

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION



BID PROPOSAL

CONTRACT T201807402

**BR 1-655 ON SR7 LIMESTONE ROAD
OVER CSX RAILROAD**

Federal Aid No. EBHN-N031(09)
CFDA: 20.205

Advertisement Date: June 6, 2025

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)
DBE PROJECT PARTICIPANT AFFIDAVIT
DBE UTILIZATION COMMITMENT STATEMENT
BIDDERS LIST*

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

*DRUG TESTING AFFIDAVIT
CERTIFICATION FORM
BID BOND FORM
CD FOR BID PRICE ENTRY & PRINTING
DBE PROJECT PARTICIPANT AFFIDAVIT
DBE UTILIZATION COMMITMENT STATEMENT
BIDDERS LIST*

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, JULY 8, 2025

GENERAL DESCRIPTION

A. BIDS DUE: JULY 8, 2025 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 bidx.com/de/.

OR:

(b) **Paper Bid Delivered To:** Delaware Department of Transportation (DelDOT), 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.

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Attendance is not required. DelDOT offers a call-in number to hear the Bid Opening telephonically. The telephone number to call is (302) 504-8986.

When prompted, enter Meeting number (access code): 651 529 280#

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

B. PRE-BID MEETING: No

C. DBE GOAL: 12% 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 the bridge rehabilitation including replacement of the concrete deck, barriers, joints, and bearings, cleaning and painting the existing steel beams, sidewalk improvements, repairs to the substructure, addressing erosion concerns alongside slopes, and minor approach roadway work. Deterioration of the existing concrete deck has caused the riding surface to be in poor condition with numerous concrete spalls and asphalt patching. Future deterioration of the concrete deck will lead to structural deficiencies of the element. Expansion joint failure has caused deterioration of the steel beam ends, steel bearings, and concrete piers that will continue to worsen unless addressed. Rehabilitation work will help to extend the remaining service life of the bridge. Bridge 1-655 has a sufficient rating of 70.0 and is ranked 81st on the 2018 DelDOT Bridge Deficiency List, out of 1625 total bridges. 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 760 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 October 1, 2025.

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- I. **SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DELAWARE DEPARTMENT OF TRANSPORTATION, JUNE 2022** 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. **ROAD USER COSTS:**

Temporary Lane Closure:

Late Opening of Temporary Lane Closures

Interim Road User Costs (RUC) for delays in opening lanes on SR 7 NB and SB will be assessed according to the below chart. Refer to the Allowable Lane Closure Matrix in the Maintenance of Traffic (MOT) plans for start and end times of allowable lane closures.

Table 1

SR 7 Northbound & Southbound	
Time All Lanes Reopened After End of Allowable Lane Closure Hours	Road User Cost
1 st 15-minute increment	\$565.00
2 nd 15-minute increment	\$1,130.00
3 rd 15-minute increment	\$1,695.00
4 th 15-minute increment	\$2,260.00
5 th 15-minute increment	\$2,825.00
6 th 15-minute increment	\$3,390.00
7 th 15-minute increment	\$3,955.00
8 th 15-minute increment	\$4,520.00
*After the first two hours beyond the allowable lane closure hour limit, RUC will accrue at \$565 per 15min, up to a day total of \$5,650. The RUC values within the chart are not cumulative, payments made after the first two hours are.	

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Example of calculation for assessment of Road User Cost:

For the use of this example, the lane closure matrix on the MOT plans will have a lane open time of 6:00 AM.

- 1) Failure to reopen SR 7 NB until 7:05 AM, during the 5th 15-minute increment, local time:

Per Table 1, a RUC of \$2,825 will be assessed.

- 2) Failure to reopen SR 7 NB until 9:20 AM, local time:

Per Table 1, a RUC of \$7,910 will be assessed.

- \$4,520 for the first two-hour period
- 8:00 AM – 9:20 AM = \$565 x (6) 15min increments = \$3,390

Assessment of the RUC will be made through Item 736525 – Road User Cost. The engineer will be the sole approving authority as to when the project is complete after traffic is returned to the ultimate alignment and when the contractors work activities will permit highway traffic ultimate lane width and shoulder widths.

Extended Duration Lane Closure

A RUC of \$300.00 will be assessed for each calendar day **Sandy Drive** is not fully opened to traffic in excess of the allowable closure duration identified in the Plans. The full daily RUC is assessed regardless of what time of day the ramps are reopened, starting at 12:00 AM. As such, no consideration will be given for partial calendar days.

Example of calculation for assessment of Road User Cost:

The duration of the detour for Sandy Drive according to the Plans, during Phase 2, is a maximum of 145 calendar days. If the roadway is reopened at 12:05 AM on day 146, the full amount of the \$300.00 RUC will be assessed.

Assessment of the RUC will be made through Item 763525 – Road User Cost. The Engineer will be the sole approving authority as to when the project is complete after traffic is returned to the ultimate alignment and when the contractors work activities will permit highway traffic ultimate lane width and shoulder widths.

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. Flaggers 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, [Contractor Compliance/EEO - Delaware Department of Transportation](#) calling (302) 760-2035

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8. **DBE PROGRAM REQUIREMENTS** (49CFR §26.53(b)(3)(i)(B) requires **ALL BIDDERS** to submit a DelDOT DBE Project Participation Affidavit for each DBE proposed for their team no later than five (5) calendar days after bid opening. Affidavits shall be submitted electronically to the DelDOT DBE Program Office at DOT.BidDocs@delaware.gov or via US Mail to DelDOT DBE Program Office ATTN: DBE Program Manager 800 Bay Road, Dover, DE 19901. Bidders must fully comply with the requirements of the Disadvantaged Business Enterprises (DBE) Specification shown below in order for their submitted bid to be deemed responsive and therefore eligible for award. Please note that the Bidder's DBE Project Participation Affidavit is different than what is required to be included in the Bidder's List submitted at the time of bid discussed below.

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9. DeIDOT CERTIFIED DBE UTILIZATION COMMITMENT STATEMENT In accordance with 49 CFR Part 26 all bidders must make good faith efforts toward meeting assigned DBE goals on federally assisted projects. Bidders are required to complete and submit this document at the time of bid to provide DeIDOT with their anticipated goal attainment and/or any good faith efforts documentation for the project on which they are bidding. Failure to include the DBE Utilization Commitment Statement with your bid will result in your Bid being deemed irregular.

10. FLATWORK CONCRETE TECHNICIAN CERTIFICATION TRAINING:

Section 501.3, 503.3, 505.3, 610.3, 701.3 and 702.3 of the 2022 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.

11. NOTE that FHWA Form 1273 (attached) has been modified effective October 23, 2023. Changes are [reviewed here](#).

12. SIGNAGE LANGUAGE:

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.

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13. Bidders List Requirement:

Under [49 CFR 26.11](#) DeIDOT must collect bidders list information from **ALL** contractors and subcontractors who seek to work on federally assisted contracts. The submitted information must be complete and must include the required information for the prime and all (DBE and non-DBE) subcontractors, service providers, manufacturers, distributors, and suppliers.

ALL bidders must complete the [Bidders List Form](#) (attached as an exhibit) and submit it at the time of bid. Late submission of this information will not be accepted. Submitted information must include the following for those being proposed to work on the contract if awarded:

- Firm name;
- Firm address including ZIP code;
- Firm's status as a DBE or non-DBE;
- Race and gender information for the firm's majority owner;
- NAICS code applicable to each scope of work the firm sought to perform in its bid;
- Age of the firm; and
- The annual gross receipts of the firm shown as an approximate range (i.e., \$1-3 million)

This information will be maintained as confidential to the extent allowable by federal and state law.

Failure to submit the required bidders list documentation at the time bid will result in the bidder being deemed non-responsive and therefore ineligible for award of the contract.

14. **DIESEL FUEL COST PRICE ADJUSTMENT FORM** is posted and part of this Bid Proposal.

15. **SPECIAL PROVISION 801501 - MAINTENANCE OF RAILROAD TRAFFIC** contains additional insurance requirements.

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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

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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 (U.S.).

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 U.S. and 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.

Materials determined to be manufactured products are not required to be produced in the U.S. in accordance with the implementation dates included in 23 CFR 635.410. Iron or steel used within manufactured products permanently incorporated into this project will be produced in the U.S. and all manufacturing processes involving iron and steel 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.

In accordance with 2 CFR 184, all non-ferrous metals, plastic and polymer-based products, glass, fiber optic cable, optical fiber, lumber, drywall and engineered wood construction material will be produced in the U.S.

DelDOT 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.

DelDOT 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 :

DelDOT 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. DelDOT 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 DelDOT 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 DelDOT. Successful bidders awarded DelDOT 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. DelDOT shall post publicly the Performance Rating for all Contractors on DelDOT's [website](#). DelDOT will complete performance-based evaluations on the construction company contracted by DelDOT 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

DelDOT 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

Goals for Female Participation In
Each Trade

12.3% (New Castle County)

6.9% (Entire State)

14.5% (Kent & Sussex Counties)

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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REVISED**DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM
SPECIFICATION**

DeIDOT has established a Disadvantaged Business Enterprise (DBE) program in accordance with the regulations of the United States Department of Transportation (USDOT), 49 CFR Part 26. The Department has received Federal financial assistance from the USDOT and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of DeIDOT to ensure that DBEs, as defined in 49 CFR Part 26, have an equal opportunity to receive and participate in USDOT-assisted contracts. It is also the policy of the DeIDOT:

1. To ensure nondiscrimination in the award and administration of USDOT-assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for USDOT-assisted contracts;
3. To ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are counted as DBEs;
5. To help remove barriers to the participation of DBEs in USDOT-assisted contracts;
6. To assist in the development of firms that can compete successfully in the marketplace outside the DBE program and;
7. To promote the use of DBEs in all types of federally assisted contracts and procurement activities.

The following definitions apply to this subpart:

Commercially Useful Function (CUF) means a Commercially Useful Function as defined fully in 49 CFR §26.55 which definition is incorporated herein by reference. CUF is discussed further in the next section.

Committed DBE means a DBE that was identified by the contractor, typically on a DBE Project Participation Affidavit, to assist in making a good faith effort to meet an assigned DBE goal. This also includes any substitute DBE that has subsequently been committed work to meet the assigned contract goal.

Days mean calendar days. In computing any period of time described in this part, the day from which the period begins to run is not counted, and when the last day of the period is a Saturday, Sunday, or Federal holiday, the period extends to the next day that is not a Saturday, Sunday, or Federal holiday. Similarly, in circumstances where the DeIDOT's offices are closed for all or part of the last day, the period extends to the next day on which the agency is open.

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.

NAICS Code means the North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the US business economy.

Non-DBE means any firm that is not a DBE or any entity which has not been certified by DeIDOT as a DBE prior to bid closing.

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 Owner (SEDO) 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 according to 49 CFR §26.5:

- (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 enrolled members of a federally or State recognized Indian tribe, Alaska Natives, 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 Republic of the Northern Mariana Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, 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, 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.

DBE Participation Goals

DelDOT has established an overall annual goal for DBE participation on Federal-aid contracts. DelDOT intends that the goal be met with a combination of race conscious and race neutral efforts. Race-conscious participation occurs when the contractor uses a percentage of DBEs, as defined herein, to meet the contract-specified goal. Race-neutral efforts are those that are, or can be, used to assist all small businesses or increase opportunities for all small businesses.

The regulation, 49 CFR, Part 26, also describes race neutral participation as when a DBE wins a prime contract through customary competitive procurement procedures or is awarded a subcontract on a prime contract that does not carry a DBE contract goal.

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 goal for this contract is listed in the General Description section of this document.

The contractor shall make Good Faith Efforts to meet the goal specified herein with DBEs or establish that it was unable to meet the goal despite making good faith efforts to do so. Prime contractors are encouraged to obtain DBE participation above and beyond any goals that may be set for this project.

DBE Project Participation Affidavit

In order to be eligible for award, ALL Bidders shall submit **no later than five (5) calendar days after bid opening** the completed DelDOT DBE Project Participation Affidavit for each Committed DBE that it intends to use to meet the project DBE goal if the contract is awarded to their firm. This affirms that the Bidder intends to utilize those listed on the form to make a good faith effort toward attaining the DBE goal assigned to this project. Information that will be included shall be as outlined in 49 CFR §26.53(b)(2). This information shall be submitted electronically to the DelDOT DBE Program Office at DOT.BidDocs@delaware.gov or via US Mail to DelDOT DBE Program Office ATTN: DBE Program Manager 800 Bay Road, Dover, DE 19901.

All Bidders will be required to complete the form and provide the following information regarding the DBE participation on their teams:

1. The names and addresses of DBE firms that will participate in the contract;
2. A description of the work that each DBE will perform. To count toward meeting a goal, each DBE firm must be certified in a NAICS code applicable to the kind of work the firm will perform on the contract;
3. The dollar amount of the participation of each DBE firm participating;

4. Written documentation of the Bidders commitment to use a DBE subcontractor whose participation it submits to meet a contract goal; and
5. Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment.

Only those DBE firms certified by DeIDOT's DBE Program Office as a DBE as of the deadline for bid submittal will be considered for DBE credit. It shall be the Bidders responsibility to ascertain the certification status of designated DBEs prior to submitting a bid which seeks to rely upon an entity as a DBE to satisfy DBE participation requirements. A list of certified DBEs with their respective NAICS codes can be located in the [DeIDOT DBE Directory](https://deldotcivilrights.dbesystem.com) which is located on DeIDOT's website at: <https://deldotcivilrights.dbesystem.com>.

If the apparent low bidder fails to submit the required information in the manner herein specified, or if the submitted information reveals a failure to meet the requirements of the specifications shown herein, the apparent low bidder shall be ineligible to receive award of the contract and their bid will be rejected.

Reduction of DBE commitments after affidavit submittal and prior to execution of the contract without written consent of DeIDOT, which consent will only be given for good cause, will result in the bid being rejected or DeIDOT rescinding any award. Scheduling conflicts are not necessarily evidence of good cause as this should have been considered during pre-bid negotiations. The contractor is responsible for ensuring the DBE is available to meet the requirements of the contract at all relevant times.

In an instance where a Bidder indicates that it is unable to meet the assigned DBE goal for a contract, the bidder shall **AT THE TIME OF BID SUBMISSION**, provide all documentation to verify that the Bidder has made Good Faith Efforts (GFE) toward meeting the assigned DBE Goal. Guidance for submitting Good Faith Efforts documentation is identified in the next section of this document and in the [DBE Program Plan](https://deldot.gov/Business/dbe/contentFolder/pdfs/dbeProgram.pdf?cache=1726767277676). <https://deldot.gov/Business/dbe/contentFolder/pdfs/dbeProgram.pdf?cache=1726767277676>

DBE Subcontract Provisions

DeIDOT continues to reserve the right to approve ALL DBE subcontractors and all substitutions of DBE subcontractors prior to award, and during the of completion of the contract. **ALL DBEs subcontracted (whether submitted for participation credit or not) must be submitted to DeIDOT's DBE Program Office for approval.** No contract work shall be performed by a DBE subcontractor until the executed DBE subcontract is approved in writing by DeIDOT and DeIDOT has issued the required Notice to Proceed. Any DBE subcontract relating to work to be performed pursuant to this contract, which is submitted to DeIDOT 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. Assurance that the contractor and subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract.
3. Description of the work to be performed by the DBE subcontractor.

4. 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.
5. An attached copy of the most current FHWA 1273- Required Contract Provisions Federal-Aid Construction Contracts.
6. Language indicating that retainage will not be withheld unless the prime contract with DelDOT allows for the withholding of retainage.
7. Language requiring the payment of all funds received from DelDOT for work satisfactorily performed within the time frame contemplated by 49 CFR §26.29.

DelDOT reserves the right to conduct periodic reviews of DBE and non-DBE subcontract documentation to ensure compliance with federal requirements.

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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 DelDOT projects and such other sanctions as the DelDOT may impose. It is critical that the bidder understands:

1. In the event that the Bidder is unable to meet the DBE goal as set forth in this specification, in accordance with 49 CFR §26.53 (b)(2)(vi), the Bidder **shall at the time of bid submittal** provide all evidence upon which Bidder intends to rely as evidence of Good Faith Efforts (GFE) to DelDOT which shall include the percentage of the DBE Goal that will be met, if any, on the completed DelDOT DBE Utilization Commitment form made a part of this contract. All Bidders shall review [Appendix A to Part 26 – Guidance Concerning Good Faith Efforts](#) as that provides guidance on what DelDOT will look for and evaluate as GFE by a Bidder to obtain DBE participation. <https://www.ecfr.gov/current/title-49/subtitle-A/part-26/appendix-Appendix%20A%20to%20Part%2026>
2. The contractor shall also at the time of bid submit all documentation that the contractor wishes to have DelDOT consider in determining that the contractor made a Good Faith Effort to meet the assigned contract DBE Goal. DelDOT will not accept Good Faith Efforts documentation other than on the scheduled date and time of the bid opening. However, DelDOT may ask for clarification of information submitted should the need arise.
3. A bid which does not contain either a completely executed DelDOT DBE Utilization Commitment and/or Good Faith Efforts documentation, where appropriate, shall be declared non-responsive and shall not be considered by DelDOT.
4. 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 fifteen (15) calendar days after the bid opening shall create a rebuttable presumption that the bid is not responsive.
5. Bidders are advised that failure to make a Good Faith Effort to meet the assigned and agreed upon DBE goals during the term of the contract may subject them to DelDOT sanctions as identified in the DelDOT DBE Program Plan.
6. 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 DelDOT on a form to be determined by DelDOT 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.

7. 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

8. A prime contractor can receive participation credit toward DBE goals only if the DBE performs a Commercially Useful Function (CUF). According to 49 CFR §26.55 (c)(1) a DBE performs a CUF when it is responsible for execution of the work of a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself that it uses on the project.

In order to determine whether a DBE is performing a commercially useful function, DelDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing, and the DBE credit claimed for its performance of the work, and other relevant factors.

In addition to this specification, bidders must comply with all provisions of the rules and regulations adopted by the United States Department of Transportation for DBE participation in USDOT and DelDOT Programs (49 CFR Part 26) and the DelDOT 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 responsive and responsible bidders in all other aspects aside from the DBE Program in order to be awarded the contract.

9. 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's Office of Civil Rights, which consent will only be provided if the Bidder demonstrates good cause for the termination. 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. The contractor shall make all reasonable efforts to avoid terminating or substituting a DBE listed on the DBE Project Participation Affidavit.

* * * * *

**GUIDANCE FOR GOOD FAITH
EFFORT**

If the apparent low bidder has stated in its bid proposal that it has been unable to meet the DBE goal, that Bidder must demonstrate, through detailed and comprehensive documentation, that good faith efforts have been made to solicit, assist, and use DBE firms to meet the DBE goal prior to the bid. If the Bidder certifies that it has been unable to meet the goal and has made a good faith effort, the Bidder cannot change its position after submission of the bid and claim to have met the established goal. (See 49 CFR §26.53 and Appendix A to Part 26 of 49 CFR- Guidance Concerning Good Faith Efforts).

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.

In order to be awarded a contract on the basis of good faith efforts, a Bidder must show that it took all necessary and reasonable steps to achieve the DBE goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful. Simply faxing and emailing DBEs requesting bids is not sufficient to constitute good faith efforts. DelDOT will consider the quality, quantity, and intensity of the different kinds of efforts the Bidder has made. Mere pro forma efforts are not sufficient good faith efforts to meet the DBE contract requirements.

The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the Bidder when a non-DBE subcontractor was selected over a DBE for work on the contract. A generalized assertion that the contractor received multiple quotes is not sufficient unless copies of those quotes are provided. Bidders are encouraged to review 49 CFR Part 26 Appendix A- Guidance Concerning Good Faith Efforts.

Failure to demonstrate good faith efforts to the satisfaction of the DelDOT will result in the rejection of the bid. In the event that the low bid is rejected, DelDOT will consider award of the contract to the next responsive and responsible bidder.

The following are the types of efforts that *may* be considered as Good Faith Efforts to meet DBE participation requirements. This list is not an exclusive or exhaustive, and DelDOT may consider other factors and types of efforts that may be relevant:

1. Contacting DelDOT's DBE Program Office prior to the submission of bids, either by email or by telephone, to inform them of the Bidder's difficulty in meeting the DBE goals on a given project and requesting assistance. The Bidder must document its contact with the DBE Program Office and indicate the type of contact, the date and time of the contact, the name of the person(s) contacted, and any details related to the communication. The contact must be made in sufficient time before bid submission to allow the DBE Program Office a meaningful opportunity to offer effective assistance. The Bidder will **not** be considered to have made good faith efforts if the Bidder failed to contact the DBE Program Office in advance of bid closing or if the Bidder fails to contact the DBE Program Office sufficiently in advance of bid submission for the DBE's that bidder intends to solicit to have a meaningful opportunity to respond to the solicitation.
2. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goal will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example smaller tasks or quantities) to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. Selection of portions of work are required to at least equal the goal for DBE utilization specified in this contract.

3. Soliciting interest as early in the process as practicable to allow DBEs a meaningful opportunity to respond to the solicitation and submit a timely offer for the subcontract. Bidders should provide written notification at least ten (10) calendar days prior to the opening of a bid, soliciting DBE interest in participating on the contract as a subcontractor, supplier, manufacturer, or distributor for specific items of work.
4. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist DBEs in responding to solicitation.
5. Negotiating in good faith with interested DBEs. It is the Bidders responsibility to make a portion of the work available to the DBE subcontractors, and to select those portions of work or material needs consistent with the available DBE subcontractors, suppliers, manufacturers, or distributors so as to facilitate DBE participation. Evidence of such negotiation includes:
 - 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.
6. Making efforts to assist DBEs that need assistance in obtaining bonding, insurance, or lines of credit required by the contractor.
7. Detailing the reasons why certified DBEs are not available or not interested.
8. Effectively using the services of available minority/women community organizations; minority/women contractor's groups; local, state and federal business 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.

DelDOT may contact rejected DBEs as part of its investigation. However, nothing listed here shall be construed to require the Bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

In determining whether a Bidder has made good faith efforts, DelDOT will review the documented efforts of the contractor and will review the performance, taking into account the ability of other Bidders in meeting the contract DBE goal.

DelDOT will evaluate the submittal to determine whether in fact good faith efforts have been demonstrated consistent with the specifications and the Federal regulations, 49 CFR 26, Appendix A.

Administrative Reconsideration Procedures (49 CFR §26.53(d)):

Within five (5) calendar days of being informed by DelDOT that it has not documented sufficient good faith efforts, a Bidder may request an administrative reconsideration. The Bidder should make this request in writing to the attention of DelDOT's Director of Finance, 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 made adequate good faith efforts toward meeting the assigned DBE goal. The Bidder will have the opportunity to meet in person with the Reconsideration Official, to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. The final decision made by the Reconsideration Official will be communicated to the Bidder in writing. In accordance with 49 CFR §26.53(d)(5) 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/WHD/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 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).

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.

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 definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 - 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. 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 14, 2025

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	66.79	66.79	71.09
CARPENTERS	67.79	62.56	50.80
CEMENT FINISHERS	72.72	44.60	45.46
ELECTRICAL LINE WORKERS	36.72	59.33	29.04
ELECTRICIANS	83.92	83.92	83.92
IRON WORKERS	89.37	32.59	34.62
LABORERS	56.58	52.08	51.11
MILLWRIGHTS	22.01	21.36	18.46
PAINTERS	83.14	83.14	83.14
PILEDRIVERS	98.33	32.46	91.23
POWER EQUIPMENT OPERATORS	84.74	54.11	49.57
SHEET METAL WORKERS	31.09	27.76	25.12
TRUCK DRIVERS	53.26	38.59	46.99

CERTIFIED: 4-16-25

BY: IDzuowp0R / for Francis 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: T201807402 Federal Aid Project No EBHN NO31 09 BR 1 655 on SR7 Limestone Road Over CSX Railroad New Castle Coun, New Castle County



General Decision Number: DE20250005 05/02/2025

Superseded General Decision Number: DE20240005

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 \$17.75 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 2025. 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 \$13.30 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 2025. 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	01/03/2025
1	05/02/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Backhoe/Excavator/Trackhoe..\$	45.81	30.38
Bobcat/Skid Steer/Skid		
Loader.....\$	43.76	29.77
Crane.....\$	45.81	30.38
Drill.....\$	43.76	29.77
Paver (Asphalt, Aggregate		
and Concrete).....\$	45.81	30.38
Pounder.....\$	43.76	29.77
Roller.....\$	43.40	29.66

LABO0199-001 05/01/2022		
	Rates	Fringes

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

 SUDE2022-002 09/08/2022

	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.

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 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 under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio.

The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the

state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination.

The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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

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END OF GENERAL DECISION

SPECIAL PROVISIONS

S.P. Code	SPECIAL PROVISION DESCRIPTION
202560-20	CONTAMINATED MATERIAL
401501-20	BITUMINOUS ASPHALT TACK COAT
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
604501-20	RAILROAD PROTECTIVE SHIELD
610506-20	REPAIRING EXISTING PCC STRUCTURES
628502-20	REMOVAL OF EXISTING DECK REPAIRS
628504-20	REHABILITATION OF EXISTING CONCRETE STRUCTURE, FRP WRAP
705512-20	PERVIOUS PCC SIDEWALK
711500-20	ADJUST AND REPAIR EXISTING SANITARY MANHOLE
760500-20	TOTAL SURFACE HYDRODEMOLITION
763501-20	CONSTRUCTION ENGINEERING
763518-20	CONNECTED MACHINERY
763520-20	ELECTRONIC TICKETING
763521-20	NATURE STAIRS
763525-20	ROAD USER COST
763623-20	NETTING, MIGRATORY BIRD EXCLUSION
763626-20	DIESEL FUEL COST PRICE ADJUSTMENT
801501-20	MAINTENANCE OF RAILROAD TRAFFIC
803501-20	PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN
803503-20	TEMPORARY SMART WORK ZONE SYSTEM
807510-20	TEMPORARY SAFETY BARRIER, TL-3, 24" WORKING WIDTH OR LESS
807524-20	RELOCATE TEMPORARY SAFETY BARRIER
831514-20	PROVIDE AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
831515-20	PROVIDE AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)
831516-20	PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)
831518-20	PROVIDE AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
831521-20	PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
831523-20	PROVIDE AND INSTALL 2" GALVANIZED STEEL CONDUIT (TRENCH)
831524-20	PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
831545-20	PROVIDE AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)
831564-20	PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
834501-20	PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS

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

Contract No. T201807402

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 vapor monitoring techniques and collect soil samples for laboratory requirements of the treatment/disposal facility, DNREC and/or the USEPA; utilizing analysis to meet the
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

401501 - BITUMINOUS ASPHALT TACK COAT

Description:

This work consists of preparing the surface, providing, and applying un-cut PG 64-22 graded asphalt tack coat.

Materials:

- A. Tack Coat (for Thin Lift) Section 1011 (PG 64-22)
 - B. Asphalt Cement Section 1012
- (A certificate of analysis shall be submitted for each lot of material for approval.)

Construction Methods:

A. Construction

1. Surface Preparation

- a. Thoroughly clean the surface upon which the tack coat is to be placed.
- b. Remove all vegetation and debris prior to placing material.
- c. All preparation work must be approved by the engineer and shall be performed just prior to the application of the tack coat.

2. Application Rate & Conditions

- a. Apply tack on all dry and broom-cleaned surfaces at a uniform surface application rate of 0.08 GAL/SY to 0.17 GAL/SY. The actual rate will be determined during the application of the bituminous test strip and shall be appropriate for the surface being overlaid as determined by the Engineer.
- b. Apply at a temperature of 310°F to 340°F
- c. The tack coat should be a thin, uniform coating sufficient to bond the overlay to the underlying pavement.
- d. Apply in advance of the asphalt paving operation, but no further than 500 feet in front of the paver.
- e. Do not permit activity on the tacked surface unless necessary for construction.
- f. All contact surfaces of curbing, gutters, manholes, and other facilities shall be coated with a uniform coat of tack just prior to the asphalt paving operations.
- g. During the application of the tack coat, care shall be taken to prevent spattering of tack on adjacent pavement, curb, gutter, and other structures.
- h. Prior to paving, verify that the tack coat has adequate adhesive properties. The Engineer may suspend paving operations until adequate adhesion is achieved.

B. Equipment

1. Apply tack using pressurized distributing equipment with a spray bar or other approved system that results in uniform coverage across the pavement surface.
2. The distributors shall be capable of uniformly applying the bituminous material in liquid form. Devices to control the pressure, volume, and temperature shall be provided. Each distributor shall have an approved calibration chart, be equipped with an approved sampling device, and conform to the following:
 - a. *Pressure.* The pressure shall be supplied by a positive displacement pump or air compressor. The pressure shall be uniform throughout the entire width of spray. If pressure is supplied by an air compressor, automatic controls must be provided to maintain sufficient and even pressure throughout the application of an entire load.
 - b. *Temperature.* The distributor shall be equipped with a heating system that applies heat uniformly across the width of the tank. Provisions shall be made for circulating or agitating the material whenever necessary while heating. The distributor shall be equipped with a thermometer marked in degrees Fahrenheit of sufficient range to determine the actual temperature of the material.
 - c. *Tachometer.* All distributors shall be provided with an approved tachometer recording feet per minute with a tabulation of feet per load with adjustments. Each load tabulation shall start at zero. There shall also be a totaling tabulation of this instrument.
 - d. *Volume.* A tachometer shall give correct readings of the speed, and the volumetric efficiency of the distributor shall ensure the correct volume at various speeds. Tests shall be required to prove the volumetric efficiency of the distributor at various speeds as directed by the Engineer.
 - e. *Circulating System.* All pump distributors shall be equipped with a circulating system designed to maintain a homogenous liquid while circulating in the distributor tank. This circulating system shall also be arranged to circulate the material in the tank truck before application.
 - f. Air distributors shall be equipped with a device for agitating the bituminous material in the tank trucks when necessary.
 - g. *Tests.* Necessary tests shall be made to determine the accuracy of all pressure gauges, tachometers, and pump efficiencies. The tests shall be made by the contractor when and as required by the Engineer.
 - h. *Spray Bars.* Each distributor shall be equipped with spray bars capable of applying material uniformly throughout the entire length of the spray bars when they are extended. Spray bar extensions shall be provided for applying up to a 12' width in one operation. Spray bars shall be equipped with a cleaning device and a shut-off valve to prevent dribbling, dripping, or streaking.
 - i. *Tank Capacity Gauge.* A float or other approved type tank capacity gauge shall be furnished to indicate the volume in the tank in not less than 25 gal units. The gauge shall have adjustments for correction.
 - j. Tanks shall have a minimum capacity of 750 gallons.
3. The rate of application of the distributor shall be calibrated by an approved method determined by the Engineer.

4. If the Engineer deems that the equipment applying the material is inadequate or fails to comply with all regulations, the Engineer will order the equipment to be removed from the job and require that another unit be placed on the work.

C. Heating and Application of Bituminous Material

1. Bituminous materials used for each treatment shall be heated in a manner that ensures even heating of the entire mass and maintained within the specified temperature and pressure range during application. Any material which has been damaged shall be rejected, and any section treated with damaged material shall be removed and replaced.
2. The bituminous material shall be applied in one application at the rates specified using the pressure distributor for the full width of the paving operation, unless otherwise directed.
3. The nozzles of the spray bar shall be kept clean at all times. If one or more nozzles becomes blocked during the application of bituminous materials, the distributor shall be stopped immediately, and the nozzles shall be cleaned. The streaked areas shall be made uniform using a hand hose or other approved methods.
4. If the contractor is unable to keep the application uniform and within the specified limits, the operation shall be discontinued until an operator and distributor truck can be provided that is capable of providing a uniform application within the specified limits.
5. When applying bituminous materials adjacent to structures or curbs, the Contractor shall furnish and use effective means of protecting the structures or curbs from discoloration.

Method of Measurement:

- A. The quantity of Bituminous Asphalt Tack Coat will be measured as the actual number of gallons of tack coat applied and accepted. The quantity will be determined by any or all of the following methods and should be verified for accuracy by computations based on field measurements taken on and along the completed finished surfaces. Multiple layers will not be measured separately.
 1. **Truck Measurement:** If bituminous materials are delivered to the Project in tank trucks, distributor tanks, or drums, the Contractor shall not remove any bituminous material from the transporting vehicle or container until necessary measurements have been made, nor shall the transporting vehicle or container be released until final outage has been measured. If weighing is not convenient, the contractor shall furnish the engineer with a certified chart showing the dimensions and volume of each container together with a gauge or calibrated measuring rod which will permit the volume of the material to be determined by vertical measurement.

Contract No. T201807402

2. **Metering:** The volume may be determined by metering, in which case the metering device used and the method of using it shall be subject to the approval of the Engineer.

3. **Time of Deliveries:** The arrival and departure of vehicles delivering bituminous materials to the project site shall be scheduled so that the Engineer is afforded proper time for the measurements of delivered volume and final outage. The Engineer will make the necessary measurements only during the contractor's normal daily working hours.

Basis of Payment:

A. The quantity of Bituminous Asphalt Tack Coat will be paid for at the Contract unit price per gallon (GAL) of uncut PG 64-22 graded asphalt tack. Price and payment will constitute full compensation for:

1. Preparing the surface
2. mobilization
3. providing all equipment, materials, and labor
4. test strip
5. placing the material
6. all labor, equipment, tools and incidentals necessary to complete the work.

NOTE:

The Asphalt Cement Cost Adjustment for this item will use the conversion factor of 8.42 lb/gal. to convert to a weight for payment under item 401502 - Asphalt Cement Cost Adjustment.

8/3/2022

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.

Contract No. T201807402

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.

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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

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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.

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

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Where: L = Length Segment (ft.)

W = Lane Width (ft.)

T = Plan Thickness (in.)

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

Where: UP = Contract Unit Price (Dollars)

PA = Pay Adjustment (Table A)

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

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

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 and < 145	100+ 0.2(65- IRI)
≥ 145	84%
Class 2	
IRI per 0.1 mile Segment (in./mi.)	Pay Adjustment
≤ 60	106%
> 60 and < 170	100+ 0.2(90- IRI)
≥ 170	84%

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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

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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 Gyrotory Compactor

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- 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**

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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:

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- 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:

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

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

$$QL = ((\text{mean value}) - (JMF \text{ target}) + (\text{single test tolerance})) / (\text{standard deviation}).$$
4. 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).
5. Calculate the PWL for each parameter from the values located in the previous step:

$$PWL = PU + PL - 100.$$
6. Calculate each parameter’s contribution to the payment adjustment by multiplying its PWL by the weight factor shown in Table 2 for that parameter.
7. Add the calculated adjustments of all the parameters together to determine the Composite PWL for the lot.
8. 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

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Test Tolerance parameters defined in Table 2, the Material Pay Adjustment factor shall be determined by Column C.

9. 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 Contractors 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

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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

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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

QU and QL for An@ Samples							
PU or PL	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

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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.

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5. Determine the pavement construction price adjustment by using the following formula:

$$\text{Construction Pay adjustment} = (\text{Lot Quantity}) \times (\text{Bid Price}) \times (\text{Pay Adjustment Factor}) \times 30\%.$$

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 Other¹ 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 the 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 Contractors request where the results substantiate the acceptance test result will be assessed a fee of \$125. Any additional Dispute Resolution samples that substantiate the Contractors 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:

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- 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.

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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

604501 – RAILROAD PROTECTIVE SHIELD

Description:

This work consists of maintaining and removing a railroad protective shield over active CSX railroad tracks to the limits shown in the contract and must adhere to the approved Site-Specific Work Plan.

Materials:

As approved by the engineer, CSX, and meeting the requirements outlined in the site specific work plan.

Construction:

Adhere to all requirements of the Site-Specific Work Plan, including all modifications as required by CSX or the engineer.

Method of Measurement:

The Department will not measure the quantity of railroad protective shield.

Basis of Payment:

A. The Department will pay for the railroad protective shield at the contract lump sum price. Price and payment will constitute full compensation for:

1. Developing and submitting all submittals, including revisions;
2. providing, placing, maintaining, and removing the railroad protective shield; and
3. all incidentals required to complete the Work.

a. all submittals and subsequent revisions as required by the Department and CSX's review and all labor, materials, and incidentals required to complete the work as specified in the contract including removal and disposal of materials.

12/17/24

610506 - REPAIRING EXISTING PCC STRUCTURES

Description:

This work consists of applying a smoothing surface to the existing concrete structure with an approved epoxy grout prior to sealing and painting.

Materials:

Epoxy Grout

Section 1047.4

Construction:

- A. Follow the manufacturer's recommendations for surface preparation, mixing, and application.
- B. Application of Epoxy Grout.
 - 1. Apply to depth specified on the plans.
 - 2. After the top application of epoxy grout, hand trowel the material to obtain a smooth final surface.

Method of Measurement:

The Department will measure the quantity of repairing existing PCC structures as the number of pounds of epoxy grout placed and accepted. The Department will calculate pounds of grout by multiplying the number of bags of pre-blended grout by the weight of the package as prescribed by the manufacturer on the packaging.

Basis of Payment:

A. The Department will pay for repairing existing PCC structures at the contract unit price per pound. Price and payment will constitute full compensation for:

- 1. Submittals;
- 2. providing, mixing, and placing all materials;
- 3. epoxy grout admixtures;
- 4. removal and disposal of existing concrete;
- 5. surface preparation;
- 6. application; and
- 7. all incidentals required to complete the Work.

B. The Department will pay for:

- 1. Sealing and painting in accordance with section 613.

01/10/2025

628502 – REMOVAL OF EXISTING DECK REPAIRS

Description:

This work consists of selective removal of unsound concrete that is part of existing deck repairs of variable depths.

Materials:

Not applicable.

Construction Methods:

- A. Following milling of the deck, and prior to hydro demolition, inspect and sound existing deck repairs in the presence of the engineer. Existing deck repairs are defined as any repairs made to the original deck made prior to notice to proceed. Measure and mark for removal existing deck repairs that are unsound, subject to the engineer's approval. Remove the marked areas in accordance with Section 628.3.
- B. Removal does not include areas of unsound original bridge deck concrete.
- C. Repair and replace existing reinforcement in accordance with Section 628.3.
- D. Following removal of existing deck repairs remove all debris from the deck prior to hydro demolition.

Method of Measurement:

The Department will measure the quantity of removal of existing deck repairs as the number of square feet of concrete removed at various depths.

Basis of Payment:

- A. The Department will pay for removal of existing deck repairs at the contract unit price per square foot accepted. Price and payment will constitute full compensation for:
 - 1. Providing and erecting temporary protective structure;
 - 2. existing reinforcement bar repair or replacement; and
 - 3. unsound concrete removal and disposal.

08/10/2022

628504 - REHABILITATION OF EXISTING CONCRETE STRUCTURE, FRP WRAP

Description:

This work consists of designing, providing, and installing an externally bonded fiber reinforced polymer (FRP) composite system using the wet-layup installation method to strengthen concrete structures.

Materials:

A. Provide a unidirectional, high-strength fiber fabric, compatible epoxy resin, and anchors per manufacturer's recommendations.

1. Meet or exceed the minimum requirements in the AASHTO guide specification "Design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements, 2nd Edition." All design values including Modulus of Elasticity, Tensile Strength and Tensile Strain must be determined from independent laboratory testing in accordance with ASTM D3039 and evaluated as per ASTM D7290.

2. The epoxy resin must create a bond strength between the concrete substrate and FRP composite system that meets or exceeds the minimum requirements set forth in the AASHTO guide specification "Design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements, 2nd Edition.", as determined using direct pull-off tests performed in accordance with ASTM D7522 test procedure requirements.

B. Provide a waterproof protective top coating compatible with the FRP manufacturer's recommendations to protect the FRP from ultraviolet radiation and heavy abrasion. This protective top coating must closely match the color and texture appearance of the adjacent concrete, to the satisfaction of the engineer.

Construction:

A. Pre-Installation

1. Submit contractor and manufacturer qualifications.

a. Contractor qualifications shall include a manufacturer's certification of technical training, FRP composite system selected, project supervisor, and documentation showing the contractor has been certified or approved by the manufacturer of the FRP composite system. Additionally, the contractor shall document a minimum of 2 years of experience or 5 similar field applications with acceptable reference letters from respective Owners.

b. Qualifications of the manufacturer shall include documentation demonstrating that the manufacturer of the proposed FRP composite system has a program of training and certifying potential installers or contractors, and can provide technical support personnel.

c. Provide current ICC-ES Report for proposed product.

2. Arrange for a technical representative from the composite system manufacturer to be present during the surface preparation and application of the FRP composite system, as directed by the engineer. The technical representative will be required to remain onsite at all times to instruct and monitor all activities related to the FRP application procedures.

3. Provide the manufacturer's product data, including physical and chemical characteristics, material specifications for each component, limitations on use of the system, construction or application specifications,

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maintenance instructions and general manufacturer's recommendations regarding each system. Include product data on the proposed primer, putty, resin, saturant, carbon or glass fiber, and anchors.

4. Provide certifications by the producers of the materials that all materials supplied are in accordance with all the requirements of this specification. Provide testing information on the combination of the proposed carbon or glass fiber reinforcement and epoxy when used together as a system.

5. Supply a copy of the manufacturer's Material Safety Data Sheets (MSDS) for all materials to be used on site and certification that the materials conform to local, state, and federal environmental and worker safety laws and regulations.

6. Contractor shall prepare and submit working drawings that detail the number, thickness, geometry, placement and orientation of the fiber reinforcement layers, locations of splices, corresponding lap lengths to meet the coverage shown on the drawings, and anchor placement and method. Include a work plan documenting necessary preparations of the existing structure, the time schedule for various steps in the work, and identify the environmental conditions that may affect the application and curing of the FRP composite system. Provide complete design calculations for the FRP composite system stamped by a Professional Engineer, registered in the State of Delaware. Design the FRP composite system in accordance with the AASHTO guide specification "Design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements, 2nd Edition" to achieve the structural performance shown in the plans for required factored tensile forces.

a. Submit all working drawings in accordance with Section 105.4

7. Submit inspection plan to comply with section E of this specification. Inspection plan shall include forms to be filled out during construction. Plan must include the following:

a. Material Storage and Handling Inspection Form

b. Daily Shift Summary Inspection Form

c. Surface Profile Acceptance Record Form

d. Adhesion Testing Results Record Form

e. Tensile Testing Sample Record Form

f. Cure Verification Inspection Form

g. Defect Identification Record Form

h. Defect Repair Record Form

B. Delivery, Storage and Handling

1. Deliver all components of the FRP composite system in the original factory-sealed packaging or containers with the manufacturer's labels intact and legible (including brand, system identification number and batch number) with verification of date of manufacture and shelf life.

2. Store materials in a protected area in the temperature range required by the manufacturer. Store catalysts and initiators separately. Protect all components from dust, moisture, chemicals, direct sunlight, physical damage, fire, and temperature outside the range specified in the system data sheets.

a. If manufacturer requires additional measures for storage of materials, those must be followed accordingly.

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3. Handle all components of the FRP composite system, especially fiber sheets, according to the manufacturer's recommendations. Protect them from damage and avoid misalignment or breakage of the fibers by pulling, separating or wrinkling, or by folding the sheets. After cutting, stack sheets dry or with separators, or rolled gently at a radius no tighter than 12-inches, or as recommended by the manufacturer.

4. Dispose of any component of the FRP composite system that has exceeded its shelf or pot life, that has not been properly stored, and any unused or excess material that is deemed waste.

C. Concrete Repairs and Surface Preparation

1. Repair or replace all defective steel reinforcement as directed by the engineer in accordance with 628.3.4.D.5.

2. Remove spalled and loose concrete and restore concrete surfaces to their original dimensions using concrete repair and rehabilitation in accordance with Section 628.3.4. The concrete repair material shall have a compressive strength equal to or greater than the original concrete, but not less than 4,500 psi and 5,500 psi at 7 and 28 days, respectively. The new concrete in the repair areas shall cure for a minimum of 7-days or until strength is verified by tests before the FRP is applied.

3. Epoxy inject all cracks in the concrete surface wider than 0.01-inch in accordance with Section 628.3.2.A.

4. Fill and smooth over any voids or depressions with diameters greater than ½ inch or depths greater than 1/8-inch with epoxy-resin mortar. Grind uneven surfaces, protrusions, and sharp edges on the concrete such that localized out-of-plane variations are eliminated. All vertical deviations must not exceed 1/32-inch, or the tolerances recommended by the FRP manufacturer, whichever is smaller. Round or chamfer all inside and outside corners or sharp edges by grinding or forming the system's epoxy mortar to a minimum radius of 1-inch, or as recommended by the manufacturer.

D. Remove any dust, laitance, grease, paint, curing compounds, wax, impregnations, foreign particles, weathered layers, and other bond inhibiting materials from the surface using abrasive or water blasting techniques. Prepare the concrete surface to a minimum concrete surface profile (CSP) 3 as defined by the ICRI-surface profile chips (ICRI 310.2R-13). Vacuum clean all concrete surfaces to a dust-free condition. If water pressure is used to clean surfaces, allow surface to dry thoroughly before installing the FRP composite system. Protect the cleaned surface against redeposit of any bond-inhibiting materials. Installation of FRP System

1. Do not begin applying FRP composite system until all surface preparation work is complete and has been approved by the engineer and technical representative.

2. Evaluate moisture content or outgassing of the concrete in accordance with ASTM D4263. Do not apply FRP systems to concrete surfaces where moisture is outgassing. Moisture restrictions are waived for resins that have been formulated for wet applications.

3. Apply the FRP composite system when the concrete surface and ambient temperature are between 50 degrees F and 90 degrees F, and are forecast to remain in that window until the system has cured. If the manufacturer's recommended temperature range is more stringent, the manufacturer's requirements shall govern.

4. Mix all resin components, including main agent and hardener, at the proper temperature, using the appropriate weight ratio and for a duration specified by the manufacturer, until uniform color and consistency is achieved. Do not dilute resins with any organic solvents such as thinner. Mix components using methods permitted by the manufacturer and perform as instructed by the manufacturer. Mix resin in quantities to ensure it can be used

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within the manufacturer prescribed pot life. Dispose of mixed resin that begins to generate heat or show signs of increased viscosity as determined by the manufacturer representative or the engineer.

5. Apply primer on the concrete surface with a brush or roller and in accordance with manufacturer's recommendations. Apply a second coat as necessary after first coat has penetrated into concrete. Follow manufacturer's recommendations pertaining to time between priming and application of FRP. Grind surface irregularities caused by the primer application in accordance with manufacturer's recommendations. Fill surface depressions in accordance with manufacturer's recommendations.
6. Saturate fiber sheets using a method approved by the manufacturer. Use saturant resin with sufficiently low viscosity to ensure full impregnation of the fiber sheets prior to curing. Viscosity may be adjusted by means of gradual heating. Once the fabric is saturated, it will then either be spooled for easy handling, or cut to specified lengths and booked for handling. Care must be taken not to damage the fibers.
7. Apply a first coat of resin as an undercoat on all concrete surfaces where the FRP system is to be installed. Use saturant resin with sufficiently low viscosity to ensure full impregnation of fiber sheets prior to curing. Place and orient the fiber sheets on to the concrete substrate as specified in the approved shop drawings and gently press onto the wet saturant resin. Remove any entrapped air in the fiber sheets using a method approved by the manufacturer. Apply sufficient saturant resin on the top of the fiber sheet, as an overcoat, to ensure full saturation of the fibers. Apply undercoat, fiber sheets, and overcoat with no interruptions. Install the fiber sheets free of kinks, folds, and waviness.
8. In multi-ply installations, repeat the sequence above for each additional fiber sheet. The fiber orientation and ply stacking sequence shall be in accordance with the approved shop drawings.
9. Construct a lap splice when an interruption occurs in the fiber sheets. The minimum lap splices shall be 6 inches in the direction of the fibers and 2 inches parallel to the direction of the fibers. The lap splices and lap splice stagger shall be in accordance with the approved shop drawings. Align the FRP materials in accordance with the approved shop drawings. Deviations in the fiber alignment more than 5 degrees (approximately ½ inch per foot) is not acceptable
10. Anchor the FRP materials to the concrete as recommended by the manufacturer and in compliance with the shop drawings. Avoid damage to the FRP system and to the concrete when using mechanical clamps and fasteners. Take precautions when steel fasteners are used for carbon fiber systems to avoid galvanic corrosion.
11. Protect finished installation of FRP composite system from rain, dust, etc. using protective sheeting or other barriers. Do not allow protective sheeting to come in contact with finished application. Cure the finished application for a minimum of 24-hours, or as recommended by the manufacturer.
12. Apply protective coating in accordance with the manufacturer's recommendations. The final top coating shall match the color and texture appearance of the adjacent concrete.
13. Clean tools of uncured saturants with an approved solvent and dispose of properly. Clean tools of cured saturant through mechanical means, and dispose of saturant properly.

E. Inspection and Quality Assurance

1. Laboratory Testing

a. Sampling

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i. During Construction, submit Daily Construction Logs documenting the following information: weather and temperature at time of application, lot number of fabric and epoxy resin used, location of installation, square footage of fabric and volume of epoxy used each day. Label each sample from each day's production.

ii. A "sample batch" shall consist of two 12-inch by 12-inch samples of cured composite [note: one 12-inch by 12-inch sample creates 5 coupons for ASTM D7565 and/or ASTM D3039 Tension Tests, see Construction Section E.1.c and E.1.d of this specification]. A minimum of one "sample batch" shall be made on-site daily. Each sample of the "sample batch" will be taken at appropriate times during the day as to ensure the maximum material deviance in the components of the FRP composite.

b. Preparation of Samples

i. Prepare sample on a smooth, flat, level surface covered with polyethylene sheeting, or 16-mil plastic film, prime with epoxy resin. Then place one layer of saturated fabric and apply additional topping of epoxy. Cover with plastic film and squeegee out all bubbles.

ii. Store samples in a sample box and do not move the box for a minimum 48-hours after casting. The prepared, identified samples shall be given to a pre-approved and experienced testing laboratory. The laboratory shall then precondition samples for 48-hours at 140 degrees F before testing.

c. ASTM D7565 and/or ASTM D3039 – Material Tension Tests

i. A minimum of 15 percent of all 12-inch x 12-inch sample panels shall be tested. Testing specimens shall be cut from samples and tested for ultimate tensile strength, tensile modulus and percentage elongation as per ASTM D7565 and/or ASTM D3039 in the longitudinal/primary fiber direction.

ii. The reported properties for the ultimate tensile stress and the tensile modulus shall be based on the gross laminate thickness as indicated on the product data sheet and the approved evaluation service report.

d. Acceptance Criteria

i. Tensile properties must meet or exceed FRP composite system properties as defined in project specifications. If one coupon does not achieve the design properties, additional coupons from the same sample shall be tested. If these coupons fail (on average), coupons from the other 12-inch x 12-inch sample, from the same batch for that day, shall be tested. If all tested samples of the sample batch do not meet the conditions of acceptance, it is recommended that 25 percent of all samples be tested.

ii. FRP design values must be lower than the calculated mean determined from the test results received from the ASTM D7565 and/or ASTM D3039 field test specimens. Acceptable minimum values for ultimate tensile strength, tensile modulus, and elongation shall not be below the submitted design values unless calculations are performed using the tested values that exhibit an acceptable capacity as per the original design demands and concept.

2. Site Testing (to be performed after the initial resin has cured for at least 24-hours)

a. Visual Inspection

i. Visually inspect the FRP composite system for any defects, particularly any swelling, bubbles, voids or delamination. Perform an acoustic tap test inspection to any regions of the layered surface suspected to contain air pockets. Defects smaller than 1/4-inch in diameter do not require corrective action, unless they occur next to edges or when there are more than five such defects in an area of ten square feet. Defects larger than 1/4-inch in diameter should be repaired in accordance with this specification.

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b. ASTM D7522 and/or ASTM D4541 – Direct Tension Adhesion Tests

i. Direct tension adhesion testing shall be conducted using the method described by ASTM D7522 and/or ASTM D4541. A minimum of three such tests shall be performed per structure face or one such test for each 1,000 square feet of surface area to be covered by the FRP application, whichever is greater. Pull-off tests shall be performed on a representative adjacent area to the area being strengthened whenever possible. Tests shall be performed on each type of substrate or for each surface preparation technique used.

ii. The epoxy bonded to the prepared surface shall be allowed to cure as per manufacturer's requirements before execution of the direct tension pull-off test. The locations of the pull-off tests shall be representative and on flat surfaces. If no adjacent areas exist, the tests shall be conducted on areas of the installed FRP system subjected to relatively low stress during service.

iii. The minimum acceptable value for any pull-off test is 175 psi. The average of the tests shall not be less than 200 psi. Additional tests may be performed to qualify the work at each identified area. Each pull-off test is to exhibit a failure mode in the substrate and not the epoxy-to-substrate bond plane.

3. If material testing determines a sample batch to possess insufficient material properties, remediate as directed.

F. Repair of Defective Work

1. Repair the defective work after the minimum cure time for the FRP composite system. Repair all defects in a manner that will restore the system to the designed level of quality in accordance with the Manufacturer's recommendations. Obtain approval for procedures and conditions that are not specifically addressed in this specification. Make all repairs and touch ups to the satisfaction of the engineer and technical representative.

2. Acceptable repair procedures are as follows:

a. Voids and bubbles less than 3-inches in diameter.

i. Inject or back fill with epoxy.

b. Voids and delamination 6-inches in diameter or an area of 5-inches by 5-inches.

i. Document and submit locations and recommended remediation measures to the engineer of record for approval.

c. If the FRP system does not meet the Acceptance Criteria as per laboratory testing and calculations (refer to Construction Section E.1.d of this specification).

i. For structural members, additional layers shall be installed until the FRP meets design requirements, or any other remediation directed by the Engineer of Record.

d. Defects in the protective coating consist of small hairline cracks, blistering and/or peeling.

i. For cracks in the protective coating, lightly sand the local surface and apply a new coating with the appropriate primer over an area extending 1-inch on either side of the defect.

ii. For blisters in the protective coating, carefully scrape clean the entire area of blisters extending 12-inches beyond the extent of the defect, completely remove the existing coating, wipe the area clean, and allow the area to thoroughly dry before applying a primer coat and the protective coating over the area.

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iii. For peeling of the protective coating, scrape off the entire coating, lightly sand, clean and thoroughly dry before applying a new protective coating.

Method of Measurement:

A. The Department will not measure the quantity of rehabilitation of existing concrete structure, fiber reinforced polymer wrap.

Basis of Payment:

A. The Department will pay for rehabilitation of existing concrete structure, fiber reinforced polymer wrap at the contract lump sum price. Price and payment will constitute full compensation for:

1. Design of the FRP composite system;
2. providing a manufacturer's representative;
3. providing and installing all materials;
4. surface preparation of the substructure members including repairing cracks greater than 0.01-inch;
5. application of the final coating system;
6. providing all contractor submittals;
7. providing and removing scaffolding as required;
8. providing protection against damage during system installation;
9. inspection and testing of the final product; and
10. all incidentals required to complete the work.

B. The Department will pay for:

1. Deep spall repair, shallow spall repair, rehabilitation of PCC masonry, and repair of concrete structures by epoxy injection with other items in Section 628, as applicable.

C. The Department will make no payment for additional material required to complete remediation activities.

2/4/25

705512 – PERVIOUS PCC SIDEWALK

Description:

This work consists of constructing a pervious PCC sidewalk.

Materials:

- A. Materials in accordance with Section 705.2.
 - 1. Provide an aggregate gradation that will provide a final void content of $17 \pm 2\%$.
- B. Stone, Delaware No. 57 (reservoir layer) Section 1004
- C. PVC pipe (overdrain) Section 1031.2
- D. Geotextile Section 1060

Construction:

- A. Special Considerations
 - 1. Fully protect all permeable PCC sidewalk areas from sediment intrusion by silt fence or construction fence. Do not allow any construction traffic tracking over the sidewalk.
 - 2. Take steps to prevent compaction of the underlying soil and sedimentation of the sidewalk.
 - 3. Do not begin construction on the pervious PCC sidewalk until the entire contributing drainage area has been stabilized to the satisfaction of the engineer.
- B. Construct PCC sidewalk in accordance with Section 705.3.
- C. Keep the proposed pervious PCC sidewalk free from sediment during the entire construction process.
- D. Verify the infiltration rate and separation from groundwater of the sidewalk prior to completion of construction in accordance with the applicable DNREC Soil Investigation Procedures. Prepare the applicable Post Construction Verification Documentation and submit upon project completion.

Method of Measurement:

The Department will measure the quantity of pervious PCC sidewalk in accordance with Section 705.4.

Basis of Payment:

- A. The Department will pay for pervious PCC sidewalk at the contract unit price per square foot. Price and payment constitute full compensation for:
 - 1. Preparing and providing all submissions;
 - 2. excavation within the template of the item including the foundation;
 - 3. removal and disposal of existing materials;
 - 4. foundation preparation;
 - 5. providing and placing all materials;

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6. compaction;
7. forms and forming;
8. supplying, placing, finishing, and curing PCC;
9. joints;
10. expansion joint material;
11. sealing;
12. backfill and backfilling;
13. removing surplus materials;
14. removing and replacing cracked or damaged sidewalk;
15. verifying infiltration rate and preparing documentation.

B. The Department will pay for:

1. Excavation and embankment outside the template of the item in accordance with other excavation items on the contract as directed by the engineer;
2. rock excavation in accordance with Section 202;
3. undercut excavation in accordance with Section 202;
4. PCC removal in accordance with Section 211;
5. saw cutting in accordance with Section 762;
6. GABC in accordance with Section 301;
7. Bituminous pavement patching in accordance with section 401;
8. Silt fence in accordance with section 905.

C. The Department will not pay for any additional protections required to keep the pervious PCC sidewalk free from sediment and debris during construction.

01/10/2024

711500 - ADJUST AND REPAIR EXISTING SANITARY MANHOLE

Description.

This work consists of adjusting and repairing existing sanitary manholes.

Materials.

- | | |
|---------------------------------------|--------------------------------|
| A. Manhole frames, lids, and castings | Section 711 and Section 1039.7 |
| B. PCC, Class B | Section 1022 |
| C. Bar Reinforcement | Section 1037 |

Construction.

- A. Vertically adjust the sanitary manhole to be flush with the pavement or surrounding surface in accordance with the contract or as directed by the engineer.
- B. Repair any damage to the existing sanitary manhole to the satisfaction of the engineer and utility owner in accordance with Section 711.3
- C. If there is a conflict between the Department's specifications and the specifications of the utility owner, the utility owners specifications take precedence.

Method of Measurement.

The Department will measure the adjustment and repair of existing sanitary manholes as the number of each accepted.

Basis of Payment

The Department will pay for adjust and repair existing sanitary manholes at the contract unit price per each and in accordance with Section 711.5.

8/15/2024

760500 – TOTAL SURFACE HYDRO DEMOLITION

760501 – DEEP CUT HYDRO DEMOLITION

DESCRIPTION:

This work consists of surface preparation of existing bridge decks and slabs using hydro demolition to provide a highly rough and bondable surface including select removal of all unsound concrete prior to the placement of a proposed overlay.

MATERIALS:

Not applicable.

CONSTRUCTION:

A. Definitions

1. A 'highly rough and bondable surface' is defined as a surface having a 1" amplitude between the peaks and valleys after the hydro demolition is complete and as shown in the details on the Plans.
 - a. Tolerance for 1-inch amplitude is plus or minus 1/4-inch.

B. Pre-Construction

1. Schedule a pre-construction meeting 14 calendar days in advance of the start of milling and hydro demolition operations.
2. Approval of all submittals is required prior to the pre-construction meeting.

C. Submittals

1. At least 30 days prior to commencing hydro demolition operations, submit working drawings in accordance with Section 105.4 to the Department including the following:
 - a. Environmental Compliance and Water Control Plan
 - i. Follow all Federal, State, and Local environmental laws and regulations.
 - ii. Provide details for blocking off all scuppers, joints, and other locations where discharge water could exit the work area and direct runoff to a central collection and filtering location.
 - iii. Provide details for filtering and disposal of water, slurry, and other debris, including all best management practices (BMPs).
 - iv. When runoff can be dispersed adjacent to the bridge, utilize BMPs to contain and filter the slurry to prevent the discharge of contaminants.
 - v. Provide all necessary permits for discharge of treated water.

2. Submit the hydro demolition contractor qualifications verifying successful completion of at least 3 similar projects within the last 5 years. Include a brief description of each project and the owner's contact person's name and current phone number for each project listed.

D. Equipment

1. Hydro demolition Equipment

- a. The hydro demolition equipment shall consist of a water supply system, a high-pressure water pumping system, and a demolition unit.
- b. The demolition unit shall be a robotic, computerized, and self-propelled unit, utilizing a high-pressure water jet stream that can remove concrete to the desired depths specified with a single pass of the unit, including the selective removal of all unsound concrete. It shall also be capable of cleaning rust and concrete particles from all exposed reinforcing steel.
- c. The hydro demolition equipment shall be capable of providing a resulting concrete surface that is highly rough and bondable including select removal of all unsound concrete during the initial pass.
- d. Use potable water in conjunction with the hydro demolition process.
- e. The demolition unit shall provide shielding to ensure containment of all dislodged concrete within the removal area.
- f. The hydro demolition machine shall be capable of providing a deep cut of the existing concrete surface to the limits below the reinforcement in order to facilitate the installation of new reinforcement bars as shown on the Plans and provide a highly rough and bondable surface including select removal of all unsound concrete during the initial and subsequent passes of the hydro demolition equipment.

2. Vacuum Clean-up Equipment

- a. The vacuum equipment shall be equipped with fugitive dust control devices that can remove wet and dry debris, along with standing water, in the same pass.

3. Pneumatic Hammers

- a. Pneumatic hammers for hand chipping are limited to no heavier than nominal 35-pound class operating at no more than a 45-degree angle from the horizontal.

4. Equipment Calibration

- a. The robotic hydro demolition equipment shall be calibrated on a representative sample of sound deck concrete to demonstrate the ability to cut to the desired depth and provide a highly rough and bondable surface.

- i. The minimum allowable water pressure is 13,000 psi and the maximum water pressure is 20,000 psi.
- ii. The minimum water usage is 20 gallons per minute.

- b. The equipment shall selectively remove all unsound concrete and avoid the removal of unnecessary

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sound concrete.

c. Equipment calibration is required at the start of each bridge in each phase of construction.

d. If the equipment does not demonstrate the ability to produce the desired result the equipment shall be removed from the project and the contractor shall provide other equipment for calibration. No additional contract time or compensation will be allowed for the mobilization of different equipment to the work site.

e. Upon approval by the engineer that the equipment settings selectively remove all unsound concrete and provide a highly rough and bondable surface, the calibration will be approved, and the settings recorded.

f. The operating parameters shall be recorded as follows:

Water Pressure Gauge, PSI	
Machine Staging Control (Step), IN	
Nozzle Size, IN	
Nozzle Type	
Nozzle Travel Speed, FPS	
Water Usage Rate, GPM	

E. Operational Requirements

1. Upon approval of the calibration, the contractor shall perform total surface hydro demolition or deep cut hydro demolition over the entire surface within the limits specified in the Contract.
2. The calibration and production settings shall be recorded, and documentation shall be provided in writing to the engineer.
3. Maintain the settings throughout the operation, unless the desired results are not being attained, in which case re-calibration shall be performed.
4. Verify the quality of the cut in the field for every 30 linear feet of cutting path per construction stage.
5. The engineer may require re-calibration if the appropriate cut and profile as specified in the Contract is not being met.
6. Minimize the overlap of the individual hydro demolition passes to limit the amount of sound concrete removal.
7. Protect with shielding all public and private property from potential hydro blasting through the deck, falling debris, water runoff, or any other action that the engineer considers a risk to public safety or a risk of property damage.

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8. Operate equipment in a manner that does not damage the deck, reinforcement steel or superstructure components to remain.
9. Only those vehicles directly required to perform the hydro demolition work and clean-up, or corresponding overlay construction equipment, are allowed on the bridge deck with the approval of the engineer.
 - a. Prevent contamination of the deck.

F. Pavement Milling

1. Prior to milling, verify the depth of the top mat of reinforcement.
2. Mill the existing overlay in accordance with Section 625.3.3.A.1 and 760.3.1.
 - a. Saw straight and vertical edges to transverse and longitudinal joints in accordance with Section 625.3.3.A.4.
3. Provide a milling machine that is capable of accurately and automatically establishing profile grades.
4. Hand chip areas adjacent to scuppers, joints, barriers, or other locations inaccessible to the milling machine.
5. When removing the existing overlay having a variable thickness within a section of the deck, provide a uniform transition as shown on the Plans.
6. If pavement milling results in the snagging of reinforcement bars, stop work and adjust the depth of removal. Repair or replace any damaged or dislodged reinforcement bars during the milling operation as directed by the engineer.
7. Following pavement milling of the deck, and prior to hydro demolition, inspect the deck in accordance with Section 625.3.3.A.3.
8. All construction debris, wearing surface material, or residual materials from the pavement milling process shall be removed from the bridge deck prior to the commencement of hydro demolition.
9. hydro demolition Remove existing deteriorated deck patches and perform all full depth deck repairs as noted on the Plans prior to hydro demolition.

G. Removal of Slurry and Debris

1. Clean up the slurry and rubble from the hydro demolition operations in a before it dries.
2. Blow dry the deck to remove excess water.
3. Following the cleaning, the surface shall be free of all debris, loose material, slurry, or cement paste.

H. Reinforcement Steel

1. Repair and replace existing reinforcement in accordance with Sections 628.3.4.D.5.A and 628.3.4.D.5.B.
2. Any reinforcement bars damaged by the contractor's operation shall be replaced. Replacement may include the removal of additional concrete to adequately anchor reinforcing steel to the appropriate lap splice length.

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3. Partially exposed reinforcement bars are acceptable where the bond between exposed reinforcing steel and sound concrete has not been compromised.

I. Final Cleaning Prior to Placement of New Overlay

1. After completion of hydro demolition and associated clean-up of debris, clean and prepare the surface for the new overlay in accordance with Sections 625.3.3.A.6 and 625.3.3.A.7.

MEATHOD OF MEASUREMENT:

A. The Department will measure:

1. Total surface hydro demolition by the square yard to the limits shown on the Plans.
2. Deep cut hydro demolition by the square yard to the limits shown on the Plans.

BASIS OF PAYMENT:

A. The Department will pay for accepted quantities at the contract unit price.

B. Price and payment for total surface and deep cut hydro demolition constitute full compensation for:

1. Water control, filtering, and disposal;
2. equipment calibration and re-calibration;
3. removal and disposal of all slurry and debris;
4. shielding;
5. hand chipping areas inaccessible by the hydro demolition equipment; and
6. preparation and submittal of the environmental compliance and water control plan.

C. The Department will pay for:

1. Pavement milling in accordance with Section 760;
2. removal of existing deck repairs in accordance with special provision 628502; and
3. full depth deck repair in accordance with Section 628.

D. The Department will not pay for replacement of damaged reinforcement bars.

03/23/2023

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 Plans.
- C. When applicable, this work will also consist 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.

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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 Section 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

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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. 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 Plans.
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

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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

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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

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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 Plans.
- 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 3 additional Department appointees per rover.
 - vi. Review and apply the data provided by the Department to perform GPS machine control grading.

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- 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-foot 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

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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

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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 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:

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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.

2/9/23

763518 - CONNECTED MACHINERY

Description:

This work consists of providing electronic data for telematic-equipped machinery within the project limits.

General Requirements:

Connect telematic-equipped machinery to the Department's e-Construction Portal using the Original Equipment Manufacturer (OEM) or approved telematic vendor's open Application Programming Interface (API), in accordance with ISO 15143-3. Transmit data when the machinery's engine is running. Transmit updated data at least every five minutes to the Department's portal.

Submittals:

A. Provide the following information prior to the first chargeable day of work:

1. Product Data: The OEM or telematic vendor(s) technical literature for each system to be utilized on the project.
2. Open API Data: The OEM or telematic vendor(s) technical literature for the open API to be utilized on the project.
3. A list of the applicable machinery expected to be utilized on the project.

Data Connection:

A. Upon establishing a data connection with the Department's Portal, provide the following telematics data as follows:

<u>Data Element</u>	<u>Example</u>
OEM Name	Case IH
Model	Puma® 165
EquipmentID	HACT7210HMD101469
Location datetime	2021-09-16T19:17:47Z
Latitude	26.51067
Longitude	-80.63166
EngineStatus datetime	2021-09-16T19:17:47Z
Running	True
Cumulative Engine Hours	6939.95
Cumulative Fuel Consumption	6922
Fuel Consumption UOM	Gal
Fuel datetime	2021-09-16T19:17:47Z

B. API malfunction or disconnection shall be reported immediately. Rectify any malfunction or disconnection of the API within 24 hours.

Optional Data:

The following telematics data fields may be provided, depending upon equipment type and information availability, but are not required and shall be considered optional:

<u>Data Element</u>	<u>Example</u>	<u>Equipment Type</u>
Heading in Degrees	-168	All
Speed	2.4	All
Speed UOM	MPH	All
Width	12.0	Paver
Width UOM	Ft	Paver
Depth	2.5	Paver, Miller
Depth UOM	In	Paver, Miller
Drum RPM	109	Miller

Applicability of Machinery:

- A. The following machinery must be connected to the Department's eConstruction Portal:
1. Asphalt Roadway Pavers (excluding sidewalk pavers)
 2. Asphalt cold milling machinery (excluding skid steer or loaded mounted cold planning equipment)
- B. If equipped with telematics, the following machinery may be connected to the Department's eConstruction Portal.
1. Tandem Rollers
 2. Vibratory Soil Compactors
 3. Backhoes
 4. Loaders
 5. Excavators

Method of Measurement:

The Department will not measure connected machinery.

Basis of Payment:

- A. The Department will pay for connected machinery at the contract lump sum price. Price and payment will constitute full compensation for establishing and maintaining the connection between the OEM or telematic vendor and the Department's eConstruction Portal, for all equipment.
- B. The Department will not pay to retrofit equipment to provide optional data fields.

03/19/2024

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

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2	Contract Number	T202011001	String	Yes
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

763521– NATURE STAIRS

Description:

This work consists of providing and placing stone and wood to construct natural stairs.

Materials:

A. Borrow, Type C	Section 1001
B. Stone, Delaware No. 57	Section 1004
C. Timber, Sawn Wood	Section 1041
D. Steel Reinforcement, Epoxy Coated	Section 1037

Construction:

- A. Prepare the surface to provide a stable installation of the timber.
- B. Drill holes in the timber at the locations shown on the plans.
- C. Place timber flush to the ground and drive rebar anchors at the locations and to the depth shown on the plans, and flush with the top elevation of the timber.
- D. Backfill between timber risers with Delaware No. 57 stone.
- E. Backfill around the stairs as directed by the engineer.

Method of Measurement:

The Department will measure the quantity of nature stairs by the square foot, template of the stairs as shown on the plans.

Basis of Payment:

- A. The Department will pay for nature stairs at the Contract unit price per square foot. Price and payment will constitute full compensation for providing and placing all materials, excavation and backfill, and all incidentals required to complete the Work.

2/14/24

763525 – ROAD USER COST

Description:

Road User Cost shall be assessed to compensate failure to open the project to unrestricted highway traffic on time in accordance with the contract's General Description.

Method of Measurement:

The Department will not measure Road User Cost.

Basis of Payment:

The assessment will be determined by the Road User Cost documentation in the General Description of the Contract.

8/3/23

763623 - NETTING, MIGRATORY BIRD EXCLUSION

Description:

This work consists of installation, maintenance, and removal of a barrier that will prevent the nesting of migratory birds.

Materials:

- A. *Netting:* The netting shall consist of a durable polypropylene mesh of any color. The mesh size shall be no larger than 3/4-inch by 3/4-inch square. Items commonly sold as “bird/aquatic cage or trap netting” typically meet these specifications. Netting type and mesh size shall be approved by the engineer prior to installation.
- B. *Netting attachment materials:* Materials used to attach, support, and repair the netting shall be in accordance with manufacture’s recommendations and approved by the engineer. Solvent based sealer/adhesive shall not be used on any of the netting.

Construction Methods:

- A. *General:* The netting shall be installed to completely encapsulate the sides and understructure of the bridges up to the concrete road without holes or sagging, prohibiting access to the girders upon which migratory birds typically nest. To prevent damage to the netting, the netting shall not drape into the water. After installation, there shall be no area under or on the sides of the bridge accessible to migratory birds and available for migratory bird nesting.
- B. *Netting and Netting Attachments:* Netting shall be installed in accordance with the manufacture’s recommendations. The use of overhead supports, support cables, netting frames, or any other method as approved by the engineer may be used to attach the netting. When measuring the netting, a minimum of 6 extra inches shall be added to each side to allow for overlap. The netting shall be attached no more than 25 feet in any direction without support, unless approved by the engineer. Stable pipes, beams, and trusses shall be used to support netting where safe and appropriate. Support cables shall be used when there is minimal overhead support. Other methods shall be used as approved by the engineer.
- C. *Construction planning:* The migratory bird nesting season begins on April 15 and ends on August 1. During any year construction may occur, all components of the migratory bird exclusion netting, shall be installed prior to April 15. The netting and netting materials shall remain in place and in working order until the end of the nesting season, or until there is continuous construction on the bridge as directed by the engineer. Bridge deck work and barrier removed shall be considered continuous work. The netting shall be removed and properly disposed of after August 1 or once continuous construction begins as stated above.
- D. *Maintenance:* Inspect the netting on a weekly basis. Maintain the migratory bird exclusion netting in working order without holes or loose areas, making repairs as necessary or as directed by the engineer. Use the appropriate repair materials as specified in this item.

Method of Measurement:

The Department will not measure netting, migratory bird exclusion.

Basis of Payment:

- A. The Department will pay for migratory bird netting as a lump sum item. Price and payment will constitute full compensation for providing and installing all materials; maintenance and repair of the netting; and the removal and subsequent disposal of all materials.
- B. The Department reserves the right to delete from the contract. No claims for additional compensation shall be made because of deletion of the item.

6/25/21

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.

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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.

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- 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.

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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 C: Flexible Bases and Pavements 401014 – 745 T Warm Mix Asphalts
(total qty must exceed 500 T)

Category E: Structures 610001, 610002, 610004, 610008, 610012,
610017

Bridges, Large P.C.C. Structures 610018, 610514, 625004

801501 - MAINTENANCE OF RAILROAD TRAFFIC

CSX Transportation, Inc. (CSXT)

DEFINITIONS

- A. As used in these Special Provisions, all capitalized terms shall have the meanings ascribed to them by the Agreement, and the following terms shall have the meanings ascribed to them below:
1. “CSXT” or “Railroad” shall mean CSX Transportation, Inc., its successors, and assigns.
 2. “CSXT Representative” shall mean the authorized representative of CSX Transportation, Inc.
 3. “Agreement” or “Construction Agreement” shall mean the fully executed and signed Agreement between CSXT and Agency. The Agreement shall list the explanations of the approval process, conduct of Work, cost and reimbursement procedures, payment terms, etc. relative to this Contract. The Agreement may contain attached “Exhibits”, as necessary, to fully explain all requirements relating to this Work. Agreement dated May 13, 2024.
 4. “Agency”, “DelDOT”, “State”, “Department”, or “Owner of Contract” shall mean the Delaware Department of Transportation.
 5. “Agency Representative” shall mean the authorized representative of the Delaware Department of Transportation.
 6. “Contractor” shall mean the successful awarded Contractor which the Agency has entered into an agreement and/or contract with to improve, add to, or otherwise use property(s), facilities, or improvements of the Railroad.
 7. “Work” shall mean the Project as described in the Agreement.

AUTHORITY OF CSXT ENGINEER

- A. The CSXT Representative shall have final authority in all matters affecting the safe maintenance of CSXT operations and CSXT property, and Agency or Contractor shall obtain their approval for methods of construction to avoid interference with CSXT operations and CSXT property and all other matters contemplated by the Agreement and these Special Provisions.

INTERFERENCE WITH CSXT OPERATIONS

- A. Agency or Contractor shall arrange and conduct their Work so that there will be no interference with CSXT operations, including train, signal, telephone and telegraphic services, or damage to CSXT’s property, or to poles, wires, and other facilities of tenants on CSXT’s Property or right-of-way. Agency or Contractor shall store materials so as to prevent trespassers from causing damage to trains, or CSXT Property. Whenever Work is likely to affect the operations or safety of trains, the method of doing such Work shall first be submitted to the CSXT Representative for approval, but such approval shall not relieve Agency or Contractor from liability in connection with such Work.
- B. If conditions arising from, or in connection with, the Project require that immediate and unusual provisions be made to protect train operation or CSXT’s property, Agency or Contractor shall make such provisions. If the CSXT Representative determines that such provision is insufficient, CSXT may, at the expense of Agency or Contractor, require or provide such provision as may be deemed necessary, or cause the Work to cease immediately.

NOTICE OF STARTING WORK

- A. Agency or Contractor shall not commence any Work on CSXT Property or rights-of-way until they have complied with the following conditions:
 - 1. Notify CSXT in writing of the date they intend to commence Work on the Project. Contractor must provide such notice to CSXT at least 10 business days in advance of the date they propose to begin Work on CSXT property. Contractor must refer to this Agreement by date in their notice. If flagging service is required, Contractor shall submit such notice at least 30 business days in advance of the date scheduled to commence the Work.
 - 2. Obtain authorization from CSXT Representative to begin Work on CSXT property, such authorization to include an outline of specific conditions with which they must comply.
 - 3. Obtain from CSXT the names, addresses, and telephone numbers of CSXT's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

WORK FOR THE BENEFIT OF THE CONTRACTOR

- A. No temporary or permanent changes to wire lines or other facilities (other than third party fiber optic cable transmission systems) on CSXT property that are considered necessary to the Work are anticipated or shown on the Plans. If any such changes are, or become, necessary in the opinion of CSXT or Agency, such changes will be covered by appropriate revisions to the Plans and by preparation of a force account estimate. Either CSXT or Agency may initiate such force account estimate, but both CSXT and Agency must approve it. Agency or Contractor shall be responsible for arranging for the relocation of the third-party fiber optic cable transmission systems, at no cost or expense to CSXT.
- B. Should Agency or Contractor desire any changes in addition to the above, then they shall make separate arrangements with CSXT for such changes to be accomplished at the Agency or Contractor's expense.

HAUL ACROSS RAILROAD

- A. If Agency or Contractor desires access across CSXT property or tracks at other than an existing and open public road crossing in or incident to construction of the Project, the Agency or Contractor must first obtain the permission of CSXT and shall execute a license agreement or right of entry satisfactory to CSXT, wherein Agency or Contractor agrees to bear all costs and liabilities related to such access.
- B. Agency and Contractor shall not cross CSXT's property and tracks with their vehicles or equipment of any kind or character, except at such crossings as may be permitted pursuant to this section.

COOPERATION AND DELAYS

- A. Agency or Contractor shall arrange a schedule with CSXT for accomplishing stage construction involving work by CSXT. In arranging its schedule, Agency or Contractor shall ascertain, from CSXT, the lead time required for assembling crews and materials and shall make due allowance therefore.
- B. Agency or Contractor may not charge any costs or submit any claims against CSXT for hindrance or delay caused by railroad traffic; work done by CSXT or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.
- C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all Work may be carried on to the best advantage.

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- D. Agency and Contractor understand and agree that CSXT does not assume any responsibility for work performed by others in connection of the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSXT for any inconvenience, delay, or additional cost incurred by Agency or Contractor on account of operations by others.

STORAGE OF MATERIALS AND EQUIPMENT

- A. Agency and Contractor shall not store their materials or equipment on CSXT's property or where they may potentially interfere with CSXT's operations unless Agency or Contractor has received CSXT Representative's prior written permission. Agency and Contractor understand and agree that CSXT will not be liable for any damage to such materials and equipment from any cause and that CSXT may move, or require Agency or Contractor to move, such material and equipment at Agency's or Contractor's sole expense. To minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, Contractor shall immobilize all grading or other construction equipment that is left parked near the tracks unattended by watchmen to the extent feasible so that unauthorized persons cannot move it.

CONSTRUCTION PROCEDURES

A. General

1. CSXT will inspect and approve all Work on CSXT property.
2. Contractor shall ensure all Work on CSXT property is in accord with CSXT's written outline of specific conditions and with these Special Provisions.
3. Contractor shall observe the terms and rules of the CSXT Safe Way manual, which Agency and Contractor shall be required to obtain from CSXT, and in accord with any other instructions furnished by CSXT or CSXT's Representative.

B. Blasting

1. Contractor shall obtain CSXT Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSXT property. If permission for use of explosives is granted, Contractor must comply with the following:
 - a. Contractor shall do blasting with light charges under the direct supervision of a responsible officer or employee.
 - b. Contractor shall not use electric detonating fuses shall because of the possibility of premature explosion resulting from operation of two-way train radios.
 - c. Contractor shall do no blasting without the presence of an authorized representative of CSXT. At least 30 days' advance notice to CSXT Representative is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.
 - d. Contractor must have at the Project site adequate equipment, labor, and materials, and allow sufficient time, to:
 - i. Clean up (at Contractor's expense) debris resulting from blasting without any delay to trains; and

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- ii. Correct (at Contractor's expense) any track misalignment or other damage to CSXT's property resulting from the blasting; as directed by CSXT Representative, without delay to trains. If Contractor's actions result in delay of any trains, including Amtrak passenger trains, Contractor shall bear the entire cost thereof.
- e. Contractor shall not store explosives on CSXT property.
- 2. CSXT Representative will
 - a. Determine the approximate location of trains and advise Agency and Contractor of the appropriate amount of time available for the blasting operation and clean-up.
 - b. Have the authority to order discontinuance of blasting if, in their opinion, blasting is too hazardous or is not in accord with these Special Provisions.

MAINTENANCE OF DITCHES ADJACENT TO CSXT TRACKS

- A. Contractor shall maintain all ditches and drainage structures free of silt or other obstruction that may result from their operations. Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either:
 - 1. Silt fence;
 - 2. Hay or straw barrier;
 - 3. Berm or temporary ditches;
 - 4. Sediment basin;
 - 5. Aggregate checks; or
 - 6. Channel lining.

Contractor shall perform all such maintenance and repair of damages due to Contractor's operations at Contractor's expense.

FLAGGING/INSPECTION SERVICE

- A. CSXT has sole authority to determine the need for flagging required to protect its operations and property. In general, CSXT will require flagging protection whenever Agency or Contractor or their equipment are, or are likely to be, working within 50 feet of live track or other track clearances specified by CSXT, or over tracks.
- B. Agency shall reimburse CSXT directly for all costs of flagging that is required on account of construction within CSXT property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.
- C. Agency or Contractor shall give a **minimum of 30 days'** advance notice to CSXT Representative for anticipated need for flagging service. Contractor shall undertake no Work until the flag person(s) is/are at the job site. If it is necessary for CSXT to advertise a flagging job for bid, it may take up to 90 days to obtain this service, and CSXT shall not be liable for the cost of delays attributable to obtaining such service.
- D. CSXT shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSXT Representative, such inspection may be necessary. Agency shall reimburse CSXT for the costs incurred by CSXT for such inspection service. Inspection service shall not relieve Agency or Contractor from liability for their Work.

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- E. CSXT shall render invoices for, and Agency shall pay for, the actual pay rate of the flag persons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the Work is started or during the progress of the Work, whether by law or agreement between CSXT and its employees, or if the tax rates on labor are changed, bills will be rendered by CSXT and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

UTILITY FACILITIES ON CSXT PROPERTY

- A. Agency shall arrange, upon approval from CSXT, to have any utility facilities on or over CSXT Property changed as may be necessary to provide clearances for the proposed trackage.

CLEAN-UP

- A. Contractor, upon completion of the Project, shall remove from CSXT's Property any temporary grade crossings, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish, or temporary buildings belonging to Agency or Contractor. Agency or Contractor, upon completion of the Project, shall leave CSXT Property in neat condition, satisfactory to CSXT Representative.

FAILURE TO COMPLY

- A. If Contractor violates or fails to comply with any of the requirements of these Special Provisions, CSXT may require Contractor vacate the property and Agency may withhold all monies due Contractor on monthly statements. Any such orders shall remain in effect until Contractor has remedied the situation to the satisfaction of CSXT and Agency's Representative.

INSURANCE REQUIREMENTS

- A. Insurance Policies:
 - 1. Contractor, if and to the extent that they are performing Work on or about CSXT's property, shall procure and maintain the following insurance policies:
 - a. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured. The policy shall include endorsement ISO CG 24 17 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, Railroad Protective Liability Insurance must be provided as described below in Paragraph d.
 - b. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than \$1,000,000 which insurance must contain a waiver of subrogation against CSXT and its affiliates [if permitted by state law].
 - c. Commercial Automobile Liability Insurance with limits of not less than \$1,000,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured. The policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsement is not included, Railroad Protective Liability Insurance must be provided as described below in Paragraph d.

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- d. Railroad Protective Liability Insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
- i. The Railroad Protective Liability Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance –Insurance Services Office (ISO) Form CG 00 35.
 - ii. CSX Transportation, Inc. must be the named insured on the Railroad Protective Liability Insurance Policy. The address should be listed as:

CSX Transportation, Inc.
500 Water Street, C-907
Jacksonville, FL 32202
 - iii. Name and Address of Contractor and Agency must be shown on the Declarations page.
 - iv. A description of operations and location must appear on the Declarations page and must match the Project description.
 - v. Authorized endorsements must include the Pollution Exclusion Amendment – CG 28 31, unless using form CG 00 35 version 96 and later.
 - vi. Authorized endorsements may include:
 - (1.) Broad Form Nuclear Exclusion – IL 00 21.
 - (2.) 30-day Advance Notice of Non-renewal or Cancellation.
 - (3.) Required State Cancellation Endorsement.
 - (4.) Quick Reference or Index – CL/IL 240.
 - vii. Authorized endorsements may not include:
 - (1.) A Pollution Exclusion Endorsement except CG 28 31.
 - (2.) A Punitive or Exemplary Damages Exclusion.
 - (3.) A “Common Policy Conditions” Endorsement.
 - (4.) Any endorsement that is not named in Section d (v) or (vi) above.
 - (5.) Policies that contain any type of deductible.
- e. All insurance companies must be A.M. Best rated A- and Class VII or better.
- f. The CSX OP number or CSX contract number, as applicable, must appear on each Declarations page and/or Certificate of Insurance. The OP/contract number for this Work is DE0032.
- g. Such additional or different insurance as CSXT may require.

B. Additional Terms

1. Contractor must submit the original Railroad Protective Liability Insurance Policy, Certificates of Insurance, and all notices and correspondence regarding the insurance policies to:

insurancedocuments@csx.com

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2. Neither Agency nor Contractor may begin Work on the Project until it has received CSXT’s written approval of the required insurance.

C. Required Insurance for Other Activities

1. CSXT requires different insurance requirements for other activities along its Right-of-Way, including, but not limited to, passenger train operations. Contractor shall obtain any information in response to other required insurance directly from CSXT if any additional insurance shall be required including, but not limited to, type, endorsements, limits, additional named insured, etc.

CONSTRUCTION REQUIREMENTS

A. When performing Work on, over, or adjacent to CSXT right-of-way or operations, Agency and Contractor must abide by the current CSXT Special Provisions and the following additional requirements. These costs will be paid for at the Contract lump sum price bid for “Maintenance of Railroad Traffic (CSXT)”.

1. Prior to any construction activities on or about CSXT, Contractor shall have a pre-construction meeting with CSXT’s designated representative and the Construction Monitoring Representative (“CMR”) to discuss potential On-Track Safety issues during project construction activities.
2. Contractor shall submit construction procedures for all Work in the vicinity of CSXT property that has the potential of affecting CSXT property or operations, to CSXT, and the CMR, prior to performing the Work. Contractor shall obtain written acceptance of the submitted construction procedures from CSXT or their representative before proceeding with construction. CSXT will require up to 30 days to review all construction submissions. CSXT will require up to an additional 30 days to review any subsequent submissions returned not approved with requests for additional information. Contractor will not be permitted to commence Work until Contractor has provided CSXT with a satisfactory plan for the associated Work, detailing how the Work will be undertaken without scheduling, performance, or safety related issues.

NOTE: Contractor shall perform all construction work in accordance with the construction procedure reviewed and accepted by CSXT or the CMR. Revisions to Contractor submissions may not be field approved. Any deviation(s) from a previously accepted plan including equipment substitutions will require a formal resubmission of the procedure for review and acceptance prior to performing any Work.

Contractor shall submit, as separate submittals, the following construction procedures and documents, and any additional construction procedures determined to be necessary by the CSXT or the CMR.

- a. Means and Methods –Contractor shall develop separate detailed submissions for each work items presenting the potential to impact CSXT property or operations. The work items requiring submissions should be coordinated with the CMR prior to their development and submission. Each submission shall:
 - i. Indicate the progression of Work with specific times when tasks will be performed during the project.
 - ii. Provide a listing of the anticipated equipment to be used, a marked-up plan with relevant dimensions detailing the location of all equipment to be used, and a contingency plan of action should a primary piece of equipment malfunction.

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- iii. Include a detailed narrative discussing the project level coordination of specific work operations and project safety issues between Agency, Contractor, CSXT and the CMR.
- iv. If determined by CSXT or the CMR to be necessary, include a walkthrough at which time CSXT and/or the CMR will be present.

Anticipated means and methods submissions include, but are not limited to, equipment operations and temporary works.

- b. Contractor shall perform all drainage work on and adjacent to CSXT property in strict compliance with the approved project plans. Contractor shall ensure that proper erosion control is implemented on and adjacent to CSXT right-of-way during construction. Contractor must prevent silt and debris accumulation in the railroad roadbed, ditches, and other railroad facilities. Contractor may be required to submit a detailed erosion control plan for review and acceptance by CSXT or the CMR prior to performing any Work. CSXT reserves the right to require additional drainage or grading modifications if as-built conditions do not address drainage and erosion in a manner satisfactory to CSXT.
 - c. Construction Schedule – Within 30 days of the preconstruction meeting, Contractor shall submit a detailed construction schedule for the duration of the project clearly indicating the time periods while working on and around CSXT right-of-way. As the Work progresses, Contractor shall update and resubmit this schedule as necessary to reflect changes in work sequence, duration, method, etc.
3. **CSXT Emergency Number:** The CSXT telephone number for emergencies is 800-232-0144. Reference the CSXT Milepost and DOT # for the project.
 4. Contractor shall ensure no stormwater from the project may discharge onto the CSXT right-of-way at any time during construction.
 5. Contractor must not use CSXT right-of-way for storage of materials or equipment during construction. Contractor shall keep the CSXT right-of-way clear for railroad use at all times. Contractor shall not position equipment to block the railroad access road, track area, or any part of the CSXT right-of-way without prior CSXT approval.
 6. CSXT will not permit any temporary or permanent reductions to the existing horizontal and vertical clearances without prior CSXT approval. All Contractor work shall be performed in strict compliance with CSXT clearance requirements.
 7. Contractor will be required to abide by the provisions of the Construction Agreement executed between Agency and CSXT. Periodically, throughout the project duration, Contractor will be required to meet, discuss and, if necessary, take immediate action at the discretion of CSXT personnel and/or the CMR to comply with provisions of that agreement and these specifications.
 8. This Project will require use of CSXT flagging services to protect train operations from project activity in the area of the tracks. While CSXT cannot guarantee the availability of flagging services at all requested times, every accommodation will be extended to Contractor when forces are available. Contractor shall make flagging requests to CSXT Roadmaster (contact to be provided at the preconstruction meeting) **at least 30 days** in advance. CSXT requires 10 days' notice for termination or cancellation of a flagging request to avoid incurring costs.

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9. Contractor must coordinate all equipment operations that could potentially impact CSXT right-of-way with the CSXT Flagman.
10. Contractor shall execute Schedule I (Contractor's Acceptance) prior to starting Work on, over, or adjacent to CSXT right-of-way, which is part of the Construction Agreement to be executed between Agency and CSXT.
11. To ensure that the permanent minimum required vertical clearance of 21'-6" ATR (above top of rail, measured 6'-0" from centerline of tracks) is achieved in the as-built condition, Contractor shall:
 - a. Prior to the start of construction, perform a base line profile survey of top of rail (TOR) elevations of all tracks through the project site using a professional land surveyor licensed in the State of Delaware.
 - b. Furnish a preliminary analysis utilizing the TOR data, bridge seat design elevations, and camber/dead load calculation to verify the required vertical clearance will be obtained.
 - c. Furnish as-built bridge seat elevations and the base line TOR data analysis upon completion of the bridge substructure to verify that the as-built condition will achieve the required 21'-6" vertical clearance ATR.
12. At project completion, Agency or Contractor shall submit a set of "As-Built" plans for the proposed bridge construction and any Work performed on the CSXT right-of-way. Please forward the plans to:

Assistant Chief Engineer Structures
CSX Transportation, Inc.
500 Water Street, J350
Jacksonville, FL 32202
13. Contractor access will be limited to the immediate project area only. The CSXT right-of-way may not be used for Contractor access to the project site and no temporary at-grade crossings will be allowed.

PAYMENT

A. Payment Schedule

1. Notwithstanding anything to the contrary set forth in this Agreement, Agency will pay CSXT in arrears for its Reimbursable Expenses, rather than in advance, with only such as purchasing materials and equipment, as parties mutually agree. Accordingly, Agency will remit payment to CSXT for its Reimbursable Expenses within thirty (30) days following delivery to Agency of an invoice.

B. Basis of Payment

1. Agency will pay Railroad traffic maintenance, as herein required, at the Contract lump sum price bid for "Maintenance of Railroad Traffic (CSXT)" as shown in the Proposal, for CSX Transportation, Inc., which price and payment shall include all costs of maintaining Railroad traffic during the life of the Contract, all incidental costs imposed by CSXT on Contractor due to operations and activities, except protective services (which will be paid directly to the Railroad by Agency). The requirements include also, but are not limited to, furnishing and hauling all materials; for Railroad Protective Liability Insurance or other required Insurance not normally held in force by Contractor, as required

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in these Special Provisions; for clean-up and restoration of railroad site, for any cost incidental to or arising from the need to meet any or all requirements outlined herein; and for all materials, labor, tools, equipment, appurtenances, and incidentals necessary to complete the item.

2. Agency will make payment for the Railroad Protective Liability Insurance requirements, and all other required Insurance not normally held in force by Contractor, under this Item. All other Insurances (such as, but not limited to, auto, etc.) required for this Contract shall be considered incidental to the Contract.

C. Notes

1. As stated above in this specification, Agency will pay CSXT directly for protective services required for this project. Should Contractor deviate from the method and sequence of construction originally shown in the Plans resulting in additional costs for protective services, then Agency will pay that additional cost based on a revised estimate from CSXT. Agency and their Contractor shall coordinate with CSXT for any revision prior to its implementation.
2. Should CSXT find Contractor is or has been working within distances that violate existing restrictions or instructions given by CSXT's authorized representative or performing Work that has not been scheduled with CSXT's authorized representative, additional flagging services may be required until that phase or stage of the project has been completed or until such time as Contractor follows accepted and approved prior instructions. If CSXT imposes such additional flagging requirements because of Contractor's negligence or willful disregard of CSXT requirements, Contractor will be held responsible for the extra cost involved.
3. CSXT will record time charges for flagging services provided, but not needed for legitimate pursuit of construction and will deduct other flagging charges due to the willful disregard of CSXT requirements or restrictions from monies due Contractor.

12/20/2024

**803501 – PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE
MESSAGE SIGN**

Description:

The item consists 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 will become the property of the contractor upon completion of the contract.

Equipment:

- A. Provide 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 must also comply with the following:
 - 1. Standard Specifications Section 803.3.1
 - 2. DEMUTCD – Part 6
- B. Submit product catalog cuts, specifications, NTCIP information, and information demonstrating compatibility with the specified modems to the Department for approval prior to supplying the RC PCMS to the Project.
- C. 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. Deliver the RC PCMSs to a location in the general vicinity (within 15 miles) of the project and store them until they are deployed. Deliver the RC PCMS by the date indicated on the Plans.
- B. Upon delivery of the RC PCMS, notify the Department and coordinate a time that the Department may access the storage location and install and test modems in the RC PCMS. Make available a qualified and trained RC PCMS technician available to assist the Department with any technical issues arising during the installation and testing of the modems.
- C. Store the RC PCMS until they are deployed.
 - 1. Repair any damage to the RC PCMS from theft, vandalism, improper handling, improper storage, or other mishandling to the satisfaction of the Engineer.

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D. Prior to acceptance of 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 Department will measure the item Provide and Maintain Remote Communication Portable Changeable Message Sign as number of RC PCMS units provided, tested, and accepted by the Department.

Basis of Payment:

A. The Department will pay for Provide and Maintain Remote Communication Portable Changeable Message Sign at the contract unit price per Each-Day. Price and payment constitute full compensation for:

1. Providing the RC PCMS(s) and trailer;
2. transporting;
3. delivery;
4. storage;
5. repairs;
6. coordination;
7. assistance to the Department; and
8. all incidentals required to complete the Work.

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803503 - TEMPORARY SMART WORK ZONE SYSTEM

Description:

This work consists of providing, installing, integrating, operating, maintaining, and removing all components of an Intelligent Transportation System (ITS) based Temporary Smart Work Zone System.

Functional Requirements:

- A. The Smart Work Zone System shall collect real-time vehicular traffic information such as speeds, volumes, and time stamp data approaching the work zone through the deployment of ITS based devices or the use of third party data or mechanism to ensure the system produces the desired results. The system shall display information to the traveling public through Portable Changeable Message Signs (PCMS). Messages shall include: TRAVEL TIME FROM [insert destination here] TO, [insert travel route here and travel time in minutes] MIN, and similar information. Messages shall be based on the traffic data gathered and shall be chosen and displayed based on automated software with a manual override feature. Specific message display and message selection criteria will be provided by the engineer as part of the smart work zone System Plan. This system will be operational for the entire duration of DelDOT Contract No. T201807402.
- B. All displayed travel time data shall be within one minute of field conditions as verified by the Transportation Management Center (TMC) or DelDOT Traffic Safety.

System Requirements:

- A. 1 network-based (web-based) software management system with password protected login for approved user access. The system shall provide appropriate traffic data storage and retrieval functions, message display decision logic, and user interface. The Department will select a minimum of 6 personnel that the user interface shall allow to:
 - 1. view locations of all Smart Work Zone System devices;
 - 2. retrieve time and date referenced traffic data;
 - 3. view messages displayed on boards in real time;
 - 4. view and modify automated message decision logic;
 - 5. manually override messages displayed on boards; and
 - 6. produce historical reports for message displays with time and date stamp.
- B. The system shall provide an XML feed to DelDOT's TMC so that the traffic data gathered can be used to supplement information presented on the Interactive Traffic Maps found on www.deldot.gov. The system shall be programable to provide automated alerts and errors to the Department personnel.
- C. 5 full matrix Remote Communication Portable Changeable Message Signs (RC PCMS) to be paid for under Item 803501
- D. 1 National Transportation Communications for ITS Protocol (NTCIP) compliant full matrix "mini" Portable Changeable Message Sign (PCMS).
- E. Provide sufficient number of portable non-intrusive traffic data collection devices to collect time stamped locations of vehicles at 8 locations to provide accurate and real time travel time data. Each device shall:

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1. collect individual vehicle speed, classification, and headway information at 8 locations to provide accurate and real time volume, average speed, occupancy, and travel time data.
 2. capable of collecting data across a minimum of 4 lanes of traffic in congested conditions and lanes divided by standard concrete barrier. The sensors shall not be degraded by fog, darkness, excessive dust, and road debris.
 3. capable of collecting data continuously.
 4. wirelessly linked to a central computer-based station.
 5. NTCIP compliant.
 6. labeled with contact information of the contractor.
 7. Supplementary data collection devices may also be needed to collect time stamped locations. Supplementary devices will be required to collect data at 2 additional locations if extra data collection is required after system implementation as determined by the engineer.
- F. Provide sufficient number of portable non-intrusive traffic data collection devices to collect vehicle volume at 2 locations to provide accurate and real time vehicle count data. The device(s) shall:
1. collect individual vehicle speed, classification, and headway information at 2 locations to provide accurate and real time volume, average speed, and occupancy data.
 2. capable of collecting data across a minimum of 4 lanes of traffic in congested conditions and lanes divided by standard concrete barrier. The sensors shall not be degraded by fog, darkness, excessive dust, and road debris.
 3. capable of collecting data continuously.
 4. wirelessly linked to a central computer-based station.
 5. NTCIP compliant.
 6. labeled with contact information of the contractor.
 7. Supplementary data collection devices may also be needed to collect vehicle volume. Supplementary devices will be required to collect data at 1 additional location if extra data collection is required after system implementation as determined by the engineer.
- G. Provide sufficient number of portable non-intrusive PTZ Traffic Camera (PCCTV) to observe traffic in the work zone at 1 location. The device(s) shall:
1. Mounted on a trailer, designed to provide a stable platform and mast for the camera to be easily raised to the approximate height of 30 feet above the adjacent ground. The PCCTV trailer shall consist of the camera, mounting hardware and any other camera related material. The camera mast shall easily rotate to ensure the mast is not blocking the desired viewing areas. Camera trailers shall be deployed in approved locations and be positioned to provide the best views of traffic for each location.
 2. PCCTVs need not be NTCIP compliant but shall be compatible with the NTCIP software. The PCCTV will be integrated with the Department's TMC and shall be viewable from the Department's website and smart phone application. Integration of the PCCTV with the Department's TMC will be completed prior to the

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SWZ going live. The integration testing period will be 14 calendar days. Integration with the Department's TMC will be incidental to the cost of the SWZ.

3. PCCTVs shall provide at minimum 20 camera preset positions and provide a quick and customized pull-down selection list that automatically views the desired preset position. At least two presets shall be field programmed into each camera to show the (Home) primary direction of interest and the opposing (often 180 degrees off of Home to capture northbound versus southbound for example) direction.
 4. PCCTVs shall provide Pan-Tilt-Zoom (PTZ) remote control via the SWZ system software. PTZ control shall only be allowed for authorized system users (Operators) identified by the Department. All system users shall be able to remotely view streaming video of the current PTZ orientation. The system "List" view shall also provide the latest camera image, updated automatically at least once every minute.
 5. PCCTVs shall be capable of video streaming at least 30 frames per second (fps). All PCCTVs shall provide a minimum optical zoom of 18X.
- H. 1 Smart Work Zone System technician trained in the system components who shall monitor the system. The technician shall be available to:
1. maintain system components;
 2. maintain software decision logic and user interface;
 3. relocate and calibrate devices;
 4. troubleshoot malfunctions;
 5. respond to emergency situations as directed by the engineer;
 6. provide a monthly downtime report to the Department.
- I. The ATSSA (American Traffic Safety Services Association) supervisor shall perform in person site verification of each device of the smart work zone system once a week to ensure system functionality.
- J. Schedule and provide 3 weeks prior to the system activation a minimum of 2 separate smart work zone system trainings at the TMC for the purposes of:
1. traffic data retrieval;
 2. system verification;
 3. manual override;
 4. troubleshooting.
- K. Place each device behind guardrail or barrier. If placed behind guardrail, the device shall be placed both outside the deflection zone per DelDOT Standard Construction Detail B-1 as well as outside the attenuator area. If guardrail or barrier is not available, place a minimum of 6 drums around the device.
- L. Provide the Department with a notice 24 hours before relocating any component of the smart work zone.

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- M. Devices shall provide room for the vendor's ITS maintenance crews to conduct work, maintain enough of the shoulder to allow bicyclists if device is placed on a designated bicycle route, and not obstruct roadway signs or the Department's traffic equipment.
- N. Maintain, remove debris, and mow the area around each device at least 6 times per year, as directed by the engineer.

Portable Changeable Message Sign (PCMS) Requirements

Provide the PCMS boards in accordance with Section 803. A mini PCMS board shall be provided in locations shown in the smart work zone system Implementation Plan.

PCMS boards shall meet the following requirements:

- A. Be in accordance with Section 803, unless noted below.
- B. NTCIP compliant.
- C. Be wirelessly linked to and controlled via a central computer base station.
- D. Labeled with the contractor's contact information.
- E. Be full matrix amber display sized sufficiently to provide a minimum of 4 LEDs per pixel.
- F. PCMS shall be mounted to the PCMS trailer frame. The enclosure shall be of such design and shape as to house all necessary LED display module, display driver, power and control equipment.
The sign face shall comply with Federal Specification TT-E-489. Equip the sign display with a shatter-resistant cover that is optically clear, high impact, scratch resistant, low glare, and ultraviolet stabilized polycarbonate plastic (i.e., Lexan with stabilizer or approved equal) of not less than 3/16 of an inch in thickness and is manufactured from virgin materials by a major manufacturer.
- G. The LEDs that make up the display modules shall be high luminous intensity T-1 3/4" type manufactured by a reputable manufacturer. The LEDs shall have an ultraviolet light inhibitor in the epoxy dome package and be of a production type already tested for use in high vibration commercial traffic environments and climate of the mid-Atlantic United States.
- H. Equip each PCMS with a sign controller that contains all the necessary hardware and software to control the sign. The controller is to be a compact unit with no dimension greater than 19" as mounted on the trailer and be located for easy access.
- I. The trailer shall conform to Delaware Law governing trailers, in accordance with Title 21 Motor Vehicles of the [Delaware Code](#). The trailer shall be primed and painted or powder-coated Highway Safety Orange in conformance with Federal Standard 595b, Color N. 12243.
- J. The PCMS shall be capable of operating from a solar powered electrical system, existing commercial electrical service, or via connection to a generator.

In addition to the list above, the Standard Sized Full Matrix PCMS boards shall also satisfy the following requirements:

- A. Capable of displaying 3 lines of text with up to 10 characters per line with character height as directed in Section 803.

In addition to the list above, the Mini Full Matrix PCMS boards shall also satisfy the following requirements:

- A. Display panel shall not exceed a length of 96 inches, a height of 55 inches, and a depth of 12 inches.

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- B. Capable of displaying 3 lines of text with up to 8 characters per line with character height as directed in Section 803.

Smart Work Zone System Implementation Plan:

Immediately following the conclusion of the pre-construction meeting, the engineer, contractor, traffic control supervisor, and smart work zone system provider shall meet to discuss the smart work zone system implementation plan provided in the contract documents. If necessary, the contractor may schedule a separate meeting to discuss the plan, but this separate meeting shall occur within 3 days of the pre-construction meeting. Login credentials for Department personnel will also be discussed at this meeting.

Any modification to the smart work zone implementation plan requested by the contractor shall occur no more than 2 weeks after the meeting to discuss the plan. Approval from the engineer is required for any changes to the plan requested by the contractor prior to any changes to the placement of any smart work zone system devices as shown on the plan. Approval is conditional and will be predicated on satisfactory performance during construction.

To supplement the plan, the contractor shall provide the following to the engineer at least 20 days prior to the deployment of the smart work zone system:

- A. Verify the exact locations of all smart work zone system field device locations during each phase of construction identified by the plan. Field verifications shall be performed for each location before implementation of any smart work zone system device. Field verification shall ensure the device will be protected from such instances such as vehicle crashes. The field devices shall be adjusted as necessary at no additional cost to the Department.
- B. The name and contact information of the project smart work zone system technician.
- C. Detailed description of the proposed communication methods between smart work zone system devices placed in the field, the central computer base station, and the Department's TMC.
- D. Troubleshooting/device malfunction/maintenance and mowing procedures. For each device location, a specific procedure shall be developed and included for maintenance and replacement of equipment.

Materials and Qualifications:

At the pre-construction meeting, the contractor shall submit to the engineer for review and approval evidence that the contractor or subcontractor has successfully completed at least 3 smart work zone system or queue detection system projects similar in concept and scope to the proposed system. Include names, addresses, and telephone numbers of the owner's representatives for verification. Submittal shall include brochures and cut sheets on all units of the smart work zone system, with details of how and which communications systems were used, and proposed implementation/use of website and devices. Product acceptability will be based on component and device compliance with standard specifications and special provisions and the functional/system requirements stated herein.

Schedule:

The smart work zone system shall be operable 24 hours per day, 7 days per week, during all project construction phases. The system shall be installed and subject to 5 days of continuously successful testing at least 2 weeks before any striping or phase change are scheduled to take place. If malfunctions occur for a combined period of 4 hours or more during the operational test, credit will not be given for that day and the 5 day period shall reset, unless directed otherwise by the engineer.

Remove all components of the smart work zone system upon project acceptance and retain ownership.

Transfer of Data:

Provide traffic and message board display data collected as part of the smart work zone system to the Department on a per minute interval during peak hours of traffic volumes and every 5 minutes during off peak hours. Upon completion of the project, make all data available in an electronic format. Data provided should include any data

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collected when the system is placed in “dark mode,” when traffic data will still be collected via the detection devices, but no messages will be displayed on the PCMS devices placed in the field.

Method of Measurement:

The Department will not measure this item.

Basis of Payment:

- A. The Department will pay for the smart work zone system at the lump sum contract price. Price and payment will constitute full compensation for:
 - 1. Licensing, communication costs, and development of supplemental information to be used in the smart work zone system implementation plan;
 - 2. maintenance of traffic device placement;
 - 3. providing;
 - 4. installing;
 - 5. relocating;
 - 6. operating;
 - 7. maintaining;
 - 8. testing;
 - 9. monitoring;
 - 10. removal;
 - 11. construction of any platforms necessary for placement; and
 - 12. providing required drums around equipment.
- B. Payment will be divided into the following payment schedule:
 - 1. 35% paid when all smart work zone equipment is delivered to the jobsite.
 - 2. 25% paid after completion of the successful testing period.
 - 3. 20% paid after 30 calendar days of full system operations.
 - 4. 20% paid after project completion and equipment is fully removed from the project.
- C. The contractor shall complete and submit with their bid package the attached breakout sheet listing the components of the smart work zone system.
- D. Any additional device cost for the supplemental data collection will be based on the breakout sheet unit price as shown in Table 1.
- E. The Department will not make additional payment for third party data or mechanism coordination. Any delays caused by coordination with third party data or mechanisms are non-excusable.

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Penalties:

- A. The engineer shall notify the smart work zone system technician if any component of the smart work zone system is not functioning properly at any time. Once notified, there is a period of 4 hours to diagnose the malfunction and another 4 hours to address the malfunction and repair the system to working order. If, after 8 hours, the system is not functioning properly, a penalty of \$2,000 for each hour or portion of an hour thereof will be assessed. This penalty shall also apply if the system is not operational prior to closing or shifting any lanes as part of the construction project.

- B. Devices damaged, not under the control of the contractor, shall be repaired or replaced within 24 hours. If the device has not been restored to its original functionality within the 24 hours, a penalty of \$2,000 for each hour or portion of an hour thereof will be assessed. Damages not under the control of the contractor in accordance with Section 104.13.B include the following:
 - 1. Vehicle crashes;
 - 2. vandalism; and
 - 3. any other act approved by the engineer.

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- 807510 - TEMPORARY SAFETY BARRIER, TL-3, 24" WORKING WIDTH OR LESS**
- 807511 – TEMPORARY SAFETY BARRIER, TL-3, 30" WORKING WIDTH**
- 807512 – TEMPORARY SAFETY BARRIER, TL-3, 36" WORKING WIDTH**
- 807513 – TEMPORARY SAFETY BARRIER, TL-3, 42" WORKING WIDTH**
- 807514 – TEMPORARY SAFETY BARRIER, TL-3, 48" WORKING WIDTH**
- 807515 – TEMPORARY SAFETY BARRIER, TL-3, 54" WORKING WIDTH**
- 807516 – TEMPORARY SAFETY BARRIER, TL-3, 60" WORKING WIDTH**
- 807517 – TEMPORARY SAFETY BARRIER, TL-3, 66" WORKING WIDTH**
- 807518 – TEMPORARY SAFETY BARRIER, TL-3, 72" WORKING WIDTH**
- 807519 – TEMPORARY SAFETY BARRIER, TL-3, 78" WORKING WIDTH**
- 807520 – TEMPORARY SAFETY BARRIER, TL-3, 84" WORKING WIDTH**
- 807521 – TEMPORARY SAFETY BARRIER, TL-3, 90" WORKING WIDTH**
- 807522 – TEMPORARY SAFETY BARRIER, TL-3, 96" WORKING WIDTH**
- 807523 – TEMPORARY SAFETY BARRIER, TL-4, 48" WORKING WIDTH**
- 807524 –RELOCATE TEMPORARY SAFETY BARRIER**
- 807525 – SAFETY BARRIER BRANCHING TRANSITION**
- 817526 – RELOCATE SAFETY BARRIER BRANCHING TRANSITION**

Description:

This work consists of providing, placing, operating, relocating, maintaining, and removing temporary safety barrier with a working width that is less than or equal to the working width identified in the Contract and crashworthy transitions between permanent and temporary safety barrier.

Working Width is defined as the distance between the traffic face of the test article and the maximum lateral position of any major part of the system or vehicle after the impact.

Materials:

- A. Crashworthy Temporary Safety Barrier See Table Below
 - 1. Crashworthy in accordance with MASH.
 - 2. Segments of barrier with a stamp molded into the top indicating the barrier is in compliance with MASH. For barrier segments with no molded stamp, submit certification to the engineer for approval.
- B. Concrete Barrier Branching Transition.
 - 1. Crashworthy in accordance with MASH for a Test Level 3 (TL-3) installation between the permanent barrier and proposed temporary barrier.
 - 2. Provide all materials and hardware in accordance with manufacturer recommendations.
 - 3. Restrained cross bolt temporary concrete barrier See Table Below
- C. Reflector Panels Section 807.2.2

Construction:

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- A. Submit the following to the engineer before starting construction.
 - 1. FHWA eligibility letters for all proposed systems.
 - 2. Installation manuals and shop drawing for all systems.
 - 3. MASH crash test results documenting the system Working Width for any product not identified in the Table.
 - 4. If an alternative system other than the system proposed, or if the system is installed in a location other than the location designated in the Plans, provide pavement core information verifying the pavement depth is suitable as a foundation for the system.
- B. Pinned barrier may only be provided, where unpinned barrier would otherwise be acceptable, if the project is overlaying the barrier area after it is removed.
- C. Arrange and conduct a pre-inspection of barrier segments with the engineer before transporting temporary safety barrier to the job site.
- D. Paint the traffic side of the barrier with a white latex paint before placement.
- E. Install barrier with a Working Width that is less than or equal to the Working Width identified in the Contract.
- F. Unpinned Barrier. Place unpinned barrier as follows:
 - 1. Place continuous unpinned barrier system at the locations shown in the contract or as directed by the engineer. Differing unpinned barrier systems are to be overlapped, in the direction of travel, by the length of two barrier sections. The minimum length of any one type of barrier system is 100-feet.
 - 2. Place unpinned barrier starting at the leading end and working in the direction of traffic flow.
 - 3. Connect unpinned barrier segments using manufacturer approved joint connections.
- G. Pinned Barrier. Install pinned barrier as follows:
 - 1. Ensure that holes for pin installations are integral to the barrier segment.
 - 2. Do not use metal straps pinned to the toe of the barrier and the pavement unless these are a part of the crash tested system.
 - 3. Install continuous pinned barrier system at the locations depicted in the contract or as directed by the engineer. Differing pinned barrier systems are to be overlapped, in the direction of travel, by the length of two barrier sections. The minimum length of any one type of barrier system is 100-feet.
 - 4. Install pinned barrier starting at the downstream end and working in the direction of traffic flow.
 - 5. Connect barrier segments using approved joint connections.
 - 6. Install on bituminous and concrete surfaces by driving pins at the locations specified by the manufacturer and using manufacturer-supplied pins in accordance with manufacturer's requirements.
- H. Remove unpinned barrier by starting at the downstream traffic end of the barrier run and proceeding toward the impact attenuator or leading end of the barrier.

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- I. Remove pinned barrier as follows:
 - 1. Begin removal starting at the downstream traffic end of the barrier run and proceeding toward the impact attenuator or leading end of the barrier.
 - 2. Cut flush pins that are bonded to the subgrade. Remove all other pins and fill the pavement holes with approved epoxy material.
- J. Relocate temporary safety barrier as follows:
 - 1. Relocate existing runs of temporary safety barrier to the locations shown in the contract or as directed by the engineer.
 - 2. Remove existing runs of temporary safety barrier in accordance with Sections 807.3.1.E. or 807.3.1.F.
 - 3. Install barrier at the new location in accordance with Sections 807.3.1.C. or 807.3.1.D., as applicable.
- K. Maintain temporary safety barrier as follows:
 - 1. Replace barrier segments not meeting the “marginal” criteria of the Quality Guidelines for Temporary Traffic Control Devices, in accordance with Section 801.3.
 - 2. Do not repair cracks or spalls in temporary safety barrier.
 - 3. Examples of unacceptable barrier condition are when:
 - a. The barrier has multiple cracks throughout, structural cracks, or cracks through the entire cross-section.
 - b. The barrier has spalls with a depth greater than 1 1/2-inches.
 - c. There is exposed rebar or rebar is protruding from the barrier, not including anchor slots.
 - d. Bolts are protruding from the barrier face.
 - e. Concrete around the joint hardware is broken, cracked, or missing.
 - 4. Replace damaged barrier segments within 24-hours of damage notification.
 - 5. Straighten sections of un-damaged barrier wall that deflected due to a crash within 24-hours of deflection notification.
 - 6. Repaint the traffic side of temporary safety barrier a minimum of once a year or as directed by the engineer.
- L. Install concrete barrier branching transitions in accordance with manufacturer recommendations, at the locations identified in the contract or as directed by the engineer.
- M. Relocate concrete barrier branching transitions to locations identified in the contract or as directed by the engineer.
 - 1. Transitions installed on the left side of the travel lanes may only be relocated to another left-side location. Transitions installed on the right side of the travel lanes may only be relocated to another right-side location.

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- N. Install reflector panels on the top surface of all temporary safety barriers, and in accordance with Section 807.3.2.

Method of Measurement:

- A. The Department will measure Temporary safety barrier as the number of linear feet along the centerline of barrier in place, provided and installed or relocated.
- B. The Department will measure concrete barrier branching transitions per each provided and installed or relocated.

Basis of Payment:

- A. The Department will pay the quantity of temporary safety barrier at the contract unit price per linear feet of barrier provided, placed, and accepted. Price and payment constitute full compensation for:
1. Providing all documentation and submissions;
 2. providing, placing, painting, maintaining, and removing barriers;
 3. providing, installing, maintaining, and replacing reflector panels;
 4. installing materials and pins, if necessary, to restrain the barrier; and
 5. removing any pins and sealing holes if applicable.
- B. The Department will pay the quantity of relocated temporary safety barrier and reflector panels at the contract unit price per linear feet. Price and payment constitute full compensation for:
1. Temporarily removing barrier from the existing location;
 2. temporary storage at the job site;
 3. providing paint and painting;
 4. placing at a new location;
 5. installing all materials to restrain the barrier; and
 6. maintaining and replacing reflector panels.
- C. The Department will pay the quantity of concrete barrier branching transition at the contract unit price per each provided, placed, and accepted. Price and payment constitute full compensation for:
1. Providing, installing, and removing barrier transitions, hardware, and supporting structures.
 2. Providing, placing, painting, maintaining, and removing 40-feet of temporary barrier including:
 - a. providing, installing, maintaining, and replacing reflector panels;
 - b. installing all materials to restrain the barrier; and
 - c. removing pins and sealing holes.

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- D. The Department will pay the quantity of relocate concrete barrier branching transition at the contract unit price per each. Price and payment constitute full compensation for:
1. Temporarily removing transition and barrier from the existing location;
 2. temporary storage at the job site;
 3. providing paint and painting;
 4. placing the transition and 40 linear feet of barrier at a new location;
 5. installing all materials to restrain the barrier; and
 6. maintaining and replacing reflector panels.
- E. The Department does not consider barriers or branching transitions the contractor moves to access work as relocated barrier and will make no additional payment for these moves.
- F. The Department will make no payment for the overlapped length of temporary barrier required to make transitions between the different types of temporary safety barrier.
- G. The Department will make payment only for the type of barrier identified in the contract and no additional payments for an alternative system with a smaller working width.
- H. The Department will make no payment for pavement cores required to verify temporary safety barrier foundation depths.

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Item #	Item Desc.	Barrier Type	Foundation	Barrier Name	Barrier Length	Manufacturer / Designer	Test Level	Dynamic Deflection	Reported Working Width		FHWA Eligibility
									Tested	Calculated	
807510	Temporary Barrier, TL-3, 24" Max Working Width	Pinned	Varies	Highway Guard (MDS)	20'	Valtir	TL-3	6.72	20.52		B-370
807511	Temporary Barrier, TL-3, 30" Max Working Width	Pinned Pinned Pinned	Bituminous PCC Bituminous	F-Shape X-Bolt PCC J-J Hook F-Shape PCC Barrier Strongtown B&K J-J Hook Retrofit V4	13.12' (4m) 10'-15', & 20' 12'	TxDOT EASI-SET Strongtown B&K	TL-3 TL-3 TL-3	2 5.9 2.2	26 27.5 29.4		B-365 B-52B B-344
807512	Temporary Barrier, TL-3, 36" Max	Pinned Pinned	PCC Bituminous	Indiana Anchored Barrier J-J Hook F-Shape PCC Barrier	10' 10'-15', & 20'	Strongtown B&K EASI-SET	TL-3 TL-3	13.3 8.76	30.1 32.03		B-258 B-52C
807513	Saved for 42"										
807514	Temporary Barrier, TL-3, 48" Max Working Width	Unpinned Unpinned Pinned	N/A N/A Varies	Single Slope X-Bolt PCC Single Slope X-Bolt PCC Highway Guard (LDS)	30' 30' 20'	TXDOT TxDOT Valtir	TL-3 TL-4 TL-3	16.8 33 27	N/A 47 48	40.8	TTI Analysis (0-6968-R5) TTI Test (0-6968-R5) B-322
807515	Temporary Barrier, TL-3, 52" Max Working Width	Unpinned	N/A	F-Shape X-Bolt PCC	30	TxDOT	TL-3	26.6	48.3		TTI Test (7086-R1)
807516	Saved for 60"										
807517	Saved for 66"										
807518	Saved for 72"										
807519	Saved for 78"										
807520	Saved for 84"										
807521	Temporary Barrier, TL-3, 90" Max Working Width	Unpinned Unpinned	N/A N/A	J-J Hook F-Shape PCC Barrier J-J Hook F-Shape PCC Barrier	12' 20'	EASI-SET EASI-SET	TL-3 TL-3	64.2 62.88	84.6 86.52		B-300 B-307
807522	Temporary Barrier, TL-3, 96" Max Working Width	Pinned	Varies	Highway Guard (SDS)	20	Valtir	TL-3	76	91.32		B-366
807523	Temporary Barrier, TL-4	Unpinned	N/A	Single Slope X-Bolt PCC	30	TxDOT	TL-4	33	47		TTI Test (0-6968-R5)

- 831500 - PROVIDE AND INSTALL UP TO 6" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
 - 831501 - PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
 - 831502 - PROVIDE AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
 - 831503 - PROVIDE AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
 - 831504 - PROVIDE AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
 - 831505 - PROVIDE AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831506 - PROVIDE AND INSTALL 1" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831507 - PROVIDE AND INSTALL 2" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831508 - PROVIDE AND INSTALL 3" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831509 - PROVIDE AND INSTALL 4" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
 - 831512 - PROVIDE AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (TRENCH)
 - 831513 - PROVIDE AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (TRENCH)
 - 831514 - PROVIDE AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
 - 831515 - PROVIDE AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)
 - 831516 - PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831517 - PROVIDE AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831518 - PROVIDE AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831519 - PROVIDE AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831520 - PROVIDE AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831521 - PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
 - 831522 - PROVIDE AND INSTALL 1" GALVANIZED STEEL CONDUIT (TRENCH)
 - 831523 - PROVIDE AND INSTALL 2" GALVANIZED STEEL CONDUIT (TRENCH)
 - 831524 - PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
 - 831525 - PROVIDE AND INSTALL 3" GALVANIZED STEEL CONDUIT (TRENCH)
 - 831526 - PROVIDE AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)
 - 831527 - PROVIDE AND INSTALL 1" GALVANIZED STEEL CONDUIT (BORE)
 - 831528 - PROVIDE AND INSTALL 2" GALVANIZED STEEL CONDUIT (BORE)
 - 831529 - PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (BORE)
 - 831530 - PROVIDE AND INSTALL 3" GALVANIZED STEEL CONDUIT (BORE)
 - 831531 - PROVIDE AND INSTALL 4" GALVANIZED STEEL CONDUIT (BORE)
 - 831532 - PROVIDE AND INSTALL 1" GALVANIZED STEEL CONDUIT (OPEN CUT)

- 831533 - PROVIDE AND INSTALL 2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831534 - PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831535 - PROVIDE AND INSTALL 3" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831536 - PROVIDE AND INSTALL 4" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831537 - PROVIDE AND INSTALL 1" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831538 - PROVIDE AND INSTALL 2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831539 - PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831540 - PROVIDE AND INSTALL 3" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831541 - PROVIDE AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831542 - PROVIDE AND INSTALL 2" HDPE SDR-13.5 CONDUIT (BORE)
- 831543 - PROVIDE AND INSTALL 2-1/2" HDPE SDR-13.5 CONDUIT (BORE)
- 831544 - PROVIDE AND INSTALL 3" HDPE SDR-13.5 CONDUIT (BORE)
- 831545 - PROVIDE AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)
- 831560 - PROVIDE AND INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831561 - PROVIDE AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831562 - PROVIDE AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831563- PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831564 - PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831565 - PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (BORE)
- 831566 - PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831569 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831570 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831571 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831572 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831573 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831574 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831575 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE

831576 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE

831577 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE

831578 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE

831579 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831580 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831581 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831582 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831583 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831584 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT

831585 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" STEEL CONDUIT IN DIRECTIONAL BORE

831586 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" STEEL CONDUIT IN DIRECTIONAL BORE

831587 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" STEEL CONDUIT IN DIRECTIONAL BORE

831588 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" STEEL CONDUIT IN DIRECTIONAL BORE

831589 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" STEEL CONDUIT IN DIRECTIONAL BORE

831590 - PROVIDE & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" STEEL CONDUIT IN DIRECTIONAL BORE

Description:

This work consists of providing and installing a conduit or shield, of the type and size required.

Materials:

Provide materials in accordance with Section 831.2.

Construction:

A. General Installation Requirements -

1. The Department has the right to reject any installation method proposed for a given work site. PVC shall not be installed under existing pavement unless it is on a continuous roll or with the engineer's written approval.
2. Conduit installed underground shall be installed in a straight line between terminal points. In straight runs, junction well spacing shall be no more than 600 feet for fiber optic conduit or no more than 300 feet for copper in conduit, or as directed by the engineer. If bends are required during installation, they must be manufactured sweeping bends. The engineer will be consulted before any bends are installed to ensure that the proper arc is provided.
3. Underground conduit shall have a minimum cover as measured from the finished grade of 24 inches and a maximum cover of 48 inches. The opening shall be filled halfway with the cover material and tamped down firmly before filling in the remainder of the opening. Additional lifts shall be used as required to install the metallic warning tape at the specified depth. All cover material shall be free of rocks, debris, vegetation or other deleterious material that may damage the conduit. An underground utility warning tape shall be installed as specified in this section and the remainder of the fill shall be added, tamping down the top layer.
4. Conduit not terminated to a base or in a junction well shall be terminated 2 feet beyond the edge of the pavement unless otherwise directed by the engineer , and properly capped. Tape is not an approved method. Conduit shall not extend more than 3 inches inside a junction well. See Standard Construction Details or applicable Plan Details for typical methods of termination.
5. All underground conduits shall be marked in the ground with a metallic warning tape. The marking tape shall be buried directly above the conduit run that it identifies, at a depth of approximately 12 inches below final grade. The tape identifying all conduits shall be at least 6 inches wide and have a minimum thickness of 3 mils and 500 percent elongation.
6. The color of the metallic warning tape identifying fiber optic cable should be bright orange (preferably AULCC orange) and shall read "WARNING - OPTICAL CABLE" or other wording approved by the engineer that conveys the same message. The color of the tape identifying all other cables shall be bright red and shall read "WARNING -BURIED ELECTRIC BELOW" or other wording approved by the engineer that conveys the same message.
7. Using conduit tools, rigid metallic conduit shall be cut, reamed, and threaded. The thread length shall be as necessary to ensure that the sections of conduits when screwed into a coupling and tightened correctly will butt together and the joint will be watertight. A three-piece threaded union, as approved by the engineer , shall be used to join two threaded lengths of conduit in the case where a standard coupling will not work. A threaded union shall not be used in a conduit run that is to be driven. At no time is a threadless coupling or a split-bolt coupling to be used for direct buried conduit.
8. All lengths of HDPE conduit shall be connected with irreversible fusion couplings. Mechanical and removable couplings will not be accepted.
9. All lengths of PVC conduit shall be connected by one conduit end fitting inside the flared end of the other conduit section. If this is not possible, then a coupling may be used. Regardless of how connection is made, all joints shall be sealed with the appropriate epoxy to ensure that the two conduit pieces bond to one another to form a solid waterproof link. Using conduit tools, the conduit shall be cut and prepared. If approved by the engineer , a coupler module may be used

where conduit segments do not align properly to allow the flared end of one conduit segment to mate with the normal end of the other segment.

10. Sealed end caps (with knockouts if empty) shall be placed on the ends of all conduits, after compressed air has been used to clear all foreign matter.
11. If not already pre-installed by the manufacturer, a polyester or polypropylene pulling rope or tape (fish wire) with a minimum rated strength of 1,250 pounds shall be installed in each conduit for future use. In instances where the Contractor installs the cable, the fish wire may be eliminated.
12. All PVC and HDPE conduits shall have a continuous metallic trace wire installed for the entire length of the conduit run for all fiber installations.
13. Stabilize slopes in accordance with section 908 as directed by the engineer.

B. Installation of Conduit Under Existing Pavement, Directional Bore -

1. Directional bore shall be used for installation of conduits under existing pavement with a conduit diameter not less than 1-1/2-inch. The size of a bore shall not exceed the outside diameter of the conduit by more than 1 inch. If it does, cement grout shall be pumped into the void. Only HDPE and/or Galvanized Steel conduit may be installed by Directional Bore methods.

C. Installation of Conduit Under Existing Pavement, Open Cut -

1. Installation by saw cutting the full pavement depth and removing the existing pavement with an excavator or by hand methods, shall be used only for conduits not less than 1-1/2-inch diameter. The engineer must first approve all open cutting of roadways. The width and length of open cut and patch restoration materials shall be as shown on the plan details. The Contractor shall be responsible for the removal of all cut pavement and surplus excavation, and for the replacement and correction of any damaged pavement outside the sawcut limits after the conduit(s) are installed.

D. Installation of Conduit Under Existing Pavement, Unpaved Trench -

1. Trenching or other approved method shall be used for installation of conduit in unpaved trench or under new pavement. Backfill in conduit trenches shall be compacted thoroughly as it is being placed. At the discretion of the engineer, remove sod to place conduit with an approved sod cutter and replace, or place 6 inches of topsoil and seed in accordance with section 908. In areas where new pavement is to be placed or in areas where total reconstruction is taking place, sodding or seeding may not be required by the engineer.

E. Installation of Conduit on Structure -

1. Conduit installed on structure shall consist of drilling anchors into concrete, brick, stone, steel or wood and mounting the conduit with the proper clamps or hangers. The conduit shall be attached to the structure by use of one-hole conduit hangers and approved anchors not more than 36 inches apart. Any 90-degree turns in the conduit run shall be accomplished by placing the proper size and type manufactured sweeping bends for the application needed.

F. Installation of Additional Conduit in Trench or Open Cut Pavement -

1. In the case of slotted or trenched installations, install additional conduits at the same time as the initial installation. The engineer shall indicate the quantity of conduits to be installed during a build. Additional conduits may be stacked one on top of the other, side by side or in a matrix. Conduits shall not twist around one another or be allowed to deviate from straight line paths except in the case of bend installations. Conduits installed at the same time in the same trench or slot shall remain oriented the same in relation to one another throughout the conduit run.

G. Installation of Additional Conduits in Directional Bore -

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1. In the case of a directional bore that more than one conduit shall be installed at the same time as the initial installation, install 1 or more additional conduits. The engineer shall indicate the quantity of conduits to be installed during a build. The additional conduits may be stacked one on top of the other, side by side or in a matrix. Conduits shall not twist around one another or be allowed to deviate from straight line paths except in the case of a gentle bend. Conduits installed at the same time, in the same bore shall remain oriented in the same relation to one another throughout the conduit run.

Method of Measurement:

- A. The Department will measure the quantity of conduit in linear feet of conduit provided and installed and accepted.
- B. The Department will measure the quantity of conduit in linear feet of conduit installed under existing pavement by a directional bore or by open cutting the pavement along the path of the bore or open cut, from the point that cannot be trenched to the point that trenching can resume.
- C. The Department will measure the quantity of conduit in linear feet of conduit reduced or divided (with a junction well or conduit body) as part of the larger conduit.

Basis of Payment:

- A. The Department will pay for providing and installing conduit at the contract unit price per linear foot. Price and payment will constitute full compensation for:
 1. Providing and placing all materials; and
 2. labor.
- B. The Department will pay for installing conduit by directional bore at the contract unit price per linear foot. Price and payment will constitute full compensation for:
 1. Excavation and backfilling;
 2. placing the conduit;
 3. caps, if required; and
 4. all other requirements.
- C. The Department will pay for installing conduit by open cutting existing pavement at the contract unit price per linear foot. Price and payment will constitute full compensation for:
 1. Excavation and backfilling;
 2. placing the conduit;
 3. disposal of excess materials; and
 4. all other requirements.
- D. The Department will pay for installing conduit by unpaved trench at the contract unit price per linear foot. Price and payment will constitute full compensation for:
 1. Excavation and backfilling;
 2. removal of sod, if required;
 3. placing the conduit;
 4. disposal of excess materials;
 5. replacing excavated on site sod, if required;
 6. seeding, if required; and
 7. all other requirements.

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E. The Department will pay for:

1. Borrow in accordance with Section 207;
2. Restoring pavement in accordance with Sections 401 or 502;
3. Saw cutting in accordance with Section 762; and
4. Topsoil and seeding or sodding from an outside source in accordance with Section 908.

10/23/23

834501 - PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS

DESCRIPTION:

This work consists of the removal of concrete pole bases and concrete cabinet foundations.

MATERIALS:

A. Borrow, Type F Section 1001

CONSTRUCTION METHODS:

- A. Remove and dispose of masonry to a depth of 24-inches below final grade in accordance with Section 211.
- B. Backfill voids created by removing obstructions in accordance with Section 207.

METHOD OF MEASUREMENT:

- A. The Department will measure the quantity of partial removal of concrete pole bases and cabinet foundations in cubic yards of concrete removed.

BASIS OF PAYMENT:

- A. The Department will pay for partial removal of concrete pole bases and cabinet foundations at the contract unit price per cubic yard of concrete removed. Price and payment will constitute full compensation for removal of:
 - 1. PCC masonry;
 - 2. anchor bolts;
 - 3. reinforcing bars;
 - 4. conduits; and
 - 5. any other hardware within the concrete.

3/17/2023

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

SHANTÉ A. HASTINGS
SECRETARY

UTILITY STATEMENT
February 24, 2025
STATE CONTRACT NO. T201807402
Br 1-655 on Limestone Road (SR7) Over CSX Railroad
F.A.P. No. EBHN-N031(09)
PROJECT I.D. 18-07402
NEW CASTLE COUNTY

The following utility companies may own and/or maintain facilities within the project limits:

Artesian Water
AT&T
Comcast Cable Communications, Inc.
Crown Castle
Delmarva Power Electric – Distribution
Delmarva Power Electric - Transmission
Delmarva Power Gas
New Castle County Department of Special Services - Sewer
MCI (Verizon Business)
Verizon Delaware LLC
Zayo (AboveNet)

The following is a breakdown of the utilities involved, their existing facilities, and proposed adjustments and/or relocations that will be required:

Artesian Water

Artesian owns and maintains the following buried/underground facilities within the project limits:

1. A 12-inch cast iron main entering the southern project limits in the median area of Limestone Road, just right of baseline. Near station 22+10 the main bends slightly left to be just left of baseline and continues north. As it approaches the bridge the main transitions to a 12-inch steel facility which hangs under the existing structure. Just north of the structure the main transitions to an AC pipe and near station 27+15 bends right to be right of baseline and continues north outside of the project limits. Commercial and residential services are provided from this main.

2. A 4-inch DIP main entering the southern project limits behind the existing curb along the right side of Limestone Road. This main crosses Tarry Lane and continues north under the existing sidewalk. Near station 21+60 the main transitions to a 2" PE and ends at a water meter near station 22+85 right. There are residential services from this main.
3. There is an 8" DI main that connects the 12" CI and 4" DI near station 16+25. Water valves are at both ends of the connection.
4. An 8" DI main that runs along the northern side of Tarry Lane, behind the existing curb, which ties into the existing 4" DI mentioned above. This main continues east outside of the project limits.
5. A 2-inch PE line which ties into the 12" CI main in the median of Limestone Road near Sta 22+25. This line crosses Limestone Road to Manette Drive where it transitions to a 4" CI facility and continues outside of the project limits.
6. A 6-inch cast iron main which runs from the 12" CI in the median of Limestone Road, near station 19+90. The main runs along the northerly side of Laura Avenue and outside of the project limits.
7. An 8-inch cast iron main that connects to the 12" AC main in the median area of Limestone Road near Sta 27+95. It crosses Limestone Road turns south before turn to run down the northerly side of Sandy Drive and outside the project limits. Residential services are on this main.

Artesian is proposing the following work that will be completed in advance of the project.

Action Number	Start Station	Finish Station	Offset	Action	M.O.T Phase	Type C Select Borrow	Estimated Calendar Days
1	12+12	12+12	R 6' To L 60'	Tie into existing 12-in Cast with a new 12-in 90° Bend at Sta. 12+12 (R 6'). Jack & Bore approx. 66-ft of 12-in DIP through approx. 50-ft of 20-in Casing across Limestone Rd. SB to a new 16-in X 12-in Tee at Sta. 12+12 (L 60'). Install a new 12-in Butterfly Valve at Sta. 12+12 (L 56').	TBD	-	5
2	12+12	11+94	L 60' To L 60'	From aforementioned 16-in X 12-in Tee, install approx. 18-ft of 16-in DIP to a new 16-in End Cap at Sta. 11+94 (L 60'). Install a new 16-in Butterfly Valve at Sta. 12+06 (L 60').	TBD	-	2
3	12+12	16+28	L 61' To L 66'	From 16-in X 12-in Tee, install approx. 6-ft of 16-in DIP to a new 16-in Butterfly Valve and then install another 410-ft of 16-in DIP to a new 16-in X 8-in Tee at Sta. 16+28 (L 66). Install 16-in 45° Vertical Bends at Sta's. 13+72 (L 61'), 13+73 (L 61'), 13+86 (L 61'), and 13+87 (L 61'). Install a new 16-in Butterfly Valve at Sta. 16+22 (L 66').	TBD	-	10
4	12+41	12+91	L 60' To L 60'	At Sta. 12+41 (L 60'), Jack & Bore approx. 50-ft of 24-in Steel Casing across Stanton Middle School Entrance to Sta. 12+91 (L 60'). Install a new Hydrant Tee at Sta. 12+97 (L 60').	TBD	-	4

Action Number	Start Station	Finish Station	Offset	Action	M.O.T Phase	Type C Select Borrow	Estimated Calendar Days
5	16+28	16+35	L 66' To R 62'	At Sta. 16+28 (L 55'), Jack & Bore approx. 110-ft of 16-in Casing across Limestone Road. From aforementioned 16-in X 8-in Tee, install approx. 130-ft of 8-in DIP through 16-in Casing and tie into existing 8-in DIP with a new 8-in 45° Bend at Sta. 16+35 (R 62'). Install a new 8-in Gate Valve at Sta. 16+28 (L 62'). Install new 8-in 90° Vertical Bends at Sta. 16+28 (L 59') & 16+28 (L 60').	TBD	-	14
6	16+28	18+15	L 61' To L 49'	From aforementioned 16-in X 8-in Tee, install approx. 6-ft of 16-in DIP to a new 16-in Butterfly Valve. Install approx. 165-ft of 16-in DIP to a new 16-in 45° Bend at Sta. 17+98 (L 66'). Install approx. 24-ft of 16-in DIP to a new 16-in 45° Bend at Sta. 18+15 (L 49').	TBD	-	7
7	18+15	20+01	L 49' To L 49'	From aforementioned 16-in 45° Bend, install approx. 186-ft of 16-in DIP along Limestone Road SB to a new 16-in X 8-in Tee at Sta. 20+01 (L 49'). Open cut approx. 35-ft of 24-in Casing at Sta. 19+62 (L 47').	TBD	-	9
8	20+01	200+98	L 48' To L 21'	From aforementioned 16-in X 8-in Tee, install approx. 45-ft of 8-in DIP through easement along Laura Ave to a new 22.5° Bend at Sta. 201+38 (L 20'). Install approx. 40-ft of 8-in DIP to a new 8-in End Cap at Sta. 200+98 (L 21'). Install a new Fire Hydrant at Sta. 201+29 (L 20'). Install new 8-in Gate Valves at Sta's. 201+12 (L 21'), 201+21 (L 21'). Install a new 8-in X 6-in Tee at Sta. 201+17 (L 21').	TBD	-	3
9	201+17	201+16	L 21' To L 16'	From new 8-in X 6-in Tee at Sta. 201+17 (L 21'), install approx. 5-ft of 6-in DIP and tie into existing 6-in Cast with a new 6-in 90° Bend at Sta. 201+16 (L 16').	TBD	-	1
10	19+79	23+34	L 43' To L 42'	From aforementioned 16-in X 8-in Tee, install approx. 28-ft of 16-in DIP to a new 16-in Butterfly Valve at Sta. 20+07 (L 49'), then install approx. 358-ft of new 16-in DIP along Limestone Rd. SB to a new 16-in X 12-in Reducer at Sta. 23+34 (L 42'). Install new 16-in 45° Bends at Sta's 21+98 (49' L) & 22+04 (42' L).	TBD	-	10
11	23+34	23+48	L 42' To L 2'	From aforementioned 16-in X 12-in Reducer, install approx. 14-ft of 12-in DIP to a new 90° Bend then install approx. 40-ft of 12-in DIP through 30-ft of 20-in Casing and tie into existing 12-in Cast at Sta. 23+48 (L 2'). Install a new 12-in Butterfly Valve at Sta. 23+48 (L 8').	TBD	-	4
12	25+16	25+30	L 3' To L 40'	Tie into existing 12-in AC at Sta. 25+16 (L 3') with a new 12-in 90° Bend and install approx. 38-ft of 12-in DIP through 24-ft of 20-in Casing to a new 12-in 90° Bend. Install approx. 14-ft of 12-in DIP to a new 16-in X 12-in Reducer at Sta. 25+30 (L 40'). Install new 16-in 45° Vertical Bends at Sta's. 25+16 (L 35'), 25+16 (L 37'), 25+20 (L 40'), and 25+25 (L 40').	TBD	-	4

Action Number	Start Station	Finish Station	Offst	Action	M.O.T Phase	Type C Select Borrow	Estimated Calendar Days
13	25+30	29+60	L 40' To L 39'	From aforementioned 16-in X 12-in Reducer, install approx. 430-ft of 16-in DIP along Limestone Rd. SB to a new 16-in X 12-in Tee at Sta. 29+60 (L 39'). Install new Fire Hydrant at Sta. 27+21 (L 40') and a new 16-in Butterfly Valve at Sta. 29+53 (L 39').	TBD	-	10
14	29+60	29+60	L 39' To R 56'	From new 16-in X 12-in Tee, at Sta. 29+60 (L 39'), Jack & Bore approx. 95-ft of 12-in DIP through 90-ft of 20" Casing across Limestone Road to a new 12-in X 8-in Reducer at Sta. 29+60 (R 56').	TBD	-	6
15	29+60	29+60	R 56' To R 65'	From new 12-in X 8-in Reducer, install approx. 9-ft of 8-in DIP to a new 8-in X 8-in Tee at Sta. 29+60 (R 65'). Install a new 8-in Gate Valve at Sta. 29+60 (R 61') and new 90° Vertical Bends at Sta. 29+60 (R 55').	TBD	-	1
16	29+60	27+67	R 65' To R 77'	From the new 8-in X 8-in Tee at Sta. 29+60 (R 65'), install approx. 204-ft of 8-in DIP along Limestone Road NB to a new 8-in End Cap at Sta. 27+67 (R 77'). Install a new 8-in X 8-in tee at Sta 27+67 (R 65'). Install a new 8-in Gate Valves at Sta. 27+67 (R 69').	TBD	-	4
17	27+67	27+61	R 65' To R 65'	From 8-in X 8-in Tee at Sta 27+67 (R 65'), install approx. 6-ft of 8-in DIP and tie into existing 8-in Cast with a new 8-in 90° Bend at Sta. 27+61 (R 65').	TBD	-	1
18	29+60	30+24	R 65' To R 65'	From new 8-in X 8-in Tee, at Sta. 29+60 (R 65'), install approx. 64-ft of 8-in DIP to a new 8-in End Cap at Sta. 30+24 (65' R). Install new Fire Hydrant at Sta. 30+12 (R 65') and a new 8-in Gate Valve at Sta. 30+16 (R 65').	TBD	-	1
19	29+60	30+33	L 39' To L 47'	From new 16-in X 12-in Tee at Sta. 29+60 (L 39'), install approx. 7-ft of 16-in DIP to a new 16-in Butterfly Valve then install approx. 69-ft of 16-in DIP along Limestone Rd. SB to a new 16-in 45° Bend at Sta. 30+33 (L 47'). Install 45° Vertical Bends at Sta's 30+03 (L 39'), 30+06 (L 39'), 30+17 (L 39'), and 30+20 (L 39'). Install a new 45° Bend at Sta. 30+26 (L 39').	TBD	-	3
20	30+33	32+58	L 47' To L 46'	From aforementioned 16-in 45° Bend, open cut approx. 225-ft of 16-in DIP through 70-ft of 24-in Casing to a new 16-in x 12-in Tee at Sta. 32+58 (L 46'). Install a new 16-in Butterfly Valve at Sta. 32+54 (L 46').	TBD	-	5
21	32+58	32+63	L 46' To R 12'	From new 16-in X 12-in Tee, open cut approx. 57-ft of 12-in DIP through 50-ft of 20-in Casing and tie into existing 12-in AC with a new 12-in 90° Bend at Sta. 32+58 (R 12').	TBD	-	5
22	32+58	32+69	L 46' To L 46'	From new 16-in X 12-in Tee, install approx. 11-ft of 16-in DIP to a new 16-in X 6-in Tee at Sta. 32+69 (L 46'). Install a new 16-in Butterfly Valve at Sta. 32+63 (L 46').	TBD	-	1

Action Number	Start Station	Finish Station	Offst	Action	M.O.T Phase	Type C Select Borrow	Estimated Calendar Days
23	32+69	32+73	L 46' To L 51'	From aforementioned 16-in X 6-in Tee, install approx. 6-ft of 6-in DIP and tie into existing 6-in Cast with a new 6-in 45° Bend at Sta. 32+73 (L 51'). Install a new 6-in 45° Bend at Sta. 32+69 (L 47') and a new 6-in Sleeve at Sta. 32+71 (L 49').	TBD	-	1
24	32+69	33+42	L 46' To L 46'	From new 16-in X 6-in Tee at Sta. 32+73 (L 46'), open cut approx. 69-ft of 16-in DIP through 50-ft of 24-in Casing along Limestone Rd SB to a new 16-in End Cap at Sta. 33+39 (L 46'). Install a new 16-in Butterfly Valve at Sta. 33+29 (L 46').	TBD	-	5
25	12+16	12+16	R 6' To R 6'	Cut and Cap existing 12-in Cast at Sta. 12+16 (R 6').	TBD	-	1
26	16+31	16+31	R 57' To R 57'	Cut and Cap existing 8-in DIP at Sta. 16+31 (R 57').	TBD	-	1
27	201+21	201+21	L 16' To L 16'	Cut and Cap existing 6-in Cast at Sta. 201+21 (L 16').	TBD	-	1
28	22+25	22+25	L 41' To L 41'	Cut and Cap existing 2-in PE at Sta. 22+25 (L 41').	TBD	-	1
29	23+45	23+45	L 2' To L 2'	Cut and Cap existing 12-in Cast at Sta. 23+45 (L 2').	TBD	-	1
30	25+16	25+16	L 3' To L 3'	Cut and Cap existing 12-in AC at Sta. 25+16 (L 3').	TBD	-	1
31	27+66	27+61	R 63' To R 63'	Cut and Cap existing 8-in Cast at Sta. 27+61 (R 63').	TBD	-	1
32	32+53	32+53	R 12' To R 12'	Cut and Cap existing 12-in Cast at Sta. 32+53 (R 12').	TBD	-	1
33	32+70	32+70	R 8' To R 8'	Cut and Cap existing 6-in Cast at Sta. 32+70 (R 8').	TBD	-	1
34	32+70	32+70	R 9' To R 9'	Plug existing 6-in Gate Valve at Sta. 32+70 (R 9').	TBD	-	1
35	32+74	32+74	L 43' To L 43'	Cut and Cap existing 6-in Cast at Sta. 32+74 (L 43').	TBD	-	1
36	11+97	11+97	L 60' To L 60'	Install new 2-in Blowoff at Sta. 11+97 (L 60').	TBD	-	1
37	201+01	201+01	L 21' To L 21'	Install new 2-in Blowoff at Sta. 201+01 (L 21').	TBD	-	1
38	300+86	300+86	L 21' To L 21'	Install new 2-in Blowoff at Sta. 300+86 (L 21').	TBD	-	1
39	30+21	30+21	L 65' To L 65'	Install new 2-in Blowoff at Sta. 30+21 (L 65').	TBD	-	1

Action Number	Start Station	Finish Station	Offst	Action	M.O.T Phase	Type C Select Borrow	Estimated Calendar Days
40	33+38	33+38	L 46' To L 46'	Install new 2-in Blowoff at Sta. 33+38 (L 46').	TBD	-	1
41	SEE BELOW	SEE BELOW	-	7 Services to be re-established with a new service line, curbstop, and private meter pit.	TBD	-	7
42	ALL	ALL	-	Properly purge and seal existing water mains within the project limits that will be retired.	TBD	-	2
Total					TBD	TBD	141

Services to be reestablished:

- Station 12+97 (L 69'): 4" Short Service Line, and Curbstop
- Station 13+78 (L 69'): 8" Short Service Line, and Curbstop
- Station 20+61 (L 53'): 3/4" Short Service Line, Curbstop, and Meter Pit.
- Station 27+15 (L 40'): 4" Short Service Line, and Curbstop.
- Station 28+33 (L 61'): 2" Short Service Line, Curbstop, and Meter Pit.
- Station 31+55 (R 56'): 3/4" Long Service Line, Curbstop, and Meter Pit.
- Station 32+19 (R 56'): 3/4" Long Service Line, Curbstop, and Meter Pit.

The state's contractor will vertically adjust water valves at the following locations.

12+85 Right	19+95 Right	21+50 Right	22+20 Left
26+40 Left (old)	26+80 Left (old)	27+90 Right	27+95 Right
28+25 Right	201+00 Laura Ave		

Artesian will complete these changes. These relocations/adjustments are expected to take approximately 141 calendar days to complete in advance of construction and after Artesian has been given a minimum of 30 calendar days advance notice that work shall begin and the right-of-way and proposed work has been laid out in the field by the State's Contract and/or the State. In addition, relocations/adjustments will not begin until the Utility Pre-Construction Meeting for this contract and the procurement of easements by DelDOT, and receipt of "NTP".

ABANDONMENT: Existing mains are to be withdrawn from service once the new mains are installed and activated. Retired mains are to be purged and sealed once the relocation work is completed. Artesian's contractor will remove any valve boxes, hydrants, and blow-off assemblies that are to be abandoned.

MOT: Artesian's contractor will apply the appropriate traffic cases from the latest version of the Delaware Manual on Uniform Traffic Control Devices (MUTCD). Artesian will coordinate its traffic control plan and work within the timeframes established by the assigned Area Engineer and Traffic Safety Officer.

CONSTRUCTION METHODS: Artesian requires that the state contractor submit, for our review and/or reference, all proposed construction methods used within 25 feet of our existing water facilities.

SPECIAL PERMITTING: At this time, we assume that we will not be required to file a General Sediment and Storm Water Management Permit for utility construction and that should we be required to file a sub-aqueous application for utility crossings, that we will promptly file and commence construction upon receipt.

Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State Contractor as described by the District Engineer. See the General Utility Notes Below.

Artesian's review is based upon information contain in DelDOT's Final Plans for contract T201807402, received on 8/8/2024 and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required.

Artesian requires that the state contractor submit, for our review and/or reference, all proposed construction methods used within 25 feet of our existing water facilities.

Note: The Contractor is not permitted to draw water from any hydrant for any use, without written permission of Artesian and proper metering and backflow prevention equipment in place. Under no circumstance shall any valve box be paved over, filled, or knocked out of vertical alignment during construction. No working/existing Artesian Company facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract. 24-hour emergency phone number – 800 332-5114.

AT&T

AT&T maintains the following aerial communications within the project limits:

1. An Aerial communication line entering the southern project limits on the western side of Limestone Road on Delmarva's poles. The line continues north crossing the railroad tracks and continuing north to outside of the project limits.

No AT&T involvement is anticipated during the contract duration. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be

coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

AT&T review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of The Contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

The contractor must use care when working in these underground areas as well as in the vicinity of overhead cable. The time to complete any relocations/adjustments found to be necessary, as directed by the engineer, during the construction of the highway contract will depend on the nature of the work.

No working/existing AT&T water facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Comcast Cable Communications

Comcast maintains the following aerial communication facilities within the project limits:

1. An aerial communication line entering the southern project limits on the western side of Limestone Road on Delmarva's poles. The line continues north crossing the railroad tracks and continuing north to outside of the project limits.

No Comcast involvement is anticipated during the contract duration. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

Comcast's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in

the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of The Contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

The contractor must use care when working in these underground areas as well as in the vicinity of overhead cable. The time to complete any relocations/adjustments found to be necessary, as directed by the engineer, during the construction of the highway contract will depend on the nature of the work.

No working/existing Comcast's facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Crown Castle

Crown Castle maintains the following aerial communication facilities within the project limits:

1. An aerial communication line entering the southern project limits on the western side of Limestone Road on Delmarva's poles. The line continues north crossing the railroad tracks.
2. The aerial line then crosses to the east side of Limestone Road and continuing north to outside of the project limits.

No Crown Castle involvement is anticipated during the contract duration. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

Crown Castle's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible

impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of The Contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

The contractor must use care when working in these underground areas as well as in the vicinity of overhead cable. The time to complete any relocations/adjustments found to be necessary, as directed by the engineer, during the construction of the highway contract will depend on the nature of the work.

No working/existing Crown Castle's facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Delmarva Power Distribution

Delmarva Power Electric Distribution maintains the following aerial electric distribution facilities.

1. A 34kV and a single phase 12kV enter the southern project limits along the western side of Limestone Road (first numbered pole 45708/42339).
2. The single phase 12kV continues north until it ends at pole 45690/42369 near station 20+00. The 34kV facility continues north across the railroad tracks to pole 45669/42398 where it angles west, away from Limestone Road to pole 44072/41752 near station 24+80.
3. From that pole the 34kV line crosses Limestone Road to pole 45671/42419 near station 25+30 and continues north along the east side of Limestone Road and outside of the project limits.
4. An aerial span guy supports the 34kV line, and runs across Limestone Road near station 23+60, between poles 45669/42398 and 45679/42408.
5. A single phase 12kV extends from pole number 45669/42353 near station 18+35 left, west and outside of the project limits.
6. A single phase 12kV begins on the west side of Limestone Road, at pole 45647/42435 near station 27+55 and runs north to pole 45637/42451 where it becomes a three phase 12kV and continues north outside of the project limits.
7. A three phase 12kV crosses Limestone Road from pole 45630/42463 near station 31+25 and continues outside of the project limits.
8. TPX service from pole 45686/42375 to a residential house near station 21+50
9. TPX and span guy between poles 45647/42435 and 45654/42414 (25+60 to 30+15)
10. TPX service from pole 45630/42463 to a private pole station 31+30.

Anticipated Delmarva Power Electric Distribution Aerial Relocations:

Delmarva will adjust existing guy wires at station 25+35 left. This work will take 2 days to complete after twenty-one days advance notice from the state's contractor.

Delmarva Power will complete these changes. These relocations/adjustments are expected to take approximately **2 calendar days** to complete after Delmarva Power has been given a minimum of **30 calendar days** advance notice that work shall begin and the right-of-way and proposed work has been laid out in the field by the State's Contract, clearing and grubbing has been performed. Delmarva Power's relocations will begin once the aerial electric facilities have been relocated. In addition, relocations/adjustments will not begin until the Utility Pre-Construction Meeting for this contract and the procurement of easements by DelDOT, and receipt of "NTP".

Delmarva's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24, and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of The Contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

DelDOT has not planned for or coordinated with Delmarva Power -Electric 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 other than as outlined in the above description. Due to varying construction possibilities; if a contractors means-and-methods should require support from Delmarva Power 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. 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 in part or in total; or during the time

periods requested by the Contractor for construction purposes. Any proposed coordination with Delmarva Power shall be included in the contractor's CPM schedule. In addition, Delmarva Power will determine if these outages can be accommodated.

No working/existing Delmarva facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

General

For the exact location of electric facilities, please contact Miss Utility at (800)282-8555.

Due to varying construction possibilities; if a contractors 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.

Always assume downed power lines are energized and stay away. To report a downed wire, call 1-800-898-8042.

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 at this location 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."

Delmarva Power – Transmission

Delmarva Power Electric Transmission maintains the following aerial transmission facilities, Circuit 13834 and 13828 within the project limits.

1. One 138 kV Transmission line that runs on the north side and parallel to the railroad tracks. The line extends through the project limits crossing Limestone Road near station 24+60.
2. A second 138kV Transmission line extends from pole #44072/41752 crosses Limestone Road near station 24+85 and runs east along the north side of the railroad tracks.

Anticipated Delmarva Power Electric Transmission Aerial Relocations/Adjustments:

1. DPL-T will install a maximum of Four (4) indicators on the lowest conductor of the Circuit 13828 (Harmony to Kiamensi 138 kV) adjacent to the Route 7 Norfolk Southern Bridge overpass. Four (4) Indicators will be installed on the lowest conductors on Circuit 13834 (Kiamensi to Milltown 138 kV Circuit) at this location also.
2. DPL contractor is to install the clearance indicators at these locations once DelDOT's highway contractor has mobilized and created access to each location along each side of BR 1-655 (may be across SR7), including temporary crossing of CSX railroad.
This work will require approximately 2 calendar days to complete the work as described above and DP-T will leave the site until the State's contractor has completed their work and return prior to final restoration.
3. DPL-T will return to remove the indicator bars after the State's constructor has constructed the pre-cast arch sections and final restoration.
This work will require approximately 2 calendar days to complete the work as described above and DP-T will leave the site until the State's contractor has completed their work and return prior to final restoration.
4. DPL-T will return to remove the indicator bars after the State's constructor has constructed the pre-cast arch sections and final restoration.
The above work will require approximately 2 calendar days to complete the work as described above.

There are no apparent direct conflicts or anticipated relocations for Delmarva Power Electric Transmission with this contract other than described above.

Delmarva will complete this work during construction Phase 1. These relocations/adjustments are expected to take a total of approximately 2 calendar days to complete days after Delmarva has been given a minimum of seventy-five (75) calendar days advance notice that work shall begin and the right-of-way and proposed work has been laid out in the field by the State's Contractor, the State contractor has created access along SR7 Limestone Road, clearing and grubbing has been performed, cuts and fills have been completed to within one foot of final grades and the relocations have been made accessible.

Delmarva's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date. Changes in the project

scope or in the projects current construction phasing may revise the number of working days required. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State Contractor as described by the District Engineer. See the General Utility Notes Below.

The Contractor is advised to use caution when working in the vicinity of this facility and to maintain a minimum of twenty-five (25) from all Delmarva Power Transmission lines and structures (poles). **NO CONSTRUCTION EQUIPMENT CAN BE WITHIN 25 FEET OF THESE TRANSMISSION LINES.**

All Delmarva Power's transmission circuits (69kV – 500kV) are critical circuits and monitored/controlled by the Pennsylvania, New Jersey, Maryland (PJM) interconnection. Delmarva Power is required to schedule all planned outages well in advance (approximately 2 months) before the actual required outage. Taking outages during peak load periods (winter and summer months) is not desirable and may be rejected by PJM.

For exact location, please contact Miss Utility at (800) 282-8555. House Bill #326 requires contractors/other utilities to call Delmarva Power or other parent electric company for any work surrounding aerial lines that are 600 volts or higher. All contractors/other utilities must maintain a distance of 17'-0" for all energized lines (230kV). All machines (i.e. cranes and derricks) must maintain a distance of 20' from all energized lines.

No additional Delmarva Power Transmission conflict, relocation, or involvement is anticipated. For exact location of electric facilities, please contact Miss Utility at (800)282-8555. No existing electric facilities can be taken out of service unless prior arrangements have been made. These facilities will remain in place and active during the duration of this contract.

No working/existing Delmarva facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Delmarva Power Gas

Delmarva Power Gas owns and maintains buried/underground gas facilities within the project limits:

1. A 4" High Pressure Steel line enters the project limits from the southern end, behind the right curb of Limestone Road. The main crosses Tarry Drive and runs behind the existing sidewalk where it transitions to a 4" plastic main near station 22+10. The 4" steel line continues north until station 22+90 where it ends. From 22+10, the plastic main runs north and is attached to the existing bridge and crosses the bridge. After the bridge the 4" plastic main continues north across Sandy and Handry Drive and outside of the project limits.
2. Near station 19+45 a 4" steel main crosses Limestone Road and runs along the southerly side of Laura Avenue, outside of the project limits.
3. Near station 25+35 a separate main crosses Limestone Road and end on the opposite side of the road.
4. Near station 36+00 a 2" plastic gas main comes from the 4" steel main and runs down the northern side of Hendry Avenue outside of the project limits.
5. Near station 37+65, a gas main runs from the 4" steel main, across Limestone Road and continues outside of the project limits.

Delmarva Power Gas proposes the following facilities:

1. Delmarva will utilize valves 6635 (22+10 Right) on the south side of the bridge and 12729 (28+00 Right) on the north side of the bridge to isolate the 4" steel main on the bridge during construction.
2. Delmarva Gas requires a minimum of two weeks advanced notice by the state's contractor to close the referenced gas valves and isolate the main segment of the bridge.

Delmarva will leave the project site until the bridge construction is completed. Upon notification from the State contractor approximately 30 days advance notice, Delmarva will return to complete the next phase of their work.

3. DPL will return to reconnect the gas main on the bridge once bridge construction is completed, but before final restoration project has been completed.

Delmarva Power will require a total 2 calendar days to complete the proposed work following 60 calendar days advance notice of completion of, clearing and grubbing, cuts and fills made, staking of rights of way and completion of the Utility Pre-Construction Meeting for this contract and the procurement of easements by DelDOT and receipt of "NTP".

The state's contractor shall adjust Delmarva's gas valve at the following location:

1. Sta 22+10 Right
2. Sta 22+15 Right
3. Sta 23+50 Right
4. Sta 25+30 Right
5. Sta 35+25 Right
6. Including any additional valve boxes located in the field that is not listed above.

Delmarva's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

When saw cutting in close proximity to gas facilities, the contractor is recommended to verify the depth of the gas main before saw cutting and/or excavation to ensure shallow pipe is not encountered. The contractor shall exercise caution when excavating along the curb lines at these locations.

Under no circumstances shall any valve box or manhole be paved over, filled, or knocked out of vertical alignment during construction.

No outages or relocations of DPG working, or existing gas facilities have been scheduled with DPG and no DPG facilities can be taken out of service. No working/existing Delmarva Power facilities can be taken out of service.

These facilities will remain in place and active during the duration of this contract. If gas equipment such as pipe, tracer wire, valve boxes, etc. are damaged or you smell gas, call DPL's emergency number at 302-454-0317 (24 hours a day) from a safe location. Do not call the project engineer or other contacts from DPL Gas.

MCI (Verizon Business)

MCI owns and maintains buried/underground communication facilities within the project limits:

1. MCI maintains an underground communication facility, running parallel along the east side of CSX's railroad tracks. The facility is continuous through the project limits, in CSX Right of Way, under Bridge 1-655.

No MCI involvement is anticipated during the contract duration. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

MCI's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24, and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

There are no anticipated conflicts. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State Contractor as described by the District Engineer. See the General Utility Notes Below.

No working/existing MCI facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

New Castle County – Sewer

The New Castle County Department of Special Services maintains underground facilities within the limits of the project.

New Castle County maintains the following underground facilities within the project limits:

1. New Castle County maintains an 8-inch sanitary sewer VCP main that enters the project limits from the south at Sta. 11+95 right of the construction alignment, in the shoulder area of northbound Limestone Road. At the manhole at the intersection with Tarry Lane, the line becomes an 8" PVC main that extends to Sta 22+50 right.

2. New Castle County maintains an 8-inch sanitary sewer main within the project limits at starting at Sta 31+50 right of the construction alignment and extends to a manhole at Sta 35+25 right of the construction alignment. At the manhole at the intersection of Limestone Rd and Hendry Ave. The 8-inch sanitary sewer main extends out of the project limits on Hendry Ave.
3. New Castle County maintains a 6-inch sanitary sewer main that leaves manhole at intersection of Limestone Rd and Hendry Ave at Sta 35+25 right of the construction alignment and extends across Limestone Rd to Sta 35+60 left of the construction alignment.
4. New Castle County maintains sanitary sewer laterals throughout the project limits.

Anticipated Sanitary Sewer Manhole Adjustments by the State Contractor:

1. The State's contractor shall vertically adjust the sewer manholes located at the following stations:
 - a. Sta 16+60 Right
 - b. Sta 19+70 Right
 - c. Sta 21+60 Right
 - d. Sta 22+50 Right
 - e. Sta 32+30 Right
 - f. Sta. 35+60 Right

The State's contractor will complete the adjustments to existing facilities throughout the duration of project as the proposed grading is completed. The contractor must be approved by the language set forth in the Specification for Item #711500 - *SANITARY SEWER MANHOLE ADJUSTMENTS*.

New Castle County has sanitary sewers located within this project. Other than frame and cover adjustment, the proposed roadway improvements appear to have no impact on the New Castle County owned sanitary sewers.

NCC's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24, and all data available as of this date. Changes in the project scope or in the projects current construction phasing may revise the number of working days required.

It is recommended that DelDOT verify, in the field, the locations and elevations of New Castle County's sanitary sewers.

Any relocations/adjustments of the County sewer facilities that may arise during construction will be performed by the State's Contractor in accordance with the respective agencies' standard specifications as directed by the Engineer. The State contractor shall notify the County a minimum of seven (7) calendar days in advance of the State contractor performing any necessary facility adjustments.

No working/existing New Castle County facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Verizon Delaware

Verizon own and maintains aerial and underground communication facilities within the project limits.

Verizon of Delaware Inc. maintains the following **aerial** facilities within the project limits:

1. Verizon maintains aerial facilities along the Southwest side of Limestone Rd. from Pole# 45686/42357 at station 21+43 L53 extending Southeast and beyond the project limits.
2. Verizon maintains aerial facilities along the Southwest side of Limestone Rd. from Pole# 45699/42353 at station 18+32 L57 extending Southwest and beyond the project limits.
3. Verizon maintains aerial service wire along the Southwest side of Limestone Rd. from Pole# 45686/42357 at station 21+45 L53 extending South to residential house.
4. Verizon maintains aerial facilities along the Southwest side of Limestone Rd. from Pole# 45647/13834 at station 27+60 L55 extending Northwest and beyond the project limits.
5. Verizon maintains aerial facilities along the Southwest side of Limestone Road from Pole# 45647/42435 at station 27+60 L55 extending Southwest and beyond the project limits.

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

1. Verizon maintains UG/ buried facilities crossing Limestone Rd. from a VZ Pedestal at station 16+60 L55 extending North along the Northwest side of Tarry Way and beyond the project limits.
2. Verizon maintains UG\buried facilities along the Southwest side of Limestone Road from a VZ Pedestal at station 37+60 L55 extending Southwest and beyond the project limits.

No Verizon involvement is anticipated during the contract duration. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

Verizon's review is based upon information contained in DelDOT's Final Plans for contract T201807402, received on 7/19/24 and all data available as of this date Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should the utility apertures be in conflict with the scope of work, the contractor shall coordinate directly with the utility company. Cost of any coordination with the utility companies shall be incidental to the contract.

Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

The contractor must use care when working in these underground areas as well as in the vicinity of overhead cable. The time to complete any relocations/adjustments found to be necessary, as directed by the engineer, during the construction of the highway contract will depend on the nature of the work.

No working/existing Verizon's facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

Zayo (AboveNet)

Zayo maintains the following **buried/underground** facilities within the project limits:

1. Zayo maintains an underground fiber optic communication facility in black duct, running parallel along the west side of CSX's railroad tracks. The facility is continuous through the project limits, in CSX Right of Way, under Bridge 1-655.

Zayo does not anticipate any relocations or adjustments. The contractor shall coordinate with Zayo for any conflicts that may arise during construction.

Zayo's review is based upon information contained in DeIDOT's Final Plans for contract T201807402, received on 7/19/24, and all data available as of this date. Changes in the project scope or in the construction phasing outlined in the previously referenced plan submission may alter the utility company's ability to perform the work. Changes in the project scope or construction phasing may also alter the ability for the company to perform the work in the duration outlined above. Changes in the design or construction means and methods after the contract award date shall be coordinated with the utility company by the State's Contractor to ensure any possible impact is reviewed and approved by the utility. The cost of utility coordination is incidental to the contract. See "general notes" below for additional information.

Should any conflicts be encountered as a result of The Contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as described by the District Engineer. See General Utility Notes below.

There are no anticipated conflicts. Should any conflicts be encountered as a result of the contractor's means and methods during construction, the necessary relocation work shall be accomplished by the respective utility company and funded by the State Contractor as described by the District Engineer. See the General Utility Notes Below.

No working/existing Zayo facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

GENERAL UTILITY NOTES

Outside of the utility companies and facilities discussed above, no additional utility involvement is anticipated. Should any conflicts be encountered as a result of the State 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. Following contract award date, the State's Contractor shall coordinate any and all potential changes including, but not limited to, identification of potential field conflict; changes in project construction scope; changes in construction phasing; or changes in contractor means and methods of construction with required parties, including the District Engineer and Utility Companies, for approval prior to finalizing and performing work. The State's Contractor shall provide utility companies with adequate notice (not less than 30 calendar days) prior to performing work once approved.

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 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 owned sewer or water facilities with facility owners and provide adequate notice to the municipally and to the District Engineer prior to performing work.

It is important to note, all contractors must maintain a minimum distance of 10'-0" from all energized lines during construction and any permanent facilities must be installed a minimum distance of 10'-0" from all aerial electric lines. Additional clearance may be required from high voltage transmission lines.

General Notes:

1. The Contractor's attention is directed to Section 105.9 of the DelDOT Standard Specifications (see the contract documents for applicable date/version to reference). The Contractor shall contact Delmarva811 (previously known as Miss Utility of Delmarva) at 1-800-282-8555 at least two working days prior to any excavation. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is also responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The Contractor is advised to check the site for access purposes for proposed 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.
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.
4. 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.
5. The State's Contractor is responsible for rough grading as required by the roadway construction prior to the Utility Company's placing their proposed facilities, unless otherwise indicated on the plans and/or outlined elsewhere in the Contract Documents.

6. 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.

NAME	COMPANY	E-MAIL	PHONE NUMBER
Chris Ricciuti	Above Net (Zayo)	chris.ricciuti@zayo.com	610-715-1069
Wayne Tyler	Artesian	wtyler@artesianwater.com	302-453-6987
Jay Everly	AT&T	jay@treccgroup.com	610-328-6465
Darren Marsteller	Comcast	dmarsteller@americomm-llc.com	717-509-7873 x1004
Bill Muehlberger	Crown Castle	Bill.Muehlberger@crowncastle.com	585-362-0019
Tom Smith	Delmarva Power – Electric Dist.	Thomas.Smith1@delmarva.com	302-283-5757
Chris Potter	Delmarva Power – Electric Trans.	Chris.Potter@exeloncorp.com	302-454-4855
Fiyako Falade	Delmarva Power – Gas	Fikayo.Falade@exeloncorp.com	302-401-9869
John Alessandrini	MCI	john.alessandrini@verizonbusiness.com	610-290-4002
Dan Nette	New Castle County	Dan.Netta@newcastlede.gov	302-395-5817
George Zang	Verizon Delaware, LLC	george.w.zang@verizon.com	302-422-1238

7. As outlined in Chapter 4 of the DeIDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads prior to performing their work. 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.
8. 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.
9. 16 Del. C., Chapter 74B, § 7405B requires notification to and mutually agreeable measures from the public utility operating the electric line for the any person intending to carry on any function, activity, work, or operation within dangerous proximity of any high voltage overhead electric lines. 16 Del. C., Chapter 74B, § 7402B defines "dangerous proximity" as "a distance up to and including 10 feet of high-voltage lines, or within such greater distances as may be set forth in the current editions and any subsequent revisions of the regulations of the United States Occupational Safety and Health Administration (29 C.F.R. § 1902.1 et seq.) and the

National Electrical Safety Code.” With that, all contractors/other utilities must maintain a minimum distance of 10 feet from all overhead energized lines unless otherwise required in OSHA or the NESC.

- 10. 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.**
- 11. 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.**
- 12. Contractors are not permitted to draw water from any hydrant for any use, without the written permission of the municipality/water company having jurisdiction and proper metering and backflow prevention equipment in place.**

PREPARED AND RECOMMENDED BY:

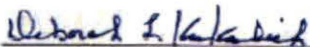


Nick Smith
Century Engineering, LLC

2/26/2025

DATE

APPROVED AS TO FORM BY:



Deborah Kukulich
Utilities Section, DeIDOT

March 3, 2025

DATE

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

CERTIFICATE OF RIGHT-OF-WAY STATUS

STATE PROJECT NO. T201807402

F.A.P. NO. EBHN-N031(09)

BR 1-655 ON LIMESTONE ROAD (SR7) OVER CSX RAILROAD

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



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

NICOLE MAJESKI
SECRETARY

October 28, 2024

ENVIRONMENTAL REQUIREMENTS
FOR

Contract Title: **BR 1-688 on Limestone Rd over CSX Railroad**

State Contract No. **T201807402**

Federal Aid No. EBHS-N031(09)

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 C

Class II Action / Level C
CE action: **23 CFR 771.117 (c)(28)**

Environmental (NEPA) Approval Date: 9/5/2023

Due to the nature of the proposed construction activities, permits are not required for this project. However, the following construction requirements and special provisions have been developed to minimize and mitigate impact to the surrounding environs. These requirements by DelDOT, not specified within the contract, are listed below. These requirements are the responsibility of the contractor and are subject to risk of shut down at the contractor's expense if not followed.

GENERAL REQUIREMENTS:

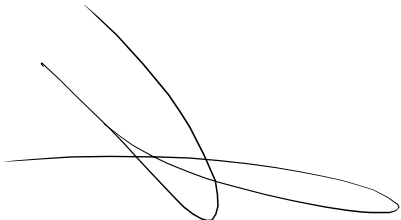
1. All construction debris, excavated material, brush, rocks, and refuse incidental to such work shall be placed either on shore above the influence of flood waters or on some suitable dumping ground.
2. That effort shall be made to keep construction debris from entering adjacent waterways or wetlands. Any debris that enters those areas shall be removed immediately.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland, surface water, or drainage area is prohibited.
4. 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).

SPECIFIC REQUIREMENTS:

Construction Restriction:

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.



Van Adams
Natural Resource Supervisor
Environmental Stewardship
Delaware Department of Transportation

10/28/2014



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.: T201807402

Federal Aid No.: EBHN-N031(09)

Project Title: BR 1-655 on SR7 Limestone Road over CSX Railroad

The following railroad companies maintain facilities within the contract limits:

- | | |
|--|---|
| <input type="checkbox"/> Amtrak | <input type="checkbox"/> Maryland & Delaware |
| <input checked="" type="checkbox"/> CSX | <input type="checkbox"/> Norfolk Southern |
| <input type="checkbox"/> State of Delaware
Delmarva Central | <input type="checkbox"/> Wilmington & Western |
| <input type="checkbox"/> East Penn | <input type="checkbox"/> Delmarva Central |
| | <input type="checkbox"/> None |

DOT Inventory No.: 140718C No. Trains/Day: 14 Passenger Trains (Y / N): N

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 DeIDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with the DeIDOT Railroad Coordinator at (302) 659-4087.
- 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 DeIDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with the DeIDOT Railroad Coordinator at (302) 659-4087.

Approved As To Form:

 DelDOT Railroad Coordinator

9/4/2024

 DATE



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201807402

Project Descripton: BR 1-655 on SR7 Limestone Road over CSX Railroad

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
720037	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31, STEEP SLOPE	LF	515
201000	CLEARING AND GRUBBING	LS	1
202000	EXCAVATION AND EMBANKMENT	CY	1540
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	1120
301001	GABC	CY	115
401007	SUPERPAVE TYPE C, PG 76-22 (CARBONATE STONE)	TON	3125
602100	DRAINAGE INLET GRATE(S)	EACH	5
602130	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	27
604000	JACKING BRIDGE	LS	1
604001	PROTECTIVE SHIELD	LS	1
604501	RAILROAD PROTECTIVE SHIELD	LS	1
610002	PCC MASONRY, ABUTMENT ABOVE FOOTING, CLASS A	CY	6
610004	PCC MASONRY, PIER ABOVE FOOTING, CLASS A	CY	18
610017	PCC MASONRY, SUPERSTRUCTURE, CLASS D	CY	335
610506	REPAIRING EXISTING PCC STRUCTURES	LB	22700

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Item Number	Description	Unit	Quantity
611001	BAR REINFORCEMENT, EPOXY COATED	LB	25000
613000	EPOXY CONCRETE SEALER	SF	1600
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	2220
615006	STEEL STRUCTURE REPAIR	LS	1
616000	CLEANING AND PAINTING EXISTING STEEL	LS	1
623005	STEEL REINFORCED ELASTOMERIC BEARINGS	EACH	84
628001	REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	LF	575
628040	SHALLOW SPALL REPAIR	CF	110
628041	DEEP SPALL REPAIR	CF	60
701013	PCC CURB, TYPE 1-8	LF	4580
721000	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 2	EACH	1
721001	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	EACH	1
721009	GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE 31)	EACH	3
721010	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	EACH	1
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	135
763000	INITIAL EXPENSE/DE-MOBILIZATION	LS	1
763501	CONSTRUCTION ENGINEERING	LS	1

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Item Number	Description	Unit	Quantity
811001	FLAGGER, NEW CASTLE COUNTY	HOUR	320
811013	FLAGGER, NEW CASTLE COUNTY, OVERTIME	HOUR	80
817042	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 6"	LF	56200
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	16
905001	SILT FENCE	LF	1130
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	37
908004	TOPSOIL, 6" DEPTH	SY	2325
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	2325
908020	EROSION CONTROL BLANKET MULCH	SY	2325
209002	BORROW, TYPE B	CY	12
209006	BORROW, TYPE F	CY	445
602101	DRAINAGE INLET FRAME(S)	EACH	5
301002	GABC, PATCHING	CY	10
802003	ARROW PANELS TYPE C	EADY	255
807002	PROVIDE AND INSTALL TEMPORARY PORTLAND CEMENT CONCRETE SAFETY BARRIER, PINNED IN BITUMINOUS PAVEMENT	LF	1456
807010	REMOVE TEMPORARY PORTLAND CEMENT CONCRETE SAFETY BARRIER, PINNED IN BITUMINOUS PAVEMENT	LF	1456

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Item Number	Description	Unit	Quantity
809001	INSTALL TEMPORARY IMPACT ATTENUATOR	EACH	4
813001	TEMPORARY BARRICADES, TYPE III	LFDY	8500
817031	REMOVAL OF PAVEMENT STRIPING	SF	14110
830001	CONDUIT JUNCTION WELL, TYPE 1, 20" X 20" PRECAST CONCRETE	EACH	9
830010	REMOVAL OF EXISTING JUNCTION WELL	EACH	4
831514	PROVIDE AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	70
846001	PROVIDE AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	1825
711500	ADJUST AND REPAIR EXISTING SANITARY MANHOLE	EACH	6
760013	PAVEMENT MILLING, PCC PAVEMENT	SYIN	2550
760500	TOTAL SURFACE HYDRODEMOLITION	SY	1450
401029	SUPERPAVE TYPE C, PG 64-22, PATCHING	TON	6
401030	SUPERPAVE TYPE B, PG 64-22, PATCHING	TON	15
623003	REPLACE ANCHOR BOLTS	EACH	168
624000	PREFABRICATED EXPANSION JOINT SYSTEM, 3"	LF	405
628504	REHABILITATION OF EXISTING CONCRETE STRUCTURE, FRP WRAP	LS	1
701012	PCC CURB, TYPE 1-6	LF	205

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Item Number	Description	Unit	Quantity
701014	PCC CURB, TYPE 2	LF	15
705002	PCC SIDEWALK, 6"	SF	120
705007	DETECTABLE WARNING SURFACE	SF	132
705008	PEDESTRIAN CONNECTION, TYPE 1	SF	355
705009	PEDESTRIAN CONNECTION, TYPE 2, 3, AND/OR 4	SF	545
705010	PEDESTRIAN CONNECTION, TYPE 5	SF	165
727008	BRIDGE SAFETY FENCE, TYPE 2	LF	305
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH	37
818003	SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE XI, RETROREFLECTIVE SHEETING	SF	3
819019	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS	SF	51
807524	RELOCATE TEMPORARY SAFETY BARRIER	LF	305
807510	TEMPORARY SAFETY BARRIER, TL-3, 24" WORKING WIDTH OR LESS	LF	305
763518	CONNECTED MACHINERY	LS	1
613002	SILANE-BASED CONCRETE SEALER	SF	15500
721006	END ANCHORAGE 31	EACH	2
801501	MAINTENANCE OF RAILROAD TRAFFIC	LS	1

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Item Number	Description	Unit	Quantity
819011	GALVANIZED TELESCOPING STEEL SIGN POSTS, 12' X 2", COMPLETE W/ BASEPOSTS AND HARDWARE	EACH	21
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	300
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	300
628053	DECK REPAIR, FULL DEPTH	SF	570
628502	REMOVAL OF EXISTING DECK REPAIRS	SF	850
763623	NETTING MIGRATORY BIRD EXCLUSION	LS	1
817003	TEMPORARY MARKINGS, PAINT, 4"	LF	39000
803501	PROVIDE AND MAINTAIN REMOTE COMMUNICATION PORTABLE CHANGEABLE MESSAGE SIGN	EADY	9120
302002	DELAWARE NO. 3 STONE	TON	115
705001	PCC SIDEWALK, 4"	SF	435
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	920
803503	TEMPORARY SMART WORK ZONE SYSTEM	LS	1
803001	PROVIDE AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	EADY	30
804001	PROVIDE AND MAINTAIN PORTABLE LIGHT ASSEMBLY (FLOOD LIGHTS)	EADY	1440
805001	PLASTIC TRAFFIC CONTROL DRUMS	EADY	61900
806001	TRAFFIC OFFICERS	HOUR	28

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Item Number	Description	Unit	Quantity
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	4650
830008	ADJUST OR REPAIR EXISTING CONDUIT JUNCTION WELL	EACH	15
831515	PROVIDE AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	185
831545	PROVIDE AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)	LF	165
831564	PROVIDE AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)	LF	40
834004	POLE BASE, TYPE 3C	EACH	6
834005	POLE BASE, TYPE 4A	EACH	6
834501	PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS	CY	4
824009	TUBULAR MARKER , ORANGE, 28"	EACH	6
810001	TEMPORARY WARNING SIGNS AND PLAQUES	EADY	37600
818001	SUPPLY OF FLAT SHEET ALUMINUM SIGN PANEL, TYPE IV, RETROREFLECTIVE SHEETING	SF	30
701019	I.PCC CURB AND GUTTER, TYPE 2	LF	90
401014	SUPERPAVE TYPE B, PG 64-22	TON	745
705512	PERVIOUS PCC SIDEWALK	SF	10375
760010	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT	SYIN	50000
763521	NATURE STAIRS	SF	85

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Item Number	Description	Unit	Quantity
817018	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 3"	LF	305
817044	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 6"	LF	305
817027	RAISED/RECESSED PAVEMENT MARKER	EACH	70
831516	PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	180
831518	PROVIDE AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF	152
831521	PROVIDE AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)	LF	152
831523	PROVIDE AND INSTALL 2" GALVANIZED CONDUIT (TRENCH)	LF	15
831524	PROVIDE AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)	LF	12
801000	MAINTENANCE OF TRAFFIC	LS	1