

STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION



**BID PROPOSAL**

**CONTRACT T201707104**

**BR 1-484 ON HARVEY STRAUGHN ROAD OVER BLACK STALLION DITCH**

Advertisement Date: July 9, 2020

**A MANDATORY Pre-Bid Meeting will be held electronically on Thursday, July 23, 2020 as described in the 'Pre-Bid Meeting' Attachment.**

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**INCLUDED IN THIS DOCUMENT:**

**BID PROPOSAL:**

*GENERAL DESCRIPTION  
PROSPECTIVE BIDDERS NOTES  
GENERAL NOTICES  
PREVAILING WAGES  
SPECIAL PROVISIONS  
STATEMENTS  
SAMPLE AFFIDAVIT - CRAFT TRAINING  
QUANTITY SHEET SUMMARY*

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**ADDITIONAL BID PROPOSAL ITEMS:**

**ATTACHED OR POSTED DOCUMENTS:**

*PROJECT PLANS  
QUESTIONS & ANSWERS (if posted)  
GUARDRAIL END-TREATMENT INFO  
PRE-BID MEETING ATTACHMENT*

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

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

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This Bid Proposal and related documents can be viewed on [bids.delaware.gov](https://bids.delaware.gov) and, for subscribers [bidx.com/de/](https://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 at the DelDOT Administration Building, Dover, DE;

**ALL BIDS DUE PRIOR TO 2:00 P.M. Local Time, August 11, 2020**

## GENERAL DESCRIPTION

- A. BIDS DUE:** AUGUST 11, 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](http://BIDX.com/de).
- B. PRE-BID MEETING:** Yes Refer to; PRE-BID MEETING in PROSPECTIVE BIDDERS NOTES.
- C. LOCATION:** NEW CASTLE County  
These improvements are more specifically shown on the Location Map(s) of the attached Plans.
- D. DESCRIPTION:** The improvements consist of furnishing all labor and materials for The project consist of two (2) corrugated metal pipes that are severely corroded. This deterioration has caused the bridge to become structurally deficient. The corrugated metal pipes will be replaced with 12'-0" wide x5'-0" high precast concrete box culvert. The roadways leading up to the bridge will be reconstructed as needed and the channel, upstream and downstream, will be armored with stone for scour protection. The work will be performed under full road closure with detour.
- E. COMPLETION TIME:** All work on this contract must be complete within 40 Calendar Days.  
The Contract Time includes an allowance for 5 Weather Days.  
The Department's intent is to issue a Notice to Proceed for work to start on or about October 5, 2020.
- F. 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.
- G. ATTACHMENTS:** Included as part of this Bid Proposal are; *Project Plans; Questions & Answers* (if posted); *Addenda* (if issued), *Referenced Documents, Documents Posted with this Bid Proposal*; and *Bid documents mailed to contractors*.
- H. ADDENDA:** All Addenda are posted on the internet at [bids.delaware.gov](http://bids.delaware.gov), and [bidx.com/de/](http://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.
- I. QUESTIONS:** E-MAIL TO; [dot-ask@delaware.gov](mailto: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](http://bids.delaware.gov), and [bidx.com/de/](http://bidx.com/de/). The date of the final posted Questions and Answers document must be entered on the submitted Certification Form.

*Prospective Bidders Notes begin on the following page...*

**J. PROSPECTIVE BIDDERS NOTES:**

**1. CRAFT TRAINING** (29 Del. C. § 6962(c)(13)), § 6962(d)(13))  **NEW**

The Craft Training Regulations relating to Public Works Contracting, signed into law on June 7, 2019 are now in effect. These regulations require certain contractors and subcontractors on public works projects to commit to provide craft training for journeyman and apprentice levels at the time of contract execution.

**Refer to the full requirements at the following link:** <https://delcode.delaware.gov/sessionlaws/ga150/chp036.pdf>

Note a few of the requirements;

- If there is a craft training program for a craft in this project, the awarded contractor must commit to provide (and commit that subcontractors must provide) craft training for journeyman and apprentice levels at the time the contractor executes the public works contract if all of the following apply:
  1. This project meets the prevailing wage requirement under § 6960 of this title.
  2. The contractor (or subcontractor) employs 10 or more total employees.
  3. The project is not a federal highway project, except for the US 301 project from the MD/DE state line to RT 1.
- The craft training required may be provided by any of the following: The contractor; The subcontractor; A program registered under § 1101-4.0 of Title 19 of the Delaware Administrative Code.
- Any contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the agency in the invitation to bid, may be subject to suspension or debarment for 1 or more of the following reasons: Failure to supply the adequate labor supply ratio for the project; Inadequate financial resources; Poor performance on the project; Failure to provide required craft training.
- Any subcontractor who fails to provide required craft training may be subject to suspension or debarment.
- The public works contract must include a requirement that the contractor provide, and the subcontractor provide, craft training for journeyman and apprentice levels if all the above subparagraphs 1, 2, and 3 apply.
- An Affidavit Of Craft Training Compliance form will be provided for signature at contract execution (sample attached).

**2. BIDDERS MUST BE REGISTERED** with DelDOT in order to submit a bid. E-Mail [dot-ask@delaware.gov](mailto:dot-ask@delaware.gov) or call (302) 760-2031 to request registration information.

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

(a) **Internet** - Bidders with Bid Express® accounts can submit bids at [www.bidx.com/de/](http://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](mailto:dot-ask@delaware.gov) or (302) 760-2031 to request a CD for bidding, required forms, and instructions. Bidders enter their Bid Item prices into the supplied CD then print the form and submit the printed prices form along with the CD and other required documents prior to the Bid due date/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.***

**4. 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.

**5. 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.
- 6. 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.
- 7. NO RETAINAGE** will be withheld on this contract unless through the Performance-Based Rating System.
- 8. EXTERNAL COMPLAINT PROCEDURE** can be viewed on DelDOT's Website, [https://deldot.gov/Business/cr/index.shtml?dc=civil\\_rights\\_eeo](https://deldot.gov/Business/cr/index.shtml?dc=civil_rights_eeo) or request a copy by calling (302) 760-2555.
- 9. DELAWARE BUSINESS LICENSE**; a copy of your firm's Business License must be submitted with your bid.
- 10. SECTION 106.06 BUY AMERICA** Contract Requirement in the Delaware Standard Specifications for Road and Bridge Construction, August, 2016 does not apply to this contract.
- 11. 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.
- 12. MANDATORY PRE-BID MEETING:** The Pre-Bid Meeting will be held via video-conferencing on Thursday, July 23, 2020 at 10:00 A.M.
- Contractors and subcontractors are welcome to call in and participate in the meeting. Firms that may submit bids to DelDOT for this project will be required to have someone participate in the meeting and provide their name and the name of the firm they represent. Failure to confirm their name and the bidder's company name at the Mandatory Pre-Bid Meeting will result in the bidder being found non-responsible and non-responsive, and their bid will be rejected. The requirement for confirming their presence only applies to firms that may be submitting bids directly to DelDOT, not subcontractors.
  - **It is recommended that you join the meeting from your computer to view slides and a presentation.**  
**To join please [click here](#). If the link does not work, please follow the instructions below.**
    1. Navigate to <https://www.webex.com>.
    2. Open top right corner click on the **Join** button:
    3. Enter the meeting, session, or event number into the *Meeting Number* field.  
Meeting Number: 129 958 4425
    4. Enter your name, email address and the meeting password.  
Meeting password: NCqc6xdSt94
    5. Click the Join button to join into the meeting.
  - **You should also call-in to the number below:**  
**1 (408) 418-9388**  
**Access Code: 129 958 4425**
  - No one will be permitted to dial in or participate from DelDOT's building.
  - Questions regarding joining the meeting can be sent to [DOT-ask@delaware.gov](mailto:DOT-ask@delaware.gov).

- Note: *On Friday March 13, 2020 Governor Carney declared a State of Emergency due to the public health threat of COVID-19 and issued a proclamation authorizing all public meetings of executive branches to be conducted electronically, either telephonically or via video-conference. Out of an abundance of caution, DelDOT is conducting the public pre-bid meeting as described above.*

*- end -*

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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](#).

### PREFERENCE FOR DELAWARE LABOR:

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (4)b: "In the construction of all public works for the State or any political subdivision thereof, or by firms contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Each public works contract for the construction

of public works for the State or any political subdivision thereof shall contain a stipulation that any person, company or corporation who violates this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section."

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 shall obtain a license upon making application to the Division of Revenue.

CONTRACTOR / SUBCONTRACTOR LICENSE: 29 DEL. C. §6967:

- (b) No agency shall accept a proposal for a public works contract unless such contractor has provided a proper and current copy of its occupational and/or business license, as required by Title 30, to such agency.
- (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.

## 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)

## 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 DELAWARE 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 [Delaware] 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."

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: 06/22/2020

BY: 

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) ~~453-3423~~ 761-8200

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

PROJECT: T201707104.01 BR 1 484 ON HARVEY STRAUGHN ROAD OVER BLACK STALLION DITCH, New Castle County

**SPECIAL PROVISIONS**

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S.P. Code	SPECIAL PROVISION DESCRIPTION
401502-15	ASPHALT CEMENT COST ADJUSTMENT
401699-15	QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE
621500-15	TEMPORARY TIMBER MAT
706500-15	RIGHT-OF-WAY MARKER, CAPPED REBAR
707500-15	CHANNEL BED FILL
763501-15	CONSTRUCTION ENGINEERING
801500-15	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE
901500-15	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
901501-15	STORMWATER POLLUTION PREVENTION INSPECTION
901502-15	STORMWATER POLLUTION PREVENTION INSPECTION SOFTWARE
901503-15	EROSION AND SEDIMENT CONTROL PRACTICE

**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 Project Asphalt Cement Base Price will be the anticipated Delaware Posted Asphalt Cement Price expected to be in effect at the time of receipt of bids.

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 for the project will be \$\_\_\_\_\_ per ton (\$\_\_\_\_\_ per metric ton).

**Contract No. T201707104.01**

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

**NOTE**

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

08/07/14

**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

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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 2000<sup>th</sup> 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

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- 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.

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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.

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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.**

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

<b>Table 2 - Material Parameter Weight Factors</b>		
<b>Material Parameter</b>	<b>Single Test Tolerance (+/-)</b>	<b>Weight Factor</b>
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.

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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,

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the Engineer will no longer accept material. Production may resume when changes have been made and an acceptable sample and test result is obtained.

<b>Table 3 B Quality Level Analysis by the Standard Deviation Method</b>							
<b>PU or PL</b>	<b>QU and QL for An@ Samples</b>						
	<b>n = 3</b>	<b>n = 4</b>	<b>n = 5</b>	<b>n = 6</b>	<b>n = 7</b>	<b>n = 8</b>	<b>n = 9</b>
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

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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

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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**

Table 3 B Quality Level Analysis by the Standard Deviation Method							
PU or PL	QU and QL for An@ Samples						
	n = 3	n = 4	n = 5	n = 6	n = 7	n = 8	n = 9
61	0.39	0.33	0.31	0.30	0.30	0.29	0.29
60	0.36	0.30	0.28	0.27	0.27	0.27	0.26
59	0.32	0.27	0.25	0.25	0.24	0.24	0.24

**Table 4 - PWL Pay Adjustment Factors**

PWL	Pay Adjustment Factor (%) Column B	Pay Adjustment Factor (%) Column C
100	+5	0
99	+4	-1
98	+3	-2

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97	+2	-3
96	+1	-4
95	0	-5
94	-1	-6
93	-2	-7
92	-3	-8
91	-4	-9
PWL<91	PWL - 100	PWL - 100

**(b) Pavement Construction - Pay Adjustments.**

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

- Degree of compaction of the in-place material

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

1. Calculate the core bulk specific gravity values from the subplot tests values, to the nearest 0.001 unit. Obtain the Theoretical maximum Specific Gravity values from the corresponding laboratory subplot tests.
2. Calculate the Degree of Compaction:  
  
Degree of Compaction =  
  
$$\left( \frac{\text{(Core Bulk Specific Gravity)}}{\text{(Theoretical Maximum Specific Gravity)}} \right) \times 100\%$$
 recorded to the nearest 0.1%.
3. The average compaction for the sublots shall be averaged together for the compaction level of the lot. The lots compaction test level shall be averaged and recorded to the nearest whole percent.

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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:

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

<b>Table 5: Compaction Price Adjustment Highway Locations</b>		
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

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<b>Table 5A: Compaction Price Adjustment Other<sup>1</sup> Locations</b>		
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

<sup>1</sup> 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.**

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

### **Materials and Equipment.**

The following material shall be available to complete this work:

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

The following equipment shall be available to complete this work:

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

### **Construction Method.**

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

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

### **Performance Requirements.**

The Engineer will judge the patch on the following basis:

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

**Basis of Payment.**

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

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

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

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

7. The calculations used to determine the structural capacity of the roadway is as follows. If the contractor finds, upon starting the coring process, that the areas are of greater thickness than applicable to Table 5a, they may terminate the coring process on their own and retract the request.

**Structural Number Calculations**

Each pavement box material is assigned a structural coefficient based upon AASHTO design guides. The structural coefficient is used to determine the total strength of the pavement section.

Materials used in older pavement sections are assigned lower structural coefficients to compensate for aging of the materials. The coefficients used to determine the structural number of an existing pavement are:

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

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

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

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<b>New Material</b>	<b>Structural Coefficient</b>
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
			<b><u>1.62</u></b>

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For the Type C lift the calculation would be:

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

11/3/14

**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.

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**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-Way Marker, Capped Rebar by a Delaware Professional Land Surveyor and any incidentals necessary to complete

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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

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**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 <sup>3</sup>	Medium <sup>4</sup>	Heavy
5-inch	100	90-100 <sup>1</sup>	Gradation to be noted on Plan sheets
1-inch	70-100 <sup>1</sup>	0-20 <sup>2</sup>	
3/4-inch	30-95		
3/8-inch	0-10 <sup>2</sup>		

**Notes:**

<sup>1</sup> Salvaged materials may contain material exceeding this size and be acceptable.

<sup>2</sup> 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.

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

<sup>4</sup> 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

**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

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machine control grading is allowed on the project see the "machine control" section of this specification. GPS technology and machine control technology shall not be used in the construction of bridges.

**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.

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- (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.

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

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obtained by the Engineer shall be considered the information to be used in computing the quantities in question.

**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:

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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:

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

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5. The Contractor's manipulation of the electronic data provided by the Department shall be performed at their own risk.
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.

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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.
  
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-I) 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.

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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.
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.

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**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.

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

8/22/2019

**801500 - MAINTENANCE OF TRAFFIC - ALL INCLUSIVE**

**Description:**

This item shall consist of furnishing, installing, maintaining and/or relocating the necessary temporary traffic control devices used to maintain vehicular, bicycle and pedestrian traffic, including persons with disabilities in accordance with the Americans with Disabilities Act, as amended. All work shall be performed in a manner that will provide reasonably safe passage with the least practicable obstruction to all users, including vehicular, bicycle and pedestrian traffic.

All requirements of the Delaware Manual on Uniform Traffic Control Devices (MUTCD), Part 6, herein referred to as the Delaware MUTCD. (latest edition with all revisions made up to the date of Advertisement of this project) shall apply for all temporary traffic control devices. Any, and all, control, direction, management and maintenance of traffic shall be performed in accordance with the requirements of the Delaware MUTCD, notes on the Plans, this specification, and as directed by the Engineer.

The Contractor shall be aware that the Case Diagrams and safety measures outlined in the Delaware MUTCD are for common construction situations and modifications may be warranted based on the complexity of the job. The Contractor shall submit justification for modifications to the Temporary Traffic Control Plan (TTCP) to the Engineer for approval prior to implementation.

The Department reserves the right to impose additional restrictions, as needed, for the operational movement and safety of the traveling public. The Department reserves the right to suspend the Contractor's operations until compliance with the Engineer's directive for remedial action, based on but not limited to the following reasons:

1. The Contractor's operations are not in compliance with the Delaware MUTCD, the specifications or the Plans.
  
2. The Contractor's operations have been deemed unsafe by the Traffic Safety Engineer or District Safety Officer.

**Materials and Construction Methods:**

The Contractor shall submit a Temporary Traffic Control Plan (TTCP) or a Letter of Intent to use the Plan recommended Delaware MUTCD Case Diagram(s) at or prior to the pre-construction meeting. The Contractor shall submit the TTCP for all Contractor and subcontractor work to be performed on the project for the Department's approval before the start of work.

When specified by a note in the Plans, the Contractor shall be required to have an American Traffic Safety Services Association (ATSSA) certified Traffic Control Supervisor on the project. The authorized designee must be assigned adequate authority, by the Contractor, to ensure compliance with the requirements of the Delaware MUTCD and provide remedial action when deemed necessary by the Traffic Safety Engineer or the District Safety Officer. The ATSSA certified Traffic Control Supervisor's sole responsibility shall be the maintenance of traffic throughout the project. This responsibility shall include, but is not limited to, the installation, operations, maintenance and service of temporary traffic control devices. Also required is the daily maintenance of a log to record maintenance of traffic activities, i.e., number and location of temporary traffic control devices; and times of installation, changes and repairs to temporary traffic control devices. The ATSSA Traffic Control Supervisor shall serve as the liaison with the Engineer concerning the Contractor's maintenance of traffic. The name, contact number and certification for the designated Traffic Control Supervisor shall be submitted at or prior to the pre-construction meeting. The cost of the ATSSA certified Traffic Control Supervisor shall be incidental to this item.

Temporary traffic control devices shall be maintained in good condition in accordance with the brochure entitled "Quality Guidelines for Temporary Traffic Control Devices", published by the American Traffic Safety Services Association (ATSSA). Any temporary traffic control devices that do not meet the quality guidelines shall be removed and replaced with acceptable devices. Failure to comply will result in work stoppage with time charges continuing to be assessed.

Any existing signs that conflict with any temporary or permanent construction signs shall be covered as needed or as directed by the Engineer. The cost for temporarily covering conflicting signs shall be incidental to this item.

Access to all transit stops located within the project limits shall be maintained unless otherwise directed by the Plans or the Engineer. Maintaining access shall include maintaining an area for the transit vehicle and also an accessible path for pedestrians to safely access the transit stop.

The Contractor shall notify the Engineer, in writing, no less than fourteen (14) calendar days prior to the start of any detour(s) and road closures. The Engineer will notify the following entities:

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- Local 911 Center
- Local School Districts
- Local Post Offices
- DelDOT's Transportation Management Center (TMC)
- Town Managers
- Local Police
- DelDOT's Public Relations
- Delaware Transit Corporation (DTC)

Immediately prior to the implementation of any lane or road closures, the Engineer shall notify the DelDOT TMC at (302) 659-4600. Notifications shall also be provided when the closures are lifted. The Engineer shall notify TMC and the District Safety Officer if any lane closures cannot be removed prior to the end of the allowable work hours. The Contractor shall notify the local 911 center if access to a fire hydrant is temporarily restricted. The Contractor shall provide written confirmation to the Engineer that the local 911 center has been notified.

If a detour is required during any part or the entire period of this Contract, an approved detour plan shall be obtained from the Department's Traffic Safety Section. All signs, barricades and other temporary traffic control devices required as part of the approved detour plan shall be installed and maintained by the Contractor on the route that is closed and on the detour route. Road closures without an approved detour plan shall not be allowed. If a road is closed without an approved detour plan, the Contractor's operations shall be stopped immediately.

The Contractor shall provide and maintain ingress and egress for each property abutting the construction area and each property located between the diversion points of any detour and the actual construction site. Construction activities which may temporarily or otherwise interfere with property access shall be coordinated in advance with the affected property owners.

The Contractor shall conduct construction operations in a manner which will minimize delays to traffic, and shall meet the following requirements:

1. If work is being performed within 200 feet in any direction of an intersection that is controlled by a traffic signal, the flagger(s) shall direct the flow of traffic in concert with the traffic signals in construction areas to avoid queuing, unless active work prohibits such action. The flagger shall direct traffic to prevent traffic from queuing through an intersection (i.e., blocking an intersection). Only a Traffic Officer may direct traffic against the operation of a traffic signal and only until the operation occurring within the intersection is completed.

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2. When a lane adjacent to an open lane is closed to travel, the temporary traffic control devices shall be set 2 feet (0.61 m) into the closed lane from the edge of the open lane, unless an uncured patch exists or actual work is being performed closer to the open lane with minimum restriction to traffic.
  
3. Except for “buffer lanes” on high volume and/or high speed roadways, lanes shall not be closed unless construction activity requiring lane closure is taking place, or will take place within the next hour. Lanes shall be reopened immediately upon completion of the work. Moving operations will require the lane closures be shortened as the work progresses and as traffic conditions warrant to minimize the length of the closure. The Contractor shall conduct construction operations in a manner so as to minimize disruption to traffic during peak hours and periods of heavy flow. The Department reserves the right to stop or change the Contractor's operations, if in the opinion of the Engineer, such operations are unnecessary at that time or the operations are unnecessarily impeding traffic.
  
4. Work in the vicinity of traffic signals, shall be scheduled to minimize the time during which the signal is operated without detectors, and prior approval from the Engineer shall be required. TMC shall be notified in advance of cutting a loop detector, and be immediately notified once the loop detector has been reinstalled. The Contractor shall provide sufficient advance notice of the loop detector work with the Engineer to ensure the aforementioned requirements are met.

It is required that all temporary traffic control work and related items shall either be performed entirely by the Contractor's own organization, or totally subcontracted. Maintenance of equipment shall not be subject to this requirement.

Any deficiencies related to temporary traffic control that are reported to the Contractor in writing shall be corrected within 24 hours or as directed by the Engineer. Failure to comply will result in non-payment for those devices that are found to be deficient for the duration of the deficiency. Serious deficiencies that are not corrected immediately shall result in suspension of work until items identified are brought back into compliance.

At the end of each day's work, the Contractor shall correct all pavement edge drop-offs in accordance with Table 6G-1 in the Delaware MUTCD. This corrective work shall be accomplished with Temporary Roadway Material (TRM) unless an alternate method is specified in the Plans. All ruts and potholes shall be filled with TRM as soon as possible but no later than the end of each work day. Placement and Payment of TRM shall be completed in accordance with Section 403 of the Standard Specifications. If temporary elimination of a drop-off hazard cannot be accomplished, then the area should be properly marked and protected with temporary traffic control devices such as temporary barricades, warning signs, flashing lights, etc. as required by Section 6G.21 of the Delaware MUTCD.

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All open trench excavation accessible by vehicular traffic must be backfilled prior to the end of each working day. Steel plates shall not be used except in emergency situations and only with prior written approval from the Engineer unless otherwise directed by the Plans.

The Contractor shall submit, at or prior to the preconstruction meeting, detailed drawings including but not limited to existing striping lengths, lane and shoulder widths, turn lane lengths, locations of stop bars, turn arrows, crosswalks and railroad crossings. The drawings shall depict the existing pavement markings for each project location. These drawings will be reviewed by the Department's Traffic Section to determine the need for modification(s) for compliance with the Delaware MUTCD. Temporary pavement markings, on the final pavement surface, shall match the Plan dimensions and layout or the approved drawings of the permanent markings in compliance with Section 3 of the Delaware MUTCD. All conflicting or errant striping shall be removed as directed by the Engineer in compliance with the specifications for Item 817031 - Removal of Pavement Striping.

At the end of each day's operation and before traffic is returned to unrestricted roadway use, temporary striping shall be utilized when the existing pavement is milled and hot mix will not be placed the same day or more than a single course of hot mix is to be placed or permanent roadway striping cannot be placed on the same day as the placement of the final course of hot mix. Placement of temporary striping shall receive prior approval from the Engineer and the contractor shall apply temporary pavement markings in accordance with the requirements of Section 817 of Delaware Standard specifications and the Delaware MUTCD. Payment for temporary pavement striping shall be made at the unit price bid for item 817 - Temporary Striping. Payment for final striping will be included in the applicable striping item.

The Contractor shall have temporary striping/delineating materials (such as raised markers, tape, and other approved materials) available at the job site for verification by the Department prior to starting the hot-mix paving operation on roads to be immediately opened to traffic. These materials shall be used by the Contractor for temporary markings if he/she fails to apply temporary marking paint, etc., as required by the Delaware MUTCD. No paving operations on roads to be immediately opened to traffic will be allowed unless such verification has been made for the availability of the materials at the job site.

Travel lane and ramp closings on multilane highways and Interstates shall not be permitted during the following holiday periods:

- December 24 through December 27 (Christmas Day)
- December 31 through January 3 (New Years Day)
- Friday prior to Easter through Easter Sunday
- Thursday prior to Memorial Day through the Tuesday following Memorial Day
- Dover International Speedway Race Weekends (Thursday prior to the race event through the day after the race event)

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- July 3 through July 5 (Independence Day)
- Thursday prior to Labor Day through the Tuesday following Labor Day
- Wednesday prior to Thanksgiving Day through the Monday following Thanksgiving Day

Additional time restrictions may apply as noted in the project plans or as directed by the Engineer. Any requests to waive any restrictions must be made in writing to the Engineer for review and approval. A copy of the request shall be provided to the District Safety Officer for review.

**Certification:**

Temporary traffic control devices used on all highways open to the public in this State shall conform to the Delaware MUTCD. All devices shall be crashworthy in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350, the memorandum issued August 28, 1998 by The USDOT Federal Highway Administration, and/or in accordance with the latest edition of the Manual for Assessing Safety Hardware (MASH), published by the American Association of State Highway and Transportation Officials (AASHTO).

The Contractor shall submit certification for temporary traffic control devices or vendors used specifically on this project at or prior to the pre-construction meeting.

Certification of compliance with NCHRP report 350 and/or MASH is required for the following categories of temporary traffic control devices:

**Category I** contains small and lightweight channelizing and delineating control devices which includes cones, tubular markers, flexible delineator post and drums, all without any accessories or attachments.

**Category II** includes temporary traffic control devices that are not expected to produce significant vehicular velocity changes to impacting vehicles. These devices which shall weigh 100 pounds or less, include Type I, II and III barricades, portable sign supports with signs, and intrusion alarms. Also included are drums, cones, and vertical panels with accessories or attachments.

**Category III** includes temporary traffic control devices that are expected to cause significant vehicular velocity changes to impacting vehicles. These devices which weigh more than 100 pounds include temporary barrier, temporary impact attenuators, and truck-mounted attenuators.

**Category IV** includes portable or trailer-mounted devices such as arrow panels, variable message signs, temporary traffic signals and temporary area lighting.

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For Category I devices, the manufacturer or Contractor may self-certify that the devices meet the NCHRP-350 and/or MASH criteria. The Contractor shall supply the Federal Highway Administration's NCHRP-350 and/or MASH acceptance letter for each type of device that falls under Category II and III devices.

### **Basis of Payment:**

Payment will be made at the Lump Sum price for "Maintenance of Traffic", for which price and payment constitutes full compensation for all maintenance of traffic activities accepted by the Engineer, which shall include the cost of furnishing and relocating permanent and temporary traffic control signs, traffic cones or drums, submission of temporary traffic control plan(s), submission of existing pavement marking drawings, submission of all required certifications, labor, equipment and incidentals necessary to complete the item. Payment to furnish and maintain other temporary traffic control devices including but not limited to Portable P.C.C. Safety Barrier, Truck Mounted Attenuators, Portable Changeable Message Signs, Arrow Panels and Portable Light Assemblies will be made at the contract unit price for each item.

### **NOTE**

If the Contractor does not complete the Contract work within the Contract completion time (including approved extension time), the Contractor shall be responsible for providing the necessary temporary traffic control devices that are required to complete any remaining work. The costs of such temporary traffic control shall be borne by the Contractor. No additional payment will be made to the Contractor to maintain traffic in accordance with the Delaware MUTCD, contract plans and specifications. Temporary traffic control items include, but not be limited to, warning lights, warning signs, barricades, plastic drums, P.C.C. safety barrier, flaggers, traffic officers, arrow panels, message boards, and portable impact attenuators.

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**901500 – STORMWATER POLLUTION PREVENTION PLAN (SWPPP)**

**901501 – STORMWATER POLLUTION PREVENTION PLAN INSPECTIONS**

**901502 – STORMWATER POLLUTION PREVENTION INSPECTION SOFTWARE**

**901503 – EROSION AND SEDIMENT CONTROL PRACTICES**

**Description:**

This work consists of developing and implementing a SWPPP to locate, provide, install, and maintain erosion and sediment (E&S) control practices for earth disturbing activities.

**Definitions:**

- A. Alternative E&S control - Temporary E&S controls recommended for use by the SWPPP Designer that are not listed on the Department's E&S control list of items.
- B. Best management practice (BMP) – E&S controls which are used to reduce the potential for damage to natural resources from construction practices.
- C. Co-Permittee - Any operator of a regulated Municipal Separate Storm Sewer System (MS4) or NPDES permit program that applies jointly with one or more applicants for coverage under an MS4 or NPDES permit.
- D. Disturbance - Any earth disturbing activity that exposes bare ground or an erodible material to stormwater.
- E. DNREC NPDES Permit - DNREC Stormwater Construction General Permit issued for a given state-wide activity involving stormwater discharges to surface waters.
- F. DeIDOT E&S Design Guide - DeIDOT E&S Control Design Guide outlining principles pertaining to E&S control design according to DeIDOT procedures.
- G. DSSR – Delaware Sediment and Stormwater Regulations
- H. E&S Engineer - The individual within the Department responsible for reviewing and approving redline revisions and performing quality control evaluations of the Third Party CCRs.
- I. E&S Control – Temporary E&S control stabilization practices, devices, and measures.
- J. E&S Control Liaisons (ESL) - The responsible parties assigned by the Construction Group and working on behalf of Stormwater, E&S, and Construction Group Engineers.
- K. Notice of Intent (NOI) – A document required by DNREC as part of the NPDES General Permit for small MS4s which allows stormwater discharges associated with construction activities which are greater than or equal to one acre of disturbance.
- L. Notice of Termination (NOT) – A notice to DNREC to terminate NPDES permit coverage after construction activities have ended and the project site has been sufficiently stabilized to remove all E&S controls as determined by the E&S Engineer.

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- M. National Pollutant Discharge Elimination System (NPDES) – A permit program that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States.
- N. NPDES General Permit - Permit issued under the authority of the Clean Water Act which authorizes stormwater discharge from construction sites that disturb one acre or more of land.
- O. Professional Engineer (PE) - A licensed Delaware Professional Engineer.
- P. Post-Construction BMP - Permanent water quality and/or water quantity stormwater management best management practices required by the Delaware Sediment and Stormwater regulations (DSSR).
- Q. Stormwater Engineer - The individual within the Department responsible for reviewing and approving the SWPPP.
- R. Stormwater Pollution Prevention Plan (SWPPP) - A plan or set of plans prepared by or under the direction of a PE in accordance with the DSSR and this specification.
- S. SWPPP Designer - The person or people responsible for developing and updating the SWPPP, who is a Delaware PE or works under the direction of a Delaware PE..
- T. SWPPPTrack™ LTIS - Software subscription service for performing E&S inspections and provided by Storm Water Simplified Ltd. for use on construction projects that require coverage under the DNREC NPDES General Permit.
- U. Third Party Certified Construction Reviewer (CCR) – An active DNREC CCR who is hired by the contractor to inspect and report on E&S control practices, measures, and devices in accordance with the DSSR.

**Materials:**

- A. SWPPPTrack™ LTIS inspection software application developed by Storm Water Simplified Ltd. Contact Storm Water Simplified Ltd. at (888) 401-1993 or <https://www.stormwatersimplified.com/>.

**SWPPP Development:**

- A. Designs are to be electronically submitted using the SWPPPTrack™ LTIS software for review and approval. Plans are to be prepared utilizing provided electronic CAD files.
- B. All submissions will include both electronic CAD design files and plan sheets in Portable Document Format (PDF).
- C. Electronic field survey and design files, necessary to develop the SWPPP with the required information listed in this section, will be made available to the Contractor after the project has been Awarded.
- D. Prepare in accordance with the contract.
- E. Submit the following to the Department for review and approval:
  - 1. Completed SWPPP Submission Checklist (Appendix B).
  - 2. Type and locations of E&S controls.
  - 3. Total estimated E&S control quantities.

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4. Phases of construction and the associated degree of earthwork disturbance over the life of the project.
5. Locations and specific geometry of any required temporary sediment traps and related control structures.

F. Design stream diversions such that:

1. The diversion is sized to divert the flows listed in the Stream Diversion Sizing Table.
2. The maximum elevation of the top of the sandbag dike or sheet piles is 6” below the top of bank elevation.
3. A weir will be sized to accommodate flows greater than the diversion flow specified in the Stream Diversion Sizing Table but will not exceed the 2-year storm event.

Stream Diversion Sizing Table	
Construction Time	Design Storm Event
1 – 30 days	Estimate of ordinary high water base flow
31 – 90 days	25% of the 2-year storm
91 – 150 days	50% of the 2-year storm
151 days or more	100% of the 2-year storm

**SWPPP Requirements and Provisions:**

A. Furnish a SWPPP in accordance with this specification and that maintains compliance with DNREC’s NPDES General Permit, DSSR, SWPPP Submission Checklist, Standard Specifications, Special Provisions, Standard Construction Details, and permits.

B. The SWPPP requirements are indicated in the table below.

SWPPP Project Scenarios			
Scenario	Total Project Disturbed Area (D.A.)		
	D.A. < 5,000 SF	D.A. < 1 AC.	D.A. ≥ 1 AC.
	A	B	C
A	SWPPP and NOI are not required.		
B	SWPPP is required, NOI is not required.		
C	SWPPP and NOI are required If any phase or combination of phases will have 20 or more acres of disturbed areas, construction site BMPs will include supporting design computations for storage, conveyance, stability, and treatment capabilities based on runoff of a 2-year storm event with bare earth conditions.		

C. Design all E&S controls according to the Standard Specifications, Special Provisions, Standard Construction Details, DNREC NPDES Permit, DeIDOT E&S Design Guide, and approved Alternative E&S controls. A Special Provision will be provided by the department at the request of the SWPPP designer made prior to design review as this information must be available for plan review and provided to the contractor at time of plan approval.

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- D. SWPPP Designers will utilize practices listed in Section 8.0 of the DelDOT E&S Design Guide as the first option when selecting E&S control measures.
- E. The Department may accept any alternative ESCs recommended by the SWPPP designer. Submit supporting documentation to the stormwater engineer or E&S engineer for review and approval. Provide supporting documentation with the SWPPP submittal to justify the selection of Alternative E&S controls.
- F. Post-Construction BMPs in accordance with Section 910, BMPs may function as temporary E&S controls during construction. Regardless of their E&S control function, they will require inspection by the Third Party CCR using the Department's BMP Construction Checklists.

**SWPPP Design Approval:**

- A. Initial SWPPP to be submitted to the Stormwater Engineer for review within 30 calendar days after receipt of executed contract. All submittals and resubmittals will be completed using the SWPPPTrack™ LTIS software web platform. Incomplete submissions may be rejected and returned without detailed comments. The Department will review submissions within 14 calendar days and resubmissions within 7 calendar days.
- B. After approval sign, date, and file a Co-Permittee NOI application to DNREC when the project requires an NOI (project with total disturbance of one acre or more) immediately after the project has been Awarded. Information about electronic filing of the Co-Permittee NOI can be found at: [https://apps.dnrec.state.de.us/enoi/UserGuide/eNOI\\_Guide\\_Construction.pdf](https://apps.dnrec.state.de.us/enoi/UserGuide/eNOI_Guide_Construction.pdf) or by visiting the DNREC Sediment and Stormwater Management Program website: <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>. Contractor must provide proof of Co-Permittee status prior to any earth disturbing activities

**SWPPP Construction:**

- A. E&S pre-construction meeting will be scheduled once the NOI has been received. If the NOI is not required, schedule the pre-construction meeting after approval of the SWPPP
- B. Revise the approved SWPPP as needed to maintain compliance with DNREC NPDES General Permit. All revisions will be reviewed and approved by the E&S engineer.
- C. Locate, provide, maintain, inspect, and report on E&S controls in compliance with DNREC's NPDES General Permit, DSSR, SWPPP Checklist (Appendix B), Standard Construction Details, Standard Specifications, Special Provisions, and approved Alternative E&S controls.
- D. Provide and place the following protective measures that ensure sediment, debris, and any contamination will not leave the LOC.
  - 1. Sediment Controls prior to earth disturbing activities and in accordance with the sequence of construction in the approved SWPPP. Ensure that ponding of water from sediment controls will not damage property. All stormwater from disturbed areas is required to pass through a sediment control prior to being discharged from the project. The E&S Engineer or the ESLs will determine when the site has been sufficiently stabilized to remove sediment controls.
  - 2. Erosion Controls concurrent within the work areas according to the sequence of construction in the approved SWPPP. All stormwater discharges from erosion controls are required to be directed to an appropriate sediment control. The E&S Engineer or the ESLs will determine when the site has been sufficiently stabilized to remove erosion controls.

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3. Aquatic and Environmental Resource Protection demarcation shown on the approved SWPPP. Contractor must coordinate with SWPPP Designer to request additional demarcation as shown on the approved SWPPP. Additional demarcation will be approved by Environmental Studies.
  4. Stream Relocation, Temporary Diversion Channels that carry Waters of the United States in compliance with DNREC's NPDES Permit and in conformance with all contract requirements.
  5. Concrete Washout Area.
  6. Dewatering. Staging and Stockpiling locations shown on the SWPPP must include E&S controls prior to placement of materials.
  7. Project fueling and refueling locations shown on the SWPPP.
- E. Properly maintain E&S controls throughout all phases and sequencing of construction activities according to the contract and manufacturer recommendations. Dispose of silt removed from E&S control according to Section 106.8.

**SWPPP Inspections:**

- A. Perform NPDES General Permit required inspections utilizing a mobile device capable of running the latest version of the SWPPPTrack™ LTIS inspection software application.
- B. The ESL will work with Third Party CCRs, attend E&S inspections, coordinate with the Contractor, attend pre-construction meetings, approve minor redline revisions to the approved SWPPP, and report directly to the Construction Group.
- C. The inspections must be performed by the Third Party CCR as follows:
  1. Perform initial inspection of E&S controls prior to earth disturbing activities begin.
  2. Perform weekly inspections under direct supervision of the PE. Inspect current project conditions of all active E&S controls through the SWPPPTrack™ LTIS inspection software until final stabilization.
  3. Perform rain event inspections within 24 hours after a 0.5 inch or greater rainfall event under direct supervision of the PE. Inspect current project conditions of all active E&S controls through the SWPPPTrack™ LTIS inspection software.
  4. Notify the Department within 24 hours of any compliance deficiencies or verified complaints related to the SWPPP.
  5. Rainfall event inspections will document E&S control deficiencies as Open Work Items in the SWPPPTrack™ LTIS inspection software application.
  6. Close Open Work Items only after the E&S control measures have been appropriately addressed and inspected utilizing the SWPPPTrack™ LTIS inspection software application.
- D. Submit inspection reports to the E&S Engineer every 7 calendar days and within 48 hours after a 0.5 inch or greater rainfall event using SWPPPTrack™ LTIS inspection software.
- E. The SWPPP Designer will update, amend, and upload the revised SWPPP to SWPPPTrack™ LTIS based on changes to the contractor's operations and site conditions or recommendations from the Third Party CCR, E&S

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Engineer, or ESL. The SWPPP Designer will identify all revisions and updates to the SWPPP and indicate what measures will be taken to maintain NPDES General Permit compliance. Record E&S control condition, modifications, installations, additions, removals, and SWPPP modifications with the SWPPPTrack™ LTIS inspection software application. Record all active E&S control locations utilizing the SWPPPTrack™ LTIS inspection software application.

- F. The PE is required to review and certify all inspections through the SWPPPTrack™ LTIS software inspection application.
- G. The Department will perform random QA/QC inspections of the project utilizing the SWPPPTrack™ LTIS inspection software application.

**Failure to Implement or Maintain:**

- A. If the contractor fails to perform the work as described in the approved SWPPP, the ES2M Report, or in writing from the engineer, the engineer may take actions in accordance with the contract.
- B. Failure from the Third Party CCR fails to perform inspections in accordance with DNREC requirements will result in administrative actions.

**Fines Resulting from Non-Compliance:**

- A. If the DNREC, the Army Corps of Engineers, or the EPA fine the Department as a result of the contractor's failure to implement and maintain the Sediment and Stormwater Management Plan and SWPPP, the Department will require the contractor to pay the fines directly or the Department will deduct the fines from monies due to the contractor.

**Method of Measurement:**

- A. The Department will not measure SWPPP as a Lump Sum pay item.
- B. The Department will measure Stormwater Pollution Prevention Plan Inspections per Each inspection.
- C. The Department will not measure the Stormwater Pollution Prevention Inspection Software services as a Lump Sum pay item.
- D. The Department will not measure the E&S controls as a lump sum pay item.
  - 1. Upon SWPPP approval all E&S Controls will be measured according to the appropriate item section in accordance with the Standard Construction Specifications, Special Provisions, and Standard Construction Details.

**Basis of Payment:**

- A. The Department will consider all associated costs with the development of the SWPPP as incidental to the contract. Payment is full compensation for all work described in this section.
  - 1. The Department will only pay for one approved SWPPP.
  - 2. The Department will not pay for additional project re-design as a result of proposed deviations from the approved construction phasing plans.

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3. The Department will make partial payments for the SWPPP according to Section 109 and as modified by the following schedule:

- a. The Department will release 60 percent of the lump sum amount bid for SWPPP to the Contractor, after approved by the Stormwater Engineer, with the estimate payable after the Engineer has approved the SWPPP submission.
- b. The Department will release 30 percent of the lump sum amount bid for SWPPP to the Contractor with the estimate payable after 50 percent of the project is complete.
- c. The Department will release the remaining 10 percent of the lump sum amount bid for SWPPP to the Contractor with the estimate payable after 90 percent of the project is complete.

- A. The Each amount bid for the Stormwater Pollution Prevention Inspections includes all work associated with NPDES required inspections including weekly, rain event inspections, and reporting. All costs associated with providing and maintaining the required CCR personnel, conducting the NPDES required inspections, and utilizing the SWPPPTrack™ LTIS inspection software application.
- B. The Department will pay the purchase price for the SWPPPTrack™ LTIS software after the Contractor has first purchased the SWPPPTrack™ LTIS application from Stormwater Simplified Ltd. The purchase price includes training for the Contractor, SWPPP designer, and Third party CCR and the usage of the application with a mobile device for the project duration.
- C. E&S control items, as listed in Appendix C, will be paid at the fixed unit price in accordance to the contract.
  - 1. E&S Controls designed for SWPPP approval will replace the fixed lump sum and will be paid in accordance with the Standard Construction Specifications, Special Provisions, and Standard Construction Details at the fixed unit price for each item as listed in Appendix C as completed and accepted.
    - a. Alternative E&S Controls approved by the department will be paid at the agreed unit prices in accordance with Section 109.4
- D. The Department will make no extra payment for Post-Construction BMPs used for temporary E&S control practices.
- E. The Department will pay the quantity of Stream Diversion in accordance with Section 909.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
901500	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	LS
901501	STORMWATER POLLUTION PREVENTION PLAN INSPECTIONS	EA
901502	STORMWATER POLLUTION PREVENTION INSPECTION SOFTWARE	LS*
901503	EROSION AND SEDIMENT CONTROL PRACTICES	LS*

\*DENOTES A FIXED PRICE PER CONTRACT

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**Appendix A**

**BMP and E&S control Inventory Naming Validation**

<b>BMP ID</b>	<b>STANDARD BMP DEVICE</b>	<b>ALTERNATIVE BMP DESCRIPTION</b>	<b>SPEC</b>
<b>SEDIMENT CONTROL DEVICES</b>			
SF	SILT FENCE	SILT FENCE	905
SFA	ALTERNATE SILT FENCE	SILT FENCE/SANDBAG or APPROVED CFL 12" min COMBO	905
RSF	REINFORCED SILT FENCE	REINFORCED SILT FENCE	905
SSF	SUPER SILT FENCE	SUPER SILT FENCE	905
DISC	INLET SEDIMENT CONTROL, DRAINAGE INLET	INLET PROTECTION, DI	905
DISCA	INLET SEDIMENT CONTROL, DRAINAGE INLET	CONSTRUCTED FILTER FABRIC INLET SEDIMENT CONTROL, ALTERNATE	905
CISC	INLET SEDIMENT CONTROL, CURB INLET	SILT BAG/SACK INSERT w/ THROAT PROTECTION	905
CISC	INLET SEDIMENT CONTROL, CURB INLET	SILT BAG/SACK INSERT w/o THROAT PROTECTION	905
CISCA	INLET SEDIMENT CONTROL, CURB INLET	INLET SEDIMENT CONTROL, ALTERNATE TYPE CURB INLET	905
CIP	INLET SEDIMENT CONTROL, CULVERT INLET	CULVERT INLET PROTECTION (STONE or CFL)	905
CIPA	INLET SEDIMENT CONTROL, CULVERT INLET	ALTERNATE CULVERT INLET PROTECTION	905
ST	SEDIMENT TRAP	SEDIMENT TRAP	905
SB	SEDIMENT BASIN	SEDIMENT BASIN	910
PST	PORTABLE SEDIMENT TANK	PORTABLE SEDIMENT TANK	906
PSTA	ALTERNATE PORTABLE SEDIMENT TANK	ALTERNATE PORTABLE SEDIMENT TANK	906
ITFM	INSTANTANEOUS/TOTALIZING FLOW METER	INSTANTANEOUS/TOTALIZING FLOW METER	906
DWB	DEWATERING BAG	DEWATERING BAG	906
SP	SUMP PIT	SUMP PIT	906
SPA	ALTERNATE SUMP PIT	ALTERNATE SUMP PIT	906
SDD	SKIMMER DEWATERING DEVICE	SKIMMER	906
CD	CHECK DAM, STONE	STONE CHECK DAM	907
CFL	COMPOST FILTER LOG	COMPOST FILTER LOG (SIZE DETERMINED BY SWE)	907
SCE	STABILIZED CONSTRUCTION ENTRANCE	STABILIZED CONSTRUCTION ENTRANCE	908
ED	ENERGY DISSIPATOR - RIPRAP	ENERGY DISSIPATOR - RIPRAP	907
SOP	STONE OUTLET PROTECTION	STONE OUTLET PROTECTION	907
<b>EROSION CONTROL DEVICES</b>			
TSD	TEMPORARY SLOPE DRAIN	TEMPORARY SLOPE DRAIN (SIZE DETERMINED BY SWE)	907
ED-A1	EARTH DIKE, TYPE A-1	EARTH DIKE	908
ED-A2	EARTH DIKE, TYPE A-2	EARTH DIKE	908
ED-B1	EARTH DIKE, TYPE B-1	EARTH DIKE	908
ED-B2	EARTH DIKE, TYPE B-2	EARTH DIKE	908
TS-A1	PERIMETER DIKE/SWALE, TYPE A-1	PERIMETER DIKE/SWALE	908
TS-A2	PERIMETER DIKE/SWALE, TYPE A-2	PERIMETER DIKE/SWALE	908
TS-A3	PERIMETER DIKE/SWALE, TYPE A-3	PERIMETER DIKE/SWALE	908
TS-A4	PERIMETER DIKE/SWALE, TYPE B-2	PERIMETER DIKE/SWALE	908
TS	STABILIZATION, TEMPORARY	TEMPORARY STABILIZATION (e.g., seeding, mulching)	908
PS	STABILIZATION, PERMANENT	PERMANENT STABILIZATION (e.g., seeding, mulching)	908
ECBM	MULCH, EROSION CONTROL BLANKET	EROSION CONTROL BLANKET MULCH	908
HM	MULCH, HYDRAULIC	HYDRAULIC MULCH (NO PAPER OR PAPER BLENDED MULCHES)	908
SM	MULCH, STRAW	STRAW MULCH (SMALL GRAIN)	908
SS	SOIL STABILIZER	SOIL STABILIZER	908
TRM1	MATTING, TURF REINFORCEMENT TYPE 1	TURF REINFORCEMENT MATTING, TYPE 1	908
TRM2	MATTING, TURF REINFORCEMENT TYPE 2	TURF REINFORCEMENT MATTING, TYPE 2	908
SBD	SANDBAG DIKE/DIVERSION	SANDBAG DIKE/DIVERISON, ALTERNATE	909
SBDA	SANDBAG DIKE/DIVERSION	SANDBAG DIKE/DIVERISON	909
GCD	GEOTEXTILE LINED DIVERSION CHANNEL	GEOTEXTILE LINED DIVERSION CHANNEL	909
TC	TURBIDITY CURTAIN, FLOATING	TURBIDITY CURTAIN, FLOATING	909
SD	STREAM DIVERSION	STREAM DIVERSION	909
SW	STILLING WELL	STILLING WELL	909
SWA	ALTERNATE SITLLING WELL	ALTERNATE SITLLING WELL	909
SOF	STABILIZED OUTFALL	STABILIZED OUTFALL	909
SOFA	ALTERNATE STABILIZED OUTFALL	STABILIZED OUTFALL, ALTERNATE	909

**Contract No. T201707104.01**

BMP and E&S control Inventory Naming Validation Continued

<b>BMP ID</b>	<b>STANDARD_BMP_DEVICE</b>	<b>ALTERNATIVE_BMP_DESCRIPTION</b>	<b>SPEC</b>
<b>POLLUTION PREVENTION (OTHER PRACTICES)</b>			
WMWC	WASTE MANAGEMENT - WASTE COLLECTION	WASTE COLLECTION	903
WMSF	WASTE MANAGEMENT - SANITARY FACILITIES	SANITARY FACILITIES	903
FMEV	FUELING and MAINTENANCE, EQUIPMENT & VEHICLES	FUELING and MAINTENANCE, EQUIPMENT & VEHICLES	903
SPCC	SPILL PREVENTION CONTAINMENT & COUNTERMEASURES	SPILL KT	903
SC	SECONDARY CONTAINMENT	SECONDARY CONTAINMENT	903
WOC	WASTEWATER WASHOUT, CONCRETE	WASTEWATER WASHOUT, CONCRETE	903
WO	WASTEWATER WASHOUT	WASTEWATER WASHOUT (Paint, Stucco, Form Release Oils, Etc.)	903
STG	STAGING and STORAGE	STAGING and STORAGE	903
PD	PROHIBITED DISCHARGE	PROHIBITED DISCHARGE	903
<b>MISCELLANEOUS (OTHER PRACTICES)</b>			
SSMP	SEDIMENT & STORMWATER MANAGEMENT PLAN	SEDIMENT & STORMWATER MANAGEMENT PLAN REDLINE or REVISIONS	901
SEDR	SEDIMENT REMOVAL	SEDIMENT REMOVAL (e.g., ST, SB and/or Roadway)	908
MSEDR	MISCELLANEOUS SEDIMENT REMOVAL	MISCELLANEOUS SEDIMENT REMOVAL (e.g., LOC, Wetlands, Subaqueous)	908
SEDD	SEDIMENT DISCHARGE	SEDIMENT DISCHARGE	908
TRAC	SEDIMENT TRACKING	SEDIMENT TRACKING	908
TES	TEMPORARY ERODIBLE STOCKPILE	TEMPORARY ERODIBLE STOCKPILE	908
DMOA	DEWATERING MOA	DEWATERING MOA	902
<b>SWM FACILITIES</b>			
BFS	BIOFILTRATION SWALE	BIOFILTRATION SWALE or VEGETATIVE CHANNEL	910
IFT	INFILTRATION TRENCH	INFILTRATION TRENCH	910
IFB	INFILTRATION BASIN	INFILTRATION BASIN	910
BRF	BIORETENTION FACILITY	BIORETENTION FACILITY	910
SWPW	STORMWATER MANAGEMENT POND - WET	STORMWATER MANAGEMENT POND - WET	910
SWPD	STORMWATER MANAGEMENT POND - DRY	STORMWATER MANAGEMENT POND - DRY	910
PP	PERMEABLE PAVEMENT	PERMEABLE PAVEMENT	910

Designer Note: BMP ID Type and Standard Descriptions will be used for validation when uploading the tables to SWPPPTrack™ LTIS. Ensure BMP Types and Standard Descriptions above are used to create the BMP Inventory Tables. When Alternative BMP measures/devices are proposed, the Alternative BMP Description name should be filled in with the proprietary device proposed on the SWPPP. The Alternative BMP Description should accurately describe the BMP with the appropriate unit of measure.

Appendix B

SWPPP SUBMISSION CHECKLIST				
 <b>SWPPP SUBMISSION CHECKLIST</b>				
Contract No.: _____ Date: _____				
Contract Name: _____				
Contractor: _____ SWPPP Designer/Company: _____				
1	Checklist Questions	Yes	N/A	Comments
1	Is the SWPPP specific to the proposed project?	<input type="checkbox"/>	<input type="checkbox"/>	
2	Does the SWPPP conform to DeIDOT CADD Standards and use the current E&S Legend? ( <a href="https://deldot.gov/Business/drc/index.shtml">https://deldot.gov/Business/drc/index.shtml</a> )	<input type="checkbox"/>	<input type="checkbox"/>	
3	Has the Contractor filed a Co-Permittee NOI?	<input type="checkbox"/>	<input type="checkbox"/>	
4	Does the SWPPP provide the “Co-owner/Operator” signature blocks and contain signatures of responsible parties?	<input type="checkbox"/>	<input type="checkbox"/>	
5	Does the SWPPP provide a signature block for the DeIDOT Stormwater Engineer approval?	<input type="checkbox"/>	<input type="checkbox"/>	
6	Does the SWPPP provide the name of the Third Party CCR?	<input type="checkbox"/>	<input type="checkbox"/>	
7	Has the SWPPP been signed and sealed by the licensed Delaware Professional Engineer responsible for the plan development?	<input type="checkbox"/>	<input type="checkbox"/>	
8	Does the SWPPP include an E&S control implementation schedule that aligns with the approved sequence of construction?	<input type="checkbox"/>	<input type="checkbox"/>	
9	Does the SWPPP clearly identify and protect preservation areas, wetlands, and waterways within and adjacent to the project?	<input type="checkbox"/>	<input type="checkbox"/>	

Checklist Questions		Yes	N/A	Comments
10	Does the SWPPP account for all areas the Contractor may disturb (i.e access points, waste storage, staging areas, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	
11	Has an appropriate E&S control been installed upstream of all discharge points having a direct connection to a waterway (i.e. ditches, channel, storm drain outlets, direct sheet flow, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	
12	Have the proposed Alternative E&S controls been discussed with the Stormwater Engineer?	<input type="checkbox"/>	<input type="checkbox"/>	
13	Does the SWPPP provide installation details of all proposed Alternative E&S controls?	<input type="checkbox"/>	<input type="checkbox"/>	
14	Does the SWPPP include existing conditions plan sheets identifying E&S controls to be installed with early earth disturbing activities (i.e. mobilization, clearing and grubbing, contractor staging, demolition, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	
15	Does the SWPPP include proposed conditions plan sheets identifying E&S controls to be installed based on final construction hydrologic drainage patterns?	<input type="checkbox"/>	<input type="checkbox"/>	
16	Have sediment controls been included on the SWPPP to intercept all potential runoff from the project and contractor disturbed areas?	<input type="checkbox"/>	<input type="checkbox"/>	
17	Are the provided sediment control E&S controls sized appropriately based on contributing drainage area?	<input type="checkbox"/>	<input type="checkbox"/>	
18	Have sediment traps/basins been placed appropriately to be constructed within the provided LOC?	<input type="checkbox"/>	<input type="checkbox"/>	
19	Have dewatering practices been employed to contain sediments and/or filter sediment laden water prior to discharging to a downstream waterway?	<input type="checkbox"/>	<input type="checkbox"/>	

**Contract No. T201707104.01**

20	Have water control practices been placed to reduce velocity of concentrated flows and minimize the potential for erosion to the downstream receiving channel or outfall?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Checklist Questions</b>		<b>Yes</b>	<b>N/A</b>	<b>Comments</b>
21	Have the appropriate soil stabilization practices been employed to cover all bare soil areas and reduce the potential for soil erosion during construction?	<input type="checkbox"/>	<input type="checkbox"/>	
22	Are stabilized Construction Entrances shown at all points of egress?	<input type="checkbox"/>	<input type="checkbox"/>	
23	Have the appropriate waterway construction practices been placed to reroute or restrict water from a stream to a designated portion of the stream channel?	<input type="checkbox"/>	<input type="checkbox"/>	
24	Are concrete washouts (for projects with onsite batching plants only) and staging areas shown on the plan?	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix C

E&S control ITEM LIST

Item	UOM	Description	Unit Price
905001	LF	SILT FENCE	\$3.00
905002	LF	REINFORCED SILT FENCE	\$4.70
905003	CY	SEDIMENT TRAP	\$9.50
905004	EACH	INLET SEDIMENT CONTROL, DRAINAGE INLET	\$275.00
905005	EACH	INLET SEDIMENT CONTROL, CURB INLET	\$200.00
905006	EACH	INLET SEDIMENT CONTROL, CULVERT INLET	\$300.00
905500	LF	SUPER SILT FENCE	\$10.00
906001	EACH	PORTABLE SEDIMENT TANK	\$1,500.00
906002	EACH	DEWATERING BAG	\$500.00
906003	EACH	SUMP PIT	\$1,957.00
906004	EACH	SKIMMER DEWATERING DEVICE	\$900.00
907011	TON	STONE CHECK DAM	\$158.00
907013	LF	TEMPORARY SLOPE DRAIN, 18"	\$38.00
907017	LF	COMPOST FILTER LOGS	\$25.00
908014	SY	PERMANENT GRASS SEEDING, DRY GROUND	\$1.70
908015	SY	PERMANENT GRASS SEEDING STORMWATER	\$2.00
908016	SY	PERMANENT GRASS SEEDING, SUBDIVISION	\$1.70
908017	SY	TEMPORARY GRASS SEEDING	\$0.90
908019	SY	PERMANENT GRASS SEEDING, STREAMBANK	\$1.90
908020	SY	EROSION CONTROL BLANKET MULCH	\$3.40
908021	SY	TURF REINFORCEMENT MATTING, TYPE 1	\$10.00
908022	SY	TURF REINFORCEMENT MATTING, TYPE 2	\$20.00
908023	SY	STABILIZED CONSTRUCTION ENTRANCE	\$50.00
908024	TON	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	\$35.00

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908508	SY	STABILIZED CONSTRUCTION ENTRANCE MATS	\$48.00
909001	CF	SANDBAG DIKE	\$28.00
909002	CF	SANDBAG DIVERSION	\$28.00
909003	CY	GEOTEXTILE LINED CHANNEL DIVERSION	\$35.00
909004	LF	TURBIDITY CURTAIN, FLOATING	\$30.00
909006	CY	STILLING WELL	\$10.00
911509	SY	MULCHING	\$2.25

## **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

**January 16, 2020**  
**UTILITY STATEMENT**  
**State Contract No. T201707104**  
**BR 1-484 on Harvey Straughn Road over Black Stallion Ditch**  
**F.A.P. No. NONE**  
**Project I.D. No. 17-07104**  
**New Castle County, Delaware**

**Location:**

BR 1-484 on Harvey Straughn Road (N-11) over Black Stallion Ditch

**Scope of Work:**

Replacement of metal pipe arches with precast concrete pipes.

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

**Delmarva Power – Distribution**  
**Verizon**

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

---

**DELMARVA POWER – ELECTRIC:**

Delaware Power - Electric maintains aerial electric facilities within the project limits.

**Anticipated Overhead Relocations:**

After Harvey Straughn Road is closed, but before the road way is excavated, Delmarva proposes to remove the phase and neutral conductors temporarily on the single-phase 25kV circuit and install dead-ends on each side of the creek in-between pole 43266/28052 and pole 43272/28087. Once DelDOT's contractor has completed the Culvert Bridge work, Delmarva will return and re-install the overhead circuit configuration back to permanent alignment before Harvey Straughn Road is opened to traffic.

The contractor shall coordinate the closing and opening dates of Harvey Straughn Road with Delmarva Power. This coordination is incidental to the contract. The contractor shall give Delmarva Power a minimum of a 30 calendar day notice before closing Harvey Straughn Road. Delmarva's relocation should take approximately (7) calendar days for switching and removal

and installation of dead-ends, and (7) calendar days to reinstall the circuit equipment back to the permanent configuration.

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

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

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

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

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

**Verizon:**

Verizon maintains underground facilities within the project limits of this location. Verizon maintains buried facilities along the South Side of Harvey Straughn Rd from VZ Box GA 247 at station 17+13 R19 extending East, West, and South beyond the project limits.

**Anticipated Underground Relocations:**

1. Verizon will place new pedestal at roughly station 11+36 R26.
2. Verizon will place new pedestal at roughly station 14+40 R25.
3. Verizon will reroute buried cable between proposed pedestal at roughly station 11+36 R26 to proposed pedestal at roughly station 14+40 R25. Cable will be placed by directional bore in vicinity of culvert at a minimum of 16’ below current road surface.

It is envisioned, but not assured, that these relocations will occur before the first calendar day of the contract.

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

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

**No working/existing Verizon facilities can be taken out of service.**

**For exact location, please contact Miss Utility at (800) 282-8555.**

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**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, August 2016. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The Contractor is advised to check the site for access purposes for his equipment and, if necessary, make arrangements directly with the utility companies for field adjustments for adequate clearances.**
- 2. The information shown in the Contract Documents, including the Utility Statement and the Utility Schedule contained herein, concerning the location, type and size of existing and proposed utilities, their locations, and construction timing has been compiled by the preparer based on information furnished by each of the involved Utility Companies. It shall be the responsibility of the State's Contractor to verify all information and coordinate with the Utility Companies prior to and during construction, as specified in Section 105.09 of the Standard Specifications.**
- 3. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present and relocated positions as shown on the plans or described in the Utility Statement or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage due to any interference from the utility facilities and appurtenances or the operation of moving them, except that the Contractor may be granted an equitable extension of time. The contractor's means and method of**

construction are not taken into account when known utility conflicts are identified. If the Contractor's means and method of construction create a utility conflict the Utility Statement will prevail in discussions with the utility and the Contractor. The State's 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.

4. **Coordination and cooperation among the Utility Companies and the State's Contractor are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company representatives with any questions regarding this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations. The Utility Companies do not work on weekends or legal holidays.**

NAME	COMPANY	PHONE	EMAIL
Angel Collazo	<b>Delmarva Power</b>	(302) 454-4370	<a href="mailto:angel.collazo@delmarva.com">angel.collazo@delmarva.com</a>
George Zang	<b>Verizon</b>	(302) 422-1238	<a href="mailto:george.w.zang@verizon.com">george.w.zang@verizon.com</a>

5. **As outlined in Chapter 3 of the DelDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads. This includes but is not limited to water quality permits/DNREC Water Quality Certification, DNREC Subaqueous Lands/Wetlands permits, DNREC Coastal Zone Consistency Certification, County Floodplain permits (New Castle County only), U.S. Coast Guard permits, US Army Corps 404 permits, sediment and erosion permits, and railroad crossing permits.**
6. **Individual utility companies are required to restore any areas disturbed in conjunction with their relocation work. If an area is disturbed by a utility company and is not properly restored, the Department may have the highway contractor perform the necessary restoration. Any additional costs incurred as a result will be forwarded to the utility company.**
7. **16 Del. C. § 7405B requires notification to and mutually agreeable measures from the public utility operating the electric line for 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 overhead energized lines.**
8. **Any existing facilities that are comprised of hazardous materials will be removed by the Utility Company unless otherwise outlined in the contract documents or**

language above. Any existing facilities containing hazardous materials will be purged by the Utility Company unless otherwise outlined in the contract documents or language above.

9. In conjunction with bid preparation and prior to starting work, the State's Contractor shall confirm with all respective Utility Companies noted in this Utility Statement to have advance utility relocations that the advance relocations have in fact been accomplished as summarized herein.

DIVISION OF TRANSPORTATION SOLUTIONS

Chuck Ferguson

Utilities Section, DelDOT  
[Chuck.ferguson@state.de.us](mailto:Chuck.ferguson@state.de.us)

16 January, 2020

DATE

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

**CERTIFICATE OF RIGHT-OF-WAY STATUS**

**STATE PROJECT NO. T201707104**

**F.A.P. NO. N/A for R/W**

**BR 1-484 ON HARVEY STRAUGHN ROAD  
OVER BLACK STALLION DITCH**

**NEW CASTLE COUNTY**

**Certificate of Right-of-Way Status – 100%**

**Status - LEVEL 1**

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

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

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

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

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

All occupants have vacated the lands and improvements; and,

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

RIGHT OF WAY SECTION



Monroe C. Hite III  
Chief of Right of Way



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

JENNIFER COHAN  
SECRETARY

March 19, 2020

## **ENVIRONMENTAL REQUIREMENTS**

FOR

State Contract No. T201707104

Federal Aid No.: N/A

Contract Title: BR 1-484 on Harvey Straughn Road over Black Stallion Ditch

The following construction requirements and special provisions have been developed to minimize and mitigate impact to the surrounding environs. These requirements by DelDOT, not specified within the contract, are listed below. These requirements are the responsibility of the contractor and are subject to risk of shut down at the contractor's expense if not followed.

### PERMIT REQUIREMENTS:

The construction work that will occur at BR 1-484 on Harvey Straughn Road over Black Stallion Ditch 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 and to ensure that the contractor complies with the requirements and conditions established by the regulatory agencies. The permit coordination for this project is completed. 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 (USACE)** – Nationwide Permit #3 (a) and (c) with no Pre-Construction Notification (PCN) required; FYI email sent 3/9/2020
- **Delaware Department of Natural Resources and Environmental Control (DNREC) Wetlands & Subaqueous Lands Section (WSLS)** – Delaware Code Chapter 72, Section 7217, Special Exemption (b); FYI email sent 3/9/2020 (approval 3/10/2020)

- **DNREC Coastal Zone Management (CZM)** – Issued (project is not located in Critical Resource Waters)
- **DNREC Water Quality Certification (WQC)** – Issued (project is not located in Critical Resource Waters)
- **New Castle County Floodplain** – Application #20200094; approved 3/2/2020; **expires 180 days from approval (8/29/2020)**

**SPECIFIC REQUIREMENTS:**

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

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

1. The contractor shall employ measures during construction to prevent spills of fuels or lubricants. If a spill should occur, efforts shall be undertaken to prevent its entry into wetlands, aquatic, or drainage areas. Any spills entering wetlands, aquatic, or drainage areas shall be removed immediately. The Division of Water Resources (DNREC), Wetlands & Aquatic Protection Branch, 302-739-4691, shall be notified of any spill(s) within six (6) hours of their occurrence. That office will determine the effectiveness of spill and contamination removal and specify remediation efforts as necessary.
2. All construction debris, excavated material, brush, rocks, and refuse incidental to the work shall be placed either on shore above the influence of flood waters or on some suitable disposal site approved by the department.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland surface water or any drainage ditch is prohibited.
4. There shall be no stockpiling of construction materials or temporary fills in wetlands or subaqueous lands unless otherwise specified on project plans and approved by permitting agencies that govern them. It is the contractor's responsibility to coordinate and secure those additional permits/amendments in deviating from the plan.
5. Construction debris shall be kept from entering adjacent waterways, wetlands, ground cover, or drainage areas. Any debris that enters these areas shall be removed immediately. Netting, mats, or establishing confined work areas in stages may be necessary to address these issues.

6. Refuse material resulting from routine maintenance of worker equipment and heavy machinery is prohibited from being disposed or deposited onto or into the ground. All used oils and filters must be recycled or disposed of properly.
7. Use of harmful chemical wash water to clean equipment or machinery is discouraged. If undertaken, the residue water and/or material must be collected or contained such that it will be disposed of properly. It shall not be deposited or disposed of in waterways, streams, wetlands, or drainage areas.
8. The contractor shall follow all requirements as indicated in the Environmental Compliance Sheet. It is the contractor's responsibility to ensure that workers also follow this requirement. 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 15-16 in:
  - Note 2B: Fisheries Restriction – no in-water work from March 1 to June 30 (inclusive) of any calendar year
  - Note 3: Cultural Resources
  - Note 4: Stream Restoration and Slope Riprap Treatment
  - Note 5: Protection of Resources
2. DelDOT Environmental Studies Section must be notified if there are any changes to the project methods, footprint, materials, or designs, to allow the Department to coordinate with the appropriate resource agencies (COE, DNREC, and SHPO), for approval at [DOT\\_EnvironmentalStudies@delaware.gov](mailto:DOT_EnvironmentalStudies@delaware.gov) and/or 302-760-2259.



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.:** T201707107

**Federal Aid No.:** N/A

**Project Title:** BR 1-484 on Harvey Straughn Road Over Black Stallion Ditch

**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

7Feb19

DATE

## SAMPLE AFFIDAVIT OF CRAFT TRAINING COMPLIANCE

(Actual form for signature will be provided to the awarded contractor)

### AFFIDAVIT OF CRAFT TRAINING COMPLIANCE

We, the contractor, hereby certify that we and all applicable subcontractors will abide by the contractor and subcontractor craft training requirements outlined below for the duration of the contract. Craft training is defined as "an apprenticeship program approved by and registered with any State apprenticeship agency or the United States Department of Labor."<sup>1</sup> A list of crafts for which there are approved and registered training programs is maintained by the Delaware Department of Labor and can be found at <https://det.delawareworks.com/documents/Apprenticeship/Apprenticeship%20Occupations.pdf?20190215>. Prime Contractors are reminded they commit that all subcontractors will abide by the craft training requirements, and include the requirement in their subcontracts.

In accordance with Title 29, Chapter 69, Section 6962(d)(13) of the Delaware Code, contractors and subcontractors must provide craft training for journeyman and apprentice levels if all of the following apply:

- A. A project meets the prevailing wage requirement under Title 29, Chapter 69, Section 6960 of the Delaware Code.
- B. The contractor employs 10 or more total employees.
- C. The project is not a federal highway project

Failure to provide required craft training on the project may subject the successful contractor and/or subcontractor(s) to penalties as outlined in Title 29, Chapter 69, Section 6962(d)(13) of the Delaware Code.

Craft(s) \_\_\_\_\_

Contractor Name: \_\_\_\_\_

Contractor Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Contractor/Subcontractor Program**

Registration Number \_\_\_\_\_

On this line also indicate whether DE, Other State (identify) or US Registration Number

Authorized Representative (typed or printed): \_\_\_\_\_

Authorized Representative (signature): \_\_\_\_\_

Title: \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

My Commission expires \_\_\_\_\_. NOTARY PUBLIC \_\_\_\_\_.

THIS PAGE MUST BE SIGNED AND NOTARIZED.

<sup>1</sup> Title 29, Chapter 69, Section 6902(7) of the Delaware Code.



Delaware Department of Transportation  
Quantity Sheet Summary

Proposal ID: T201707104

Project Description: BR 1-484 ON HARVEY STRAUGHN ROAD OVER BLACK STALLION DITCH  
NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
201000	CLEARING AND GRUBBING	LS	1
207000	STRUCTURAL EXCAVATION	CY	305
207021	STRUCTURAL BACKFILL, (BORROW TYPE C)	CY	240
209002	BORROW, TYPE B	CY	15
209006	BORROW, TYPE F	CY	100
211000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
211001	REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	SY	390
301001	GRADED AGGREGATE BASE COURSE, TYPE B	CY	210
302002	DELAWARE NO. 3 STONE	TON	40
302005	DELAWARE NO. 57 STONE	TON	80
401005	SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	TON	110
401014	SUPERPAVE TYPE B, PG 64-22	TON	165
612000	PRECAST CONCRETE BOX CULVERT	CY	69
612010	PRECAST CONCRETE RETAINING WALL	CY	20
621500	TEMPORARY TIMBER MAT	LS	1
706500	RIGHT-OF-WAY MARKER, CAPPED REBAR	EACH	4



Delaware Department of Transportation  
Quantity Sheet Summary

Proposal ID: T201707104

Project Descripton: BR 1-484 ON HARVEY STRAUGHN ROAD OVER BLACK STALLION DITCH  
NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
707016	RIPRAP, R-5	TON	101
707500	CHANNEL BED FILL	CY	27
708001	GEOTEXTILES, STABILIZATION	SY	290
708003	GEOTEXTILES, RIPRAP	SY	185
762000	SAW CUTTING, BITUMINOUS CONCRETE	LF	50
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	25
763000	INITIAL EXPENSE/DE-MOBILIZATION	LS	1
763501	CONSTRUCTION ENGINEERING	LS	1
801500	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LS	1
811001	FLAGGER, NEW CASTLE COUNTY STATE	HOURL	40
811013	FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	HOURL	10
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	1450
817027	RAISED/RECESSED PAVEMENT MARKER	EACH	9
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	EACH	13
906005	WELL POINT SYSTEM	EACH	1
908001	TOPSOIL	TON	10
908004	TOPSOIL, 6" DEPTH	SY	1300



Delaware Department of Transportation  
Quantity Sheet Summary

Proposal ID: T201707104

Project Descripton: BR 1-484 ON HARVEY STRAUGHN ROAD OVER BLACK STALLION DITCH  
NOT TO BE USED FOR BIDDING

Item Number	Description	Unit	Quantity
908019	PERMANENT GRASS SEEDING, STREAMBANK	SY	1500
909005	STREAM DIVERSION	LS	1
202000	EXCAVATION AND EMBANKMENT	CY	390
901500	STORMWATER POLLUTION PREVENTION PLAN	LS	1
901501	STORMWATER POLLUTION PREVENTION INSPECTION	EACH	16
901502	STORMWATER POLLUTION PREVENTION INSPECTION SOFTWARE	LS	1
901503	EROSION AND SEDIMENT CONTROL PRACTICE	LS	1
908020	EROSION CONTROL BLANKET MULCH	SY	1500