.
 - d. Apply a water miscible, penetrating silane sealer:
 - i. Abutment cap limits: On all exposed surfaces of the precast abutment cap sections.
 - ii. Pier cap limits: On all exposed surfaces of the precast concrete pier cap, except for the faces in contact with pier footer and pier cap.
 - e. Tolerances.
 - i. External Dimensions - No more than 1/4-inch from the design dimensions.
 - ii. Length of Precast Section – No more than 1/8-inch per foot of length with a maximum of 1/2-inch in any precast abutment cap and pier cap section.
 - iii. Length of Composite Element – No more than 1/8-inch per foot of length with a maximum of 1/2-inch in any abutment cap and pier cap once the sections have been made composite.
 - iv. Position of Corrugated Metal Pipe - The maximum variation in the position of the corrugated metal pipes will be 1/4-inch from the design locations.
 - v. Position of Reinforcement - The maximum variation in the position of the reinforcement will be 3/8-inch, except the cover over the reinforcement for the external surface of the pier cap will not be less than 2-inches. Refer to the Plans for reinforcement cover requirements.
2. Precast Element Installation.
 - a. Lift precast elements at the approved designated points and by approved lifting devices properly attached to the structures, utilizing proper hoisting procedures. Design the lifting devices and all necessary precast concrete modifications to accommodate handling stresses in the structures.

- b. Place precast elements:
 - i. Ensure proper matching and aligning of joints of adjacent elements. Erect precast structures in accordance with the manufacturer's recommendations and as approved by the engineer. Place the precast sections so that when they are laid and after a closure pour occurs, they will make a continuous line of elements with a smooth exterior surface.
 - ii. Abutment cap placement: Prepare the bedding area for the coarse aggregate foundation for approval by the engineer prior to foundation construction. Construct foundation consisting of coarse aggregate as specified in the Plans.
 - iii. Pier cap placement: Use elastomeric leveling pads to ensure proper vertical alignment and complete bearing contact of the precast columns between the pier footers and pier cap. Elastomeric leveling pads will be a minimum of 1/8-inch thickness and a maximum of 1/4-inch.
- c. After erection, survey the top elevation of all abutment cap and pier cap elements. Check for proper alignment and that elevations are within specified tolerances. Top elevations of the elements shall not deviate from the Plans by more than 1/4-inch.
- d. Pour concrete closure pours:
 - i. Before pouring concrete closure pours to connect precast elements, clean the adjacent surfaces of all dirt, dust, and other foreign matter. Saturate the precast concrete surfaces with water prior to placement of concrete. Do not allow any standing water to remain in the area to receive concrete.
- e. Fill all lifting device pockets and any other holes or pockets (excluding corrugated pipe void used for element connection) with non-shrink grout.

Method of Measurement:

- A. The Department will measure the quantity of precast concrete abutment cap and precast concrete pier cap as the number of cubic yards installed and accepted. The volume will be computed based on dimensions shown in the Plans, excluding voids to be filled with cast-in-place concrete.

Basis of Payment:

- A. The Department will pay for the quantity of precast concrete pier cap and precast concrete abutment cap at the contract unit price per cubic yard. Price and payment will constitute full compensation for:
 - 1. Preparing and submitting working drawings;
 - 2. providing and placing all materials;
 - 3. PVC air vents;

4. elastomeric leveling pads;
5. lifting devices;
6. fabricating, storing, handling, transporting, and erecting the structures; and
7. all incidentals required to complete the Work.

B. The Department will pay for:

1. Providing and placing the closure pour material between the pier cap and pier column and the transverse closure pour between pier caps segments in accordance with Section 610.
2. Providing and placing the closure pour material between the abutment cap and piles in accordance with Section 610.
3. Excavation and backfill in accordance with Section 207.
4. Coarse aggregate in accordance with Section 302.

C. The Department will not pay for:

1. Precast abutment caps or pier caps rejected due to defective construction or improper storing, handling, transporting, or installation.
2. Additional payments associated with an approved alternative design other than what was provided in the Contract.

07/10/2023

612512 - PRECAST CONCRETE T-WALL

Description.

This work consists of designing, providing and installing precast concrete T-Wall units.

General Requirements.

- A. Contact The Reinforced Earth Company to acquire the T-Wall design, units, and joint materials.

The Reinforced Earth Company (RECo)

45610 Woodland Road, Suite 200, Sterling, Virginia 20166

(703-547-8797)

Materials.

- | | |
|---|--------------|
| A. Portland Cement Concrete | Section 1022 |
| 1. Precast Elements. | |
| a. Self-consolidating concrete (SCC) | |
| b. 28-day compressive strength of 5,000 PSI | |
| 2. Leveling Pad, Class B Concrete | |
| a. 28-day compressive strength of 3,000 PSI | |
| B. Coarse Aggregate | Section 1004 |
| C. Reinforcing Steel | Section 1037 |
| D. Concrete Silane Sealer | Section 1045 |
| E. Geotextiles | Section 1060 |

Construction.

- A. Perform the Work in accordance with Section 612.3, and as follows.

- B. Submittals.

1. Designs.
 - a. The Department will provide a foundation analysis for the T-Wall design. The foundation analysis will include a geotechnical investigation, bearing resistance, settlement, and the global stability analysis for the T-Wall design. The T-Wall design will be in accordance with the soil and foundation parameters specified in the contract documents. A geotechnical report is on file and available for review upon request.
 - b. Submit a copy of the T-Wall stability calculations. Calculations must be signed and sealed by a registered Professional Engineer in the State of Delaware. Submit calculations a minimum of 30-days prior to the commencement of module fabrication. The Rankine stability analysis for overturning, sliding and pullout shall be used for the T-Wall design.

2. Working Drawings.

- a. Submit Working Drawings for review and concurrence. Working Drawings must be signed and sealed by a registered Professional Engineer in the State of Delaware. Submit Working Drawings a minimum of 30-days prior to the commencement of module fabrication. Do not order materials or begin work until approval of the Working Drawings by the engineer. In addition to the items listed in 612.3.1, include the following in the Working Drawings:
 - i. Method and sequence of erection. Include details of all equipment to be used to lift T-wall units.
 - ii. Methods and procedures for removing and patching lifting devices, attachment points, and other inserts/blockouts, as applicable.
 - iii. An alternate design may be proposed such as alternate structural dimension or reinforcement with the approval of the Department. Submit the supporting calculation that in accordance with the design specification noted in the Contract.

C. Precast Concrete Elements.

1. Precast Element Fabrication.

- a. Control concrete temperature during curing in accordance with Section 610.3.4.D.3.
- b. Provide a Class One surface finish in accordance with Section 610.3.8.
- c. Apply a water miscible, penetrating silane sealer on all exposed surfaces of the precast T-wall segments.
- d. Unit Finish and Tolerances.
 - i. External Dimensions - No more than 1/4-inch from the design dimensions.
 - ii. Architectural Form Liner Finish – As identified in the Plans.
 - iii. Front Face Tolerance – Length and height of front face no more than 1/4-inch from design dimensions.
 - iv. Surface Finish – Properly repair all honeycomb or open texture.
 - v. Position of Reinforcement – The minimum concrete cover of the primary reinforcement of the T-Wall will not be less than 2-inches. The minimum concrete cover of the stirrups and ties of the T-Wall will not be less than 1½-inches.

2. Precast Element Installation.

- a. Prepare T-Wall site locations.
 - i. Examination.

- (1.) Verify locations of utilities and existing structures prior to excavation. Examine the project site and evaluate conditions where the T-Wall retaining wall will be constructed. Notify the engineer in writing of any conditions that may interfere with the proper construction of the T-Wall wall or delay completion. Promptly notify the wall design engineer of site conditions, which may affect wall performance, soil conditions observed other than those assumed, or other conditions that may require a reevaluation of the wall design.

ii. Excavation.

- (1.) Excavate to the lines and grades shown on the construction drawings. For the foundation of the T-Wall structure, excavate and grade level for a width equal to or exceeding the length of the T-Wall stem. Use the top of the leveling pad as the grade elevation, or grade to the appropriate slope for a battered wall. Do not disturb the soil base beyond the lines indicated. Stabilize the slopes and install necessary excavation protection.

iii. Foundation preparation.

- (1.) Foundation soil will be evaluated by the Department to ensure that the bearing soils meet or exceed the design conditions and assumptions in the geotechnical report and the approved T-Wall design.
- (2.) Compact the foundation in accordance with Section 207.
- (3.) Remove and replace any soft or loose foundation soils to ensure that there is adequate bearing resistance as directed by the geotechnical engineer. The Department will approve the soil foundation prior to installation of the T-Wall.

iv. Leveling pads.

- (1.) Pour two concrete leveling pads as shown on the plans at each unit foundation level. Leveling pads are to be level within $\pm 1/4$ -inch per 15-feet and shall not exceed a $1/4$ -inch overall over 100-feet. Repair or replace leveling pads that do not meet this requirement as directed by the engineer.

- v. Wall drainage.
 - (1.) Perform an overall site drainage analysis prior to start of T-Wall construction to ensure that area runoff is controlled and directed away from the retaining wall.
 - (2.) Dewater the excavated areas in order to maintain dry working conditions during construction of the wall.
- b. Lift precast elements at the approved designated points and by approved lifting devices properly attached to the T-Wall unit, utilizing proper hoisting procedures. Design the lifting devices and all necessary precast concrete modifications to accommodate handling stresses in the T-Wall unit.
- c. Place precast elements.
 - i. Erect precast concrete T-Wall units in accordance with the manufacturer's recommendations and as approved by the engineer. Place the precast sections so that when they are laid, they will make a continuous line of elements.
 - ii. Ensure proper matching and aligning of joints of adjacent elements.
 - (1.) Horizontal Joints

Place rubber blocks with a minimum durometer of 60 as shown in the approved T-Wall drawings. Tack a 12-inch width of geotextile fabric on the back face to cover the horizontal joints.
 - (2.) Vertical Joints

Tack a 12-inch width of geotextile fabric on the back face to cover the vertical joints.
 - (3.) Shear Keys

Construct precast shear keys out of the same concrete mix as the T-Wall units and cure in the same manner. Wrap the shear keys with a closed cell polyethylene foam material (shear key wrap) to fit snugly into the T-Wall stem keyways.
- d. After erection, check T-Wall structures for proper alignment and ensure they are within specified tolerances:
 - i. Horizontal joint openings between panels is to be 1/2 inch $\pm 3/8$ inch.
 - ii. Vertical joint openings between panels is to be 1/2 inch $\pm 3/8$ inch.

- iii. Vertical tolerance (plumbness) as the wall is constructed is not to exceed $\pm 3/4$ inch when measured with a 10-foot straight edge and is not to exceed $3/4$ inch overall.
- iv. Horizontal alignment tolerance as the wall is constructed is not to exceed $\pm 3/4$ inch when measured with a 15-foot straight edge and is not to exceed $3/4$ inch overall.
- e. Field Repairs.
 - i. Submit a repair procedure for approval by the Department and The Reinforced Earth Company.
 - ii. Field repairs will not be allowed without a pre-approved repair procedure.
- f. Backfill placement.
 - i. Place backfill closely following the erection of each course of T-Wall units. The backfill lift is to be uniform in thickness on both sides of the stem, not to exceed 12 inches, and compacted within the limits shown on the Plans. Backfill with foamed glass aggregate in accordance with Special Provision 202519. Placement and compaction of the backfill is to be accomplished without displacement of the T-Wall units.
- g. Field Quality Control.
 - i. The Department will monitor soil testing and perform daily quality assurance and inspection for wall construction and soils work.
 - ii. Field quality assurance includes but is not limited to the foundation inspection prior to wall construction, frequent backfill compaction testing, verification of backfill soil parameters and compliance with approved T-Wall shop drawings, T-Wall Construction and Quality Control Manual, and project specifications.
- h. Cleaning.
 - i. After completion of wall installation, remove construction debris and restore any adjacent finished areas affected by wall construction to their pre-construction state.
 - ii. Wash the wall face to remove soil and stains. Do not use acid or detergents that may “burn” or discolor face.

Method of Measurement.

- A. The Department will measure the quantity of precast concrete T-wall based on the actual square yards of surface area of the T-wall units installed and accepted. The area will be computed based on dimensions shown in the Plans.

Basis of Payment.

- A. The Department will pay for the quantity of concrete T-wall at the Contract unit price per square yard. Price and payment will constitute full compensation for:
1. Providing and placing all materials;
 2. excavation;
 3. providing, placing, and removing shoring;
 4. providing foundation soil to be evaluated by the Department;
 5. coarse aggregate;
 6. placing leveling pad;
 7. joint material;
 8. geotextiles;
 9. lifting devices;
 10. fabricating, storing, handling, transporting, and erecting the T-wall system; and
 11. all incidentals required to complete the Work.
- B. The Department will not pay for:
1. Precast concrete T-walls rejected due to defective construction or improper storing, handling, transporting, or installation.
 2. Over-excavation for the proposed foundation.
 3. Additional backfill required because of over-excavation.
 4. Repairing or replacing leveling pads that do not meet the tolerance requirements.
 5. Additional payments associated with an approved alternative design other than what was provided in the Contract.
- C. The Department will pay for foamed glass aggregate with Item 202519 – Foamed Glass Aggregate.

11/28/2023

613502 – ELASTOMERIC WATERPROOFING MEMBRANE FOR BRIDGE DECKS**Description**

This work consists of providing and installing a cold liquid-applied elastomer waterproofing membrane to concrete and timber bridge decks.

Materials

A. Provide a composite aggregated membrane composed of the following components:

1. Primer.

Physical Property	Test Method	Requirement
Adhesion to Concrete	ASTM D7234	>150 psi

2. Geotextile fabric. Only provide on timber decks. 3oz or 4 oz, spun bound, non-woven geotextile fabric.

3. Spray Applied Base Coat Membrane. Fast curing elastomer.

Physical Property	Test Method	Requirement
Solids Content		100%
Gel Time		<10 seconds
Tack Free Time		<30 seconds
Shore Hardness	ASTM D2240	>40D
Adhesion to Concrete	ASTM D7234	>150 psi
Tensile Strength	ASTM D638	>2,000 psi
Tear Strength (Die C)	ASTM D638	>300 pli
Elongation at Break	ASTM D638	150%
Low Temperature Crack Bridging (1/8" opening @ -15°F, 40 cycles)	ASTM C1305	Pass

4. Spray Applied Top Coat Membrane. Slow setting elastomer.

Physical Property	Test Method	Requirement
Solids Content		100%
Gel Time		>30 seconds
Tack Free Time		>1 minute
Shore Hardness	ASTM D2240	>40D
Tensile Strength	ASTM D638	>2,000 psi
Tear Strength (Die C)	ASTM D638	>300 pli
Elongation at Break	ASTM D638	>150%

5. Broadcast Aggregate, recommended by the Manufacturer.
 6. Tack Coat, recommended by the Manufacturer.
- B. Provide all primers and membranes from the same manufacturer.

Construction

A. Submittals

1. Submit separate reference lists from the Manufacturer and the waterproofing installer ("Installer") that include specific projects previously completed which have utilized the principal materials submitted for this project. Include DOT references. The Manufacturer must illustrate a minimum of ten (10) years of prior experience providing the principal materials submitted for this project on similar projects.
2. Submit drawings prepared specifically for this project showing locations and extent of waterproofing, tie-in details, and termination details.
3. Submit two (2) samples (4"x4") that are representative of the finished membrane surface, texture, and color.
4. Submit certificate signed by the Manufacturer certifying that the Installer is an approved installer of the Manufacturer's products.

B. Quality Assurance

1. Engage a Manufacturer with ISO 9001 certification, primary blender with proprietary formulations, an Approved Applicator program, and ability to provide field technical services.
2. Provide an authorized Manufacturer representative ("On-Site Representative") to observe the installation and perform quality control of each portion of the membrane system. The On-Site Representative, in consultation with the Engineer, may suspend any item of work that does not meet the requirements of this specification or the Manufacturer. Only resume work after the On-Site Representative and the Engineer are satisfied that appropriate remedial action has been taken by the Installer.
3. Schedule a pre-installation meeting to review the installation schedule, shot down, and restricted access procedures with the Engineer, the On-Site Representative, and the Installer's superintendent.

C. Delivery, Storage, and Handling

1. Deliver products in Manufacturer's original containers labeled with Manufacturer's name, product brand name, and batch/lot numbers.

2. Store materials as required by Manufacturer in a clean, dry, protected location and within temperature range required by Manufacturer. Protect stored materials from direct sunlight.
3. Replace product damaged by shipment, weather, or job conditions.

D. Surface Preparation

1. Provide a clean and sound concrete or wood substrate.
2. On concrete decks, repair spalls and other defects in accordance with Section 628.
3. On timber decks, repair damaged or unsound wood in accordance with the contract.
4. Prepare concrete surfaces to NACE No. 6/ SSPC-SP13, CSP 3 measured using ICRI CSP chips.
5. Prepare metal surfaces to NACE No. 2/ SSPC-SP10 3-5 mil blast profile measured using a Surface Profile Gage.
6. Treat cracks, joints, etc. in accordance with Manufacturer's recommendations.
7. Protect adjacent areas not to be waterproofed. Apply or erect masking, spray curtains, and partitions as necessary to prevent overspray.

E. Prior to Installation

1. Prior to application of primer obtain the On-Site Representative's approval of the substrate preparation.
2. Test the substrate concrete moisture content with a non-destructive concrete moisture meter. Ensure the substrate moisture content is 5.0% or less.

F. Membrane Installation

1. Apply primer in accordance with Manufacturer's recommendations to surfaces that will receive spray applied waterproofing membrane.
2. On timber decks, place geotextile roll in accordance with Manufacturer's recommendations.
3. Spray base coat membrane to the thickness recommended by Manufacturer to meet the required physical properties and thickness.
4. Spray top coat membrane to the thickness recommended by Manufacturer to meet the required physical properties and thickness. Immediately broadcast aggregate into wet membrane at Manufacturer's recommended rate for a coverage of 95%. Remove excess, loose aggregate prior to placement of tack coat.
5. Allow waterproofing system to cure the minimum amount of time required by the Manufacturer prior to allowing vehicular traffic or placement of asphalt overlay.
6. Place tack coat in accordance with Section 401 and Manufacturer's recommendations.

Method of Measurement

The Department will measure the quantity of Elastomeric Waterproofing Membrane in square feet.

Basis of Payment

- A. The Department will pay for Elastomeric Waterproofing Membrane at the contract unit price per square feet. Price and payment will constitute full compensation for:
1. On-Site Representative,
 2. surface preparation,
 3. providing and placing materials, and
 4. incidentals required to complete the Work.
- B. The Department will pay for:
1. Concrete repairs in accordance with Section 628.
 2. Timber repairs in accordance with the contract.
 3. Tack coat and asphalt overlay in accordance with Section 401.

7/01/2024

621500- TEMPORARY TIMBER MAT

Description.

The work consists of placing temporary timber mats for heavy equipment to access areas with wetlands, high water table and poor soils.

Materials.

A. Wood Section 1041

1. Temporary timber mats must have a strength and grade adequate to support anticipated vehicular or equipment loads. Environmentally safe preservative treatments for wet conditions must be applied to the matting and be preapproved by the Department.

B. Hardware Section 1041.5

Construction.

A. Submit Shop Drawings and design calculations to the Department for approval.

1. Indicate the layout, size of members, arrangement of members and the construction methods at least 2-weeks prior to initiating construction.
2. A temporary timber mat system shown on the plans will be used for conceptual purposes only.
3. Design the temporary timber mat system utilized for the construction for the anticipated construction loads, anchorage, resistance to high water flows, and compatibility with the environment.
4. Placement of stone within the wetland area is not permitted.

B. Inspect the temporary timber matting periodically and replace any damaged or deteriorated components as directed by the engineer.

C. Retrieve any lost mats and repair any damage caused by naturally occurring weather events.

Method of Measurement.

The Department will not measure temporary timber mats.

Basis of Payment.

- A. The Department will pay for temporary timber mat system as a lump sum item. Payment will constitute full compensation for:

1. Providing and placing all materials;
 2. submittals and Shop Drawings;
 3. installation and removal; and
 4. incidentals required to complete the Work.
- B. The Department will grant no additional compensation for repairing any portion of the system damaged during naturally occurring weather events or usage.

10/18/23

626501 – THREE STRAND TUBE RAIL PARAPET

626502 – TWO STRAND TUBE RAIL PARAPET

Description.

This work consists of providing and placing tube rail parapets.

Materials.

A. Anchor Bolts, Nuts and Washers:	ASTM F1554 Grade 55 S1.
1. Anchor bolts	Galvanize the full thread and 3-inch below.
2. Nuts, heavy hex	Section 1039.4
3. Flat washers, heavy washers	Section 1039.4
4. Galvanize	ASTM F2329. No high-temperature
	galvanizing.
B. Structural Tubing for Rail Elements	ASTM A500 Grade C.
C. Steel Posts (for Three Strand Tube Rail):	ASTM A769.
D. Elastomeric Pads	Section 623
E. Steel Plates:	ASTM A36.
F. Hot Dip Galvanized Zinc:	ASTM A123.
G. Bolts, Nuts, and Washers for General Use	Section 1093.2
H. PCC	Section 1022
I. Bar Reinforcement	Section 1037

Construction.

- A. Provide Shop Drawings and Working Drawings in accordance with Section 105.4 for review and approval by the engineer before commencing work.
- B. Completely fabricate each component of the railing system including all required holes. Blast clean or grind all welds of the railing smooth and remove all weld splatter. Ensure all components are free of oil and any mill coating, burrs, pits, rust or other foreign matter or surface blemishes. Hot-dip galvanize components after fabrication. Do not punch, drill, cut or weld steel railing components after galvanizing.

- C. Ship and store all components in a manner that will not damage the component or the applied coating. Store components at least 4-inches above the ground and surrounding surfaces by use of blocks, racks, or platforms. Wrap the components while stored to protect from corrosion or damage, and to keep free of all dirt, oil, grease or other foreign matter. Wrapping will remain while the component is stored and will remain until the component is to be incorporated into the work.
- D. Clean all anchor bolts free of dirt, grease, oil or other deleterious substances prior to roughening with a wire brush or other approved method. Once anchor bolts are clean, set all rail anchor plates and rail anchor bolts in accordance with the contract and approved shop drawings before casting the embedment concrete. Cast the embedment concrete.
- E. Install base plate, posts and any required rail anchor assembly components. Bolt base plate in accordance with contract and tighten nuts by means of the turn of the nut installation method in accordance with Section 615. Attach metal rail and adjust railing as needed before bolting connections to ensure abutting joints match and align throughout the length of the rail. Provide a continuous railing system and splice at each rail joint as required by the contract plans.
- F. After installation of the railing is complete, touch up exposed portions of the anchor bolt threads, and any portions of the nuts, washers, or railing components. Perform work in accordance with manufacturer's recommendations. Remove, discard and replace any damaged area considered beyond repair as determined by the engineer.

Method of Measurement.

- A. The Department will measure the quantity of tube rail parapet in linear feet installed and accepted.
- B. The Department will measure:
 - 1. Concrete in accordance with Section 610.
 - 2. Concrete reinforcement in accordance with Section 611.

Basis of Payment.

- A. The Department will pay for tube rail parapet at the contract unit price per linear foot. Price and payment will constitute full compensation for:
 - 1. Providing;
 - 2. hauling;
 - 3. storing;
 - 4. installing all materials; and
 - 5. replacing any damaged components.

B. The Department will pay for:

1. Concrete in accordance with Section 610.
2. Concrete reinforcement in accordance with Section 611.

7/15/2024

763501 - CONSTRUCTION ENGINEERING

763597 – UTILITY CONSTRUCTION ENGINEERING

DESCRIPTION:

- A. This work consists of construction lay out. Subsection 105.10 Construction Stakes, Lines and Grades will be replaced by this spec.
- B. The Department will only establish the following:
 - 1. Original and final cross-sections for borrow pits.
 - 2. Final cross-sections:
 - a. Top and bottom pay limit elevations for all excavation bid items that are not field measured by construction inspection personnel.
 - b. The contractor shall notify the engineer when these pay limit elevations are ready and allow for a minimum of two calendar days for the engineer to obtain the information.
 - 3. Line and grade for extra work added on to the project plans.
- C. When applicable, this work will also consists of providing construction and right-of-way/easement information to utility companies performing work (as defined in the Utility Statement) within the LOC.

MATERIALS:

Not applicable.

CONSTRUCTION METHODS:

- A. Equipment
 - 1. Use and provide written certification that the equipment/instrument has been calibrated and is within manufacturer's tolerance. The certification shall be dated a maximum of 9 months before the start of construction. Renew the certification a minimum of every 9 months. The equipment/instrument shall have a minimum measuring accuracy of [3mm+2ppmxD] and an angle accuracy of up to 2.0 arc seconds or 0.6 milligons.
 - 2. If the use of GPS technology in construction stakeout is chosen, provide the engineer with a GPS rover and automatic level for the duration of the contract. The GPS rover must be in good working condition and of similar make and model. Provide formal training on the GPS system being used to a maximum of 4, of the engineer's appointees. The formal training must be up to 8

hours or to the satisfaction of the engineer. At the end of the contract, the engineer will return the GPS rover. If any of the equipment/instruments are found to be out of adjustment or inadequate to perform its function they shall be immediately replaced to the satisfaction of the engineer.

3. Choosing to use GPS technology does not give the authority to use machine control. Construction Engineering (GPS) Machine Control Grading shall only be used if noted in the contract outlining the available files that will be provided and "the Release for delivery of documents in electronic form to a contractor" are signed by all parties prior to delivery of any electronic files. Only files designated in the contract shall be provided. If machine control grading is allowed on the project, see the machine control section of this specification. GPS technology and machine control technology shall not be used in the construction of bridges.

B. Engineering/Survey Staff

1. Provide and have available an adequate engineering staff that is competent and experienced to set lines, grades, and compatibility with the scope of the project. Additionally, employ an engineer or surveyor, licensed in the State of Delaware, to be responsible for the quality and accuracy of the work done by the engineering staff. When individuals or firms other than the contractor perform any professional services under this item, that work shall not be subject to the subcontracting requirements of Subsection 108.1. Assume full responsibility for any errors and/or omissions in the work of the engineering staff.

C. Performance Requirements

1. Construction Engineering shall include establishing:
 - a. the survey points and survey centerlines;
 - b. finding, referencing, offsetting the project control points;
 - c. running a horizontal and vertical circuit to verify the precision of given control points.
2. Establishing plan coordinates and elevation marks for:
 - a. culverts
 - b. slopes
 - c. subbase
 - d. subsurface drains
 - e. paving
 - f. subgrade
 - g. retaining walls
 - h. any other stakes required for control lines and grades.
3. Setting vertical control elevations for:
 - a. footings

- b. caps
 - c. bridge seats and deck screed.
4. Preserve the Department's project control points and benchmarks. Establish and preserve any temporary control points (traverse points or benchmarks) needed for construction. Any project control points (traverse points) or benchmarks conflicting with construction of the project shall be relocated. Replace any or all stakes that are destroyed at any time during the life of the contract as directed by the engineer. Re-establish centerline points and stationing prior to final cross-sections by the engineer. The vertical control error of closure shall not exceed 0.035 feet times. The horizontal control precision ratio shall have a minimum precision of 1:20,000 feet of distance traversed prior to adjustment.
 5. Perform construction centerline layout of all roadways, ramps, connections, and driveways from project control points set by the engineer. Use the profiles and typical sections provided in the plans shall calculate proposed grades at the edge of pavement or verify information shown on the Grades and Geometric sheets.
 6. Advise the engineer of any horizontal or vertical alignment revisions needed to establish smooth transitions to existing facilities. Immediately bring to the attention of the engineer any potential drainage problem within the project limits. The engineer must approve any proposed variation in profile, width, or cross slope.
 7. Establish the working points at centerlines of bearings on bridge abutments and on piers, mark the location of anchor bolts to be installed, check the elevation of bearing surfaces before and after they are ground, and set anchor bolts at their exact elevation and alignment in accordance with the contract. Before completion of the fabrication of beams for bridge superstructures, verify the locations, both vertically and horizontally, of all bearings and assume full responsibility for fabricated beams fitting and bearing as constructed. After beam erection and concurrently with the Department project surveyors or their designated representative, survey top of beam elevations at a maximum of 10-foot stations and compute screed grades. Submit the beam elevations to the engineer for review and approval before the stay-in-place forms are set. Construction stakes and other reference control marks shall be set at intervals as established by the engineer to assure that all components of the structure are constructed in accordance with the lines and grades shown on the plans. Take full responsibility for all structure alignment control, grade control and all necessary calculations to establish and set these controls.
 8. Investigate proposed construction for possible conflicts with existing and proposed utilities. Report any conflicts to the engineer for resolution.

9. Stake all sidewalk and curb ramp grades in accordance with the contract. Review the stakeout with the engineer prior to construction. The engineer must approve any deviation from the contract in writing.
10. Stake all drainage inlets in accordance with the contract. The offsets and top of grate elevations need to be calculated for each type of drainage inlet specified in the contract in order to line up the drainage inlet's flow line with the specified curb or ditch flow line as shown in the contract. The engineer must approve any deviations from the contract in writing.
11. If wetland areas are involved and specifically defined on the plans the following shall apply:
 - a. Do not enter, damage, or destroy wetland areas, which exist beyond the LOC. These provisions will be strictly enforced, and all personnel shall understand the importance of these provisions.
 - b. Delineate wetlands at the LOC throughout the entire project, before any clearing operations commence as shown on the plans to the satisfaction of the engineer.
 - c. Use orange vinyl flagging material with "Wetland Boundary" printed on the flagging. In wooded areas, tie the flagging on the trees, at approximate 20-foot intervals through wetland areas. In open field and yard areas that have been identified as wetlands, drive 6-foot posts into the ground at approximate 50-foot intervals and tie with the flagging. The flagging shall extend approximately 12-inches in length beyond the post. Use oak posts with cross sectional dimensions of 1 1/2-inches to 2-inches by 1 1/2-inches to 2-inches or 1/4-inch rebar.
 - d. If the flagging has been destroyed and the engineer determines that its use is still required, reflag the area. Flagging shall be replaced within 48 hours of notification that replacement is needed. After 48 hours the engineer may proceed to have the area reflagged.
 - e. Remove all posts and flagging at project acceptance.
 - f. Assume any responsibility for any damages to wetlands located beyond the LOC, which occurs from his/her operations during the life of the contract. Restore all temporarily disturbed wetland areas to their preconstruction conditions.
12. Whenever the engineer will be recording data for establishment of pay limits, the contractor will be invited to obtain the data jointly with the engineer's survey crew(s) in order to agree with the information. If the contractor's representative is not able to obtain the same data, then the information obtained by the engineer shall be considered the information to be used in computing the quantities in question.

D. Submittals

1. All computations, survey notes, electronic files, and other records necessary to accomplish the work shall be preserved and made available to the Department in a neat and organized manner at

any time as directed by the engineer. The engineer may check all or any portion of the stakeout survey work or notes and any necessary correction to the work shall be made as soon as possible. Provide the engineer with such assistance as may be required for checking all lines, grades, and measurements necessary for the execution of the work. Checking by the engineer shall not relieve responsibility for the accuracy or completeness of the work. Copies of all notes must be provided to the engineer at the completion of the project.

2. Submit any of the following at the engineer's request:
 - a. Proposed method of recording information in field books to ensure clarity and adequacy.
 - b. A printout of horizontal control verification, as well as coordinates, differences, and error of closure for all reestablished or temporary control points.
 - c. A printout of vertical control verification, with benchmark location elevation and differences from plan elevation.
 - d. Sketch of location of newly referenced horizontal control, with text printout of coordinates, method of reference and field notes associated with referencing control - traverse closure report.
 - e. Description of newly established benchmarks with location, elevation, and closed loop survey field notes - bench closure report
 - f. All updated electronic and manuscript survey records.
 - g. Stakeout plan for each structure and culvert.
 - h. Computations for buildups over beams, screed grades, and overhang form elevations.
 - i. A report showing differences between supplied baseline coordinates and field obtained coordinates, including a list of preliminary input data.
 - j. Any proposed plan alteration to rectify a construction stakeout error, including design calculations, narrative and sealed drawings.
 - k. Baseline for each borrows pit location.
 - l. Detailed sketch of proposed overhead ground mounted signs or signals showing obstructions that may interfere with their installation.
 - m. Copies of cut sheets.

E. Machine Control Grading

1. Machine control grading to be used on the project if authorized by the engineer.
2. Use of this procedure and equipment is intended for grading the subgrade surface; it is not intended for the use in constructing final surface grades.

3. Materials:
 - a. Provide all equipment required to perform GPS machine control grading, including equipment needed by to verify the work to the engineer.
 - b. Use manufacturer's GPS machine control equipment and system to achieve the grading requirements in accordance with the contract.
4. Construction
 - a. Convert the electronic data provided by the Department into the format required for the equipment.
 - b. The Department will provide no additional electronic data.
 - c. Perform at least one 500 foot test section with the selected GPS system to demonstrate the capabilities, knowledge, equipment, and experience to properly operate the system and meet acceptable tolerances. The engineer will evaluate and make the determination as to whether additional 500 foot test sections are required. Failure to demonstrate this ability to the satisfaction of the engineer, construct the project using conventional surveying and staking methods.
 - d. DelDOT Responsibilities:
 - i. The Department will set initial vertical and horizontal control points in the field for the project as indicated in the contract.
 - ii. The Department will provide the project specific localized coordinate system.
 - iii. The Department may provide data in an electronic format as indicated in the general notes.
 - (1.) The information provided shall not be considered a representation of actual conditions to be encountered during construction. Providing this information does not relieve the responsibility of making an investigation of conditions to be encountered. This includes site visits, and basing the bid on information obtained from these investigations, and the professional interpretations and judgments of the contractor.
 - (2.) The Department will develop and provide electronic data for use as part of the contract in the format as indicated in the general notes.
 - iv. The Department will provide the following electronic files:
 - (1.) ASCII data files with coordinates and elevations for proposed points as selected by the engineer.
 - (2.) Existing digital terrain model in .dtm file format compatible with software currently used by the Department.

- (3.) Proposed digital terrain model in .dtm file format compatible with software currently used by the Department.
- (4.) Design file in .dgn file format, that contains 3D features lines for the proposed design, 3D feature lines are for the proposed top surface elevation only.
- v. The engineer will perform spot checks of the machine control grading results, surveying calculations, records, field procedures, and actual staking. If the work is not being performed in a manner that will assure accurate results, the engineer may order the work to be redone to the requirements of the contract. The engineer may also require the use of conventional surveying and staking.
- e. Contractor's responsibilities:
 - i. No less than 2 weeks before the scheduled preconstruction meeting, submit to the engineer for review a written machine control grading work plan which shall include the equipment type, control software manufacturer and version, and proposed location of the local GPS base station used for broadcasting differential correction data to rover units.
 - ii. If the need to establish new control points, traverse from existing control points and verify to be accurate by conventional surveying techniques.
 - iii. Assume all risks and liabilities of any assumptions or manipulations marked from the electronic information provided or if chosen to develop a separate digital terrain model.
 - iv. Ensure that the electronic data provided will function in their machine control grading system.
 - v. Provide the engineer with a GPS rover and Automatic Level, for use during the duration of the contract. At the end of the contract, the GPS rover and Automatic Level will be returned. Provide a total of 8 hours of formal training on the GPS machine control system to the engineer and up to three additional Department appointees per rover.
 - vi. Review and apply the data provided by the Department to perform GPS machine control grading.
 - vii. Convert the electronic data provided by the Department into a format compatible with their system.
 - viii. At the beginning of each work day check and if necessary, recalibrate the GPS machine control system in accordance with the manufacturer's recommendations, or more frequently as needed to meet the requirements of the project.
 - ix. Meet the accuracy requirements as detailed per the Department's standards.
 - x. Establish secondary control points at appropriate intervals and at locations along the length of the project. These points shall be outside the project limits and/or where work is

performed. These points shall not to exceed 1000 feet intervals. The horizontal position of these points shall be determined by conventional survey traverse and adjustments from the original baseline control points. The conventional traverse shall meet or exceed the Department's Standards. The elevation of these control points shall be established using differential leveling from the project benchmarks, forming a closed loop. A copy of all new control point information including closure report shall be provided and approved by the engineer prior to construction activities. Assume responsibility for all errors resulting from these efforts and correct deficiencies to the satisfaction of the engineer.

- xi. Provide stakes at all alignment control points, at every 500 foot stationing, and where required for coordination activities involving environmental agencies and utility companies.
- xii. Set hubs, at a minimum of 500 foot intervals, at the top of finished grade at all hinge points on the cross section on the main line and at least 4 cross sections on side roads and ramps as directed by the engineer or as shown on the plans. Placement of a minimum of 4 control points outside the limits of disturbance for the excavation of borrow pits, Stormwater Management Ponds, and wetland mitigation sites. These control points shall be established using conventional survey methods for use by the engineer to check the accuracy of the construction.
- xiii. Preserve all reference points and monuments that are identified and established by the engineer for the project.
- xiv. Provide control points and conventional grades stakes at critical points such as, PC's, PT's, superelevation points, and other critical points required for the construction of drainage and roadway structures.
- xv. Follow the guidelines set forth in the "Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques" and follow a minimum of Second Order Class 1, (2-I) classification standards.
- xvi. Automated equipment operations have a high reliance on accurate control networks from which to take measurements, establish positions, and verify locations and features. Therefore, a strong contract control network in the field which is the same or is strongly integrated with the project control used during the design of the contract is essential to the successful use of this technology with the proposed Digital Terrain Model (DTM). Consistent and well designed site calibration for all machine control operations are required to ensure the quality of the contract deliverables. The Contract Control Plan is intended to document which horizontal and vertical control will be held for these

operations. Continued incorporation of the Base Station(s) as identified in the Contract Control Plan is essential to maintaining the integrity of positional locations and elevations of features. The Contract Control Plan shall be submitted to the Department for review and approval by the Departments Survey Section 3 weeks prior to the start of any machine control work. Operate and maintain all elements of the Machine Grade Control continuously once the operations begin until otherwise approved by the engineer.

5. Contract Control Plan:

- a. Develop and submit a Contract Control Plan for use of Machine Control Grading. Contract control includes all primary and secondary horizontal and vertical control which will be used for the construction contract. Upon the completion of the initial survey reconnaissance and control verification, but prior to beginning primary field operations, submit a Contract Control Plan document. The Contract Control plan shall be signed and sealed by a Delaware licensed Land Surveyor or Delaware Professional Engineer who oversees its preparation for acceptance by the engineer. The plan shall include the following:
 - i. A control network diagram of all existing horizontal and vertical control recovered in the field as contract control.
 - ii. Include a summary of the calculated closures of the existing control network, and which control has been determined to have been disturbed or out of tolerance from its original positioning.
 - iii. An explanation of which horizontal and vertical control points will be held for construction purposes. If necessary, include all adjustments which may have been made to achieve required closures.
 - iv. An explanation of what horizontal and vertical control (including base stations) was set to accomplish the required stakeout or automated machine operation. Include how the position of these new control points was determined.
 - v. Describe the proposed method and technique (technology and quality control) for utilizing the control to establish the existing and/or proposed feature location and to verify the completed feature location and/or measured quantity.
 - vi. A listing of the horizontal and vertical datums to be used and the combined factor to be used to account for ellipsoidal reduction factor and grid scale factor.
 - vii. If chosen to use machine control as a method of measuring and controlling excavation, fill, material placement or grading operations as a method of measuring and controlling excavation, fill, material placement or grading operations, the Control Plan shall include the method by which the automated machine guidance system will initially be site

calibrated to both the horizontal and vertical contract control, and shall describe the method and frequency of the calibration to ensure consistent positional results.

F. Utility construction methods:

1. The engineer must approve all requests for Utility Construction Engineering before the work begins.
2. Instruct utility companies to submit their requests to the engineer. The engineer will decide if the requested work meets the criteria for Utility Construction Engineering or is normal Construction Engineering and pass the requests along with the decision.
3. The survey crew size shall be adequate to efficiently perform the work required and must be approved by the engineer.
4. Work covered under Utility Construction Engineering will fall into two categories:
 - a. Engineering/surveying work that is not necessary for construction of the project, staking the clear zone line, providing cut/fill grades at proposed utility pole locations, staking back of drainage structures, and staking right-of-way lines where construction of the project (exclusive of utilities) is within the right-of-way.
 - b. Engineering/surveying work that is necessary for construction but must be provided for utility companies well in advance of the need and will likely need to be redone later, as determined by the engineer. This can be any of the Construction Engineering work that when done early cannot be expected to remain undisturbed until needed for construction of the project (non-utility).

METHOD OF MEASUREMENT:

- A. The Department will not measure construction engineering.
- B. The Department will measure the quantity of utility construction engineering as the actual number of hours the survey crew is in the field actively engaged in utility construction engineering work.

BASIS OF PAYMENT:

- A. The Department will pay the lump sum unit bid price for this work. Price and payment constitute full compensation for:
 1. the work associated with construction engineering;
 2. providing all equipment and instruments;
 3. providing and placing stakes;
 4. flagging and any reflagging;
 5. reconstruction of work;

6. all costs related to the development of separate digital terrain model;
 7. reestablishing reference points; and
 8. wetland restoration.
- B. The Department will pay for utility construction engineering at the contract unit price per hour actively engaged in performing the work. Price and payment will constitute full compensation for:
1. Office work;
 2. providing all labor;
 3. equipment;
 4. instruments;
 5. stakes; and
 6. other materials necessary to complete the work.
- C. The Department will make monthly payment in proportion to the amount of work done as determined by the engineer.
- D. The Department will not make any adjustment in payment for any issues with equipment to operate the GPS machine control system for any construction items or be justification for granting contract time extension.
- E. The Department will not make any consideration for any extension of contract time or additional compensation due to delays, corrective work, or additional work that may result from faulty and erroneous construction stakeout, surveying, and engineering required.
- F. The Department will not make any adjustments for all liability, costs, or delays if the contractor chooses to develop a separate digital terrain model.

4/20/21

763520 - ELECTRONIC TICKETING**Description:**

This work consists of providing electronic data for material weight tickets delivered to the project. This work also consists of placing an identifying vehicle number on the driver side and the passenger or rear sides of the delivery vehicle. This does not preclude or dismiss any requirement for paper tickets required by the Standard Specifications or other rules and regulations.

General Requirements:

- A. Send electronic tickets (eTicket) to the Department's Electronic Ticketing Portal <https://tickets.deldot.gov> as they are generated. The Department will reject any load that does not have a corresponding eTicket unless the cause is beyond the contractor's control. In such circumstances paper tickets may be permitted at the discretion of the engineer.
- B. Payment for material weight delivered to the project will be based upon the eTickets marked "Delivered", less waste, excess material weight as noted in 105.12 of the Standard Specifications, and any audit corrections.
- C. Do not reissue or reprint tickets that have been marked "Delivered" or "Rejected" without first notifying the engineer. The engineer may reject a reissued or reprinted ticket at their discretion. When a reissued or reprinted ticket is rejected, payment will be based upon the original ticket.

Data Integration:

Request a list of the Department's naming nomenclature. Include in the request an identification of what system the supplier utilizes for its load read-out weighing system. If necessary, create an Application Programming Interface (API) to integrate with the Department's eTicketing Portal. Utilize the API to provide electronic data from the load read-out weighing system at the material source that is readable by the Department's eTicketing Portal. Update the load read-out weighing system and API as necessary to maintain connection the Department's eTicketing Portal.

The data shall be provided as follows:

Reference Field No.	Description	Examples	Data Type	Required
1	Ticket Number	5126349, 101R, 539-19	String	Yes
2	Contract Number	T202011001	String	Yes

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3	Contract Name (Job)	Walnut Street Streetscape Improvements	String	Yes
4	Contractor Name (Customer)	Mumford & Miller, Inc.; A Del Construction	String	Yes
5	Supplier Name	River Asphalt; Allan Myers Materials	String	Yes
6	Supplier Plant	Plant #1 Dagsboro; Dover Asphalt	String	Yes
7	Job Number (Location)	Task 1; Location 5	String	Yes
8	Weigh Master Name	Johnny Scales	String	Yes
9	Weigh Master ID	1234567	String	Yes
10	Left Intentionally Blank			No
11	Mix Design ID (Product)	1628p; AM-WILM-29 76-22	String	Yes
12	Material Type (Product Description)	9.5mm top; 19MM 76-22 NON CARB	String	Yes
13	Item No. (Product Code)	401005; 401016	String	Yes
14	Load Number	75	Number	Yes
15	Identifying Vehicle Number	T-1	String	Yes
16	Hauler	John Doe Trucking	String	Yes
17	Legal Gross Vehicle Weight	73,280	Number	Yes
18	Loading Date & Time	2020-06-15T13:45:30	String	Yes
19	Gross Weight	72,980	Number	Yes
20	Net Weight	27,900	Number	Yes
21	Truck Tare Weight	45,080	Number	Yes
22	Void	280	Number	No
23	Daily Running Total	44.43	Number	Yes

All provided weights shall be accurate to 0.01 tons.

Loads which do not have the required data shall be rejected.

Setup and Calibration:

Conduct a test of each supplier's integration with the Department's eTicketing Portal prior to shipping material. Complete test at least 14 days prior to shipping material unless otherwise approved by the engineer. The test must involve at least four calibration eTickets from each supplier approved for use on the project. The calibration eTickets must accurately reflect the categories 1-7 shown above; all other categories shall be marked "TEST". After the engineer confirms the calibration eTickets have been entered into the Department's eTicket Portal, void the eTickets with the reason "*Calibration Testing*".

Uptime:

Uptime reliability of the material supplier's ticketing system must be 99.5% over any 30-day rolling period. Uptime is defined as the ability for the Department to receive electronic tickets within a maximum of 10 minutes from when the ticket was created.

Load Identification:

Ensure the identifying vehicle numbers on the delivery vehicle correspond to the ticket. Place the numbers on the delivery vehicles such that at least one can be safely read from within the work area. Delivery vehicles without identifying vehicle numbers shall be rejected.

Method of Measurement:

The Department will not measure electronic ticketing.

Basis of Payment:

- A. The cost associated with creating and maintaining an API, providing electronic ticketing data, and placing identifying vehicle numbers on the delivery vehicles is incidental to the item being placed.
- B. The Department will make no payment for material that is rejected.

01/18/2022

763626 - DIESEL FUEL COST PRICE ADJUSTMENT**Description:**

This section defines the criteria for payments to the Contractor to reflect increases or decreases in the cost of diesel fuel consumed in the performance of applicable construction work.

Contract Applicability:

To have the Diesel Fuel Cost Price Adjustment provisions apply to this project, a properly completed Diesel Fuel Cost Price Adjustment Option form must be submitted to the Department with the Bidder's bid proposal. If a properly completed Diesel Fuel Cost Price Adjustment Option form is not provided by the bidder, the Department will consider the option to apply the Diesel Fuel Cost Price Adjustment provisions for the project to be declined. No further opportunity to elect Diesel Fuel Cost Price Adjustment for the project will be made available.

Price Adjustment Provisions:

- A. These price adjustment provisions apply to contract items in the contract schedule of prices as grouped by category. Specific pay items to be adjusted are attached as an appendix to this Special Provision. General category descriptions and the fuel usage factors which are applicable to each are as follows:

1. Categories:

Category	Description	Applicability
A	Earthwork	The combined total of applicable item plan quantities must exceed 5,000 CY.
B	Subbase and Aggregate Base Courses	The combined total of applicable item plan quantities must exceed 500 tons.
C	Bituminous Materials (Bases and Pavements)	The combined total of applicable item plan quantities must exceed 500 tons.
D	Rigid Materials (Bases and Pavements)	The combined total of applicable plan quantities must exceed 5,000 CY.
E	Structures	Contract items will be based upon the total value of work performed for each structure including any associated work, i.e. items not grouped under Categories A thru D.

2. Diesel Fuel Usage Factors:

Category	Description	Factor	Units
A	Earthwork	0.34	Gallons per CY
B	Subbase and Aggregate Base Course	0.64	Gallons per Ton
C	Flexible Bases & Pavements	2.98	Gallons per Ton
D	Rigid Bases & Pavements	0.98	Gallons per CY
E	Structures	6.76	Gallons per \$1,000 of work performed

Category	Conversion	Factor
B	SY to ton	90 lbs/sy-in
C	SY to ton	112.5 lbs/sy-in
D	SY to CY	Inches of depth/36

3. Delaware Posted Diesel Fuel Price will be issued monthly by the Department at https://deldot.gov/Business/bids/index.shtml?dc=diesel_fuel.

- a. The Project Base Price Index (FB) is the index price posted by the Department on the project advertisement date in \$/gallon.
- b. The Fuel Price Index for adjustment (FP), will be the index price posted by the department monthly in \$/gallon.

Price Adjustment Determination:

A. The following criteria and conditions will be considered in determining a price adjustment for diesel fuel cost fluctuations on a monthly basis.

1. Unit Price Adjustment Calculation.

- a. When the ratio FP/FB is calculated to be less than 0.95 or calculated to be greater than 1.05, the Department will adjust unit bid price prices in accordance with the following formula:

$$AUP = (FP-FB)(F)+(UBP)$$

where:

AUP = Adjusted Unit Price

FP = Fuel Price Index for the month in which prices are adjusted for applicable construction work.

FB = Project Base Price Index

F = Diesel Fuel Usage Factor (See above chart in section 1.2 for usage factors.)

UBP = Unit Bid Price specified in the Contractor's Bid Proposal

Payment of Adjusted Unit Prices:

- A. The unit bid prices of work items affected by the fuel escalation will be adjusted by change order, either up or down. The Diesel Fuel Price Index will be used for all the applicable items performed during the monthly period.
- B. If the Contractor exceeds the authorized allotted completion time, the adjusted item prices on the last authorized allotted calendar day or working day shall be the prices used during the time liquidated damages are assessed. However, if the posted price for diesel fuel goes down, the item prices shall be adjusted downward accordingly.
- C. Upon completion of the work and determination of final pay quantities, an adjusting work order will be prepared to reconcile any difference between estimated quantities previously paid and the final quantities. In this situation, the value for FP used in the price adjustment formula will be the average of all FP's previously used for computing price adjustments.
- D. The Department reserves the right to inspect the records of the prime contractor and its subcontractors and material suppliers to ascertain actual pricing and cost information for the diesel fuel used in the performance of applicable items of work.
- E. When applicable items of work, as specified herein, are added to the contract as Extra Work in accordance with the provisions of Section 104.2.E, no price adjustment will be made for fluctuations in the cost of diesel fuel consumed in the performance of the extra work, unless otherwise approved by the Engineer. The current price for diesel fuel is to be used when preparing required backup data

for extra work to be performed at a negotiated price. For extra work performed on force account basis, reimbursement for material and equipment along with specified overhead and profit markups will be considered to include full compensation for the current cost of diesel fuel.

Any Price Increases or Price Rebates that are calculated based on items of work performed by subcontractors will be added to or deducted from payments due to the Contractor in the appropriate pay period. The Contractor shall then accurately record on the appropriate CN-103 form the additions or deductions into adjusted contract value. The Contractor shall make payment to the subcontractor(s) who actually performed the work in accordance with DelCode Title 17, Chapter 8.

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Appendix - Item 763626 Diesel Fuel Cost Adjustment

Item Numbers

Category A: Earthwork Excavation & Embankment, Borrow (total qty must exceed 5000 CY)	202000, 202519, 209001, 209002, 209004
Category B: Subbase and Agg. GABC, PTB, Soil Cement Base (total qty must exceed 500 T)	301001, 302002, 302005
Category C: Flexible Bases and Pavements Warm Mix Asphalts (total qty must exceed 500 T)	401014, 401016, 4014046
Category D: Rigid Bases and Pavements Concrete, P.C.C. Patching (total qty must exceed 5000 CY)	N/A
Category E: Structures Bridges, Large P.C.C. Structures	N/A

763650 – STEEL COST PRICE ADJUSTMENT

Description:

This section defines the criteria for payments to the contractor to reflect increases or decreases in the cost of steel used on specific items of work identified in the contract in accordance with this provision.

Contract Applicability:

To have the steel cost price adjustment provision apply to this contract, a properly completed steel cost price adjustment option form must be submitted to the Department with the bidder's bid proposal. If a properly completed steel cost price adjustment option form is not provided by the bidder, the Department will consider the option to apply the steel cost price adjustment provisions for the project to be declined. No further opportunity to elect steel cost price adjustment for the contract will be made available.

Price Adjustment Provisions:

- A. This price adjustment provision is eligible for consideration for the following steel items:
 - 1. Structural steel (rolled beams, plate girders, diaphragms, plate bearings, etc.);
 - 2. reinforcing steel (plain, galvanized, and epoxy coated);
 - 3. overhead sign structures;
 - 4. guardrail, posts;
 - 5. standard sign or lighting supports;
 - 6. railing;
 - 7. steel encasement pipe;
 - 8. steel piles (pipe and H-piles);
 - 9. steel strand (used for prestressed or post-tensioned finished elements);
 - 10. sheet piles;
 - 11. ductile iron pipe and fittings (water & sewer); and
 - 12. stay in place forms, building cladding (exterior and interior rolled panels, etc.)
- B. Inventoried materials or fasteners of any kind are not eligible for consideration. Fasteners include bolts, nuts, washers, rivets, and welding rods.
- C. This provision applies only to material cost changes of steel that occur between the date of bid advertisement and the date the material is shipped or invoiced to the contractor, subcontractor, or supplier/fabricator placing the steel into the finished component, whichever occurs first. To be eligible for this price adjustment, place purchase order(s) for eligible steel items for price adjustment identified in the contract within 30 days of the notice to proceed. To apply a steel cost price adjustment to the contract, all eligible items must be submitted. Failure to submit one of the eligible items will result in the steel cost price adjustment for all items being waived.

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- D. Store, label, or tag steel items which are eligible for adjustment such that they are recognizable by color marking, and identifiable by project for inspection and audit verification.
- E. This provision allows for price adjustment for embedded steel used for prestressed or post-tensioned precast components where providing steel is included in the unit price of the finished bid item. Steel used for post-tensioned or prestressed elements shall be evaluated for price adjustment in the same manner as other steel material eligible under the requirements of this provision. price adjustment shall only apply to the tonnage or poundage of steel strand used in the prestressed or post-tensioned element.
- F. Submit material price quotes, bid papers, or other documentation to the Department, before executing the contract, for the bid items applicable for price adjustment. Submitted documentation shall support the completion of the form establishing the average price per pound for the eligible steel bid item. The Department will only accept the information in the format provided at the end of this provision. Certify that all items of documentation are original and were used in the computation of the amount bid for the represented eligible pay items for the month bids were advertised. Use the documentation to support the base line material price (base price) of the steel item only. No adjustment will be made for changes in other components of the contract unit bid price, including, fabrication, shipping, storage, handling, and erection.
- G. Failure to submit specifically required information such as purchase order, price data, bill of lading, material information or other requested information as noted herein will result in the contractor not being eligible for price adjustment of steel items.
- H. This provision will not apply to items added after contract is executed. But will apply to quantity added to original contract items.
- I. Steel shortages may be justification for an excusable, non-compensable delay in accordance with section 108.7.B. Such shortages will not constitute grounds for claims for standby equipment, extended office overhead, or other costs associated with such delays.
- J. The need for application of the adjustments herein to non-bid items will be determined by the engineer on an individual basis and, if appropriate, will be specified on the change order.
- K. Any apparent attempt to unbalance bids in favor of items subject to price adjustment may result in rejection of the bid proposal.

Price Adjustment Applicability

- A. Price adjustment of each qualifying item under consideration will be subject to the following conditions:
 - 1. There must be an increase or decrease in the cost of eligible steel materials in excess of 5% from the base price when compared with the latest producers price index (price index) in effect at the time material is shipped or invoiced to the contractor, subcontractor, or supplier/fabricator placing the steel into the finished component, whichever occurs first.
 - 2. The Price Index the Department is using is based on The U.S. Department of Labor, Bureau of Labor Statistics, Producers Price Index (PPI) which measures the average price change over time of the specific

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steel eligible item from the perspective of the seller of goods. The specific PPI to be used to adjust the price for the eligible steel items is shown in the table below. The PPI is subject to revision four months after original publication; therefore, price adjustments and payments will not be made until the index numbers are finalized.

3. The following table indicates the PPI steel category index items and the corresponding I.D. numbers to which the steel items will be compared:

Steel Item	Bureau of Labor Statistics PPI Series I. D. Number WPU#
Reinforcing steel (plain, galvanized, and epoxy coated) Steel Strand (Prestressed & Post-tensioning)	WPU101704 (https://data.bls.gov/timeseries/WPU101704)
Plate girders & rolled beams (Standard & High strength, diaphragms, plate bearings, etc.) Steel piling (H-pile, pipe piles & sheet piles)	Average of WPU1017 & WPU101 (https://data.bls.gov/timeseries/WPU1017?data_tool=XGtable & https://data.bls.gov/timeseries/WPU101?data_tool=XGtable)
Steel encasement pipe Overhead sign structures, posts, poles, sign or lighting supports, & railing	WPU101706 (https://data.bls.gov/timeseries/WPU101706)
Guardrail	Average of WPU1017 & WPU101707 (https://data.bls.gov/timeseries/WPU1017?data_tool=XGtable&https://data.bls.gov/timeseries/WPU101707)
Ductile Iron Pipe & Fittings	WPU10150211 (https://data.bls.gov/timeseries/WPU10150211)
Stay-in-place forms, building cladding (exterior and interior rolled panels, etc.)	WPU101707 (https://data.bls.gov/timeseries/WPU101707)

Price Adjustment Determination:

The price adjustment will be determined by computing the percentage of change in index value beyond 5% above or below the index on the advertisement date to the index value on the date the steel material is shipped or invoiced to the contractor, subcontractor, or supplier/fabricator placing the steel into the finished component, whichever occurs first. Weights and date of shipment must be documented by a bill of lading provided to the Department. The final price adjustment dollar value will be determined by multiplying the percent increase or decrease in the index (beyond 5%) by the represented quantity of steel shipped by the base price per pound subject to the limitations herein.

$A = B \times P \times Q$	
Where:	
A =	Steel price adjustment in lump sum dollars
B =	Average weighted price of steel submitted with bid on project in \$/lb
P =	Adjusted percentage change in PPI average from billing date to advertisement minus 5% (0.05) threshold
Q =	Total quantity of steel in pounds shipped to fabricator for the specific project

Price increase/decrease will be computed as follows:

Sample Calculation of a Price Adjustment (increase)		
Project advertised on	Tuesday, April 28, 2009	
Project has structural steel in the amount of:	450,000	lbs.
Orders placed in timely manner and according to contract.		
Contractor's Freight on Board (F.O.B.) supplier price for the structural steel in	\$ 0.28	/lb
Adjusted** BLS Producers Price Index most recently published average at time of advertisement:		157.0
** final change after 4 months		
All steel shipped to fabricator in same month: October-09 October 2009.		
Adjusted BLS Producers Price Index (PPI) most recently published average for month of		173.7
Adjustment formula is $A = B \times P \times Q$		
Where: A =	Steel price adjustment in lump sum dollars	
B = \$ 0.28/lb	Average weighted price of steel submitted with bid on project in \$/lb = \$0.28/lb	
P = 0.0564	Adjusted percentage change in PPI average from billing date to bid date minus 5% threshold = $(173.7 - 157.0) / 157.0 - 0.05 = 0.0564$	
Q = 450,000 lbs.	Total quantity of steel shipped to fabricator in October 2009 for this project in pounds = 450,000 lbs.	
A = \$ 7,102.55	$0.28 \times 0.0564 \times 450,000$	
A = \$ 7,102.55	Lump Sum adjustment paid to Contractor	

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Sample Calculation of a Price Adjustment (decrease)		
Project advertised on April 27, 2009.		
Project has structural steel.	450,000	lbs.
Orders placed in timely manner and according to contract.		
Contractor's F.O.B. supplier price for the structural steel in bid:	\$ 0.28	/lb
Adjusted** BLS Producers Price Index most recently published average at time of	173.7	
** final change after 4 months		
All steel shipped to fabricator in same month, October-09		
Adjusted BLS Producers Price Index (PPI) most recently published average for month of	157.0	
Adjustment formula is $A = B \times P \times Q$		
Where: A =	Steel price adjustment in lump sum dollars	
B = \$ 0.28/lb	Average weighted price of steel submitted with bid on project in \$/lb = \$0.28/lb	
P = -0.0461	Adjusted percentage change in PPI average from billing date to bid date minus 5% threshold = $(157.0-173.7)/173.7+0.05 = -0.0461$	
Q = 450,000 lbs.	Total quantity of steel shipped to fabricator in October 2009 for this project in lb = 450,000 lb	
A = \$ (5,808.60)	$0.28 \times -0.0461 \times 450,000$	
A = \$ (5,808.60)	Lump Sum credit from Contractor	

Basis of Payment:

The Department will adjust monthly progress payments up or down as appropriate for cost changes in steel used on specific items. The price adjustments will be made as a lump sum payment for eligible steel products placed and accepted.

7/20/2022

801500 – MAINTENANCE OF TRAFFIC, ALL INCLUSIVE

Description:

This work consists of providing temporary traffic control to maintain vehicular, bicycle, and pedestrian traffic through the project work zone.

Materials:

- A. Crashworthy temporary traffic control devices in accordance with current AASHTO MASH standards.
- B. Category I through Category III temporary traffic control devices - Certification of compliance with MASH required.
- C. Category I devices - The manufacturer or contractor may self-certify that the devices meet the MASH criteria.
- D. Category II and III devices - MASH eligibility letter, including all applicable attachments required for each type of device.
- E. Submit documentation requesting approval of temporary traffic control devices 14-days before the start of work. Submission requirements and instructions for source information are listed on DelDOT's website: <https://deldot.gov/Business/prodlists/index.shtml>. The Department approves temporary traffic control devices based on:
 - 1. Self-Certification
 - 2. Approved products lists

Construction:

- A. Place temporary traffic control devices in accordance with the contract and DE MUTCD. Follow the manufacturer's installation instructions.
- B. Maintain temporary traffic control devices throughout the project duration. Replace damaged temporary traffic control devices within 24-hours of notification or when directed by the engineer.
- C. Maintain temporary traffic control devices at a minimum in a "marginal" condition in accordance with the brochure entitled "Quality Guidelines for Temporary Traffic Control Devices," available from the American Traffic Safety Services Association (ATSSA). The engineer may reject a temporary traffic control device that does not meet the "marginal" condition.
- D. Temporary traffic control devices are the contractor's property unless otherwise indicated in the contract.

E. General Temporary Traffic Control and Traffic Maintenance.

1. Maintain a work zone that protects the travelling public and persons working on the project. If necessary, implement additional safety measures not expressly required by the contract to ensure the safety of all persons.
2. The contractor may adjust longitudinal dimensions for maintenance of traffic configurations to fit field conditions.
3. Inventory existing signs within the contract limits
 - a. Maintain existing signs that must remain in place during the project as noted in the contract or as directed by the engineer.
 - b. Remove other existing signs and store.
4. Always maintain access within the project limits for businesses and residences
 - a. Coordinate temporary driveway or entrance closures for tie-in purposes with the engineer and the property owner in advance of the closures.
5. Regarding bus stops, unless otherwise directed by the contract or the engineer:
 - a. Maintain an area for the bus vehicle to safely pick-up and drop-off passengers.
 - b. Provide an accessible path for pedestrians to safely access the bus stop.
6. Maintain existing access for bicycles and pedestrians. If temporary sidewalk closures are necessary, install pedestrian detours in accordance with the DE MUTCD. Damage to existing sidewalk will be repaired at the Contractor's expense. Clear sidewalks of all construction debris at the end of each workday.
7. Conduct construction operations in a manner that minimizes delays to traffic.
 - a. Follow the requirements of the memorandum titled, "Temporary Traffic Control within Intersections," of the DE MUTCD for work within intersections or in close proximity to intersections.
 - b. Schedule work in the vicinity of traffic signals to minimize the time during which the signal operates without detection.
 - c. Set temporary traffic control devices on the work zone side of the pavement marking, if possible, when closing a lane adjacent to an open lane.
 - d. Do not close lanes unless a construction activity requiring a lane closure is taking place or will take place within 1-hour of closure, except for buffer lanes on high volume or high-speed roadways. Reopen lanes immediately upon completing the work. Shorten the lane closure for moving operations as work progresses, and as traffic conditions warrant, to keep the length of the closure to a minimum. Conduct construction operations in a manner that minimizes disruption to traffic during peak hours and periods of heavy traffic flow. The Department will stop the contractor's operations if, in the opinion of the engineer, such operations are unnecessarily impeding traffic.

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- F. Notification to the engineer for road closures and detours.
1. Submit notification no less than 14 calendar days before the start of detours and road closures.
 2. Obtain the approval of the chief traffic engineer, or designee, a minimum of 48-hours in advance of proposed restrictions beyond those specified in the contract.
- G. Written notice to property owners, businesses, and residents.
1. Provide written notice 48-hours in advance of the start of construction work including the following:
 - a. The scope of work, working hours, anticipated start and completion dates, and a summary of construction activities that might interfere with property access.
 - b. A schedule and access coordination plan.
 - c. The contractor's name, address, and a Department contact phone number.
- H. Provide written verification to the engineer that the property owners and residents were notified.
- I. Failure to give proper notice may result in suspension of work in accordance with Section 104.8 of the standard specifications.
- J. Before obstructing a fire hydrant, notify the local 911 center and provide the engineer with written confirmation of the notice.
- K. The Department will not allow travel lane, turn lane, or road closures during the following holidays, unless otherwise noted in the contract:
1. Christmas Day
 2. New Year's Day
 3. Memorial Day
 4. Independence Day
 5. Labor Day
 6. Thanksgiving Day
 7. Miscellaneous Special Events
- L. Keep lanes open for a period of time that depends on the day of the week that the legal or observed holiday falls. The following schedule determines the periods of time the lanes must remain open, unless otherwise allowed by the contract:

TABLE 1: DAY OF HOLIDAY LANE CLOSURES

<i>Day of holiday or event</i>	<i>Time all lanes must be open to traffic</i>
Sunday	12:00 PM Friday through 5:59 AM Monday
Monday	12:00 PM Friday through 11:59 PM Monday
Tuesday	12:00 PM Monday through 11:59 PM Tuesday

Contract No. T200707404

Wednesday	12:00 PM Tuesday through 11:59 PM Wednesday
Thursday	12:00 PM Wednesday through 11:59 PM Thursday
Thursday (Thanksgiving)	6:00 AM Wednesday through 11:59 PM Sunday
Friday	12:00 PM Thursday through 5:59 AM Monday
Saturday	12:00 PM Friday through 5:59 AM Monday

- M. Do not close travel lanes or roads within 1-mile of a designated polling place during the primary and general elections that fall during an even numbered year.
- N. Follow all additional restrictions that may apply as noted in the contract or as directed by the engineer.
- O. The Department will consider failure to comply with the requirements of this section as justification for suspension of work in accordance with Section 104.8 of the standard specifications. The Department will continue assessing time charges until the contractor corrects the deficiencies.
- P. Non-compliance includes:
 - 1. Failure to correct deficiencies within 24-hours of written deficiency notices related to temporary traffic control.
 - 2. Non-compliance with the DE MUTCD or the contract.
 - 3. Unsafe operations.
 - 4. Placement of non-compliant temporary traffic control devices.

Method of Measurement

The Department will not measure this item.

Basis of Payment

- A. The Department will pay for temporary traffic control at the lump sum contract price. Price and payment will constitute full compensation for:
 - 1. Maintenance of traffic activities accepted by the engineer;
 - 2. supply, installation, and maintenance of all maintenance of traffic devices, including, but not limited to:
 - a. Temporary warning signs and plaques;
 - b. plastic drums;
 - c. traffic cones;
 - d. arrow panels;
 - e. portable changeable message signs (PCMS);
 - f. type 3 barricades;
 - g. truck mounted attenuators (TMA);

Contract No. T200707404

- h. traffic officers; and
 - i. flaggers.
 - 3. submitting TTCPs;
 - 4. submitting certifications;
 - 5. correcting edge drop-offs;
 - 6. a certified ATSSA traffic control supervisor; and
 - 7. supplying and installing temporary roadway material (TRM).
- B. No additional payment will be made to move temporary traffic control devices in accordance with the TTCPs or as necessary to address safety issues as included in this item.
- C. If the contract work is not complete within the allowable contract time, including approved time extensions, the Department will hold the contractor responsible for providing and maintaining the necessary temporary traffic control devices required to complete remaining work. The Department will not pay for providing or maintaining traffic control beyond expiration of the contract time.

5/14/2024

803501 – PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN

Description:

The item shall consist of providing and maintaining trailer mounted remote communication portable changeable message signs.

The remote communication portable changeable message sign (RC PCMS) provided under this item shall become the property of the Rehabilitation of I-95 from I-495 to North of Brandywine River Bridge (Contract No. T201407404) Contractor. The RC PCMS furnished under this item shall be installed, operated, and maintained under the Rehabilitation of I-95 from I-495 to North of Brandywine River Bridge (Contract No. T201407404) project.

Equipment:

- A. Furnish a RC PCMS that is compliant with the latest version of the National Transportation Communications for ITS Protocol (NTCIP). The RC PCMS shall be compatible with Verizon Sierra Wireless RV 55 or MP 70 modems. The design of the RC PCMS shall also comply with the following:
1. Section 803.3.1 – Portable Changeable Message Signs (PCMS), Equipment of the DelDOT Standard Specifications for Road and Bridge Construction.
 2. Part 6 of the Delaware Manual on Uniform Traffic Control Devices (DEMUTCD)
 3. Portable Changeable Message Signs Memorandum.
 4. Submit product catalog cuts, specifications, NTCIP information, and information demonstrating compatibility with the specified modems to the Department for approval prior to furnishing and delivering the RC PCMS to the Project.
 5. The Department will be responsible for providing and installing Verizon Sierra Wireless RV 55, MP 70 or other compatible modems for use with the RC PCMS.

Construction:

- A. The Contractor shall deliver the RC PCMSs to a location in the general vicinity (within 15 miles) of the project and store them until they are deployed. The RC PCMS shall be delivered by the date indicated on the Plans.
- B. Upon delivery of the RC PCMS, the Contractor shall notify the Department and coordinate a time that the Department may access the storage location and install and test modems in the RC PCMS. The Contractor shall have a qualified and trained RC PCMS technician available to assist DelDOT with any technical issues arising during the installation and testing of the modems.
- C. The Contractor shall store the RC PCMS until they are deployed. Any damage to the RC PCMS from theft, vandalism, improper handling, improper storage, or other mishandling shall be repaired by the Contractor to the satisfaction of the Engineer.
- D. In order for the Department to accept the RC PCMS, the Department will test the remote communication capabilities between the RC PCMS and the DelDOT Transportation Management Center (TMC). Only upon successful completion of this test will the Department accept the RC PCMS.

Method of Measurement:

The Engineer will measure the item Provide and Maintain Remote Communication Portable Changeable Message Sign as the actual number of RC PCMS units provided and accepted by the Department.

Basis of Payment:

Provide and Maintain Remote Communication Portable Changeable Message Sign(s) will be paid for at the Contract unit price per Each. Price and payment shall constitute full compensation for:

- A. Providing the RC PCMS(s) and trailer;
- B. transporting;
- C. delivery;
- D. storage;
- E. repairs;
- F. coordination;
- G. assistance to the Department; and
- H. and for all labor, tools, equipment, and necessary incidentals to complete the work.

11/3/2022

STATEMENTS

Included on the following pages:

UTILITY STATEMENTS

RIGHT-OF-WAY STATEMENTS

ENVIRONMENTAL STATEMENTS

RAILROAD STATEMENTS



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

UTILITY STATEMENT

April 5, 2023

Revised: May 14, 2024

Revised: June 26, 2024

Contract No.: T200707404

Federal Aid No.: EBRN-N016(3)

P6 Project ID: 07-23414

BR 1-488 N&S on N001 US 13 Over Blackbird Creek

Location:

BR 1-488 N&S on N001 US13 over Blackbird Creek

General Scope of Work:

This project involves the replacement of the existing Bridge 1 -488S, which is a concrete arch, with pre-stressed, precast concrete box beams and composite concrete deck on stub abutments. Additional work includes raising the roadway profile of US13 southbound by reconstructing the roadway approaches, installing guardrail, and placing riprap in the stream for scour protection for both Bridges 1-488N&S.

Utility adjustments and/or relocations shall be performed as narrated, but are not limited to the following:

**CROWN CASTLE
DELMARVA POWER
EASTERN SHORE NATURAL GAS
VERIZON**

The cost of any coordination with all utilities, by the State Contractor, shall be incidental to the contract. Utility adjustments and/or relocations shall be performed as narrated, but are not limited to the following:

CROWN CASTLE:

Crown Castle maintains aerial communication facilities within the project limits on Delmarva Power utility poles. Crown Castle will relocate to the relocated Delmarva Power pole line once Delmarva has completed the installation of the new poles. Crown Castle anticipates that aerial relocations along north bound US 13 will be accomplished concurrently with construction. It is anticipated that this work will take five (5) calendar days following twenty-eight (28) calendar days advance notice from the State Contractor. Should any other adjustments to Crown Castle

facilities be needed, they shall be made by Crown Castle with a minimum of twenty-eight (28) calendar days in advance given to Crown Castle by the State Contractor. Crown Castle will require access to the area through the existing guard rail from the State Contractor. Additionally, the State Contractor shall provide a stable road access for the utility bucket trucks to reach each pole location.

DELMARVA POWER & LIGHT COMPANY – DISTRIBUTION (DPL-D)

DPL-D owns poles and maintains aerial facilities along north bound US 13, within the limits of the project. DPL-D maintains the following facilities within the limits of the project:

DPL-D owns one (1) utility poles at the following locations, which conflict with the proposed design:

POLE NUMBER	STATION	OFFSET	ACTION
45358/29805	171+68	36' RT	DND
45344/29824	174+18	36' RT	REMOVE
45327/29874	176+72	36' RT	DND
45312/29868	179+16	36' RT	DND

DPL-D proposed changes to aerial facilities include, but are not limited to:

1. DPL-D will install four (4) distribution poles along the east side of north bound US13 and relocate aerial distribution facilities from existing DPL-D poles to new DPL-D poles from near US 13. The new poles are to be relocated at the approximate stations:
 - a. STA 173+60, 36' RT with 1 guywire
 - b. STA 174+45, 78.5' RT with 2 guywires
 - c. STA 175+50, 79.6' RT with 2 guywires
 - d. STA 176+28, 36'RT with 1 guywire
2. DPL-D will intercept the aerial facilities and connect to the new pole at Sta. 173+60 and install new aerial facilities to Sta. 176+28.
3. DPL-D will top the trees in the area needed to relocate the above poles. Once the trees are topped, the State Contractor will perform the needed clearing.

DPL-D anticipates that it will take thirty (30) calendar days to perform the tree cutting. DPL-D anticipates that aerial relocations along north bound US 13 will be accomplished concurrently with construction. It is anticipated that this work will take thirty (30) calendar days following twenty-eight (28) calendar days advance notice from the State Contractor. DP&L will require access to the area through the existing guard rail from the State Contractor. Additionally, the State Contractor shall provide a stable road access for the utility bucket trucks to reach each pole location.

Delmarva Power has a written requirement regarding working near overhead power lines.

Customer/Contractor Acknowledgement: Performing Work within Dangerous Proximity of High Voltage Lines:

"You are hereby notified by Delmarva Power that NO work can be performed within dangerous proximity to Delmarva's overhead lines and that you are required by law to comply with applicable OSHA regulations and the applicable state High Voltage Safety Act. Performance of any activity or causing any person, equipment or things to come within dangerous proximity of Delmarva's overhead lines creates an extreme risk of severe injury or death. You are further notified that no activities may be conducted within dangerous proximity of Delmarva's overhead lines until mutually agreeable measures to prevent contact with overhead lines have been reached with Delmarva and Delmarva has provided you with written authorization to perform the activities.

Additionally, any work involving the use of a crane with intentions to remain outside of dangerous proximity, but within 20 feet of the Company's overhead lines, requires an Encroachment Prevention Plan in order to satisfy OSHA"

DelDOT has not planned for or coordinated with Delmarva Power – Distribution for any temporary power outages, relocations, physical pole support for excavation nor arranged for the installation of insulation of any power line during this contract except for those listed above. Due to varying construction possibilities; if a contractor's means-and-methods should require support from Delmarva Power – Distribution to fulfill the requirement of 16 Del. C. § 7405B, OSHA Regulations Table A of § 1926.1408, other applicable federal, state, or local law or regulation or the Contractor's company policy; it shall be at the Contractor's sole expense and the contractor shall directly coordinate this request with Delmarva Power – Electric Distribution. All costs associated with any temporary power outages, relocations, physical pole support for excavation or the installation of insulation of any power line during this contract shall be incidental, including the cost of the coordination, to the work being performed. The Department makes no guarantees that the request for any temporary power outages, relocation or the installation of insulation of any power line during this contract will be granted by Delmarva Power – Distribution in part or in total; or during the time periods requested by the Contractor for construction purposes. Any proposed coordination with Delmarva Power – Distribution shall be included in the contractor's CPM schedule.

For the location of electric facilities, please contact Miss Utility at (800) 282-8555. To report a downed wire, call DP&L 24/7 at 1-800-898-8042.

EASTERN SHORE NATURAL GAS – ESNG:

ESNG owns and maintains underground facilities along US 13 southbound within the limits of the project. ESNG maintains the following facilities within the limits of the project:

1. Eastern Shores Natural Gas (ESNG) owns and maintains (1) 16-inch dia. underground gas main and (1) 10-inch dia. underground gas main on the west side of US 13 southbound. The best information available suggests that the elevation of the 16-inch dia. gas line is 37.01 at test hole #2A. On the southwest side of bridge 1-488S, it is believed that the elevation of the 10-inch dia. gas line varies from 13.52 at test hole #6 to 6.55 at test hole #17. On the northwest side of bridge 1-488S, it is believed that the elevation of the 10-inch dia. gas line varies from 5.24 at test hole #16 to 13.42 at test hole #10. Because the

UTILITY STATEMENT

Contract No.: T200707404

BR 1-488 N&S on N001 US 13 Over Blackbird Creek

April 5, 2023

Revised: May 14, 2024

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test holes are spaced so far away, the exact elevations of the (2) gas lines at the western ends of the proposed abutments for bridge 1-488S are unknown. Once the limits of disturbance to the west of US 13 southbound have been cleared, the contractor will:

- a. Notify ESNG approximately (14) calendar days in advance of performing the prescribed test holes. Contact Eastern Shore Natural Gas, Mark Parker at 302-373-4715 or mcparker@esng.com.
- b. Perform (4) test holes on ESNG's existing 10-inch main and 16-inch main in accordance with ASCE 38-22 in a non-destructive manor in consultation with ESNG. See plans for additional information. Each gas main will be located on each side of the streambank, in proximity of the proposed abutments for bridge 1-488s. ESNG representatives will be on-site during the performance of the test holes to fully support the activity, including locating the mains and ensuring safety.
- c. Once the gas mains are located and minimally exposed, the contractor will survey the lines at each test hole location. The Northing, Easting, and Elevation of the gas main at each test hole location will be recorded and provided to ESNG.

Locating the (2) ESNG gas mains is critical to understanding any potential conflicts with the proposed channel improvements, consisting of a 2'-0" deep riprap apron. In addition, this locate will confirm that the 16-inch main is located an appropriate distance from the proposed concrete piles on the southwest and northwest ends of bridge 1-488S.

During the installation of the proposed riprap, the contractor shall carefully place each piece and shall not "dump" the stone over the 16" and 10" ESNG pipeline. Refer to the construction plans for further details.

These facilities will remain in place and active during this contract. For utility location, please contact Miss Utility at (800) 282-8555.

The contractor shall be aware that ESNG has requirements while working near ESNG pipelines. These requirements are general in nature and not specific. These requirements are not intended to be all-inclusive. Actual field conditions may change the requirements. Contractor should contact ESNG and consult with their engineer prior to initiating construction and abide by all Federal, State, and Local rules and regulations.

The Contractor shall coordinate construction activity with the assigned ESNG line locator according to the general guidelines below. The ESNG line locator can help determine if additional contacts are required with ESNG's Engineering Manager before start of construction activity.

1. It shall be the contractor's responsibility to use the Miss Utility One Call System.
2. It shall be the contractor's responsibility to contact and coordinate with Eastern Shore before starting any construction above or near the pipeline. ESNG may elect to have standby personnel on the job site during construction activity.
3. It shall be the contractor's responsibility to contact and coordinate with ESNG before moving heavy equipment above or near the pipeline. ESNG may require extra cover, berm

or ramp, timber mats, etc. These measures are to be determined by ESNG depending on field conditions.

4. If the pipeline is exposed and suspended, it shall be the responsibility of the contractor to coordinate with ESNG the appropriate supporting measures. These measures are to be determined by ESNG depending on field conditions.
5. If the pipeline is exposed, it shall be the responsibility of the contractor to protect the pipeline from construction activity and the traveling public.
6. A minimum vertical clearance of 12" and horizontal clearance of 36" shall be maintained between ESNG's pipeline and other underground utilities and structures. If this cannot be maintained, ESNG shall determine an appropriate means of protection to the pipeline.

IN EVENT OF PIPELINE EMERGENCY, CALL ESNG 24 HOUR GAS CONTROL CENTER AT (302) 734-6720 or TOLL FREE 1-877-650-1257.

VERIZON:

Verizon maintains overhead and underground facilities along both sides of US 13 north bound and south bound.

Verizon maintains the following aerial facilities within the project limits:

1. Verizon maintains aerial facilities along the Southwest side of US 13 Southbound from Pole# 45393/29743 at station 72+46 L39 extending Southeast and Northwest and beyond the project limits.
2. Verizon maintains aerial facilities on the Northwest side of Blackbird Forest Rd from Pole# 45367/29766 at station 75+90 L90 extending Southwest and beyond the project limits.
3. Verizon maintains aerial facilities along the Northeast side of US 13 Northbound from Pole# 45339/29754 at station 164+99 R39 extending Southeast and Northwest and beyond the project limits.

Verizon of Delaware Inc. maintains the following buried/underground facilities within the project limits:

1. Verizon maintains Buried \UG facilities crossing US 13 Southbound from VZ Pedestal MA-215 at station 72+47 L35 extending Northeast to a VZ Pedestal at station 165+00 R35 continuing Northwest to a VZ Pedestal at station 170+00 R35.
2. Verizon maintains Buried \UG facilities along the Southwest side of US 13 Southbound from VZ Pedestal MA-214 at station 74+29 L40 extending Southeast and beyond the project limits.
3. Verizon maintains Buried \UG facilities along the Southwest side of US 13 Southbound from MH 232 at station 76+40 L13 extending Southwest to VZ Pedestal MA-214 at station 74+29 L40.
4. Verizon maintains Buried \UG facilities along the Southwest side of US 13 Southbound from MH 232 at station 76+40 L13 extending Northwest and beyond the project limits.
5. Verizon maintains Buried \UG facilities on the Southwest side of US 13 Southbound from MH 232 at station 76+40 L13 extending Southwest to Pole# 45367/29766 at station 75+90 L90 on Blackbird Forest Rd.

6. Verizon maintains Buried \UG facilities on the Southwest side of US 13 Southbound from MH 232 at station 76+40 L13 extending Southwest Pole# 213 at station 76+25 L39.

Anticipated Aerial Relocations:

1. Verizon will remove existing aerial cables along the Southwest side of US 13 Southbound from Pole# 213 at station 76+25 L39 extending Northwest to Pole# 45283\29888 at station 90+48 L35 and remove associated Verizon Poles.
2. Verizon will remove existing aerial cables along the Southeast side of US 13 Northbound from Pole #45312\29868 at station 179+18 R35 to Pole #45379\29778 at station 168+05 R35 to Pole.
3. Verizon proposes new aerial cables along the Northeast side of US 13 Northbound from Pole# 45289\29905 at station 182+46 R37 extending Southeast along the new Pole Line established by DP&L Pole Line to Pole# 45379\29778 at station 168+05 R35.
4. Verizon will remove associated poles along US 13 Northbound between Sta. 171+68 RT. to Sta. 176+72 RT.

Anticipated Underground Relocations:

1. Verizon will retire MH 231 along the Northwest side of US 13 Southbound at station 81+45 L12 in place and fill with flowable fill.
2. Verizon will retire in place 4 UG\ducts from MH 231 along the Northwest side of US 13 Southbound at station 76+40 L12 extending Southwest to MH 232 at station 76+40 L10.
3. Verizon will retire in place 1 UG\duct from MH 231 at station 81+45 L12 extending Northwest and beyond the project limits.
4. Verizon to Bore 145' crossing US 13 Southbound and placing 2-2" Innerduct and 1 Fiber Cable from a proposed VZ HH at station 90+48 L35 extending Northeast to a proposed VZ HH on US 13 Northbound at station 182+46 R35.
5. Verizon to Bore 190' crossing US 13 Northbound and placing 2-2" Innerduct and 1 Fiber Cable from a proposed VZ HH at station 168+09 R32 extending Southwest to a proposed VZ HH along Blackbird Forest Road at station 75+77 L85.

Verizon of Delaware. will complete these changes. These relocations/adjustments are expected to take approximately 45 calendar days to complete after the company has been given a minimum of 30 calendar days advance notice that work shall begin and the right-of-way, Delmarva Power and Crown Castle has relocated their aerial, and proposed work has been laid out in the field by the State's contractor and required tree trimming and clearing has been performed. Verizon will require access to the area through the existing guard rail from the State Contractor. Additionally, the State Contractor shall provide a stable road access for the utility bucket trucks to reach each pole location.

The state contractor is advised to use caution when working in the area near any utility pole or the overhead cables. Contractor should verify clearance of existing ground to any aerial utility facility under which any truck and/or equipment is operated. No working/existing Verizon facilities can be taken out of service. For utility location, please contact Miss Utility at (800) 282-8555.

General Utility Notes

Outside of the companies and facilities discussed above, no additional utility involvement is anticipated. Should any conflicts be encountered as a result of the contractor's means and methods during construction requiring adjustment and/or relocation, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as directed by the District Engineer. The State Contractor shall coordinate any potential conflicts with utility companies and provide adequate notice prior to performing work.

Any utility conflicts that are not readily discernable shall be coordinated by the State Contractor once the conflict is recognized. The time to complete any relocations/adjustments found to be necessary during construction of the highway project will depend on the nature of the work.

Once the State's contractor has given the Utility the advance notice required above, it is the responsibility of the State's contractor to have the work area prepared and accessible for the Utility to perform the tasks listed above. If the site conditions are not ready and the state contractor has given notice to the utility on when the work is to be accomplished, the State's Contractor shall be responsible for any extra cost incurred by the utility company and the State Contractor shall also be responsible for any time delays. Between when the required notice is given to the Utility and when the work is performed and completed, the coordination and scheduling of the Utility is the sole responsibility of the State's Contractor. All costs related to the coordination and scheduling of the utilities is incidental to the contract.

Any adjustments and/or relocations of municipally or county owned sewer or water facilities shall be performed by the State's Contractor in accordance with the respective agency's standard specifications as directed by the District Engineer. The State contractor shall coordinate any potential conflicts of municipally or county owned sewer or water facilities with facility owners and provide adequate notice to the municipally or county and to the District Engineer prior to performing work.

General Notes

1. The Contractor's attention is directed to Section 105.9 Utilities, Delaware Standard Specifications, August 2020. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The Contractor is advised to check the site for access and operating purposes for his equipment and, if necessary, make arrangements directly with the utility companies for field adjustments for adequate clearances.
2. The information shown in the Contract Documents, including the Utility Statement and the Utility Schedule contained herein, concerning the location, type and size of existing and proposed utilities, their locations, and construction timing has been compiled by the preparer based on information furnished by each of the involved Utility Companies. It shall be the responsibility of the State's Contractor to verify all information and coordinate with the Utility Companies prior to and during construction, as specified in Section 105.09 of the Standard Specifications.

UTILITY STATEMENT

Contract No.: T200707404

BR 1-488 N&S on N001 US 13 Over Blackbird Creek

April 5, 2023

Revised: May 14, 2024

Revised: June 26, 2024

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3. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present and relocated positions as shown on the plans or described in the Utility Statement or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage due to any interference from the utility facilities and appurtenances or the operation of moving them, except that the Contractor may be granted an equitable extension of time unless the delay is caused by the Contractor's delay in having the site conditions ready for the utility relocation work after the Contractor has provided the advance notice that the site conditions would be ready for the utility relocation work. The contractor's means and method of construction are not taken into account when known utility conflicts are identified. If the Contractor's means and method of construction create a utility conflict the Utility Statement will prevail in discussions with the utility and the Contractor. The State's Contractor shall be responsible for any costs associated with any temporary outages; holding, bracing and shielding of utility facilities; temporary relocations; or permanent relocations that are not specifically identified in this utility statement or shown in the contract plan set.
4. Coordination and cooperation among the Utility Companies and the State's Contractor are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company representatives with any questions regarding this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations. The Utility Companies do not work on weekends, nights or legal holidays.

Contact	Company	E-Mail	Phone Number
Tom Smith	Delmarva Power – Electric	Thomas.Smith1@delmarva.com	302-283-5757
Mark Parker	Eastern Shore Natural Gas	mcparker@esng.com	302-373-4715
Bruce Turner	Crown Castle	bruce.turner@crowncastle.com	302-257-9459
Bill Muehlberger	Crown Castle	bmuehlberger@fibertech.com	585-362-0019
George Zang	Verizon Delaware Inc.	George.w.zang@verizon.com	302-422-1238

5. As outlined in Chapter 3 of the DelDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads. This includes but is not limited to water quality permits/DNREC Water Quality Certification, DNREC Subaqueous Lands/Wetlands permits, DNREC Coastal Zone Consistency Certification, County Floodplain permits (New Castle County only), U.S. Coast Guard permits, US Army Corps 404 permits, sediment and erosion permits, and railroad crossing permits.
6. Individual utility companies are required to restore any areas disturbed in conjunction with their relocation work. If an area is disturbed by a utility company and is not properly restored, the Department may have the State's Contractor perform the necessary restoration. Any additional costs incurred as a result will be forwarded to the utility company.

7. 16 Del. C. § 7405B requires notification to and mutually agreeable measures from the public utility operating the electric line for any person intending to carry on any function, activity, work, or operation within dangerous proximity of any high voltage overhead electric lines. All contractors/other utilities must also maintain a minimum distance of 10'-0" from all overhead energized lines. Additional clearance may be required from high voltage transmission lines.
8. Any existing facilities that are comprised of hazardous materials will be removed by the Utility Company unless otherwise outlined in the contract documents or language above. Any existing facilities containing hazardous materials will be purged by the Utility Company unless otherwise outlined in the contract documents or language above.
9. In conjunction with bid preparation and prior to starting work, the State's Contractor shall confirm with all respective Utility Companies noted in this Utility Statement to have advance utility relocations that the advance relocations have in fact been accomplished as summarized herein.

DIVISION OF TRANSPORTATION SOLUTIONS

Deborah Kukulich
UTILITY COORDINATOR
Deborah.Kukulich@delaware.gov

June 27, 2024
DATE

T200707404 BR 1-488 N&S US 13
4/5/2023
Revised 06/26/2024

COMPANY	NOV. 2024	DEC. 2024	JAN. 2025	FEB. 2025	MAR. 2025	APR. 2025	MAY 2025	JUN. 2025	JUL. 2025	AUG. 2025	SEPT. 2025	Oct. 2025	NOV. 2025	DEC. 2025
	27-2 3-9 10-16 17-23 24-30	1-7 8-14 15-21 22-28 29-4	5-11 12-18 19-25 26-1	2-8 9-15 16-22 23-1	2-8 9-15 16-22 23-29	10-5 11-12 13-19 20-26 27-3	4-10 11-17 18-24 25-31	1-7 8-14 15-21 22-28 29-5	2-12 13-19 20-26 27-2	3-9 10-16 17-23 24-30	31-6 7-13 14-20 21-27 28-4	5-11 12-18 19-25 26-1	2-8 9-15 16-22 23-29	30-6 7-13 14-20 21-27 28-3
State Contractor				Clearing & Phase 1							Phase 2			
DPL Electric		Advance Notice	Toppling Trees		Advance Notice									
Crown Castle						Advance Notice								
Verizon						Advance Notice								
ESNG								AN	TH per State Contractor Sch.					

**STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903**

CERTIFICATE OF RIGHT-OF-WAY STATUS

STATE PROJECT NO. T200707404

F.A.P. NO. EBRN-N016(3)

BRIDGE 1-488N&S ON US 13 OVER BLACKBIRD CREEK

NEW CASTLE COUNTY

Certificate of Right-of-Way Status – 100%

Status - LEVEL 1

As required by 23 CFR, Part 635, and other pertinent Federal and State regulations or laws, the following certifications are hereby made in reference to this highway project:

All necessary real property interests have been acquired in accordance with current FHWA/State directives covering the acquisition of real property; and,

All necessary rights-of-way, including control of access rights when pertinent, have been acquired including legal and physical possession; and,

All project rights of way are currently available in accordance with the project right-of-way plans; and,

Any residential displaced individuals or families have been relocated to decent, safe and sanitary housing, or adequate replacement housing has been made available in accordance with the provisions of the current Federal Highway Administration (FHWA) directive(s) covering the administration of the Highway Relocation Assistance Program; and,

All occupants have vacated the lands and improvements; and,

The State has physical possession and the right to remove, salvage, or demolish any improvements acquired as part of this project, and enter on all land.

RIGHT OF WAY SECTION



**Monroe C. Hite, III
Chief of Right of Way**

June 26, 2024



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

August 21, 2024

ENVIRONMENTAL REQUIREMENTS

FOR

State Contract No. T200707404

Federal Aid No.: EBRN-N016(3)

Contract Title: BR 1-488 N&S on US13 over Blackbird Creek

In accordance with the procedural provisions for implementing the National Environmental Policy Act of 1969, as amended, the referenced project has been processed through the Department's Environmental Review Procedures and has been classified as a Class II Action / Level D

Class II Action / Level D
CE action: **23 CFR 771.117 (d)(13)**

Environmental (NEPA) Approval Date: 10/27/2023

PERMIT REQUIREMENTS:

The proposed construction work for this project requires permit approval from the agencies listed below. It is the responsibility of the contracting agency -- the Delaware Department of Transportation, Division of Transportation Solutions -- to obtain the necessary permits to ensure that the contractor complies with the requirements and conditions established by the regulatory agencies. Written authorization from the permitting agencies is required and paperwork for on-site posting is anticipated. The proposed work for this project will be authorized under the permits listed below:

REQUIRED PERMITS AND APPROVAL STATUS:

- U.S. Army Corps of Engineers (USACE) – Nationwide Permit #23 NAP-2024-00196-87.
Expires March 14, 2026
- Delaware Department of Natural Resources and Environmental Control (DNREC) Wetlands & Subaqueous Lands Section (WLSL) – Special Exemption B, Submitted 3/4/2024
- Delaware Coastal Zone Management (CZM) – Issued with NWP 23
- DNREC Water Quality Certification (WQC) - Issued – Project is not located in a Critical Resource Water
- New Castle County: Floodplain Permit, **Approved 4/15/2024. Expires 180 days after issue date. Please contact Environmental to obtain an extension after it has expired.**

SPECIFIC REQUIREMENTS:

Compliance with all requirements of the permits is the responsibility of the contractor, who will follow all special conditions or requirements as stated within those permits. The contractor will be subject to penalties, fines, and the risk of shut down as mandated by laws governing permitting agencies if such conditions and requirements are violated or ignored. Therefore, all special conditions, general requirements, and/or other required provisions specified within the permits must be followed. Those obligations are indicated or listed within the permit package, which can be obtained from the DelDOT Contract Administration Office.

Additional requirements by DelDOT not specified within the permits, but listed below, are also the responsibility of the contractor. Noncompliance with these requirements may result in shut down of the project at the contractor's expense.

1. The contractor shall employ measures during construction to prevent spills of fuels or lubricants. If a spill should occur, efforts shall be undertaken to prevent its entry into wetlands, aquatic, or drainage areas. Any spills entering wetlands, aquatic, or drainage areas shall be removed immediately. The Division of Water Resources (DNREC), Wetlands & Aquatic Protection Branch, 302-739-4691, shall be notified of any spill(s) within six (6) hours of their occurrence. That office will determine the effectiveness of spill and contamination removal and specify remediation efforts as necessary.

2. All construction debris, excavated material, brush, rocks, and refuse incidental to the work shall be placed either on shore above the influence of flood waters or on some suitable disposal site approved by the department.

3. The disposal of trees, brush, and other debris in any stream corridor, wetland surface water or any drainage ditch is prohibited.
4. There shall be no stockpiling of construction materials or temporary fills in wetlands or subaqueous lands unless otherwise specified on project plans and approved by permitting agencies that govern them. It is the contractor's responsibility to coordinate and secure those additional permits/amendments in deviating from the plan.
5. Construction debris shall be kept from entering adjacent waterways, wetlands, ground cover, or drainage areas. Any debris that enters these areas shall be removed immediately. Netting, mats, or establishing confined work areas in stages may be necessary to address these issues.
6. Refuse material resulting from routine maintenance of worker equipment and heavy machinery is prohibited from being disposed or deposited onto or into the ground. All used oils and filters must be recycled or disposed of properly.
7. Use of harmful chemical wash water to clean equipment or machinery is discouraged. If undertaken, the residue water and/or material must be collected or contained such that it will be disposed of properly. It shall not be deposited or disposed of in waterways, streams, wetlands, or drainage areas.
8. The contractor shall follow all requirements as indicated in the Environmental Compliance Sheet. It is the contractor's responsibility to ensure that workers also follow this requirement. As part of the restrictions, please note the timetables reflected in the contract for the in-stream/water work for endangered species protection.
9. Fill material shall be free of oil and grease, debris, wood, general refuse, plaster and other pollutants, and shall contain no broken asphalt.

ENVIRONMENTAL COMPLIANCE SHEET:

Construction Restrictions

a) Fisheries: No in-water work from March 1-June 30th.

b) Migratory Birds- if bridge work is proposed during the breeding season (April 15th-Aug1), contact DelDOT Environmental studies at DOT_EnvironmentalStudies@delaware.gov no more than 14 days prior to the start of the work for a survey to determine if active nests are present. If the survey dictates nesting activity, the following steps must be taken to avoid nest destruction and take, which is a violation of state law:

1. Only perform construction activities from August 2nd to April 14th;

2. Or if construction cannot be performed from August 2nd to April 14th, a deterrent such as mesh netting must be used to block access to nesting sites on the underside of the bridge(s) in accordance with special provision #763623- netting migratory bird exclusion. The material would need to be in place no later than April 14th, the underside of the bridge(s) would need to be fully encapsulated, and the material must be left in place until construction begins.

Cultural Resources:

- Bridge 1-488n is eligible for listing in the national register of historic places. The bridge will need to be documented prior to the start of any construction activities. This documentation will be a part of the MOA that is currently in progress.
- All work must comply with the enclosed Memorandum of Agreement (MOA) between the DESHPO, FHWA, and DelDOT, signed in October of 2023, entitled “Memorandum of Agreement Among the Federal Highway Administration, The Delaware State Historic Preservation Office, and the Delaware Department of Transportation Regarding Implementation of the Bridges 1-488N and 1-488S on U.S. 13 Over Blackbird Creek Project, New Castle County, State Contract Number T200707404, Federal Aid Number EBRN-N016(3).”
- The proposed project is located in the boundaries of the Blackbird Village Historic District, which is a national register-eligible and section 4(f) property. Any work that is done in or around this property should be limited to the limits of construction as defined by the plans. If unforeseen damage occurs within this district (as a direct result of the undertaking) DelDOT Environmental Studies must be notified at (302) 760-2093 to ensure that the DESHPO, FHWA, and/or others are consulted on ways to repair the damage consistent with the secretary of the interior’s standards. Should it be necessary to add additional access locations or staging/stockpiling areas, or otherwise modify the project scope, methods, or LOC, DelDOT Environmental Studies staff (dot_environmentalstudies@delaware.gov or (302)760-2093)) must be contacted.

Protection of Resources

- Keep clearing in wetland areas to a minimum absolutely necessary for construction access. Support all equipment traversing wetlands and subaqueous land on mats. Payment for mats will be made under item 621500 – temporary timber mat. In wetland areas that are cleared, no grubbing except where necessary to construct project components such as foundations and riprap protection is permitted. Cut vegetation flush with the ground (i.e. No disturbance of the root mat). Restore temporarily disturbed wetland areas to grade and seed with item 908019 – Permanent Grass Seeding, Streambank
- Use silt fence or construction safety fence along the limits of construction in all areas where water/wetlands are being impacted (as shown on environmental compliance sheets), and also in any area where water/wetlands exist within 20 feet of the limit of

construction (as shown on construction plan sheets). Any contractor access beyond the limit of construction is strictly prohibited.

- Use sandbags or compost filter log (CFL) to secure silt fence at areas adjacent to wooded uplands/ all wetlands in lieu of trenching unless proper erosion and sediment control cannot be maintained. Remove sandbags and CFLS (and contents) in their entirety when no longer needed. Sandbags/CFLS used to secure the silt fence is incidental to item 905001 - silt fence. The environmental studies section (302-760-2259 or dot_environmentalstudies@delaware.gov) can provide further guidance regarding this method of installation.
- Clearly mark all trees to be removed with paint prior to the erosion and sediment control meeting.

Stream Restoration and Riprap Treatment

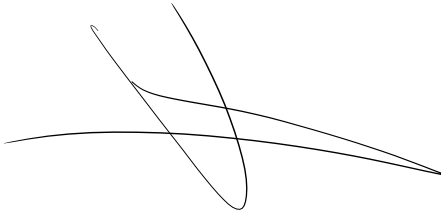
- Follow the special provision for item 707500 – channel bed fill in regards to the salvaging of on-site natural stream bottom material or the furnishing of off- site material. If sufficient sources for channel bed fill do not exist on-site, any new material must conform to the requirements of item 707500 – channel bed fill. Recess all riprap in the channel bottom (i.e. Below the water line) one foot below stream bed elevation and choke with borrow type ‘b’ so that all of the voids in the riprap are filled with specified material. Payment under item 209002 – borrow, type b. Cover the riprap with a minimum of 12” channel bed fill. Match the final channel elevations with existing elevations at the upstream and downstream project limits. Through the structure, elevations will be as noted on the plans. Payment under item 707500 – channel bed fill.
- Restore other areas of the channel bottom affected by construction (including, but not limited to, the location of sump pits, stabilized outfalls, temporary pipes and/or sandbag dikes and diversions) to existing conditions. Fill any cavities or scour holes resulting from construction activities with channel bed fill. Payment under item 707500 – channel bed fill.
- When all erosion and sediment control measures are removed and the stream returns to its natural flow conditions, the flow must remain above ground and above the riprap (i.e. The flow cannot be “lost” in the riprap or beneath the structure). If this is not achieved, the contractor will be required to take corrective action at the contractor’s expense.
- Choke all riprap on the stream bank, outside the channel bed, with delaware #57 stone. Place just enough choke material to prevent the loss of channel bed fill or topsoil (depending on location as indicated below) through the riprap.
 - o Beneath the bridge: after placing delaware #57 stone, perform a final choke of channel bed fill so that the riprap peaks are barely visible. Payment under item 707500 – channel bed fill. Delaware #57 stone is incidental to the riprap item.
 - o All other locations: finish filling the voids with topsoil so that the riprap peaks are barely visible. Place an additional 6-inch topsoil layer on top of the riprap. Slope seeding will be done with item 908019 – streambank seed mix, seeding.

Following the seeding operation, install item 908020 – erosion control blanket (ECB) mulch, or other blanket as shown on the plans. ECB at toe of slope can be either trenched in or stapled at 6” on center. Complete all work, starting with the initial choking with topsoil through the seeding and mulching prior to any rain event. Delaware #57 stone is incidental to the riprap item. All other items will be paid for under their respective items.

- The topsoil/seed/mulch can be placed before or after the removal of the stream diversion. If the placement occurs after stream diversion removal, use a turbidity curtain to minimize in-stream sedimentation. Payment will be incidental to item 909005 – stream diversion.

The contractor shall pay special attention to specific construction requirements as indicated in the US Army Corps of Engineer Permit as well as the Environmental Compliance (EC) Sheet.

DelDOT Environmental Studies Section must be notified if there are any changes to the project methods, footprint, materials, or designs, to allow the Department to coordinate with the appropriate resource agencies (COE, DNREC, and SHPO), for approval at DOT_EnvironmentalStudies@delaware.gov and/or 302-760-2259.



8/21/2024

Van Adams
Natural Resource Supervisor
Environmental Stewardship Office
Delaware Department of Transportation



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

RAILROAD STATEMENT
For

State Contract No.: T200707404

Federal Aid No.: EBRN-N016(3)

Project Title: BR 1-488N&S on US13 over Blackbird Creek

The following railroad companies maintain facilities within the contract limits:

- | | |
|--|---|
| ☐ Amtrak | ☐ Maryland & Delaware |
| ☐ CSX | ☐ Norfolk Southern |
| ☐ State of Delaware
Delmarva Central | ☐ Wilmington & Western |
| ☐ East Penn | ☐ Delmarva Central |
| | ☒ None |

DOT Inventory No.: N/A No. Trains/Day: N/A Passenger Trains (Y / N): N/A

In accordance with 23 CFR 635, herein is the railroad statement of coordination (check one):

- ☒ No Railroad involvement.
- ☐ Railroad Agreement unnecessary but railroad flagging required. The contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Coordinator at (302) 659-4664.
- ☐ Railroad Agreement required. The Contractor cannot begin work until the Agreement is complete and fully executed. Railroad related work to be undertaken and completed as required for proper coordination with physical construction schedules. The Contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Coordinator at (302) 659-4664.

Approved As To Form:

Lei Xu

DelDOT Railroad Program Coordinator

6/11/2024

DATE

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Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T200707404

Project Description: BR 1-488N&S ON N001 US13 OVER BLACKBIRD CREEK

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
302002	DELAWARE NO. 3 STONE	TON	615
302005	DELAWARE NO. 57 STONE	TON	280
401046	SUPERPAVE TYPE C, PG 76-22 (NON-CARBONATE STONE)	TON	2110
401014	SUPERPAVE TYPE B, PG 64-22	TON	3465
401016	SUPERPAVE TYPE B, PG 76-22	TON	2080
601012	REINFORCED CONCRETE PIPE, 18", CLASS III	LF	886
601014	REINFORCED CONCRETE PIPE, 24", CLASS III	LF	805
610000	PCC MASONRY, CLASS A	CY	25
602003	DRAINAGE INLET, 34" X 24"	EACH	9
602004	DRAINAGE INLET, 48" X 30"	EACH	3
602008	DRAINAGE INLET, 66" X 66"	EACH	1
605042	PROVIDE PRECAST PRESTRESSED CONCRETE PILES, 16"X16"	LF	1120
605092	PROVIDE PRECAST PRESTRESSED CONCRETE TEST PILES, 16" X 16"	LF	180
605142	INSTALL PRECAST PRESTRESSED CONCRETE PILES, 16" X 16"	LF	1120
605192	INSTALL PRECAST PRESTRESSED CONCRETE TEST PILES , 16" X 16"	LF	180
605201	DYNAMIC PILE TESTING BY CONTRACTOR FOR TEST PILE INITIAL DRIVE	EACH	4
605202	DYNAMIC PILE TESTING BY CONTRACTOR FOR RE-STRIKE OR PRODUCTION	EACH	4

Page: 1 of 6

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Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T200707404

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Item Number	Description	Unit	Quantity
PILE			
610500	ULTRA HIGH PERFORMANCE CONCRETE	CF	1170
201000	CLEARING AND GRUBBING	LS	1
202000	EXCAVATION AND EMBANKMENT	CY	2330
203000	CHANNEL EXCAVATION	CY	1220
207000	PIPE, CULVERT, AND STRUCTURAL EXCAVATION	CY	290
209001	BORROW, TYPE A	CY	4910
209002	BORROW, TYPE B	CY	600
209004	BORROW, TYPE C	CY	1610
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	1570
301001	GABC	CY	3340
612504	PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS	CY	480
612511	PRECAST CONCRETE ABUTMENT CAP	CY	160
612023	PRESTRESSED REINFORCED CONCRETE MEMBERS, BULB T BEAMS	LS	1
613502	ELASTOMER WATERPROOFING MEMBRANE, FOR BRIDGE DECKS	SF	20100
623000	ELASTOMERIC BEARINGS	EACH	32

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Item Number	Description	Unit	Quantity
624000	PREFABRICATED EXPANSION JOINT SYSTEM, 3"	LF	206
701016	I.PCC CURB AND GUTTER, TYPE 1-4	LF	1275
706002	RIGHT-OF-WAY MARKER, CAPPED REBAR	EACH	4
707021	CHANNEL BED FILL	CY	475
708001	GEOTEXTILES, STABILIZATION	SY	48850
708003	GEOTEXTILES, RIPRAP	SY	6600
707016	RIPRAP, R-5	TON	1960
720021	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	LF	187.5
721001	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	EACH	400
721012	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 3-31	EACH	8
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	1555
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	1325
763000	INITIAL EXPENSE/DE-MOBILIZATION	LS	1
763501	CONSTRUCTION ENGINEERING	LS	1
801500	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LS	1
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	93
817042	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 6"	LF	7560

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Item Number	Description	Unit	Quantity
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH	24
819019	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS	SF	30
905001	SILT FENCE	LF	2650
906001	PORTABLE SEDIMENT TANK	EACH	3
906003	SUMP PIT	EACH	3
908001	TOPSOIL	TON	635
908004	TOPSOIL, 6" DEPTH	SY	9200
908017	TEMPORARY GRASS SEEDING	SY	13000
908019	PERMANENT GRASS SEEDING, STREAMBANK	SY	12500
908020	EROSION CONTROL BLANKET MULCH	SY	12500
909005	STREAM DIVERSION	LS	1
602005	DRAINAGE INLET, 48" X 48"	EACH	9
612502	PRECAST MOMENT SLAB	CY	230
626502	TWO STRAND TUBE RAIL PARAPET	LF	1075
760002	BIKE-FRIENDLY RUMBLE STRIPS, BITUMINOUS PAVEMENT	LF	1850
760006	RUMBLE STRIPS, BITUMINOUS PAVEMENT	LF	2855
760010	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT	SYIN	3235

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Project Descripton: BR 1-488N&S ON N001 US13 OVER BLACKBIRD CREEK

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Item Number	Description	Unit	Quantity
803501	PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN	EADY	105
804001	PROVIDE AND MAINTAIN PORTABLE LIGHT ASSEMBLY (FLOOD LIGHTS)	EADY	675
811001	FLAGGER, NEW CASTLE COUNTY	HOURL	80
811013	FLAGGER, NEW CASTLE COUNTY, OVERTIME	HOURL	20
613005	WATERPROOFING MEMBRANE, NON-TRAFFIC BEARING	SF	700
760012	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH	SYIN	71025
501511	RUBBLIZING PCC PAVEMENT	SY	7350
802003	ARROW PANELS TYPE C	EADY	510
801000	MAINTENANCE OF TRAFFIC	LS	1
805001	PLASTIC TRAFFIC CONTROL DRUMS	EADY	22905
808002	PROVIDE AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	EADY	930
810001	TEMPORARY WARNING SIGNS AND PLAQUES	EADY	5100
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	20
905005	INLET SEDIMENT CONTROL, CURB INLET	EACH	12
907017	COMPOST FILTER LOGS	LF	375
202519	FOAMED GLASS AGGREGATE	CY	12100



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Item Number	Description	Unit	Quantity
601191	PVC PIPE, 6"	LF	75
612512	PRECAST CONCRETE T-WALL	SY	5200
621500	TEMPORARY TIMBER MAT	LS	1
204000	TEST HOLE	CY	4
707015	RIPRAP, R-4	TON	2835
601016	REINFORCED CONCRETE PIPE, 30", CLASS III	LF	105
817027	RAISED/RECESSED PAVEMENT MARKER	EACH	74