

STATE OF DELAWARE



This Copy is for information only.  
You must request a CD from  
DeIDOT in order to bid.

DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT T201780102.01

St. George's Maintenance Yard Entrance Improvements

New Castle County

ADVERTISEMENT DATE: June 11, 2018

COMPLETION TIME: 218 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION  
DELAWARE DEPARTMENT OF TRANSPORTATION  
AUGUST 2016

Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time July 3, 2018

**Contract No.T201780102.01**

**St. George's Maintenance Yard Entrance Improvements**  
New Castle County

**GENERAL DESCRIPTION**

LOCATION

These improvements are located in New Castle County more specifically shown on the Location Map(s) of the enclosed Plans.

DESCRIPTION

The improvements consist of furnishing all labor and materials for this contract. This project involves repaving and widening of Lorewood Grove Road and an improved entrance to the Maintenance Yard site. The project also involves the installation of a 10" water main and a 2" sanitary sewer line along Lorewood Grove Road and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer.

COMPLETION TIME

All work on this contract must be complete within 218 Calendar Days. The Contract Time includes an allowance for 19 Weather Days. It is the Department's intent to issue a Notice to Proceed such that work starts on or about August 30, 2018.

PROSPECTIVE BIDDERS NOTES:

1. BIDDERS MUST BE REGISTERED with DelDOT and request a cd of the official plans and specifications in order to submit a bid. Contact DelDOT at [dot-ask@state.de.us](mailto:dot-ask@state.de.us), or (302) 760-2031. Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time July 3, 2018 unless changed via addendum.
2. QUESTIONS regarding this project are to be e-mailed to [dot-ask@state.de.us](mailto:dot-ask@state.de.us) no less than six business days prior to the bid opening date in order to receive a response. Please include T201780102.01 in the subject line. Responses to inquiries are posted on-line at <http://www.bids.delaware.gov>.
3. THE BID PROPOSAL incorporates a cd containing **Expedite, version 5.9a** and its installation file. Bidders are to use the cd provided to enter their bid amounts into the Expedite file. The Expedite bid file must be printed and submitted in paper form along with the cd and other required documents prior to the Bid due date and time.
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 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 by following the below link: <http://regulations.delaware.gov/register/september2015/final/19%20DE%20Reg%202007%2009-01-15.htm>  
**Regulation was revised for projects advertised beginning 01/01/18.** Please review the revised regulation for details. Note a few of the requirements;  
\* At bid submission - Each Contractor must submit with the bid *a single signed affidavit certifying that the Contractor and Subcontractor(s) has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation;*

- \* 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, and any other listed Subcontractors;
  - \* ~~Testing Report Forms shall be submitted to DelDOT monthly.~~ *No longer required.*
  - \* 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 subcontractor in writing;
  - \* Penalties for non-compliance are specified in the regulation.
6. NO RETAINAGE will be withheld on this contract.
  7. EXTERNAL COMPLAINT PROCEDURE can be viewed on DelDOT's Website [here](#), or you may request a copy by calling (302) 760-2555.
  8. REMINDER; A copy of your firm's Delaware Business License must be submitted with your bid.
  9. AUGUST 2016 STANDARD SPECIFICATIONS apply to this contract. 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 2016 Standard Specifications can be [viewed here](#).
  - 9a. 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 contractor's 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. Concrete flatwork certification will be effective starting on June 1, 2018.
  10. **BREAKOUT SHEETS MUST** be submitted either with your bid documents; or within seven (7) calendar days following the bid due date by the lowest apparent bidder. Refer to instructions adjacent to the Breakout Sheets in this document.
  11. The contractor must complete all sanitary sewer and water main construction by November 21, 2018.
  12. This project contains split Prevailing Wage Rates, Item Numbers 710500 and 711501 are wage rates for Heavy Construction only. All other item numbers are wage rates for Highway Construction.

**STATE OF DELAWARE  
CONSTRUCTION ITEMS UNITS OF MEASURE**

<b>English Code</b>	<b>English Description</b>	<b>Multiply By</b>	<b>Metric Code</b>	<b>Metric Description</b>	<b>Suggested CEC Metric Code</b>
ACRE	Acre	0.4047	ha	Hectare	HECTARE
BAG	Bag	N/A	Bag	Bag	BAG
C.F.	Cubic Foot	0.02832	m <sup>3</sup>	Cubic Meter	M3
C.Y.	Cubic Yard	0.7646	m <sup>3</sup>	Cubic Meter	M3
EA-DY	Each Day	N/A	EA-DY	Each Day	EA-DY
EA-MO	Each Month	N/A	EA-MO	Each Month	EA-MO
EA/NT	Each Night	N/A	EA-NT	Each Night	EA/NT
EACH	Each	N/A	EA	Each	EACH
GAL	Gallon	3.785	L	Liter	L
HOUR	Hour	N/A	h	Hour	HOUR
INCH	Inch	25.4	mm	Millimeter	MM
L.F.	Linear Foot	0.3048	m	Linear Meter	L.M.
L.S.	Lump Sum	N/A	L.S.	Lump Sum	L.S.
LA-MI	Lane Mile	1.609	LA-km	Lane-Kilometer	LA-KM
LB	Pound	0.4536	kg	Kilogram	KG
MFBM	Thousand Feet of Board Measure	2.3597	m <sup>3</sup>	Cubic Meter	M3
MGAL	Thousand Gallons	3.785	kL	Kiloliter	KL
MILE	Mile	1.609	km	Kilometer	KM
S.F.	Square Foot	0.0929	m <sup>2</sup>	Square Meter	M2
S.Y.	Square Yard	0.8361	m <sup>2</sup>	Square Meter	M2
SY-IN	Square Yard-Inch	0.8495	m <sup>2</sup> -25 mm	Square Meter-25 Millimeter	M2-25 MM
TON	Ton	.9072	t	Metric Ton (1000kg)	TON
N.A.*	Kip	4.448	kN	Kilonewton	N.A.*
N.A.*	Thousand Pounds per Square Inch	6.895	MPa	Megapascal	N.A.*

\*Not used for units of measurement for payment.

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**GENERAL NOTICES**

SPECIFICATIONS:

The specifications entitled "Standard Specifications for Road and Bridge Construction, August, 2016", hereinafter referred to as the Standard Specifications, and Supplemental Specifications, the Special Provisions, notes on the Plans, this Bid Proposal, and any addenda thereto shall govern the work to be performed under this contract. The Specifications and any Supplemental Specifications can be [viewed here](#).

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.

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 insure 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 DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION**

Title 29 Del.C. §6960 stipulates;

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

(c) Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

Bidders are specifically directed to note the Department of Labor's prevailing wage regulations implementing §6960 relating to the effective date of the wage rates, at Section 6.3, 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."

Contractor may contact:

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

STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: 302 7618200

Mailing Address:  
4425 North Market St., 3rd Fl  
Wilmington, DE 19802

Located at:  
4425 North Market St., 3rd Fl  
Wilmington, DE 19802

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2018

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	53.89	53.89	53.89
CARPENTERS	54.62	54.81	43.57
CEMENT FINISHERS	34.63	34.85	27.71
ELECTRICAL LINE WORKERS	24.02	46.36	22.69
ELECTRICIANS	68.70	68.70	68.70
IRON WORKERS	63.68	25.48	27.06
LABORERS	43.30	40.70	39.95
MILLWRIGHTS	17.20	16.69	14.41
PAINTERS	68.79	68.79	68.79
PILEDRIVERS	70.92	25.36	28.77
POWER EQUIPMENT OPERATORS	45.46	42.29	38.73
SHEET METAL WORKERS	24.30	21.68	19.64
TRUCK DRIVERS	36.49	30.14	36.72

CERTIFIED: 05/23/2018

BY: Frans Delon on behalf of Julie Petoff  
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 7618200

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

PROJECT: T201780102.01 St. Georges Maintenance Yard Ent Improvements, Not including Watermain, Sanitary Sewer, New Castle County

STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: 302 761 8200

Mailing Address:  
4425 North Market St., 3rd Fl  
Wilmington, DE 19802

Located at:  
4425 North Market St., 3rd Fl  
Wilmington, DE 19802

PREVAILING WAGES FOR HEAVY CONSTRUCTION EFFECTIVE MARCH 15, 2018

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	22.57	19.85	43.17
BOILERMAKERS	79.62	32.80	60.17
BRICKLAYERS	67.95	23.69	25.44
CARPENTERS	54.81	54.81	43.57
CEMENT FINISHERS	44.52	24.87	18.53
ELECTRICAL LINE WORKERS	75.22	74.83	66.03
ELECTRICIANS	68.70	68.70	68.70
GLAZIERS	20.85	18.11	12.26
INSULATORS	56.53	56.53	56.53
IRON WORKERS	62.73	62.25	59.55
LABORERS	46.20	46.20	46.20
MILLWRIGHTS	71.60	71.60	57.70
PAINTERS	81.41	81.41	81.41
PILEDRIVERS	76.77	40.19	31.28
PLASTERERS	19.64	17.06	11.53
PLUMBERS/PIPEFITTERS/STEAMFITTERS	89.13	79.50	18.27
POWER EQUIPMENT OPERATORS	69.29	64.30	69.29
SHEET METAL WORKERS	31.38	19.47	18.28
SPRINKLER FITTERS	33.82	12.81	10.60
TRUCK DRIVERS	32.84	21.06	22.74

CERTIFIED:

*05/23/2018*

BY:

*Tom C. [Signature]* on behalf of Julie Petaloff  
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

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

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE 302 761 8200

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

PROJECT: T201780102.01 St. Georges Maintenance Yard Entrance Improvements , Watermain and Sanitary Sewer System, New Castle County

# **SPECIAL PROVISIONS**

**401502 - ASPHALT CEMENT COST ADJUSTMENT**

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

The Delaware Posted Asphalt Cement Price will be issued monthly by the Department and will be the industry posted price for Asphalt Cement, F.O.B. Philadelphia, Pennsylvania. The link for the [posting is here](#).

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

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

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

If the mix was not inspected and no QA/QC pay sheet was generated, then the asphalt percentage will be obtained from the job mix formula for that mix ID.

The asphalt percentage eligible for cost adjustment shall only be the virgin asphalt cement added to the mix.

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

The Asphalt cement cost adjustment will be calculated on grade PG 64-22 asphalt regardless of the actual grade of asphalt used. The Project Asphalt Cement Base Price per ton for the project will be the Delaware Posted Asphalt Cement Price in effect on the date of project advertisement.

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

**NOTE:**

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

5/05/15

**710500 WATER MAIN AND ACCESSORIES**

**Description:**

This work consists of furnishing, transporting, installing, and testing the water main, line, laterals, and accessories in accordance with the locations, details and notes on the Contract Documents, and as directed by the Engineer. The work shall be performed in accordance with these Special Provisions, Delaware Standard Specifications, and the requirements of the Standards and Specifications of Artesian Water Company. The Owner of the water utility is Artesian Water Company and for purposes of the water utility is referred herein as the Utility Owner. In case of conflict between these Special Provisions, Delaware Standard Specifications, and the Standards and Specifications of the Utility Owner, the Standards and Specifications and all other requirements of the Utility Owner shall prevail.

**Special Requirements:**

Coordinate all water service construction activities with the Owner including, but not limited to, requests for system shut downs and inspections. Provide the Owner with reasonable time to respond to requests for information and coordination. Submit (3 weeks prior to beginning the Work), for approval, a plan describing the logical sequence for water service shut-downs and tie-ins.

If necessary, furnish, install, and remove bypass and temporary services pipes to maintain water service to customers during the Work. Furnishing, installing services and other branches, maintaining, providing safety precautions and removal of temporary services is the responsibility of the Contractor. Use only the highest quality service pipe, connections and branches that are able to withstand 150 pounds per square inch pressures and all conditions of use. Ensure that all pipes and fittings are watertight and that care is exercised throughout the installation to avoid pollution of mains, hose services or temporary service pipe.

Place temporary service pipe in the gutters where possible. Provide pipe crossings at driveways with cold patch cover or other methods approved by the Engineer. At street crossings, place temporary pipe in shallow trenches covered with temporary surfacing or other methods approved by the Engineer. Use sanitary precautions that are satisfactory to both the Engineer and the Owner. Chlorinate the interior of temporary service pipe in accordance with the latest AWWA Manual C601-81 "AWWA Standard for Disinfecting Water Mains". Chlorine and bacteria testing will be performed by the Owner's inspector.

The Owner and the Engineer retain the sole right of determining the times that the Work can occur and the sequence of the Work. Do not begin Work until both the Owner and the Engineer grant permission to proceed. Notify the Owner a minimum of forty-eight (48) hours before beginning Work to allow the Owner to arrange inspection. Immediately notify both the Engineer and the Owner of all delays to the scheduled Work.

It is of prime importance that the Contractor, in the performance of the Work, does not disrupt the operation of the existing water facilities in any manner or at any time, without the expressed prior approval of the Owner. Construct, disinfect, maintain and remove, following construction, such temporary water bypasses as may be required during construction to maintain water mains in service. No separate payment will be made for such temporary water bypasses.

The Contractor will be permitted to close down specific water mains and services for a period of time not exceeding four (4) hours after obtaining approval from the Owner in order to make connections as shown in the Contract Documents. The schedule for making connections will be so arranged that the water users will be out-of-service for a minimum period of time. The Contractor will receive no additional compensation for working during off-peak hours.

Before any shutdown, as specified above, the Contractor must give the utility owner and local 911 Center and Fire Department forty-eight (48) hours notice; and the Contractor must also furnish written notice to all water users in the area, a minimum of forty-eight (48) hours in advance of the closing of any water valves which may interrupt customer water service.

Shutdowns are not permitted if tapping sleeves and valves are specified for making the connections. Any and all emergency repairs required are the responsibility of the Contractor. Upon notification via telecommunication from the Owner, attend to any repairs immediately. In the event the Owner is unable to contact the Contractor or the Contractor fails to make the emergency repairs in a length of time determined by the Owner, the Owner reserves the right to attend to any or all emergency repair work. In such a case, the Contractor is responsible for reimbursements due to the Owner for the costs of the repairs.

Remove and replace or repair all Materials and Work, or parts thereof, which are deemed unsatisfactory as to any or all requirements of the Owner or the Engineer or as specified herein, at no expense to the State or the Owner.

Guarantee all workmanship, Materials and Work performed is in strict accordance with the Contract Documents, for a period of two years from and after the date of Completion and Acceptance of the Work. Repair, correct or replace as required, promptly and without charge, all Work, Equipment and Material, or parts thereof, which fail to meet the above guarantee, or which in any way fail to comply with or fail to be in strict accordance with the terms, provisions and requirements of the Contract during such two-year period.

Only designated Utility Owner personnel shall have the authority to operate any hydrants or valves that make up the Artesian Water Company water distribution system. Contractors shall not operate existing gate valves or hydrants. It is the Contractors responsibility to make arrangements for receiving water from public or private sources, secure necessary permits and pay regular charges. Under no circumstances shall existing hydrants be used to supply water other than to Utility Customers. The Contractor under the direction of the Utility Owner personnel shall do the initial filling of new water mains for service installations and testing. Disposal of any wastewater or any test water into New Castle County's sanitary sewer system is subject to New Castle County's charge. Prior written approval must be obtained from New Castle County.

**Materials:**

Provide Materials as specified in the following DelDOT Specifications:

Pipe	Section 1031
Portland Cement Concrete, Class B	Section 1022
Backfill, Borrow Type C	Section 1001
Stone, Delaware No. 8	Section 1004

All the materials including pipe, fittings, and all other accessories as listed under this Special Provisions, shall conform to the material and quality requirements of the Standards and Specifications of the Utility Owner. The Utility Owner shall have right to inspect and reject the materials, if his/her specifications requirements are not met. It is recommended that the Contractor should contact the Utility Owner and get himself/herself familiarized with the applicable requirements of the materials required under this Contract before submitting his/her bid.

The Contractor shall be responsible for providing materials including pipe, fittings, and all other appurtenances necessary to make permanent connections to existing utility facilities of whatever material type encountered.

The Contractor shall transport, handle, and store pipe and fittings as recommended by manufacturer.

New pipe and fittings that are damaged before or during installation shall be repaired or replaced, as recommended by the manufacturer or required by the Utility Owner. The costs of such repair or replacement shall be borne by the Contractor and be accomplished prior to proceeding with the project.

The Contractor shall deliver, store and handle other materials as required to prevent damage. Materials that are damaged or lost shall be repaired or replaced by the Contractor at no additional expense to the Utility Owner or Department.

#### A. WATER LINE MATERIALS

All watermain pipes, hydrants, valves, fittings and all appurtenances shall be new materials and shall be of the type, size, strength, and quality as shown on the plans and as specified herein and/or as indicated in the Special Provisions. The contractor may be required to secure and deliver to the Engineer a written statement from the manufacturer assuring the quality and compliance to the applicable specification of all materials furnished and installed under this improvement project. This shall in no way relieve the Contractor of any responsibility as to the quality of materials furnished and installed.

The Contractor shall install pipe made of virgin materials. The new pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

All standards and specifications referenced shall be the latest edition and version thereof. This includes AWWA, ASTM, ANSI, NSF and Federal specifications and standards. All construction work related to the installation of potable water pipe shall be performed by a licensed and bonded Contractor. Permits and licenses must be obtained prior to construction.

Warranty and Acceptance: Materials and workmanship shall have a one-year warranty to be free from defects in workmanship and materials. The warranty will be from the date of completion of construction. If work has been done to the requirements of this specification, a letter of acceptance shall be provided to the contractor upon final inspection. If deficiencies are discovered during the warranty period, the Contractor shall be required to correct these deficiencies without additional charge to the Owner or his agent. The Project Engineer shall determine the need for warranty repair work to be performed by the Contractor. The Project Engineers determination of a deficiency will bind the Contractor to make a repair in accordance with this Contract.

1. PIPE BEDDING MATERIAL - Pipe bedding material shall be in accordance with DelDOT Standard details.
2. DUCTILE IRON PIPE (DIP) - Ductile iron water mains shall be push on, Class 52, unless otherwise specified. DIP shall be centrifugally cast in lengths not less than 12 feet and no more than 20 feet, conforming to ANSI/AWWA C151/A21.51-81. Provide a minimum cover of 42 inches. DIP shall be cement lined in accordance with the requirements of ANSI/AWWA C104/121.4-80. A bituminous seal coating shall be applied to the interior and exterior as soon as the cement lining has sufficiently dried.
3. GATE VALVES
  - a. Main gate valves shall be Mueller A-2360 or H2370-20, open left, or approved equal
4. BUTTERFLY VALVES
  - a. Main butterfly valves shall be Mueller Lineseal III Class 150B or approved equal.

5. VALVE BOXES - Valve boxes shall be Mueller H-10350, or approved equal.
6. DIP FITTINGS - DIP Fittings shall be ductile iron casting and have mechanical joints, Class 350 conforming to AWWA specification C153, covering compact fittings. Mechanical joints shall conform to AWWA Specification C111, latest revision, with gaskets made from vulcanized crude rubber compound. Fittings shall be cement lined and bituminous coated. Mastic spray is to be used where any uncoated pipe or fitting is exposed such as welds, Megalugs, scraped coating, etc.
7. BOLTS, NUTS & RODDING - All underground installed bolts, T-bolts, nuts and any rodding required shall be stainless steel, ASTM F 593 Type 316 for all watermain fittings including mechanical joints, hydrants, valves, tees, bends, taps, etc. No other type of bolts, nuts or rodding will be allowed unless approved in writing by the City Engineer.
8. HYDRANTS - Hydrant laterals shall be retraining tee, 6 inch resilient wedge gate valve and box with 6 inch ductile iron pipe. Hydrants shall be Waterous Pacer WB-67-250. Valve opening shall be 5 ¼ inch, open left. The muzzle arrangement shall be two 2 ½ inch hose connections and one 4 ½ inch pump connections, National Standard Thread. Lateral connection shall be 6 inch mechanical joint. Operating nut shall be 1 ½ inch pentagon.
9. TAPPING SLEEVES AND VALVES - Tapping sleeves shall be Mueller H-615, Mueller Stainless H-304. Tapping valves shall be Mueller H-687, open left. Tapping sleeves shall be a minimum of 6 feet from pipe joints or other fittings.
10. POLYETHYLENE ENCASUREMENT MATERIAL - Polyethylene encasement material shall conform to the requirements of AWWA C-105 for tube type installation and 8 mil nominal film thicknesses.
11. BENDS - All bends shall be concrete buttressed or utilize locking gaskets. Refer to construction details in the drawings.
12. RESTRAINED JOINTS - Restrained joints shall be provided at all transition connections. Restrained joints shall be MEGA-LUG series 1100 or approved equal. At locations where bends are required pre-cast thrust blocks. Contractor is responsible for restraining DIP joints and fittings at alignment changes; at valve locations where a future tie-in may occur; at valve locations where existing pipe will be removed and replaced during future operations; and as shown on the drawings or required based on requirements of the construction details.
13. Backflow Preventer and Basket Strainer for Temporary Water Main and Hydrostatic Testing: Reduced pressure principal type, flanged and supplied complete with integral valves, following the American Society of Safety Engineers Standard No. 1013 and AWWA C510.
  - a. Materials: Bronze, or liquid epoxy coated cast iron body with bronze and stainless steel working parts.
  - b. Pressure Requirements: Suitable for supply pressure as high as 175 psi and hydrostatic test pressure of 350 psi.
  - c. Manufacturers: Conbraco, Febco, Zurn Industries, Watts Regulator or approved equal.
  - d. Basket Strainers.

- i. Installation: Inlet side of backflow preventer following Drawings.
- ii. Strainers: Flanged ends, unless otherwise noted.
  - (1) Strainer bodies: Ductile iron, gray iron, or bronze and designed to withstand maximum working pressure of 175 psi with tapped opening for flushing strained debris.
- iii. Screens: Unless otherwise noted, stainless steel or brass sheet metal with ¼ inch perforations.
  - (1) Open area of screen: At least 4 times inside cross-sectional area of pipe.
- iv. Manufacturers: Hersey Products, Inc., Mueller Co., or approved equal.

**Construction Methods:**

The construction of the water main shall be a combination of open cut excavation.

**A. WATER PIPE INSTALLATION**

1. **WORKING HOURS** - The Utility Owner shall be notified at least 48 hours prior to commencing any work. Contractors are subject to being shut down and or having work rejected if proper notification is not given to the Utility Owner. A schedule of work shall be submitted to the Engineer and Utility Owner prior to construction defining which portions of the contract will occur at night or during the day. Changes to this schedule should be made throughout the construction and reported immediately to the Utility Owner and Engineer. The definition of "Work" also includes the starting of equipment and the delivery of materials to the job site.
2. **INSTALLATION OF PIPE AND FITTINGS** - Watermain and water services shall be placed with a minimum of 42 inches of finished ground cover from the top of pipe to finished grade. The laying and jointing of water pipe shall be in accordance with the Contract Documents and the requirements of the Utility Owner's Specifications and as stated herein. All pipe and fittings shall be thoroughly cleaned before laying, in accordance with AWWA Standard C601-81 or the now current standard, and shall be kept clean until acceptance of the Work. No Work may be performed except under the supervision of the Utility Owner's inspector.

At the close of the work each day, the end of the pipe shall be tightly closed to prevent dirt, foreign substances, or small animals from entering the line until Work is resumed.

Pipe and fittings shall be carefully handled and lowered into the trench. Special care shall be taken to make sure all pipes are well bedded on solid foundation. Any defects due to settlement shall be repaired by the Contractor at his/her expense.

Where the manufacturer's recommended pipe joint deflection is exceeded, mechanical joint bends shall be required and installed to the satisfaction of the Owner and the Engineer at the Contractor's expense.

Thrust blocks are to be made of Portland Cement Concrete, Class B with a Concrete minimum strength 3,000 psi. Thrust blocks of adequate size and weight shall be used on all

pressure piping for all fittings and all bends equal to and greater than of 11 1/4 degrees to resist the force of water pressure and water hammer. Thrust blocks (buttresses) shall conform to the details shown on the Plans and/or the Owner's Standard Specifications. Thrust blocks must be used unless the Owner's specifications or the Contract Documents permit a different method to secure the fittings. All methods used to secure fittings, including, but not limited to, thrust blocks, couplings and service saddles are incidental to the fittings and no separate payment will be made for this Work.

No pipe shall be laid upon a foundation into which frost has penetrated, nor at any time when the Owner or the Engineer shall deem that there is danger of frost penetration at the bottom of the excavation. Keep all excavations free from water or other liquids during the progress of the Work. Excavate and backfill trenches per the applicable requirements of Section 207. Remove all excess Material in accordance with Section 106.08.

3. The Contractor shall keep all excavation free from water or other liquids during the progress of the work; and backfilling of trenches shall meet the applicable requirements of Section 207 of the DelDOT Standard Specifications.
  - a. Installation of ductile iron water mains (DIP) and their appurtenances shall conform to the requirements of AWWA C-600 Specifications, the Plans, Specifications and Special Provisions.
4. PIPE LAYING OPERATIONS - Trench excavation and bedding preparations shall proceed ahead of pipe placement so as to permit proper placement and joining of the pipe and fittings at the prescribed grade and alignment without unnecessary hindrance. All foreign matter or dirt shall be removed from the inside of the pipe and fittings before they are lowered into position in the trench, and they shall be kept clean by approved means during and after laying. The water main materials shall be carefully lowered into laying position by the use of suitable restraining devices. Under no circumstances shall the pipe be dropped or dumped into the trench. At the time of pipe placement, the bedding conditions shall be such as to provide uniform and continuous support for the pipe between bell holes. Bell holes shall be excavated as necessary to make the joint connections, but they shall be no larger than would be adequate to support the pipe throughout its length. No pipe material shall be laid in water or when the trench or bedding conditions are otherwise unsuitable or improper. When placement or handling precautions prove inadequate, in the Engineer's opinion, the Contractor shall provide and install suitable plugs or caps effectively closing the open ends of each pipe section before it is lowered into laying position, and they shall remain so covered until removal is necessary for connection of an adjoining unit. As each length of bell and spigot pipe is placed in laying position, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. The pipe shall be secured in place with approved backfill material, which shall be thoroughly compacted by tamping around the pipe to a height of at least 12 inches above its top.

Mechanically compact trenches in accordance with DelDOT standards. At all times when pipe laying is not in progress, including noon hour and overnight periods, all open ends of the pipe line shall be closed by watertight plugs or other means approved by the Engineer. If water is present in the trench, the seals shall remain in place until the trench is pumped completely dry. When connecting to existing stubs, the Contractor shall take every precaution necessary to prevent dirt or debris from entering the existing lines. All necessary work to make the connection shall be done at no additional compensation, except where noted otherwise.

5. **POLYETHYLENE ENCASEMENT OF PIPELINE** - For DIP water main, the pipeline, including valves, fittings, hydrant barrels, and appurtenances, shall be fully encased in polyethylene film meeting the requirements of these Specifications. The film shall be furnished in tube form for installation on pipe and all pipe-shaped appurtenances such as bends, reducers, off-sets, etc. Sheet film shall be provided and used for encasing all odd-shaped appurtenances such as valves, tees, crosses, etc. The polyethylene tubing shall be installed on the pipe prior to being lowered into the trench. Tubing length shall be sufficient to provide a minimum overlap at all joints of one foot or more. Overlap may be accomplished with a separate sleeve tube placed over one end of the pipe prior to connecting another section of pipe, or by bunching extra overlap material at the pipe ends in accordion fashion. After completing the pipe jointing and positioning the overlap material, the overlap shall be secured in place with plastic adhesive tape wrapped circumferentially around the pipe not less than three turns. After encasement, the circumferential slack in the tubing film shall be folded over at the top of the pipe to provide a snug fit along the barrel of the pipe. The fold shall be held in place with plastic adhesive tape applied at intervals of approximately three feet along the pipe length. Also, any rips, punctures, or other damage to the tubing shall be repaired as they are detected. These repairs shall be made with adhesive tape and overlapping patches cut from sheet or tubing material.

At odd-shaped appurtenances such as gate valves, the tubing shall overlap the joint and be secured with tape, after which the appurtenant piece shall be wrapped with a flat film sheet or split length of tubing by passing the sheet under the appurtenance and bringing it up around the body. Seams shall be made by bringing the edges together, folding over twice, and taping down. Wherever encasement is terminated, it shall extend for at least two feet beyond the joint area. Openings in the tubing for branches, service taps, air valves and similar appurtenances shall be made by cutting an X-shaped slit and temporarily folding back the film. After installing the appurtenance, the cut tabs shall be secured with tape and the encasement shall be completed as necessary for an odd-shaped appurtenance.

6. **REACTION BACKING** - Reaction backing shall be provided at all watermain fittings and at the hydrant in accordance with the typical backing detail shown on the standard details. In any instance where the Engineer determines that solid backing against undisturbed earth is not obtainable for fittings or hydrants, the Contractor shall use stainless steel tie rods, ASTM F 593 Type 316 or mechanical joint retainer glands as directed by the Engineer. Valves on branch lines or in hydrant leads shall in all cases be tied to an adjacent tee or cross fitting or back one full length of pipe.
7. **EXCAVATION AND TRENCHING** - Excavation shall be performed in accordance with Section 207 of the DeIDOT Standard Specifications and Excavation and Backfill for Pipe Trenches herein. The bottom of the trench shall be cut true and even, so that the barrel of the pipe will have a bearing for the full length. The trenches for water mains shall be excavated to such depth as will provide pipe elevations as indicated on the Water Main Relocation Profiles. The trenches for water service connections shall be excavated to the minimum standard depth or to such depth as required to connect to existing mains or service pipes. For pipe under 24-inch, internal diameter, the excavation (excluding rock), backfill and backfilling shall be included in the price for installation of the water main(s). Furnishing and borrowing shall be performed in accordance with section 210 of the Standard Specifications.

The Engineer and the Owner shall have the right to limit the amount of trench opened in advance of pipe laid, and the amount of pipe laid in advance of backfilling. They shall be empowered at any time to require the refilling of open trenches over completed pipelines, if in their judgment, such action is necessary and the Contractor shall therefore have no

claims for extra compensation, even though to accomplish such refilling, he/she is compelled to temporarily stop excavation or other work at any place.

If work is stopped on any trench or excavation for any reason and the excavation is left open for an unreasonable length of time (in the opinion of the Engineer) in advance of construction, the Contractor shall, if so directed, refill such trench or excavation at his/her own expense and shall not again open said trench until the Engineer determines that the Contractor is ready and able to progress the work. Patches for all appurtenances adjusted after the paving operations will require a perimeter reservoir and will be sealed in accordance with Section 504.

Where rock is encountered and blasting is required for trenching, all rock excavation work shall be performed in accordance with Section 206.03.06 of the DelDOT Standard Specifications except as modified herein; and the trench shall be excavated an additional six inches below grade. After the excavation is completed, a bed six inches in depth of Borrow Type C shall be placed in the bottom of the trench, leveled off and thoroughly tamped. If blasting is required to remove the rock, perform blasting operations in accordance with Section 107.08 of the DelDOT Standard Specifications.

8. EMERGENCY REPAIRS TO DAMAGED UTILITIES

- a. Known or Field Located Utilities - In the event that the Contractor or his Subcontractor during the execution of the work breaks any known or field located pressure or gravity main causing the disruption of service and/or an eminent hazard, it shall be the responsibility of the Contractor/Subcontractor to immediately notify the Utility Owner at the designated emergency telephone number and immediately undertake measure to repair the damaged utility. To that effect the Contractor/Subcontractor shall ascertain prior to initiating the work that the necessary repair parts, tools, equipment, and labor are on ready and available onsite to complete the repair work without delays. The Utility Owner personnel and Engineer shall witness the repair work.
- b. If the Contractor/Subcontractor estimates or determines that he is not going to be able to restore service within a less than two-hour period, the Contractor shall immediately contact the Utility Owner's manager to initiate repair.
- c. The Utility Owner will undertake the repair work and will back charge the Contractor. The Utility Owner will submit an itemized bill within 30 calendar days from the occurrence of the event.
- d. Unknown or Inaccurately Located Utilities - If the utility was not field located or it was inaccurately located in accordance with the prescribed procedures under the Sunshine State One-Call guidelines and the Contractor/Subcontractor cause a line break during the execution of the work, the same notification procedure as above must be followed. The Utility PCU Operations will undertake the repair work at no cost to the Contractor.

9. CONNECTIONS TO EXISTING MAINS: Only District personnel shall make connection to the existing water mains when and as directed by the District Inspector at the contractor's expense. In no case shall the Contractor shut off the water or operate the fire hydrants or gate valves of the existing distribution system without the expressed permission of the District Inspector. In case it becomes necessary to delay the cut-off, such instructions shall be given and obeyed without recourse. In making connections to the old distribution system,

valves shall be set as shown on the plan, or at such designated place as the Engineer may direct. If due to unforeseen conditions, these locations have to be changed or additional valves or fittings added, the Contractor shall install the valves or fittings at the new locations.

10. CONCRETE BLOCKING: All turns, fittings, fire hydrant connections, etc., that induce pressure which would cause separation of pipe, breakage, etc., shall be blocked with 3,000 lb. concrete. Blocking shall be formed and placed in such a manner that the pressure to be exerted at the point of blocking shall be transferred to firm, undisturbed earth at a maximum load of 2,000 lbs, per square foot. The Contractor shall insure that blocking at all tees, bends, plugs, etc., shall be sufficient to contain all pressure exerted by the pipe up to a pressure of 200 lbs. per square inch hydraulic pressure within the pipe, i.e. pressure at plug =  $200 \times (\text{area of pipe in inches})$ . The Contractor shall also be responsible for any damage or repairs caused by blowouts of any insufficiently blocked pipe. The contractor shall wrap all fittings, fire hydrant connections, etc. with District approved plastic wrap before any and all concrete pouring is started.
  
11. WATERMAIN TESTING - In order to assure quality materials and workmanship, the following tests shall be required unless waived by the Engineer. The Engineer or designee shall be present for all tests and shall be notified at least 48 hours in advance of the specific test. Testing shall be completed after all the utility pipes have been installed in the area to be tested and prior to commencement of the street construction. All tests shall be in accordance with CEAM standards or what is stated within this specification. Individuals qualified to perform and evaluate such tests shall do all testing. The Contractor shall pay for all tests required in these guidelines. Copies of the results shall be submitted to the Utility Owner. If inspection or test shows defects, including visible leaks, such defective work or material shall be replaced at the expense of the Contractor, and inspection and tests shall be repeated. All repairs shall be made with new material; failure to meet the tests specified above will be sufficient cause to reject the work until the defects are satisfactorily repaired. All expenses and costs incurred in carrying out the specified tests shall be borne by the Contractor at no extra cost to the Utility Owner or to the State and shall be included in the Contract unit price per linear foot bid for the various sizes of installing water main.
  - a. PRESSURE TESTING OF WATERMAIN - Hydrostatic pressure testing shall conform with AWWA C-605, latest revision as well as to the specifications of the Owner. Pressure testing shall be performed on all pipe, valves, hydrants, and fittings. The test shall be conducted on line segments from shut valve to shut valve in segments not exceeding 1,500 linear feet. The Contractor shall provide a suitable pump for applying pressure and an accurate gauge for measuring the pressure. The pipe shall be tested by applying one hundred fifty (150) pounds per square inch hydrostatic pressure for a period of two (2) hours with the Utility Owner's inspector present and to the full satisfaction of the Engineer. The maximum allowable leakage is in accordance with AWWA C605. Install any taps required at high points on the line to expel trapped air prior to testing. Following the tests, tightly plug all taps with suitable threaded brass plugs. Repair all visible leaks regardless of total leakage shown by test.
  
  - b. CONDUCTIVITY TESTING OF WATERMAIN - Conductivity testing of DIP watermain, copper straps or copper tipped gaskets shall be required to run at 350 amps for 5 minutes. PVC/HDPE watermain tracer lines shall be tested using standard underground utility locator, demonstrating that the lines can be located with standard equipment.

- c. STERILIZATION OF WATERMAIN - The method to be used for sterilization shall comply with AWWA C 601-81, C 651, and Owner requirements, with the plugs used in the pressure test still installed in the pipe prior to placement into service. Extreme care is to be exercised in order to prevent the entrance of any contaminants into the main. All expenses and cost incurred in carrying out the specified sterilization work shall be borne by the Contractor at no extra cost to the Utility Owner or the State and shall be included in the contract unit price per linear foot bid for the Water Main Installation.
  - d. BACTERIA TESTING OF WATERMAIN - Provide an adequate blowoff for use in flushing of the main. Before the water is turned on for use by the consumer from the relocated mains, the Owner will conduct bacteriological tests on water samples taken from the blowoff. All expenses incurred in the performance of these tests by the Owner are borne by the Contractor. Upon final sanitary approval by the Owner, return water service for use by the consumer. Before the final connection is made, thoroughly clean all surfaces of the relocated line, including all gaskets and glands, and the existing water main that are to become part of the closing joint with a 5 percent solution of Sodium Hypochlorite. Exercise extreme care in order to prevent the entrance of any contaminants into the main. All expenses and cost incurred in carrying out the specified sterilization work is borne by the Contractor at no extra cost to the Owner or the State and is included in the Contract Unit Price per linear foot bid for the Item for the various sizes. Plug adjacent pipe openings as required in accordance with the Section 202.03.2.
12. AS-BUILT / FINAL LOCATION DRAWINGS - Within thirty (30) days after completion of required work, the Contractor shall submit an accurate print or prints showing the horizontal and vertical location of mains, bends and other appurtenances to the Engineer and the Utility Owner. Services, fittings, fire hydrants and all other reconnections to the replaced pipes shall be identified and marked in the construction drawings by the Contractor. The Contractor shall be responsible for marking the construction drawings in reference to at least two fixed and easily found points.

**Method of Measurement and Basis of Payment:**

Price and payment for water service Items includes furnishing, transporting and installing the Materials; adjusting, relocating or repairing the services, testing of the water main system; for repairing leaks and defects, including defects to settlement, connecting to existing water main systems and services; maintaining service as required; excavating; disposing of excess excavated Material; backfilling; furnishing Material for backfilling; furnishing and installing concrete thrust blocks, joint restraints, pipe bedding, sheeting and shoring, temporary support of existing Utilities, dewatering; abandoning existing pipes, cutting and capping new or existing lines and for all labor, Equipment, tools and necessary incidentals to achieve and accept an operational water main system. No separate payment shall be made for salvaging or abandoning or removing and disposing of existing water mains and cost for such required work shall be incidental to the respective sizes for installing water main.

A breakout sheet attached to the Proposal lists the different elements of work or materials involved in completing this item. The Contractor shall fill in a unit price for each item and the cost (unit price times the proposed quantity). The Lump Sum cost for Item 710500, shall be derived from the total sum of the cost of all items listed. The breakout sheet shall be attached to the Bid Proposal. Failure to submit the breakout sheet with the Bid Proposal will result in the bid being declared non-responsive and rejected. The Department reserves the right to delete from the Contract one or more items listed and the right to add or subtract from

the quantity of each item. The total price to be paid will be adjusted in accordance with the Contractor's unit prices as required above. There will be no extra compensation or increase in unit prices in the breakout sheet if such additions and/or deletions are made to the quantities.

5/10/2018

**711501 SANITARY SEWER SYSTEM**

**Description:**

This work consists of furnishing all materials including pipes with all required fittings, bends, wyes, clean-outs, etc., structures, installation, and testing of the sanitary sewer system in accordance with these Special Provisions, Delaware Standard Specifications, and requirements of the Standard Specifications of the Utility Owner (New Castle County). In case of any conflict between the notes and details on the Plans; Special Provisions; Standards and Specifications of the Utility Owner; the Standards and Specifications of the Utility Owner shall prevail. The Contractor shall obtain the Standards and Specifications of the Utility Owner and study for materials cost before submitting the bids. The Utility Owner of the sanitary sewer is New Castle County.

**General Requirements:** All work shall be subject to inspection and subsequent approval/disapproval of the engineer and the representative of the Utility Owner; and the contractor shall be required to correct the discrepancies at his/her expense.

Included in this work is the installation and connection of a new sanitary sewer service to the existing sanitary sewer system. All modifications to such services, as required by the present Standards and Specifications of the Utility Owner and all relocations of such services necessary to avoid conflicts with utilities and highway drainage facilities are included in the work. Since the exact locations of the conflicts cannot be determined prior to trench excavation operations, the Contractor must coordinate and schedule any required relocation efforts of each sanitary sewer connection on an individual basis with the Utility Owner and the property owner. The Contractor shall be responsible for locating all services and determining whether each service is active or abandoned. Locations shown on drawings were provided by the utility owner and may or may not reflect actual field conditions. All costs associated with determining locations and active/abandon status of the service laterals will be incidental to the contract.

It is of prime importance that the Contractor, in the performance of his/her work, does not disrupt the operation of the existing sanitary sewer facilities in any manner or at any time, without the expressed prior approval of the Utility Owner. The Contractor shall construct, maintain and remove, following construction, such temporary bypasses as may be required during construction to maintain sanitary sewer facilities in service.

Coordinate all sanitary sewer construction activities with the Owner including, but not limited to, requests for system shut downs and inspections. Provide the Owner with reasonable time to respond to requests for information and coordination. Submit (3 weeks prior to beginning any Work) for approval of a plan describing the logical sequence for sanitary sewer shut-downs and tie-ins.

If necessary, furnish, install and remove bypass and temporary service pipes to maintain sanitary sewer service to customers during the Work. Furnishing, installing services and other branches, maintaining, providing safety precautions and removal of temporary services is the responsibility of the Contractor. Obtain written approval from the utility owner prior to interrupting temporary connections or new facilities of existing sanitary or combined sewers.

Contractor is required to submit:

- A. Detailed drawings and data on piping, fittings, gaskets, and appurtenances
- B. Certified test results from the manufacturer demonstrating compliance with the requirements of this section.
- C. Pipe Layouts and Schedules

- D. Shop Drawings of Precast Manholes and Structures including evidence of compliance with ASTM standards.
- E. Submit shop drawings of the manhole O-ring gasket and joint sealant, resilient connector, manhole sealant, chimney seal, manhole frame and cover, and manhole step.

Any and all emergency repairs required are the responsibility of the Contractor. Upon notification via telecommunication from the Owner, attend to any repairs immediately. In the event the Owner is unable to contact the Contractor or the Contractor fails to make the emergency repairs in a length of time determined by the Owner, the Owner reserves the right to attend to any or all emergency repair work. In such a case, the Contractor is responsible for reimbursements due to the Owner for the costs of the repairs.

All Materials and Work are subject to inspection by the Owner and the Engineer. Remove and replace all unsatisfactory Materials, Work or parts thereof at the Contractor's expense.

The installation requirements for the sanitary sewer system shall be open-cut.

**Materials:**

Use Materials specified in the Contract Documents and as specified by the Owner's standard specifications. The Owner will have right to inspect Materials and reject any Materials that do not meet the applicable standards and specifications.

Provide all Materials to complete the Work including pipe, fittings and all other appurtenances necessary to make permanent connections to existing utility facilities of whatever material type encountered.

Use printed polyethylene plastic warning tape for sanitary sewer or force main with a metallic core, manufactured specifically for identifying buried utility lines. Use tape of a roll type, 6-inch minimum width and color coded for sewer (green) with warning and identification imprinted in bold black letters continuously and repeatedly over the entire length of the tape. Use code and letter color that is permanent and unaffected by moisture and other substances contained in trench backfill Materials. Imprint "Sanitary Sewer" on the tape or a similar message approved by the Engineer.

Use Class B Concrete for thrust blocks and clean-outs meeting the requirements of Section 1022.

Use Borrow, Type C for backfilling conforming to the requirements of Section 1001.

Use Graded Aggregate, Type B in accordance with Section 1005 to construct pipe bedding.

Unless shown otherwise in the Contract Documents or required by the Owner, use the same class of Material as the sewer mains to which they are connected for the construction of all commercial, industrial and residential connections.

Specific requirements for the materials as applicable to the Contract are as noted below, unless otherwise stated on the Plans and/or required by the Utility Owner of the sewer system. The Contractor shall verify the compatibility of these materials specifications with the Utility Owner before placing order for the Contract.

- A. The force main size is 1.5 inches.
- B. Maintain a minimum of 18 inches of vertical clearance where the water main crosses over the sanitary sewer or lateral; otherwise, a minimum of ten (10) foot long concrete encasement (centered at the crossing point) shall be provided around the sanitary sewer or lateral as per the standard detail. 6 inches of 3,500 psi concrete shall be provided all around the pipe.

- C. Sanitary Force main shall be placed on a minimum bed 3 inches of Delaware #57 stone to the spring line of the pipe.

Open-Cut Materials

*PVC Pressure Pipe and Gaskets*

- A. The Polyvinyl Chloride Pipe (PVC) piping, fittings, and appurtenances shall be provided in the sizes indicated on the drawings.
- B. All PVC pipe, fittings, and appurtenances shall be suitable for pressure service of sewage and shall be manufactured in accordance with the latest version of the following ASTM Specifications:
  - 1. ASTM D2241, "Standard Specification for PVC Pressure-Rate Pipe (SDR Series)."
  - 2. ASTM F477, "Standard Specification for Elastometric Seals (Gaskets) for Joining Plastic Pipe
- C. All PVC pipe joints shall be gasketed, bell-and-spigot, push-on type. Gaskets shall be part of a complete pipe section and furnished as such. Gaskets may be factory installed or field installed as recommended by the pipe manufacturer. Lubricant shall be as recommended by the pipe manufacturer.
- D. All PVC pipe joints shall be push-on, gasketed-type joints unless otherwise specified. Gaskets shall be an integral part of a complete pipe section. Gaskets shall be factory installed, unless otherwise recommended by the pipe manufacturer. Lubricant shall be as recommended by the pipe manufacturer.
- E. All PVC pressure sewer pipe shall be Class 100 unless otherwise specified, with a dimension ratio (DR) of 21.
- F. Each pipe shall be marked at intervals of 5 feet or less to include the following designation(s):
  - a. Nominal size and/or outside diameter base
  - b. Material code designation or cell classification
  - c. Schedule or dimension ratio number
  - d. AWWA pressure class
  - e. AWWA and/or ASTM designation number
  - f. Manufacturer's name or trademark
  - g. Seal of testing agency verify potable water service
- G. Each pipe shall be marked at intervals of 5 feet or less to include the following designation(s):

The pipe shall be as uniform as commercially practicable in color, capacity, density, and other physical properties and provided by a single vendor.
- H. Detectable tape shall be aluminum foil tape, encapsulated in a plastic jacket. Tape shall be a minimum of six (6) inches wide. Tape shall be a high visibility, "Safety Green" with continuous imprinted identification label of "CAUTION - BURIED SEWER LINE BELOW", in accordance with APWA's color code and legend.
- I. Detectable wire shall be insulated (green color) solid copper, #14 AWG, 600-volt wire, or not less than 90% conductivity. Wire shall conform to ASTM Designation 6.58. Splicing of wires shall be by a solderless, split-bolt lug connector, suitable for direct burial in soil or concrete, manufactured from high strength copper alloy, UL Listed and CSA Certified for 2,000 volts.

*Pre-cast Manholes*

- A. Pre-cast cleanout manholes for the pressure piping shall be provided in the sizes indicated on the drawings. Install per standard details as provided on plans.

- B. Precast cleanout manholes shall be placed at all pipe junctions and at a maximum of 400 linear feet on straight length sections as shown on plans
- C. Pre-cast manholes shall be provided as specified herein and as depicted on the Contract Drawings. References of specific product manufacturers may be used to depict a material style and quality expected for this project.
- D. Locations, sizes, depths and all other attributes of each manhole shall be confirmed by the Contractor prior to ordering.
- E. Provide reinforced concrete, cementitious materials, aggregates and steel reinforcement conforming to the requirements of ASTM C 478 for constructing sewer manholes.
- F. Provide manholes of 4,500 psi concrete, reinforced as shown on the Contract Drawings.
- G. Manhole sections shall include lifting holes that are formed, tapered, or drilled. After placement, lift holes shall be repaired in a clean, workmanlike manner using a conical shaped pre-cast plug, properly sealed in place using non-shrink cement grout or an expanding Portland Cement mixture.
- H. Pipe to Manhole Connectors
  - a. The design of the connector shall provide a flexible, watertight seal between the pipe and concrete structure and shall be integrally cast into the manhole unless otherwise specified.
  - b. The connector shall be made from materials that conform to Section 4, "Materials and Manufacture" of ASTM C-923 and F-2510 "Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Laterals", and the overall design will meet or exceed Section 7, "Test Methods and Requirements" of ASTM C-923.
  - c. The connector shall be sized specifically for the type of pipe being used and shall be installed in accordance with the recommendations of the manufacturer.
  - d. Any metal elements of the connector shall be non-magnetic Series 300 stainless steel.
  - e. "Boot-type" connectors shall not be used unless specified or reviewed by the Engineer.
- I. Grade Adjustment Rings
  - a. Grade adjustment rings used in the public road right of way must be approved by DELDOT.
  - b. Precast concrete adjusting rings shall meet or exceed ASTM C478.
  - c. Rubber composite adjustment rings shall meet or exceed the following:
    - (1) Density - 64 lbs/ft<sup>3</sup>, ASTM D3574-05 Test A
    - (2) Durometer Hardness - 77 A ± 5, ASTM D2240-05
    - (3) Tensile Strength -Not less than 145 psi, ASTM D412-06
    - (4) Heat Ages Properties - 70 hours @ 158 °F, 3 hours @ 300 °F, ASTM D573-04
  - d. Expanded polypropylene adjustment rings shall meet or exceed ASTM D3575.
  - e. High density polyethylene (HDPE) adjustment rings shall meet or exceed ASTM D4976 and ASTM D1248.
- J. Manhole Frames and Covers
  - a. Provide standard manhole frames and covers labeled "SANITARY SEWER" conforming to ASTM A 48, Class 35B.
- K. Manhole Steps and Ladders
  - a. Provide manhole steps or ladders as depicted on the contract drawings as conforming "to ASTM C478.
  - b. Unless otherwise specified, provide polypropylene steps with a reinforced 3/8-inch minimum diameter reinforcing steel, grade 60. Do not use cast iron steps.

Concrete for the thrust blocks and clean-outs shall meet the requirements of Section 812, Class B of Standard Specifications. Thrust blocks and clean-outs shall be constructed in accordance with the Standard Detail Drawings of the Owner or as directed.

Unless shown otherwise on the Plans or required by the owner, all commercial, industrial, and residential connections shall be constructed of the same class of material as the sewer mains to which they are connected. Minimum grade and size of the lateral pipes shall be as required by the Owner's Standards and Specifications.

**Construction Methods:**

Perform the excavation and backfill for sanitary sewer pipe and connections in accordance with the applicable requirements of Section 207 including backfill requirements of Section 207.03.D. Backfill using Borrow, Type C or existing Material meeting Borrow, Type C the entire depth of trench up to the bottom of patching Materials under existing and proposed roadways and shoulders. In areas, outside of the roadway or proposed roadway including shoulders, place Borrow, Type C Material at least one foot above the top of the sewer line. Excavated Material may be used for backfill above the Borrow, Type C in areas outside of roadway and shoulders provided that the excavated Material is dry and free of organic material.

Lengths of pipes shown in the Contract Documents are estimated only. The Contractor is responsible to layout the tie-in areas in the field and fabricate the bends and pipe lengths required to properly tie-in to other pipes, fittings and/or manholes as required and approved by the Engineer.

If there is a conflict between the Delaware Standard Specifications (including these Special Provisions) and the Specifications of the Utility Owner, the latter will prevail. The Contractor is advised to obtain and be fully acquainted with the applicable specifications of the Utility Owner. The pipe shall be installed at the locations and to the lines, grades, and dimensions shown on the Plans or as directed by the Engineer.

All pipes shall be thoroughly cleaned before they are laid and shall be kept clean until the completed work is accepted.

No pipe shall be laid upon a foundation into which frost has penetrated nor at any time when the Engineer shall deem that there is danger of the formation of ice or the penetration of frost at the bottom of the excavation, unless the minimum length of open trench and promptness of backfilling are observed.

Sheeting and bracing required for trenches shall be removed to the elevation of the conduit, but no sheeting will be allowed to be pulled, removed, or disturbed below the conduit. Sheeting and bracing shall meet OSHA requirements.

Before lowering into the trench, the pipe shall be inspected for defects. All cracked, chipped, or broken pipe shall be discarded. The ends and interior of the pipe shall be clean. Belled ends shall be laid upgrade. Handling of the pipe shall be accomplished in a manner that will not damage the pipe. The joint shall be made in the manner recommended by the manufacturer. Care shall be taken not to buckle or disturb previously laid pipe.

Pipe shall be laid accurately to the staked line and grade. All service connections shall be installed as indicated on the Drawings right-of-way. Where existing service sewers are to be connected, suitable fittings and adapters shall be provided by the Contractor.

Pipe shall be cleaned of all foreign matter, and water shall be kept out of trenches until joints have been completed. When work is not in progress, open ends of pipe and fittings shall be securely closed to keep foreign matter and animals from entering.

Each joint shall be inspected to ensure that it is properly made before backfilling is done. Care shall be taken to prevent any dirt or foreign matter from entering the open end of the pipe. Where it is necessary to cut pipe, such cuts shall be neatly made in an approved manner. The laid pipe shall be true to line and grade and, when completed, the sewer shall have a smooth and uniform invert. No section of gravity sewer, including service connections shall have an adverse grade which would pond water in the invert or any other portion of the sewer.

Prior to constructing the tie-ins under this Section, coordinate with the Owner and, if required by the Owner, be prepared with tanker trucks and pumps to handle any excess flow during the transition. The Owner must be satisfied with the Equipment and tanker trucks provided on site before allowing the actual tie-in. Pump all excess flow into the tankers and properly dispose of the excess flow at an approved location.

Connections to existing sewer mains, service connections, and manholes shall be made in such a manner so as to not damage the existing facility. Such connections shall be made so that no projections or rough surfaces occur within the pipe.

Locations of the sewer is approximate and may be changed by the Engineer. Relocating of the sewer will not add extra cost to the State or New Castle County, unless either of the following conditions result:

1. The relocation results in an increase in the length of the sewer; or,
2. A change in construction methods is required from the change in location

If the Contractor believes that the work at the new location(s) will result in a substantive change, the Contractor shall notify the Engineer prior to beginning the changed work. The Engineer will evaluate the request and if the relocation is warranted, the change in work shall be authorized.

Any connections to existing sewer mains shall not obstruct flow.

Pressure piping shall be installed with a minimum of forty-two inches of cover. Contractor shall install the PVC pressure pipe in accordance with ASTM D2774-12, "Standard Practice for Underground Installation of Thermoplastic Pressure Pipe", the Contract Documents or as directed by the engineer.

Concrete thrust blocks or anchors shall be provided on all buried lines at bends, tees, capped or valved ends, fittings, and as directed by the Engineer. Blocks or anchors shall be poured against undisturbed earth and shall be in accordance with these contract documents.

Place pipeline detectable wire along the full length of the installed pipe, including encased road crossings. Remove the insulation at the splices so a metal to metal connection is made. Place the wire in the bottom of the trench prior to any backfilling such that it and the forcemain are separated by no more than 3 inches. Bring the wire up to the surface of the ground at the beginning and termination of the pipe, and inside any valve box, manhole, or any other appropriate location, or as directed by the Engineer. Place pipeline detectable tape between 18 and 24 inches above the force main. At no time shall detectable tape be placed at a depth of less than 6 inches.

Place and connect air and/or vacuum release valves, and cleanouts in pre-cast concrete manholes of the size and location shown on the Contract Drawings, and with appurtenances depicted.

For precast cleanout manholes, set cones or flattops as determined by the depth of the manhole, so that no more than 12 inches of reinforced concrete adjusting rings are required to adjust the top of the manhole casting to grade. Provide a soil-tight seal between the precast manhole and adjusting ring, and each adjoining adjusting ring, and between the adjusting ring and casting by the use of two (2) rows of 1/2 inch extrudable preformed gasket material or trowelable grade butyl rubber or an approved equal. After butyl rubber is applied to exterior of adjustment rings, install exterior chimney seal if specified.

Set manhole frame on 1/2 inch extrudable preformed gasket material or trowelable grade butyl rubber or an approved equal. In paved areas, match top of casting with finished grade; in unpaved/grassy areas, install casting so that the top extends at least six inches above finished grade, and grade surface to provide positive surface drainage away from manhole. Install manhole steps with non-shrink mortar or epoxy grout.

Acceptance Testing:

- A. **Quality Assurance:**  
The Contractor is solely responsible for quality assurance during the length of the project. The contractor is responsible for any costs associated with corrective measures required to replace or repair items not meeting the quality standards specified by the Utility Owner or Engineer.
  
- B. **Submittals:**  
The Contractor shall submit the following items for review and approval by the Utility Owner or Engineer in accordance with the Contract Documents. Approval of the submittals by the Utility Owner or Engineer shall be obtained prior to ordering pipe materials and/or the start of the pipe replacement process.
  - 1. Detailed construction procedures, and layout plans to include sequence of construction.
  - 2. Sewer bypass plans, methods and list of equipment to be utilized.
  - 3. Description of the method to remove and dispose of the host pipe, if required.
  - 4. The safety plan in conformance with the Contract Documents and OSHA regulations.
  - 5. Traffic control plans.
  - 6. Project schedule.
  
- C. **Material Testing:**
  - 1. The Contractor shall notify the Utility Owner and Engineer at the completion of each segment.
  - 2. The Utility Owner or Engineer may, at its option, conduct an inspection of the new pipe to determine the condition of the pipe.
  - 3. Defects, which in the opinion of the Utility Owner or Engineer affect the integrity of strength of the pipe, shall be repaired or replaced by the Contractor at no additional cost to the Utility Owner.
  
- D. **Locating Utilities:**
  - 1. The Utility Owner or as shown on the drawings shall provide the Contractor with available information relating to the location of utilities adjacent to the pipe to be replaced. The Contractor shall, prior to starting work, verify the location of all adjacent utilities. The minimum clearance from other utilities shall be approximately 18-inches. The Utility Owner may at its discretion reduce the minimum clearance.
  - 2. The Contractor shall expose all interfering and crossing utilities by spot excavating at the intersection of the pipe and removing the soil from around the utility. The cost of exposing these utilities shall be borne by the Contractor.
  
- E. **Emergency Repairs to Damaged Utilities:**
  - 1. Known or Field Located Utilities - In the event that the Contractor or his Subcontractor during the execution of the work breaks any known or field located pressure or gravity main causing the disruption of service and/or an eminent hazard, it shall be the responsibility of the Contractor/Subcontractor to immediately notify the Utility Owner at the designated emergency telephone number and immediately

undertake measure to repair the damaged utility. To that effect, the Contractor/Subcontractor shall ascertain prior to initiating the work that the necessary repair parts, tools, equipment, and labor are on ready and available onsite to complete the repair work without delays. The Utility Owner personnel and Engineer shall witness the repair work.

2. If the Contractor/Subcontractor estimates or determines that he is not going to be able to restore service within a less than two-hour period, the Contractor shall immediately contact the Utility Owner's manager to initiate repair.
3. The Utility Owner will undertake the repair work and will back charge the Contractor. The Utility Owner will submit an itemized bill within 30 calendar days from the occurrence of the event.
4. Unknown or Inaccurately Located Utilities - If the utility was not field located or it was inaccurately located in accordance with the prescribed procedures under the One-Call guidelines and the Contractor/Subcontractor cause a line break during the execution of the work, the same notification procedure as above must be followed. The Utility Owner will undertake the repair work at no cost to the Contractor.

F. Field Testing:

1. After the existing pipe is completely replaced the Contractor and Utility Owner shall perform inspections of the pipe. The newly installed pipe shall be visibly free of defects, which may affect the integrity or strength of the pipe. If in the opinion of the Utility Owner such defects exist, the pipe shall be repaired or replaced at the Contractor's expense.
2. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness shall not be used and must be removed from the site.

G. Pressure Testing:

1. Sanitary sewer mains shall be air tested after all laterals, have been installed. The Contractor shall furnish all labor, materials, tools and equipment necessary to perform all tests as directed by, or under the direction of the Engineer/Utility Owner. The Contractor shall repair or replace all sections of sanitary sewer failing to meet testing requirements. Sanitary force mains shall be air tested holding 80 p.s.i. for 5 minutes with no allowable leakage, or may be determined by Engineer.

H. CCTV Inspections:

1. The Contractor shall perform post installation internal television inspections of the installed gravity sanitary sewer. Each reach of sewer shall have audio description with appropriate stationing of services indicated. The data and stationing are to be on the video. All such inspections shall be performed by personnel trained in locating breaks, obstacles and service connections by closed circuit color television.
2. Post construction video tapes are to be submitted to the Engineer and Utility Owner for review prior to final payment. Should any portion of the inspection tapes be of inadequate quality or coverage, as determined by the Utility Owner, the Contractor will have that portion video-taped at no additional expense to the State or Utility Owner. All original video tapes remain property of the Utility Owner. The Contractor may, at the discretion of the Utility Owner retain second copy.

The Contractor shall not make connections to existing sanitary sewers until after the final inspection and tests have been approved. All material and labor required for tests shall be furnished by the Contractor and the cost thereof included in the prices bid for installing sanitary pipe.

**Method of Measurement and Basis of Payment:**

Price and payment for sanitary sewer system Items, including adjustment of sanitary sewer laterals, includes furnishing, transporting and installing the materials; the pumping station; testing of the sanitary sewer system; connecting to existing sanitary sewer systems and services; maintaining service as required; excavating; disposing of excess excavated material; backfilling; furnishing material for backfilling; furnishing and placing warning tape; furnishing and installing concrete thrust blocks, joint restraints, aggregate pipe bedding, sheeting and shoring, temporary support of existing Utilities, dewatering, furnishing and using tanker trucks for excess flow, disposing of excess flow at an approved location; abandoning existing pipes including filling such pipes with flowable fill, cutting and capping new or existing lines and for all labor, Equipment, tools and necessary incidentals to achieve and accept an operational sanitary sewer system.

All lump sum pay items will be prorated for each pay estimate. A percentage of the lump sum item will be paid, on a monthly basis, based upon the amount of work completed and accepted by the Engineer. A breakout sheet attached to the Proposal lists the different elements of work or materials involved in completing this item. The Contractor shall fill in a unit price for each item and the cost (unit price times the proposed quantity). The Lump Sum cost for Item 710501, shall be derived from the total sum of the cost of all items listed. The breakout sheet shall be attached to the Bid Proposal. Failure to submit the breakout sheet with the Bid Proposal will result in the bid being declared non-responsive and rejected. The Department reserves the right to delete from the Contract one or more items listed and the right to add or subtract from the quantity of each item. The total price to be paid will be adjusted in accordance with the Contractor's unit prices as required above. There will be no extra compensation or increase in unit prices in the breakout sheet if such additions and/or deletions are made to the quantities.

5/10/2018

**763508 - PROJECT CONTROL SYSTEM DEVELOPMENT PLAN**  
**763509 - CPM SCHEDULE UPDATES AND/OR REVISED UPDATES**

**Description:**

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

**Scheduling Representative:**

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

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

**Critical Path, Project Completion Date, and Float:**

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

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

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

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

Complete and submit the proposed original CPM schedule (OCPM) database and the written narrative (WN) within 30 calendar days after Contract is Awarded. The WN is a description of any elements of the Schedule that deviate from the proposed construction sequence shown in the Contract Documents. Submit

the OCPM in CPM format fully compatible with Primavera P6 Project Management Release: 7.0.0 by email or CD ROM as a single compressed database in CPM format. The Engineer will complete the review of the OCPM within 30 calendar days after submittal. If required, a Joint Review Conference will be convened at which time the Engineer and Contractor may make corrections and adjustments to the proposed OCPM. If a revision is necessary due to the Engineer's review or the Joint Review Conference, submit the proposed revision within seven calendar days after receiving the Engineer's review comments or within seven calendar days after the date of the Joint Review Conference, whichever is the latest. Make revisions in accordance with the requirements for the OCPM. The Engineer will respond to the revised OCPM within seven calendar days after receipt. Clearly identify each submittal and resubmittal for clarity by labeling "2<sup>nd</sup> Draft", "3<sup>rd</sup> Draft", etc.

Do not start any Work until the OCPM is accepted. If the Engineer is ready to issue a Notice to Proceed but the OCPM is not yet accepted, the Engineer may issue the NTP and start Contract Time, but forbid Work to begin until the OCPM is accepted. The Engineer may partially accept a OCPM and allow Work to begin if the required corrections to the OCPM are minor, but the Engineer will not accept submittals that do not show the complete schedule. The Engineer will not pay any estimates until the OCPM is partially accepted. Once the OCPM is partially accepted, the Engineer will pay the first estimate. If the Contractor fails to make a good faith effort to address the Engineer's comments before the second estimate is due for payment, the Engineer will not pay the second estimate until a good faith effort is made by the Contractor to comply. The Engineer may not withhold an estimate payment if, within the estimate period in question, the Engineer has failed to provide timely review comments in response to the Contractor's submittal. The Engineer may, however, withhold the payment of subsequent estimates if the Contractor fails to make a good faith effort to address the Engineer's comments. Upon issuance of the Notice to Proceed, the start date utilized in the OCPM will be adjusted to comply with the first chargeable day of Work. Any delay in starting Work caused by the acceptance of the OCPM by the Engineer will not be considered as a basis for any adjustment in the Contract amount or time. For Contracts that have fast-tracked starts, the Engineer and the Contractor may agree to alter the response times and approval dates listed above. Upon notification that the OCPM has been accepted, the corrected copy will become the CPM of record. The CPM of record shall be the Contractor's work plan for completing the entire Contract as specified in the Contract Documents.

**Requirements for the OCPM:**

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

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

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

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

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

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

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

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

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

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

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

- (a) Relationships between activities not obviously identified
- (b) Equipment usage and limitations.
- (c) Manpower usage and limitations.
- (d) Use of additional shifts and overtime.
- (e) Activity codes, abbreviations, and activity identification system.
- (f) All calendars utilized in the CPM and the basis of determining each non-work period
- (g) All abbreviations.
- (h) Use of calendars.
- (i) Any other conditions that affect the schedule and are not readily discernible in the database.

**CPM Updates:**

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

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

**Revisions to the Schedule of Record:**

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

The Engineer may direct the Contractor to revise the schedule of record at the Contractor's expense if: the critical path has less than minus ten (-10) Calendar Days of total float due to the Contractor's failure to perform the Work in accordance with the schedule; the Contractor requests to re-sequence the Work; and/or the Contractor has performed a significant amount of Work out of sequence. The Engineer may direct the Contractor to revise the schedule for any other reason; and such a revision will be paid at the unit cost for a CPM Revision.

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

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

Make requests for extension of Contract time in writing and subject to the notice and timeliness of submission provisions as provided for elsewhere in the Contract. Requests for an extension of Contract time or change in an incentive/disincentive date will be evaluated by the Engineer's analysis of the CPM of record and any proposed revision submitted. Include in the request a written narrative of the events that impacted the schedule and a detailed explanation of why the Contractor cannot meet the requirements of the schedule of record. Only delays to activities that affect the Contract completion date or will be considered for an extension of Contract time. Only delays to activities that affect the completion duration of an incentive/disincentive period will be considered for an extension of an incentive/disincentive completion date. The extension of the specified Contract completion date or incentive/disincentive date will be based upon the number of Calendar Days the Contract completion date or incentive/disincentive date is impacted as

determined by the Engineer's analysis. The Engineer and Contractor may agree to defer the analysis of a potential impact to the schedule until the completion of the activities that are affected. Such a deferment does not relieve the Contractor of his/her duty to identify potential impacts to the schedule in the applicable schedule updates.

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

**Final As Built Schedule.**

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

**Method of Measurement:**

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

**Basis of Payment:**

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

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

2/11/2015



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

JENNIFER COHAN  
SECRETARY

**UTILITY STATEMENT**  
April 6, 2018  
**STATE CONTRACT #T201780102**  
**F.A.P. #NA**  
**PROJECT ID#17-82202**  
**ST. GEORGES MAINTENANCE YARD ENTRANCE IMPROVEMENTS**  
**NEW CASTLE COUNTY**

The following utilities maintain facilities within the limits of this project:

**ARTESIAN WATER COMPANY**  
**ATLANTIC BROADBAND**  
**COMCAST CABLE**  
**DELMARVA POWER – ELECTRIC DISTRIBUTION**  
**DELMARVA POWER – TRANSMISSION**  
**DELMARVA POWER - GAS**  
**NEW CASTLE COUNTY**  
**VERIZON DELAWARE INC.**

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

**ARTESIAN WATER COMPANY**

Artesian Water Company, Inc. does not own or maintain facilities within the project limits.

The State's contractor is to install the new water facilities per the contract documents and plans.

**ATLANTIC BROADBAND**

Atlantic Broadband owns and maintains aerial facilities throughout the project limits with no apparent conflicts.

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

**No additional Atlantic Broadband involvement is anticipated.**

**No existing Atlantic Broadband facilities can be taken out of service.**

### **COMCAST CABLE**

Comcast owns and maintains aerial facilities throughout the project limits with no apparent conflicts.

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

**No additional Comcast involvement is anticipated.**

**No existing Comcast facilities can be taken out of service.**

### **DELMARVA POWER – ELECTRIC DISTRIBUTION**

Delmarva Power owns and maintains 25kV aerial / u.g circuits within the limits of your project under the SR1 Bridge on Lorewood Grove Road.

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

**No additional Delmarva Power Electric involvement is anticipated.**

**No existing Delmarva Power Electric facilities can be taken out of service.**

Should the State want to upgrade the service for this site, the State shall contact Mike Brady, Delmarva Power's representative at 302-454-4335 for an electric service agreement and specifications.

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

*16 Del. C. § 7405B requires notification to and mutually agreeable measures from the public utility from any person intending to carry on any function, activity, work or operation within dangerous proximity of any high voltage overhead lines. All contractors/other utilities must also maintain a distance of 10'-0" from all energized lines.*

### **DELMARVA POWER, GAS**

Delmarva Power - Gas owns and maintains an 8" PHP gas main on the north side of the Lorewood Grove Road throughout the project limits that was installed in advance of this project.

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

**No additional Delmarva Power Electric involvement is anticipated.**

**No existing Delmarva Power Electric facilities can be taken out of service.**

Should the State want to supply this site with natural gas, the State shall contact Delmarva Power Gas for a natural gas service agreement and specifications. The gas service will be installed during the construction and is expected to take three (3) calendar days. The location and installation of the gas service shall be coordinated between the State's contractor and DP-Gas.

### **NEW CASTLE COUNTY**

New Castle County does not own or maintain facilities within the project limits.

The State's contractor is to install the new sanitary sewer facilities per the contract documents and plans.

## **VERIZON DELAWARE LLC**

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

1. Verizon maintains aerial facilities along the North side of Lorewood Grove Rd from DPL Pole 45628 36113 at station 49+47 L32 extending west past the project limits.
2. Verizon maintains aerial facilities along the North side of Lorewood Grove Rd from DPL pole 45753 36127 at station 52+41 L36 extending east past the project limits.
3. Verizon maintains aerial facilities crossing Lorewood Grove Rd from DPL pole 45670 36133 at Station 53+92 L44 to DPL pole 45676 36124 at station 54+16 R56.
4. Verizon maintains aerial facilities from DPL pole 45715 36104 at Station 59+8 R58 extending north and east past the project limits.

Verizon of Delaware maintains the following buried facilities within the project limits:

1. Verizon maintains buried facilities on the North side Lorewood Grove Rd from DPL pole 45628 36113 at Station 49+48 L33 under RT 1 Bridge to DPL pole 45753 36127 at Station 52+42 L35.

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

**No additional Verizon involvement is anticipated.**

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

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

### **GENERAL NOTES**

- 1. The Contractor's attention is directed to Section 105.09 Utilities, Delaware Standard Specifications, August 2001. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The Contractor is advised to check the site for access and operating purposes for his equipment and, if necessary, make arrangements directly with the utility companies for field adjustments for adequate clearances.**
- 2. The information shown in the Contract Documents, including the Utility Statement and the Utility Schedule contained herein, concerning the location, type and size of existing and proposed utilities, their locations, and construction timing has been compiled by the preparer based on information furnished by each of the involved Utility Companies. It shall be the responsibility of the State's Contractor to verify all information and coordinate with the Utility Companies prior to and during construction, as specified in Section 105.09 of the Standard Specifications.**
- 3. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present and relocated positions as shown on the plans or described in the Utility Statement or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage due to any interference from the utility facilities and appurtenances or the operation of moving them, except that the Contractor may be granted an equitable extension of time unless the delay is caused by the Contractor's delay in having the site conditions ready for the utility relocation work after the Contractor has provided the advance notice that the site conditions would be ready for the utility relocation work. The contractor's means and method of construction are not taken into account when known utility conflicts are identified. If the Contractor's means and method of construction create a utility conflict, the Utility Statement will prevail in discussions with the utility and the Contractor. The State's Contractor shall be responsible for any costs associated with any temporary outages; holding, bracing and shielding of utility facilities; temporary relocations; or permanent relocations that are not specifically identified in this utility statement or shown in the contract plan set.**
- 4. Coordination and cooperation among the Utility Companies and the State's Contractor are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company representatives with any questions regarding this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations. The Utility Companies do not work on weekends, nights or legal holidays.**

Keith Allridge	Americomm/Comcast	<a href="mailto:keith@americomm-llc.com">keith@americomm-llc.com</a>	717-713-7586
Wayne Tyler	Artesian Water Company	<a href="mailto:WTyler@artesianwater.com">WTyler@artesianwater.com</a>	302-453-6987
Wesley Page	Atlantic Broadband	<a href="mailto:wpage@atlanticbb.com">wpage@atlanticbb.com</a>	410-827-6441
Angel Collazo	Delmarva Power – Elec.	<a href="mailto:angel.collazo@delmarva.com">angel.collazo@delmarva.com</a>	302-454-4370
Kristin Stanfill	Delmarva Power Gas	<a href="mailto:Kristin.Stanfill@delmarva.com">Kristin.Stanfill@delmarva.com</a>	302-429-3364
Mark Parker	Eastern Shore Natural Gas	<a href="mailto:maparker@esng.com">maparker@esng.com</a>	302-213-7270
David Clark	New Castle County, Dept. Special Serv.	<a href="mailto:dclark@nccde.org">dclark@nccde.org</a>	302-395-5705
George Zang	Verizon Delaware, LLC	<a href="mailto:george.w.zang@verizon.com">george.w.zang@verizon.com</a>	302-422-1238

5. As outlined in Chapter 3 of the DelDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads. This includes but is not limited to water quality permits/DNREC Water Quality Certification, DNREC Subaqueous Lands/Wetlands permits, DNREC Coastal Zone Consistency Certification, County Floodplain permits (New Castle County only), U.S. Coast Guard permits, US Army Corps 404 permits, sediment and erosion permits, and railroad crossing permits.
6. Individual utility companies are required to restore any areas disturbed in conjunction with their relocation work. If an area is disturbed by a utility company and is not properly restored, the Department may have the State's Contractor perform the necessary restoration. Any additional costs incurred as a result will be forwarded to the utility company.
7. 16 Del. C. § 7405B requires notification to and mutually agreeable measures from the public utility operating the electric line for any person intending to carry on any function, activity, work or operation within dangerous proximity of any high voltage overhead electric lines. All contractors/other utilities must also maintain a minimum distance of 10'-0" from all energized lines. Additional clearance may be required from high voltage transmission lines.
8. Any existing facilities that are comprised of hazardous materials will be removed by the Utility Company unless otherwise outlined in the contract documents or language above. Any existing facilities containing hazardous materials will be purged by the Utility Company unless otherwise outlined in the contract documents or language above.

#### DIVISION OF TRANSPORTATION SOLUTIONS

  
\_\_\_\_\_  
UTILITY COORDINATOR

[Deborah.Kukulich@state.de.us](mailto:Deborah.Kukulich@state.de.us)  
\_\_\_\_\_  
Email

  
\_\_\_\_\_  
DATE

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

CERTIFICATE OF RIGHT-OF-WAY STATUS

STATE PROJECT NO. T201780102

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

ST. GEORGES MAINTENANCE YARD ENTRANCE IMPROVEMENTS

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

  
Robert Cunningham  
Chief of Right of Way

May 3, 2018



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

JENNIFER COHAN  
SECRETARY

April 16, 2018

ENVIRONMENTAL REQUIREMENTS

FOR  
State Contract No. T201780102  
Federal Aid No.: N/A

Contract Title: St. Georges Yard – Entrance Improvements

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

GENERAL REQUIREMENTS:

1. All construction debris, excavated material, brush, rocks, and refuse incidental to such work shall be placed either on shore above the influence of flood waters or on some suitable dumping ground.
2. That effort shall be made to keep construction debris from entering adjacent waterways or wetlands. Any debris that enters those areas shall be removed immediately.
3. The disposal of trees, brush, and other debris in any stream corridor, wetland, surface water, or drainage area is prohibited.
4. DelDOT Environmental Studies Section (302) 760-2264 must be notified if there are any changes to the project methods, footprint, materials, or designs, to allow the Department to coordinate with the appropriate resource agencies (COE, DNREC, and SHPO), for approval.



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

JENNIFER COHAN  
 SECRETARY

**RAILROAD STATEMENT**

**For**

**State Contract No.:** T201780102

**Federal Aid No.:**

**Project Title:** St. Georges Maintenance Yard Entrance Improvements

**The following railroad companies maintain facilities within the contract limits:**

- |  |   |
|--|---|
| <input type="checkbox"/> Amtrak              | <input type="checkbox"/> Maryland & Delaware  |
| <input type="checkbox"/> CSX                 | <input type="checkbox"/> Norfolk Southern     |
| <input type="checkbox"/> Delaware Coast Line | <input type="checkbox"/> Wilmington & Western |
| <input type="checkbox"/> East Penn           | <input checked="" type="checkbox"/> None      |

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

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

- No Railroad involvement.
- Railroad Agreement unnecessary but railroad flagging required. The contractor shall follow requirements stated in the DeIDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DeIDOT's Railroad Program Manager at (302) 760-2183.
- Railroad Agreement required. The necessary railroad agreement, attached, is complete and fully executed. Railroad related work to be undertaken and completed as required for proper coordination with physical construction schedules. The Contractor shall follow requirements stated in the DeIDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DeIDOT's Railroad Program Manager at (302) 760-2183.

**Approved As To Form:**

  
 \_\_\_\_\_  
 Robert A. Perrine  
 DeIDOT Railroad Program Manager

18Dec16  
 \_\_\_\_\_  
 DATE

# **BID PROPOSAL FORMS**

**CONTRACT T201780102.01**

UNLESS OTHERWISE DIRECTED, SUBMIT ALL FOLLOWING PAGES TO:

DEPARTMENT OF TRANSPORTATION  
BIDDERS ROOM (B1.11.01)  
800 BAY ROAD  
DOVER, DELAWARE 19901

Identify the following on the outside of the sealed envelope:

- Contract Number T201780102.01
- Name of Contractor

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 0001 STANDARD SPECS

0010	201000 CLEARING AND GRUBBING	LUMP	LUMP			
0020	202000 EXCAVATION AND EMBANKMENT	3529.000	CY			
0030	301003 GRADED AGGREGATE BASE COURSE, TYPE B	598.000	TON			
0040	302002 DELAWARE NO. 3 STONE	34.000	TON			
0050	401014 SUPERPAVE TYPE B, PG 64-22	620.000	TON			
0060	401021 SUPERPAVE TYPE BCBC, PG 64-22	459.000	TON			
0070	401029 SUPERPAVE TYPE C, PG 64-22, PATCHING	33.000	TON			
0080	401031 SUPERPAVE TYPE BCBC, PG 64-22, PATCHING	196.000	TON			
0090	401037 SUPERPAVE TYPE B, PG 64-22, WEDGE	65.000	TON			

DELAWARE DEPARTMENT OF TRANSPORTATION  
SCHEDULE OF ITEMS

PAGE: 2  
DATE:

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	401044 SUPERPAVE TYPE C, PG 64-22 (NON-CARBONATE STONE)	1296.000 TON				
0110	504001 CRACK AND JOINT SEALING LESS THAN 3/4 INCH WIDE	380.000 LF				
0120	601012 REINFORCED CONCRETE PIPE, 18", CLASS III	211.000 LF				
0130	601014 REINFORCED CONCRETE PIPE, 24", CLASS III	100.000 LF				
0140	601142 REINFORCED CONCRETE FLARED END SECTION, 18"	9.000 EACH				
0150	601144 REINFORCED CONCRETE FLARED END SECTION, 24"	2.000 EACH				
0160	602002 DRAINAGE INLET, 34" X 18"	1.000 EACH				
0170	701022 INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3-6	132.000 LF				
0180	707001 RIPRAP, R-4	33.000 SY				
0190	707002 RIPRAP, R-5	17.000 SY				

DELAWARE DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF ITEMS

PAGE: 3  
 DATE:

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0200	708003 GEOTEXTILES, RIPRAP	50.000 SY				
0210	710500 INSTALLATION OF WATERMAIN AND ACCESSORIES	LUMP	LUMP			
0220	711501 SANITARY SEWER SYSTEM	LUMP	LUMP			
0230	760010 PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT	17196.000 SYIN				
0240	762000 SAW CUTTING, BITUMINOUS CONCRETE	2203.000 LF				
0250	763000 INITIAL EXPENSE/DE-MOBILIZATION	LUMP	LUMP			
0260	763508 PROJECT CONTROL SYSTEM DEVELOPMENT PLAN	LUMP	LUMP			
0270	763509 CPM SCHEDULE UPDATES AND/OR REVISED UPDATES	8.000 EAMO				
0280	801000 MAINTENANCE OF TRAFFIC	LUMP	LUMP			
0290	803001 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	40.000 EADY				

DELAWARE DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF ITEMS

PAGE: 4  
 DATE:

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0300	805001 PLASTIC DRUMS	5166.000				
		EADY				
0310	808002 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	81.000				
		EADY				
0320	810001 TEMPORARY WARNING SIGNS AND PLAQUES	1006.000				
		EADY				
0330	811001 FLAGGER, NEW CASTLE COUNTY STATE	180.000				
		HOUR				
0340	811013 FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	36.000				
		HOUR				
0350	813001 TEMPORARY BARRICADES, TYPE III	2.000				
		LFDY				
0360	817002 PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	275.000				
		SF				
0370	817003 TEMPORARY MARKINGS, PAINT, 4"	13895.000				
		LF				
0380	817004 TEMPORARY MARKINGS, PAINT, SYMBOL/LEGEND	230.000				
		SF				
0390	817012 RETROREFLECTIVE PREFORMED PATTERNED MARKINGS, SYMBOL/LEGEND	30.000				
		SF				

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0400	817013 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	7715.000 LF				
0410	817014 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 10"	1630.000 LF				
0420	817015 PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	8.000 EACH				
0430	817018 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, BLACK, 3"	400.000 LF				
0440	817031 REMOVAL OF PAVEMENT STRIPING	12953.000 SF				
0450	819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	90.000 EACH				
0460	819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS	96.000 SF				
0470	905001 SILT FENCE	594.000 LF				
0480	907017 COMPOST FILTER LOGS	60.000 LF				

DELAWARE DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF ITEMS

PAGE: 6  
 DATE:

CONTRACT ID: T201780102.01 PROJECT(S): T201780102.01

All figures must be typewritten.

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0490	908004 TOPSOIL, 6" DEPTH	10363.000				
		SY				
0500	908014 PERMANENT GRASS SEEDING, DRY GROUND	10363.000				
		SY				
0510	908020 EROSION CONTROL BLANKET MULCH	3793.000				
		SY				
0520	908023 STABILIZED CONSTRUCTION ENTRANCE	98.000				
		TON				
	SECTION 0001 TOTAL					
	TOTAL BID					

# BREAKOUT SHEET INSTRUCTIONS

**BREAKOUT SHEET(S) MUST BE SUBMITTED EITHER WITH YOUR BID DOCUMENTS; OR WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE BID DUE DATE BY THE LOWEST APPARENT BIDDER.**

BREAKOUT SHEETS ARE TO BE SUBMITTED TO DELDOT'S CONTRACT ADMINISTRATION AS SHOWN BELOW. BREAKOUT SHEETS CANNOT BE CHANGED AFTER AWARD. THE DEPARTMENT WILL REVIEW THE FIGURES SUBMITTED ON THE BREAKOUT SHEET(S) TO ENSURE THEY MATCH THE RESPECTIVE LUMP SUM BID AMOUNT(S). MATHEMATICALLY INCORRECT BREAKOUT SHEETS WILL BE RETURNED FOR IMMEDIATE CORRECTION.

BREAKOUT SHEETS MAY BE SUBMITTED;

VIA E-MAIL TO: [DOT-ASK@STATE.DE.US](mailto:DOT-ASK@STATE.DE.US)  
SUBJECT: **T201780102.01** Breakout Sheet

OR MAILED TO: DELDOT  
CONTRACT ADMINISTRATION  
PO BOX 778, DOVER, DE 19903

'BREAKOUT SHEET' AND THE PROJECT NUMBER  
MUST APPEAR ON THE ENVELOPE.

**BREAKOUT SHEET - 1**  
**Item 711501 - SANITARY SEWER SYSTEM**

**CONTRACT NO. T201780102.01**

ITEM NO.	APPROX. QTY.	UOM	DESCRIPTION	UNIT PRICE	AMOUNT
1	3,773	LF	1.5" SDR-21 PVC	\$	\$
2	150	LF	4" DR-11 HDPE CASING PIPE	\$	\$
3	150	LF	JACK AND BORE 4" CASING PIPE	\$	\$
4	1	EA	CONNECT PROPOSED SEWER TO EXISTING MANHOLE	\$	\$
5	1	EA	BENDS 11.25 DEGREES, 1.5"	\$	\$
6	3	LF	BENDS 22.5 DEGREES, 1.5"	\$	\$
7	8	EA	BENDS 45 DEGREES, 1.5"	\$	\$
8	2	EA	BENDS 90 DEGREES, 1.5"	\$	\$
9	11	EA	58" ROUND CLEANOUT MANHOLE	\$	\$
10	2	EA	60" ROUND AIRE RELEASE/VACUUM MANHOLE	\$	\$
11	8	EA	SOIL MARKER	\$	\$
12	1	EA	1.5" M.J. SLEEVE	\$	\$

**TOTAL ITEM 711501 - SANITARY SEWER SYSTEM \$ \_\_\_\_\_**  
(LUMP SUM BID PRICE FOR ITEM 711501- SANITARY SEWER SYSTEM)

## BREAKOUT SHEET - 2

CONTRACT NO. T201780102.01

## Item 710500 - WATER MAIN AND ACCESSORIES

ITEM NO.	APPROX. QTY.	UOM	DESCRIPTION	UNIT PRICE	AMOUNT
1	48	LF	DUCTILE IRON PIPE CLASS 52, CEMENT LINED, 6"	\$	\$
2	12	LF	DUCTILE IRON PIPE CLASS 52, CEMENT LINED, 8"	\$	\$
3	3,125	LF	DUCTILE IRON PIPE CLASS 52, CEMENT LINED, 12"	\$	\$
4	175	LF	STEEL CASING PIPE, 20"X3/8"	\$	\$
5	175	LF	JACK AND BORE CASING PIPE, 20"	\$	\$
6	4	EA	BENDS 11.25 DEGREES, 12"	\$	\$
7	6	EA	BENDS 45 DEGREES, 12"	\$	\$
8	1	EA	BENDS 90 DEGREES, 12"	\$	\$
9	4	EA	GATE VALVE AND VALVE BOX, 6"	\$	\$
10	1	EA	GATE VALVE AND VALVE BOX, 8"	\$	\$
11	5	EA	BUTTERFLY VALVE AND VALVE BOX, 12"	\$	\$
12	1	EA	TEE, 12"X8"	\$	\$
13	4	EA	HYDRANT TEE, 12"X6"	\$	\$
14	4	EA	FIRE HYDRANT	\$	\$
15	1	EA	TAPPING SLEEVE AND VALVE, 12"X12"	\$	\$
16	1	EA	BLOW OFF CONNECTION, 2"	\$	\$
17	1	EA	END CAP WITH RESTRAINT, 12"	\$	\$

**TOTAL ITEM 710500 - WATER MAIN AND ACCESSORIES \$**

(LUMP SUM BID PRICE FOR ITEM 710500- WATER MAIN AND ACCESSORIES)

# "ATTENTION"

# TO BIDDERS

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OR WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE BID DUE DATE BY THE  
LOWEST APPARENT BIDDER.**

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MUST APPEAR ON THE ENVELOPE.



**AFFIDAVIT  
OF  
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

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

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

**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, NOTARIZED, AND RETURNED WITH YOUR BID.**

(This form is required from the prime contractor only)

**CERTIFICATION**  
Contract No. T201780102.01

The undersigned bidder, \_\_\_\_\_  
whose address is \_\_\_\_\_  
and telephone number is \_\_\_\_\_ hereby certifies the following:

I/We have carefully examined the location of the proposed work, the proposed plans and specifications, and will be bound, upon award of this contract by the Department of Transportation, to execute in accordance with such award, a contract with necessary surety bond, of which contract this proposal and said plans and specifications shall be a part, to provide all necessary machinery, tools, labor and other means of construction, and to do all the work and to furnish all the materials necessary to perform and complete the said contract within the time and as required in accordance with the requirements of the Department of Transportation, and at the unit prices for the various items as listed on the preceding pages.

The foregoing quantities are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the amount of any item or portion of the work as may be deemed necessary or expedient. Any such increase or decrease in the quantity for any item will not be regarded as a sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided in the contract.

Accompanying this proposal is a surety bond or a security of the bidder assigned to the Department of Transportation, for at least ten (10) percentum of total amount of the proposal, which deposit is to be forfeited as liquidated damages in case this proposal is accepted, and the undersigned shall fail to execute a contract with necessary bond, when required, for the performance of said contract with the Department of Transportation, under the conditions of this proposal, within twenty (20) days after date of official notice of the award of the contract as provided in the requirement and specifications hereto attached; otherwise said deposit is to be returned to the undersigned.

I/We are licensed, or have initiated the license application as required by Section 2502, Chapter 25, Title 30, of the Delaware Code.

By submission of this proposal, each bidder and each person signing on behalf of any bidder, certifies as to its own organization, under penalty of perjury, that to the best of each signer's knowledge and belief:

1. The prices in this proposal have been arrived at independently without collusion, consultation, communication, or Agreement with any other bidder or with any competitor for the purpose of restricting competition.
2. Unless required by law, the prices which have been quoted in this proposal have not been knowingly disclosed and will not knowingly be disclosed by the bidder, directly or indirectly, to any other bidder or competitor prior to the opening of proposals.
3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

=====  
I/We acknowledge receipt and incorporation of addenda to this proposal as follows:

No.	Date								
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

**BIDDERS MUST ACKNOWLEDGE RECEIPT OF ALL ADDENDA**

**MUST INSERT DATE OF FINAL QUESTIONS AND ANSWERS ON WEBSITE:** \_\_\_\_\_



**AFFIRMATION:**

Within the past five (5) years, has your firm, any affiliate, any predecessor company or entity, owner, Director, officer, partner or proprietor been the subject of a Federal, State, Local government suspension or debarment?

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_ if yes, please explain \_\_\_\_\_

-----

Sealed and dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord two thousand \_\_\_\_\_ ( 20\_\_ ).

CANNOT BE USED FOR BIDDING

\_\_\_\_\_  
Name of Bidder (Organization)

Corporate  
Seal

By: \_\_\_\_\_  
Authorized Signature

Attest \_\_\_\_\_  
Title

SWORN TO AND SUBSCRIBED BEFORE ME this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Notary  
Seal

\_\_\_\_\_  
Notary

**BID BOND**

TO ACCOMPANY PROPOSAL  
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: \_\_\_\_\_

of \_\_\_\_\_ in the County of \_\_\_\_\_ and State of \_\_\_\_\_  
as **Principal**, and \_\_\_\_\_ of \_\_\_\_\_ in the County of \_\_\_\_\_  
and State of \_\_\_\_\_ as **Surety**, legally authorized to do business in the  
State of Delaware ("**State**"), are held and firmly bound unto the **State** in the sum of \_\_\_\_\_  
Dollars (\$ \_\_\_\_\_), or \_\_\_\_\_ percent not to exceed \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_) of amount of bid on  
Contract No. T201780102.01, to be paid to the **State** for the use and benefit of its Department of  
Transportation ("**DelDOT**") for which payment well and truly to be made, we do bind ourselves, our and  
each of our heirs, executors, administrators, and successors, jointly and severally for and in the whole  
firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden **Principal**  
who has submitted to the **DelDOT** a certain proposal to enter into this contract for the furnishing of  
certain materiel and/or services within the **State**, shall be awarded this Contract, and if said **Principal**  
shall well and truly enter into and execute this Contract as may be required by the terms of this Contract  
and approved by the **DelDOT**, this Contract to be entered into within twenty days after the date of official  
notice of the award thereof in accordance with the terms of said proposal, then this obligation shall be  
void or else to be and remain in full force and virtue.

Sealed with \_\_\_\_\_ seal and dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord  
two thousand and \_\_\_\_\_ ( 20\_\_ ).

SEALED, AND DELIVERED IN THE  
presence of

\_\_\_\_\_  
Name of Bidder (Organization)

Corporate  
Seal

By: \_\_\_\_\_  
Authorized Signature

Attest \_\_\_\_\_

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Surety

Witness: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Title