

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION



BID PROPOSAL

CONTRACT T201200903

HSIP SR 24 AT SR 5 / SR 23 INTERSECTION IMPROVEMENTS

Federal Aid No. ESTP-0024(15)
CFDA: 20.205

Advertisement Date: November 23, 2020

INCLUDED IN THIS DOCUMENT:

BID PROPOSAL:

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

ADDITIONAL BID PROPOSAL ITEMS:

ATTACHED OR POSTED DOCUMENTS:

PROJECT PLANS
QUESTIONS & ANSWERS (if posted)
GUARDRAIL END-TREATMENT INFO
OJT GUIDELINES
APPENDIX B – TECHNICAL SPECIFICATONS

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

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

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

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

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

ALL BIDS DUE PRIOR TO 2:00 P.M. Local Time, December 29, 2020

GENERAL DESCRIPTION

- A. BIDS DUE:** **December 29, 2020 PRIOR TO 2:00 P.M. Local Time** – unless changed via Addendum.
LOCATION: Bidder's Room, DelDOT Administration Building, 800 South Bay Road, Dover, DE 19901.
OR; Bidders with Bid Express® accounts can submit bids at BIDX.com/de.
- B. PRE-BID MEETING:** No
- C. DBE GOAL:** 15% Disadvantaged Business Enterprise Percent
- D. OJT TRAINEES:** One (1) **See Prospective Bidder's Notes and posted OJT Manual for details.**
- E. LOCATION:** Sussex 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 Project's purpose is to improve the safety and operation of the SR 24 and SR 5/SR23 intersection. The proposed improvements include: Build islands at several entrances to restrict certain turns. Construct sidewalk connections to fill in gaps. Installation of bicycle lanes. Provide consistent lanes, shoulders and curbs along SR 24. Extend the SR 24 left-turn lanes onto SR 5 and SR 23. Extend the SR 23 left-turn lane onto westbound SR 24. Reconstruct the traffic signal at SR 24 at SR 5/SR 23.
- G. COMPLETION TIME:** All work on this contract must be complete within 593 Calendar Days.
 The Contract Time includes an allowance for 87 Weather Days.
 The Department's intent is to issue a Notice to Proceed for work to start on or about April 5, 2021.
- H. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DELAWARE DEPARTMENT OF TRANSPORTATION, AUGUST 2016** 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 101.04.
- I. 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.*
- J. 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.
- K. 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.
- L. ROAD USER COSTS & INCENTIVE/DISINCENTIVE INFO:**

FAILURE TO OPEN PROJECT TO UNRESTRICTED ROADWAY TRAFFIC ON TIME

Interim Road User Costs (RUC) for delays in opening lanes on SR 24, SR 23 or SR 5 will be enforced according to the below charts. For purposes of this section, "lane" is referred to as a travel lane, turn lane or commercial entrance. If a travel lane, turn lane and/or commercial entrance are closed at the same time during the same daily operation, one RUC will apply to that operation.

Table 1 – SR 24 Summer Weekday

Time All Lanes Reopened ("Verizon Time")	Road User Cost
6:00 AM to 6:14 AM	\$2,500
6:15 AM to 6:29 AM	\$5,000
6:30 AM to 6:44 AM	\$7,500
6:45 AM to 6:59 AM	\$10,000
7:00 AM to 7:14 AM	\$12,500
7:15 AM to 7:29 AM	\$15,000
7:30 AM to 7:44 AM	\$17,500
7:45 AM to 7:59 AM	\$20,000
<i>Each 15 Minute period after 7:59 AM</i>	<i>+\$2,500 up to a day total of \$80,000</i>

For every hour, or portion thereof, after 7:59 AM, \$10,000 will be assessed up to a day total of \$80,000.

Table 2 – SR 24 Non-Summer Weekday

Time All Lanes Reopened ("Verizon Time")	Road User Cost
7:00 AM to 7:14 AM	\$3,750
7:15 AM to 7:29 AM	\$7,500
7:30 AM to 7:44 AM	\$11,250
7:45 AM to 7:59 AM	\$15,000
8:00 AM to 8:14 AM	\$18,750
8:15 AM to 8:29 AM	\$22,500
8:30 AM to 8:44 AM	\$26,250
8:45 AM to 8:59 AM	\$30,000
<i>Each 15 Minute period after 8:59 AM</i>	<i>+\$3,750 up to a day total of \$120,000</i>

For every hour, or portion thereof, after 8:59 AM, \$15,000 will be assessed up to a day total of \$120,000.

Table 3 – SR 24 Summer Weekend Day

Time All Lanes Reopened ("Verizon Time")	Road User Cost
7:00 AM to 7:14 AM	\$2,500
7:15 AM to 7:29 AM	\$5,000
7:30 AM to 7:44 AM	\$7,500
7:45 AM to 7:59 AM	\$10,000
8:00 AM to 8:14 AM	\$12,500
8:15 AM to 8:29 AM	\$15,000
8:30 AM to 8:44 AM	\$17,500
8:45 AM to 8:59 AM	\$20,000
<i>Each 15 Minute period after 8:59 AM</i>	<i>+\$2,500 up to a day total of \$80,000</i>

For every hour, or portion thereof, after 8:59 AM, \$10,000 will be assessed up to a day total of \$80,000.

Table 4 – SR 24 Non-Summer Weekend Day

Time All Lanes Reopened ("Verizon Time")	Road User Cost
8:00 AM to 8:14 AM	\$3,750
8:15 AM to 8:29 AM	\$7,500
8:30 AM to 8:44 AM	\$11,250
8:45 AM to 8:59 AM	\$15,000
9:00 AM to 9:14 AM	\$18,750
9:15 AM to 9:29 AM	\$22,500
9:30 AM to 9:44 AM	\$26,250
9:45 AM to 9:59 AM	\$30,000
<i>Each 15 Minute period after 9:59 AM</i>	<i>+\$3,750 up to a day total of \$120,000</i>

For every hour, or portion thereof, after 9:59 AM, \$15,000 will be assessed up to a day total of \$120,000.

Table 5 – SR 23/SR 5 Weekday and Weekend (full year)

Time All Lanes Reopened ("Verizon Time")	Road User Cost
7:00 AM to 7:14 AM	\$250
7:15 AM to 7:29 AM	\$500
7:30 AM to 7:44 AM	\$750
7:45 AM to 7:59 AM	\$1,000
8:00 AM to 8:14 AM	\$1,250
8:15 AM to 8:29 AM	\$1,500
8:30 AM to 8:44 AM	\$1,750
8:45 AM to 8:59 AM	\$2,000
<i>Each 15 Minute period after 8:59 AM</i>	<i>+\$250 up to a day total of \$8,000</i>

For every hour, or portion thereof, after 8:59 AM, \$1,000 will be assessed up to a day total of \$8,000.

Assessment of Road User Costs (RUCs) and Liquidated Damages will be made by change order. There is no limit on the number of hours or days that RUCs can be assessed. The Engineer will be the sole approving authority as to when road closures, lane closures, lane width restrictions, and shoulder width restrictions are complete after traffic is returned to the ultimate alignment. The Contract will be assessed the RUCs for failure to open lanes on time per the Contract.

DISINCENTIVES FOR CONSTRUCTION PHASES

The Maintenance of Traffic (MOT) shown on the plans for Phases 4 and 5 of this Contract will result in significant congestion, delay, and/or operational constraints to the traveling public. Phases 4 and 5 require the simultaneous closure of the right-turn lanes on SR 23 and SR 5 at the SR 24 intersection. These closures will result in significant congestion and delay. Phase 4 has been allotted 27 Calendar Days and Phase 5 has been allotted 22 Calendar Days equaling a total of 49 Calendar Days for both phases. If time extensions for Phase 4 and Phase 5 are approved by the Engineer, the approved additional time will be added to the total of 49 Calendar Days and the Disincentive will be applied the if the right-turn lanes remain closed beyond the approved time extensions. **Failure to complete the Phase 4 and Phase 5 work within a total of 49 Calendar Days, plus any approved time extensions applicable to the right-turn lane closures, will result in a Disincentive in the amount of Three Thousand Dollars (\$3,000.00) per Calendar Day for each Calendar Day the right-turn lanes on SR 23 and SR 5 are closed in excess of 49 Calendar Days, plus any approved time extensions applicable to right-turn lane closures.** If the Contractor elects to perform Phase 4 and 5 work concurrently with Phases 2 and 3 as permitted in the Plans, the right-turn lanes on SR 23 and SR 5 may only be closed for a maximum of 49 Calendar Days at which point the Disincentive will be applied. The amount of disincentives

shall be deducted from any money due the Contractor, not as a penalty, but as a Liquidated Damage assessed to recover the cost of inconvenience to the public, added cost of engineering and supervision, and the other extra expenditures of public funds caused by the Contractor's failure to complete the Work within an allotted time. Damages in excess of any monies due or retained percentage shall be paid to the Department by the Contractor.

M. 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. **BIDS MUST BE SUBMITTED VIA:**

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

OR:

(b) **Paper Bid** with supplied CD and printout of Bid Item prices and all required documents and forms.

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 submit the form along with the CD and other 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 will be rejected.

3. **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.
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:**
<http://regulations.delaware.gov/register/december2017/final/21%20DE%20Reg%20503%2012-01-17.htm>

Note a few of the requirements;

- * At bid submission - Each bidder must submit with the bid a single signed affidavit certifying that the bidder and its subcontractors has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation (*a blank affidavit form is attached*);
- * At least two business days prior to contract execution - The awarded Contractor shall provide to DelDOT copies of the Employee Drug Testing Program for the Contractor, each participating DBE firm, and all other listed Subcontractors;
- * Subcontractors - Contractors that employ Subcontractors on the job site may do so only after submitting a copy of the Subcontractor's Employee Drug Testing Program along with the standard required subcontractor information. A Subcontractor shall not commence work until **DelDOT** has approved the program in writing.

5. **PERFORMANCE-BASED RATING SYSTEM** - 29 Del.C. §6962 (c)(12)(a) requires DelDOT to include a performance-based rating system for contractors. The Performance Rating for each Contractor shall be used as a prequalification to bid at the time of bid. Refer to 'General Notices' for details.
6. **NO RETAINAGE** will be withheld on this contract unless through the Performance-Based Rating System.
7. **EXTERNAL COMPLAINT PROCEDURE** can be viewed on DelDOT's Website, https://deldot.gov/Business/cr/index.shtml?dc=civil_rights_eeo or request a copy by calling (302) 760-2555.
8. **DBE PROGRAM REQUIREMENTS** (49CFR §26.53(b)(3)(i)(B)) require submission of DBE participation information from the apparent low bidder no later than five (5) calendar days after bid opening,
9. **FLATWORK CONCRETE TECHNICIAN CERTIFICATION TRAINING:**
 Section 501.03, 503.03, 505.03, 610.03, 701.03 and 702.03 of the 2016 Standard Specifications require contractors to provide an American Concrete Institute (ACI) or National Ready-Mix Concrete Association (NRMCA) certified concrete flatwork technician to supervise all finishing of flatwork concrete.

10. **BREAKOUT SHEETS** MUST be submitted either with your bid documents; or within seven (7) calendar days following the bid due date by the lowest apparent bidder. Refer to instructions adjacent to the Breakout Sheets in this document.
11. On The Job Trainee(s). The program(s) must be submitted online as soon as possible by the apparent low bidder at <https://deldotojt.com>. Award of the Contract will not take place until acceptable On-the-Job (OJT) program plans are received and approved by the Department's Civil Rights Section. Failure of the apparent low bidder to submit acceptable OJT Trainee Programs within ten (10) calendar days of bid opening shall create a rebuttable presumption that the bid is not responsive. **VERIFY TRAINEE SP – OJT Manual and BID PAY ITEM is included**
12. **APPENDIX B.** This project incorporates Appendix B, TECHNICAL SPECIFICATIONS FOR WATERLINE WORK, which is a part of this contract. Appendix B contains additional specifications required for this project.

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GENERAL NOTICES

SPECIFICATIONS :

The Delaware specifications entitled "*Standard Specifications for Road and Bridge Construction August, 2016*", hereinafter referred to as the *Standard Specifications*; the *Supplemental Specifications* to the Standard Specifications effective as of the advertisement date of this Bid Proposal and hereby included by reference; the *Special Provisions*; *Notes on the Plans*; this *Bid Proposal* including referenced documents; any *Addenda* thereto; and any posted *Questions and Answers*; 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.

ATTESTING TO NON-COLLUSION :

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

QUANTITIES :

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

PERFORMANCE-BASED RATING SYSTEM

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

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

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

EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS :

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

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

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

1. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, gender identity or national origin. The contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, gender identity or national origin.
3. The contractor will ensure employees receive equal pay for equal work, without regard to sex. Employee pay differential is acceptable if pursuant to a seniority system, a merit system, a system which measures earnings by quantity or quality of production, or if the differential is based on any other factor other than sex.

TAX CLEARANCE :

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

LICENSE :

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

SUBCONTRACTOR LICENSE: 29 DEL. C. §6967:

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

DIFFERING SITE CONDITIONS:

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

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

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

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

Suspensions of work ordered by the engineer: If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

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

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

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

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

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

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

CONFLICT WITH FEDERAL STATUTES OR REGULATIONS:

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

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

FEDERAL LABOR AND EMPLOYMENT REQUIREMENTS

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

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

CONVICT PRODUCED MATERIALS:

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

- (1) Produced by convicts who are on parole, supervised release, or probation from a prison or
- (2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987.

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

RIGHT TO AUDIT

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

TO REPORT BID RIGGING ACTIVITIES:

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

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

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

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

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation In
Each Trade

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 insure 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.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM SPECIFICATION

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

The following definitions apply to this subpart:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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CRITICAL DBE REQUIREMENTS

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

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

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

Prompt Payment: The prime contractor/consultant receiving payments shall, within 30 days of receipt of any payment, file a statement with the Department on a form to be determined by the Department that all subcontractors furnishing labor or material have been paid the full sum due them at the stage of the contract, except any funds withheld under the terms of the contract as required by Chapter 8, Title 17 of the Delaware Code, annotated and as amended. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of DeIDOT. 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 DeIDOT. This clause covers both DBE and non-DBE subcontractors. As guidance, once a subcontractor has satisfactorily completed the physical work, and has given to the prime contractor a certified statement that all laborers, lower tier contractors, and materialmen who have furnished labor and materials to the subcontractor have been paid all monies due them, the prime contractor shall return retainage to the subcontractor within 15 calendar days.

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

"The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such remedy as the recipient deems appropriate." 49 CFR Section 26.13

7. In addition to this specification, bidders must comply with all provisions of the rules and regulations adopted by the U.S. Department of Transportation for DBE participation in U.S. DOT and DeIDOT Programs (49 CFR Part 26) and the Delaware Department of Transportation Disadvantaged Business Enterprise Program Plan; each of which is hereby incorporated and made part of this specification. Bidders are also reminded that they must be responsible and responsive bidders in all other aspects aside from the DBE Program in order to be awarded the contract.

8. In accordance with 49 CFR 26.53(f)(1), DeIDOT requires that a prime contractor not terminate a DBE subcontractor without prior written consent from the DeIDOT Civil Rights Office. This includes, but is not limited to, instances in which a prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

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GUIDANCE FOR GOOD FAITH EFFORT

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

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

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

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

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

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

Administrative reconsideration:

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

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

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**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

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

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

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

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

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

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

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.

* * * * *

BUY AMERICA

Requirements in the Federal-aid Highway Program

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

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

At the Department's request, I/we will provide manufacturer's/supplier's documentation verifying domestic origin as defined in the Specifications. 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.

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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) 761-8200

Mailing Address:
4425 North Market Street
3rd Floor
Wilmington, DE 19802

Located at:
4425 North Market Street
3rd Floor
Wilmington, DE 19802

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 13, 2020

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	57.94	57.94	57.94
CARPENTERS	57.07	56.46	44.83
CEMENT FINISHERS	59.27	36.35	28.90
ELECTRICAL LINE WORKERS	29.93	48.35	23.66
ELECTRICIANS	72.49	72.49	72.49
IRON WORKERS	72.84	26.57	28.22
LABORERS	46.12	42.45	41.67
MILLWRIGHTS	17.94	17.41	15.03
PAINTERS	73.29	73.29	73.29
PILEDRIVERS	79.62	26.45	30.00
POWER EQUIPMENT OPERATORS	69.07	44.10	40.40
SHEET METAL WORKERS	25.34	22.61	20.48
TRUCK DRIVERS	38.23	31.44	38.30

CERTIFIED:

09/10/2020

BY:

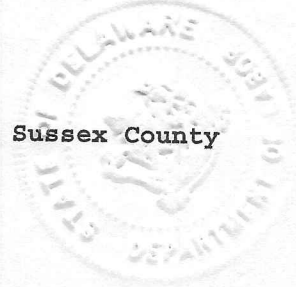
[Signature]
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

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) ~~761-8200~~ *761-8200*

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

PROJECT: T201200903 SR 24 at SR 5 SR 23 - Intersection Improvements, Sussex County



"General Decision Number: DE20200015 02/07/2020

Superseded General Decision Number: DE20190015

State: Delaware

Construction Type: Highway

County: Sussex County in Delaware.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 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, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 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 calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	02/07/2020

SUDE2019-003 06/24/2019

	Rates	Fringes
BRICKLAYER.....	\$ 55.89	0.00
CARPENTER.....	\$ 44.22	0.00
CEMENT MASON/CONCRETE FINISHER...\$	28.39	0.00
ELECTRICIAN		
Electrician.....	\$ 70.49	0.00
Line Workers.....	\$ 23.24	0.00
IRONWORKER.....	\$ 27.27	0.00
LABORER.....	\$ 40.93	0.00
MILLWRIGHT.....	\$ 14.76	0.00
PAINTER.....	\$ 71.29	0.00
POWER EQUIPMENT OPERATOR		
Piledrivers.....	\$ 29.47	0.00
Power Equipment Operators...\$	39.68	0.00
SHEET METAL WORKER.....	\$ 20.12	0.00

TRUCK DRIVER.....\$ 37.62 0.00

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 www.dol.gov/whd/govcontracts.

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

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average

rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

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

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END OF GENERAL DECISION"

SPECIAL PROVISIONS

S.P. Code	SPECIAL PROVISION DESCRIPTION
401502-15	ASPHALT CEMENT COST ADJUSTMENT
401580-15	RIDE QUALITY OF HOT-MIX PAVEMENT
401699-15	QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE
602502-15	CONVERTING EXISTING CATCH BASIN TO MANHOLE
621500-15	TEMPORARY TIMBER MAT
706500-15	RIGHT-OF-WAY MARKER, CAPPED REBAR
707500-15	CHANNEL BED FILL
710500-15	INSTALL WATERLINE
711500-15	ADJUST AND REPAIR EXISTING SANITARY MANHOLE
711502-15	ADJUST AND REPAIR EXISTING SANITARY CLEANOUTS
763501-15	CONSTRUCTION ENGINEERING
763503-15	TRAINEE
763508-15	PROJECT CONTROL SYSTEM DEVELOPMENT PLAN
763509-15	CPM SCHEDULE UPDATES AND/OR REVISED UPDATES
763597-15	UTILITY CONSTRUCTION ENGINEERING
763598-15	FIELD OFFICE, SPECIAL I
831514-15	FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
831515-15	FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)
831516-15	FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)
831523-15	FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (TRENCH)
831526-15	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)
831541-15	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
831545-15	FURNISH AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)
831574-15	FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
831578-15	FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE
832500-15	SPLICING OF ELECTRICAL CABLE, UNDERGROUND
834501-15	PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS
842502-15	FURNISH AND INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 (200 AMP)
850503-15	LUMINAIRE (LED), 160 WATTS
851504-15	ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD
851506-15	ALUMINUM LIGHTING STANDARD, 30' POLE
851522-15	ALUMINUM LIGHTING SINGLE DAVIT ARM, 20' ARM SPREAD
910504-15	OUTLET STRUCTURE, TRASH RACK
910505-15	OUTLET STRUCTURE, ORIFICE TRAP

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

Contract No. T201200903

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

NOTE:

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

9/16/2020

401580 - RIDE QUALITY OF BITUMINOUS PAVEMENT

Description:

This specification outlines requirements for an acceptable ride surface in addition to requirements established in DeDOT 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.

Contract No. T201200903

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

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

Testing:

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

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

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

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

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

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

Contract No. T201200903

Submission Requirements:

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

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

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

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

Acceptance and Payment:

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

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

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

Where: L = Length Segment (ft.)

W = Lane Width (ft.)

Contract No. T201200903

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%

Contract No. T201200903

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 DeIDOT procedures, and shall be evaluated using Quality Level Analysis. The Engineer will conduct acceptance tests. The Engineer will directly base acceptance on the acceptance test results, the asphalt cement quality, the Contractor's QC Plan work, and the comparisons of the acceptance test results to the QC test results. The Engineer may elect to utilize test results of the Contractor in some situations toward judging acceptance.

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

The first sample of the production day will be randomly generated by the Engineer between loads 0 and 12 (0-250 tons). Subsequent samples will be randomly generated by the Engineer on 500-ton sub-lots for the production day. Samples not retrieved in accordance with the Contractor's QC plan will be deemed unacceptable and may be a basis for rejection of material produced. Parallel tests or dispute resolution tests will only be performed on material captured at the same time and location as the acceptance test sample. Parallel test samples

Contract No. T201200903

or Dispute Resolution samples will be created by splitting a large sample or obtaining multiple samples that equally represent the material. The Engineer will perform all splitting and handling of material after it is obtained by the Contractor.

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

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

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

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

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

- AASHTO T312 - Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- AASHTO T166, Method C (Rapid Method) - Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface Dry Specimens

Contract No. T201200903

- 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 to the method described in Appendix B. If this meeting is not held prior to paving, no areas will be considered for Table 5a. Areas of allowable exemptions that will not be cored include the following: partial-depth patch areas, driveway entrances, paving locations of less than 100 tons, areas around manholes and driveway entrances, and areas of paving that are under 400 feet in continuous total length and/or 5 feet in width.

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

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

Contract No. T201200903

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.

Contract No. T201200903

Repair core holes per Appendix A, Repairing Core Holes in Bituminous Asphalt Pavements. Core holes shall be filled immediately. Failure to repair core holes at the time of coring will result in zero pay for compaction testing for the area in question.

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

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

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

.03 Payment and Pay Adjustment Factors.

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

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

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

(a) Material Production - Pay Adjustment.

Contract No. T201200903

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.

Contract No. T201200903

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 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,

Contract No. T201200903

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

Contract No. T201200903

86	1.04	1.08	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.04	1.04	1.04	1.04
84	1.01	1.02	1.01	1.01	1.00	1.00	1.00
83	1.00	0.99	0.98	0.97	0.97	0.96	0.96
82	0.97	0.96	0.95	0.94	0.93	0.93	0.93
81	0.96	0.93	0.91	0.90	0.90	0.89	0.89
80	0.93	0.90	0.88	0.87	0.86	0.86	0.86
79	0.91	0.87	0.85	0.84	0.83	0.82	0.82
78	0.89	0.84	0.82	0.80	0.80	0.79	0.79
77	0.87	0.81	0.78	0.77	0.76	0.76	0.76
76	0.84	0.78	0.75	0.74	0.73	0.73	0.72
75	0.82	0.75	0.72	0.71	0.70	0.70	0.69
74	0.79	0.72	0.69	0.68	0.67	0.66	0.66
73	0.75	0.69	0.66	0.65	0.64	0.63	0.63
72	0.74	0.66	0.63	0.62	0.61	0.60	0.60
71	0.71	0.63	0.60	0.59	0.58	0.57	0.57
70	0.68	0.60	0.57	0.56	0.55	0.55	0.54
69	0.65	0.57	0.54	0.53	0.52	0.52	0.51

Contract No. T201200903

68	0.62	0.54	0.51	0.50	0.49	0.49	0.48
67	0.59	0.51	0.47	0.47	0.46	0.46	0.46
66	0.56	0.48	0.45	0.44	0.44	0.43	0.43
65	0.52	0.45	0.43	0.41	0.41	0.40	0.40
64	0.49	0.42	0.40	0.39	0.38	0.38	0.37
63	0.46	0.39	0.37	0.36	0.35	0.35	0.35
62	0.43	0.36	0.34	0.33	0.32	0.32	0.32

Table 3 B Quality Level Analysis by the Standard Deviation Method

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
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.

Contract No. T201200903

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

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

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

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 Other ¹ Locations		
Degree of Compaction	Range	Pay Adjustment Factor (%)
>= 97.0	>= 96.75	-100*
96.5	96.26 – 96.74	-5
96.0	95.75 – 96.25	-3
95.5	95.26 – 95.74	-2
95.0	94.75 – 95.25	0
94.5	94.26 – 94.74	0
94.0	93.75 – 94.25	0
93.5	93.26 – 93.74	1
93.0	92.75 – 93.25	3
92.5	92.26 – 92.74	1
92.0	91.75 – 92.25	0
91.5	91.26 – 91.74	0
91.0	90.75 – 91.25	0
90.5	90.26 – 90.74	0
90.0	89.75 – 90.25	0
89.5	89.26 – 89.74	0
89.0	88.75 – 89.25	-1
88.5	88.26 – 88.74	-3
88.0	87.75 – 88.25	-5
87.5	87.26 – 87.74	-10
87.0	86.75 – 87.25	-15
86.5	86.26 – 86.74	-20
86.0	85.75 – 86.25	-25
85.5	85.26 – 85.74	-30
85.0	84.75 – 85.25	-40
84.5	84.26 – 84.74	-50
=< 84.0	=<84.25	-100*

* or remove and replace at Engineer's discretion

Contract No. T201200903

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 - DeIDOT 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:

Contract No. T201200903

- 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.

Contract No. T201200903

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

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

Example:

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

Calculation:

For the Type B lift the calculation would be:

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

Contract No. T201200903

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>

11/3/14

602502 - CONVERTING EXISTING CATCH BASIN TO MANHOLE

Description:

This work consists of furnishing all materials and constructing a manhole from an existing catch basin in accordance with the locations, notes and details shown on the Plans, and as directed by the Engineer.

Materials and Construction Methods:

Materials and construction methods shall conform to the applicable requirements of Section 602 of the Standard Specifications, and as specified on the Plans.

Portland Cement Concrete shall meet the requirements of Class B, Section 1022 of the Standard Specifications.

Method of Measurement:

The quantity of catch basins converted to manholes will be measured as the number of catch basins converted to manholes and accepted.

Basis of Payment:

The quantity of catch basins converted to manholes will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for constructing the manhole from the existing catch basin, for all materials including reinforcing steel, cover & frames and for all labor, equipment, tools, and incidentals necessary to complete the item. The cost for salvaging and delivering gratings to the location as specified on the Plans shall be included in the unit price bid for the item.

4/9/2018

621500 - TEMPORARY TIMBER MAT

Description:

The item shall consist of furnishing all materials and constructing a temporary timber mat for access across the wetland area as shown on the Plans and as directed by the Engineer. All equipment shall utilize this temporary timber mat when trying to access the stockpile/staging area and the underside of the bridge.

Materials:

In accordance with Section 621 of the Standard Specifications and the following:

Timber shall have a strength and grade adequate to support the Contractor's anticipated vehicular or equipment loads. Any preservative treatment applied to the matting shall be environmentally safe for wet conditions and be preapproved by the Department.

Hardware shall be in accordance with Section 1041.05 of the Standard Specifications.

Construction Methods:

The Contractor shall submit to the Department for approval shop drawings and design calculations indicating the layout, size of members, arrangement of members and the construction methods at least two weeks prior to initiating construction. This information shall be signed and sealed by a Professional Engineer registered in the State of Delaware. A timber mat system is shown on the plans and shall be used for conceptual purposes only. The actual timber mat system utilized for the construction shall be designed for the anticipated construction loads and shall be compatible with the environment. Placement of stone within the wetland area is not permitted.

The temporary timber matting should be periodically inspected by the Contractor and any damaged or deteriorated components should be replaced. The Contractor assumes full responsibility for the load carrying capability of the system and for its anchorage, as required, to resist high water flows. No additional compensation will be granted for repairing any portion of the system damaged during naturally occurring weather events or contractor usage. The Contractor is responsible for retrieving lost mats and repairing any damage caused by naturally occurring weather events.

Contract No. T201200903

Basis of Payment:

The payment for the item shall be made for at the contract unit price bid per Lump Sum for "621500 - Temporary Timber Mat", which price and payment shall constitute full compensation for furnishing and placing all materials, for design, submission of signed and sealed drawings and computations, installation and removal of timber mat materials, and for all labor, equipment, tools and incidentals required to complete the work.

6/30/17

706500 - RIGHT-OF-WAY MARKER, CAPPED REBAR

Description:

Furnish necessary materials and labor to set at the locations shown on the Plans, and as directed by the Engineer.

Materials:

Provide Right-of-Way Marker, Capped Rebar constructed in accordance with the details shown in the Standard Construction Details using materials specified in:

Bar Reinforcement	Section 611
Aluminum 2" Flat Survey Marker for Rebar	As Submitted and approved by Engineer

Construction Methods:

- A. Exact location to be set by a Delaware Professional Land Surveyor in accordance with the plans or as directed by the Engineer;
- B. Place Rebar in a vertical position at depth shown on the plans;
- C. Place Aluminum 2" flat survey marker on rebar taking care not to move the location of the rebar.

Method of Measurement:

Right-of-Way Marker, Capped Rebar will be measured as the actual number of Right-of-Way Marker, Capped Rebar set and accepted.

Basis of Payment:

The quantity of Right-of-Way Marker, Capped Rebar will be paid for at the Contract unit price per Each. Price and payment will constitute full compensation for furnishing all materials required and setting the Right-of-

Contract No. T201200903

Way Marker, Capped Rebar by a Delaware Professional Land Surveyor and any incidentals necessary to complete the item. Existing Right-of-Way Marker, Capped Rebar damaged will be replaced as required by Subsection 107.09 of the Standard Specifications and will be repaired, replaced, and set at the Contractor's expense.

8/03/17

Contract No. T201200903

707500 - CHANNEL BED FILL

Description:

Furnish and place Channel Bed Fill to the limits specified in the construction plan set.

Materials:

Provide aggregate material meeting the following requirements:

Provide natural, rounded, unwashed and uncrushed aggregate material meeting the gradation of Table 1 when tested in accordance with AASHTO T-11 and T-27.

- a. Aggregate material meeting this requirement may be located within the excavation area of the project. The Contractor may salvage this material at his/her discretion by separating and stockpiling the material meeting the requirements of Table 1 and Notes 1&2.
- b. Angular quarried aggregate is unacceptable.
- c. The cost of salvaging and stockpiling existing material and removing excess stockpiled material is incidental to 707500 - Channel Bed Fill.

Table 1

Percent Passing	Light ³	Medium ⁴	Heavy
5-inch	100	90-100 ¹	Gradation to be noted on Plan sheets
1-inch	70-100 ¹	0-20 ²	
3/4-inch	30-95		
3/8-inch	0-10 ²		

Notes:

¹ Salvaged materials may contain material exceeding this size and be acceptable.

² Salvaged materials may contain up to 20% passing the 3/8-inch sieve but not to exceed 10% passing the #200 sieve when tested in accordance with T-11.

³ Unless noted otherwise on plan sheets, Light gradation shall be used in locations in Sussex County

⁴ Unless noted otherwise on plan sheets, Medium gradation shall be used in locations in Kent and New Castle Counties.

Method of Measurement:

Quantity of Channel Bed Fill will be measured by cubic yards of material acceptably placed.

Basis of Payment:

The quantity of Channel Bed Fill will be paid for at the Contract unit price per cubic yard. Price and Payment will constitute full compensation for all labor, equipment, and other incidentals required to salvage, stockpile, maintain, furnish, haul, place, and remove and dispose of all material necessary to complete the work.

Excavation of existing streambed material will be paid under its respective item.

11/9/16

710500 – INSTALLATION OF WATER MAINS AND ACCESSORIES

Description:

This work consists of furnishing and installing all materials to relocate Waterlines, including Taps, Tie-ins, Fittings, and Valves; relocate fire hydrants; and other related items as shown on the plans and meeting the requirements of the applicable DeIDOT Standard Specifications, these Special Provisions and the applicable Technical Specifications. The relocations are located in distinct sections as shown on the plans.

Any requirements included in the Technical Specifications that are not addressed on the plans or by these Special Provisions, shall be performed in accordance with the applicable sections of the Appendix B Technical Specifications. The Contractor is advised to obtain and be fully acquainted with the applicable specifications of the Owner. Costs to comply are considered incidental to Item 710500.

The Owner of the water line on this project is Tidewater Utilities, Inc. and their Technical Specifications are included in this contract as Appendix B to the Special Provisions. When referenced in these Special Provisions, or the Technical Specifications, the Owner is intended to be represented by an employee of Tidewater Utilities, Inc.

All work on this item shall be performed by a contractor prequalified by and acceptable to the Tidewater Utilities, Inc. A list of contractors currently pre-qualified by Tidewater Utilities is included in Appendix B along with a process to request pre-qualification of other firms.

“Breakout Sheets” are included in the contract to establish unit prices for the items listed in the specific Breakout Sheet. The total of these unit prices multiplied by the estimated quantities, as totaled for all Breakout Sheets, will establish the total Lump Sum price to be submitted with the bid. Each listed item will be measured as a unit price item in the field. The final Lump Sum payment for Item 710500 will be adjusted by change order, either plus or minus, to match the final totals of all unit price items established in the Breakout Sheets. Failure to complete and submit the Breakout Sheets with the bid will cause the bid to be considered unresponsive.

Breakout Item	Description
W-1	Station 1106+60 (SR24) to Station 1135+60 [Lump Sum]
W-2	Station 1216+30 (SR5) to Station 1216+60 (SR5) [Lump Sum]
W-3	Station 1304+50 (SR23) to Station 1304+80 (SR23) [Lump Sum]

General Requirements:

As listed in the Appendix B Technical Specifications 01000, 01300, 01400, 01600, 02221, 02222, 02660, 02661, 02662, 02663 and Contractor Requirements for Water Relocation Work.

Any and all emergency repairs required during the period of this Contract shall be the responsibility of the Contractor. In the event the Owner or Engineer is unable to contact the Contractor for the immediate emergency repair items of work, or in the event the Contractor does not take action when contacted within a reasonable length of time, the

Contract No. T201200903

Owner of the utility reserves the right to attend to any and all emergency repair work items and to resubmit the costs directly to the Contractor for complete payment.

An inspector representing the Owner must be present during any service connections. All service connections must be performed by a Licensed Plumber.

Specifications:

DelDOT Standard Specifications, including but not limited to Sections 202, 204, 208, 209 and 1022 (Class B).

Appendix B Technical Specifications

Contract Plans and Details

These Special Provisions

Submittals:

In addition to the as-built drawings outlined in Technical Specifications Section 01300, the Contractor shall submit sources of supply and catalog cuts to DelDOT for all materials furnished as part of Item 710500 as required by Standard Specification Section 106.

The Contractor shall submit for review and approval by the Engineer a detailed plan for dewatering the work zone prior to beginning any water relocation work. It is intended to place all pipe and appurtenances in a “dry trench”. Refer to Technical Specifications for additional bedding details.

The Contractor shall submit the proposed materials, procedure, and sequence of operations for review and approval by the Engineer and Owner prior to beginning work on any “wet taps”.

Materials:

Furnish all materials for all materials related to the water main work. Material requirements are as listed in the plan details, the Appendix B Technical Specification Sections and this Special Provision. Note that material required for water services (Section 02662) will be provided by Tidewater Utilities, Inc. as needed. All materials for the water main work shall be made in America unless specifically approved otherwise.

Cast-in-place Concrete shall meet the requirements of Section 1022, Class B of the Delaware Standard Specifications.

Borrow, Type C, or existing material meeting Borrow, Type C for backfilling shall conform to the requirements of Section 209 of the DelDOT Standard Specifications. Pipe foundation bedding shall meet Borrow, Type B, or existing material meeting Borrow, Type B requirements in accordance with Section 209 of the DelDOT Standard Specifications.

Construction Methods:

In accordance with the Technical Specifications, Contract Plans and this Special Provision.

Measurement and Payment:

General Requirements –

Contract No. T201200903

Price and payment for all breakout items listed as part of Item 710500 include excavation, dewatering, furnishing, installing, and removing sheeting, shoring, or trench boxes to meet OSHA requirements; backfill (including furnishing Type B and/or Type C Borrow), backfilling, and Testing to meet the requirements of the Owner. Also included in all items are, where necessary, concrete thrust blocks and restraints, tracing wire, and detector tape per Owner's requirements. Also included are in all items are removing, cutting, capping, and/or abandoning existing facilities as described in the Contract Documents. Payment for all items also includes all labor, equipment, and incidentals needed to complete the item.

Measurement for items identified in the Breakout Sheets with a Linear Foot unit will be made from end to end of the final length of installed pipe and fittings. Measurement will be made through any fittings with no deduction.

The price for each item shall include furnishing and installing all materials to resolve any alignment conflict between a water main and storm sewer or other Utility pipe. Also included is any required temporary support of the pipe in conflict with the water main.

Any excavation and backfill below the originally designed elevations due to unsuitable material shall be addressed in accordance with Article 3.2C of Technical Specification 02660.

Pavement Sawcutting, Roadway Patching materials (GABC and warm mix), removal of existing concrete, topsoil, seeding, and all Maintenance of Traffic items will be paid for separately under their respective bid items, if required by the contract documents.

For Service Connections, the price per each shall also include installation of necessary service lateral pipe, labor and equipment necessary to adjust an existing service connection and/or meter box. Any new materials required will be furnished by the Owner. Also included in the price per each is the cost to have any service connections performed by a Licensed Plumber.

Payment Clarification –

A percentage of the total Lump Sum bid price will be paid based on the work performed in each pay period. The percentage will be calculated by multiplying the total units of each completed Breakout Item times the appropriate unit price; then adding the total dollars of completed work, divided by the total Lump Sum bid price for item 710500, Water Main and Accessories. Final payment may result in less than 100% of the total Lump Sum based on actual work performed. Should the Lump Sum total be exceeded, additional funds will be added by Change Order based on the best available estimate at the time. Failure to fully complete the Breakout Sheets for this Item will result in the bid being declared non-responsive.

7/30/2020

711500 - ADJUST AND REPAIR EXISTING SANITARY MANHOLE

Description:

This work consists of adjusting and repairing existing sanitary manholes in accordance with notes and details on the Plans and as directed by the Engineer.

Materials and Construction Methods:

Materials and construction methods shall conform to the applicable requirements of Section 711 of the Standard Specifications, and the Standard Specifications of the owner of the sewer system. If there is a conflict between the Department's Specifications and the Specifications of the owner, the latter will prevail.

Method of Measurement and Basis of Payment:

The method of measurement and basis of payment for the item shall be made in accordance with Subsections 711.04 and 711.05 of the Standard Specifications.

7/27/2020

711502 - ADJUST AND REPAIR EXISTING SANITARY CLEANOUTS

Description:

This work consists of adjusting and repairing the existing sanitary cleanouts in accordance with the notes and details on the Plans and as directed by the Engineer. Perform the Work in accordance with the Contract Documents and the requirements of the standards and specifications of the owner of the Utility ("Owner"). In cases of conflict between the Contract Documents and the standards and specifications of the Owner; the standards and specifications of the Owner will govern the Work.

Materials and Construction Method:

Portland cement concrete shall be Class B and shall conform to the requirements of Section 1022 of the Standard Specifications. Pipe and other materials required for the cleanouts shall be similar to the original structure.

Covers of the cleanouts shall be removed, and masonry found to be in poor condition, shall be rebuilt using materials conforming with the original structure. Top of the cleanouts shall be adjusted to the proper grade prior to the paving operations.

Method of Measurement:

The quantity of sanitary cleanouts adjusted and repaired will be measured as the actual number of sanitary cleanouts adjusted, repaired and accepted.

Basis of Payment:

The quantity of sanitary cleanouts adjusted and repaired will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for adjusting and repairing the cleanouts, for all materials; for excavation, backfill and backfilling; for all labor, equipment, tools and necessary incidentals to complete the work.

1/21/2020

763501 - CONSTRUCTION ENGINEERING

Description:

This work consists of construction lay out including; stakes, lines and grades as specified below. Subsection 105.10 Construction Stakes, Lines and Grades of the Standard Specifications is voided.

Based on contract plans and information provided by the Engineer, the Contractor shall stake out right-of-way and easements lines, limits of construction and wetlands, slopes, profile grades, drainage system, centerline or offset lines, benchmarks, structure working points and any additional points to complete the project.

The Engineer will only establish the following:

- (a) Original and final cross-sections for borrow pits.
- (b) Final cross-sections: Top and bottom pay limit elevations for all excavation bid items that are not field measured by Construction inspection personnel. 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.
- (c) Line and grade for extra work added on to the project plans.

Equipment. The Contractor shall use adequate equipment/instruments in a good working order.

He/she shall 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. The Contractor shall 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. If the Contractor chooses to use GPS technology in construction stakeout, the Contractor shall provide the Engineer with a GPS rover and Automatic Level for the duration of the contract. The GPS rover shall be in good working condition and of similar make and model used by the Contractor. The Contractor shall provide up to 8 hours of formal training on the Contractor's GPS system to a maximum of four Engineer's appointees (DELDOT Construction Inspectors). At the end of the contract, the Engineer will return the GPS rover to the Contractor. If any of the equipment/instruments are found to be out of adjustment or inadequate to perform its function, such instrument or equipment shall be immediately replaced by the Contractor to the satisfaction of the Engineer. Choosing to use GPS technology does not give the contractor authority to use machine control.- Construction Engineering (GPS) Machine Control Grading shall only be used if noted in the General Notes in the plan set outlining the available files that will be provided to the Contractor 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 General Notes shall be provided to the contractor. If machine control grading is allowed on the project see the "machine

Contract No. T201200903

control" section of this specification. GPS technology and machine control technology shall not be used in the construction of bridges.

Engineering/Survey Staff. The Contractor shall provide and have available for the project an adequate engineering staff that is competent and experienced to set lines and grades needed to construct the project. The engineering personnel required to perform the work outlined herein shall have experience and ability compatible with the magnitude and scope of the project. Additionally, the Contractor shall 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 sub contracting requirements of Subsection 108.01 of the Standard Specifications. The Contractor shall assume full responsibility for any errors and/or omissions in the work of the engineering staff described herein. If construction errors are caused due to erroneous work done under Construction Engineering the Contractor accepts full responsibility, no matter when the error is discovered. Consideration will not be given 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 by this specification.

Construction Methods:

Performance Requirements:

- (a) Construction Engineering shall include establishing the survey points and survey centerlines; finding, referencing, offsetting the project control points; running a horizontal and vertical circuit to verify the precision of given control points. Establishing plan coordinates and elevation marks for culverts, slopes, subbase, subsurface drains, paving, subgrade, retaining walls, and any other stakes required for control lines and grades; and setting vertical control elevations, such as footings, caps, bridge seats and deck screed. The Contractor shall be responsible for the preservation of the Department's project control points and benchmarks. The Contractor shall 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 by the Contractor. The Contractor as directed by the Engineer must replace any or all stakes that are destroyed at any time during the life of the contract. The Contractor shall 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 ft times. The Horizontal Control precision ratio shall have a minimum precision of 1:20,000 feet of distance traversed prior to adjustment.

- (b) The Contractor shall perform construction centerline layout of all roadways, ramps and connections, etc. from project control points set by the Engineer. The Contractor using the profiles and typical sections provided in the plans shall calculate proposed grades at the edge of pavement or verify information shown on Grades and Geometric sheets.

Contract No. T201200903

- (c) The Contractor shall advise the Engineer of any horizontal or vertical alignment revisions needed to establish smooth transitions to existing facilities. The Contractor must 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.

- (d) The Contractor shall establish the working points, 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 as per Contract Plans. Before completion of the fabrication of beams for bridge superstructures, the Contractor shall verify by accurate field measurements the locations both vertically and horizontally of all bearings and shall 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, the Contractor shall survey top of beam elevations at a maximum of 10-ft stations and compute screed grades. These shall be submitted 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 sufficiently frequent intervals to assure that all components of the structure are constructed in accordance with the lines and grades shown on the plans. The Contractor will be responsible for all structure alignment control, grade control and all necessary calculations to establish and set these controls.

- (e) The Contractor, using contract plans, shall investigate proposed construction for possible conflicts with existing and proposed utilities. The Contractor shall then report such conflicts to the Engineer for resolution. All stakes for utility relocations, which will be performed by others, after the Notice to Proceed has been given to the Contractor, shall be paid for under item 763597

- Utility Construction Engineering.

- (f) The Contractor shall be responsible for the staking of all sidewalk and curb ramp grades in accordance with the plans and the Departments Standard Construction Details. The Contractor shall review the stakeout with the Engineer prior to construction. The Engineer must approve any deviation from plans, Department Standard Construction Details and Specifications in writing. The Contractor shall be responsible for any corrective actions resulting from problems created by adjustments if they fail to obtain such approval.

- (g) The Contractor shall be responsible for the staking of all drainage inlets in accordance with the plans and the Department Standard Construction Details. The offsets and top of grate elevations need to be calculated for each type of drainage inlet specified in the contract plans by the Contractor in order to line up the drainage inlet's flow line with the specified curb or ditch flow line as shown in the Contract Documents. The Engineer must approve any deviations from plans, Department Standard Construction Details and Specifications in writing. The Contractor shall be responsible for any corrective actions resulting from problems created by adjustments if they fail to obtain such approval.

- (h) If wetland areas are involved and specifically defined on the Plans the following shall apply:

Contract No. T201200903

- i. It is the intent of these provisions to alert the Contractor, that he/she shall not damage or destroy wetland areas, which exist beyond the construction limits. These provisions will be strictly enforced and the Contractor shall advise his/her personnel and those of any Subcontractor of the importance of these provisions.
 - ii. All clearing operations and delineation of wetlands areas shall be performed in accordance with these Special Provisions. Before any clearing operation commences the Contractor shall demarcate wetlands at the Limits of Construction throughout the entire project as shown on the Plans labeled as Limits of Construction or Wetland Delineation to the satisfaction of the Engineer.
 - iii. The material to be used for flagging the limits of construction shall be orange vinyl material with the wording "Wetland Boundary" printed thereon. In wooded areas, the flagging shall be tied on the trees, at approximate 20-foot intervals through wetland areas. In open field and yard areas that have been identified as wetlands, 6 foot posts shall be driven into the ground at approximate 50-foot intervals and tied with the flagging. The flagging shall extend approximately 12 inches in length beyond the post. Posts shall be oak with cross sectional dimensions of 1 ½ inches to 2 inches by 1 ½ inches to 2 inches or ¼ inch rebar.
 - iv. If the flagging has been destroyed and the Engineer determines that its use is still required, the Contractor shall reflag the area at no cost to the Department. If the Contractor, after notification by the Engineer that replacement flagging is needed, does not replace the destroyed flagging within 48 hours, the Engineer may proceed to have the area reflagged. The cost of the reflagging by the Engineer will be charged to the Contractor and deducted from any monies due under the Contract.
 - v. At the completion of construction, the Contractor shall remove all posts and flagging.
 - vi. The Contractor shall be responsible for any damages to wetlands located beyond the construction limits, which occurs from his/her operations during the life of the Contract. The Contractor shall restore all temporarily disturbed wetland areas to their preconstruction conditions. This includes restoring bank elevations, streambed and wetland surface contours and wetlands vegetation disturbed or destroyed. The expense for this restoration shall be borne solely by the Contractor.
- (i) 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.

Contract No. T201200903

Submittals. All computations necessary to establish the exact position of all work from the control points shall be made and preserved by the Contractor. All computations, survey notes, electronic files, and other records necessary to accomplish the work shall be 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 made by the Contractor and any necessary correction to the work shall be made as soon as possible. The Contractor shall furnish the Engineer with such assistance as may be required for checking all lines, grades, and measurements established by the Contractor and necessary for the execution of the work. Such checking by the Engineer shall not relieve the Contractor of his/her responsibility for the accuracy or completeness of the work. Copies of all notes must be furnished to the engineer at the completion of the project.

The Contractor shall submit any of the following at the Engineer's request:

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

Machine Control Grading

This Section of the specification shall only be used if machine control is authorized for use on the project.

Description:

This specification contains the requirements for grading operations utilizing Global Positioning Systems (GPS).

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.

The Contractor may use any manufacturer's GPS machine control equipment and system that results in achieving the grading requirements outlined in section 202 of the standard specifications. The Contractor shall convert the electronic data provided by the Department into the format required by their system. The Department will only provide the information outlined in this document and no additional electronic data will be provided.

The Contractor shall perform at least one 500 foot test section with the selected GPS system to demonstrate that the Contractor has 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. If the Contractor fails to demonstrate this ability to the satisfaction of the Department, the Contractor shall construct the project using conventional surveying and staking methods.

Materials:

All equipment required to perform GPS machine control grading, including equipment needed by DeIDOT to verify the work, shall be provided by the Contractor and shall be able to generate end results that are in accordance with the requirements of Division 200 - EARTHWORK of the Standard Specifications.

Construction:

A. DeIDOT Responsibilities:

Contract No. T201200903

1. The Department will set initial vertical and horizontal control points in the field for the project as indicated in the contract documents, (plans set). If the Contractor needs to establish new control points they shall be traversed from existing control points and verified to be accurate by conventional surveying techniques.
2. The Department will provide the project specific localized coordinate system.
3. The Department will provide data in an electronic format to the Contractor as indicated in the General Notes.
 - a. The information provided shall not be considered a representation of actual conditions to be encountered during construction. Furnishing this information does not relieve the Contractor from the responsibility of making an investigation of conditions to be encountered including, but not limited to site visits, and basing the bid on information obtained from these investigations, and the professional interpretations and judgments of the Contractor. The Contractor shall assume the risk of error if the information is used for any purpose for which the information is not intended.
 - b. Any assumption the Contractor makes from this electronic information shall be at their risk. If the Contractor chooses to develop their own digital terrain model the Contractor shall be fully responsible for all cost, liability, accuracy and delays.
 - c. The Department will develop and provide electronic data to the Contractor for their use as part of the contract documents in a format as indicated in the General

Notes. The Contractor shall independently ensure that the electronic data will function in their machine control grading system.

4. The Files that are provided were originally created with the computer software applications MicroStation (CADD software) and INROADS (civil engineering software). The data files will be provided in the native formats and other software

formats described below. The contractor shall perform necessary conversion of the files for their selected grade control equipment. The Department will furnish the Contractor with the following electronic files:

- a. CAD files
 - i. Inroads -Existing digital terrain model (.DTM)

Contract No. T201200903

- ii. Inroads -Proposed digital terrain model (.DTM)
 - iii. Microstation -Proposed surface elements - triangles
- b. Alignment Data Files:
- i. ASCII Format
5. The Engineer shall perform spot checks of the Contractor's machine control grading results, surveying calculations, records, field procedures, and actual staking. If the Engineer determines that the work is not being performed in a manner that will assure accurate results, the Engineer may order the Contractor to redo such work to the requirements of the contract documents, and in addition, may require the Contractor to use conventional surveying and staking, both at no additional cost to the Department.

B . Contractor's Responsibilities

- 1. The Contractor shall 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 to the Contractor. The Contractor shall provide a total of 8 hours of formal training on the Contractor's GPS machine control system to the Engineer and up to three additional Department appointees per rover.
- 2. The Contractor shall review and apply the data provided by the Department to perform GPS machine control grading.
- 3. The Contractor shall bear all costs, including but not limited to the cost of actual reconstruction of work, that may be incurred due to application of GPS machine control grading techniques. Grade elevation errors and associated corrections including quantity adjustments resulting from the contractor's use of GPS machine control shall be at no cost to the Department.
- 4. The Contractor shall convert the electronic data provided by the Department into a format compatible with their system.
- 5. The Contractor's manipulation of the electronic data provided by the Department shall be performed at their own risk.

Contract No. T201200903

6. The Contractor shall check and if necessary, recalibrate their GPS machine control system at the beginning of each workday in accordance with the manufacturer's recommendations, or more frequently as needed to meet the requirements of the project.
7. The Contractor shall meet the accuracy requirements as detailed in the Standard Specifications.
8. The Contractor shall 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 be at intervals not to exceed 1000 feet. 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. The Contractor shall be responsible for all errors resulting from their efforts and shall correct deficiencies to the satisfaction of the Engineer and at no additional cost to the Department.
9. The Contractor shall provide stakes at all alignment control points, at every 500 foot stationing, and where required for coordination activities involving environmental agencies and utility companies at the Contractor's expense. Work that is done solely for utility companies and that is beyond the work performed under item 763501 - Construction shall follow and be paid for under item 763597 -Utility Construction Engineering.
10. The Contractor shall at a minimum set hubs at the top of finished grade at all hinge points on the cross section at 500 foot intervals 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, wetland mitigation sites etc. These control points shall be established using conventional survey methods for use by the Engineer to check the accuracy of the construction.
11. The Contractor shall preserve all reference points and monuments that are identified and established by the Engineer for the project. If the Contractor fails to preserve these items the Contractor shall reestablish them at no additional cost to the Department.
12. The Contractor shall provide control points and conventional grades stakes at critical points such as, but not limited to, PC's, PT's, superelevation points, and other critical points required for the construction of drainage and roadway structures.

Contract No. T201200903

13. No less than 2 weeks before the scheduled preconstruction meeting, the Contractor shall 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.
14. The Contractor shall 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, (2-1) classification standards.

Automated equipment operations have a high reliance on accurate control networks from which to take measurements, establish positions, and verify locations and features. Therefore, a strong contract control network in the field which is the same or is strongly integrated with the project control used during the design of the contract is essential to the successful use of this technology with the proposed Digital Terrain Model (DTM). Consistent and well designed site calibration for all machine control operations (as described below under Contract Control Plan) 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. The Contractor shall operate and maintain all elements of the Machine Grade Control continuously once the operations begin until otherwise approved by the Engineer.

Contract Control Plan:

The Contractor shall develop and submit a Contract Control Plan for all contracts which use Machine Control Grading. Contract control includes all primary and secondary horizontal and vertical control which will be used for the construction contract. Upon the Contractor's completion of the initial survey reconnaissance and control verification, but prior to beginning primary field operations, the Contractor shall submit a Contract Control Plan document (signed and sealed by the Delaware licensed Land Surveyor or Delaware Professional Engineer who oversees its preparation) for acceptance by the

Engineer, which shall include the following:

1. A control network diagram of all existing horizontal and vertical control recovered in the field as contract control.
2. 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.

Contract No. T201200903

3. 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.
4. 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.
5. 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.
6. 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.
7. If the Contractor chooses 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 Contractor Control Plan shall include the method by which the automated machine guidance system will initially be site calibrated to both the horizontal and vertical contract control, and shall describe the method and frequency of the calibration to ensure consistent positional results.
8. Issues with equipment including inconsistent satellite reception of signals to operate the GPS machine control system will not result in adjustment to the "Basis of Payment" for any construction items or be justification for granting contract time extension.

Method of Measurement:

The quantity of Construction Engineering will not be measured.

Basis of Payment:

Payment will be made at the Lump Sum price bid for the item "Construction Engineering". The price bid shall include the cost of furnishing all labor, equipment, instruments, stakes and other material necessary to satisfactorily complete the work as herein described under this item for all roads and structures that are a part of the contract. Adjustment in payment will be made for the deletion or addition of work not shown in the contract documents.

Contract No. T201200903

Monthly payment will be made under this item in proportion to the amount of work done as determined by the Engineer.

7/27/2020

Contract No. T201200903

763503 - TRAINEE

Description:

The item shall consist of providing training in the construction crafts in accordance with the requirements stated in the General Notices of this proposal under the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

Basis of Payment:

The payment for the item shall be made at a fixed rate of \$.80 per hour toward the hourly rate of the trainee.

8/15/17

Contract No. T201200903

763508 - PROJECT CONTROL SYSTEM DEVELOPMENT PLAN

763509 - CPM SCHEDULE UPDATES AND/OR REVISED UPDATES

Description:

The Contractor shall plan, schedule and construct the Project by using a Critical Path Method Project Schedule (CPM) meeting the requirements of these specifications. Use the CPM for coordinating and monitoring the Work specified in the Contract Documents including all activities of Subcontractors, vendors, suppliers, utilities, railroads, the Department, and all other parties associated with the construction of the Contract. Include all Work in the CPM; including but not limited to submittals, major procurement, delivery, and construction activities. Include all activities, including bid items, quantified in the Contract Documents. Base the CPM upon the entirety of the Contract Documents. Utilize CPM software that generates files compatible with Primavera P6 Project Management Release: 7.0.0.

Scheduling Representative:

Designate a scheduling representative prior to submission of the Original Critical Path Method Project Schedule (OCPM). The scheduling representative is the person primarily responsible for development and maintenance of the CPM schedule; the Contractor's representative in all matters regarding the schedule; and the Contractor's designated attendee for all schedule related meetings. The scheduling representative shall also be knowledgeable of the status of all parts of the Work throughout the duration of the Project. Replacement of the scheduling representative will require written approval from the Engineer.

Submit the qualifications of the scheduling representative to the Engineer for approval. This approval is required before the OCPM will be accepted. The scheduling representative shall have at least three years of verifiable experience for preparing and maintaining CPM project schedules on Contracts of similar size and complexity.

Critical Path, Project Completion Date, and Float:

The critical path is defined as the series of activities in a CPM that has the longest path in time. The submitted activity sequence and durations must generate a CPM with only one critical path. Divide Project wide activities such as Maintenance of Traffic, Construction Engineering, or Temporary Erosion Control that, by their nature, generate long durations and complement other activities into "establish" and "conclude" activities to prevent this type of Work from occupying a significant portion of the critical path.

Contract No. T201200903

The project start date, or initial data date, of the original CPM shall be the first chargeable day of Work. Nonproductive Work and administrative activities may begin and/or end prior to the project start date. The Original CPM must use all of the Contract Time and contain a critical path containing exactly zero float. Early completion schedules are not permitted. The schedule ending date of the Original CPM that uses all of the Project Time is the contract completion date.

Total Float is the difference between the schedule's finish date and the contract completion date. Free float is the difference in time between an activity's early finish and late finish. Free float is a shared commodity for the use of the Department and the Contractor and is not for the exclusive use or benefit of either party. Both parties have the full use of free float until depleted.

Submittal of the OCPM; the Start of Work and the Schedule of Record:

Complete and submit the proposed original CPM schedule (OCPM) database and the written narrative (WN) within 30 calendar days after Contract is Awarded. The WN is a description of any elements of the Schedule that deviate from the proposed construction sequence shown in the Contract Documents. Submit the OCPM in CPM format fully compatible with Primavera P6 Project Management Release: 7.0.0 by email or CD ROM as a single compressed database in CPM format.

The Engineer will complete the review of the OCPM within 30 calendar days after submittal. If required, a Joint Review Conference will be convened at which time the Engineer and Contractor may make corrections and adjustments to the proposed OCPM. If a revision is necessary due to the Engineer's review or the Joint Review Conference, submit the proposed revision within seven calendar days after receiving the Engineer's review comments or within seven calendar days after the date of the Joint Review Conference, whichever is the latest. Make revisions in accordance with the requirements for the OCPM. The Engineer will respond to the revised OCPM within seven calendar days after receipt. Clearly identify each submittal and resubmittal for clarity by labeling "2nd Draft", "3rd Draft", etc.

Do not start any Work until the OCPM is accepted. If the Engineer is ready to issue a Notice to Proceed but the OCPM is not yet accepted, the Engineer may issue the NTP and start Contract Time, but forbid Work to begin until the OCPM is accepted. The Engineer may partially accept a OCPM and allow Work to begin if the required corrections to the OCPM are minor, but the Engineer will not accept submittals that do not show the complete schedule. The Engineer will not pay any estimates until the OCPM is partially accepted. Once the OCPM is partially accepted, the Engineer will pay the first estimate. If the Contractor fails to make a good faith effort to address the Engineer's comments before the second estimate is due for payment, the Engineer will not pay the second estimate until a good faith effort is made by the Contractor to comply. The Engineer may not withhold an estimate payment if, within the estimate period in question, the Engineer has failed to provide timely review comments in response to the Contractor's submittal. The Engineer may, however, withhold the payment of subsequent estimates if the Contractor fails to make a good faith effort to address the Engineer's comments. Upon issuance of the Notice to Proceed, the start date utilized in the OCPM will be adjusted to comply with the first chargeable day of Work. Any delay in starting Work caused by the acceptance of the OCPM by the Engineer will not be considered as a basis for

Contract No. T201200903

any adjustment in the Contract amount or time. For Contracts that have fast-tracked starts, the Engineer and the Contractor may agree to alter the response times and approval dates listed above.

Upon notification that the OCPM has been accepted, the corrected copy will become the CPM of record. The CPM of record shall be the Contractor's work plan for completing the entire Contract as specified in the Contract Documents.

Requirements for the OCPM:

The format of the OCPM database shall be the precedence diagram method with days as the planning unit and shall be based on Calendar Days. Use the Department's partially predetermined coding structure (CS) that is furnished by the Engineer.

Activity Sequencing. Activity sequence must be logical and representative of the Contractor's order of the Work. Successors and predecessors determine the schedule logic or activity sequence. A given activity cannot start until all of the given activity's predecessors have been completed. Use only finish to start dependency relationships (links); do not use lag times without approval from the Engineer. The Engineer may request that the Contractor resequence the activities to reflect realistic job logic. When scheduling using multiple resources, each resource unit shall have a corresponding activity. Durations of activities include all the time necessary to complete the activity including, but not limited to, Contractor's non-work periods (other than those shown on the calendars), reasonably foreseeable inclement weather, weekends and holidays. Base schedule calculations on retained logic, contiguous durations, and total float as finish float.

Activity Resources. Sequence activities to reflect resource apportionment. Logically connect and code each activity to reflect the crew (resource) performing the operation. Submit a summary list of crews, their crew codes, and their operation(s) with each schedule submission, unless unchanged. Identify responsibility for each activity. Identify Subcontractors, DBE's, utilities and Work performed by others that affects the Schedule.

Breakdown and Durations of Activities. An individual activity is required for each construction element or each activity not under the control of the Contractor that affects the sequence or progress of the Work. The Engineer reserves the right to require additional breakdown of the Work activities at any time. Each activity must be identified by a name, symbol and coding, and shall have a duration, sequence, responsibility and resource(s). Choose activity names that are descriptive and identify single construction elements. Activity symbols, or ID's, shall be unique and systematic.

Activity types must be either "task", "start milestone", or "finish milestone". Do not use "hammock" type activities. Date constraints, float and duration constraints, and/or flags for activities are not permitted.

Contract No. T201200903

Assign a reasonable duration to each activity representative of its scope. Durations may not exceed 14 calendar days unless approved by the Engineer. Determine the duration of each activity by using productivity rates based on Calendar Days.

Include the preparation and approval of Working Drawings as activities. Include phasing (staging) milestones as activities. Correlate phasing milestones with the sequence of construction provided in the Contract Documents. Use a separate start and finish milestone activity to delineate each phase (stage).

Utility Work. Include all Work performed by utilities on the Project as activities in the OCPM. Include each utility item of Work shown in the Contract’s Utility Statement as an activity. Durations for utility activities shall be the same as the durations shown in the Utility statement for each activity unless otherwise approved by the Engineer.

Calendars. Assign a calendar to each activity in the schedule. Use a minimum of 6 calendars, when applicable: (1) Full Schedule; (2) Permit Requirements; (3) Winter Condition; (4) Concrete Work; (5) Asphalt Paving Work; and (6) Nighttime Asphalt Paving Work. Use additional calendars if needed. Calendar non-work periods shall reflect the average Delaware weather history for the jobsite and the restrictions identified in the Contract Documents. The Contractor may choose perform Work during an activity’s calendar non-work period at no additional cost to the Department if weather conditions are favorable for such Work and the Work does not violate a set forth in the Contract Documents. The maximum allowable non-work period for each calendar is set forth below. The Contractor may choose to shorten non-work periods at his/her discretion.

CALENDAR	MAXIMUM NON-WORK PERIOD
Full Schedule	None
Winter Condition	December 1 through March 15
Concrete Work	December 1 through March 15
Asphalt Paving	November 15 through March 15
Nighttime Asphalt Paving	October 15 through April 30

Written Narrative (WN). Provide a written narrative (WN) as part of the OCPM explaining the following:

- (a) Relationships between activities not obviously identified
- (b) Equipment usage and limitations.
- (c) Manpower usage and limitations.

Contract No. T201200903

- (d) Use of additional shifts and overtime.
- (e) Activity codes, abbreviations, and activity identification system.
- (f) All calendars utilized in the CPM and the basis of determining each non-work period
- (g) All abbreviations.
- (h) Use of calendars.
- (i) Any other conditions that affect the schedule and are not readily discernible in the database.

CPM Updates:

Provide monthly updates to the CPM of record. Meet with the Engineer once a month prior to submitting the update to review the status of the schedule's activities. Prepare an updated list of activities showing all of the actual start and actual finish for each of the schedule's activities so that both parties can agree on the dates. Use the dates that were agreed upon in the meeting to status the CPM of record and submit the updated schedule to the Engineer for approval. Assign a unique file name to each update (Number/version). The data date of the update shall be the next day after the end of the update period. As part of the monthly update, submit a written description that identifies any delays or disruptions to the schedule experienced during the period of an update, any change in manpower or equipment, and any potential delays to the completion date of the schedule.

Do not include any revisions to the CPM without prior approval. Failure to submit complete updates in a timely manner may result in the withholding of estimates by the Engineer. The Engineer agrees to refrain from withholding estimates unless the Contractor is habitually late in providing updates, is more than four weeks late in submitting an update or has failed to submit an update that is part of a resolution to a serious problem that must be addressed immediately.

Revisions to the Schedule of Record:

Revisions are defined as any changes to the database other than status updates, log entries and moving the data date. Discuss any proposed revisions to the CPM verbally with the Engineer. If the revision is minor in nature, the Engineer may allow the revision to be included on the next Update of the CPM. If the Engineer determines that the revision is not minor in nature, submit the proposed revision for review and approval prior to deviating from the approved CPM. When a revision to the CPM is required due to changes in the Contract initiated by the Engineer, immediately contact the Engineer to discuss the changes. The Engineer may allow a deviation from the approved CPM for specific mitigating activities.

The Engineer may direct the Contractor to revise the schedule of record at the Contractor's expense if: the critical path has less than minus ten (-10) Calendar Days of total float due to the Contractor's failure to perform the Work in accordance with the schedule; the Contractor requests to re-sequence the Work; and/or the Contractor

Contract No. T201200903

has performed a significant amount of Work out of sequence. The Engineer may direct the Contractor to revise the schedule for any other reason; and such a revision will be paid at the unit cost for a CPM Revision.

The Engineer will review and respond to the proposed revision within 7 Calendar Days after receipt. Resubmit, if required, within seven calendar days after receipt of the Engineer's review comments. The Engineer reserves the right to reject any proposed revision that adversely impacts the Department, utilities, or other concerned parties.

Extensions of Contract Time and/or Incentive/Disincentive Dates.

Make requests for extension of Contract time in writing and subject to the notice and timeliness of submission provisions as provided for elsewhere in the Contract. Requests for an extension of Contract time or change in an incentive/disincentive date will be evaluated by the Engineer's analysis of the CPM of record and any proposed revision submitted. Include in the request a written narrative of the events that impacted the schedule and a detailed explanation of why the Contractor cannot meet the requirements of the schedule of record. Only delays to activities that affect the Contract completion date or will be considered for an extension of Contract time. Only delays to activities that affect the completion duration of an incentive/disincentive period will be considered for an extension of an incentive/disincentive completion date. The extension of the specified Contract completion date or incentive/disincentive date will be based upon the number of Calendar Days the Contract completion date or incentive/disincentive date is impacted as determined by the Engineer's analysis. The Engineer and Contractor may agree to defer the analysis of a potential impact to the schedule until the completion of the activities that are affected. Such a deferment does not relieve the Contractor of his/her duty to identify potential impacts to the schedule in the applicable schedule updates.

All requests for extensions of Contract Time must be supported by the most recent CPM Update. If, within a reasonable period of time, the Contractor fails to make a good faith effort to produce an acceptable CPM update and uses an unacceptable CPM update to support a request for a time extension, the Contractor loses the right to receive that time extension; and/or the right to receive compensation for that delay caused in whole or in part by the Engineer.

Final As Built Schedule.

Submit a final CPM Schedule database within 14 Calendar Days of Substantial Completion. Failure to submit a final CPM Schedule may result in the withholding of estimates by the Engineer.

Method of Measurement:

The Project Control System will be measured in two items. The item, "Project Control System Development Plan" will be lump sum. The item "CPM Schedule Updates and/or Revised Updates" will be measured one each per update that is submitted and accepted.

Basis of Payment:

The item, "763508 – Project Control System Development Plan" will be paid at the Contract's lump sum bid price on the next monthly estimate after completion of the requirements of the Project Control System Development Plan, which includes the approval of the Original CPM Schedule. Price and payment will constitute full compensation for preparing the CPM database, acquiring the necessary software, attending all scheduling meetings with the Department, submitting and resubmitting all documents and for all labor, tools, equipment and incidentals necessary to complete the Work.

The item, "763509 – CPM Schedule Updates and/or Revised Updates" will be paid at the Contract unit price per each approved CPM schedule update as described above. Price and payment will constitute full compensation for preparing, submitting and resubmitting all CPM updates, for attendance at all scheduling meetings with the Department, for preparing and reviewing a list of actual start and actual finish dates with the Engineer, and for all labor, tools, Equipment and incidentals necessary to complete the Work.

2/11/2015

763597 - UTILITY CONSTRUCTION ENGINEERING

Description:

Utility Construction Engineering consists of providing construction and right-of-way/easement information to utility companies performing work (as defined in the Utility Statement) within the project limits. This may include but not necessarily be limited to staking right-of-way/easement lines, tops of cuts, bottoms of slopes, clear zones, drainage facilities, fill and cut grades, and other features that will enable utility companies to coordinate their work and correctly locate/relocate their facilities. Engineering/surveying required for utility work bid as part of the Contract is included in item 763501.

It is the intent of this item to cover engineering/surveying work that is done solely for utility companies and that is beyond the work performed under item 763501 - Construction Engineering. Work covered under Utility Construction Engineering will generally fall into two categories:

1. Engineering/surveying work that is not necessary for construction of the project, i.e. 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 obviously well within the right-of-way.
2. Engineering/surveying work that is necessary for construction, but has to be provided for utility companies well in advance of the Contractor's need and will likely need to be redone later. This can essentially be any of the Construction Engineering work that when done early cannot be reasonably expected to remain undisturbed until needed for construction of the project (non-utility).

The Engineer must approve all requests for Utility Construction Engineering before the work begins. To this end, the Contractor should 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 his/her decisions to the Contractor. When the Engineer determines that the requested work qualifies as Utility Construction Engineering, the Department will reimburse the Contractor on a per hourly basis for each and every hour the Contractor's survey crew is in the field actively engaged in performing the Utility Construction Engineering work. The survey crew size shall be adequate to efficiently perform the work required and shall meet the approval of the Engineer. Office work associated with Utility Construction Engineering will be considered as incidental to the item.

The personnel engaged in and the equipment used for Utility Construction Engineering shall meet the requirements as described in item 763501 - Construction Engineering.

Method of Measurement:

The quantity of Utility Construction Engineering will be measured as the actual number of hours the Contractor's survey crew is in the field actively engaged in utility construction engineering work.

Basis of Payment:

The quantity of Utility Construction Engineering will be paid for at the Contract unit price per hour. Price and payment will constitute full compensation for furnishing all labor, equipment, instruments, stakes and other materials necessary to complete the work.

10/18/17

Description:

The field office work shall consist of furnishing, erecting, equipping, maintaining, and removing a singlewide modular office and adjacent parking area. The Contractor shall submit a specific location layout drawing and construction details for the proposed field office and its parking area for approval by the Engineer. The field office and parking area shall be for the exclusive use of Department Officials, Engineers, Designers, North Region Construction (NRC) Personnel, Consultants, and Inspectors.

The field office structure shall be free of asbestos and/or other hazardous materials. The field office and its parking area shall be constructed and installed in accordance with all applicable city, county, state, and federal codes. The Contractor shall be responsible for obtaining all required licenses and permits for installation and placement of the field office and its parking area. The costs of obtaining such licenses and permits to be incidental to the "Field Office, Special" Item. The field office shall be available for use by the Department continuously throughout the duration of the project.

Construction and Equipment:

The field office shall be new and have a minimum floor space of 600 square feet with minimum exterior dimensions of 50'-0" length by 12'-0" width. The floor to ceiling height shall be nominal 8'-0". The exterior walls, ceiling, and floor shall be insulated. The field office shall be of weather-proof construction, tightly floored and roofed, constructed with an air space above the ceiling for ventilation, supported above the ground, safely secured to its support if the support is an inground anchored foundation or otherwise by tie-downs to the ground, and fully skirted with rigid watertight covering overlapping the bottom of the exterior siding to the existing ground.

The Contractor shall provide entries to the field office by constructing a stair and deck platform with canopy at each exterior door. These entries shall be fabricated using treated dimension lumber, be constructed with hand and safety railing, be designed to last the life of the Contract, and conform to the requirements of the Architectural Accessibility Board and other federal, state and local boards, bodies and/or courts having jurisdiction in the Contract limits.

The Contractor shall construct and maintain an all weather parking area adjacent to the office of at least 2500 square feet and having a minimum of 10 functional parking spaces striped for full size cars. All weather pathways from the parking area to the entrances of the field office shall also be constructed and maintained. This parking area and entrance pathways shall have a minimum of 2" type "C" hot mix on top of minimum 6" graded aggregate subbase. Snow and/or ice shall be removed from the parking area and from the entrance pathways to

Contract No. T201200903

the field office within 12 hours after each occurrence. Costs for furnishing, placing, and maintaining the aggregate base and hot mix, and for snow and/or ice removal, to be incidental to the Field Office, Special" Item.

The ground area 30'-0" from around the perimeter of the field office to the field office shall be landscaped and maintained. If the earthen grounds do not have a stand of weed free grass, the surface of this area shall be loosened to a depth of 4" and a satisfactory seedbed shall be prepared free of debris and extraneous matter. The area shall be seeded to a healthy stand of grass or sodded, after which the area shall be watered, mowed, and trimmed a minimum of three times a month during the growing seasons. Cost for this landscaping and maintenance to be incidental to the "Field Office, Type I Special" Item.

The field office shall have full carpeting, kitchenette facilities, and interior and exterior paneling, lighting, and plumbing fixtures. The field office shall have a minimum of two (2) exterior doors, each door having a passage and a deadbolt lock. These door locks shall be keyed and at least 2 complete sets of keys shall be supplied to the Engineer's representatives. The exterior doors shall be insulated or have storm doors. The field office shall have a minimum of six (6) windows, each window having a minimum glass area of 1150 square inches and a horizontal mini-blind covering the full glass area. The windows shall be insulated or have storm windows. All windows shall be equipped with a locking device. All doors and windows shall have screens installed and repaired when damaged.

At least two (2) outside water service connections shall be provided at the field office. Each water connection shall have a 3/4" frost proof hose bib with vacuum breaker and shall include 100 linear feet of 5/8" minimum diameter reinforced, industrial or commercial grade, soft rubber hose per connection.

The field office shall be provided with sufficient natural and artificial light and shall be adequately heated and cooled to provide comfortable working conditions.

The field office shall have satisfactory lighting, electrical outlets, heating equipment, exhaust fan, and air-conditioning connected to an operational power source. Plan and drawing areas shall have individual fluorescent lights situated over their worktables. Replacement fluorescent lights shall be furnished as required. Electrical current, water, and any fuel for heating equipment shall be furnished and the cost of such shall be borne by the Contractor. Maintenance of the heating, exhaust fan, and air-conditioning equipment shall be provided for by validated service contracts for the length of the Contract. These service contracts shall allow a Department authorized project person to deal directly with the service organization to request repair.

The Contractor shall furnish and maintain two fire extinguishers and provide one lighted "Exit" sign for each exterior passage door. Fire extinguisher(s) may be chemical or dry power and shall be UL Classification 10-B:C(min.) and shall be suitable for Types A:B:C fires. A commercial or industrial type first aid and safety kit suitable for project conditions and hazards (including snakebite) shall be provided and maintained to full capacity on a monthly basis.

Contract No. T201200903

The Contractor shall provide an alarm system for field office security with electronic, direct connection to a security service provider. The security system shall have interior motion, window, and entrance detectors and built in manual fire alarm. All windows of the field office shall be covered with steel bar grids as a deterrent to forced entry. The Contractor shall provide validated monitoring and service contracts for the length of the Contract. These contracts shall allow a Department authorized project person to deal directly with the security service provider to request service and/or repair.

The Contractor shall furnish and maintain an adequate supply of cold potable water, a minimum 23 cubic foot new refrigerator, and a minimum 900-watt new microwave oven. Maintenance of the potable water supply equipment, refrigerator, and microwave shall be provided for by validated service contracts for the length of the Contract. These service contracts shall allow a Department authorized project person to deal directly with the service organization to request repair.

Suitable indoor toilet facilities, conforming to the requirements of the State and Local Boards of Health or of other bodies or courts having jurisdiction in the area, shall be provided. When separate facilities for men and women are not available or required, a sign with the wording "Rest Room" (letter heights 1" minimum) shall be placed over the doorway and an adequate positive locking system shall be provided on the inside of the doorway to insure privacy. The facility(s) shall be maintained by the Contractor to be clean and in good working condition and shall be stocked by the Contractor with adequate lavatory and sanitary supplies at all times during the period of the Contract.

The Contractor shall be responsible for performing or for making arrangements for all necessary telephone connections and/or for their maintenance; for providing a new telephone equipment system, for payment of all connections and the new telephone system equipment and its installation; and for final disconnection of the telephones.

The field office telephone system shall have a total of 5 lines consisting of 2 direct single lines with call forward busy feature, 2 dedicated computer use line with broadband connection for either DSL or cable, and 1 dedicated facsimile line and have 5 key sets consisting of 1 master key set having privacy feature, and 4 four-button key sets having privacy feature (1 set which may be for wall mounting), all for the official and exclusive use of the Engineer and other representatives of the Department. Arrangement shall be made to allow a Department authorized project person to deal directly with the telephone company to report outages and/or request repair. Monthly billings for the field office telephone system shall be received and paid by the Contractor. A copy of each bill shall be forwarded to the Project Resident for reimbursement on the subsequent contract pay estimate. The reimbursement will be for the amount of the bill only and shall not include any additional mark-up or profit. For all other utilities, the Contractor shall be responsible for performing or for making arrangements for all necessary utility connections and/or for their maintenance; for payment of all utility connections, installations, service fees and bills; and for final disconnection of utilities.

The field office interior shall be furnished by the Contractor. The Contractor shall provide new and maintain the following office furnishings, all which are to be approved by the Engineer prior to installation in the field office.

Contract No. T201200903

Placement of these furnishings shall be as directed by the Engineer. 6 full size office desks each with filing drawer and fully adjustable ergonomic design swivel chair with armrests and five leg base having wheel casters, 1 computer station with acoustical panels having minimum 60 NRC rating for privacy screen and fully adjustable ergonomic design swivel chair with armrests and five leg base having wheel casters, 1 large conference table for a minimum of 12 people with surrounding chairs with armrests, 2 folding tables minimum 6'-0" by 3'-0" each with ergonomic design straight back chair with armrests, 1 work table, 1 supply cabinet, 2 rough plan racks, 2 legal size filing cabinets with 4 drawers, 2 legal size fire-resistant filing cabinets with lock and key with 4 drawers and meeting fire underwriters' approval for not less than one hour test, 2 book shelves minimum 3'-6" by 4'-6", 3 vertical surface legal size three compartment pockets, 2 dry erase boards minimum 4' by 3' each with markers and erasers, and 2 cork bulletin boards minimum height 3' by 2'. These office furnishings will remain the property of the Contractor at the conclusion of the project.

The Contractor shall also furnish new and maintain the following office equipment, all which are to be approved by the Engineer prior to installation in the field office. The required equipment will enable the Department to synchronize project record keeping and office functions. The equipment shall be delivered in working and useable condition:

4 heavy-duty calculators having extra large 12-digit fluorescent display, full size keyboard with contoured keys, two-color ribbon printer, and AC powered;

1 compact plain paper copying machine and cabinet with stationary platen, bypass feeding, and dual loading cassette system with cassettes for letter, legal, and ledger size paper. Copy machine to have zoom and preset reduction and enlargement features, automatic two (2) sided copying, automatic document feeder with minimum 30 sheet capacity, and 20 bin collator with automatic stapling capacity;

1 desktop model, compact facsimile machine with automatic paper cutter, 10-sheet feeder, halftones with 16 levels of gray, 50-number auto dialing, answering machine hook-up, large LCD readout, date and time stamp, and advanced telephone features;

1 DVD camcorder with on-screen programming, full-range auto focus, high-speed shutter, high-resolution, bookmark search, time-lapse recording, rechargeable batteries and charger, tripod, and protective carrying case;

1 integrated color monitor and DVD/VHS cassette recorder having minimum 20" screen, automatic on/play/rewind/stop, remote, full range speaker, and digital auto tracking;

Contract No. T201200903

1 micro cassette recorder, having fast playback, voice-activated system, three-digit tape counter, silent auto-stop and pause, two tape speeds, one-touch and follow-up, built-in condenser microphone, cue and review, and rechargeable with combination battery charger/AC adapter;

1 telephone answering machine having all-digital recording, 14 minute message capacity, selectable message time, voice prompt assistance, day/time stamp, call screening, two-digit LED message indicator, toll saver, power failure memory back-up, and message interrupt from any station; and

2 digital cameras with minimum 1/2.7" 4.0 mega pixel, 3X optical / 6X precision digital zoom, 12-bit DXP A/D conversion, 2.5" 123K pixel LCD display, 5-mode program AE and each with dual media slots, SXGA/XGA/VGA image resolution, E-mail mode. Also intelligent flash with red-eye protection, MPEG movie mode, clip motion, light metering, TEXT mode (GIF), playback zoom and resize, white balance, lithium battery system and in-camera picture effects, memory stick/card (minimum 256MB) capability, and storage case.

Consumables as required to manage the business of the project shall be provided for all office equipment for the length of the Contract. These consumables shall be furnished on request and shall include but not be limited to paper, tapes, ribbons, rolls, toner, cleaning kits, microcassette tapes and batteries, answering machine cassettes, camera batteries and memory sticks and/or discs, DVD and CD R/RW media, etc.

Maintenance of all office equipment shall be provided for by a validated service contract for the length of the Contract. This service contract shall allow a Department authorized project person to deal directly with the service organization to request repair.

Included in the unit price bid per month for the Field Office on this project will be two (2) IBM compatible Microcomputer Systems both which will be furnished and maintained by the Contractor for use by the Engineer. The specified computer systems will synchronize the construction management functions of the Department to monitor, report, and perform the accounting of the project work. The computer systems and all their related equipment specified below shall be furnished new and remain the property of the Contractor at the conclusion of the Contract. A detailed listing of the proposed computer systems and all their related equipment to be provided by the Contractor shall be submitted for approval by the Engineer prior to furnishing the Microcomputer Systems. The Microcomputer Systems shall be Laptop Computer Systems each with docking station. Each of the two (2) Microcomputer Systems shall consist of:

Central Processing Unit (CPU) – Lap Top

Pentium M processor, 740 (1.7 GHz) or better with integrated USB 2.0 and IEEE 1394 ports (firewire) and wireless networking included,

Contract No. T201200903

Minimum 1.0 GB RAM with expansion capability to at least 3.0 GB and clock/calendar card equivalent, and

Microsoft "Windows® XP Professional" operating system;

Memory (Storage)

CD/DVD +/- RW with double layer write capability, and 100GB hard drive minimum, integrated Ethernet 10/100, and internal modem. Included software shall support double layer media writing and automatic backup of data;

Monitor (Cathode Ray Tube)

Monitor for docking station and docking station - Super Video Graphics Adapter (SVGA) minimum. 19" minimum diagonal visual area flat panel with .26 dot pitch capable of multiple frequency 256 color graphics and at least 1024 pixel resolution. Swivel base with low radiation and eyestrain protection, brightness and contrast control and

Laptop - shall have 15.4" display minimum;

Color Graphics Card

Card must be SVGA AGP interface with 64 MB onboard video memory having maximum resolution of at least 1280x720 with at least 16 bit color and video control hardware and software;

Keyboard

Keyboard shall be ergonomic, enhanced layout minimum with keyboard interface cable;

Contract No. T201200903

Printers

LaserJet HP 2550N network capable printer or latest model with 64 MB minimum total memory having up to 600 dpi resolution and using HPL6 printer language with all necessary software and cables for proper operation; and a HP Desk Jet color printer or latest model with photo quality print capability and with all necessary software, equipment, and cables for general operation as well as connection and sharing on a local network;

Scanner

A HP6100 color scanner with HP5770 ScanJet ADF (or equivalent brand) with all necessary software, equipment, and cables for general operation as well as connection and sharing on a local network;

Software

The latest version programs for application management (operating system), word processing, spreadsheet, and anti-virus shall be provided with all user manuals. Upgrades, maintenance, and full technical support by the manufacturer shall be provided for the length of the Contract. The required software will enable the Department to synchronize accounting and record keeping functions between the project, District, and Department offices. A list of programs to be provided shall be submitted to the Engineer for approval. Software, other than for application management and anti-virus, is to be delivered unopened to the Department's administrative office. All software is to be compatible with and for use to run on "Windows® XP Professional". The required applications software follows and is to be latest version unless noted:

office suite - "Microsoft® Office XP Professional",

antivirus - "McAfee® Total Protection for Small Business,

software supporting creation of DVD +/- R/RW disks (supporting double layer media writing) and DVDR and DVDRW disks using DVDRW drive, for example: Ahead Nero, Roxio DVD/CD Creator, or some equivalent product. Note: software commonly included as part of the standard CDRW upgrade/standalone package is acceptable if included with the unit;

Related Equipment

Wireless networking hub/router (802.11g or better) with all associated hardware (adapters, cables, etc) and soft to enable wireless networking and internet connection sharing for all office computers and printers,

Contract No. T201200903

An electrical outlet with dedicated circuit for the main computer unit,

An optical mouse with proper driving software having complete Microsoft emulation,

An internal 56/28.8/14.4 fax modem with MNP5 error checking and complete Hayes emulation having high-speed 14.4 fax capability and regular data transmission between 2400 and 56 baud, with the latest version proper driving software,

Necessary cables for proper operation,

An uninterruptible power supply (UPS) units for protection from power loss or fluctuation, minimum of 6 outlets, adequate to provide a minimum of 30 minutes backup power for an orderly shut down of the computer system with software and connections for automatic system shutdown,

24 bit Sound Blaster compatible PCI soundcard with quality desktop speakers,

A combination surge, spike, and noise protection device with receptacles for all peripherals (may be in combination with the UPS power supply),

A wrist rest suitable for use with the furnished keyboard,

Cleaning kits for disk drives,

An anti-glare filter with grounding wire suitable for use with the furnished monitor, and

All cards, hardware, and operating, anti-virus, and equipment software to be fully installed and operational;

Contract No. T201200903

Maintenance and Service

Maintenance of all specified equipment and components shall be provided for by a validated service agreement for the length of the Contract. Maintenance (upgrades, replacement, full technical support) for each software application shall be provided for by validated maintenance agreement for the length of the Contract. These agreements shall allow an authorized project person to deal directly with the service organization to request repair or the maintenance organization to request assistance; and

Supplies

Consumables as required to manage the business of the project shall be provided for the Microcomputer Systems for the length of the Contract. These consumables shall be furnished on request and include but not be limited to 3-1/2" double sided high density micro floppy diskettes, compatible diskettes for provided digital cameras and memory stick media, DVDR and DVDRW media compatible supporting operational minimum to maximum speed of the DVD/RW drive unit, cut sheet paper and labels compatible with the printers, hardware and screen cleaners, and toner cartridges.

Maintenance of the field office including its adjacent parking area, for the time required, shall consist of maintenance and/or replacement of all provided items, security system, furniture and equipment, computer systems, providing lavatory supplies, providing trash containers and waste baskets, providing entrance mats at each door, providing replacement items for lighting fixtures, maintaining all utilities, providing satisfactory and sanitary janitorial and waste disposal services twice a week, providing cleanup of trash and debris on the parking lot and landscaped area once a week, and shall be included in the monthly unit cost.

The Contractor shall provide and deliver a current copy of all validated field office, equipment, and computer maintenance, service, assistance and/or monitoring agreements and/or contracts as mentioned hereinabove to the Department's administrative office on or before the first day the field office is ready for use.

Method of Measurement:

This item will not be measured but will be paid for on a monthly basis. Partial months will be paid at the rate of 0.033 months per day.

Contract No. T201200903

Basis of Payment:

The field office will be paid for on a unit price bid per month, which price shall be full compensation for performing the work specified and the furnishing of all materials, labor, tools, equipment and incidentals necessary to maintain the field office and its adjacent parking area and restore the field office area and adjacent parking area to match the original site condition. No separate payment will be made for costs involved for removing hazardous material or underground tanks to install these offices or the parking area.

Payment will be made only for the actual number of months that the office is acceptably provided by the Contractor.

The field office shall be ready for use not later than thirty (30) calendar days after the date of the fully executed Contract and before construction operations begin.

3/3/08

- 831500 - FURNISH AND INSTALL UP TO 6" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831501 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831502 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831503 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831504 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831505 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831506 - FURNISH AND INSTALL 1" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831507 - FURNISH AND INSTALL 2" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831508 - FURNISH AND INSTALL 3" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831509 - FURNISH AND INSTALL 4" FLEXIBLE METALLIC-LIQUIDTIGHT CONDUIT
- 831512 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831513 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831514 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831515 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831516 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831517 - FURNISH AND INSTALL 1" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831518 - FURNISH AND INSTALL 2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831519 - FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831520 - FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831521 - FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831522 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (TRENCH)
- 831523 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831524 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831525 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (TRENCH)
- 831526 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)
- 831527 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (BORE)
- 831528 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (BORE)
- 831529 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (BORE)
- 831530 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (BORE)
- 831531 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (BORE)
- 831532 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831533 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831534 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831535 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831536 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831537 - FURNISH AND INSTALL 1" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831538 - FURNISH AND INSTALL 2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831539 - FURNISH AND INSTALL 2-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831540 - FURNISH AND INSTALL 3" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831541 - FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)
- 831542 - FURNISH AND INSTALL 2" HDPE SDR-13.5 CONDUIT (BORE)
- 831543 - FURNISH AND INSTALL 2-1/2" HDPE SDR-13.5 CONDUIT (BORE)
- 831544 - FURNISH AND INSTALL 3" HDPE SDR-13.5 CONDUIT (BORE)
- 831545 - FURNISH AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)
- 831560 - FURNISH AND INSTALL UP TO 4" SCHEDULE 80 PVC CONDUIT (OPEN CUT)
- 831561 - FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)
- 831562 - FURNISH AND INSTALL 1-1/2" SCHEDULE 80 PVC CONDUIT (ON STRUCTURE)
- 831563 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (OPEN CUT)
- 831564 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (TRENCH)
- 831565 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (BORE)
- 831566 - FURNISH AND INSTALL 1-1/2" GALVANIZED STEEL CONDUIT (ON STRUCTURE)

- 831569 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831570 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831571 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831572 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831573 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831574 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUITS IN TRENCH OR OPEN CUT
- 831575 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831576 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831577 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831578 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE 13.5 SDR CONDUIT IN DIRECTIONAL BORE
- 831579 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831580 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831581 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831582 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831583 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831584 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" GALVANIZED STEEL CONDUIT IN TRENCH OR OPEN CUT
- 831585 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1" STEEL CONDUIT IN DIRECTIONAL BORE
- 831586 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 1-1/2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831587 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831588 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 2-1/2" STEEL CONDUIT IN DIRECTIONAL BORE
- 831589 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 3" STEEL CONDUIT IN DIRECTIONAL BORE
- 831590 - FURNISH & INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" STEEL CONDUIT IN DIRECTIONAL BORE

Description:

This work consists of furnishing and installing a conduit or shield, of the type and size required and as specified in the contract documents or as directed by the Engineer.

Materials:

All conduits shall be UL listed.

HDPE Conduit - 2" and 4" diameter, high density polyethylene (HDPE) SDR-13.5, smooth wall conduit with permanently pre-lubricated lining, meeting ASTM D2447, ASTM D3035 and NEMA TC7 specifications.

PVC Conduit - 4", 3", 2-1/2", 2" or 1" diameter, schedule 80 rigid polyvinyl chloride (PVC) conduit, meeting Commercial Standard CS-272-65 (PVC), ASTM D-1785 and U.C. Standard 651 specifications.

Galvanized Steel Conduit - 4", 3", 2-1/2", 2", 1-1/2 or 1" diameter, rigid galvanized steel conduit meeting National Electric Code 2002, Article 344.

HDPE Conduit to PVC Conduit Coupling - Galvanized steel meeting Commercial Standard CS-272-65 (PVC), ASTM D-1785 and U.C. Standard 651 specifications

Flexible Metallic-Liquidtight Conduit - meets National Electric Code 2002, Article 350

Weatherhead for galvanized or PVC conduit - material shall match the adjoining conduit

Insulated grounding bushing with knockouts - meet or exceed UL 514 B

Condulets for conduit sizes - material shall match the adjoining conduit

Anchors - A 307, Galvanized per A 153

One hole conduit hangers - Steel City Series 6H or 6H-B, CADDY CD3B Rigid Conduit Hanger, or approved equal

End caps - material shall match the adjoining conduit

LONG sweep sections for conduit sizes - material shall match the adjoining conduit, and shall be manufactured 90 degree sweeping bends.

Construction Methods:

General Installation Requirements -

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.

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.

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 half way 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

Contract No. T201200903

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.

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.

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.

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.

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.

All lengths of HDPE conduit shall be connected with irreversible fusion couplings. Mechanical and removable couplings will not be accepted.

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.

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.

If not already pre-installed by the manufacturer, a polyester or polypropylene pulling rope or tape (fish wire) with a minimum rated strength of 1250 pounds shall be installed in each conduit for future use. In instances where the Contractor installs the cable, the fish wire may be eliminated.

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.

Generally, Item No. 908020 - Erosion Control Blanket Mulch in the Department's 2016 Standard Specifications would be used to stabilize slopes that are 2:1 or flatter. For slopes that are steeper than 2:1 and/or receive a moderate amount of concentrated flow, Item No. 908021 - Turf Reinforcement Matting, Type 1 in the Department's 2016 Standard Specifications would be used for slope stabilization. However, if required Contractor shall refer to DelDOT's Erosion and Sediment Control Manual for the placement of steep slope stabilization.

Installation of Conduit Under Existing Pavement, Directional Bore -

Directional bore shall be used for installation of conduits under existing pavement with a conduit diameter not less than 1-1/2". 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.

Installation of Conduit Under Existing Pavement, Open Cut -

Installation by sawcutting 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" 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. Asphalt pavement, concrete, base course, sawcutting, and/or borrow from an outside source as required to restore the roadway will be paid for separately under their respective bid items.

Installation of Conduit Under Existing Pavement, Unpaved Trench -

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, sod, that must be removed for the placement of conduit, shall be removed either by the use of an approved sod cutter and then replaced, or 6 inches of topsoil shall be placed and the surface seeded in accordance with Section 734001 - Seeding. 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. Sodding and/or topsoil from an outside source if required will be paid for separately under their respective bid items. Seeding is considered incidental to the conduit item.

Installation of Conduit on Structure -

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.

Installation of Additional Conduit in Trench or Open Cut Pavement:

In the case of slotted or trenched installations, the Contractor shall 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. The orientation shall be at the Contractor's discretion, but 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.

Installation of Additional Conduits in Directional Bore:

In the case of a directional bore that more than one conduit shall be installed, the Contractor shall, at the same time as the initial installation, install one (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. The orientation shall be at the Contractors discretion, but 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:

The quantity of conduit furnished and installed as specified, shall be measured as the number of linear feet of conduit furnished, installed as specified, complete in place, and accepted.

The length of each conduit installed under existing pavement by a directional bore or by open cutting the pavement shall be measured along the path of the bore or open cut, from the point that cannot be trenched to the point that trenching can resume.

The length of any conduit that is reduced or divided (with a junction well or conduit body) shall be measured as part of the larger conduit.

Basis of Payment:

The quantity of conduit will be paid for at the Contract unit price per linear foot. Price and payment shall include full compensation for all materials, and labor, topsoil and seed if needed, and incidentals necessary to complete the item. Payment for all necessary couplings shall be incidental to the price of the conduit.

For conduit installed by Directional Bore, the linear foot payment also includes excavation and backfilling for Bore Equipment, placing the conduit, caps if required, and all other requirements and incidentals listed in the body of this specification.

For conduit installed by Open Cutting existing pavement, the linear foot payment also includes excavating, backfilling, placing the conduit, disposal of excess materials, and all other requirements and incidentals listed in the body of this specification.

For conduit installed in an Unpaved Trench, the linear foot payment also includes excavating, removal of sod if required, backfilling, placing the conduit, disposal of excess materials, replacing excavated on-site sod if required, seeding if required, and all other requirements and incidentals listed in the body of this specification. Sod and/or topsoil furnished from an outside source, will be paid for separately. For conduit installed on a structure, the linear foot payment also includes furnishing and installing anchors and hangers, removal of excess materials, and all other requirements and incidentals listed in the body of this specification.

4/12/2018

832500 - SPLICING OF ELECTRICAL CABLE, UNDERGROUND

832501 - SPLICING OF ELECTRICAL CABLE, ABOVEGROUND

Description:

This work consists of splicing various types and sizes of electrical cables not including Fiber Optic types.

Materials:

Underground:

AMP Butt Splice #34071 Terminal, Ideal #83-9291, or approved equal

Soldering iron

Rosin core solder

One 3M Splicing Kit #82A-1, ILSCO #USPA350SSDB, or approved equal

Overhead:

Wire nuts - Ideal 74B or 76B, 3M #R/Y, or approved equal

Plastic tape

Rubber tape

Construction Methods:

The minimum size and type is 4 conductor #18 wire and maximum is 26 conductor #14. The number and color code of the conductors to be spliced shall be designated by the Engineer.

The splicing may be in an underground installation or on span wire or messenger wire. If a splice is found to be faulty within 90 days of installation, it shall be the contractor's responsibility to remake the splice at his own expense.

Contract No. T201200903

Each conductor to be spliced shall have sufficient insulation removed, with wire strippers or other approved tool, to expose 1/2 inch of the copper conductor. The use of any tool or method which might nick the conductor is specifically prohibited. Each conductor not to be spliced shall be inspected and trimmed as necessary to ensure that the copper conductor does not extend beyond the insulation.

Mechanical connection of conductors shall be accomplished by the use of the specified crimp-type terminal, as directed by the Engineer, so that a good mechanical connection shall be effected.

Conductors to be soldered shall be placed side by side with the exposed copper aligned. The copper shall then be twisted clockwise with pliers until a good mechanical connection is effected. The splice shall be coated with flux, heated with a soldering iron, and soldered in a manner which minimizes insulation damage. After each soldered connection is completed it shall be properly insulated.

After each conductor to be spliced is connected in the proper fashion, all conductors both used and not used shall be returned to their original configuration as before the sheath was removed.

Underground:

The sheath of each cable to be removed shall be limited so that the splicing kit will extend beyond the sheaths. After the electrical and mechanical connection is completed and before the splicing kit is applied, a test shall be made to ensure that all circuits are complete and operable. A 3M Scotchcast Kit #82A-1, ILSCO #USPA350SSDB, or approved equal shall be installed as per manufacturer's instructions.

The splice will not be accepted and shall be replaced at the contractor's expense if there are any air bubbles or voids inside the splicing kit after the resin has cured. The funnels shall be removed as per the manufacturer's instructions.

Overhead:

Conductors to be electrically connected shall be placed side by side with the exposed copper aligned. The copper shall then be twisted clockwise with pliers until a good mechanical connection shall be effected.

A proper size wire nut shall be installed and hand tightened. If necessary to cover all the copper, minor trimming may be done. The copper splice shall be 5/16 of an inch long when trimmed. Care shall be taken to ensure that no insulation is caught up in the copper area of the splice.

Contract No. T201200903

It is essential that the splice be kept dry. Therefore, care must be taken during taping and by placement of the completed splice to prevent water from entering the splice between or around the cables.

1. Termination of Cable Run (Butt Splice)

The sheath of each cable shall be removed as necessary. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in a butt position and all wires and wire nuts shall be positioned to ensure that no shorts exist and that the splice area is reduced to as small a diameter as possible. Taping shall begin with rubber tape two inches over the intact sheath. Taping shall proceed toward the other cable overlapping half of the tape width until a point two inches on the other cable sheath has been reached. Taping shall then be repeated in the other direction starting one tape width wider than the previous wrap. Where necessary to cover all areas of the splice, overlapping shall be increased as necessary. Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The rubber tape shall be covered with plastic tape applied in the same fashion.

2. Taps or Tee Splices

The sheath of the through cable shall be removed for a distance of 8 inches centered on the point of splice. The sheath of the branch cable(s) shall be removed for a distance of 4 inches. The through cable conductors which are to be joined to the conductors of the branch cable(s) are to be separated out from the others and cut. No other conductors shall be cut for any purpose. Depending upon the need, the branch cable(s) may be placed beside one of the through cables and the splicing proceed or the through cable may be doubled back so that the parts of the through cable and the branch cable(s) are placed side by side. When all conductors to be joined have been completed, the splice shall be prepared for taping. The cables shall be placed in approximately their final position and an inspection for shorts shall be made. After all wire nuts and wires are properly positioned, taping shall begin on the through cable 2 inches from the end for the sheath. It shall proceed with 1/2 inch width overlap across the splice area and onto the other through sheath for a distance of 2 inches. The taping shall start at the end point and return back across the splice to the branch cable(s). It shall proceed along the branch cable(s) and onto the sheath for a distance of one inch.

A return along the branch back to the main cable shall be made and the remaining part of the splice shall be taped continuing as before.

Every area of the splice shall have rubber tape at least four layers (two fully overlapped passes) deep. The cables shall be placed in their final position and taped with two fully overlapped passes of plastic tape. Plastic tape need not cover the interior areas covered by the rubber tape.

The splice shall be placed so that the branch cable(s) enters the splice from below to prevent water from flowing along the branch cable(s) into the splice area.

Contract No. T201200903

Method of Measurement:

The quantity of splices will be measured as be the actual number of above ground or underground splices made in accordance with these specifications, complete in place, and accepted.

Basis of Payment:

The quantity of splices will be paid for at the Contract unit price bid per each splice depending upon type. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

05/31/17

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:

Equipment as required to remove concrete pole bases and concrete cabinet foundations.

Material as necessary to match the area surrounding the removed or graded masonry.

Construction Methods:

The masonry shall be removed to a depth of six inches below final grade.

Backfill remaining hole with material that matches the surrounding area in accordance with the appropriate items.

Method of Measurement:

The quantity of concrete will be measured as the number of cubic yards of concrete removed including anchor bolts, reinforcing bars, conduits and any other hardware within the concrete.

Concrete or other materials moved or removed which is not a part of the item being removed, shall not be measured for the purpose of payment under this item.

Basis of Payment:

The quantity of concrete will be paid for at the unit price per cubic yard. Price and payment will constitute full compensation for all labor, equipment, tools, and incidentals required to complete the work.

7/27/2020

Contract No. T201200903

842501 - FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 (100 AMP)

842502 - FURNISH & INSTALL ELECTRICAL UTILITY SERVICE EQUIPMENT 120/240 (200 AMP)

Description:

This work is comprised of furnishing and installing Traffic Signals, ITS Devices and Lighting service pedestals and safety switches in accordance with the Contract Documents and as directed by the Engineer. Electrical service equipment consists of the equipment necessary to connect a utility company service to a traffic signal or ITS device controller cabinet, traffic monitoring station cabinet, or other traffic control device cabinet or lighting control cabinet. Provide electrical service equipment at the phasing and amperage specified in the Contract Documents. This work includes coordinating the connection with the local utility company. While the 100 Amp Service may be specified for both Traffic and Highway Lighting, the 200 Amp Service is typically specified for Highway Lighting Only.

Materials:

- Service Pedestal and safety switch
- Ground Rod & Wire
- Cables and wire (including three #8 THHN, one red, one black and one white)
- Conduit & Fittings, Galvanized Steel
- Hex Bolts & Washers, Stainless Steel
- Square Tube Steel Posts
- Portland Cement Concrete, Class B
- Galvanizing
- Aluminum Pedestal Board/Panel
- 24" x 30" Minimum Size Circuit Breaker Box (To be determined by serviceable needs)

All materials provided shall be in accordance with the applicable sections of the Department's 2016 Standard Specifications

Construction Methods:

All work shall be performed in compliance with NEC, NFPA, and NESC Standards and with utility company minimum requirements. The electric service pedestal shall be installed as shown in the Contract Document Details. The contractor shall locate line side safety switch and meter adjacent to service drop location, fuse and size line side safety switch to service. The load side safety switch should not be fused. Safety switch should be marked with weatherproof stamp. Switch should be labeled "Signal", "Camera", "Repeater", "VMS", "Detector" "RWIS" or "Lighting", denoting the device it serves. All conduits and hardware connections should be tightened with the appropriate wrenches or tools.

The ground resistance of each rod must be measured before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, exothermically weld a 10-ft. extension to the top of the first rod and drive to its full depth. Measure the earth resistance again. If it still exceeds 25 ohms, contact the engineer for instruction.

Service Pedestal Installation

Area for service pedestal should be excavated. Where a pole base is to be placed in existing concrete pavement such as a sidewalk, the concrete should be saw cut in a square pattern or be removed to the nearest joint. Install conduit using a conduit adapter to connect sweeps to underground conduit and conduit leading to the safety switch and meter. An appropriate length of 2-inch galvanized conduit (threaded and reamed on both ends) should be installed on the end of the 90 degree sweeps at the base of the pedestal so that the end of the conduit will be 3 feet above the finished grade of the area.

Install square tube steel posts per Contract Document Details in 12-inch X 12-inch X 36-inch concrete footings. 3-Inch clearance should be provided on the base of footing. Backfill around the conduit and concrete footings and dispose of excess or unsuitable materials to grade of the bottom of concrete footings. Backfill may be placed after the first 24 hours. Backfill should be as provided in the contract documents.

Remove all excess material. Suitable Material may be used elsewhere on the Project as directed by the Engineer. Set square tube steel posts and determine the finished length of the tubular steel posts by adding the total height of the meter and safety switch to 5 feet. Install ground rod in accordance with the contract documents. The ground resistance of each rod must be measured before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, exothermically weld a 10-ft. extension to the top of the first rod and drive to its full depth. Measure the earth resistance again. If it still exceeds 25 ohms, contact the engineer for instruction.

Attach pedestal aluminum board/panel to square tube steel posts using six (three for each post) 5/16" x2-1/2" long Grade 5 stainless steel hex bolts, flat washers and nylon lock nuts. Attach meter socket to the

Contract No. T201200903

board/panel with four 5/16" x 3/4" stainless steel hex bolts and nylon lock nuts. Attach the circuit breaker box to the board/panel with four 5/16" x 3/4" stainless steel hex bolts and nylon lock nuts.

The contractor shall arrange inspection by a Delaware licensed electrical inspection agency or contractor's licensed staff) for all lighting system work including but not limited to service, branch circuits, junction wells, underground conduit, all grounding and bonding and any electrical work performed on the project. The contractor shall submit certification for the chosen Delaware licensed electrical inspection agency or contractor's staff to the Project Engineer for approval prior to starting work.

Method of Measurement:

The quantity of electric services will be measured as the actual number of complete electric services installed, complete in place tested and accepted.

Basis of Payment:

The quantity of electric services installed will be paid at the Contract Unit Price per each electric service of the size and type specified, installed, complete in place, tested and accepted. Price and payment constitutes full compensation for all materials, including all enclosures, panel boards, ground rods, circuit breakers, internal wiring, wiring devices, wiring up to 10 feet each underground from the service pedestal to the utility pole and up to 50 feet each vertical (up the service pedestal and up the utility pole combined and including all required coils), concrete collar, meter sockets, meter, shunts, cover plates, wiring, square tubing, back panel and for all labor, tools, inspection by Delaware licensed electrical agency, and incidentals necessary to complete the Item as specified and as directed by the Engineer.

4/17/2018

850503 - LUMINAIRE (LED), 160 WATTS

Description:

This work consists of furnishing and installing an LED light fixture on poles, in accordance with these specifications and as shown on the Plans.

Materials:

The complete fixture shall be a Philips RoadFocus luminaire per the approved Sole Source memorandum for Kent and Sussex Counties dated 2/16/2018. A grey powder coat finish, or as approved by the engineer, shall be applied to the fixture.

The fixture shall also meet the following criteria:

1. Lamps: LED
2. Wattage: per lighting plans
3. Voltage: 120V - 277V
4. Distribution: per lighting plans
5. Color Temperature: 4000 K
6. Driver: 0-10V Dimming
7. 20kV/20kA internal surge suppression module

Luminaire mounting height shall be as indicated on drawings.

Metal Parts shall be free of burrs and sharp comers and edges. Doors, frames, and other internal access shall be smooth operating and free of light leakage under operating conditions.

Factory applied labels shall comply with UL 1598. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place. Labels shall include the following lamp characteristics:

1. CCT and CRI for all luminaires

Luminaire finish shall be manufacturers standard paint applied to factory-assembled and tested luminaire before shipping.

The following installation requirements shall be followed:

1. Comply with NECA 1.
2. Fasten luminaire to pole.
3. Install luminaires at height indicated on drawings and level and square with finished grade.
4. Perform an illumination test.

Contract No. T201200903

After installation of luminaires and control devices and after electrical circuitry has been energized, test units to confirm proper operation.

Inspect each installed luminaire for damage. Replace damaged luminaires and components.

Luminaires will be considered defective if they do not pass tests and inspections.

If Contract Documents require a photocell on the cabinet for the entire lighting system, omit the photocell on the individual luminaries. Provide Photoelectric Control with solid state, cadmium sulfide type with hermetically sealed silicone rectifier rated 120volt, 60 cycle AC and 1000 watts maximum load. Ensure a built-in surge protection and fail-safe operating feature is included, so the lighting circuits remain energized in the event the photo control components become inoperative.

All electrical Materials shall conform to the requirements of the National Electrical Code of the National Fire Protection Association, and to all local and state laws and/or ordinances governing such installations.

Warranty:

Luminaire to be free from defects and operate as indicated for a period of 5 years from the date of delivery.

Method of Measurement:

The quantity of LED Light Fixtures will be measured as the actual number of luminaires provided complete in place and accepted.

Basis of Payment:

The quantity of LED Light Fixtures will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing all materials, and for all labor, tools, equipment, and incidentals necessary to complete the item installation.

7/14/20

Contract No. T201200903

815502 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 8' ARM SPREAD

851503 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 12' ARM SPREAD

851504 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD

851506 - ALUMINUM LIGHTING STANDARD, 30' POLE

851507 - ALUMINUM LIGHTING STANDARD, 40' POLE

851509 - ALUMINUM LIGHTING STANDARD WITH SINGLE TRUSS ARM, 30' POLE

851520 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 10' ARM SPREAD

851522 - ALUMINUM LIGHTING SINGLE DAVIT ARM, 20' ARM SPREAD

Description:

Aluminum Lighting Standard with Arm & Pole

The work consists of furnishing and installing Aluminum Lighting Standard with Single Davit or Truss Arm, breakaway transformer base, luminaire, in accordance with the Contract Documents, these specifications and as directed by the Engineer to complete a functional street lighting system. The pole base will be provided under other items in the Contract.

Aluminum Lighting Single Davit Arm

The work is comprised of furnishing Aluminum Standard Single Davit Arm with the specified arm spread, and installing on an already installed pole in accordance with the Contract Documents, these specifications and as directed by the Engineer. This work also includes furnishing and installing luminaire on the davit arm in accordance with the Contract Documents, and as directed by the Engineer.

Aluminum Lighting Standard Pole

The work is comprised of furnishing Aluminum Lighting Standard Pole of the specified height, breakaway transformer base, and installing (on an already installed pole base not included in this item) in accordance with the Contract Documents, these specifications and as directed by the Engineer.

Materials and Construction Methods:

All materials and construction methods shall be in accordance with Section 851 of the Department's 2016 Standard Specifications and any provisions herein not included in Section 851.

All materials shall be of the best quality and free from all defects. No materials shall be installed until approved by the Engineer. Any material not specifically covered in these specifications shall be in accordance with accepted standards and as directed by the Engineer. Any materials deemed unsatisfactory by the Engineer, shall be replaced by the Contractor.

Lighting standards shall meet or exceed the requirements of the latest edition of AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" based on 90 mph wind loads, luminaire weight of 70 lb and luminaire projected area of 3 ft². Computations confirming conformance with AASHTO Specifications, with the year of the edition specified, shall be submitted to the Delaware Department of Transportation.

All electrical materials shall conform to the requirements of the National Electrical Code of the national Fire Protection Association, and shall conform to all local and special laws and/or ordinances governing such installations. Where these requirements do not govern, and where not otherwise specified, electrical materials shall conform to the Standardization Rules of the Institute of Electrical and Electronic Engineers.

Shop drawings and catalog cuts for all electrical and related materials shall be submitted by the Contractor for approval.

New aluminum lighting standards shall consist of a tapered aluminum shaft having a base welded to the lower end. The pole shaft, pole extensions, and davit arms shall each be spun from one piece of seamless tubing, the strut and arm plates shall be extruded, all of which conform to the requirements of ASTM B221 aluminum alloy 6063 T6. The shaft shall have no circumferential welds, except at the lower end joining the shaft to the base and shall conform to the dimensions listed in the chart below. The shaft shall contain an internal vibration dampening device positioned approximately 2/3 the height of the pole. The top of the lighting standard shaft shall be drilled for two 1/2" lockbolts to secure the davit bracket to the lighting standard shaft. If the pole is not placed on a transformer base, it will have one 3" x 5" handhole which after pole is set should face so that maintainer may view oncoming traffic.

The table below presents the davit arm length with corresponding outer diameter and wall thickness for each pole height.

Contract No. T201200903

HEIGHT OF POLE	DAVIT ARM LENGTH	OUTER DIAMETER	WALL THICKNESS
30'	8'	10"	0.156"
	12'	10"	0.156"
	15'	10"	0.156"
	20'	10"	0.156"
40'	8'	10"	0.188"
	12'	10"	0.188"
	15'	10"	0.188"
	20'	10c	0.188"

Bracket arms shall be of the davit type consisting of an aluminum shaft having the outer diameter and wall thickness as listed in the table above. The davit arm shall be designed to slip over the top of the lighting standard shaft for a distance of at least 12". The luminaire end of the davit arm shall be fitted with a 2" NPS aluminum pipe not less than 6" long. The height of the lighting standards will be determined by the Contractor to provide a nominal mounting height as shown on the Plans. The length of the davit arm will be as shown on the Plans or 12' if not specified elsewhere. Davit arm less than 8' long shall not be used without written permission from the Chief Traffic Engineer.

Each lighting standard shall be provided with a permanent tag which shall be 2" x 4" fabricated from clear anodized 1/16" thick aluminum. The edge shall be smooth and corners rounded and the tag shall be curved to fit the light standard shaft. Tags shall be secured to shafts by means of four (4) 1/8" diameter 18 8 stainless steel round head drive screws of self tapping screws. The embossed identifying letters and/or numerals shall be not less than 3/4" high with stroke of not less than 3/16". Identifying letters and/or numerals shall be designated on the Plans.

Transformer Base: Transformer bases, shall conform to the latest edition of AASHTO

"Standard Specifications for Structural Supports for Highway Signs, Luminaire and Traffic Signals". Before any work, begins the Contractor shall submit documents showing that the breakaway device meets the current AASHTO

Contract No. T201200903

Breakaway Design. For breakaway installations, the standard shall electrically disconnect from the supply wire at the foundation when knocked down by an errant vehicle or from some other cause.

Luminaire: All HPS luminaire shall be in accordance with Section 850 of the Department's 2016 Standard Specifications. All LED luminaires shall be in accordance with the specifications for LED Luminaire provided elsewhere in this document covering Item Numbers 850520 through 850527.

Installations of Lighting Standards: Lighting Standards shall be installed and located in accordance with the Plans and as directed by the Engineer. The bracket arms shall be set perpendicular to the edge of the roadway unless otherwise ordered or specified. If necessary aluminum shims may be used to plumb the pole.

Certification:

The contractor shall arrange inspection by a Delaware licensed electrical inspection agency or contractor's licensed staff) for all lighting system work including but not limited to service, branch circuits, junction wells, underground conduit, all grounding and bonding and any electrical work performed on the project. The contractor shall submit certification for the chosen Delaware licensed electrical inspection agency or contractor's staff to the Project Engineer for approval prior to starting work.

Method of Measurement:

The quantity of aluminum lighting standards of the type(s) and size(s) specified will be measured as the actual number installed, certified and accepted.

Basis of Payment:

Aluminum Lighting Standard with Arm & Pole

The quantity of aluminum lighting standards with single arm will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing, assembling and installing aluminum lighting standard pole, single Davit arm, transformer base, and luminaire, and for all materials including labor, equipment, hardware, pole, ID tags, flush joint, gusset plate, and incidentals necessary to complete the work. This price will also include all miscellaneous hardware, connector kits, and wiring from the supply cables to the luminaire(s), labor, tools, equipment, and incidentals necessary to complete the work.

Aluminum Lighting Standard Pole

The quantity of aluminum lighting standards poles will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing and assembling all materials, including labor, equipment, and hardware. Supply and installation of the transformer base is incidental to the pole. The price also includes all miscellaneous hardware, connector kits, wiring from the power supply cables at the base of the pole to the luminaire, labor, tools, equipment, and incidentals necessary to complete the work.

Aluminum Lighting Single Davit Arm

The quantity of aluminum lighting davit arms will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing all materials, including labor, equipment, and hardware. Supply and installation of luminaire is incidental to the davit arm. The price also includes all miscellaneous hardware, connector kits, wiring from the power supply cables at the base of the pole to the luminaire, labor, tools, equipment, and incidentals necessary to complete the work.

4/17/2018

910504- OUTLET STRUCTURE, TRASH RACK

Description:

This work consists of supplying and installing trash racks on an existing outlet structure as described in the Plans and as directed by the Engineer.

Materials:

Materials shall conform to the requirements of Section 910.02 and as noted in the Plans.

Construction:

Construction shall conform to the requirements of Section 910.03.

Measurement:

The quantity will be measured as the actual number of trash racks installed and accepted.

Payment:

The quantity of trash racks installed will be paid for at the Contract unit price of each. Price and payment will constitute full compensation for furnishing and placing all Materials, plates, angles, bars, gaskets, grout, hardware, and all other Materials required for trash rack; for welding; and for all labor, Equipment, tools, and incidentals necessary to complete the Work.

7/14/20

910505 - OUTLET STRUCTURE, ORIFICE TRAP

Description:

This work consists of supplying and installing an orifice trap on an existing outlet structure as described in the Plans and as directed by the Engineer.

Materials:

Materials shall conform to the requirements of Section 910.02 and as noted in the Plans.

Construction:

Construction shall conform to the requirements of Section 910.03.

Measurement:

The quantity will be measured as the actual number of orifice traps installed and accepted.

Payment:

The quantity of orifice traps installed will be paid for at the Contract unit price of each. Price and payment will constitute full compensation for furnishing and placing all Materials, grout, hardware, and all other Materials required for orifice trap; for welding; and for all labor, Equipment, tools, and incidentals necessary to complete the Work.

7/14/20

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

JENNIFER COHAN
SECRETARY

UTILITY STATEMENT

July 20, 2020

REVISED November 18, 2020

State Contract No. T201200903

F.A.P. No. ESTP-S024(15)

Project I.D. No. 11-03243

**HSIP SC, SR 24 at SR5 / SR23 Intersection Improvements
Sussex County**

The following utility companies maintain facilities within the project limits:

**Delaware Electric Cooperative
DeIDOT
Crown Castle
Mediacom
Sussex County Sewer
Tidewater Utilities - Water
Verizon Delaware, LLC
Unknown Utilities**

The following is a breakdown of the utilities involved, adjustments and/or relocations as required.

DELAWARE ELECTRIC COOPERATIVE

Delaware Electric Cooperative owns poles and maintains aerial and underground facilities throughout the project area. Delaware Electric Cooperative owns and maintains existing electric distribution poles and aerial lines, which run along John J. Williams Highway (SR 24), Indian Mission Road (SR5), and Long Neck Road (SR 23).

Delaware Electric Cooperative proposes to relocate or adjust the following underground facilities within the project limits as outlined in the construction plans:

1. From STA. 1117+36 RT. to STA. 1128+97 RT. DEC will relocate their underground line due to conflict with proposed drainage inlets.



2. From STA. 1131+00 LT. to STA. 1132+50 LT. DEC will remove their underground line due to conflict with proposed drainage inlets.
3. From STA. 1130+37 RT. to STA. 1132+98 RT. DEC will relocate their underground line due to conflict with proposed drainage inlets.
4. From STA. 1132+98 RT. to STA. 1132+84 LT. DEC will install a new underground line to tie-in to the existing line.
5. From STA. 1136+84 RT. to STA. 1138+00 RT. DEC will relocate their underground line due to conflict with proposed guardrail posts.

Delaware Electric Cooperative plans to maintain an 8' depth on all underground installations, except in areas where they turn up into the gear. The contractor to verify depth prior to performing work in the area.

Delaware Electric Cooperative owns fifteen (15) utility poles at the following locations, which conflict with the proposed design as outlined in the table below. These poles are to be relocated as outlined in the highway construction plans.

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
D100	DEC #14166	STA. 1107+56.0	28.6 'RT	RELOCATE
D101	DEC #26322/ Verizon #Q/176	STA. 1109+39.3	32.4 'RT	RELOCATE
D102	DEC #134436 Verizon #Q/176-1	STA. 1110+27.2	41.9 'RT	RELOCATE
D103	DEC #26320 Verizon #Q/177	STA. 1112+53.2	41.8 'RT	RELOCATE
D104	DEC #26310	STA. 1114+82.0	25.4 'LT	RELOCATE
D105	DEC #111813	STA. 1127+97.4	71.3 'LT	RELOCATE
D106	DEC #111812	STA. 1128+62.2	69.8 'LT	RELOCATE
D107	DEC #26289	STA. 1212+14.3	28.3 'LT	RELOCATE
D108	DEC #111817	STA. 1301+55.0	39.9 'LT	RELOCATE
D109	DEC #5096	STA. 1302+41.8	27.1 'RT	RELOCATE
D110	DEC #111818	STA. 1303+42.7	40.6 'LT	RELOCATE
D111	DEC #111819	STA. 1306+64.4	41.9 'LT	RELOCATE
D112	DEC #5089	STA. 1307+10.7	33.1 'RT	RELOCATE
D118	DEC #26288	STA. 1209+13.5	39.0 'LT	RELOCATE
D119	DEC #111810	STA. 1215+48.9	42.2 'LT	RELOCATE

DEC will relocate/adjust additional electric boxes at the following locations in advance of construction. These facilities are to be relocated/adjusted as outlined in the highway construction plans.

CONFLICT NUMBER	STATION	OFFSET
D113	STA. 1117+24.5	63.5 'RT
D114	STA. 1139+37.1	26.7 'RT
D115	STA. 1301+76.1	39.3 'LT

DEC will relocate/adjust additional electric meters at the following locations in advance of construction. These facilities are to be relocated/adjusted as outlined in the highway construction plans.

CONFLICT NUMBER	STATION	OFFSET
D116	STA. 1302+47.3	26.9 'RT
D117	STA. 1215+43.5	37.2 'LT

Delaware Electric Cooperative has provided plan markups for relocating/removing poles and existing aerial wires. Outages are not anticipated and have not been coordinated. Should the State Contractor prefer an outage, they shall coordinate with DEC and will be responsible for all costs and time delays. Outages on the circuit will only be permitted as load, weather and other system conditions permit. DEC will be responsible for supplying any borrow quantities needed to complete their relocations.

Any adjustments required in the field by the state or private owners are not included. Delaware Electric Cooperative can begin the ordering of materials and scheduling of work once written authorization to begin construction is received and all reimbursable work for Delaware Electric Cooperative is approved. Delaware Electric Cooperative will supply all borrow, type C quantities to complete their work and submit to DelDOT for reimbursement where eligible.

Delaware Electric Cooperative has submitted final design of pole relocations and requires a **twenty-four (24)** week lead time for pole delivery. Once equipment is received, DEC's contractor will perform transmission and distribution relocation work for **twenty-eight (28)** weeks. Please refer to attached utility bar chart for a tentative schedule of relocations.

No existing Delaware Electric Cooperative facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.

DELAWARE DEPARTMENT OF TRANSPORTATION

Delaware Department of Transportation (DelDOT) has signal conduit at the following intersections within project limits:

1. SR 24 (John J. Williams Highway) and Plaza Drive
2. SR 24 (John J. Williams Highway) and SR 5 (Indian Mission Road)/ SR 23 (Long Neck Road)

The signal at SR 24 (John J. Williams Highway) and SR 5 (Indian Mission Road)/ SR 23 (Long Neck Road) will be reconstructed as noted in the contract documents. Some Signal infrastructure, including junction wells, conduit, and pole bases will be installed by a Traffic Contractor prior to

the start of construction. The State's Contractor will be responsible to tying into these junction wells for the installation of conduit.

It is the State's Contractor's responsibility to coordinate with DelDOT Traffic when any proposed construction will impact the existing traffic signal operations.

DelDOT has lighting conduit at the following locations within project limits:

1. SR 24 (John J. Williams Highway)
2. SR 5 (Indian Mission Road)
3. SR 23 (Long Neck Road)

The State's Contractor will be responsible for installing the proposed light fixtures and infrastructure as noted in the contract documents. The State's Contractor is also responsible for coordinating the installation of proposed light fixtures on utility existing and new utility poles owned by DEC and Verizon. See the Traffic Statement and construction plans for more information.

CROWN CASTLE

Crown Castle owns and maintains underground and aerial cable facilities on Delaware Electric Cooperative and Verizon owned utility poles throughout the project area. Crown Castle will need to relocate aerial facilities that are currently connected to existing Delaware Electric Cooperative and Verizon poles. Crown Castle will perform their relocations once poles are relocated by other companies and once facilities above them have been relocated by other companies.

Crown Castle maintains underground facilities along SR 24 (John J. Williams Highway) within the project area. The existing facilities along SR 24 are outlined in the table below and are to be installed prior to the start of the State's Contractor's construction.

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
Cable	1112+85 / 55' RT.	1117+18 / 53' RT.

Crown Castle owns and operates overhead facilities located on poles owned by Delaware Electric Cooperative and Verizon Delaware LLC. The following poles are scheduled to be relocated in accordance with the highway construction plans:

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
D100	DEC #14166	STA. 1107+56.0	28.6 'RT	RELOCATE
D101	DEC #26322	STA. 1109+39.3	32.4 'RT	RELOCATE
	Verizon #Q/176			

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
D102	DEC #134436 Verizon #Q/176-1	STA. 1110+27.2	41.9 'RT	RELOCATE
D103	DEC #26320 Verizon #Q/177	STA. 1112+53.2	41.8 'RT	RELOCATE

Crown Castle will require **forty-five (45) calendar days** to complete the proposed relocation work following a minimum of **fourteen (14) calendar days** advance notice of completion of clearing and grubbing, cuts and fills made, staking of rights-of-way and back of curbs, completion of the Utility Pre-Construction Meeting for this contract scheduled by DelDOT South District Construction Department, the procurement of any easements by DelDOT and relocation of the utility poles. Please refer to attached utility bar chart for a tentative schedule of relocations.

MEDIACOM

Mediacom owns and maintains underground and aerial cable facilities on Delaware Electric Cooperative and Verizon owned utility poles throughout the project area. Mediacom will need to relocate underground and aerial facilities that are currently connected to existing Delaware Electric Cooperative and Verizon poles. Mediacom will perform their relocations once poles are relocated by other companies and once facilities above them have been relocated by other companies.

Mediacom maintains underground facilities along SR 24 (John J. Williams Highway) within the project area. The existing facilities along SR 24 are outlined in the table below and are to be relocated as outlined in the highway construction plans.

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
Cable	1117+35 / 43' RT.	1134+41 / 68' RT.
Cable	1117+42 / 55' LT.	1126+10 / 53' LT.

Mediacom owns and operates overhead facilities located on poles owned by Delaware Electric Cooperative and Verizon Delaware LLC. The following poles are scheduled to be relocated in accordance with the highway construction plans:

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
D100	DEC #14166	STA. 1107+56.0	28.6 'RT	RELOCATE
D101	DEC #26322 Verizon #Q/176	STA. 1109+39.3	32.4 'RT	RELOCATE

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
D102	DEC #134436 Verizon #Q/176-1	STA. 1110+27.2	41.9 'RT	RELOCATE
D103	DEC #26320 Verizon #Q/177	STA. 1112+53.2	41.8 'RT	RELOCATE

Mediacom will require **forty-five (45) calendar days** to complete the proposed relocation work following a minimum of **fourteen (14) calendar days** advance notice of completion of clearing and grubbing, cuts and fills made, staking of rights-of-way and back of curbs, completion of the Utility Pre-Construction Meeting for this contract scheduled by DeDOT South District Construction Department, the procurement of any easements by DeDOT and relocation of the utility poles. Please refer to attached utility bar chart for a tentative schedule of relocations.

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

SUSSEX COUNTY SEWER

Sussex County maintains underground sanitary sewer facilities within the project area. All relocations will be performed by the state's contractor. The existing facilities along SR 24 (John J. Williams Highway) are as follows:

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
8-INCH PVC	STA. 1106+48/32' RT.	STA. 1106+50/ 33' LT.
21-INCH PVC	STA. 1106+48/32' RT.	STA. 1118+49/ 42' RT.
8-INCH PVC	STA. 1115+50/ 31' RT.	STA. 1115+52/ 32' LT.
8-INCH PVC	STA. 1115+52/ 32' LT.	STA. 1126+00/ 47' LT.
6-INCH PVC FM	STA. 1128+22/ 78' RT.	STA. 1134+61/ 34' RT.
Unknown	STA. 1130+57/ 24' LT.	STA. 1134+37/ 34' LT.
8-INCH PVC	STA. 1134+37/ 34' LT.	Line continues east past project limits.

Sussex County maintains underground sanitary sewer facilities within the project area. The existing facilities along SR 23/ SR 5 (Long Neck Road/ Indian Mission Road) are as follows:

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
20-INCH STEEL FM	STA. 1212+14 /13' LT.	Line continues east down SR 5 past project limits,
Unknown	STA. 1113+30/62' RT.	STA. 1113+30/ 16' LT.

There are sixteen (16) sanitary sewer manholes that will need to be adjusted to accommodate the proposed construction as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The sanitary sewer manholes are located as follows:

CONFLICT NUMBER	EXISTING FACILITIES (SIZE/MATERIAL)	STATION/OFFSET
S100	8-INCH PVC	STA. 1106+49.9/ 35.6 'LT
S101	21-INCH PVC	STA. 1106+56.8/ 28.3 'LT
S102	21-INCH PVC	STA. 1110+50.2/ 35.5 'RT
S103	21-INCH PVC	STA. 1114+50.0/ 34.0 'RT
S104	21-INCH PVC	STA. 1115+50.0/ 33.8 'RT
S105	8-INCH PVC	STA. 1115+51.7/ 34.7 'LT
S106	8-INCH PVC	STA. 1115+79.7/ 38.7 'LT
S107	8-INCH PVC	STA. 1117+35.3/ 35.4 'LT
S108	21-INCH PVC	STA. 1118+49.0/ 43.3 'RT
S109	8-INCH PVC	STA. 1119+83.2/ 44.1 'LT
S110	8-INCH PVC	STA. 1122+62.2/ 41.4 'LT
S111	8-INCH PVC	STA. 1126+02.1/ 45.7 'LT
S112	6-INCH PVC FM	STA. 1130+18.4/ 34.5 'RT
S113	Unknown	STA. 1130+65.9/ 23.7 'LT
S114	Unknown	STA. 1132+98.3/ 26.0 'LT
S115	21-INCH PVC	STA. 1106+48.4/ 34.4 'RT

There are six (6) sanitary sewer valves that will need to be adjusted to accommodate the proposed construction as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The sanitary sewer valves are located as follows:

CONFLICT NUMBER	EXISTING FACILITIES (SIZE/MATERIAL)	STATION/OFFSET
S117	8-INCH PVC	STA. 1115+68.7/ 35.9 'LT
S118	8-INCH PVC	STA. 1117+35.3/ 52.7 'LT
S119	8-INCH PVC	STA. 1126+10.2/ 44.8 'LT
S120	6-INCH PVC FM	STA. 1128+28.5/ 16.2 'RT
S122	20-INCH STEEL FM	STA. 1311+29.8/ 13.6 'LT
S123	6-INCH PVC FM	STA. 1128+25.7/ 76.7 'RT

There is one (1) sanitary sewer valve that will need to be relocated to be moved outside of existing right of way as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The sanitary sewer valves are located as follows:

CONFLICT NUMBER	EXISTING FACILITIES (SIZE/MATERIAL)	STATION/OFFSET
S121	Unknown	STA. 1130+59.8/ 32.6 'LT

**No existing Sussex County Sewer facilities can be taken out of service.
 These facilities will remain in place and active during the duration of this contract.**

TIDEWATER UTILITIES - WATER

Tidewater Utilities maintains underground water facilities within the project area. The existing facilities along SR 24 (John J. Williams Highway) are as follows:

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
8-INCH PVC	Line starts from the south end of the project limits	STA. 1127+54/ 42' RT.
8-INCH PVC	STA. 1108+26/24' RT.	STA. 1108+26/ 37' LT.
8-INCH PVC	STA. 1108+26/ 37' LT.	STA. 1109+88/ 37' LT.
8-INCH PVC	STA. 1114+26/ 68' LT.	STA. 1114+29/ 23' RT.
8-INCH PVC	STA. 1123+12/ 79' LT.	STA. 1123+17/ 22' RT.
EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
8-INCH PVC	STA. 1127+74/ 65' RT.	STA. 1128+45/ 22' RT.
10-INCH PVC	STA. 1128+45/ 22' RT.	STA. 1135+09/ 22' RT.
1-INCH PVC	STA. 1215+31/ 48' LT.	STA. 1216+55/ 55' LT.

The water main along SR 24 will be abandoned in place and relocated with a new, 12-inch diameter PVC C909 water main as shown on the contract documents.

Tidewater Utilities maintains underground water facilities within the project area. The existing facilities along SR 23/ SR 5 (Long Neck Road/ Indian Mission Road) are as follows:

EXISTING FACILITIES (SIZE/MATERIAL)	BEGIN STATION	END STATION
8-INCH PVC	STA. 1215+25 /30' RT.	STA. 1300+50 /57' RT.
8-INCH PVC	STA. 1215+30 /29' RT.	STA. 1215+30 /61' LT.
8-INCH PVC	STA. 1300+50 /57' RT.	Line continues east down SR 5 beyond project limits

There are thirty (30) water valves that will need to be adjusted or removed to accommodate the proposed construction as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor, unless otherwise noted in the construction plans. The water valves are located as follows:

CONFLICT NUMBER	EXISTING FACILITIES (SIZE/MATERIAL)	STATION/OFFSET
T100	8-INCH PVC	STA. 1106+02.8/ 23.6 'RT
T101	8-INCH PVC	STA. 1106+08.6/ 23.7 'RT
T102	8-INCH PVC	STA. 1106+43.2/ 24.9 'RT
T103	8-INCH PVC	STA. 1109+88.1/ 37.6 'LT
T104	8-INCH PVC	STA. 1113+24.2/ 24.8 'RT
T105	8-INCH PVC	STA. 1114+24.3/ 23.3 'RT
T106	8-INCH PVC	STA. 1114+28.6/ 20.6 'RT
T107	8-INCH PVC	STA. 1114+64.2/ 24.7 'RT
T108	8-INCH PVC	STA. 1122+29.3/ 22.5 'RT
T109	8-INCH PVC	STA. 1123+17.1/ 24.3 'RT
T110	8-INCH PVC	STA. 1128+42.1/ 46.4 'RT
T111	10-INCH PVC	STA. 1131+71.0/ 21.7 'RT
T112	10-INCH PVC	STA. 1135+08.8/ 22.0 'RT
T113	10-INCH PVC	STA. 1135+11.8/ 19.7 'RT
T114	8-INCH PVC	STA. 1215+31.8/ 29.0 'RT
T115	8-INCH PVC	STA. 1307+18.4/ 12.3 'RT
T116	8-INCH PVC	STA. 1309+46.3/ 20.2 'RT
T117	8-INCH PVC	STA. 1309+91.2/ 21.6 'RT
T118	8-INCH PVC	STA. 1109+21.3/ 39.2 'LT
T122 (6 valves at this location)	8-INCH PVC	STA. 1304+58.8/ 28.4 'RT
T127	8-INCH PVC	STA. 1127+57.2/ 40.1'RT
T128	8-INCH PVC	STA. 1127+74.8/ 63.5'RT
T129	8-INCH PVC	STA. 1113+23.0/ 54.7' RT
T130	8-INCH PVC	STA. 1108+29.1/ 25.5' RT.
T131	8-INCH PVC	STA. 1215+33.9/ 61.5' T.

There are four (4) fire hydrants that will need to be relocated to accommodate the proposed construction as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The hydrants are located as follows:

CONFLICT NUMBER	STATION	OFFSET
T124	STA. 1304+78.7	27.3 'RT
T125	STA. 1112+84.1	54.1 'RT
T126	STA. 1215+31.1	61.2 'LT
T132	STA. 1109+20.2	67.3 'LT

There are seven (7) water meters that will need to be relocated to accommodate the proposed construction as outlined in the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The meters are located as follows:

CONFLICT NUMBER	STATION	OFFSET
T119	STA. 1114+90.9	43.5 'RT
T121 (4 meters at this location)	STA. 1304+54.8	31.1 'RT
T123 (2 meters at this location)	STA. 1304+70.1	25.8 'RT

There is one (1) spigot that will need to be relocated to accommodate the proposed construction in accordance with the highway construction plans. This work is to be included in the highway contract with all necessary work to be performed by the State's Contractor. The spigot located as follows:

CONFLICT NUMBER	STATION	OFFSET
T120	STA. 1304+54.8	31.1 'RT

All relocation work described above for Tidewater Utilities will be performed by the State's contractor. As such, the State's contractor will be required to build the work into the overall schedule they create for the highway project. Tidewater estimates this work will take **twenty-eight (28)** calendar days to complete. The schedule is based on normal working days. Please note that neither Tidewater forces nor their contractors' forces work nights or weekends unless other arrangements are made.

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

VERIZON DELAWARE, LLC

Verizon has Buried and Aerial facilities along SR 24 from the start to the end of this project. Verizon also has Buried cables along Indian Mission Road for the entire length of this project. On Long Neck Road Verizon has Aerial Fiber cable on the north side of the road and buried cable and Conduit along the south side of the road.

Verizon Delaware LLC proposes to relocate or adjust the following underground facilities within the project limits as outlined in the construction plans:

- 1 Verizon proposes to relocate a Hand hole with cable at the corner of Tucks Rd and SR 24 to the rear of proposed sidewalk.
6. On the East side of SR 24 from Sta. 1105+80R to 1110+10R Verizon proposes replacing 1 existing Aerial cable and relocating 1 cable to new poles.
7. At Sta. 1109+37 Verizon proposes relocating a Buried Cable to new pole.
8. From Sta. 1110+20L to 1116+61L Verizon proposes relocating poles to the rear of the planned sidewalk and replacing the aerial cables.
9. On the East side of SR 24 from 1110+10R 1112+53R Verizon will relocate Aerial cables to relocated DEC poles.
10. Verizon proposes replacing Buried cables from sta. 1116+61L to sta. 1127+75L at MH AA/16.

11. Verizon proposes replacing existing Buried cables crossing SR 24 to Shore Plaza Blvd.at sta. 1122+00 and 1123+25.
12. On Indian Mission Rd from MH AA/16 at sta. 1127+75 to 1216+24 and from Sta 1211+27L to 1212+33L Verizon proposes replacing existing Buried cables.
13. From Sta. 1133+25R to 1134+65L Verizon proposes placing existing Buried cable. Also proposed is relocating an Air Dryer and Electric Service to the rear of CZ.
14. From Sta. 1134+70L to Sta. 1139+70L Verizon proposes retiring a line that is in conflict with proposed Guard rail.
15. At Sta. 1139+75L and 1140+12L Verizon will relocate 2 Pedestals back approximately 12 feet.
16. On Long Neck Rd from sta. 1301+76L to 1302+45R Verizon proposes replacing a buried cable and moving 2 pedestals back.
17. Also, on Long Neck Rd From Sta. 1306+25R to 1307+12R Verizon will remove Pedestal and cable.
18. On the north side of Long Neck Rd Verizon will relocate aerial Fiber cable to relocated power company poles.

There are seventeen (17) telecommunication boxes that will need to be adjusted to accommodate the proposed construction as outlined in the highway construction plans. This work will be performed by Verizon forces as part of the contract. The telecommunication boxes are located as follows:

CONFLICT NUMBER	STATION	OFFSET
V107	STA. 1121+71.5	40.9 'LT
V108	STA. 1123+29.9	36.5 'LT
V109	STA. 1124+66.7	35.0 'LT
V110	STA. 1134+69.9	28.2 'LT
V111	STA. 1134+73.2	24.9 'LT
V112	STA. 1135+75.5	26.3 'RT
V113	STA. 1139+68.6	22.6 'LT
V114	STA. 1139+73.0	21.8 'LT
V115	STA. 1140+11.3	24.1 'LT
V116	STA. 1212+10.0	28.3 'LT
V117	STA. 1216+35.5	34.1 'LT
V118	STA. 1216+43.9	32.1 'LT
V119	STA. 1216+46.6	32.0 'LT
V120	STA. 1216+48.3	34.6 'LT
V121	STA. 1301+81.0	37.1 'LT
V122	STA. 1302+41.3	28.3 'RT
V140	STA. 1306+70.2	24.6 'RT

There are nine (9) junction wells that will need to be adjusted to accommodate the proposed construction as outlined in the highway construction plans. This work will be performed by Verizon forces as part of the contract. The junction wells are located as follows:

CONFLICT NUMBER	STATION	OFFSET
V123	STA. 1106+41.2	44.2 'LT
V124	STA. 1118+39.6	33.8 'RT
V125	STA. 1121+76.6	40.7 'LT
V126	STA. 1126+00.1	36.0 'LT
V127	STA. 1134+69.6	25.5 'LT
V128	STA. 1216+71.6	26.2 'RT
V137	STA. 1134+05.4	32.7 'RT
V138	STA. 1212+17.7	29.5 'LT
V139	STA. 1214+43.8	31.7 'LT

There are eight (8) manholes that will need to be adjusted to accommodate the proposed construction as outlined in the highway construction plans. This work will be performed by Verizon forces as part of the contract. The manholes are located as follows:

CONFLICT NUMBER	STATION	OFFSET
V129	STA. 1111+08.2	16.3 'LT
V130	STA. 1111+20.0	16.3 'LT
V131	STA. 1127+78.5	17.5 'LT
V132	STA. 1127+90.3	17.3 'LT
V133	STA. 1134+50.8	17.2 'LT
V134	STA. 1134+62.9	17.1 'LT
V135	STA. 1306+89.9	15.0 'RT
V136	STA. 1306+97.9	15.2 'RT

Verizon owns seven (7) utility poles at the following locations, which conflict with the proposed design as outlined in the table below. These poles are to be relocated as outlined in the highway construction plans.

CONFLICT NUMBER	POLE NUMBER	STATION	OFFSET	ACTION
V100	#AA/28	STA. 1110+17.6	22.2 'LT	RELOCATE
V101	Push Brace	STA. 1110+32.5	22.3 'LT	RELOCATE
V102	#AA/27	STA. 1111+75.5	21.8 'LT	RELOCATE
V103	#AA/26	STA. 1112+76.3	22.2 'LT	RELOCATE
V104	#AA/25	STA. 1114+26.3	22.5 'LT	RELOCATE
V105	#AA/24	STA. 1115+75.0	22.4 'LT	RELOCATE
V106	#AA/23	STA. 1117+03.9	22.1 'LT	RELOCATE

Verizon will require **ninety (90) calendar days** to complete the proposed relocation work following **thirty (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 Contractor and required tree trimming and clearing has been performed.

No existing Verizon facilities can be taken out of service.

These facilities will remain in place and active during the duration of this contract.

UNKNOWN UTILITIES

There are utilities along SR 24 (John J. Williams Highway) and SR 5 (Indian Mission Road) whose ownership status is unknown. These are incremental underground facilities at the following locations.

UNKNOWN UTILITY NUMBER	BEGIN STATION	END STATION
1	STA. 1134+86/ 10' LT.	STA. 1141+32/ 9' LT.
2	STA. 1305+74/ 41' LT.	STA. 1306+63/ 42' LT.

No relocation or impacts are anticipated. Should any conflicts be encountered, then the conflicts shall be coordinated with and work accomplished as directed by the District Engineer

GENERAL UTILITY NOTES

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

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

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

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

GENERAL NOTES

1. The Contractor's attention is directed to Section 105.09 Utilities, Delaware Standard Specifications, dated August 2016. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The State's Contractor is advised to check the site for access purposes for his equipment and, if necessary, make arrangements directly with utility companies for field adjustments to provide 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 State's 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 State's Contractor may be granted an equitable extension of time if determined appropriate by the Engineer. The contractor's means and method of construction are not taken into account when known utility conflicts are identified. If the State's Contractor's means and method of construction create a utility conflict the Utility Statement will prevail in discussions with the utility and the State's Contractor. The State's Contract 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. The State's Contractor is responsible for the support and protection of all utilities when excavating in the vicinity of said utilities.

4. 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.

5. Coordination and cooperation among the Utility Companies and the State's Contractor are of prime importance. Therefore, the State's Contractor is directed to contact the following Utility Company representatives with any questions regarding the proposed 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 or legal holidays.

NAME	COMPANY	PHONE	EMAIL
Tony Rutherford	Delaware Electric Cooperative, Inc.	(302) 349-3144	trutherford@decoop.com
Jim Bunting	DelDOT Traffic	(302) 222-5970	Jim.Bunting@delaware.com

Wayne Elmer	Crown Castle	(585) 445-5824	Wayne.Elmer@crowncastle.com
Alan Colegrove	Mediacom	(302) 732-9332	acolegrove@mediacomcc.com
Jordan Dickerson	Sussex County – Sewer	(302) 855-7703	jdickerson@sussexcountyde.gov
Joshua Turner	Tidewater Utilities, Inc.	(302) 747-1349	jturner@tuiwater.com
George Zang	Verizon Delaware, LLC	(302) 422-1238	george.w.zang@verizon.com

6. As outlined in Chapter 3 of the DelDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads. This includes but is not limited to water quality permits/DNREC Water Quality Certification, DNREC Subaqueous Lands/Wetlands permits, DNREC Coastal Zone Consistency Certification, County Floodplain permits (New Castle County only), U.S. Coast Guard permits, US Army Corps 404 permits, sediment and erosion permits, and railroad crossing permits.
7. 16 Del. C. § 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. All contractors/other utilities must also maintain a distance of 10’-0” from all energized lines.
8. 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.

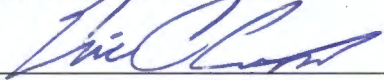
PREPARED AND RECOMMENDED BY:

Todd A. Oliver
 Whitman, Requardt & Associates, LLP
 Consulting Engineers
 Todd Oliver

toliver@wrallp.com
 Email

11/18/2020
 Date

APPROVED AS TO FORM:


 Delaware Department of Transportation
 Eric Cimo

Eric.Cimo@delaware.gov
 Email

11/18/20
 Date

Work Activity	Aug-21				Sep-21				Oct-21				Nov-21				Dec-21				Jan-22				Feb-22				Mar-22				Apr-22																				
	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4																	
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Advanced Clearing & Grubbing (by others as needed)																																																					
Delaware Electric Coop. (DEC)																																																					
Crown Castle																																																					
Mediacom																																																					
Verizon																																																					
Tidewater (*schedule to be confirmed by hwy contractor)																																																					
DelDOT Traffic	7/3/4	7/5/4	7/5/6	7/6	a	b	a																										7/8	7/8	7/9	7/9	7/9																
Chesapeake	No Anticipated Impacts/Relocations																																																				
Sussex County Sewer (*schedule to be confirmed by hwy contractor)																																																					

Work Activity	May-22				Jun-22				Jul-22				Aug-22				Sep-22				Oct-22				Nov-22				Dec-22				Jan-23			
	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4	wk 1	wk 2	wk 3	wk 4
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DelDOT Traffic																																				
Chesapeake	No Anticipated Impacts/Relocations																																			
Sussex County Sewer (*schedule to be confirmed by hwy contractor)																																				

Completion prior to DEC advance relocations

1	Clear and grub select areas along SR24 & SR5
1	DEC advertises work & orders transmission poles (24 week lead time) June 2020
2	DEC transmission pole delivery
3	DEC performs aerial and underground distribution relocation work along SR 24
4	DEC performs transmission relocation work and any remaining distribution
11	Crown receives minimum advanced notice from hwy contractor
12	Crown Castle performs new installs or relo of newly installed facilities along SR 24
4	Mediacom minimum advanced notice from hwy contractor
5a	Mediacom to perform work from approx. sta 1106+00 to 1128+00
5	Mediacom to perform work (remainder of work)
6	Verizon minimum advanced notice from hwy contractor
7a	Verizon to clear/grub as needed and to set VZ owned poles from approx. sta 1106+00 to 1128+00
7b	Verizon to perform work from approx. sta 1106+00 to 1128+00
7	Verizon UG & OH work (remainder of work)
8*	Highway contractor to perform work along 24 & Indian Mission Road
1	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 Fiber optics
2	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 Lighting
3	DelDOT Traffic to perform work Sta. 1103+75 to 1126+00 Fiber Optics
4	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 Signal & Electric
5	DelDOT to perform work Sta. 1103+75 to 1126+00 Lighting
6	DelDOT to perform work Sta. 1103+75 to 1126+00 Signal and Electric
7	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 Lighting
8	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 Fiber optics
9	DelDOT Traffic to perform work Sta. 1126+00 to 1144+50 and 1103+75 to 1126+00 Signal & Electric
	Chesapeake no Anticipated Impacts/Relocations
10*	Highway contractor to relocate sewer valve at Sta. 1130+59.8

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

CERTIFICATE OF RIGHT-OF-WAY STATUS

STATE PROJECT NO. T201200903

F.A.P. NO. ESTP-S024(15)

HSIP SC, SR24 AT SR5 / SR23
INTERSECTION IMPORVEMENTS

SUSSEX COUNTY

Certificate of Right-of-Way Status - Conditional

Status - Level 3

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

The acquisition or right of occupancy and use of some remaining parcels is not complete, but all occupants of the residences on such parcels has had replacement housing made available to them in accordance with 49 CFR 24.04. The parcels which are not available are:

[See Attached Sheet](#)

All necessary real property interests have been or shall be acquired in accordance with current FHWA/State directives covering the acquisition of real property.

No occupants were permanently displaced for this project and the State has physical possession and the right to remove, salvage, or demolish any personal property acquired as part of this project.

The State shall ensure that any occupants of residences, businesses, farms, or non-profit organizations and who have not yet moved from the right-of-way are protected against unnecessary inconvenience and disproportionate injury or any action coercive in nature.; and,

Anticipated clearance for all parcels is January 30, 2021.

RIGHT OF WAY SECTION



Monroe C. Hite III
Chief of Right of Way

PROJECT NO. T201200903

HSIP SC, SR24 AT SR5 AND SR23 INTERSECTIONS

2nd STATUS OF PARCELS

<u>Parcel No</u>	<u>Owner</u>	<u>Status</u>	<u>Availability</u>
2-L	Sabra Health Care	Negotiations	11/30/2020
10-L	Norwood	Settlement	11/30/2020
12-L	Weis Markets	10-day letter sent/still negotiating	11/30/2020
18-L	Weis Markets	Administrative Settle revised documents	11/30/2020
3-R	Agree Millsboro DE, LLC	Negotiations	11/30/2020
14-R	Melpar, LLC	R Abbott/condemnation	1/30/2021
18-R	C & J Properties, LLC	Completed Quit Claim Deed & in settlement	11/30/2020

Continued to page 2

Page 2

2nd Status of parcels as of 10/19/2020

<u>Parcel No</u>	<u>Owner</u>	<u>Status</u>	<u>Availability</u>
2-R	Skyliner Enterprises, LLC	ROE Agreement	Now
4-R	Skyliner Enterprises, LLC	ROE Agreement	Now
5-R	Skyliner Enterprises, LLC	ROE Agreement	Now
7-R	Skyliner Enterprises, LLC	ROE Agreement	Now
8-R	Skyliner Enterprises, LLC	ROE Agreement	Now
9-R	Skyliner Enterprises, LLC	ROE Agreement	Now



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

JENNIFER COHAN
SECRETARY

October 19, 2020

ENVIRONMENTAL REQUIREMENTS

FOR

State Contract No. T201200903

Federal Aid No.: ESTP-S024(15)

Contract Title: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

In accordance with the procedural provisions (40 CFR parts 1500-1508 and 23 CFR part 771) for implementing the National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4370h), as amended, the referenced project has been processed through the Department's Environmental Review Procedures and the 2018 Programmatic Agreement between the Federal Highway Administration, Delaware Division and the Delaware Department of Transportation Regarding the Processing of Actions Classified as Categorical Exclusions for Federal-Aid Highway Projects. As such, a Categorical Exclusion (CE) has been prepared to evaluate potential effects on the human environment resulting from construction of the proposed project.

Class II Action / Level C

CE action: **23 CFR 771.117(c)(26)**

Environmental (NEPA) Approval Date: **8/1/2018**

PERMIT REQUIREMENTS:

The construction work that will occur at the intersection of SR 24, SR 5 and SR 23 requires permit approval from the agencies listed below. It is the responsibility of the contracting agency -- the Delaware Department of Transportation, Division of Transportation Solutions -- to obtain the necessary permits to ensure that the contractor complies with the requirements and conditions established by the regulatory agencies. The permit coordination for this project is ongoing. Written authorization from the permitting agencies is required and paperwork for on-site posting is anticipated. As such, the construction work that will occur is authorized under the permits/exemptions listed below:

REQUIRED PERMITS AND APPROVAL STATUS:

- U.S. Army Corps of Engineers (COE) - Nationwide Permit (NWP) # 23 CENAP-OP-R-2020-00554-85, issued 7/24/2020, **expires 03/18/2022**
- Delaware Department of Natural Resources and Environmental Control (DNREC) – Subaqueous Lands Permit - SP-262/20, issued 10/12/2020, ***expires 10/12/2023***
- DNREC Water Quality Certification (WQC) – Issued, project is not located in a Critical Resource Water
- DNREC Coastal Zone Management (CZM) – Issued, project is not located in a Critical Resource Water

SPECIFIC REQUIREMENTS:

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

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

1. The contractor shall employ measures during construction to prevent spills of fuels or lubricants. If a spill should occur, efforts shall be undertaken to prevent its entry into wetlands, aquatic, or drainage areas. Any spills entering wetlands, aquatic, or drainage areas shall be removed immediately. The Division of Water Resources (DNREC), Wetlands & Aquatic Protection Branch, 302-739-4691, shall be notified of any spill(s) within six (6) hours of their occurrence. That office will determine the effectiveness of spill and contamination removal and specify remediation efforts as necessary.
2. All construction debris, excavated material, brush, rocks, and refuse incidental to the work shall be placed either on shore above the influence of flood waters or on some suitable disposal site approved by the department.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland surface water or any drainage ditch is prohibited.
4. There shall be no stockpiling of construction materials or temporary fills in wetlands or subaqueous lands unless otherwise specified on project plans and approved by permitting

agencies that govern them. It is the contractor's responsibility to coordinate and secure those additional permits/amendments in deviating from the plan.

5. Construction debris shall be kept from entering adjacent waterways, wetlands, ground cover, or drainage areas. Any debris that enters these areas shall be removed immediately. Netting, mats, or establishing confined work areas in stages may be necessary to address these issues.
6. Refuse material resulting from routine maintenance of worker equipment and heavy machinery is prohibited from being disposed or deposited onto or into the ground. All used oils and filters must be recycled or disposed of properly.
7. Use of harmful chemical wash water to clean equipment or machinery is discouraged. If undertaken, the residue water and/or material must be collected or contained such that it will be disposed of properly. It shall not be deposited or disposed of in waterways, streams, wetlands, or drainage areas.
8. The contractor shall follow all requirements as indicated in the Environmental Compliance Sheet. It is be the contractor's responsibility to ensure that workers also follow this requirement. If applicable, as part of the restrictions, please note the timetables reflected in the contract for the in-stream/water work for endangered species protection.
9. Fill material shall be free of oil and grease, debris, wood, general refuse, plaster and other pollutants, and shall contain no broken asphalt.

ENVIRONMENTAL COMPLIANCE SHEET:

The contractor shall pay special attention to specific construction requirements as indicated in the Environmental Compliance Sheet.

1. Specifically, please note the environmental requirements as indicated on sheet 67-69:
 - **Note 2B, Special Condition 3 of the DNREC permit, and Special Condition 8 of the COE permit:**
 - Fisheries – to protect diadromous fish migrations/spawning, no in-water shall occur from March 1 to June 30 (inclusive).
 - **Notes 3** on for Cultural Resources
 - The State Historic Preservation Office concurred with a Finding of No Historic Properties Affected.
 - **A** – An unmarked, undelineated cemetery, Lingo Family Cemetery, exists on the northwest corner of Parcel 10-L. Access in this area is to be limited to avoid disturbing any burials. If grave shafts or human remains are encountered during the course of work, all work in the area must stop immediately and

DelDOT Archaeologist, Kyle Edwards, must be contacted immediately at 302-760-2093 or Kyle.Edwards@delaware.gov

- **B** – Kyle Edwards, DelDOT Archaeologist, must be contacted 2 weeks prior to construction activities on Parcel 10-L at STA 1214+50 at Kyle.Edwards@delaware.gov or 302-760-2093. A DelDOT Archaeologist of consultant on their behalf must be on site during the excavation phase for the sidewalk (STA 1214+50) to monitor the Lingo Family Cemetery. If grave shafts or human remains are encountered, all work in the area shall stop immediately until both DelDOT and the State Historic Preservation Office have concurred that the construction work will not impact any intact archaeological deposits. This consultation shall take place no more than 24 hours after construction has stopped. All work on the project shall comply with the Delaware Stat Unmarked Human Remains Law (Delaware Code Title 7, Chapter 54).
- **C** – Any clearing that needs to occur between STA 1214+00 and STA 1215+00 needs to be approved by a DelDOT Archaeologist prior to removal to avoid disturbing any burial features. No grubbing shall take place in this area.

- **Note 4** for Restoration
- **Note 5** for Protection of Resources
 - C. Install silt fence secured with sandbags or compost filter logs (CFL) at the following locations:
 - STA 1134+44 to STA 1136+11 LT
 - STA 1137+94 to STA 1139+46 LT
 - STA 1135+12 to STA 1136+90 RT
 - STA 1138+30 to STA 1140+82 RT
 - Install CFL at the following locations
 - STA 1136+11 to STA 1137+94 LT
 - STA 1136+90 to STA 1138+30 RT
- **Note 6** for Planting Guidance

2. DelDOT Environmental Studies Section (302) 760-2259 or DOT.EnvironmentalStudies@delaware.gov 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.



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

JENNIFER COHAN
 SECRETARY

RAILROAD STATEMENT

For

State Contract No.: T201200903

Federal Aid No.: ESTP-S024(15)

Project Title: HSIP SR24 at SR5 / SR23 Intersection Improvements

The following railroad companies maintain facilities within the contract limits:

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

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

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

- No Railroad involvement.

- Railroad Agreement unnecessary but railroad flagging required. The contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Manager at (302) 760-2183.

- Railroad Agreement required. The necessary Railroad Agreement is pending. The Contractor cannot begin work until the Agreement is complete and fully executed. Railroad related work to be undertaken and completed as required for proper coordination with physical construction schedules. The Contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Manager at (302) 760-2183.

Approved As To Form:

Robert A. Perrine
 DelDOT Railroad Program Manager

9April18

DATE



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
301001	GRADED AGGREGATE BASE COURSE, TYPE B	CY	2166
301002	GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	CY	181
302002	DELAWARE NO. 3 STONE	TON	65
602132	ADJUSTING AND REPAIRING EXISTING MANHOLE	EACH	3
602502	CONVERTING EXISTING CATCH BASIN TO MANHOLE	EACH	6
701012	PORTLAND CEMENT CONCRETE CURB, TYPE 1-6	LF	65
701013	PORTLAND CEMENT CONCRETE CURB, TYPE 1-8	LF	139
701014	PORTLAND CEMENT CONCRETE CURB, TYPE 2	LF	54
701017	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 1-6	LF	4282
701020	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-2	LF	209
701022	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-6	LF	1669
701025	PORTLAND CEMENT CONCRETE CURB TYPE 2 MODIFIED	LF	42
701027	PORTLAND CEMENT CONCRETE CURB, TYPE 1-2 MODIFIED	LF	129
701031	CURB OPENING, 2' OPENING	EACH	2
702000	TRIANGULAR CHANNELIZING ISLANDS	SF	3918
705001	PORTLAND CEMENT CONCRETE SIDEWALK, 4"	SF	21285
705002	PORTLAND CEMENT CONCRETE SIDEWALK, 6"	SF	4938



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	SF	708
705008	PEDESTRIAN CONNECTION, TYPE 1	SF	438
705009	PEDESTRIAN CONNECTION, TYPE 2, 3, AND/OR 4	SF	841
705010	PEDESTRIAN CONNECTION, TYPE 5	SF	968
401031	SUPERPAVE TYPE BCBC, PG 64-22, PATCHING	TON	208
302005	DELAWARE NO. 57 STONE	TON	85
401015	SUPERPAVE TYPE B, PG 70-22	TON	1491
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	2119
401029	SUPERPAVE TYPE C, PG 64-22, PATCHING	TON	12
401030	SUPERPAVE TYPE B, PG 64-22, PATCHING	TON	141
401037	SUPERPAVE TYPE B, PG 64-22, WEDGE	TON	410
602012	DRAINAGE INLET, SPECIAL	EACH	6
602030	MANHOLE, 48" X 30"	EACH	1
602067	CONVERTING DRAINAGE INLET TO JUNCTION BOX	EACH	7
602130	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	9
706000	MONUMENT	EACH	2
763503	TRAINEE	HOURL	1080



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
602100	REPLACE DRAINAGE INLET GRATE(S)	EACH	2
602101	REPLACE DRAINAGE INLET FRAME(S)	EACH	2
830004	CONDUIT JUNCTION WELL, TYPE 7, 36" X 60" PRECAST POLYMER CONCRETE	EACH	1
834006	POLE BASE, TYPE 6	EACH	7
834007	POLE BASE EXTENSION	CF	18
834501	PARTIAL REMOVAL OF CONCRETE POLE BASES AND CABINET FOUNDATIONS	CY	6
835003	CABINET BASE TYPE P	EACH	1
835004	CABINET BASE TYPE R	EACH	1
842005	REMOVAL OF ELECTRIC SERVICE ON WOOD OR METAL POLE	EACH	2
842502	FURNISH AND INSTALL ELECTRIC UTILITY SERVICE EQUIPMENT 120/240 (200 AMP)	EACH	1
846001	FURNISH AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	1600
846002	FURNISH AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	LF	80
847002	INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	EACH	1
847004	LIGHTING CONTROL AND DISTRIBUTION ENCLOSURE (120/240;100 AMP)	EACH	1
910505	OUTLET STRUCTURE, ORIFICE TRAP	EACH	1
610009	PORTLAND CEMENT CONCRETE MASONRY, CLASS B	CY	34



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
611001	BAR REINFORCEMENT, EPOXY COATED	LB	6200
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	400
621500	TEMPORARY TIMBER MAT	LS	1
701010	PORTLAND CEMENT CONCRETE CURB, TYPE 1-2	LF	156
707500	CHANNEL BED FILL	CY	22
831515	FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	570
831516	FURNISH AND INSTALL 4" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	1890
831523	FURNISH AND INSTALL 2" GALVANIZED CONDUIT (TRENCH)	LF	50
831526	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (TRENCH)	LF	5
831541	FURNISH AND INSTALL 4" GALVANIZED STEEL CONDUIT (ON STRUCTURE)	LF	15
831545	FURNISH AND INSTALL 4" HDPE SDR-13.5 CONDUIT (BORE)	LF	920
831574	FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" SCHEDULE 80 PVC CONDUIT IN TRENCH OR OPEN CUT	LF	335
831578	FURNISH AND INSTALL SECOND AND SUBSEQUENT ADDITIONAL 4" HDPE SDR-13.5 CONDUIT IN DIRECTIONAL BORE	LF	300
832006	FURNISH AND INSTALL 1-CONDUCTOR #2 AWG STRANDED COPPER, TYPE USE-2	LF	250
832008	FURNISH AND INSTALL 1-CONDUCTOR #6 STRANDED COPPER, TYPE USE-2	LF	10100
832035	REMOVAL OF CABLE FROM CONDUIT OR TRAFFIC /LIGHTING POLE	LF	1140



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Description: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
833001	BONDING AND GROUNDING EXISTING JUNCTION WELL	EACH	11
834005	POLE BASE, TYPE 4A	EACH	6
706500	RIGHT-OF-WAY MARKER, CAPPED REBAR	EACH	34
707002	RIPRAP, R-5	SY	194
708002	GEOTEXTILES, SEPARATION	SY	490
850011	REMOVAL OF LUMINAIRE	EACH	6
850503	LUMINAIRE (LED), 160 WATTS	EACH	13
851504	ALUMINUM LIGHTING SINGLE DAVIT ARM, 15' ARM SPREAD	EACH	5
851506	ALUMINUM LIGHTING STANDARD, 30' POLE	EACH	7
851522	ALUMINUM LIGHTING SINGLE DAVIT ARM, 20' ARM SPREAD	EACH	2
905001	SILT FENCE	LF	4720
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	4
905005	INLET SEDIMENT CONTROL, CURB INLET	EACH	26
906001	PORTABLE SEDIMENT TANK	EACH	2
906003	SUMP PIT	EACH	2
906004	SKIMMER DEWATERING DEVICE	EACH	1
906005	WELL POINT SYSTEM	EACH	2



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Description: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
907017	COMPOST FILTER LOGS	LF	650
908004	TOPSOIL, 6" DEPTH	SY	15380
908015	PERMANENT GRASS SEEDING, STORMWATER	SY	1021
908016	PERMANENT GRASS SEEDING, SUBDIVISION	SY	15380
908017	TEMPORARY GRASS SEEDING	SY	340
908019	PERMANENT GRASS SEEDING, STREAMBANK	SY	83
908020	EROSION CONTROL BLANKET MULCH	SY	92
908021	TURF REINFORCEMENT MATTING, TYPE 1	SY	20
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	1650
909005	STREAM DIVERSION	LS	1
910008	STORMWATER MANAGEMENT POND	CY	3393
910504	OUTLET STRUCTURE, TRASH RACK	EACH	2
708003	GEOTEXTILES, RIPRAP	SY	114
710002	ADJUST WATER VALVE BOXES	EACH	12
710003	ADJUST FIRE HYDRANTS	EACH	2
711500	ADJUST AND REPAIR EXISTING SANITARY MANHOLE	EACH	15
711502	ADJUST AND REPAIR EXISTING SANITARY CLEANOUTS	EACH	8



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
720021	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	LF	644
720025	GUARDRAIL OVER CULVERTS, TYPE 2-31	EACH	2
721001	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	EACH	4
727002	WOOD POST AND RAIL FENCE	LF	451
727006	TEMPORARY CONSTRUCTION FENCE	LF	714
727007	BRIDGE SAFETY FENCE, TYPE 1	LF	78
760002	BIKE-FRIENDLY RUMBLE STRIPS, BITUMINOUS PAVEMENT	LF	1813
760012	PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH	SYIN	62438
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	9959
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	2108
763000	INITIAL EXPENSE/DE-MOBILIZATION	LS	1
763501	CONSTRUCTION ENGINEERING	LS	1
763508	PROJECT CONTROL SYSTEM DEVELOPMENT PLAN	LS	1
763509	CPM SCHEDULE UPDATES AND/OR REVISED UPDATES	EAMO	19
763597	UTILITY CONSTRUCTION ENGINEERING	HOOR	200
763598	FIELD OFFICE, SPECIAL I	EAMO	20
801000	MAINTENANCE OF TRAFFIC	LS	1



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
802003	ARROW PANELS TYPE C	EADY	1040
803001	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	EADY	90
804001	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY (FLOOD LIGHTS)	EADY	50
805001	PLASTIC DRUMS	EADY	152800
806001	TRAFFIC OFFICERS	HOURL	630
808001	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE I	EADY	1040
810001	TEMPORARY WARNING SIGNS AND PLAQUES	EADY	46800
811009	FLAGGER, SUSSEX COUNTY, FEDERAL	HOURL	6830
811018	FLAGGER, SUSSEX COUNTY, FEDERAL, OVERTIME	HOURL	1710
813001	TEMPORARY BARRICADES, TYPE III	LFDY	15000
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	7900
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	127140
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	50
817027	RAISED/RECESSED PAVEMENT MARKER	EACH	210
817031	REMOVAL OF PAVEMENT STRIPING	SF	41200
819016	INSTALLATION OF 4" DIAMETER HOLE, LESS THAN OR EQUAL TO 6" DEPTH	EACH	1
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH	175



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Description: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
819019	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS	SF	16
830001	CONDUIT JUNCTION WELL, TYPE 1, 20" X 20" PRECAST CONCRETE	EACH	16
830002	CONDUIT JUNCTION WELL, TYPE 4, 20" X 42-1/2" PRECAST CONCRETE	EACH	8
830008	ADJUST OR REPAIR EXISTING CONDUIT JUNCTION WELL	EACH	16
830010	REMOVAL OF EXISTING JUNCTION WELL	EACH	13
831514	FURNISH AND INSTALL 2-1/2" SCHEDULE 80 PVC CONDUIT (TRENCH)	LF	80
202000	EXCAVATION AND EMBANKMENT	CY	5104
203000	CHANNEL EXCAVATION	CY	160
204000	TEST HOLE	CY	165
610000	PORTLAND CEMENT CONCRETE MASONRY, CLASS A	CY	19
201000	CLEARING AND GRUBBING	LS	1
209006	BORROW, TYPE F	CY	1730
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	3108
601052	REINFORCED CONCRETE PIPE, 12", CLASS V	LF	281
601053	REINFORCED CONCRETE PIPE, 15", CLASS V	LF	135



Delaware Department of Transportation
Quantity Sheet Summary

Proposal ID: T201200903

Project Descripton: HSIP SR 24 at SR 5 / SR 23 Intersection Improvements

NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
601144	REINFORCED CONCRETE FLARED END SECTION, 24"	EACH	1
602003	DRAINAGE INLET, 34" X 24"	EACH	31
602004	DRAINAGE INLET, 48" X 30"	EACH	6
207000	STRUCTURAL EXCAVATION	CY	225
207020	STRUCTURAL BACKFILL, (BORROW TYPE B)	CY	109
208000	FLOWABLE FILL	CY	10
401045	SUPERPAVE TYPE C, PG 70-22 (NON-CARBONATE STONE)	TON	4776
403000	BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS (TRM) CONCRETE	TON	470
601032	REINFORCED CONCRETE PIPE, 15", CLASS IV	LF	2253
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	411
601039	REINFORCED CONCRETE PIPE, 36", CLASS IV	LF	9
832500	SPLICING OF ELECTRICAL CABLE, UNDERGROUND	EACH	6
209002	BORROW, TYPE B	CY	22
710500	INSTALLATION OF WATERMAIN AND ACCESSORIES	LS	1

BREAKOUT SHEET INSTRUCTIONS

BREAKOUT SHEET(S) MUST BE SUBMITTED EITHER WITH YOUR BID DOCUMENTS; OR WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE BID DUE DATE BY THE LOWEST APPARENT BIDDER.

BREAKOUT SHEETS ARE TO BE SUBMITTED TO DELDOT'S CONTRACT ADMINISTRATION AS SHOWN BELOW.

BREAKOUT SHEETS MUST TOTAL THE RESPECTIVE LUMP SUM BID AMOUNT(S) SUBMITTED.

MATHEMATICALLY INCORRECT BREAKOUT SHEETS WILL BE RETURNED FOR IMMEDIATE CORRECTION.

BREAKOUT SHEETS MAY BE SUBMITTED;

VIA E-MAIL TO: DOT-ASK@delaware.gov
SUBJECT: Breakout Sheet (project number)

OR MAILED TO: DELDOT
CONTRACT ADMINISTRATION
PO BOX 778, DOVER, DE 19903
Breakout Sheet (project number)

BREAKOUT SHEET - 1**CONTRACT NO. T201200903****ITEM 710500 – Installation of Water Mains and Accessories, W-1, STATION 1106+50 (SR24) TO STATION 1135+61 (SR 24)**

ITEM NO.	APPROX. QTY.	UNIT OF MEASURE	DESCRIPTION	UNIT PRICE	AMOUNT
1	14	EA	Furnish & Install 12", 45-degree bend	\$	\$
2	2	EA	Furnish & Install New Fire Hydrant Assembly (includes tee and 6" valve)	\$	\$
3	8	EA	Furnish & Install 120" x 8" Tee	\$	\$
4	7	EA	Furnish & Install 8" Gate Valve	\$	\$
5	4	EA	Furnish & Install 12" Gate Valve	\$	\$
6	8	EA	Furnish & Install Tie-In to Existing 12" Water Main	\$	\$
7	2958	LF	Furnish & Install 12" PVC	\$	\$
8	305	LF	Furnish & Install 6" PVC	\$	\$
9	68	LF	Furnish & Install 12" SCH. 40 Steel Casing	\$	\$
10	128	LF	Furnish & Install 20" SCH. 40 Steel Casing	\$	\$
11	1	EA	Furnish and Install 2" Temporary Blow-off assembly (includes 2" valve and 2" blowoff and associated reducers)	\$	\$
12	3	EA	Relocate Hydrant Assembly	\$	\$
13	3	EA	Relocate Water Services	\$	\$

SUBTOTAL ITEM 710500 – Installation of Water Mains and Accessories \$ _____
(SUB TOTAL LUMP SUM BID PRICE FOR ITEM 710500)

BREAKOUT SHEET - 2**CONTRACT NO. T201200903****ITEM 710500 – Installation of Water Mains and Accessories, W-2, STATION 1304+51 (SR23) to STATION 1304+73 (SR23)**

ITEM NO.	APPROX. QTY.	UNIT OF MEASURE	DESCRIPTION	UNIT PRICE	AMOUNT
1	6	EA	Relocate Water Meter	\$	\$
2	1	EA	Relocate Fire Hydrant Assembly	\$	\$
3	1	EA	Relocate Yard Hydrant	\$	\$
4	1	EA	Furnish and Install New Curb Stop	\$	\$
5	5	EA	Install New Water Meter (Meter Provided by TUD)	\$	\$

SUBTOTAL ITEM 710500 – Installation of Water Mains and Accessories \$ _____
(SUBTOTAL LUMP SUM BID PRICE FOR ITEM 710500)

BREAKOUT SHEET - 3**CONTRACT NO. T201200903****ITEM 710500 – Installation of Water Mains and Accessories, W-3, STATION 1216+35 (SR5) 1216+60 (SR5)**

ITEM NO.	APPROX. QTY.	UNIT OF MEASURE	DESCRIPTION	UNIT PRICE	AMOUNT
11	4	EA	Furnish & Install 8", 45-degree bend	\$	\$
9	40	LF	Furnish & Install 8" PVC	\$	\$

SUBTOTAL ITEM 710500 – Installation of Water Mains and Accessories \$ _____
(SUB TOTAL LUMP SUM BID PRICE FOR ITEM 710500)

BREAKOUT SHEET SUMMARY**CONTRACT NO. T201200903****ITEM 710500 – Installation of Water Mains and Accessories, Existing Line**

<u>BREAKOUT SHEET</u>	<u>SUBTOTAL LUMP SUM</u>
1	\$
2	\$
3	\$
TOTAL LUMP SUM BID PRICE FOR ITEM 710500 Installation of Water Mains and Accessories	\$