

THIS COPY IS FOR
INFORMATION ONLY.
YOU MUST PURCHASE
THE PROPOSAL IN ORDER
TO SUBMIT A BID.

BIDDER

BID SECURITY

CITY OF NEWARK

Delaware

CITY OF NEWARK CONTRACT NO. 11-04

STATE CONTRACT NO. 22-015-01

FEDERAL AID PROJECT NO. ESTP-N999(103)

POMEROY AND NEWARK RAIL TRAIL

Notice

Do not disassemble. Return intact with
properly completed forms or bid may be rejected.

CITY OF NEWARK
Delaware

CITY OF NEWARK CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

TABLE OF CONTENTS

	<u>PAGE No.</u>
NOTICE OF LETTING	A-1
LOCATION, DESCRIPTION AND COMPLETION DATE	A-3
GENERAL PROVISIONS	A-4
TRAINING SPECIAL PROVISIONS	A-16
DISADVANTAGED BUSINESS ENTERPRISE PROGRAM (DBE) SPECIFICATION	A-17
REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS.....	A-22
SPECIAL CONDITIONS	B-1
CONTRACT SPECIAL PROVISIONS SUMMARY.....	B-6
CONTRACT SPECIAL PROVISIONS	B-8
CSX SPECIFICATIONS	B-103
MODIFICATIONS TO REQUIRED FEDERAL CONTRACT PROVISIONS.....	B-111
PROPOSAL	C-1
NONCOLLUSION STATEMENT.....	C-13
LISTING OF SUBCONTRACTORS	C-14
BOND TO ACCOMPANY PROPOSAL	C-15
ATTACHMENT A – UTILITY STATEMENT	
ATTACHMENT B – STATE OF DELAWARE PREVAILING WAGES	
ATTACHMENT C – ENVIRONMENTAL STATEMENT AND ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT No. NP-23	
ATTACHMENT D – RIGHT OF WAY CLEARANCE	
ATTACHMENT E – PAYROLL REPORT	

CITY OF NEWARK
Delaware

POMEROY AND NEWARK RAIL TRAIL

NOTICE OF LETTING

Sealed proposals for Contract No. 11-04, Pomeroy and Newark Rail Trail, will be received in the Purchasing office, City Municipal Building, 220 Elkton Road, Newark Delaware, 19711 until 2 p.m., prevailing time, Tuesday, June 21, 2011, and will be publicly opened and read aloud in the Council Chamber shortly thereafter.

Contract No. 11-04, Pomeroy and Newark Rail Trail - Construction of a 1.76-mile multi-use path, two (2) pedestrian bridges, chain link fences, drainage facilities, lighting, landscaping, and site furnishings.

ENGINEER:

Pennoni Associates Inc.
Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713-4310

OWNERS:

DeIDOT	City of Newark
800 Bay Road	220 Elkton Road
Dover, DE 19901	Newark, DE 19711

There will be a Mandatory Pre-Bid meeting held on Wednesday, May 25, 2011, at 9:00 a.m. at the Municipal Building in the City Council Chamber, with a site visit to follow. Copies of the Bidding Documents, which include plans and specifications, may be purchased at the Engineer's office for \$300.00 (non-refundable). There will be an additional \$25.00 fee if you wish to have the Bidding Documents mailed. The City of Newark Public Works Department Standard Specifications for Road and Utility Construction dated January 2001, which are, in their entirety, are part of the contract documents, may be obtained at the Pennoni Associates Inc. Office at the cost of \$40.00 or are available on the City of Newark website at www.cityofnewarkde.us under Public Works Department. Checks should be made payable to Pennoni Associates Inc. Prospective bidders shall submit questions by Tuesday, June 7, 2011. No questions will be accepted after June 7, 2011, at 5:00 p.m.

Questions from potential bidders are to be sent via email to pomeroy@pennoni.com. Pennoni Associates shall provide all responses to questions regarding this letting and contract via email. Potential bidders are not to rely on responses from any other entity.

Products shall be pre-qualified as "equals" for use on this project as described in the Information to Bidders.

The bid must include all costs incidental to the Work of the Project and must be accompanied by a bid security in the form of a certified check or bid bond in the amount of five (5) percent of the bid total and made payable to City of Newark.

Prior to the execution of the contract, the successful Bidder will be required to show that he has satisfied the requirements of Section 2502 and 2503, Chapter 25, Title 30 of the Delaware Code, and if the Bidder is a non-resident corporation that the Bidder has complied with the requirements of Sub-chapter XIV of Title 8 of the Delaware Code.

No bidder may withdraw his bid within 60 days after the bid opening date. Contractor shall be a fair and equal opportunity employer.

The Owners reserve their rights, at its option, to waive any informalities, irregularities, defects, errors or omissions in any or all bids and to reject any or all bids, if in the best interest of the citizens of Newark.

CITY OF NEWARK

Delaware

POMEROY AND NEWARK RAIL TRAIL

LOCATION

The Pomeroy and Newark Rail Trail Project is a Transportation Enhancement Project, which consists of the construction of a multi-purpose trail/recreational facility, which is approximately 1.76 miles in length and provides a direct connection to the local public transportation network, including the new Newark Transit Hub, White Clay Creek State Park, University of Delaware and the existing James F. Hall Trail.

The proposed bikeway will begin at the James F. Hall Trail east of Chapel Street and will continue north across Wyoming Road, through the Courtyard Apartments, across Delaware Avenue, through the DART Transit Hub, across Main Street, between the Newark Shopping Center and Pomeroy Station Shops, under the CSX Railroad, across Cleveland Avenue, through Olan Thomas Park and Kershaw Park, across North College Avenue, through Delaware State Park ending at North College Avenue/Creek Road (Bubble Gum Rock). The trail will also be extended in order to provide access to the University of Delaware Laird Campus.

DESCRIPTION

The project consists of furnishing all materials, excavating, constructing bituminous bikeway path, installing drainage facilities, constructing two (2) pedestrian bridges, one (1) headwall, traffic signal upgrades at Cleveland Avenue, protective fencing and bollards, site amenities, landscaping, directional signage, overhead ornamental lighting and blue light security phone system and other incidental construction in accordance with the location, notes, and details shown on the contract plans and as directed by the City and the Engineer.

Contingent upon available project funding, the City of Newark reserves the right to award the contract to the lowest responsible bidder, based on the Total Bid. The City reserves the right to reject any and/or all bids.

COMPLETION DATE

The Total Contract is to be completed in 362 calendar days.

It is the City of Newark's intent to issue Notice-to-Proceed such that work begins on or about Monday, August 29, 2011. The City of Newark anticipates that completion of the project within the time allotted will require the Contractor to work between the hours of 7 AM – 5 PM, Monday through Friday.

Upon award of the project, the successful bidder shall commence the shop drawing process for the following items:

1. Prefabricated pedestrian bridges and related items.
2. All lighting and related items.
3. All fence items.
4. All drainage related items.
5. All Landscaping and site furnishing items.
6. Steel canopy and related lighting and foundation items.

CITY OF NEWARK
Delaware

CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

GENERAL PROVISIONS

1. 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.

2. BIDS

Each bid shall be submitted on the proposal form included herein. The proposal and all other required documents must be submitted in a sealed envelope clearly identified with the bidder's name and marked, "City of Newark - Contract No. 11-04, Pomeroy and Newark Rail Trail," and will be received in the Purchasing Office, 220 Elkton Road, Newark, Delaware 19711 until 2 p.m., prevailing time, Tuesday, June 21, 2011. Each bid so submitted shall constitute an irrevocable offer for a period of sixty (60) days following the bid opening date.

3. BID SECURITY

Each bid must be accompanied by a certified check, cashier's check or bid bond in the amount of five percent (5%) of the proposed bid price, payable to the City of Newark. Failure to provide the required bid security may be grounds for rejection of the bid. If a bid bond is submitted, the attached "Bond to Accompany Proposal" form must be completed and issued by a surety licensed to operate in the State of Delaware.

If the successful bidder fails or refuses to execute and deliver the contract and performance bond within fourteen (14) calendar days after receiving notice of award of the contract, the successful bidder shall forfeit to the City for such failure or refusal the security deposited with the bid. Any certified check or cashier's check submitted as bid security shall be returned to all unsuccessful bidders sixty (60) calendar days after the bid opening date.

4. CONTRACT SURETY BOND

The successful bidder shall provide the City with a Contract Surety Bond in the full amount of the contract guaranteeing faithful performance of the contract. Such bond shall be provided to the City with the executed contract within fourteen (14) calendar days after receiving notice of award of the contract. Upon receipt of the contract surety bond, the City will return any certified check or cashier's check submitted as bid security by the successful bidder.

5. 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."

6. CONFLICT WITH FEDERAL STATUTES OR REGULATIONS

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

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

For all contracts which are identified as Federal-aid projects by having a Federal-aid number inserted in the appropriate space on the cover sheet of the proposal, if there is a conflict between the above Section 6962 and Federal law and the requirements of the above Section 6962 shall not apply.

7. FEDERAL LABOR AND EMPLOYMENT REQUIREMENTS

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

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

8. EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

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

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:

- i. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or natural 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 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.
- ii. 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 or national origin.'

9. 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. Proof of said license compliance to be made prior to, or in conjunction with, the execution of a contract to which he has been named.

TO REPORT BID RIGGING ACTIVITIES:

CALL 1-800-424-9071

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

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

10. TAXES

The price(s) quoted shall not include federal or state taxes. If applicable, the successful bidder shall provide the City with three (3) copies of the required tax exemption forms to accompany the bidder's invoice.

11. 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.

12. AWARDS

The City Manager's Designee will review each of the bids submitted and make a recommendation to the City Council on the disposition of the bids. The City Council reserves the right to accept or reject any or all bids or parts of bids as they may determine and to waive any irregularities or defects where the best interest of the City would be served.

13. UNIT PRICES

In the event of a conflict or error in extension from unit price to total amount, the unit prices shall prevail and shall be considered the correct bid figures. Bidders are cautioned to thoroughly review their bid figures for errors prior to submitting their proposal.

14. INQUIRIES

Questions from potential bidders are to be sent via email to pomeroy@pennoni.com. Pennoni Associates shall provide all responses to questions regarding this letting and contract via email. Potential bidders are not to rely on responses from any other entity.

15. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Contractor shall commence work on a date to be specified by the City in a written "Notice to Proceed" and to fully complete all work under this contract on or before August 24, 2012. Bidder agrees to pay \$580.00 as liquidated damages for each consecutive calendar day the contract is extended beyond said completion date.

16. COMPENSATION AND LIABILITY INSURANCE

- a. The contractor's attention is directed to Section 4 of the Standard Specifications relating to required insurance. The Standard Specifications are available on the City of Newark website at www.cityofnewark.de.us
- b. The Contractor and his Subcontractor's Public Liability and Property Damage Insurance shall provide adequate protection against public liability, property damage, and vehicular liability. As required under the General Conditions, the Contractor's Public Liability Insurance shall be in an amount not less than \$200,000 for Bodily Injury, including accidental death, to any one person and an amount not less than \$500,000 on account of any one occurrence. Property damage insurance in an amount not less than \$100,000 per occurrence and \$200,000 aggregate. Vehicular Liability of \$100,000 for any one person or \$200,000 for each occurrence.
- c. The contractor shall furnish to the City a copy of the insurance certificate prior to the start of construction.

17. APPROVAL

The contractor shall receive approval in writing from the engineer before ordering any material for work to be done under this contract.

18. WARRANTY OF TITLE

No material, supplies, or equipment to be installed as part of the work shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which any interest therein or in any part thereof is retained by the seller or supplier. The contractor shall warrant good title to all material, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together by him to the City free from any claims, liens or charges. Neither the contractor nor any person, firm or corporation furnishing any material or labor covered by this contract shall have any right to a lien upon any improvement or appurtenance thereon. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the contractor for their protection or any right under any law permitting such persons to look to funds due the contractor in the hands of the City. The provisions of this paragraph shall be inserted in all the subcontracts and material contracts, and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

19. GUARANTEE

The contractor hereby guarantees all of the work for a period of one (1) year after the date of completion and final acceptance thereof by the City as follows:

- a. Against all faulty or imperfect materials and against all imperfect, careless, and/or unskilled workmanship.
- b. The contractor agrees to replace with proper workmanship and materials, and to re-execute, correct or repair without cost to the City, any work which may be found to be improper or imperfect and/or which fails to perform as specified.
- c. The guarantee obligations assumed by the contractor under these contract documents shall not be held or taken to be in any way impaired because of the specifications, indication or approval by or on behalf of the City of any articles, materials, means, combination of things used or to be used in the construction, performance and completion of the work or any part thereof.

- d. No use or acceptance by the City of the work or any part thereof, nor any failure to use the same nor any repairs, adjustments, replacements, or corrections made by the City due to the contractor's failure to comply with any of his obligations under the contract documents, shall impair in any way the guarantee obligations assumed by the contractor under these contract documents.

20. EEO AND LICENSING

The contractor shall be licensed to do business in the State of Delaware and shall be registered as a contractor in the City of Newark and possess all other required licenses. The contractor shall also be a fair and equal opportunity employer. To register as a contractor in the City of Newark, contractors shall go to the City's Building Department on the second floor with their State of Delaware License, Certificate of Liability Insurance, Compliance Bond and pay the \$100 annual registration fee. The registration process can be done in person in one short session. Contractors shall be registered prior to the Contract Award for the Pomeroy and Newark Rail Trail project.

21. PREFERENCE FOR DELAWARE LABOR

According to State law, any person, company or corporation who violates the requirements of Section 6913, Title 29, of the Delaware Code regarding preference for Delaware Labor shall pay penalty to the State Secretary of Finance equal to the amount of compensation paid to any person in violation of this Section. This regulation is waived if it is in conflict with Federal requirements.

22. 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.

Title 29 Del.C. §6960 relating to wages further stipulates "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", and ... "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."

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

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

PREVAILING WAGE REQUIREMENTS: It is DelDOT's understanding that the Davis-Bacon Act is not a preemptive statute in the broad sense, and does not preempt or displace State of Delaware prevailing wage requirements. When a contract for a project contains both Federal Davis-Bacon and State of Delaware prevailing wage standards because of concurrent Federal and State coverage, the employer's minimum wage obligations are determined by whichever standards are higher.

23. ATTESTING TO NONCOLLUSION

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.

24. ADDENDA

Any changes to the contract documents shall be made only by written addenda issued no later than four (4) calendar days prior to the date set for bid opening. Bidders shall bear the entire responsibility for being sure they have received any and all addenda. After the bids have been received, no claim that the bidder did not have complete information will be considered. No verbal agreement or conversation with any officer, agent or employee of the City, or engineering firm either before or after the execution of this contract, shall affect or modify any of the terms or conditions outlined herein.

25. EXCEPTIONS

Any and all exceptions which are taken to the specifications and terms and conditions outlined herein shall be noted in the space provided on the proposal form. The listing of any exception may be grounds for rejection of a bid.

26. INCREASE AND/OR REDUCTION OF ESTIMATED QUANTITIES

- a. The contractor's attention is directed to the fact that the quantities indicated in this contract are approximate and may be increased or decreased by the engineer. Should there be an increase or a reduction in these quantities, these changes will in no way alter the unit prices bid by or paid to the contractor.
- b. It is the City's intent to use the total funding available for this trail contract. The City therefore reserves the right to add to the project should enough money be available to do extra work. The City shall also have the right to delete any portion of the work included in this contract or to change the specifics. Regardless of any changes, deletions or additions authorized by the City, all work done under this contract shall be based on the unit prices stipulated by the contractor in his proposal.

27. 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.

28. ADVERTISEMENT

It is further agreed that any bidder/contractor submitting bids will not use the name of the City in any advertisement without first obtaining the written consent of the City Manager.

29. CONTRACTOR'S UNDERSTANDING

No verbal agreement or conversation with any officer, agent or employee of the City of Newark either before or after the execution of this contract, except as otherwise provided herein, shall affect or modify any of the terms or obligations contained herein.

30. LIST OF SUBCONTRACTORS' CERTIFICATION

- a. Each bidder shall execute and submit with his bid, on the form provided herein, a list of subcontractors, including complete names and addresses, whose services the bidder intends to use in performing all work under the contract. Bids submitted without such a list, or with a list not completely or properly executed, are subject to rejection.
- b. Each bidder is required to notify all subcontractors that they are obligated to comply with the provisions of Federal, State and City of Newark law as they pertain to this project, and that they must submit evidence of such compliance upon notice or request. The bidder shall certify his compliance with this requirement on the list of subcontractors.
- c. After the contract has been awarded, the successful bidder shall not substitute another subcontractor for any subcontractor whose name was not set forth on the list of subcontractors which accompanied his bid, without the written consent of the City.

31. CONVICT PRODUCED MATERIALS:

- a. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if such materials have been:
 - 1) Produced by convicts who are on parole, supervised release, or probation from a prison or
 - 2) Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987.
- b. Qualified prison facility means any prison facility in which convicts, during the 12-month period ending July 1, 1987, produced materials for use in Federal-aid highway construction projects.

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

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

Goals for Minority Participation In Each Trade

Goals for Female Participation In Each Trade

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

6.9% (Entire State)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 64. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$1 0,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is NEW CASTLE County.

REV. 11-3-80

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT
SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. "Minority" includes:
 - i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$1 0,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance

with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Program Office or from the Federal procurement contracting offices. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling anyone or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participating, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin,
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Order of Federal Contract Compliance programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity, If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate

of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

TRAINING SPECIAL PROVISIONS

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

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

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under the special provision will be 2. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year apprenticeship or training.

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

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

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

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

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

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

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

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

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

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

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

INTERMODAL SURFACE TRANSPORTATION EFFICIENCY
ACT & TRANSPORTATION EQUITY ACT

Recipients of Federal-aid highway funds authorized under Titles I (other than Part B) and V of the Intermodal Surface Transportation Efficiency Act of 199 I (ISTEA), or Titles I, IJI, and V of the Transportation Equity Act for the 21st Century (TEA-21) are required to comply with the regulations of 49 Code of Federal Regulations (CFR) Part 26 - Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM SPECIFICATION

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

The following definitions apply to this subpart:

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

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

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

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

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

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

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

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

- i. Black Americans which includes persons having origins in any of the Black racial groups of Africa;
- ii. Hispanic Americans which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
- iii. Native Americans which includes persons who are American Indians, Eskimos, Aluets, or Native Hawaiians;
- iv. Asian-Pacific Americans which includes persons whose origins arc from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;

- v. Subcontinent Asian Americans which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
- vi. Women;
- vii. Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

DeIDOT will establish specific goals for each particular DOT-assisted project which will be expressed as a percentage of the total dollar amount of contract bid.

The specific contract goals for this contract are:

Disadvantaged Business Enterprise 11 % Percent

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

Bidders are required to submit with their bids the completed DBE Program Assurance portion of the Certification document which will state the bidders intent of meeting the goals established for this contract; or in the instance where a contractor cannot meet the assigned DBE Goals for this contract, he/she shall at the time of bid submit documentation required to verify that he/she has made a Good Faith Effort to meet the DBE Goals. Guidance for submitting a Good Faith Effort is identified in the next section and in the DBE Program Plan. Further, the apparent low bidder must submit to DeIDOT within ten (10) calendar days after the bid opening, executed originals of each and every DBE subcontract to satisfy contract goals consistent with the DBE Program Assurance submitted as part of the bid package.

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

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

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

CRITICAL DBE REQUIREMENTS

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

1. In the event that the bidder cannot meet the DBE goal as set forth in this specification, he/she shall at the time of bid submit to the Department that percentage of the DBE Goal that will be met, if any, on the written and notarized assurance made a part of this contract. The contractor shall also at the time of bid submit all documentation that the contractor wishes to have the Department consider in determining that the contractor made a Good Faith Effort to meet contract DBE Goals. The Department will not accept Good Faith Effort documentation other than on the scheduled date and time of the bid opening. However, the Department may ask for clarification of information submitted should the need arise.

2. A bid which does not contain either a completely executed DBE Program Assurance and/or Good Faith Effort documentation, where appropriate, shall be declared non-responsive and shall not be considered by the Department.

3. Failure of the apparent low bidder to present originals of all DBE subcontracts to substantiate the volume of work to be performed by DBE's as indicated in the bid within ten (10) calendar days after the bid opening shall create a non-rebuttable presumption that the bid is not responsive.

4. Bidders are advised that failure to meet DBE Goals during the term of the contract may subject them to Department sanctions as identified in the DBE Program Plan.

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

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

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

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

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

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

GUIDANCE FOR GOOD FAITH EFFORT

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

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

1. Efforts made to select portions of the work proposed to be performed by DBEs in order to increase the likelihood of achieving the stated goal. Selection of portions of work are required to at least equal the goal for DBE utilization specified in this contract.
2. Written notification at least ten (10) calendar days prior to the opening of a bid soliciting DBE interest in participating in the contract as a subcontractor or supplier and for specific items of work.
3. Efforts made to obtain and negotiate with DBE firms for specific items of work:
 - a. Description of the means by which firms were solicited (i.e. by telephone, e-mail, written notice, advertisement).
 - b. The names, addresses, telephone numbers of DBE's contacted, the dates of initial contact; and whether initial solicitations of interest were followed-up by contacting the DBEs to determine with certainty whether the DBEs were interested.
 - c. A description of the information provided to DBE firms regarding the plans, specifications and estimated quantities for portions of the work to be performed.
 - d. A statement of why additional agreements with DBE's were not reached in order to meet the projected goal
 - e. Listing of each DBE contacted but not contracted and the reasons for not entering a contract.
4. Efforts made to assist DBEs that need assistance in obtaining bonding, insurance, or lines of credit required by the contractor.
5. Reasons why certified DBEs are not available or not interested.
6. Efforts to effectively use the services of available disadvantaged community organizations; disadvantaged contractor's groups; local, state and federal DBE assistance offices; and other organizations that provide assistance in recruitment and placement of DBEs.

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

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

Administrative Reconsideration:

Within five (5) days of being informed by DeIDOT that it is not responsive because it has not documented sufficient good faith efforts, a bidder may request administrative reconsideration. Bidder should make this request in writing to the following reconsideration official: Director of Administration, DeIDOT, P. O. Box 778, Dover, Delaware 19903. The reconsideration official will not have played any role in the original determination that the bidder did not document sufficient good faith efforts.

As part of this reconsideration, the bidder will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The bidder will have the opportunity to meet in person with the reconsideration official, explaining the basis for finding that the bidder

did or did not meet the goal or make adequate good faith efforts to do so. The final decision made by the reconsideration official will be communicated to the bidder in writing. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

REQUIREMENT BY DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION:

Delaware Code, Title 29, Chapter 69, Section 6960, Paragraph "Every contract based upon these specifications shall contain a stipulation that certified sworn payroll reports be maintained by every contractor and subcontractor performing work upon the site of construction. The contractor and subcontractor shall keep and maintain the sworn payroll information for a period of two (2) years from the last day of the work week covered by the payroll. A certified copy of these payroll reports shall be made available:

1. For inspection or furnished upon request to a representative of the Department of Labor;
2. Upon request by the public or for copies thereof. However, a request by the public must be made through the Department of Labor. The requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Department of Labor in accordance with the Department's copying fee policy. The public shall not be given access to the records at the principal office of the contractor or subcontractor; and
3. The certified payroll records shall be on a form provided by the Department of Labor or shall contain the same information as the form provided by the Department and shall be provided within ten (10) days from receipt of notice requesting the records from the Department of Labor."

Contractor may contact: Department of Labor
 Division of Industrial Affairs
 4425 No. Market Street
 Wilmington, DE 19802
 Telephone (302) 761-8200

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

(Exclusive of Appalachian Contracts)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any ease. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1,2,3,4, and 7;
Section V, paragraphs I and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. **Selection of Labor:** During the performance of this contract, the contractor shall not:
 - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
 - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 4 I CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract specifications set forth under 4 I CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 121 01 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
 - b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability, Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy

and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

- b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.
 - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
 - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

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

6. Training and Promotion:

The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

- a. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.
 - b. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - c. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
- 7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best efforts to incorporate an BEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.
 - a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.
 - a. The records kept by the contractor shall document the following:
 - 1) The number of minority and non-minority group members and women employed in each work classification on the project;
 - 2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 - 3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 - 4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
 - b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHW A-1391. If on-the job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment

areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$1 0,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics, The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-132 I) or Form FHW A-I 495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section I (b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.
- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR I, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

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

1. the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 2. the additional classification is utilized in the area by the construction industry;
 3. the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 4. with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2e or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
- b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DO) and Helpers:

- a. Apprentices:
 1. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide

apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

2. The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.
3. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
4. In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

1. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
2. The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.
3. Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits,

trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

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

c. **Helpers:**

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

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

6. Withholding:

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

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section I (b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph I. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section I (b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-00 14-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 1. that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V, and that such information is correct and complete;
 2. that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
 3. that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
- f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
- g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHW A, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHW A, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHW A-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

- b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHW A-47, and in the units shown on Form FHW A-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHW A-47 together with the data required in paragraph I b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 3D percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be reduced from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.
 - b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph I of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

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

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

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

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

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

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

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.”

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

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

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

2. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq. as amended by Pub.L. 91-(04), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq. as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
3. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed there under.
4. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
5. That the firm agrees to include or cause to be included the requirements of paragraph I through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

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

1. Instructions for Certification" Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 . You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Non procurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Primary Covered Transactions

- 1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1 b of this certification; and
 - d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

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

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier' participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered Transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly. Form H-IWA-1273 (Rev. 3-94)

CITY OF NEWARK

Delaware

POMEROY AND NEWARK RAIL TRAIL

SPECIAL CONDITIONS

SCOPE

The scope of the work involves the construction of a 1.76 mile paved multi-use path. Key features of the facility included two bridges, drainage structures, protective fencing and bollards, site amenities, landscaping, directional signage, overhead ornamental lighting and blue light security phone system. The trail's alignment, bridges, ornamental light fixtures, landscaping, and site amenities are being designed in a context sensitive manner with respect to the abandoned Pomeroy-Newark Rail corridor, Delaware State Parks, businesses and stakeholders located along the trail's alignment.

ACCOMPANYING DRAWINGS AND SPECIFICATIONS

- (a) The City of Newark Public Works Department Standard Specifications for Road and Utility Construction dated January 2001 and the Delaware Department of Transportation Standard Specifications for Road and Bridge Construction dated August 2001, including all revisions up to the date of advertisement.
- (b) In case of any conflict with the General Provisions or any section of the Standard Specifications these Special Provisions shall govern. It should be noted that the Standard Specifications are written in their standard form and portions of them may be inapplicable to the work covered under this contract. The applicability or inapplicability of the Standard Specifications shall be determined solely by the City and the Engineer.
- (c) The drawings accompanying these specifications were prepared by Pennoni Associates Inc.
- (d) The City of Newark Standard Specifications are available on the City of Newark website at www.cityofnewark.de.us.

INTENT OF PLANS AND SPECIFICATIONS

- (a) The plans which accompany the specifications, if any, are herein designated contract plans and are for the purpose of illustrating the general character and extent of the work and are subject to such modifications as may be found necessary or advisable, either before or during the execution of the work, and the Contractor shall conform to and abide by whatever supplementary plans and explanations which may be furnished by the City of Newark or the Engineer for the purpose of illustrating the work in more detail.
- (b) All work that may be called for in the specifications and not shown on the plans, or shown on the plans and not called for in the specifications shall be executed and furnished by the Contractor as if described in both ways. Should any incidental work or material be required which is not denoted in the specifications or plans, either directly or indirectly, but which is nevertheless necessary for the proper carrying out of the intent thereof, the Contractor is to understand the same to be implied as required and shall perform all such work and furnish all such material as fully as if they were particularly or described.

EXAMINATION OF SITE, DRAWINGS, ETC.

- (a) Before submitting proposals, bidders shall inform themselves fully of the nature of the work by a personal examination of the site, the drawings and specifications, and by such other means as they may prefer to consider necessary, as to matters, conditions and considerations bearing on or in any way affecting the preparation of their proposals and the contract. They shall not, at any time after submission of the proposal, dispute the accuracy of such drawing or the specifications and the general conditions of such drawings or the specifications and the general conditions nor assert that there is any misunderstanding in regard to the location, extent or nature of the work to be performed.
- (b) The general Contractor and each subcontractor will be required to furnish all labor and material of his own kind shown, indicated or implied reasonably by all drawings and/or the specifications, unless specifically noted otherwise. For his interest, each subcontractor should examine all drawings carefully and all parts of the specifications as well as those which refer primarily to his own branch or branches of the work.

ACCESS TO JOB SITE

It shall be the responsibility of the Contractor to obtain permission from any neighboring property owner if said Contractor finds it necessary to enter upon or use in any manner the property of any neighbor for the expedition of the Contractor's work.

STARTING DATE AND SEQUENCE OF CONSTRUCTION

The starting date of this contract will be as specified by the City in a written "Notice to Proceed". A preconstruction meeting shall be scheduled to decide a particular sequence of construction. The final decision as to sequence of construction shall be that of the City and Engineer. There shall be no additional compensation for the preconstruction meeting.

SUPERVISION OF WORK

The Contractor shall generally supervise the work and shall secure full cooperation of all subcontractors, if any, to complete the work with a minimum of interference with the operating personnel of the City of Newark.

WORKING FORCE

- (a) The Contractor shall at all times, enforce strict discipline and good order among his employees, and will not employ on the job any unfit person or anyone not skilled in the work assigned to him.
- (b) The Contractor shall employ only such foremen, superintendents and workmen as are careful and competent, and the City of Newark may demand the dismissal of any person employed by the Contractor who shall be guilty of misconduct or who neglects or refuses to comply with the directions given, and such person shall not again be employed at the site of this contract without express written consent of the City. Failure of the Contractor to comply with these provisions shall be sufficient reason for the City of Newark to withhold all estimated payments which are or may become due, or its representatives may suspend the work until compliance with such orders is affected.

INSPECTION OF MATERIAL AND WORK

- (a) Workmanship shall be of good quality and all work and material shall be at all times subject to the inspection of the City of Newark or their duly authorized representatives. The Contractor shall provide reasonable and necessary facilities for such inspection. If required by the City of Newark, the Contractor shall take down or uncover portions of the finished work.
- (b) The Contractor agrees that in case any of the material or work, or both, shall be rejected as defective or unsuitable by the Engineer, the material shall be replaced and the work shall be done again immediately to the satisfaction and approval of the Engineer at the cost and expense of the Contractor. Should the work thus exposed prove satisfactory, the cost of exposing and restoring same shall be at the expense of the City of Newark, but if it should prove to be unsatisfactory, all costs shall be at the expense of the Contractor.
- (c) Any omission or failure on the part of the City of Newark or its inspectors to disapprove or reject any defective work or materials shall not be construed to be acceptance of any defective work or material.
- (d) In case the Engineer should not consider the defect of sufficient importance to require the Contractor to replace any imperfect work or materials, the Engineer shall have the power to make an equitable deduction from the stipulated price.

WORKING HOURS

The normal working hours per day on the contract will be 7:00 a.m. to 5:00 p.m., unless otherwise authorized in advance by the City in writing, and it is not contemplated that the Contractor will work on Saturdays, Sundays or holidays.

Costs Associated: In the event that the Contractor works on Saturday, Sunday, or holidays, the Contractor shall be required to pay for inspection or engineering services performed during these times. Payments for these additional services shall be made by a reduction in the monthly estimate paid the Contractor for the period covered by the current estimate.

PROTECTION TO PUBLIC AND PROPERTY

- (a) The Contractor shall ensure protective measures to the general public and to occupants of property along and adjacent to the work.
- (b) The Contractor shall be strictly responsible for any and all damage or injury of every kind and description which directly or indirectly may be done to any property or sustained by any persons during the execution of the work.
- (c) When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the work, the Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done by repairing, rebuilding or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.
- (d) The Contractor shall provide protection to prevent damage of existing trees during clearing and construction activities and shall prevent vehicles and materials from driving over or being placed on the root system within the drip line. The Contractor shall consult with the City of Newark Parks and Recreation Department for this task.

SAFETY PRECAUTIONS

- (a) The Contractor shall execute this contract with the utmost concern for the safety of the general public. All areas worked upon and subject to travel by the public shall be identified with the proper warning indicators and signs during the working period. Upon completion of the contract or when such areas are reopened to public travel, they shall be rendered in a safe condition using either temporary or permanent repair material as the case may be. No private driveway shall be blocked or closed without the property owner being notified prior to construction.
- (b) Streets and roads used by the Contractor for storage of material or for access to and from the work site shall be protected from damage in excess of that caused by the normal traffic of vehicles used for or in connection with construction work. Any such damage done shall be repaired immediately and left in good condition at the end of the construction period and shall be repaired at the Contractor's expense.

RIGHT-OF-WAY

All operations shall be confined to the assigned area. The City will provide no right-of-way over other properties. The Contractor shall take every possible precaution to minimize the inconvenience to the owners or tenants of adjacent property. Public highway shall not be obstructed in such a way to cut off traffic unless authorized by the Engineer. The Contractor shall, at his own expense, repair any damage or injury to either public or private property during the progress of the work.

EXCAVATED MATERIAL

It shall be the responsibility of the Contractor to dispose of all excavated material which, in the opinion of the Engineer, is unsatisfactory for backfill or fill. The cost of this disposal shall be borne by the Contractor.

The Contractor shall be responsible for providing the appropriate equipment and personnel necessary to excavate, stage, and load contaminated material for off-site disposal, as identified from previous site environmental investigations or identified during construction activities. The work will be performed in accordance with the procedures described in the special provision for Item 69 - Contaminated Material.

SALVAGEABLE MATERIAL

All salvageable items and material designated by the Engineer, in addition to the excavated material covered under Item 2, Excavation and Embankment, shall be removed to City property, if directed by the Engineer.

RESTORATION OF DISTURBED SURFACES

Upon completion of the work, all related work pertaining to lawns, shrubbery, driveways, and slopes which have been disturbed shall be restored to their original condition, including topsoiling and seeding at the Contractor's expense. Topsoil and seeding shall conform to Item 29 and 31 in the Public Works Department Standard Specifications.

DUST CONTROL AND EROSION AND SEDIMENT CONTROL

It shall be the responsibility of the Contractor to handle dust control on this project and necessary erosion and sediment control installation.

LOCATION OF UTILITIES

- (a) It will be the responsibility of the Contractor to call "Miss Utility", 1-800-282-8555, before any excavation work begins for the marking of the location of existing utilities.
- (b) Any damage done to existing utility lines, services, poles and structures shall be repaired or replaced by the Contractor at his own expense. The Contractor shall notify all possible owners of utilities in the area where work is to be done of the schedule and extent of such work.

SANITARY PROVISIONS

The Contractor shall provide and maintain in a neat and sanitary condition such sanitary conveniences and accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the Department of Health or of other bodies or tribunals having jurisdiction thereof. He shall commit no public nuisance.

WATER SUPPLY

The Contractor shall not use City fire hydrants. The City will make arrangements for the Contractor to obtain water at the Phillips Avenue Warehouse or Curtis Paper Mill site as required for this contract.

SUPERVISION OF THE ENGINEER

The work is to be carried out under the supervision of the Engineer and to his entire satisfaction. The work and materials shall be strictly of the best quality of the kinds specified herein, and should any work or materials other than those specified or shown be introduced into the construction of the work, the Engineer, or his authorized agent, shall have full power to reject them and they shall be removed from the premises within three (3) days by the Contractor after being notified to do so.

AUTHORITY OF THE ENGINEER

The Engineer shall in all cases, determine the amount, quality and acceptability of the work and materials which are to be paid for under this contract; shall decide all questions in relation to said work and performance thereof; and shall, in all cases, decide questions which may arise relative to the fulfillment of the contract or to the obligations of the Contractor or to the obligations of the Contractor thereunder.

CLEANING UP

- (a) The Contractor shall at his own expense, keep the sites of his operations clean during construction and remove all rubbish as it accumulates.
- (b) Upon failure of the Contractor to keep the site of his operations clean to the satisfaction of the Engineer, the City may upon twenty-four (24) hours notice to the Contractor, remove any rubbish, materials, earth, etc., which the Engineer may deem necessary, charging the cost thereof to the Contractor and may deduct the amount from any monies that may be due him.

MAINTENANCE OF TRAFFIC

All work shall be performed in a matter that will ensure the least practical obstruction to traffic consistent with safety and shall comply with Sections 4.28 and 4.91 of the City of Newark Standards for Roadway and Utility Construction dated January 2001 and the latest edition of the Delaware Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD) including all revisions as of the date of advertisement of this Contract.

CONTRACT SPECIAL PROVISIONS SUMMARY

Item 2B	Silt Fence
Item 2C	Undercut Excavation
Item 2D	Stabilized Construction Entrance
Item 2E	Sediment Removal
Item 2F	Inlet Sediment Control, At Grade Inlet
Item 2G	Inlet Sediment Control, Drainage Inlet
Item 2H	Mulching Straw-Coconut Erosion Blanket
Item 2I	Sediment Trap
Item 2J	Riser Pipe Assembly for Sediment Trap
Item 2K	Reinforced Silt Fence
Item 5A	Borrow (Type B)
Item 5B	Borrow (Type F)
Item 5C	Graded Aggregate Base Coarse, Type B
Item 5D	Delaware Number 10 Stone
Item 5E	Delaware Number 57 Stone
Item 5F	Delaware Number 3 Stone
Item 5G	Borrow (Type C)
Item 8G	Coarse Aggregate for Foundation Stabilization
Item 11	Portland Cement Concrete Masonry
Item 11A	Form Liners
Item 21C	Reinforced Concrete Flared End Sections, 15"
Item 21D	Perforated PVC Pipe Underdrains, 6"
Item 21E	Perforated PVC Pipe Underdrains, 4"
Item 21F	PVC Pipe, 6"
Item 25C	PCC Curb, Type 1
Item 26B	Unit Paver, Type A
Item 26C	PCC Curb Ramp, Type 1
Item 26E	PCC Curb Ramp, Type 4
Item 26F	Sidewalk Surface Detectable Warning System
Item 27D	Cleaning Drainage Pipe, 15" to 24"
Item 27E	Drainage Inlet, 34"x24"
Item 27F	12" Square Catch Basin
Item 27H	Convert Existing Drainage Inlet to Junction Box
Item 29	Topsoil
Item 31A	Filter Strip Seeding
Item 31B	Biofiltration Swale Seeding
Item 31C	Native Steep Slope Seeding
Item 37B	Riprap, R-3
Item 37C	Riprap, R-4
Item 37D	Riprap, R-5
Item 37E	Riprap, R-6
Item 37F	Riprap, R-7
Item 37G	Geotextile for Riprap
Item 39A	Superpave, Type C Hot-Mix, 115 Gyration, PG 64-22
Item 39B	Superpave, Type B Hot-Mix, 115 Gyration, PG 64-22
Item 39C	Superpave, Bituminous Concrete Base Course, 115 Gyration, PG 64-22

Item 39D	Saw Cutting
Item 44A	Chain Link Fence (6'-0" High)
Item 44B	Wooden Split Rail Fence
Item 45	Chain Link Gate
Item 47A	PVC Conduit Under Existing Pavement, 2"
Item 47B	PVC Conduit Under New Pavement or In Sodded Trench, 2"
Item 47C	Conduit Junction Well 12"x12"x12"
Item 47D	Conduit Junction Well 12"x18"x12"
Item 47E	Pull Wire
Item 48A	Basic Electrical Materials and Methods
Item 48B	Exterior Lighting
Item 48C	Communications Circuits
Item 49	Geotextile, Stabilization
Item 50	Site Furnishings
Item 51	Maintenance of Traffic
Item 52A	Permanent Pavement Striping, Epoxy Resin Paint, 4"
Item 52B	Permanent Pavement Striping, Symbol/Legend, Alkyd-Thermoplastic
Item 52C	Retroflective Preformed Patterned Markings, 4"
Item 53	Initial Expense
Item 54	Construction Engineering
Item 55A	Relocate Existing Signs
Item 56	Reinforced Concrete Sign Foundation
Item 57	Planting
Item 57A	Invasive Species Control
Item 58	Pipe Video Inspection
Item 62	Field Office – Type II
Item 63	Fiberglass Pedestrian Bridges
Item 64	Helical Piles
Item 67	Steel Canopy and Foundations
Item 69	Contaminated Material
Item 70	Channel Bed Fill
Item 71	Temporary Fence and Boardwalk
Item 72	Installation or Removal of Traffic Sign on Single Post
Item 73	Construction Safety Fence
Item 74	Warning Signs
Item 75	Project Control System Development Plan
Item 76	CPM Schedule Updates and/or Revised Updates

CSX Specifications

Modifications to Required Federal Contract Provisions

CONTRACT SPECIAL PROVISIONS

ITEM 2B – SILT FENCE

ITEM 2K – REINFORCED SILT FENCE

In accordance with The Delaware Department of Transportation's Standard Specification Section 251 – Silt Fence.

ITEM 2C – UNDERCUT EXCAVATION

In accordance with The Delaware Department of Transportation's Standard Specification Section 212 – Undercut Excavation.

ITEM 2D – STABILIZED CONSTRUCTION ENTRANCE

In accordance with The Delaware Department of Transportation's Standard Specification Section 268 – Stabilized Construction Entrance.

ITEM 2E – SEDIMENT REMOVAL

In accordance with The Delaware Department of Transportation's Standard Specification Section 250 – Sediment Removal.

ITEM 2F – INLET SEDIMENT CONTROL, AT GRADE INLET

In accordance with The Delaware Department of Transportation's Standard Specification Section 252 – Inlet Sediment Control.

ITEM 2G – INLET SEDIMENT CONTROL, DRAINAGE INLET

In accordance with The Delaware Department of Transportation's Standard Specification Section 252 – Inlet Sediment Control.

ITEM 2H – MULCHING, STRAW-COCONUT EROSION BLANKET

Description:

This work consists of ground preparation and furnishing, placing and anchoring the straw-coconut erosion control blanket in accordance with these specifications, the notes, details on the Plans and/or as directed by the Engineer.

Materials:

Erosion control blanket shall be a machine-produced mat consisting of 70% agricultural straw (0.04 lb/sq ft) and 30% coconut fiber (0.02 lb/sq ft).

The blanket shall be of consistent thickness with the straw and coconut fiber evenly distributed over the entire area of the mat. The blanket shall be covered on the top side and on the bottom with a woven 100% biodegradable natural organic fiber (0.92 lb/sq ft approximate weight) netting with an approximate ½ in x ½ in mesh. The blanket shall be sewn together with cotton thread, and the blanket shall be a minimum of 6 ft wide.

Method of Construction:

Material shall be installed in accordance with the following procedure:

On slopes that exceed 10 ft measured vertically, blankets shall be installed vertically. Erosion check trenches may be required at intervals up to 50 ft apart as directed by the Engineer. An erosion check trench shall be represented by a 6 in deep trench excavated perpendicular to the flow across the entire width of the application and wide enough to facilitate the placement of staples or stakes. Unroll blankets without stretching and allow blankets to settle on the slope to the extent that the blankets conform with the ground surface prior to anchorage. Tuck all blankets into check trenches then overlap the end of the rolls and adjacent panel sides at least 6 in. Anchor the blankets by placing staples or stakes at 4 ft intervals vertically in adjacent panel overlap areas, and in the check trenches by placing staples or stakes at 12 in intervals along the bottom of the trench across the entire width of the blankets. The trench shall then be backfilled and tamped. Blankets wider than 4 ft to a maximum width of 8 ft shall require an additional vertical row of staples or stakes in the middle of the blanket over the entire slope face.

On slopes less than 10 ft measured vertically, blankets shall be installed horizontally. All blanket placement shall require an overlap of 18 in with stapling or staking staggered 6 in on either side of the midpoint of the overlap. Staples or stakes shall be placed 2 ft apart longitudinally along each overlap across the entire width of the application, and longitudinally at 2 ft intervals at all keyed overlaps and along the toe of slope.

Stabilization of ditches with blankets shall require 18 in keyed overlaps with stapling or staking staggered 6 in on either side of the midpoint of the overlap with staples or stakes every 2 ft. Blankets shall be keyed in a 6 in deep trench on both outside edges and parallel to the flow line of the ditch. All keyed trenches shall be backfilled and tamped. Staples or stakes shall be placed at a 6 in offset from the keyed edge and 2 ft apart. The outside edges of the flow line shall also be stapled or staked every 2 ft.

Actual placement and anchorage of blankets for all applications shall be as illustrated in the manual entitled: Delaware Department of Transportation Standard Construction Details, Erosion Control Blanket.

The Contractor shall be required to perform all maintenance necessary to keep the treated area in a satisfactory condition until the work is finally accepted.

If any pins become loose or raised or if any fabric comes loose, torn or undermined, satisfactory repairs shall be made immediately without additional compensation.

Method of Measurement:

Erosion blanket will be measured in square yards complete-in-place in accordance with plan dimensions, not including additional erosion blanket overlaps and check slots.

Basis of Payment:

The quantity of erosion blanket will be paid for at the Contract unit price per square yard. Price and payment shall be full compensation for ground preparation, furnishing, placing and stapling, and for the furnishing of all labor, tools, equipment and incidentals necessary to complete the work.

ITEM 2I – SEDIMENT TRAP

In accordance with The Delaware Department of Transportation's Standard Specification Section 255 – Sediment Trap.

ITEM 2J – RISER PIPE ASSEMBLY FOR SEDIMENT TRAP

In accordance with The Delaware Department of Transportation’s Standard Specification Section 256 – Riser Pipe Assembly for Sediment Trap.

ITEM 5A – BORROW (TYPE B)

ITEM 5B – BORROW (TYPE F)

ITEM 5G – BORROW (TYPE C)

In accordance with The Delaware Department of Transportation’s Standard Specification Section 209 – Borrow.

ITEM 5C – GRADED AGGREGATE BASE COARSE TYPE B

In accordance with The Delaware Department of Transportation’s Standard Specification Section 302 – Graded Aggregate Base Coarse.

ITEM 5D – DELAWARE NUMBER 10 STONE

This work consists of furnishing, placing and compacting Delaware Number 10 stone on a prepared subgrade or base.

Material shall be in accordance with The Delaware Department of Transportation’s Standard Specification Section 813 – Grading Requirements, except as follows:

The quantity of Delaware Number 10 stone will be paid for at the contract unit price per cubic yard.

Compaction or rolling shall be performed parallel to the bikeway centerline starting at the edge and progressing toward the center. Water application and compaction shall continue until the material is well bounded, firm and unyielding, as determined by the Engineer.

ITEM 5E – DELAWARE NUMBER 57 STONE

ITEM 5F– DELAWARE NUMBER 3 STONE

Description:

This work consists of furnishing, hauling, placing, and compacting stone, in accordance with the details and notes shown on the Plans and/or as directed by the Engineer.

Materials and Construction Methods:

The stone for Del. No(s). 3 and 57 shall comply with quality and gradation requirements of respective Sections 805, and 813 of the Standard Specifications.

Construction methods shall conform to the requirements of notes on the Plans and/or as directed by the Engineer.

When used in a temporary situation, the stone shall be removed and disposed of by the Contractor as directed by the Engineer.

Method of Measurement:

The quantity of stone will be measured as the actual number of cubic yards for stone placed and accepted.

Basis of Payment:

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

ITEM 8G – COARSE AGGREGATE FOR FOUNDATION STABILIZATION

In accordance with The Delaware Department of Transportation's Standard Specification Section 608 – Coarse Aggregate for Foundation Stabilization and Subfoundation Backfill.

ITEM 11 – PORTLAND CEMENT CONCRETE MASONRY

Concrete for concrete bases shall be Class B and meet the requirements of Section 812, Portland Cement Concrete and 602, Concrete Structures, except as follows:

The quantity of Portland Cement Concrete Masonry will be paid for at the contract unit price per lump sum.

NOTE: The Breakout Sheet attached to the Proposal lists the different types of concrete base required for the project.

11A - FORM LINERS

Description:

This work consists of furnishing and placing form liners for wingwalls in accordance with these specifications and in reasonably close conformity with the lines, grades, and dimensions as shown on the Plans or established by the Engineer. The work includes the construction of textured and colored formed concrete surfaces using simulated stone masonry molds and color stain system designed to duplicate closely the appearance of natural stone. The limits of the architectural surface treatment created by the form liners are to be as detailed in the Plans.

Materials:

Form liners shall be used which will result in the finish detail in the Plans and approved by the Engineer. The simulated masonry molds shall be easily attachable to forms. The wall mold pattern shall closely match pattern #12021 Rustic Ashlar by Custom Rock International, St. Paul, MN. Samples shall be submitted by the Contractor for approval by the Engineer. Three manufacturers of form liners are HUNT VALLEY CONTRACTORS, INC., 11460 Cronridge Drive, Suite 132, Owings Mills, MD 21117, Telephone: 410-356-9677 and SYMONS CORPORATION, 200 King Manor Drive, King of Prussia, PA. 19406, Telephone: 215-277-2990; and Fitzgerald Formliners, 1500 East Chestnut Avenue, Santa Ana, CA 92701, Telephone: 714-547-6710; names of the manufacturers are provided here for information purposes only.

Form oil shall be a nonstaining petroleum distillate free from water, asphaltic and other insoluble residue or equivalent product. The form oil shall be worked into all areas, especially pattern recesses.

Shop drawings showing plan, elevation and details shall be submitted by the Contractor for approval by the Engineer. The shop drawings shall show the overall pattern, joint locations, form tie locations, and end, edge and other special conditions.

Quality Assurance:

Manufacturer of simulated stone masonry molds and custom coloring system shall have at least five years experience making stone masonry molds and color stains to create formed concrete surfaces to match natural stone shapes, surface textures and colors.

Construction Methods:

A test pour shall be made at the site with the proposed form liners before the form liners are approved. The test pour shall subsequently be removed from the site. Test pours shall be made until approved by the Engineer. The test pour shall be 4 feet tall and 8 feet wide and the depth as required for the specific pattern used. A test pour will be required for both pedestrian bridges.

When using form liners, form designs for concrete retaining walls and parapets shall be sufficient to allow minimum 4-foot (1.2 m) on center "Snap-tie" or "Tyscrus" form supports, or approved equal. Wall form tie holes shall be placed in the high point of the mortar joints and the ties shall be so designed that all material in the device to a depth of at least 1 inch (25 mm) back of concrete face (bottom of joint) can be disengaged and removed without spalling and damaging the concrete.

Form liners shall be installed, prepared, stripped, handled or otherwise utilized in accordance with the manufacturer's recommendations, or as directed by the Engineer.

The concrete finish resulting from the form liners shall be cured, patched, or sealed as determined by the Engineer.

Concrete surfaces outside the form liners shall meet the requirements of Section 11.

Method of Measurement:

The quantity of form liners will be measured as the number of square feet of form linear installed and accepted. Measurements will be made on the surface of the completed structure.

Basis of Payment:

The quantity of form liners will be paid for at the Contract unit price per square foot. Price and payment will constitute full compensation for furnishing all materials and for equipment, tools, labor, and incidentals necessary to complete the work as specified above or in the Plans.

The cost shall also include compensation for any additional concrete required to achieve the finish detailed in the Plans, and all equipment, tools, labor, and incidentals necessary to complete the work shall be included in the unit price bid.

The Contractor will not be paid for labor, equipment or materials required for any test pour.

ITEM 21C – REINFORCED CONCRETE FLARED END SECTIONS, 15”

In accordance with The Delaware Department of Transportation's Standard Specification Section 617 – Flared End Sections.

ITEM 21D - PERFORATED PVC PIPE UNDERDRAIN, 6"
ITEM 21E – PERFORATED PVC PIPE UNDERDRAIN, 4"

Description:

The item shall consist of fabricating and placing perforated PVC underdrain system at portions of the bioretention locations as shown on the Plans, and as directed by the Engineer.

Materials:

Perforated PVC pipe shall conform to the requirements of ASTM F758-95 Type PS 28. The perforated PVC pipe shall have six 1/2" diameter holes spaced approximately 3.25" on center around the perimeter of the pipe. Rows shall be spaced 6" on center and rotated 30E from the last row.

PVC pipe fittings shall conform to the requirements of ASTM D3034.

Hardware cloth shall be hot-dipped galvanized after welding with uniform openings of 1/4" x 1/4" mesh per linear inch. Minimum wire diameter shall be 0.025 inches.

Construction Methods:

The underdrain shall be constructed in accordance with the details shown on the Plans and at the locations shown on the Plans. All joints shall be finished in accordance with the manufacturer's recommendations. Stone backfill shall be placed in 6 inch lifts and compacted with a vibratory plate to the satisfaction of the Engineer.

Method of Measurement:

The quantity of perforated underdrain will be measured as the number of linear feet of perforated PVC underdrain complete in-place and accepted.

Basis of Payment:

The quantity of perforated PVC underdrain will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for excavation, furnishing and installing PVC pipe, hardware cloth, and pipe fittings and for all labor, equipment, tools and incidentals necessary to fabricate perforations and complete the work.

ITEM 21F – PVC PIPE, 6"

Description:

This work consists of furnishing and installing PVC pipe, including all fittings, in accordance with the locations, details, notes on the Plans and as directed by the Engineer. The PVC pipe shall be used for subsurface drainage or for serving as conduit as specified on the Contract Plans.

Materials and Construction Methods:

The PVC pipe and fittings shall be free from defects and shall conform to the applicable requirements of ASTM D3034 Type PSM, and pipe shall be of SDR-35 or SDR-41 or SDR-42 for subsurface drainage pipe of the nominal size required by the Plans.

The PVC pipe and fittings shall be free from defects and shall conform to the applicable requirements of ASTM D2466 PVC Pipe Fitting, Schedule 40 for conduit of the size required by the Plans.

The excavation and backfill for the pipe shall be performed in accordance with the applicable requirements of Section 612 of the Delaware Department of Transportation Standard Specifications, unless otherwise modified on the Plans. 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.

Method of Measurement:

The quantity of PVC pipe will be measured as the actual number of linear feet of each size of pipe placed and accepted, measured from end to end of pipe, including structure wall thickness, but excluding structure interior.

Basis of Payment:

The quantity of PVC pipe will be paid for at the Contract unit price per linear foot for pipe. Price and payment will constitute full compensation for furnishing, hauling, and installing pipe, for all cribbing or foundation treatment necessary to prevent settlement, for all shoring and sheeting, for the replacement of any pipe which is not true in alignment or which shows any settlement after laying, and for all material, labor, equipment, tools, and incidentals required to complete the work. For pipe under 24" (600 mm) nominal inside diameter, the excavation, bedding, backfill and backfilling will be included in the price for this work.

ITEM 25C – PCC CURB, TYPE 1

In accordance with The Delaware Department of Transportation's Standard Specification Section 701 – Curb and Integral Curb and Gutter.

ITEM 26B – UNIT PAVER, TYPE A

Description:

The work shall consist of furnishing and constructing clay brick (brick unit pavers) sidewalk or roadway in accordance with these specifications and in reasonably close conformity with the details, cross-sections, lines, grades, dimensions and notes on the Plans and as directed by the Engineer.

Materials:

The bricks used for this work shall be clay brick unit pavers meeting the shape, style, size and color requirements as specified herein and on the Plans. Obtain each color, grade, finish, type, and brick from a single quarry/manufacturer and samples of each type of unit paver shall be submitted to the Engineer for approval prior to ordering. Obtain mortar/setting material ingredients of uniform quality and from one manufacturer for each cementitious and admixture component and from one source or producer for each aggregate, samples of each type of mortar/setting material shall be submitted to the Engineer for approval prior to ordering. Materials shall be ordered in time to meet the scheduled installation in accordance with the overall project schedule.

The brick unit pavers shall be clay brick pavers as supplied by Pine Hall Brick Co. as distributed by Delaware Brick Company, 1114 Centerville Road, Wilmington, DE 19804, 302.994.0948 (Gene Callahan Jr.) or approved equal. Brick pavers shall conform to ASTM 1272-94 and ASTM 902. All pavers shall be made by a single manufacturer.

The different unit pavers shall be as follows:

UNIT PAVER TYPE 'A': Brick Pavers on 4" P.C.C.

Size: 4" x 8" x 2 1/4" thick with square edge

Color: Red tones as per manufacturer, Pathway Flashed Red (Pine Hall)

Finish: Wire Cut

Pattern: Running bond with row edge lock (see Plans)

Base and setting materials: Brick pavers shall be set on a leveling bed of 1" dry 3:1 sand/cement mix over 4" thick Portland cement concrete base over 4" GABC with geotextile over compacted sub-grade. Note: Sub-grade areas where the existing sidewalk is removed for new sidewalk and that don't require 4" GABC to meet the proposed cross section details for new brick unit paver sidewalk shall not require over excavation for and placement of the 4" GABC as long as compaction requirements of the existing base material(s) meet the standard compaction specifications.

A. Bases, Setting Bed and Joint Materials and Geotextile Separator:

The graded aggregate base, geotextile soil separator, Portland cement concrete base, dry 3:1 sand/cement setting bed, wet 4:1 aggregate/cement system and gray mortar (where applicable) shall be incidental to the unit price for all unit paver types.

Graded Aggregate Base (GABC) shall meet the requirements of Section 302, Graded Aggregate Base Course.

Concrete for concrete bases shall be Class B and meet the requirements of Section 812, Portland Cement Concrete and 602, Concrete Structures.

Sand and cement for dry pack setting beds and joints shall be mixed to a ratio of 3 parts concrete sand to 1 part Portland cement. The bedding and joint sand shall conform to ASTM C33 and ASTM 136. The bedding and joint sand shall be clean, non-plastic, free from deleterious or foreign matter. The sand shall be natural or from manufactured crushed rock. Grading of samples shall be done according to ASTM C136. The particles shall be sharp and conform to the grading requirements of ASTM C33. Cement shall meet the requirements of Section 801, Portland cement.

B. Mortar materials shall be as follows:

Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold weather construction, of natural color or white as needed to produce color indicated.

Hydrated Lime: ASTM C 207, Type S.

Aggregate: ASTM C 144 and as indicted below:

- For joints narrower than 1/4 inch use aggregate graded with 100 percent passing the No. 8 sieve and 95 percent the No. 15 sieve.
- For pointing mortar, use aggregate graded with 100 percent passing the No. 16 sieve.

White Mortar Aggregates: Natural white sand or ground white stone.

Colored Mortar Aggregates: Ground marble, granite, or other sound stone, as required to match Engineer's sample.

Colored Mortar Pigments: Natural and synthetic iron oxides and chromium oxides compounded for use in mortar mixes. Use only pigments with record of satisfactory performance in stone mortars.

- Available Products: Subject to Compliance with requirements, colored mortar pigments that may be incorporated in the Work include but are not limited to the following:

SGS Mortar Colors"; Solomon Grind-Chem Service, Inc.

"True Tone Mortar Colors"; Davis Colors Sub., Rockwood Industries.

"Sonobrite"; Sonneborn Building Products Div. Rexnord Chemical Products, Inc.
L.M. Schofield

Water: Clean, nonalkaline, and potable.

Latex additive (water emulsion) described below, serving as replacement for part or all of gauging water, of type specifically recommended by latex additive manufacturer for use with job-mixed latex-modified materials of type indicated:

- Latex Type Styrene butadiene rubber in factory prediluted form.
- Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include but are not limited to the following:

American Olean Tile Co., Inc.
Boiardi Products Corp.
Bostik Construction Products Div.
Custom Building Products.
C-Cure Chemical Co.
DAP Inc., Subsidiary of USG Corp.
L & M Mtg., Inc.
Laticrete International, Inc.
Mapei Corp.
Southern Grouts & Mortars, Inc.
Summitville Tiles, Inc.
Syracuse Adhesives Co.

C. Mortar mixes:

General: Comply with referenced standards and with manufacturers' instructions relative to mix proportions, mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortars and grouts of uniform quality and with optimum performance characteristics.

- Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or calcium chloride unless otherwise indicated.

- Mixing: Combine and thoroughly mix cementitious materials, water, and aggregates in a mechanical batch mixer unless otherwise indicated. Discard mortars and grout when they have reached their initial set.
- For stone paving use only enough water to produce a moist surface when setting bed is ready for setting of stone.

Cement Paste Slush Coat for Paving: Mix slush coat to a consistency similar to that of thick cream and consisting of either neat cement and water or cement, sand, and water.

- For slush coat under latex-modified portland cement setting-bed mortar, substitute latex admixture for part or all of water per directions of latex additive manufacturer.

Latex-Modified Portland Cement Setting-Bed Mortar: Proportion and mix portland cement, aggregate, and latex additive for setting bed to comply with directions of latex additive manufacturer and as necessary to produce stiff mixture with a moist surface at time stone is set.

Latex- Modified Portland Cement Slurry Bond Coat: Proportion and mix portland cement, aggregate, and latex additive for slurry bond coat to comply with directions of latex additive manufacturer.

Grout for Paving Joints: Mix grout in proportions by volume of one part portland cement to 2 parts aggregate to match Architect's sample for color. Use only enough water to produce grout with consistency of thick cream.

Add latex additive in proportion and concentration recommended by admixture manufacturer.

Colored Pigmented Grout: Select and proportion pigments with other ingredients to produce color required. Do not exceed pigment-to-cement ratio of 1-to-10, by weight.

Construction Methods:

Upon inspection and approval of the sub-grade, including compaction, place all base materials including geotextile soil separator, graded aggregate base course and Portland cement concrete. Upon inspection and approval of base materials including curing of concrete base in accordance with Sections 602, place the edge restraint system on the approved base or sub-base and as per the manufacturer's recommended installation procedure (where applicable) at required locations (edges where existing and proposed conditions do not provide edge restraint).

Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.

Execute dimension brickwork by skilled mechanics, and employ skilled stone fitters at the site to do necessary field cutting as stone are set.

Clean subbase to remove dirt, dust, debris, and loose particles.

Thoroughly mix dry 3:1 sand/cement setting bed material and spread leveling course 1" to 1 ¼" (unit paver type 'A') thick taking care that moisture is constant and the density is loose until the unit pavers are set.

Place pavers in patterns as designated on the Plans with hand tight joints for brick pavers. Do not use pavers with chips, cracks, discolorations or other defects. Cut pavers (where necessary) with a motor driven masonry saw to provide clean sharp, unchipped edges. Cut pavers to fit pattern specified and to neatly fit

adjoining material. Where pavers are to be cut in field, Contractor shall use wet saw as approved by Engineer.

- Tamp or beat stones to obtain full contact and adhesion with setting bed. Set and level each stone immediately, prior to initial set of mortar; do not return to areas already set and disturb stones for leveling purposes.
- Place stones in pattern shown with uniform joints of width indicated or, if not indicated not wider than 1/8".

After placing unit paver types 'A', on the specified setting bed, spread dry sand/cement and fill joints immediately after pavers are set into leveling course. Brush sand/cement until joints are completely filled, then remove excess sand and/or sand/cement mix from surface.

Any paver units that, after installation, have sunken below finished grade of tops of granite edge restraints or granite curbing must be removed and reset/reinstalled at appropriate level. If necessary all unit paver types must be tamped to finish grade by hand with rubber mallets during initial installation.

Prior to acceptance, any pavers that are chipped, broken, stained, scratched or damaged shall be replaced at the Contractor's expense. The Contractor shall be required to wet pavers within 24 hours of installation as directed by the Engineer.

Cold Weather Protection: Comply with the following requirements:

- Remove ice or snow formed on dimension stonework beds by carefully applying heat until top surface is dry to the touch.
- Remove dimension stonework damaged by freezing conditions.
- Perform the following construction procedures while dimension stonework is progression:

Mortar: At 40 deg F (4.4 deg C) and below, produce mortar temperatures between 40 deg F (4.4 deg C) and 120 deg F (49 deg C) by heating mixing water and, at temperatures of 32 deg F (0 deg C) and below, sand as well. Always maintain temperature of mortar on boards above freezing.

- **Protect unit paver work both in place and in progress to comply with the following requirements:**

Temperature ranges indicated apply to mean daily air temperatures existing at time of installation.

At 40 deg F (4.4 deg C) to 32 deg F (0 deg C), protect dimension stonework form rain or snow at least 24 hours by covering with nonstaining weather-resistive membrane.

Method of Measurement:

The quantity of unit paver installations for Types 'A' will be measured as the number of square feet of sidewalk, roadway or curb edge banding completed in-place and accepted.

Basis of Payment:

The quantity of unit paver Types 'A' will be paid for at the contract unit price per square feet. Price and payment will constitute full compensation for furnishing and installing brick, geotextile fabric, sand/cement setting bed, and filling of joints, P.C.C. base and for all labor, equipment, tools, and incidentals necessary to

complete the work. The GABC required under some P.C.C. base areas shall be paid for by the cubic yard in accordance with the Plans and specifications and is not part of the unit price for unit pavers.

ITEM 26C – PCC CURB RAMP, TYPE 1

ITEM 26E – PCC CURB RAMP, TYPE 4

Description:

This work consists of furnishing all materials and installing and constructing curb ramp (s) at the indicated location (s) on the existing sidewalks in accordance with DelDOT's Standard Construction Details, notes and details shown on the plans, and/or as directed by the Engineer.

Materials and Construction Methods:

Portland Cement Concrete for this item shall conform to Section 812, Class B; Graded Aggregate Base Course, Type B shall conform to Section 812, Hot-Mix shall conform to Section 823 of the DelDOT Standard Specifications.

Curb Ramps shall be constructed in accordance with the requirements of the DelDOT Standard Construction Details, any modifications on the plans and to all the applicable requirements of Section (s) 302, 401, 705, 758 and 762 of DelDOT's Standard Specifications.

Method of Measurement:

The area of curb ramps will be established by the square foot measurement of the actual surface area of the curb ramp, including the curb and taper areas as shown in the DelDOT Standard Details. No measurement and payment will be made on vertical surfaces of curb or sidewalk.

Any sidewalk or curb that requires removal and/or replacement beyond the minimal limits required to achieve the slopes shown in the DelDOT Standard Details or which is beyond the maximum length of 15 feet noted in the DelDOT Standard Details as measured from the nearest edge of the landing area, will be paid under the appropriate items for concrete removal, graded aggregate, sidewalk and curb.

Basis of Payment:

The area of curb ramps will be paid for at the Contract unit price per square foot. Price and payment shall constitute full compensation for furnishing and placing all materials including, concrete, aggregate, hot-mix or concrete for patching along the curb line, expansion material, saw cutting, removal and disposal of the existing curb, gutter, sidewalk, and pavement, excavation, grading and compacting, including the curb and pavement areas within the limits of the ramp, and for all equipment, labor, tools and incidental necessary to complete the work. The limits of removal and replacement shall be the minimum area required to achieve the allowable slopes as shown on the DelDOT Standard Details with the length, as measured along the centerline of the sidewalk, not to exceed 15 feet in any direction from the nearest edge of the landing area.

ITEM 26F – SIDEWALK SURFACE DETECTABLE WARNING SYSTEM

Description:

This work consists of furnishing all materials and installing a detectable warning surface system that complies with the Americans with Disabilities Act (ADA)(1990) for outdoor facilities. The system shall be in accordance with these Special Provisions, the Plans, the Standard Construction Details and as directed by the Engineer.

Materials:

The Contractor shall submit a sample of the proposed system to the Engineer for approval. The dome pattern shall be in accordance with the Standard Construction Details. The Contractor shall use either of the following material systems:

1. Precast concrete, or fired clay brick, paver units, each with the truncated dome pattern, set on the concrete sidewalk surface. For this application, the Contractor shall use mortar for adhesion to the sidewalk surface and for joint filling.
2. Cast iron plates, each with the truncated dome pattern, set on the concrete sidewalk surface. The plates shall be anchored down according to manufacturer's recommendations.

The Engineer will not approve stamping systems, applied membranes, or ceramic tiles. Applied membranes may only be used if placing on an existing curb ramp which meets ADA standards upon approval by the Engineer.

The Contractor shall certify that the surface of the system is slip resistant. The Contractor shall submit test results for the system when it has been tested using one of the following standard methods:

- X ASTM C-1028 B Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method
- X ASTM C-2047 B Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine
- X ASTM D-5859 B Determining the Traction of Footwear on Painted Surfaces Using the Variable Incidence Tester
- X ASTM E-303 B Measuring Surface Frictional Properties Using the British Pendulum Tester
- X VOSI V41.21-98 B Universal Specification / Test Method for Slip Resistant Walkways, in the Field and Laboratory, as measured by a Drag Type Friction Tester (Voices of Safety International (VOSI): www.voicesofsafety.com)

The final surface of the system shall have a brick red color, unless the color of the sidewalk/curb ramp is brick red in color, or as specified on the Plans. A different color shall be chosen resulting in a different color contrast between the detectable warning system and the sidewalk/curb ramp.

Construction Methods:

For construction of the detectable warning system in P.C.C. sidewalk, if the Contractor elects to use the precast concrete or fired brick paver units, that portion of the ramp to receive the detectable warning surface shall be constructed to allow for thickness of the paver units. The entire section (4" (100 mm) P.C.C. sidewalk and base material) shall be constructed at a lower elevation to permit the installed paver units to be flush with the surrounding ramp/sidewalk surfaces. Paver units shall be set in a bed of mortar and have mortared joints.

At the edges of the system, changes in grade up to 0.25 inch (6 mm) may be vertical. The Contractor shall bevel changes in grade between 0.25 and 0.50 inch (6 and 13 mm) with a slope no steeper than 2 to 1.

For construction of the detectable warning system in brick sidewalks, the Contractor shall use the precast concrete or fired brick paver units. These units shall be placed over the same base material and lift

thickness as used under the brick sidewalk and shall be placed so that they are flush with the surrounding ramp/sidewalk surfaces.

Method of Measurement:

The quantity of sidewalk surface detectable warning system will be measured as the actual number of square feet (square meters) of such surface installed and accepted. The sidewalk on which the detectable warning surface system is placed will be measured and paid for separately.

Basis of Payment:

The quantity of sidewalk surface detectable warning system will be paid for at the Contract unit price per square foot (square meter). Price and payment will constitute full compensation for furnishing all materials, installing a truncated dome patterned surface system, and for all labor, equipment, tools, and incidentals required to complete the work.

ITEM 27D – CLEANING DRAINAGE PIPE, 15” TO 24”

Description:

This work consists of cleaning existing drainage pipe. It is the intent that equipment and cleaning methods used to perform this work conform to Specification Guidelines prepared by the National Association of Sewer Service Companies (NASSCO) hereinafter referred to as the NASSCO Specifications.

Materials and Construction Methods:

Water used for cleaning shall be safe for all downstream environments. The source for the cleaning water shall be approved by the Engineer.

Equipment and construction methods shall be in accordance with the requirements under Sewer Line Cleaning, High-Velocity Jet (Hydrocleaning) found in the NASSCO Specifications. Equipment shall be operated in accordance with the manufacturer's instructions. The cleaning operation shall consist of up to three passes of the hydrocleaning equipment. If three passes do not adequately clean the pipe, the Engineer may direct the Contractor to use other procedures covered by other item(s) of work.

Material removed during the pipe cleaning operation shall be disposed by the Contractor at a site approved by the Engineer.

Method of Measurement:

The quantity of drainage pipe cleaned will be measured as the actual number of linear feet (linear meters) of pipe cleaned and accepted measured from end to end.

Basis of Payment:

The quantity of pipe cleaned will be paid for at the Contract unit price per linear foot (linear meter). Price and payment will constitute full compensation for furnishing equipment and water, disposing of removed material and for all labor, equipment, tools and incidentals to complete the work.

ITEM 27E – DRAINAGE INLET, 34” x 24”

In accordance with The Delaware Department of Transportation’s Standard Specification Section 708 – Drainage Inlets and Manholes.

ITEM 27F – 12” SQUARE CATCH BASIN

Description:

This work consists of furnishing and placing 12-inch Square Catch Basin.

Materials:

- (1) - 12-inch Square 2-hole Basin
- (1) - 12-inch Square Grate (green)
- (1) - Universal End Plug
- (2) - Adapters to connect 6” drain pipe to basin.

Subbase.

Graded Aggregate Base Course, Type B

Construction Methods:

Excavation.

Excavation shall be made to the required depth. The foundation upon which the floor of the drainage inlet is to be placed shall be compacted to a firm, even surface.

Inlet Pipes and Outlet Pipes.

Inlet and outlet pipes shall be the same size and type as the connecting pipes shown on the plans and shall extend through the walls and be flush with the inside of the wall. If an end of the inlet or outlet pipe is cut off, the end shall be cut clean and smoothly finished so that no frayed edges exist. Max cover over top of the incoming and outgoing pipes shall not exceed 4 feet.

Backfill.

The grate must be installed prior to backfill. The area around the drainage inlet shall be backfilled with Borrow Type C material to the required elevation. Backfill placement shall be performed manually and consist of loose-thickness lifts. Each lift shall be placed hand shovel and compacted manually using a hand tamper. No backfill shall be placed prior to approval.

Method of Measurement:

The quantity of catch basins as specified on plans.

Basis of Payment:

The quantity of catch basins will be paid for at the Contract unit price. Price and payment will constitute full compensation for preparing the ground; for furnishing and placing all materials; and for all labor, equipment, tools, and incidentals required to complete the work.

Payment for any and all catch basins, where a satisfactory installation determined by the Engineer does not exist at the time of final inspection, will be made at the Contract unit price for catch basins. If the Contractor fails to respond within five working days of the Engineer's oral or written request, no payment for such items will be made.

ITEM 27H – CONVERT EXISTING DRAINAGE INLET TO JUNCTION BOX

In accordance with The Delaware Department of Transportation’s Standard Specification Section 716 – Converting Drainage Inlets to Junction Boxes.

ITEM 29 – TOP SOIL

In accordance with The Delaware Department of Transportation’s Standard Specification Section 732 – Top Soil.

ITEM 31A – FILTER STRIP SEEDING

Description:

This work consists of furnishing and placing filter strip seeding.

Materials:

Water. Water shall conform to the requirements of DeIDOT Standard Specifications Section 803.

Soil Supplements.

- a. Limestone shall be ground agricultural limestone and shall contain not less than 85% calcium and magnesium carbonates. Dolomitic lime or magnesium lime shall contain at least 10% magnesium oxide. The limestone shall be ground to meet the following gradation:

<i>Sieve Size</i>	<i>Percent Passing</i>
No. 10 (2.00 mm)	100
No. 20 (850 µm)	90
No. 100 (150 µm)	50

- b. Fertilizer shall conform to the following mix requirements:

Filter Strip Seeding

- a. 70 lb/ac (78 kg/ha) nitrogen (N); 50% by weight of the nitrogen content shall be available from ureaformaldehyde.
- b. 42 lb/ac (47 kg/ha) available phosphate; phosphorous pentoxide (P2O5) shall be the sum of the water soluble and the citrato-soluble phosphate.
- c. 28 lb/ac (31 kg/ha) water soluble potash; potassium oxide (K2O)
- c. Commercial fertilizer shall be furnished in containers plainly marked with the chemical analysis of the product or, if provided in bulk, a certificate guaranteeing the fertilizer analysis must accompany each delivery to the Project. No fertilizer shall be used which has not been marketed in accordance with the State and Federal laws.
- d. The ureaformaldehyde specified above shall meet the following requirements:
 - 1. The water insoluble nitrogen shall be at least 60% of the total nitrogen.
 - 2. The activity index of the water insoluble nitrogen shall be either:
 - a. not less than 40% by the Association of Official Analytical Chemists International (AOAC International) method for ureaformaldehyde products, or

- b. not less than 50% by the AOAC International alkaline permanganate method, or
- c. 80% by the AOAC International neutral permanganate method.

e. Wood cellulose fiber shall be a processed wood product having uniform fiber characteristics which remains in uniform suspension in water under agitation and blends with seed, fertilizer, and other additives to form a homogeneous slurry.

The fiber shall perform satisfactorily in hydraulic seeding equipment without clogging or damaging the system. The slurry shall contain a green dye that provides easy visual inspection for uniformity of application.

Grass Seed

a. *Seeds.* All seed shall be fresh, clean, from new crop seed, and delivered to the site in original unopened packages in accordance with the Delaware Code and respective State laws.

b. *Seed Inspection.*

1. Blended seed lots shall be mixed in the presence of an authorized representative of the Department. All such blended seed shall also display an official Department's inspection tag which has been sewn into or otherwise attached to the bag. No seed shall be used after the expiration date placed on the official Department's inspection tag by an authorized representative of the Department.

2. With all single seed lots, the Contractor shall furnish to the Project inspector two copies of the certified mill analysis for the seed to be used. The Project inspector will compare the mill analysis with the mill tags sewn into the bags of seed for lot number, guaranteed analysis, and certification date. If the mill tags and mill analysis data are identical and meet the Project requirements, single seed lots can be used on the basis of verification by the Project inspector. If the entire bag of a single seed lot is not used, the weight of the seed used from the bag shall be so noted on the mill tag which shall be left intact on the bag. In addition, the Project inspector will also include the Contract number of the Project and the date on which the seed was used, and so verify the above with its signature on the mill tag. Partial bags which have the above information noted on the mill tag will be accepted for use on Department projects. No seed shall be used which has a dated mill analysis or mill tag older than nine months.

Typical Seeding Mixture:

The Contractor shall verify seeding mixture with Landscape Architect prior to installation.

- 40% Switchgrass (Seeding Rate – 0.23lbs./1,000 SF)
- 20% Big Bluestem (Seeding Rate – 0.11lbs./1,000 SF)
- 20% Little Bluestem (Seeding Rate – 0.11lbs./1,000 SF)
- 20% Indian Grass (Seeding Rate – 0.10lbs./1,000 SF)

Shady Seeding Mixture:

The Shady Seed Mixture shall be used on Filter Strips 13-17 as shown on the plans.

The Contractor shall verify seeding mixture with Landscape Architect prior to installation.

The following seed mixture shall be applied at a seeding rate of 0.30lbs./acre

- 30% Virginia Wild Rye
- 20% Annual Ryegrass
- 15% Switchgrass, “Shelter”
- 10% Creeping Red Fescue
- 5% Autumn Bentgrass
- 5% Fox Sedge
- 5% Showy Tick Trefoil
- 5% Nimble Wills
- 5% Deer Tongue, “Tioga”

Construction Methods:

General. This work shall consist of preparing the ground and furnishing and placing all lime, fertilizer, and seed on the areas indicated on the Plans and as specified by the Engineer. This work shall include, in addition to the lime, fertilizer, and seed, the specified quantity of mulch required when placing the filter strip seed. The Engineer reserves the right to stop seeding operations whenever conditions are determined to be unfavorable. All materials used on this Contract shall be obtained by the Contractor from a dealer or manufacturer whose product is shown by analysis to fulfill the guarantee claimed by the producers.

Seeding Filter Strip.

a. *Topsoil Preparations.* All topsoil placement and grading where specified shall be completed before seeding.

1. Topsoil shall be in accordance with The Delaware Department of Transportation’s Standard Specification Section 732 – Top Soil.
2. Prepare subbase to eliminate uneven areas and low spots. Scarify subsoil to a depth of 3 inches.
3. Spread topsoil to a nominal depth of 6 inches over area to be seeded. Rake until smooth.
4. Place topsoil during dry weather and on dry, unfrozen subgrade.
5. Remove vegetative matter and foreign non-organic material from topsoil while spreading. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
6. Apply lime at the rate of 2 tons per acre. Apply 10-10-10 fertilizer at the rate of 930 pounds per acre. Mix thoroughly into the top 2 inches of the topsoil.
7. Lightly water to aid the dissipation of fertilizer. Irrigate the top level of soil uniformly.

b. *Quantities of Material.* The quantity of limestone shall be applied at the rate of 3000 lb/ac (3400 kg/ha). Fertilizer, wood cellulose fiber, and other required seeding agents shall be applied in accordance with the Materials Section. The quantity of seed applied shall be in accordance with the Seeding Mixture listed in the Materials Subsection (D).

c. *Application Equipment.* All wet application equipment shall have a tank equipped with an agitation system capable of keeping all of the solids in a state of complete suspension at all times during the seeding operation. All dry application equipment to include drop or hopper type spinner spreaders and drills shall require that all seed be blended by the seed supplier and so certified prior to dumping or loading to reduce seed segregation.

d. *Wet Application of Lime, Fertilizer, Wood Cellulose Fiber, Seed, Inoculant, and Any Coloring or Binding Agents.* The Contractor shall apply all ingredients specified for the seeding operations described in Construction Methods Subsection (a) according to both manufacturer's equipment and material specifications and as set forth according to individual seeding requirements as specified under the .

e. *Dry Application of Lime, Fertilizer, and Seed.* Only the ingredients described shall be applied by dry application. All lime, fertilizer, and seed shall be applied each as a separate operation when using dry methods of application. Dry application of lime, fertilizer, and seed shall apply to all forms of seeding described under Construction Methods Subsection (d).

f. *Responsibility for Seeded Areas.* The Contractor shall perform all seeding and mulching in accordance with this specification and in the presence of the Engineer. If all work as noted is performed in complete accordance with this specification to the satisfaction of the Engineer, all seeding and mulching so approved shall be accepted. The City retains the right to request that the Contractor reseed any and all areas where a satisfactory stand of grass, as determined by the Engineer, does not exist at the time of the final inspection. If the Engineer determines that reseeded is necessary, the Contractor shall begin reseeding within five working days of an oral or written request from the Engineer.

Method of Measurement:

The quantity of filter strip seeding will be measured as the actual number of square yards of surface area to be seeded.

Basis of Payment:

The quantity of filter strip seeding will be paid for at the Contract unit price per square yard. Price and payment will constitute full compensation for preparing the ground; for furnishing and placing all materials; and for all labor, equipment, tools, and incidentals required to complete the work.

Payment for any and all reseeding of areas, where a satisfactory stand of grass as determined by the Engineer does not exist at the time of final inspection, will be made at the Contract unit price for filter strip seeding. If the Contractor fails to respond within five working days of the Engineer's oral or written request, no payment for such reseeding will be made.

ITEM 31B – BIOFILTRATION SWALE SEEDING

Description:

This work consists of furnishing and placing biofiltration swale seeding.

Materials:

Water. Water shall conform to the requirements of DeDOT Standard Specifications Section 803.

Soil Supplements.

a. Limestone shall be ground agricultural limestone and shall contain not less than 85% calcium and magnesium carbonates. Dolomitic lime or magnesium lime shall contain at least 10% magnesium oxide. The limestone shall be ground to meet the following gradation:

<i>Sieve Size</i>	<i>Percent Passing</i>
No. 10 (2.00 mm)	100
No. 20 (850 µm)	90
No. 100 (150 µm)	50

b. Fertilizer shall conform to the following mix requirements:

Filter Strip Seeding

a. 70 lb/ac (78 kg/ha) nitrogen (N); 50% by weight of the nitrogen content shall be available from ureaformaldehyde.

- b. 42 lb/ac (47 kg/ha) available phosphate; phosphorous pentoxide (P₂O₅) shall be the sum of the water soluble and the citrato-soluble phosphate.
- c. 28 lb/ac (31 kg/ha) water soluble potash; potassium oxide (K₂O)
- c. Commercial fertilizer shall be furnished in containers plainly marked with the chemical analysis of the product or, if provided in bulk, a certificate guaranteeing the fertilizer analysis must accompany each delivery to the Project. No fertilizer shall be used which has not been marketed in accordance with the State and Federal laws.
- d. The ureaformaldehyde specified above shall meet the following requirements:
 - 1. The water insoluble nitrogen shall be at least 60% of the total nitrogen.
 - 2. The activity index of the water insoluble nitrogen shall be either:
 - a. not less than 40% by the Association of Official Analytical Chemists International (AOAC International) method for ureaformaldehyde products, or
 - b. not less than 50% by the AOAC International alkaline permanganate method, or
 - c. 80% by the AOAC International neutral permanganate method.
- e. Wood cellulose fiber shall be a processed wood product having uniform fiber characteristics which remains in uniform suspension in water under agitation and blends with seed, fertilizer, and other additives to form a homogeneous slurry.

The fiber shall perform satisfactorily in hydraulic seeding equipment without clogging or damaging the system. The slurry shall contain a green dye that provides easy visual inspection for uniformity of application.

Grass Seed

- a. *Seeds.* All seed shall be fresh, clean, from new crop seed, and delivered to the site in original unopened packages in accordance with the Delaware Code and respective State laws.
- b. *Seed Inspection.*
 - 1. Blended seed lots shall be mixed in the presence of an authorized representative of the Department. All such blended seed shall also display an official Department's inspection tag which has been sewn into or otherwise attached to the bag. No seed shall be used after the expiration date placed on the official Department's inspection tag by an authorized representative of the Department.
 - 2. With all single seed lots, the Contractor shall furnish to the Project inspector two copies of the certified mill analysis for the seed to be used. The Project inspector will compare the mill analysis with the mill tags sewn into the bags of seed for lot number, guaranteed analysis, and certification date. If the mill tags and mill analysis data are identical and meet the Project requirements, single seed lots can be used on the basis of verification by the Project inspector. If the entire bag of a single seed lot is not used, the weight of the seed used from the bag shall be so noted on the mill tag which shall be left intact on the bag. In addition, the Project inspector will also include the Contract number of the Project and the date on which the seed was used, and so verify the above with its signature on the mill tag. Partial bags which have the above information noted on the mill tag will be accepted for use on Department

projects. No seed shall be used which has a dated mill analysis or mill tag older than nine months.

Seeding Mixture:

The Contractor shall verify seeding mixture with Landscape Architect prior to installation.

- 20% Virginia Wild Rye (Seeding Rate – 0.33lbs./1,000 SF)
- 15% Fox Sedge (Seeding Rate – 0.33lbs./1,000 SF)
- 10% Soft Rush (Seeding Rate – 0.33lbs./1,000 SF)
- 8% Giant Bur Reed (Seeding Rate – 0.33lbs./1,000 SF)
- 8% Blue Vervain (Seeding Rate – 0.33lbs./1,000 SF)
- 6% Wool Grass (Seeding Rate – 0.33lbs./1,000 SF)
- 5% New England Aster (Seeding Rate – 0.33lbs./1,000 SF)
- 5% American Mannagrass (Seeding Rate – 0.33lbs./1,000 SF)
- 5% Eastern Bur Red (Seeding Rate – 0.33lbs./1,000 SF)
- 4% Green Bulrush (Seeding Rate – 0.33lbs./1,000 SF)
- 3.5% Cosmo Sedge (Seeding Rate – 0.33lbs./1,000 SF)
- 3.5% Lurid Sedge (Seeding Rate – 0.33lbs./1,000 SF)
- 2% Rattlesnake Grass (Seeding Rate – 0.33lbs./1,000 SF)
- 2% Hop Sedge (Seeding Rate – 0.33lbs./1,000 SF)
- 2% Nodding Sedge (Seeding Rate – 0.33lbs./1,000 SF)
- 1% Wild Brome Grass (Seeding Rate – 0.33lbs./1,000 SF)

Construction Methods:

General. This work shall consist of preparing the ground and furnishing and placing all lime, fertilizer, and seed on the areas indicated on the Plans and as specified by the Engineer. This work shall include, in addition to the lime, fertilizer, and seed, the specified quantity of mulch required when placing the filter strip seed. The Engineer reserves the right to stop seeding operations whenever conditions are determined to be unfavorable. All materials used on this Contract shall be obtained by the Contractor from a dealer or manufacturer whose product is shown by analysis to fulfill the guarantee claimed by the producers.

Seeding Biofiltration Swales.

a. *Topsoil Preparations.* All topsoil placement and grading where specified shall be completed before seeding.

8. Topsoil shall be in accordance with The Delaware Department of Transportation's Standard Specification Section 732 – Top Soil.
9. Prepare subbase to eliminate uneven areas and low spots. Scarify subsoil to a depth of 3 inches.
10. Spread topsoil to a nominal depth of 6 inches over area to be seeded. Rake until smooth.
11. Place topsoil during dry weather and on dry, unfrozen subgrade.
12. Remove vegetative matter and foreign non-organic material from topsoil while spreading. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
13. Apply lime at the rate of 2 tons per acre. Apply 10-10-10 fertilizer at the rate of 930 pounds per acre. Mix thoroughly into the top 2 inches of the topsoil.
14. Lightly water to aid the dissipation of fertilizer. Irrigate the top level of soil uniformly.

b. *Quantities of Material.* The quantity of limestone shall be applied at the rate of 3000 lb/ac (3400 kg/ha). Fertilizer, wood cellulose fiber, and other required seeding agents shall be applied in accordance with the Materials Section. The quantity of seed applied shall be in accordance with the Seeding Mixture listed in the Materials Subsection (D).

c. *Application Equipment.* All wet application equipment shall have a tank equipped with an agitation system capable of keeping all of the solids in a state of complete suspension at all times during the seeding operation. All dry application equipment to include drop or hopper type spinner spreaders and drills shall require that all seed be blended by the seed supplier and so certified prior to dumping or loading to reduce seed segregation.

d. *Wet Application of Lime, Fertilizer, Wood Cellulose Fiber, Seed, Inoculant, and Any Coloring or Binding Agents.* The Contractor shall apply all ingredients specified for the seeding operations described in Construction Methods Subsection (a) according to both manufacturer's equipment and material specifications and as set forth according to individual seeding requirements as specified under the .

e. *Dry Application of Lime, Fertilizer, and Seed.* Only the ingredients described shall be applied by dry application. All lime, fertilizer, and seed shall be applied each as a separate operation when using dry methods of application. Dry application of lime, fertilizer, and seed shall apply to all forms of seeding described under Construction Methods Subsection (d).

f. *Responsibility for Seeded Areas.* The Contractor shall perform all seeding and mulching in accordance with this specification and in the presence of the Engineer. If all work as noted is performed in complete accordance with this specification to the satisfaction of the Engineer, all seeding and mulching so approved shall be accepted. The City retains the right to request that the Contractor reseed any and all areas where a satisfactory stand of grass, as determined by the Engineer, does not exist at the time of the final inspection. If the Engineer determines that reseeded is necessary, the Contractor shall begin reseeding within five working days of an oral or written request from the Engineer.

Method of Measurement:

The quantity of biofiltration swale seeding will be measured as the actual number of square yards of surface area to be seeded.

Basis of Payment:

The quantity of biofiltration swale seeding will be paid for at the Contract unit price per square yard. Price and payment will constitute full compensation for preparing the ground; for furnishing and placing all materials; and for all labor, equipment, tools, and incidentals required to complete the work.

Payment for any and all reseeding of areas, where a satisfactory stand of grass as determined by the Engineer does not exist at the time of final inspection, will be made at the Contract unit price for biofiltration swale seeding. If the Contractor fails to respond within five working days of the Engineer's oral or written request, no payment for such reseeding will be made.

ITEM 31C – NATIVE STEEP SLOPE SEEDING

Description:

This work consists of furnishing and placing native steep slope seeding.

Materials:

Water. Water shall conform to the requirements of DelDOT Standard Specifications Section 803.

Soil Supplements.

a. Limestone shall be ground agricultural limestone and shall contain not less than 85% calcium and magnesium carbonates. Dolomitic lime or magnesium lime shall contain at least 10% magnesium oxide. The limestone shall be ground to meet the following gradation:

<i>Sieve Size</i>	<i>Percent Passing</i>
No. 10 (2.00 mm)	100
No. 20 (850 µm)	90
No. 100 (150 µm)	50

b. Fertilizer shall conform to the following mix requirements:

Native Steep Slope Seeding

a. 70 lb/ac (78 kg/ha) nitrogen (N); 50% by weight of the nitrogen content shall be available from ureaformaldehyde.

b. 42 lb/ac (47 kg/ha) available phosphate; phosphorous pentoxide (P₂O₅) shall be the sum of the water soluble and the citrato-soluble phosphate.

c. 28 lb/ac (31 kg/ha) water soluble potash; potassium oxide (K₂O)

c. Commercial fertilizer shall be furnished in containers plainly marked with the chemical analysis of the product or, if provided in bulk, a certificate guaranteeing the fertilizer analysis must accompany each delivery to the Project. No fertilizer shall be used which has not been marketed in accordance with the State and Federal laws.

d. The ureaformaldehyde specified above shall meet the following requirements:

1. The water insoluble nitrogen shall be at least 60% of the total nitrogen.

2. The activity index of the water insoluble nitrogen shall be either:

a. not less than 40% by the Association of Official Analytical Chemists International (AOAC International) method for ureaformaldehyde products, or

b. not less than 50% by the AOAC International alkaline permanganate method, or

c. 80% by the AOAC International neutral permanganate method.

e. Wood cellulose fiber shall be a processed wood product having uniform fiber characteristics which remains in uniform suspension in water under agitation and blends with seed, fertilizer, and other additives to form a homogeneous slurry.

The fiber shall perform satisfactorily in hydraulic seeding equipment without clogging or damaging the system. The slurry shall contain a green dye that provides easy visual inspection for uniformity of application.

Grass Seed

a. *Seeds.* All seed shall be fresh, clean, from new crop seed, and delivered to the site in original unopened packages in accordance with the Delaware Code and respective State laws.

b. *Seed Inspection.*

1. Blended seed lots shall be mixed in the presence of an authorized representative of the Department. All such blended seed shall also display an official Department's inspection tag which has been sewn into or otherwise attached to the bag. No seed

shall be used after the expiration date placed on the official Department's inspection tag by an authorized representative of the Department.

2. With all single seed lots, the Contractor shall furnish to the Project inspector two copies of the certified mill analysis for the seed to be used. The Project inspector will compare the mill analysis with the mill tags sewn into the bags of seed for lot number, guaranteed analysis, and certification date. If the mill tags and mill analysis data are identical and meet the Project requirements, single seed lots can be used on the basis of verification by the Project inspector. If the entire bag of a single seed lot is not used, the weight of the seed used from the bag shall be so noted on the mill tag which shall be left intact on the bag. In addition, the Project inspector will also include the Contract number of the Project and the date on which the seed was used, and so verify the above with its signature on the mill tag. Partial bags which have the above information noted on the mill tag will be accepted for use on Department projects. No seed shall be used which has a dated mill analysis or mill tag older than nine months.

Native Steep Slope Seeding Mixture:

The Contractor shall verify seeding mixture with Landscape Architect prior to installation.

The following seed mixture shall be applied at a seeding rate of 30 lb/acre

- 20% Annual Ryegrass
- 20% Little Bluestem
- 16% Canada Wild Rye
- 10% Switchgrass, 'Shelter'
- 8% Autumn Bentgrass
- 8% Purple Top
- 5% Lance Leaved Coreopsis
- 4% Ticklegrass (Rough Bentgrass)
- 4% Virginia Wild Rye
- 3% Tall White Beard Tongue
- 2% Wild Bergamot

Construction Methods:

General. This work shall consist of preparing the ground and furnishing and placing all lime, fertilizer, and seed on the areas indicated on the Plans and as specified by the Engineer. This work shall include, in addition to the lime, fertilizer, and seed, the specified quantity of mulch required when placing the filter strip seed. The Engineer reserves the right to stop seeding operations whenever conditions are determined to be unfavorable. All materials used on this Contract shall be obtained by the Contractor from a dealer or manufacturer whose product is shown by analysis to fulfill the guarantee claimed by the producers.

Seeding Steep Slopes.

a. *Topsoil Preparations.* All topsoil placement and grading where specified shall be completed before seeding.

15. Topsoil shall be in accordance with The Delaware Department of Transportation's Standard Specification Section 732 – Top Soil.

16. Prepare subbase to eliminate uneven areas and low spots. Scarify subsoil to a depth of 3 inches.

17. Spread topsoil to a nominal depth of 6 inches over area to be seeded. Rake until smooth.

18. Place topsoil during dry weather and on dry, unfrozen subgrade.

19. Remove vegetative matter and foreign non-organic material from topsoil while spreading. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

20. Apply lime at the rate of 2 tons per acre. Apply 10-10-10 fertilizer at the rate of 930 pounds per acre. Mix thoroughly into the top 2 inches of the topsoil.

21. Lightly water to aid the dissipation of fertilizer. Irrigate the top level of soil uniformly.

b. *Quantities of Material.* The quantity of limestone shall be applied at the rate of 3000 lb/ac (3400 kg/ha). Fertilizer, wood cellulose fiber, and other required seeding agents shall be applied in accordance with the Materials Section. The quantity of seed applied shall be in accordance with the Seeding Mixture listed in the Materials Subsection (D).

c. *Application Equipment.* All wet application equipment shall have a tank equipped with an agitation system capable of keeping all of the solids in a state of complete suspension at all times during the seeding operation. All dry application equipment to include drop or hopper type spinner spreaders and drills shall require that all seed be blended by the seed supplier and so certified prior to dumping or loading to reduce seed segregation.

d. *Wet Application of Lime, Fertilizer, Wood Cellulose Fiber, Seed, Inoculant, and Any Coloring or Binding Agents.* The Contractor shall apply all ingredients specified for the seeding operations described in Construction Methods Subsection (a) according to both manufacturer's equipment and material specifications and as set forth according to individual seeding requirements as specified under the .

e. *Dry Application of Lime, Fertilizer, and Seed.* Only the ingredients described shall be applied by dry application. All lime, fertilizer, and seed shall be applied each as a separate operation when using dry methods of application. Dry application of lime, fertilizer, and seed shall apply to all forms of seeding described under Construction Methods Subsection (d).

f. *Responsibility for Seeded Areas.* The Contractor shall perform all seeding and mulching in accordance with this specification and in the presence of the Engineer. If all work as noted is performed in complete accordance with this specification to the satisfaction of the Engineer, all seeding and mulching so approved shall be accepted. The City retains the right to request that the Contractor reseed any and all areas where a satisfactory stand of grass, as determined by the Engineer, does not exist at the time of the final inspection. If the Engineer determines that reseeding is necessary, the Contractor shall begin reseeding within five working days of an oral or written request from the Engineer.

Method of Measurement:

The quantity of native steep slope seeding will be measured as the actual number of square yards of surface area to be seeded.

Basis of Payment:

The quantity of native steep slope seeding will be paid for at the Contract unit price per square yard. Price and payment will constitute full compensation for preparing the ground; for furnishing and placing all materials; and for all labor, equipment, tools, and incidentals required to complete the work.

Payment for any and all reseeding of areas, where a satisfactory stand of grass as determined by the Engineer does not exist at the time of final inspection, will be made at the Contract unit price for native steep slope seeding. If the Contractor fails to respond within five working days of the Engineer's oral or written request, no payment for such reseeding will be made.

ITEM 37B – RIPRAP, R-3

ITEM 37C – RIPRAP, R-4

ITEM 37D – RIPRAP, R-5

ITEM 37E – RIPRAP, R-6

ITEM 37F – RIPRAP, R-7

This work shall consist of furnishing and placing stone riprap. This work shall also consist of preparing the bedding area for the placement of riprap. The materials and construction shall be in accordance with The Delaware Department of Transportation's Standard Specification Section 712 – Riprap, and in reasonably close conformity with the lines, grades, dimensions and locations shown on the plans or established by the Engineer. The quantity of stone riprap shall be paid for at the contract unit price per cubic yard.

ITEM 37G – GEOTEXTILE FOR RIPRAP

This work shall consist of furnishing and placing geotextile before the placement of riprap. The geotextile shall be Mirafi 700X or Erosion 1 manufactured by Synthetic Industries, Linq GTF 400E or Poly-Filter X manufactured by Carthage Mills, Terra Tex Ep manufactured by WEBTEC, Inc., or an approved equal.

The quantity of geotextile will be paid for at the contract unit price per square yard.

ITEM 39A – SUPERPAVE, TYPE C HOT-MIX, 115 GYRATIONS, PG 64-22

ITEM 39B – SUPERPAVE, TYPE B HOT-MIX, 115 GYRATIONS, PG 64-22

ITEM 39C – SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 115 GYRATIONS, PG 64-22

In accordance with The Delaware Department of Transportation's Standard Special Provision Item 401644 - Superpave, Type C Hot-Mix, 115 Gyration, PG 64-22 (Carbonate Stone), Item 401647 - Superpave, Type C Hot-Mix, 115 Gyration, PG 64-22, and Item 401662 - Superpave, Bituminous Concrete Base Course, 115 Gyration, PG 64-22.

Description:

The following Subsections of the DelDOT Standard Specifications shall be applicable: 401.01, 401.03 - 401.10, 401.12, and 401.13. All other subsections have been modified herein.

Materials:

Materials for hot-mix, hot-laid bituminous concrete shall conform to the requirements of Subsections 823.01, 823.05- 823.17, and 823.25 - 823.28 of the DelDOT Standard Specifications and the following.

Asphalt Binder:

The asphalt binder shall meet the requirements of Superpave PG 64-22, PG 70-22, or PG 76-22 performance grade asphalt, as referenced in the Plans, according to M-320, Table 1 and tested according to AASHTO PP6 with the following test ranges:

TEST PROCEDURE	AASHTO REFERENCE	SPECIFICATION LIMITS
Temperature, °C	M-320	Per Grade
Original DSR, G*/sin (δ)	T-315	1.00 - 2.00 kPa
RTFO DSR, G*/sin (δ)	T-315	2.20 - 5.00 kPa
PAV DSR, G*/sin (δ)	T-315	1400 - 5000 kPa
BBR Creep Stiffness	T-313	90.0 - 300.0 kPa
BBR — value	T-313	0.300 - 0.440

Substitution of a higher temperature grade will require prior approval by the Engineer. If PG 76-22 is the specified binder, recycled asphalt pavement(RAP) and natural sand shall not be allowed in the mixture. If a producer would like to submit a mixture with natural sand, the Engineer will perform a deformation test using the Asphalt Pavement Analyzer (APA). The sample will be tested per AASHTO TP xxx “Determining Rutting Susceptibility of Asphalt Paving Mixtures Using the Asphalt Pavement Analyzer (APA).” If the depth of measured permanent deformation is 2 mm or less after 8000 strokes and a fatigue criteria of less than 1.0 mm/stroke after at least 50000 strokes, the mixture may be approved for use.

Shingles:

Only shingles reclaimed from shingle manufacturers such as tabs, punch-outs, and damaged new shingles shall be allowed in the mixture. Post-consumer shingles or used shingles shall not be permitted in the mixture and all shingles shall be free of all foreign material and moisture. Fiberglass-backed and organic felt-backed shingles shall be kept separately and both materials shall not be used in the same mixture at the same time. The shingles shall be broken down in the mixing process with 100% passing the ½ in (12.5 mm) sieve. Shipping, handling, and shredding costs are incidental to the price of Superpave bituminous concrete.

The overall percentage of RAP and recycled shingles (5% maximum) shall not exceed 20% of the mixture. The RAP and recycled shingles mixture are not permitted on wearing course.

Mineral Aggregate:

The mineral aggregate employed in the target gradation of the job mix formula (JMF) shall conform to Section 805 and the following criteria. These criteria apply to the combined aggregate blend.

DESIGN ESAL'S (MILLIONS)	COARSE AGGREGATE ANGULARITY ¹ (% MIN)		FINE AGGREGATE ANGULARITY ² (% MIN)		CLAY CONTENT ³ (% - MIN)	FLAT AND ELONGATED ⁴ (% - MAX)
	≤ 100 MM	> 100 MM	≤ 100 MM	> 100 MM		
< 0.3	55/-	-/-	-	-	40	-
0.3 to < 3	75/-	50/-	40	40	40	10
3 to <10	85/80 ⁵	60/-	45	40	45	
10 < 30	95/90	80/75	45	40	45	
≥30	100/100	100/100	45	45	50	

¹Coarse Aggregate Angularity is tested according to ASTM D5821.

²Fine Aggregate Angularity is tested according to AASHTO TP-33.

³Clay Content is tested according to AASHTO T176.

⁴Flat and Elongated is tested according to ASTM 4791 with a 5:1 aspect ratio.

⁵ 85/80 denotes that 85% of the coarse aggregate has one fractured face and 80% has two or more fractured faces.

The following source properties apply to the individual aggregates in the aggregate blend for the proposed JMF.

TEST METHOD	SPECIFICATION LIMITS
Toughness , AASHTO T96 Percent Loss, Maximum	40
Soundness , AASHTO T104 Percent Loss, Maximum for five cycles	20
Deleterious Materials , AASHTO T112 Percent, Maximum	10
Moisture Sensitivity , AASHTO T283 Percent, Minimum	80

For any roadway with a minimum average daily traffic volume (ADT) of 8000 vehicles and a posted speed of 35 mph (60 kph) or greater, the polish value of the composite aggregate blend shall be greater than 8.0 when tested according to Maryland State Highway Administration MSMT 411 – “Laboratory Method of Predicting Frictional Resistance of Polished Aggregates and Pavement Surfaces.” RAP shall be assigned a value of 4.0. The contractor shall supply all polish values to the Engineer upon request.

Mineral Filler:

The mineral filler shall conform to AASHTO M17.

Mixture Requirements:

Gradation: The FHWA Superpave 0.45 Power Chart with the recommended restricted zone shall be used to define permissible gradations for the specified mixture. Type C shall be either a No.4 (4.75 mm), 3/8” (9.5 mm), or 1/2” (12.5 mm) Nominal Maximum Aggregate Size Hot-Mix. Unless otherwise noted in the Plans, the Type C shall meet the 3/8” (9.5 mm) Nominal Maximum Aggregate Size. Type B Hot-Mix

shall be the 3/4" (19.0 mm) Nominal Maximum Aggregate Size and the Bituminous Concrete Base Course (BCBC) shall be the 1" (25.0 mm) Nominal Maximum Aggregate Size. Target values for percent passing each standard sieve for the design aggregate structure shall comply with the Superpave control points and should avoid the restricted zone. Percentages shall be based on the washed gradation of the aggregate according to AASHTO T11.

In addition to the results of the material requirements specified above, the following material properties shall be provided by the contractor: bulk specific gravity G_{sb} , apparent specific gravity G_{sa} , and the absorption of the individual aggregate stockpiles to be used, tested according to AASHTO T84 and AASHTO T85 and reported to three decimal places along with the specific gravity of the mineral filler to be used, tested according to AASHTO T100 and reported to three decimal places.

Superpave Gyrotory Compactive (SGC) Effort:

The Superpave Gyrotory Compaction effort employed throughout mixture design, field quality control, or field quality assurance shall be as indicated below. All mixture specimens tested in the SGC shall be compacted to N_M Height data provided by the SGC shall be employed to calculate volumetric properties at N_I , N_D , and N_M

Superpave Gyrotory Compactive (SGC) Effort:

DESIGN TRAFFIC LEVEL (MILLION ESAL'S)	$N_{INITIAL}$	N_{DESIGN}	$N_{MAXIMUM}$
0.3 to < 3	7	75	115
3 to < 30	8	100	160
≥ 30	9	125	205

Volumetric Design Parameters. The design aggregate structure at the target asphalt cement content shall satisfy the volumetric criteria below:

DESIGN ESAL'S (MILLION)	REQUIRED DENSITY (% OF THEORETICAL MAXIMUM SPECIFIC GRAVITY)			VOIDS-IN-MINERAL AGGREGATE (% - MINIMUM) NOMINAL MAX. AGGREGATE (MM)					VOIDS FILLED WITH ASPHALT (% - MINIMUM)
	$N_{INITIAL}$	N_{DESIGN}	N_{MAX}	25.0	19.0	9.5	12.5	4.75	
0.3 to < 3	≤ 90.5								65.0 - 78.0
3 to < 10									
10 < 30									
≥ 30	≤ 89.0	96.0	≤ 98.0	12.0	13.0	15.0	14.0	16.0	65.0 - 75.0 ¹

Air voids (V_a) at N_{design} shall be 4.0% for all ESAL designs. Air voids (V_a) at N_{max} shall be a minimum of 2.0% for all ESAL designs

The dust to binder ratio for the mix having aggregate gradations above the PCS Control Points shall be 0.6-1.2. For aggregate gradations below the PCS Control Points, the dust to binder ratio shall be

0.8-1.6. For the No. 4 (4.75 mm) mix, the dust to binder ratio shall be 0.9-2.0 whether above or below the PCS Control Points.

For 3/8" (9.5 mm) Nominal Maximum Aggregate Size mixtures, the specified VFA range shall be 73.0% to 76.0% and for 4.75 mm Nominal Maximum Size mixtures, the range shall be 75 % to 78% for design traffic levels ≥ 3 million ESALs.

Gradation Control Points:

The combined aggregates shall conform to the gradation requirement specified in the following table when tested according to T-11 and T-27.

Nominal Maximum Aggregates Size Control Points, Percent Passing										
	25.0 MM		19.0 MM		12.5 MM		9.5 MM		4.75 MM	
SIEVE SIZE	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
37.5 MM	100	-	-	-	-	-	-	-	-	-
25.0 MM	90	100	100	-	-	-	-	-	-	-
19.0 MM	-	90	90	100	100	-	-	-	-	-
12.5 MM	-	-	-	90	90	100	100	-	100	-
9.5 MM	-	-	-	-	-	90	90	100	95	100
4.75 MM	-	-	-	-	-	-	-	90	90	100
2.36 MM	19	45	23	49	28	58	32	67	-	-
1.18 MM	-	-	-	-	-	-	-	-	30	60
0.075 MM	1	7	2	8	2	10	2	10	6	12

Note: The aggregate's gradation for each sieve must fall within the minimum and maximum limits.

Gradation Classification:

The Primary Control Sieve (PCS) defines the break point of fine and coarse mixtures. The combined aggregates shall be classified as coarse graded when it passes below the Primary Control Sieve (PCS) control point as defined below. All other gradations shall be classified as fine graded.

PCS CONTROL POINT FOR MIXTURE NOMINAL MAXIMUM AGGREGATES SIZE (% PASSING)					
Nominal maximum Aggregates Size	25.0 mm	19.0 mm	12.5 mm	9.5 mm	4.5 mm
Primary Control Sieve	4.75 mm	4.75 mm	2.36 mm	2.36 mm	1.18 mm
PCS Control Point	40	47	39	47	30-60

Plant Production Tolerances:

Volumeric Property	Superpave Criteria
Air Voids (V_a) at (%) N_m	2.0 (min)
Air Voids (V_a) at N_{design} (%)	5.5 (max)
Voids in Mineral Aggregate (VMA) at N_{design}	
25.0 mm Bituminous Concrete Base Course	-1.2
19.0 mm Type B Hot-Mix	+2.0
12.5 mm Type C Hot-Mix	
9.5 mm Type C Hot-Mix	
4.5 mm Type C Hot-Mix	

Design Evaluation:

The Contractor shall furnish a Job Mix Formula (JMF) for review and approval. The Engineer may elect to evaluate the proposed JMF and suitability of all materials. All materials requested by the Engineer shall be provided at the Contractor's expense to the Central Laboratory in Dover in a timely manner upon request. To verify the complete mixture design and evaluate the suitability of all materials, the following approximate quantities are required:

- 5.25 gal (20 liters) of the asphalt binder;
- 0.13 gal (0.5 liters) sample of liquid heat-stable anti-strip additive;
- 254 lb. (115 kg) of each coarse aggregate;
- 154 lb. (70 kg) of each intermediate and fine aggregate;
- 22 lb. (10 kg) of mineral filler; and
- 254 lb. (115 kg) of RAP, when applicable.

The proposed JMF shall include the following:

Plot of the design aggregate structure on the FHWA Superpave 0.45 power chart showing the maximum density line, Superpave control points, and recommended restricted zone.

Plot of the three trial asphalt binder contents at +/- 0.5% gyratory compaction curves where the percent of maximum specific gravity (% of G_{mm}) is plotted against the log base ten of the number of gyrations (log (N)) showing the applicable criteria for N_i , N_d , and N_m .

Plot of the percent asphalt binder by total weight of the mix (P_b) versus the following:

% of G_{mm} at N_d , VMA at N_d , VFA at N_d , Fines to effective asphalt binder (P_{be}) ratio, and unit weight (kg/m²) at both N_d and N_m .

Summary of the consensus property standards test results for the design aggregate structure, summary of the source property standards test results for the individual aggregates in the design aggregate structure, target value of the asphalt binder content, and a table of G_{mm} of the asphalt mixture for the four trial asphalt binder contents determined according to AASHTO T209.

The JMF shall also include the NCAT Ignition Oven calibration for the specific materials utilized for this mix.

Compaction:

Compaction shall be tested and paid per Item 401699 - Quality Control/Quality Assurance of Bituminous Concrete .05 (b) Pavement Construction - Tests and Evaluations.

Method of Measurement and Basis of Payment:

Method of Measurement and Basis of Payment will be in accordance with Subsections 401.14 and 401.15 of the DelDOT Standard Specifications.

ITEM 39D – SAW CUTTING

This work consists of saw cutting existing bituminous and/or concrete pavement to accommodate the installation of portland cement concrete curb ramps, collapsible and removable bollards. All materials and construction methods shall conform to the requirements of The Delaware Department of Transportation's Standard Specification Section 762 – Saw Cutting Portland Cement and Hot-Mix, Hot-Laid Bituminous Concrete, except as follows:

The quantity of saw cutting will be paid for at the contract unit price per linear foot.

ITEM 44A – CHAIN LINK FENCE (6'-0" HIGH)

Description:

This work consists of furnishing all materials and installing 6'-0" high chain link fence identified on the construction plans.

Materials and Construction Methods:

All materials and construction methods shall conform to the requirements of The City of Newark Standard Specification Item 44 – Chain Link Fence, the construction plans, including fence detail sheet and the additional specifications described herein.

Color shall be Forest Green.

Method of Measurement:

The quantity of chain link fence will be measured as the actual number of linear feet along the fence, excluding gates, constructed and accepted.

Basis of Payment:

The quantity of chain link fence will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for the furnishing of all materials, labor, tools, equipment, hauling, concrete footings, fasteners, excavation and backfilling for footings, grading if required and incidentals necessary to complete the work.

NOTE: The installation and placement of concrete footings shall be incidental to Item 44A – Chain Link Fence (6'0" High) listed above and shall be included in the unit cost for Item 44A – Chain Link Fence (6'0" High). Furnish, construct and install concrete footings in accordance with the details shown on the construction plans and following related contract items: Item 2 – Excavation and Embankment, Item 11 – Portland Cement Concrete Masonry, Item 13 – Bar Reinforcement.

SUBMITTALS: Submit layout shop drawings of chain link fence including all fence components. Submit samples of each typical fence component.

ITEM 44B – WOOD RAIL FENCE

Description:

This work consists of furnishing all materials, and erecting a pressure treated wood fence in accordance with the notes and details on the Plans, these specifications and as directed by the Engineer.

Materials:

The timber, including posts, backers and vertical boards, shall be Southern Yellow Pine, Number 2 grade or better and shall be pressure treated with chromated copper arsenate, with 0.4 pounds retained per cubic foot, in conformance with Section 601.

The hardware, including nails, bolts and fasteners, shall be hot dipped galvanized and shall conform to Section 601. Concrete for footings shall meet the requirements of Section 812, Class B.

Construction Methods:

Installation methods shall conform to applicable portions of Section 727 of the Standard Specifications and as noted on the Plans. Prior to fence installation, all required clearing and grubbing, and tree trimming shall be completed. Clearing and grubbing, tree and stump removal and tree trimming will all be paid for under Item 1, Clearing and Grubbing.

The fence shall be installed true to line, as indicated, and grade and the top elevation shall be uniform. The vertical boards shall be placed on the roadway side of posts and backers and shall be a nominal 30 (75 mm) above the ground line unless shown otherwise in the Plans. If any grading is required to meet the 30 (75 mm) above the ground criteria as stated above or details shown in the Plans, the cost for such work shall be considered as part of these items. The vertical boards of the fence shall be installed prior to cutting or shaping the top as shown in the Plans.

Method of Measurement:

The quantity of wood fence will be measured as the actual number of linear feet along the fence, excluding gates, constructed and accepted.

Basis of Payment:

The quantity of wood fence will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for the furnishing of all materials, labor, tools, equipment, hauling, concrete footings, fasteners, excavation and backfilling for footings, grading if required and incidentals necessary to complete the work.

ITEM 45 – CHAIN LINK GATE

Description:

This work consists of furnishing all materials and installing chain link access gates identified on the construction plans.

Materials and Construction Methods:

All materials and construction methods shall conform to the requirements of The City of Newark Standard Specification Item 44 – Chain Link Fence, the construction plans, including detail fence detail sheet and the additional specifications described herein.

Provide Swing Gate Fence System with 16'-0" opening

Color: Green

Method of Measurement:

The quantity of chain link gate will be measured as each.

Basis of Payment:

The quantity of chain link gate will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for the furnishing of all materials, labor, tools, equipment, hauling, concrete footings, fasteners, excavation and backfilling for footings, grading if required and incidentals necessary to complete the work.

NOTE: The installation and placement of concrete footings shall be incidental to Item 45 – Chain Link Gate listed above and shall be included in the unit cost for Item 45 – Chain Link Gate. Furnish, construct and install concrete footings in accordance with the details shown on the construction plans and following related contract items: Item 2 – Excavation and Embankment, Item 11 – Portland Cement Concrete Masonry, Item 13 – Bar Reinforcement.

SUBMITTALS: Submit layout shop drawings of chain link gate including all gate and fence components.

ITEM 47A – PVC CONDUIT UNDER EXISTING PAVEMENT, 2"

In accordance with The Delaware Department of Transportation's Standard Specification Section 745 – Conduits (Non-Metallic or Galvanized).

ITEM 47B – PVC CONDUIT UNDER NEW PAVEMENT OR IN SODDED TRENCH, 2"

In accordance with The Delaware Department of Transportation's Standard Specification Section 745 – Conduits (Non-Metallic or Galvanized).

ITEM 47C – CONDUIT JUNCTION WELL, TYPE 1

In accordance with The Delaware Department of Transportation's Standard Specification Section 744 – Conduit Junction Wells.

ITEM 47D – CONDUIT JUNCTION WELL, TYPE 2

In accordance with The Delaware Department of Transportation's Standard Specification Section 744 – Conduit Junction Wells.

ITEM 47E – PULL WIRE

Description:

This work consists of furnishing and installing pull wire in empty lighting PVC conduits.

Materials:

Use No. 14 AWG zinc-coated steel or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches of slack at each end of the pull wire.

Method of Measurement:

The quantity of pull wire will be measured as the actual number of linear feet of pull wire installed.

Basis of Payment:

The quantity of pull wire will be paid for at the contract unit price per linear feet.

ITEM 48A - BASIC ELECTRICAL MATERIALS AND METHODS

GENERAL DESCRIPTION

This Section includes the following:

- Raceways.
- Building wire and connectors.
- Supporting devices for electrical components.
- Electrical identification.
- Touchup painting.

DEFINITIONS

- IMC: Intermediate metal conduit.
- RNC: Rigid nonmetallic conduit.

QUALITY ASSURANCE

Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
Comply with NFPA 70.

COORDINATION

Coordinate electrical service connections to components furnished by utility companies. Coordinate installation and connection of exterior underground and overhead utilities and services. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

PART 1 - PRODUCTS

RACEWAY

IMC: ANSI C80.6, zinc-coated steel, with threaded fittings.

RNC: NEMA TC 2, Schedule 40 PVC, with NEMA TC3 fittings.

Raceway Fittings: Specifically designed for the raceway type with which used.

CONDUCTORS

Include this Article for projects if branch circuits and feeders use nonmetallic sheathed cable, armored cable, metal-clad cable, or single conductor wire in raceway. For more complex projects, or if requirements are more stringent, delete this Article and specify conductors in Division 16 Section "Conductors and Cables."

Conductors, No. 10 AWG and Smaller: Solid or stranded copper.

Conductors, Larger Than No. 10 AWG: Stranded copper.

Insulation: Thermoplastic, rated at 75 deg C minimum.

Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated.

SUPPORTING DEVICES

Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.

Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.

ELECTRICAL IDENTIFICATION

Underground Warning Tape:

Permanent, bright-colored, continuous-printed, vinyl tape with the following features:

Not less than 6 inches wide by 4 mils thick. Compounded for permanent direct-burial service.

Embedded continuous metallic strip or core.

TOUCHUP PAINT

For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.

Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

PART 2 - EXECUTION

RACEWAY APPLICATION

Use the following raceways for outdoor installations:

Exposed: IMC.

Underground, Single Run: RNC.

Underground, Grouped: RNC.

Boxes and Enclosures: NEMA 250, Type 3R or Type 4.

RACEWAY AND CABLE INSTALLATION

Provide temporary raceway caps to prevent foreign matter from entering.

Make conduit bends and offsets so ID is not reduced. Keep legs of bends in the same plane and straight legs of offsets parallel, unless otherwise indicated.

Use raceway and cable fittings compatible with raceways and cables and suitable for use and location.

WIRING METHODS FOR POWER, LIGHTING, AND CONTROL CIRCUITS

Underground Feeders and Branch Circuits: Type THWN or Type UF insulated conductors in raceway.

WIRING INSTALLATION

Install splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

ELECTRICAL SUPPORTING DEVICE APPLICATION

Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, U-channel system components.

SUPPORT INSTALLATION

Install support devices to securely and permanently fasten and support electrical components.

IDENTIFICATION MATERIALS AND DEVICES

Install continuous underground metallic marking tape during trench backfilling, for exterior underground power, control, signal, and communication lines located directly above power and communication lines. Locate 6 to 8 inches below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches, overall, use a single line marker.

Inspect installed components for damage and faulty work, including the following

Raceways.

Building wire and connectors.

Supporting devices for electrical components.

Electrical identification.

Touchup painting.

REFINISHING AND TOUCHUP PAINTING

Refinish and touch up paint.

Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.

Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.

Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

CLEANING AND PROTECTION

On completion of installation, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.

Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

PART 3 - PAYMENT

MEASUREMENT AND PAYMENT

The actual length and quantity of specified item in the plans or as directed by the Engineer, and constructed according to these specifications, shall be paid for on a lump sum basis, complete, in place, and accepted.

BASIS OF PAYMENT

The length and quantity of items, as determined above, shall be paid for at the Contract lump sum price bid for "Basic Electrical Materials and Methods," which price and payment shall include all conduit, wire, junction boxes, trenching, backfill type and all other materials, labor, equipment, tools and incidentals necessary to complete the work.

NOTE:

On a breakout sheet attached to the Bid proposal, the Contractor shall list separate price for linear foot conduit and wire installations.

The City reserve the right to delete from the Contract, construction conduit and wire installation(s), and the lump sum to be paid will be reduced in accordance with the amount listed on the breakout sheet for the deletions of the conduit and wire. There will be no extra compensation to the Contractor if such a deletion is made.

ITEM 48B - EXTERIOR LIGHTING

GENERAL

SUMMARY

This Section includes exterior lighting units with luminaires, lamps, ballasts, poles/support structures, and accessories.

DEFINITIONS

Lighting Unit: A luminaire or an assembly of luminaires complete with a common support, including pole, post, or other structure, and mounting and support accessories.

Luminaire (Light Fixture): A complete lighting device consisting of lamp(s) and ballast(s), when applicable, together with parts designed to distribute light, to position and protect lamps, and to connect lamps to power supply.

SUBMITTAL

Product Data: For each type of lighting unit indicated, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:

Materials and dimensions of luminaires and poles.

Certified results of independent laboratory tests for fixtures and lamps for electrical ratings and photometric data.

Certified results of laboratory tests for fixtures and lamps for photometric performance. High-intensity-discharge luminaire ballasts.

Shop Drawings: Anchor-bolt templates keyed to specific poles and certified by manufacturer.

Product Certificates: Signed by manufacturers of lighting units certifying that products comply with requirements.

QUALITY ASSURANCE

Luminaires and Accessories: Listed and labeled as defined in NFPA 70, Article 100, for their indicated use, location, and installation conditions by a testing agency acceptable to authorities having jurisdiction
Comply with ANSI C2.
Comply with NFPA 70.

DELIVERY, STORAGE, AND HANDLING OF POLES

Store poles on decay-resistant treated skids at least 12 inches (300 mm) above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.

Retain factory-applied pole wrappings on metal poles until just before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

WARRANTY

General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

Special Warranty: Written warranty, signed by manufacturer and Installer agreeing to replace external parts of luminaires and poles exhibiting a failure of finish as specified below. This warranty is in addition to, and not a limitation of, other rights and remedies Owner may have under requirements of the Contract Documents.

Protection of Metal from Corrosion: Warranty against perforation or erosion of finish due to weathering.
Color Retention: Warranty against fading, staining, and chalking due to effects of weather and solar radiation.
Warranty Period: Manufacturer's standard, but not less than three years from date of Substantial Completion.

EXTRA MATERIALS

Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Glass and Plastic Lenses, Covers, and Other Optical Parts: 1 for every 100 of each type and rating installed. Furnish at least one of each type.

Ballasts: 1 for every 100 of each type and rating installed. Furnish at least one of each type.

Globes and Guards: 1 for every 20 of each type and rating installed. Furnish at least one of each type.

PRODUCTS

MANUFACTURERS

Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products indicated in the Exterior Lighting Fixture Schedule on the drawings.

LUMINAIRES

Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.

Metal Parts: Free from burrs, sharp corners, and edges.

Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.

Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.

Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and when secured in operating position. Provide for door removal for cleaning or replacing lens. Arrange to disconnect ballast when door opens.

Exposed Hardware Material: Stainless steel.

Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and ultraviolet radiation.

Reflecting Surfaces: Minimum reflectance as follows, unless otherwise indicated:

White Surfaces: 85 percent.

Specular Surfaces: 83 percent.

Diffusing Specular Surfaces: 75 percent.

Lenses and Refractors: Materials as indicated. Use heat- and aging-resistant, resilient gaskets to seal and cushion lens and refractor in luminaire doors.

Photoelectric Relays: As follows: Contact Relays: Single throw, arranged to fail in the on position and factory set to turn light unit on at 1.5 to 3 fc (16 to 32 lx) and off at 4.5 to 10 fc (48 to 108 lx) with 15-second minimum time delay.

Relay Mounting: In luminaire housing.

High-Intensity-Discharge Ballasts: Comply with ANSI C82.4. Constant wattage autotransformer or regulating high-power-factor type, unless otherwise indicated.

Ballast Fuses: One in each ungrounded supply conductor. Voltage and current ratings as recommended by ballast manufacturer.

Single-Lamp Ballasts: Minimum starting temperature of minus 40 deg C.

Open-circuit operation will not reduce average life.

High-Pressure Sodium Ballasts: Equip with a solid-state igniter/starter having an average life in pulsing mode of 10,000 hours at an igniter/starter case temperature of 90 deg C.

Noise: Uniformly quiet operation, with a noise rating of B or better.

Surge Protector: Hard-wired unit external to ballast case, rated for supply circuit line voltage, and encapsulated for circuit and moisture protection. Three-stage surge protection with three suppression modes provides 330-V peak clamping, line to neutral, line to ground, and neutral to ground. Pulse life is 500 3KA-8x20 microsecond impulses, and response time is less than 1 nanosecond. Internal fuse takes device off line on failure and lights a light-emitting diode failure indicator.

Instant High-Pressure Sodium Restrike Starters: Solid-state, potted module, mounted inside luminaire.

Compatible with mogul-base high-pressure sodium lamps, ballasts, and sockets up to 150 W.

Lamps: Comply with the standard of the ANSI C78 series that is applicable to each type of lamp. Provide luminaires with indicated lamps of designated type, characteristics, and wattage.

LUMINAIRE SUPPORT COMPONENTS

Description: Comply with AASHTO LTS-3 for pole or other support structures, brackets, arms, appurtenances, base, and anchorage and foundation.

Wind-Load Strength of Total Support Assembly: Adequate to carry support assembly plus luminaires at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of 100 mph (160 km/h) with a gust factor of 1.3. Support assembly includes pole or other support structures, brackets, arms, appurtenances, base, and anchorage and foundation.

Strength Analysis: For each pole type and luminaire combination, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.

Finish: Match finish of pole/support structure for arm, bracket, and tenon mount materials.
Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.

Materials: Will not cause galvanic action at contact points.

Mountings: Correctly position luminaire to provide indicated light distribution.

Anchor Bolts, Nuts, and Washers: Hot-dip galvanized after fabrication unless stainless-steel items are indicated.

Anchor-Bolt Template: Plywood or steel.

Pole/Support Structure Bases: Anchor type with hold-down or anchor bolts, leveling nuts, and bolt covers.

Concrete for Pole Foundations:

Design Strength: 3000-psi (20.7-MPa), 28-day compressive strength.

FINISHES

Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

Aluminum: Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

Class I, Color Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: medium satin; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 606.1 or AAMA 608.1.

Steel: Grind welds and polish surfaces to a smooth, even finish.

Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."

Interior: Apply one coat of bituminous paint on interior of pole, or otherwise treat to prevent corrosion.

Polyurethane Enamel: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.

EXECUTION

INSTALLATION

Concrete Foundations:

Comply with details for reinforcement and for anchor bolts, nuts, and washers. Verify anchor-bolt templates by comparing with actual pole bases furnished.

Finish for Parts Exposed to View: Trowel and rub smooth.

Install poles as follows:

Use web fabric slings (not chain or cable) to raise and set poles.

Mount pole to foundation with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.

Secure poles level, plumb, and square.

Grout void between pole base and foundation. Use nonshrinking or expanding concrete grout firmly packed in entire void space.

Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.

Luminaire Attachment: Fasten to indicated structural supports.

Lamp luminaires with indicated lamps according to manufacturer's written instructions. Replace malfunctioning lamps.

CONNECTIONS

Ground equipment.

Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

Ground metal poles.

Ground metallic components of lighting units and foundations. Connect luminaires to grounding system with No. 6 AWG conductor.

FIELD QUALITY CONTROL

Inspect each installed unit for damage. Replace damaged units.

Advance Notice: Give dates and times for field tests.

Tests and Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.

Malfunctioning Fixtures and Components: Replace or repair, then retest. Repeat procedure until units operate properly.

CLEANING AND ADJUSTING

Clean units after installation. Use methods and materials recommended by manufacturer.

EXECUTION

MEASUREMENT AND PAYMENT

The actual number of lighting units specified in the plans or as directed by the Engineer, and constructed according to these specifications, shall be paid for on a lump sum basis, complete, in place, and accepted.

BASIS OF PAYMENT

The number of lighting units, as determined above, shall be paid for at the Contract lump sum price bid for "Exterior Lighting," which price and payment shall include all conduit, junction boxes, ornamental poles, pole foundations and all other materials, labor, equipment, tools and incidentals necessary to complete the work.

NOTE:

On a breakout sheet attached to the Bid proposal, the Contractor shall provide the price for each lighting unit installations. The City reserve the right to delete from the Contract, construction of one or more of the individual lighting units, and the lump sum to be paid will be reduced in accordance with the amount listed on the breakout sheet for the particular installation(s) deleted. There will be no extra compensation to the Contractor if such a deletion is made.

ITEM 48C - COMMUNICATIONS CIRCUITS

GENERAL

SUMMARY

Section includes arrangement with Telecommunications Utility Company for telecommunication service; payment of Utility Company charges for service installation; and furnish and installing emergency phones and wiring.

REFERENCES

EIA/TIA 568 (Electronic Industries Association/Telecommunications Industries Association) - Commercial Building Telecommunication Wiring Standard.

EIA/TIA 569 (Electronic Industries Association/Telecommunications Industries Association)- Commercial Building Standard for Telecommunications Pathways and Spaces.

NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

SYSTEM DESCRIPTION

Service Entrance Pathway: Raceway from point of Telephone Utility connections at overhead poles to individual emergency phones at light poles.

Horizontal Pathway: Conform to EIA/TIA 569, using raceway as indicated.

Horizontal Wiring: Complete from overhead pole to each emergency phone using horizontal cables.

SUBMITTALS

Product Data: Submit catalog data for each termination device, cable, and emergency phone.

CLOSEOUT SUBMITTALS

Project Record Documents: Record actual locations and sizes of pathways and outlets.

QUALIFICATIONS

Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

Installer: Company specializing in installing products specified in this section with minimum three years experience, and with service facilities within 100 miles of project.

COORDINATION

Coordinate with the utility company, the relocation of any overhead of underground lines interfering with the construction. Relocate service locations shown on plans to existing locations if required.

Contact the utility company as to any charges related to the service installation. Include utility charges in this contract.

Coordinate with the University of Delaware, the City of Newark Police Department, and the City of Newark Electrical Department.

PRODUCTS

EMERGENCY TELEPHONE AND TELEPHONE MANAGEMENT SOFTWARE

Emergency Telephones

Emergency Telephones shall be Single Button, Surface-Mount and Housed in a weatherproof, safety yellow, cast aluminum enclosure, designed for surface-mounting; includes EMERGENCY push button. The emergency telephone shall include an Extreme Cold Weather Option to -40°C (120 V ac required).

Emergency Telephone Software

The Contractor shall provide Telephone Management Application (TMA) Package, including software CD, security key, USB transceiver, and cables. TMA shall be a Windows®-based software application, compatible with Windows XP® and Windows 7® that is intended for use on a dedicated PC.

LED Strobe – Blue Light

The Contractor shall provide 120 V ac LED Strobe; NEMA 3R Weatherproof Rating, Approx. 10 year life, UL/cUL Listed to mount to each emergency telephone.

SHIELDED HORIZONTAL CABLE

Manufacturers:

Clifford of Vermont

Product Description: Filled foam skin insulated cable with 12 pairs, 19 AWG copper conductor.

EXECUTION

INSTALLATION

Install pathways in accordance with EIA/TIA 569.

Install wire and cable in accordance with EIA/TIA 568.

Ground and bond pathways, cable shields, and equipment under the provisions of Section 16050.

Install phones on light poles as shown on the drawings and in accordance with ANSI A117.1-1986, Section 4.291

Install Telephone Management Software Modem in “PC” at the Newark Police Department. Each emergency telephone must be tested, after installation, to ensure proper operation.

FIELD QUALITY CONTROL

Inspect and test copper cables and terminations in accordance with EIA/TIA 568.

Demonstrate operation of each emergency phone.

PAYMENT

MEASUREMENT AND PAYMENT

The actual length and quantity of specified item in the plans or as directed by the Engineer, and constructed according to these specifications, shall be paid for on a lump sum basis, complete, in place, and accepted.

BASIS OF PAYMENT

The length and quantity of items, as determined above, shall be paid for at the Contract lump sum price bid for "Communications Circuits," which price and payment shall include all Emergency Telephones, conduit, wire, Type 2 lights, junction boxes, trenching, backfill and all other materials, labor, equipment, tools and incidentals necessary to complete the work.

NOTE

On a breakout sheet attached to the Bid proposal, the Contractor shall list the price for each Emergency Telephone Conduit and wiring installations.

The City reserve the right to delete from the Contract, construction of one or more of the individual Emergency Telephone and Conduit installation(s), and the lump sum to be paid will be reduced in accordance with the amount listed on the breakout sheet for the particular installation(s) deleted. There will be no extra compensation to the Contractor if such a deletion is made.

ITEM 49 – GEOTEXTILE, STABILIZATION

In accordance with The Delaware Department of Transportation's Standard Specification Section 713 – Geotextiles.

ITEM 50 – SITE FURNISHINGS

Description:

This work consists of furnishing all materials and installing site furnishings identified on the Plans as:

- a. Bench
- b. Bike Racks
- c. Litter receptacles
- d. Collapsible Bollards
- e. Trail Marker Posts
- f. Removable Steel Bollards – State Park
- g. Kiosk Structure
- h. Wooden Bollards
- i. TrailHead Information Signs/Maps

Materials and Construction Methods:

All materials and construction methods shall conform to the requirements and the details shown on the construction plans and the technical specifications as described herein.

- a. Benches: Shall be cast iron with 2" x 3" nom. recycled plastic slats and stainless steel fasteners. Color of bench shall be Black with Cedar plastic slats.

- b. Bike Racks: Shall be 7'-3" long Loop Bike Racks. Bike racks shall consist of 1 5/8" schedule 40 steel pipe and shall be brown in color.
- c. Litter Receptacles: Shall be 32 gallon litter receptacle, 3/4" #9 expanded metal, in ground mounted litter receptacle with 24" diameter plastic dome top. Contractor shall supply 32 gallon plastic trash cans with each litter receptacle. Color of litter receptacle shall be brown with a black dome lid.
- d. Collapsible Bollards: Shall be in accordance with the construction plan detail and include a wrench operated collapsible bollard, rectangular head, universal base, and standard hydrant wrench. Bollards shall include steel inserts and collapse down to no more than 3.5" above finished ground surface. Finish of bollards shall be seamless, hot-dipped, zinc-coated and shall be black in color. Bollards shall be breakaway units with steel inserts and the Contractor shall supply one (1) dozen additional steel inserts for inventory.
- e. Trail Marker Posts: Custom design in accordance with the details and at the locations as shown on the construction plans. Posts shall be 1/4" steel angle post and shall be painted white with 1/8" raised black lettering.
- f. Removable Steel Bollards (State Park): Shall be in accordance with the construction plan details and at the locations as shown on the construction plans. Bollards shall be 6"x6" treated post with reflector panel placed on all four sides.
- g. Kiosk Structure: Custom design in accordance with the details and at the locations as shown on the construction plans. Kiosk shall consist of 4" square tube structure with forest green powder coat. Roof shall be metal seam roof painted brick red. Cedar lapsiding shall be installed on the sides of the kiosk as shown on the construction plans.
- h. Wooden Bollards: Shall be PPT pressure treated 6"x 6" posts installed in accordance with the details and at the locations shown on the construction plans. All posts shall have a 3" x 4" reflector screwed to the facing side as shown on the construction details. All hardware shall be hot dipped galvanized. Cuts and chamfers shall be straight, true and clean meeting carpentry trade standards.
- j. TrailHead Information Signs / Maps: Shall be fiberglass embedded sign and low profile frame with double pedestal direct burial mounting as shown on plans. The City of Newark and DNREC will provide the final graphic design for each sign prior to fabrication/ordering. The sign manufacturer shall submit one proof for each sign map to the Engineer for approval.

Notes:

1. The installation and placement of concrete footings shall be incidental to the Site Furnishing Items listed above and shall be included in the breakout unit cost for each site furnishing item. Furnish, construct and install concrete footings in accordance with the details shown on the construction plans and following related contract items: Item 2 – Excavation and Embankment, Item 11 – Portland Cement Concrete Masonry and Item 13 – Bar Reinforcement.
2. The installation and placement of the existing railroad rails at the Kiosk at Station 236+68 shall be incidental to the Site Furnishing Item and shall be included in the breakout unit cost for the Kiosk Structure. The cost associated with installing the Unit Pavers and associated base materials shall be incidental to Item 26B – Unit Pavers, Type A.

Submittals:

Contractor shall submit shop drawing(s) for each site furnishing. Shop drawings shall show all components and specify finishes. Shop drawings shall be approved prior to the ordering and/or delivery of site furnishings, with exception of trail markers which shall have a sample mock-up provided prior to final approval and ordering.

Method of Measurement:

The quantities of site furnishings are shown on the plans or as directed by the Engineer, and constructed according to these specifications, shall be paid for on a lump sum basis, complete, in place, and accepted.

Basis of Payment:

The quantity of site furnishings will be paid for at the Contract Lump Sum price. Price and payment will constitute full compensation for furnishing all materials, labor, tools, equipment and incidentals required to complete the work.

NOTE: The Breakout Sheet attached to the Proposal list the nine (9) items identified above for site furnishings.

The Contractor shall specify a unit bid price for each item listed. The lump sum bid price for Item 50 – Site Furnishings shall be the sum of the prices for the individual items listed. The typewritten breakout shall be attached at the top of the bid proposal. Failure to submit the breakout sheet with the bid proposal will result in the Bid Proposal being declared non-responsive and rejected.

The City reserves the right to delete from the contract the furnishing and installation of one or more of the items listed. The lump sum to be paid will be adjusted in accordance with the Contractor's individual item prices as required above. There will be no extra compensation to the Contractor if such deletions are made.

The location of each site furnishing including benches, kiosks, bike racks, litter receptacles, collapsible bollards, wood bollards, Trail Markers, TrailHead information signs/maps, and wooden split rail fence will be as indicated on the Contract Drawings with the final location as determined by the Engineer at the time of installation.

ITEM 51 – MAINTENANCE OF TRAFFIC

Description:

This item shall consist of all work performed by the Contractor to maintain vehicular, bicycle and pedestrian traffic through the project's work zones, including, but not limited to, the passage through the area of persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA) Title II, paragraph 35.130. All work associated with this item shall be completed as shown on the Plans or as directed by the Engineer.

All work shall be performed in a manner that will reasonably provide the least practicable obstruction to all road users, including vehicular traffic, bicycle traffic and pedestrian traffic. All temporary traffic control and temporary traffic control devices shall comply with the contract documents and with the latest edition of the manual titled "Delaware Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD)," hereafter referred to as the "Delaware MUTCD", including all revisions as of the date of the advertisement of this Contract.

This item shall include installing, maintaining and/or relocating the temporary traffic control devices depicted in the approved Temporary Traffic Control (TTC) Plan, standard Delaware MUTCD TTC Cases and as required by project phasing.

The safety measures outlined within this Contract and the Delaware MUTCD are not necessarily sufficient in every instance to guarantee the protection of the traveling public or the persons working on the project. Therefore, the provisions of this Contract do not relieve the Contractor of the sole responsibility for the safety of all persons working within or traveling through the work zone throughout the duration of the project. The Contractor shall implement any additional safety measures that are not expressly required by the Contract and are necessary to ensure the safety of all persons. The Contractor shall submit to the Engineer justification for deviations from the TTC plan or additions to the TTC plan included in the contract documents. Final approval of the deviations or additions shall rest with the Engineer.

The Department reserves the right to stop the Contractor's operations, if in the opinion of the Engineer:

1. The Contractor's operations are not in compliance with the Delaware MUTCD, the specifications or the Plans.
2. The Contractor's operations are unsafe.

Construction Methods:

If the Contractor desires to deviate from the Temporary Traffic Control Plan (TTCP) provided in the Contract Documents or desires changes to the phasing or scope of the TTCP, the Contractor shall submit a new TTCP to the Engineer for approval prior to the start of work at each and every location. The TTCP shall be prepared, signed and sealed by a Professional Engineer registered in the State of Delaware and shall be prepared in accordance with all applicable DelDOT standards. The TTCP shall be submitted 14 calendar days in advance of starting work. Longitudinal dimensions for maintenance of traffic configurations may be adjusted slightly to fit field conditions as directed by the Engineer.

When specified by a note in the project plans, the Contractor shall be required to have an American Traffic Safety Services Association (ATSSA) certified Traffic Control Supervisor on the project. The ATSSA certified Traffic Control Supervisor's sole responsibility shall be the maintenance of traffic throughout the project. This responsibility shall include, but is not limited to, the installation, operations, maintenance and service of temporary traffic control devices. Also required is the daily maintenance of a log to record maintenance of traffic activities, i.e. number and location of temporary traffic control devices; and times of installation, changes, and repairs to temporary traffic control devices. He/she shall also serve as the liaison with the Department concerning the Contractor's maintenance of traffic. The name and contact information for the ATSSA certified Traffic Control Supervisor shall be provided to the Engineer at the Preconstruction Meeting. A copy of the certifications for the ATSSA certified Traffic Control Supervisors proposed for the project shall be submitted to the Department with the Contractor's bid package. The cost of the ATSSA certified Traffic Control Supervisor shall be incidental to this item.

The Department will not make payment to the Contractor for any and all temporary traffic control devices where the Contractor sets up temporary traffic control to perform work, but fails to perform any work. This does not include long-term temporary traffic control set-ups that are installed as part of the maintenance of traffic plans outlined in the contract documents.

Temporary traffic control devices shall be maintained in good condition in accordance with the brochure entitled "Quality Guidelines for Temporary Traffic Control Devices", published by the American Traffic Safety Services Association (ATSSA). Any temporary traffic control devices that do not meet the quality

guidelines shall be removed and replaced with acceptable devices. Failure to comply will result in work stoppage with time charges continuing to be assessed.

Any existing signs that conflict with any temporary or permanent construction signs shall be covered as needed or as directed by the Engineer. The Contractor shall stake out locations of permanent warning signs in the field and receive approval from the Engineer for the location and method of mounting prior to ordering the signs. The Contractor, with the Engineer, shall inventory all existing signs within the Contract limits. Signs that must remain in place during the project shall be maintained by the Contractor. Any other existing signs shall be removed and properly stored by the Contractor to prevent loss or damage. Immediately prior to the final inspection, the Contractor and the Engineer shall again inventory the traffic signs and account for any lost or damaged signs. The Contractor shall replace or reimburse the Department for any lost or damaged signs.

Access to all businesses and residences within the Project limits shall be maintained throughout the duration of this Contract. Any temporary closure of a driveway or entrance for tie-in purposes shall be coordinated with the Engineer and the property owner in advance of the closure.

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

The Contractor shall provide all property owners and residents who live adjacent to the work zone with written notice, 48 hours in advance of the start of construction work. This notification shall include the scope of work, working hours, anticipated start and completion dates, a summary of construction activities which may interfere with access to the property including a schedule and access coordination plan, Contractor's name and address, and a City contact phone number. Failure to give proper notice will result in a suspension of the work requiring notice, until proper notice is provided. The Contractor shall provide written verification to the Engineer that the property owners and residents were notified.

All roadway closures or lane closures beyond those specified and approved in the Contract Documents, shall be approved by the Chief Traffic Engineer or Designee a minimum of 48 hours in advance of the proposed restriction.

The Contractor shall notify the Engineer no less than fourteen (14) calendar days prior to the start of any detours and road closures and the Engineer will then notify the following entities:

- Local 911 Center
- Local schools
- Local post offices
- DelDOT's Transportation Management Center (TMC)
- Town Managers
- Local Police
- Local Fire Department and Emergency Medical Services
- DelDOT's Public Information Center
- Delaware Transit Corporation (DTC)

Immediately prior to the implementation of any lane or roadway closures, the Engineer shall notify the DelDOT TMC at (302) 659-4600. Notifications shall also be given to the TMC when the closure is lifted. The Engineer shall notify the TMC and the district Safety Officer if lane closures cannot be removed prior to the end of the allowable work hours.

The Contractor shall notify the local 911 center if access to a fire hydrant is temporarily restricted. The Contractor shall provide written confirmation to the Engineer that the local 911 center was notified.

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

1. If work is being conducted within 200 feet in advance or up to 200 feet beyond an intersection that is controlled by a traffic signal, the Flagger shall direct the flow of traffic in concert with the traffic signal to avoid queuing unless active work prohibits such action. The Flagger shall direct traffic to prevent traffic from queuing through an intersection (i.e., blocking an intersection).
2. If work is being conducted within a signalized intersection or series of signalized intersections, the Engineer shall notify the DelDOT TMC no less than 24 hours in advance of the operation. If work is being conducted within a signalized intersection, a Traffic Officer may direct traffic against the operation of the traffic signal only until the operation occurring within the intersection is completed. When the operation within the intersection is complete, the Engineer shall notify the DelDOT TMC that the intersection is no longer impeded by construction activities.
3. Work in the vicinity of traffic signals shall be scheduled to minimize the time during which the signal is operated without detectors. Prior approval of the Engineer shall be required for such work to be scheduled. The Contractor shall submit a schedule to the Engineer for approval seven (7) days in advance of the proposed start date of this work. The DelDOT Transportation Management Center (TMC) requires 48 hours advance notice of the cutting of a loop detector, and immediate notification once the loop detector has been reinstalled. The Contractor shall coordinate with the Engineer sufficiently in advance of loop detector work to ensure that these requirements are met.
4. When a lane adjacent to an open lane is closed to traffic, the temporary traffic control devices shall be set 2' (0.61 m) into the closed lane from the edge of the open lane, unless an uncured patch exists or actual work is being performed closer to the open lane with minimum restriction to traffic.
5. Except for "buffer lanes" on high volume and/or high speed roadways, lanes shall not be closed unless construction activity requiring lane closure is taking place or will take place within one hour. Lanes shall be reopened immediately upon completion of the work. For moving operations the lane closure shall be shortened as work progresses and as traffic conditions warrant to keep the length of the closure to a minimum. The Contractor shall conduct construction operations in a manner so as to minimize disruption to traffic during peak hours and periods of heavy flow. The Department reserves the right to stop the Contractor's operations if, in the opinion of the Engineer, such operations are impeding traffic unnecessarily.

Any deficiencies related to temporary traffic control that are reported to the Contractor in writing shall be corrected within 24 hours or as directed by the Engineer. Corrective actions on severe deficiencies shall be taken immediately unless otherwise directed by the Engineer. Failure to comply will result in non-payment for those devices that are found to be deficient for the duration of the deficiency. Serious deficiencies that are not corrected immediately could result in possible suspension of work until items identified are brought back into compliance and/or the holding of the pay estimate until the serious deficiencies are corrected.

At the end of each workday, the Contractor shall correct all pavement edge drop-offs in accordance with Table 6G-1 in the Delaware MUTCD. This corrective work shall be accomplished with Temporary Road

Material (TRM) unless an alternate method is specified in the Plans. All ruts and potholes shall be filled with TRM as soon as possible, but no later than by the end of each workday. Placement of TRM shall be completed in accordance with the applicable sections of the Delaware Standard Specifications and shall be incidental to the appropriate item in the Contract. If temporary elimination of a drop-off hazard cannot be accomplished, then the area shall be properly marked and protected with additional temporary barriers, barricades, warning signs, flashing lights, etc. as required by Section 6G.21 of the Delaware MUTCD.

If an open trench accessible by vehicular traffic cannot be backfilled prior to the end of the working day, steel plates may be used to protect the trench area. Shop drawings for the steel plates shall be submitted to the Engineer for approval prior to starting construction. The Engineer shall forward the shop drawings to the Bridge Design Section for review and approval. The shop drawing shall show the intended method to brace, sheet, support or shore the excavation and to prevent a trench failure while the walls of the trench are under the load of traffic. The plan should include details of the plating design, the method of fastening plates, plate thickness, span, bearing and the method of preventing the movement of the plates. This design shall be prepared and signed by a Professional Engineer registered in the State of Delaware. Whenever steel plates are placed on a travel lane or shoulder, the associated temporary traffic control related to the use of steel plates shall follow the standards presented in Table 6G-1 of the Delaware MUTCD. The Contractor is required to provide a ramp (wedge) around the steel plate using bituminous temporary roadway material (TRM) placed at a slope of 20 to 1 or flatter. The cost for the wedge material shall be incidental to the item being constructed. If steel plates are used, the cost of furnishing and installing steel plates, bracing, sheeting, supporting or shoring the excavation and the preparation of shop drawings shall be incidental to the item being constructed. Steel plates are not permitted between November 1 and April 1, without the prior approval of the Engineer.

If pavement marking information is not provided in the Plans, the Contractor shall submit detailed drawings (including but not limited to, lane and shoulder widths, turn lane lengths, locations of stop bars, turn arrows, crosswalks and railroad crossings) that depict the existing pavement markings for each project location prior to beginning construction. These drawings will be reviewed by DelDOT's Traffic Section to determine if any changes to the final pavement markings are required.

At the end of each day's operation and before traffic is returned to unrestricted roadway use, temporary striping shall be applied to locations that require permanent striping. Temporary pavement striping shall match permanent pavement striping as shown on the Plans or as directed by the Engineer. Prior to the start of any activity which will affect the pavement surface and require the placement of temporary striping, the Contractor shall show the Engineer proof that he has scheduled placement of the necessary temporary striping to ensure that the temporary striping can be completed prior to fully opening the roadway to traffic. The Contractor is responsible for maintaining the temporary markings in good condition such that the pavement is properly delineated at all times. The Contractor shall refresh the temporary pavement markings as required or as directed by the Engineer.

The Contractor shall apply temporary pavement markings in accordance with the requirements of Section 748 of the Delaware Standard Specifications and Part 3 of the Delaware MUTCD. Payment for temporary pavement striping shall be made at the unit price bid for the applicable temporary striping or symbol items. Payment for final striping will be included in the applicable striping item. Temporary pavement markings shall match the Plan dimensions and layout or the approved drawings of the "permanent markings" and shall be installed in accordance with Part 3 of the Delaware MUTCD. All conflicting striping is to be removed as directed by the Engineer according to the specifications for Item 748530 – Removal of Pavement Striping. Painting over the conflicting striping will not be accepted unless specifically allowed by the Plans.

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

- December 24 through December 27 (Christmas Day)
- December 31 through January 3 (New Years Day)
- Friday prior to Easter through Easter Sunday
- Thursday prior to Memorial Day through the Tuesday following Memorial Day
- Dover International Speedway Race Weekends (Thursday prior to the race event through the day after the race event)
- July 3 through July 5 (Independence Day)
- Thursday prior to Labor Day through the Tuesday following Labor Day
- Wednesday prior to Thanksgiving Day through the Monday following Thanksgiving Day

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

Certification:

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

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

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

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

Category II includes temporary traffic control devices that are not expected to produce significant vehicular velocity changes to impacting vehicles. These devices, which shall weigh 45 kg (100 lbs.) or less, include Type III barricades, portable sign supports with signs, and intrusion alarms. Also included are drums, cones, and vertical panels with accessories or attachments.

Category III includes temporary traffic control devices that are expected to cause significant vehicular velocity changes to impacting vehicles. These devices, which weigh more than 45 kg (100 lbs.), include temporary barrier, temporary impact attenuators, and truck-mounted attenuators.

Category IV includes portable or trailer-mounted devices such as arrow panels, variable message signs, temporary traffic signals and temporary area lighting. Note that certification compliance to NCHRP Report 350 or MASH criteria is not required for Category IV devices.

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

Basis of Payment:

Payment will be made at the lump sum bid price for "Maintenance of Traffic", for which price and payment constitutes full compensation for all maintenance of traffic activities accepted by the Engineer and for maintaining and/or relocating all temporary traffic control materials required, including submission of temporary traffic control plans, submitting certifications, ATSSA supervision (if required per the project plans), traffic cones, correction of edge drop-offs and for all labor, equipment, tools, and incidentals necessary to complete the item. Payment to furnish and maintain temporary traffic control devices (including, but not limited to plastic drums, temporary and permanent warning signs, portable P.C.C. safety barrier, truck mounted attenuators, variable message signs, arrow panels, temporary pavement markings and portable light assemblies) will be made at the contract unit price for each item. The cost to move temporary traffic control devices in accordance with the temporary traffic control plan or as necessary to address safety issue is included in this item.

NOTE:

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

ITEM 52A – PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, 4”

This work consists of supplying and installing pavement markings in accordance with The Delaware Department of Transportation’s Standard Specification Section 748 – Pavement Markings.

ITEM 52B – PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC

This work consists of supplying and installing pavement markings in accordance with The Delaware Department of Transportation’s Standard Specification Section 748 – Pavement Markings.

ITEM 52C - RETROREFLECTIVE PREFORMED PATTERNED MARKING, 4”

Description:

This work shall consist of furnishing and installing retroreflective preformed patterned pavement marking in accordance with this provision and in conformance to the existing pavement markings or as established by the Engineer. The Contractor is required to have all subcontractors involved in the placement of these markings attend the pre-placement meeting along with the tape manufacturer representative and Department representatives to coordinate this operation. The subcontractor for pavement markings shall be approved by the Department prior to the preconstruction meeting.

Materials:

General: The preformed patterned markings shall consist of white or yellow films with clear microcrystalline ceramic beads incorporated to provide immediate and continuing retroreflection. The markings shall be suitable for application on new or existing P.C. Concrete or bituminous pavements with a pre-coated pressure sensitive adhesive

The preformed marking material must be used prior to one year from date of manufacture. When not placed by inlaid method a surface preparation adhesive shall be used. The markings shall be capable of providing retroreflection during both wet and dry conditions.

The markings shall be highly durable retroreflective pliant polymer materials designed for longitudinal and word/symbol markings subjected to high traffic volumes and severe wear conditions such as shear action from crossover or encroachment on typical longitudinal configurations such as edge lines and lane lines. This film shall be manufactured without the use of lead chromate pigments or other similar, lead-containing chemicals.

Composition: The pavement marking shall consist of a mixture of high quality polymeric materials and pigments with glass beads distributed throughout the base cross-sectional area, with a reflective layer of microcrystalline ceramic beads bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 50% plus or minus 15% of the surface area raised and presenting a near vertical face, angled from 0 degrees to 60 degrees, to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles. The marking shall have a precoated pressure sensitive adhesive. The edges of the markings shall be clean cut and true.

Retroreflectance: The white and yellow markings shall have the initial expected retroreflectance values as shown in Table 1 under dry, wet, and rainy conditions. The photometric quantity to be measured shall be coefficient of retroreflected luminance (R_L) and shall be expressed as millicandelas per square foot per foot-candle [$(\text{mcd} \times \text{ft}^{-2}) \times \text{fc}^{-1}$]. The metric equivalent shall be expressed as millicandelas per square meter per lux [$(\text{mcd} \times \text{m}^{-2}) \times \text{lx}^{-1}$].

Retroreflectance values shall be measured under dry conditions in accordance with the testing procedures of ASTM D4061. Retroreflectance values shall be measured under wet conditions in accordance with ASTM E2176 or ASTM E2177. Wet retroreflectance values measured under a condition of continuous wetting@ (simulated rain) shall be in accordance with ASTM E2176. Wet retroreflectance values measured under a condition of wetness@ shall be in accordance with ASTM E2177.

Table 1		
Expected Initial R_L under dry, wet, and rainy conditions		
<u>White</u>	<u>Dry</u>	<u>Wet & Rainy</u>
Entrance Angle	88.76E	88.76E
Observation Angle	1.05E	1.05E
Retroreflected Luminance	500	250
$R_L [(mcd \times m^{-2}) \times lx^{-1}]$		
<u>Yellow</u>	<u>Dry</u>	<u>Wet & Rainy</u>
Entrance Angle	88.76E	88.76E
Observation Angle	1.05E	1.05E
Retroreflected Luminance	300	250
$R_L [(mcd \times m^{-2}) \times lx^{-1}]$		

Beads, Index of Refraction: All Adry-performing@ microcrystalline ceramic beads bonded to the polyurethane-coated, patterned surface of the material shall have a minimum index of refraction of 1.70 when tested using the liquid oil immersion method. All Awet-performing@ microcrystalline ceramic beads bonded to the polyurethane-coated, patterned surface of the material shall have a minimum index of refraction of 2.30 when tested using the liquid oil immersion method. The glass beads mixed into the pliant polymer shall have a minimum index of refraction of 1.5 when tested by the liquid oil immersion method.

Beads, Acid Resistance: The beads shall show resistance to corrosion of their surface after exposure to a 1% solution (by weight) of sulfuric acid. The 1% acid solution shall be made by adding 5.7 cc of concentrated acid into 1000 cc of distilled water.

Color: The markings shall consist of white and/or yellow films with pigments selected and blended to conform to standard highway colors.

Skid Resistance: The patterned surface of the markings shall provide an initial average skid resistance value of 45 BPN when tested according to ASTM E 303.

Patchability: The pavement marking material shall be capable of use for patching worn areas of the same type in accordance with manufacturer's instructions.

Thickness: The patterned material without adhesive shall have a minimum caliper of 0.065 inches (1.651mm) at the thickest portion of the patterned cross section and a minimum caliper of 0.020 inches (.508mm) at the thinnest portion of the cross section.

Tolerance: The Contractor will be responsible for applying these markings in a straight manner not exceeding 1/20 (12 mm) per 40N (12 m). Any markings exceeding the 1/20 (12 mm) tolerance will require the Contractor to make corrective action approved by the Engineer and the tape manufacturer representative at no extra cost to the Department.

Construction Methods:

The Contractor shall be certified, by the manufacturer, in the installation of the pavement marking material prior to the start of the markings. The Contractor shall install the pavement marking material in accordance with the manufacturer=s published recommendations.

The manufacturer shall provide technical assistance as required to ensure successful installation of the markings. This shall include a representative on site for the start of the markings, training, product information, problem solving, etc.

Installation of the pavement markings shall be performed in a neat and workmanlike manner. The Contractor shall premark the pavement to ensure correct location of markings and such layout work shall be incidental to the price bid for the pavement marking items. The method for premarking should be as recommended by the manufacturer. A thin layer of paint as a premarking is not recommended. Particular care shall be taken to ensure that the leading edges of the markings are secured to the pavement.

General application rules:

- X The Air and surface temperature shall be a minimum of 40E F.
- X The pavement must be clean and dry. 24 hours of dry weather where no rain is expected.

- X When not placed by inlaid method a surface preparation adhesive shall be used.
- X Do not overlap tape - use butt splice.
- X Do not apply tape on longitudinal seams or joints or cracks.
- X Do not apply tape on deteriorating pavement surfaces.
- X Existing markings must be 80% removed.

After application, the markings shall be immediately ready for use by traffic.

Inlay into Fresh Bituminous Concrete:

When markings are specified in the contract for newly paved asphalt concrete surfaces, they shall be applied before public traffic is allowed on the freshly paved surface - the pavement markings shall be inlaid in the fresh surface during final rolling of the mat, in accordance with the manufacturer's recommendations unless otherwise directed by Engineer.

The Contractor shall show how the pavement mats will be placed to avoid applying the tape on longitudinal seams or joints or cracks and maintain correct marking location.

The Contractor shall employ a sufficient number of workers to premark the pavement and install the markings such that all markings are inlaid into the hot pavement prior to the finish rolling. No paving shall be permitted unless the striping crew and materials are on the project site.

- General procedure for inlay application on fresh asphalt surfaces:
 - Tape is applied after the compaction roller and before the finish roller using minimum water, slow speed and no vibration.
 - Tape shall be applied using equipment recommended by manufacturer
 - Tamping shall be done by the finish roller and in the same direction the tape was applied. A separate roller of a size approved by the tape manufacturer may be required to meet the manufacturer's requirements.
 - Roller shall use minimum speed to prevent wrinkling the tape.
 - Asphalt temperatures shall be between 180EF (66EC) and 120EF (49EC) when tape is applied.

NOTE: Even though the tape will stand these high temperatures the Contractor is to use caution to assure the asphalt is firm enough to walk on above 140EF (60EC).

Placement on new P.C. Concrete Pavement:

When markings are specified in the contract for new P.C. concrete pavement surfaces they shall be applied after the concrete has adequately cured as determined by the Engineer and prior to opening to traffic.

1. When a membrane curing compound has been applied to the concrete surface, it shall be removed by sandblasting prior to applying the markings. Cost for such sandblasting shall be incidental to the price bid for the pavement marking item. The road shall be cleaned by sweeping and with high pressure air.
2. The manufacturer shall specify a primer/solvent for the pavement surface.
3. The tape shall be applied with an approved applicator.
4. The tape shall be tamped with a roller tamper cart with a minimum 200 lb (90 kg) load or by slowly (2-3 mph [3-5 km/hr]) driving over the tape with a vehicle tire. Do not twist or turn on the tape. A minimum of three passes back and forth over the tape will be required. All edges of the tape shall be thoroughly tamped.

Placement on Existing Pavement:

When markings are specified in the contract for existing pavement, the pavement surface shall be free of any existing markings.

1. The road shall be cleaned by sweeping and with high pressure air.

Steps 2 through 4 are the same as for new P.C. C. pavement.

Method of Measurement:

This work will be measured for payment by the number of linear feet (meters) of line or square foot (meter) of symbol/legend of Retroreflective Preformed Patterned Markings installed on the pavement and accepted in accordance with the plans.

Basis of Payment:

This work will be paid for at the contract unit price bid per linear foot (meter) of line or square meter of symbol/legend as measured for item "Retroreflective Preformed Patterned Markings" of the type specified. This price shall include cleaning and preparing the pavement surface, furnishing and placing all materials, for all labor, tools, equipment and incidentals necessary to complete the work.

WARRANTY

The Contractor shall warrant to the Department that the installed retroreflective preformed patterned pavement markings are free of defects, as hereafter defined, for one calendar year beginning at the initial acceptance of the marking installation by the Department. The initial acceptance of the marking installation will occur upon the satisfactory correction of all deficiencies noted in the marking installation during the Final Inspection of the project. The markings shall show no fading, lifting, shrinking, tearing, rollback, distortion or chipping due to vehicular traffic or normal maintenance activities including snow plowing. Although some wear is expected, the markings shall remain intact and serviceable (as defined below) for no less than 95% of the total item quantities in the first year of installation.

In addition, the pavement markings shall be warranted to retain a minimum reflective value of 150 millicandelas per square foot (meter) per lux for the first year after initial acceptance.

Reflectance Measurements Procedures during One (1) Year:

1. Within the project limits, reflectance measurements shall be taken at specified checkpoint areas as outlined below:
 - Reflectance measurements shall be taken on one skip in every 100N (30 linear meters). Two measurements must be taken on each skip that is tested, one measurement at each end of skip (within 60 (150 mm) of the end).
 - For continuous lines, reflectance measurements shall be taken at approximate 100N (30 meter) intervals throughout the project limits.

The Department reserves the right to test additional areas. Each measurement shall meet the minimum reflective value of 150 millicandelas per square foot (meter) per lux or the material shall be replaced.

2. All reflectance measurements shall be made on a clean, dry surface at a minimum temperature of 40EF (4EC).
3. All reflectance measurements shall be made using a "LTL 2000@ retroreflectometer.
1. One year from initial installation acceptance all pavement marking material shall meet the minimum retained coefficient of dry retroreflection value of 125 millicandelas per foot squared per foot-candle (in accordance with ASTM E1710), and meet the minimum retained coefficient of wet retroreflection value of 75 millicandelas per foot squared per foot-candle (in accordance with ASTM E2177) for the following Warranty Periods.

Warranty Periods		
Application	Dry Retroreflectivity Warranty Period	Wet Retroreflectivity Warranty Period
Longitudinal Markings	4 years	2 years
Symbols and Legends	2 years	1 year

After initial installation, the Contractor shall submit to the Department a Warranty Bond to insure the State of Delaware during the above Warranty periods. The bond shall be in the sum of 100% percent of the original contract total cost bid for this item. The bond secures performance by the Contractor of any corrective work identified by the Department during the first (or subsequent) inspections after initial acceptance of the work. The bond shall be in effect for the entire warranty period (including the time to perform corrective work) listed in the table above. The Engineer will withhold in reserve an amount equal to 50 percent of the total Contract amount bid for this item until the Warranty Bond has been received.

The Contractor shall repair all defective areas identified by the Department after initial installation or during the Warranty Period. All repairs shall begin immediately following the notice to the Contractor unless weather limitations prevent the corrective work. Should the Contractor not commence work within seventy-two hours, weather permitting, and pending severity, the Department reserves the right to remedy the condition and charge the Contractor for the work. The Contractor will be given the option of

reimbursing the state prior to charging this work toward the bond. Any corrective work shall be as recommended by the manufacturer of the marking material and approved by the Department. The Department shall be given notification before the Contractor begins corrective work to allow for inspection of the operation. All costs associated with the repair work shall be the responsible of the Contractor. These costs shall include, but are not limited to, removal, material, maintenance of traffic, etc.

ITEM 53 – INITIAL EXPENSE

In accordance with The Delaware Department of Transportation’s Standard Specification Section 763 – Initial Expense.

ITEM 54 – CONSTRUCTION ENGINEERING

Description:

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

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

The Engineer will only establish the following:

- (a) Original and final cross-sections for borrow pits.
- (b) Final cross-sections for all excavation items.
- (c) Line and grade for extra work added on to the project plans.

Equipment:

The Contractor shall use adequate equipment/instruments in a good working order. He/she shall provide written certification that the equipment/instrument has been calibrated and is within manufacturer=s tolerance. The certification shall be dated a maximum of 9 months before the start of construction. The Contractor shall renew the certification a minimum of every 9 months. The equipment/instrument shall have a minimum measuring accuracy of [3mm+2ppmxD] and an angle accuracy of up to 2.0 arc seconds or 0.6 milligons. If the Contractor chooses to use GPS technology in construction stakeout, the Contractor shall provide the Engineer with a GPS rover for the duration of the contract. The GPS rover shall be in good working condition and of similar make and model used by the Contractor. The Contractor shall provide up to 8 hours of formal training on the Contractor=s GPS system to a maximum of four Engineer=s appointees. At the end of the contract, the Engineer will return the GPS rover to the Contractor. If any of the equipment/instruments are found to be out of adjustment or inadequate to perform its function, such instrument or equipment shall be immediately replaced by the Contractor to the satisfaction of the Engineer.

Engineering/Survey Staff:

The Contractor shall provide and have available for the project an adequate engineering staff that is competent and experienced to set lines and grades needed to construct the project. The engineering personnel required to perform the work outlined herein shall have experience and ability compatible with the magnitude and scope of the project. Additionally, the Contractor shall employ an engineer or surveyor licensed in the State of Delaware to be responsible for the quality and accuracy of the work done

by the engineering staff. When individuals or firms other than the Contractor perform any professional services under this item, that work shall not be subject to the subcontracting requirements of Subsection 108.01 of the Standard Specifications. The Contractor shall assume full responsibility for any errors and/or omissions in the work of the engineering staff described herein. If construction errors are caused due to erroneous work done under Construction Engineering the Contractor accepts full responsibility, no matter when the error is discovered. Consideration will not be given for any extension of contract time or additional compensation due to delays, corrective work, or additional work that may result from faulty and erroneous construction stakeout, surveying, and engineering required by this specification.

Construction Methods:

Performance Requirements:

- (a) Construction Engineering shall include establishing the survey points and survey centerlines; finding, referencing, offsetting the project control points; running a horizontal and vertical circuit to check the accuracy of given control points. Establishing plan coordinates and elevations marks for culverts, slopes, subbase, subsurface drains, paving, subgrade, retaining walls, and any other stakes required for control lines and grades; and setting vertical control elevations, such as footings, caps, bridge seats and deck screed. The Contractor shall be responsible for the preservation of the Department's project control points and benchmarks. The Contractor shall establish and preserve any temporary control points (traverse points or benchmarks) needed for construction. Any project control points (traverse points) or benchmarks conflicting with construction of the project shall be relocated by the Contractor. The Contractor as directed by the Engineer must replace any or all stakes that are destroyed at any time during the life of the contract. The Contractor shall re-establish centerline points and stationing prior to final cross-sections by the Engineer. The Vertical Control error of closure shall not exceed $0.05 \text{ ft} \times [\text{Square root of number of miles in the level run}]$ ($0.01 \text{ m} \times [\text{square root of number of kilometers}]$). The Horizontal Control accuracy ratio shall not exceed an error of closure of 1 foot per 20,000 feet (1 meter per 20,000 meters or 1:20,000) of distance traversed prior to adjustment.
- (b) The Contractor shall perform construction centerline layout of all trails, roadways, ramps and connections, etc. from project control points set by the Engineer. The Contractor using the profiles and typical sections provided in the plans shall calculate proposed grades at the edge of pavement or verify information shown on Grades and Geometric sheets.
- (c) The Contractor shall advise the Engineer of any horizontal or vertical alignment revisions needed to establish smooth transitions to existing facilities. The Contractor shall immediately bring to the attention of the Engineer any potential drainage problem within the project limits. The Engineer must approve any proposed variation in profile, width or cross slope.
- (d) The Contractor shall establish the working points, centerlines of bearings on bridge abutments and on piers, mark the location of anchor bolts to be installed, check the elevation of bearing surfaces after they are ground and set anchor bolts at their exact elevation and alignment as per Contract Plans. Before completion of the fabrication of beams for bridge superstructures, the Contractor shall verify by accurate field measurements the locations both vertically and horizontally of all bearings and shall assume full responsibility for fabricated beams fitting and bearing as constructed. After beam erection and concurrently with the Department project surveyors, the Contractor shall survey top of beam elevations at a maximum of 10-ft (3.0-meter) stations and

compute screed grades. These shall be submitted to the Engineer for review and approval before the stay in place forms are set. Construction stakes and other reference control marks shall be set at sufficiently frequent intervals to assure that all components of the structure are constructed in accordance with the lines and grades shown on the plans. The Contractor will be responsible for all structure alignment control, grade control and all necessary calculations to establish and set these controls.

- (e) The Contractor, using contract plans, shall investigate proposed construction for possible conflicts with existing and proposed utilities. The Contractor shall then report such conflicts to the Engineer for resolution. All stakes for advanced utility relocation, which will be performed by others, shall be paid for under item 763597 B Utility Construction Engineering.
- (f) The Contractor shall be responsible for the staking of all sidewalk and curb ramp grades in accordance with the plans and the Departments Standard Construction Details. The Contractor shall review the stakeout with the Engineer prior to construction. The Engineer must approve any deviation from plans, Department Standard Construction Details and Specifications in writing. The Contractor shall be responsible for any corrective actions resulting from problems created by adjustments if they fail to obtain such approval.
- (g) If wetland areas are involved and specifically defined on the Plans the following shall apply:
 - i. It is the intent of these provisions to alert the Contractor, that he/she shall not damage or destroy wetland areas, which exist beyond the construction limits. These provisions will be strictly enforced and the Contractor shall advise his/her personnel and those of any Subcontractor of the importance of these provisions.
 - ii. All clearing operations and delineation of wetlands areas shall be performed in accordance with these Special Provisions. Before any clearing operation commences the Contractor shall demarcate wetlands at the Limits of Construction throughout the entire project as shown on the Plans labeled as Limits of Construction or Wetland Delineation to the satisfaction of the Engineer.
 - iii. The material to be used for flagging the limits of construction shall be orange vinyl material with the wording "Wetland Boundary" printed thereon. In wooded areas, the flagging shall be tied on the trees, at approximate 20-foot (6.1 meter) intervals through wetland areas. In open field and yard areas that have been identified as wetlands, 3 foot (one meter) wooden grade stakes shall be driven into the ground at approximate 20 foot (6.1 meter) intervals and tied with the flagging.
 - iv. If the flagging has been destroyed and the Engineer determines that its use is still required, the Contractor shall reflag the area at no cost to the Department. If the Contractor, after notification by the Engineer that replacement flagging is needed, does not replace the destroyed flagging within 48 hours, the Engineer may proceed to have the area reflagged. The cost of the reflagging by the Engineer will be charged to the Contractor and deducted from any monies due under the Contract.
 - v. At the completion of construction, the Contractor shall remove all stakes and flagging.

- vi. The Contractor shall be responsible for any damages to wetlands located beyond the construction limits, which occurs from his/her operations during the life of the Contract. The Contractor shall restore all temporarily disturbed wetland areas to their preconstruction conditions. This includes restoring bank elevations, streambed and wetland surface contours and wetlands vegetation disturbed or destroyed. The expense for this restoration shall be borne solely by the Contractor.

Submittals:

All computations necessary to establish the exact position of all work from the control points shall be made and preserved by the Contractor. All computations, survey notes and other records necessary to accomplish the work shall be made available to the Department in a neat and organized manner at anytime as directed by the Engineer. The Engineer may check all or any portion of the stakeout survey work or notes made by the Contractor and any necessary correction to the work shall be made as soon as possible. The Contractor shall furnish the Engineer with such assistance as may be required for checking all lines, grades, and measurements established by the Contractor and necessary for the execution of the work. Such checking by the Engineer shall not relieve the Contractor of his/her responsibility for the accuracy or completeness of the work.

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

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

- (m) Copies of cut sheets.

Method of Measurement:

The quantity of Construction Engineering will not be measured.

Basis of Payment:

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

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

ITEM 55A - RELOCATE EXISTING SIGNS

Description:

This work consists of relocating the existing sign to the location shown on the Plans and as directed by the Engineer.

Materials and Construction Methods:

The Contractor shall carefully relocate and reinstall the existing sign. The Contractor shall safely store the sign, if necessary, until it can be reinstalled. The sign shall be set in Class B concrete conforming to the requirements of Section 812 of the Standard Specifications at the same elevations as the original installation.

If the sign is damaged during the relocation process, the Contractor shall furnish a new sign with no cost to the Department.

Method of Measurements:

The quantity of relocated signs will be measured as the total square footage of signs relocated and accepted.

Basis of Payment:

The quantity of relocated signs will be paid for at the Contract unit price per square foot. Price and payment will constitute full compensation for all of the work necessary to relocate the sign, including removing the existing sign, relocating the sign, re-installing the sign and for all labor, tools, equipment and incidentals necessary to complete the work.

ITEM 56 – REINFORCED CONCRETE SIGN FOUNDATION

In accordance with The Delaware Department of Transportation's Standard Specification Section 749 – Reinforced Concrete Sign Foundation. This work shall include the installation of breakaway steel channel bar posts (for sign panels) as shown on the contract drawings and as follows:

Roll Posts from Standard Carbon Steel Rails, ASTM A 499, with a minimum tensile strength of 90 ksi and minimum yield strength of 60 ksi, or new billet steel equivalent with a minimum tensile strength of 90 ksi and minimum yield strength of 60 ksi. Cast heat analysis of new billet as follows:

<u>Element</u>	<u>Composition</u>
Carbon	0.67 – 0.82
Manganese	0.70 – 1.10
Phosphorus, maximum	0.04
Sulphur, maximum	0.05
Silicon	0.10 – 0.25

Roll bars to the required shape, dimensions, and weight, or an acceptable equal, having the same or greater section modulus.

Drill or punch holes for required mounting. Additional holes available for punching are permitted on 1-inch centers. After fabrication, paint green in accordance with ASTM G 53.

ITEM 57 – PLANTING

In accordance with The Delaware Department of Transportation’s Standard Specification Section 737 – Planting, except as modified below and the additional specifications described herein:

The Contractor is required to provide the City of Newark a two (2) year warranty plus landscaping surety bond for all plant material in accordance with Ordinance No. 99-13, “Landscape Screening and Treatment”, Chapter 32, Article XXV, Section 32-89(a) of the Zoning Code of the City of Newark.

Subsection 737.07 Peat Moss and Peat Humus.

Add the following:

Composed leaf mulch free of wood, metallic substances, glass or other contaminates may be used in lieu of peat moss or peat humus.

Subsection 737.10 Stakes, Guys, and Related Materials

Delete paragraphs (e), (f), and (h).

Subsection 737.16 Planting.

Delete paragraph (d).

Add the following:

Wire baskets shall be cut away and removed from the top half of the root ball.

Section 737.17 Plant Establishment.

Delete this subsection in its entirety and add the following:

The plant establishment period for all planting shall begin immediately after all planting and replacements (as specified under Section 737.16, Planting) are complete and acceptable of the Engineer. The plant establishment period will consist of one full growing season during which time the

Contractor shall be responsible for all work necessary to keep the plants in alive and healthy condition. A growing season is defined as the period from May 1 through September 30. If the Contractor completes all planting (as specified under Planting) by May 1, the inspection will be held on or about October 1 of that year. In the event the Contractor does not complete all planting by May 1, the inspection will be held on or about October 1 of the following year. All replacement plant material determined to be necessary at the inspection must then be approved at the replacement plant source by October 15. At this time, the Engineer will direct the Contractor to replace those plants determined to be dead or unhealthy by December 1. The Contractor will notify the Engineer in writing that all replacement planting has been accomplished. The Engineer will conduct an inspection within 15 days after such notification to determine the acceptability of the replacements. If all replacements are determined satisfactory by the Engineer, the Contractor will be relieved of all further responsibility for care and replacement.

All planting areas shall be kept free of weeds and grass during the life of the Contract. The Contractor may utilize a pre- or post-emergent herbicide to control such grass and broadleaf weeds incidental to the cost of planting and be totally responsible for the proper use and placement of any such herbicide. As requested in writing by the Engineer, the Contractor shall be responsible to weed within all 72 plant beds and within the saucer limits of individual plants, beginning 10 calendar days after the date of notification. The Contractor shall prune and apply insecticides or fungicides as required, repair or replace stakes and guy wires, tighten guy cable or wire and repair plant saucer washouts when and as specified by the Engineer.

Any plants that settle below or rise above the desired finished grades shall be reset at the proper grades. All replacements shall be plants of the same kind, size and quality as originally specified in the Contract and they shall be furnished, planted, mulched, guyed, watered, etc. as specified herein for new plant material.

If dead or unhealthy plants are discovered, they shall be removed within 10 calendar days and replaced with the next appropriate planting season.

The Contractor shall be responsible for all damage incurred to plant material, tree protection, wire or staking regardless of the cause.

The cost of the above described work shall be incidental to Section 737, Planting.

The Contractor shall water all plants as required to sustain them in a healthy condition. The Contractor shall give 24 hours written notice to the Engineer prior to each watering.

Subsection 737.18 Method of Measurement.

Delete the paragraph in its entirety and insert the following:

The quantity of planting will not be measured.

Subsection 737.19 Basis of Payment.

Delete the first two paragraphs in their entirety and insert the following:

The quantity of planting will be paid for at the Contract lump sum. Price and payment will constitute full compensation for furnishing and placing all materials, including plants, soil mixes, and mulch; for protecting plants after digging and prior to planting; for staking, applying pre-emergence herbicide, excavating plant pits, pruning, wrapping, and guying; for all watering until final acceptance, for the cultural care of the plants until the completion and acceptance of all landscape work; for disposing of

excess and waste materials; for replacement planting; for cleanup; for repairs to plant material, tree protection, wire, or staking due to fire, theft, vehicular damage, or acts of vandalism; for repairs to damaged grassed, planted, or other landscaped area due to the Contractor's operations; for ensuring that topsoil meets the sieve analysis, acidity, and organic matter requirements; for applying sufficient materials to fertilizer that originally failed to meet the specified analysis; for using pre- or post-emergent herbicide to control grass and weeds; for the work outlined under Subsection 737.17; and for all labor, equipment, tools and incidentals required to complete the work.

The breakout sheet attached to the proposal shows all plant material proposed for this Contract. The Contractor shall fill in the per each unit price and the cost (unit price times the proposed quantity) for each species and size listed. The lump sum price bid for Item 57 - Planting shall be the sum of the total cost for all species and sizes listed. The completed typewritten breakout sheet shall be attached to the bid proposal. Failure to submit the breakout sheet with the Bid Proposal will result in the Bid Proposal being declared non-responsive and rejected. The City of Newark reserves the right to delete from the Contract the furnishing and installing of one or more of the species and/or sizes listed and the right to add or subtract from the quantity of each species and size listed. The lump sum to be paid will be adjusted in accordance with the Contractor's unit prices as required above. There will be no extra compensation to the Contractor if such additions and/or deletion are made. Payment for the planting as described above may be processed if, in the opinion of the Engineer all work required, except that specified under Subsection 737.17 is satisfactorily completed. No partial payment will be made for any living plant until and unless planted in accordance with these specifications. No additional payment will be made for using plants larger than specified.

ITEM 57A – INVASIVE SPECIES CONTROL

Description:

This work shall consist of activities intended to control or eradicate invasive species in the project areas designated. These areas are noted on the plans as embankment vegetation restoration areas. This effort includes the application of approved herbicide, and may include clearing and grubbing, mowing, or cutting of existing invasive plant populations in combination with the herbicide application. All work will be performed in accordance with this provision, the plans, and as directed by the Engineer.

Materials:

Herbicide shall be approved for use over water as some sites are in or adjacent to existing wetlands. The material for treatment shall be a 53.8 percent active ingredients formulation of the herbicide compound glyphosate containing 5.4 pounds of the acid per gallon. The product described shall be mixed with water and an approved non-ionic surfactant. The surfactant must contain 50 percent or more active ingredients.

Procedures:

The Contractor shall notify the City at least 48 hours prior to beginning work. The procedures to be followed are site-specific due to individual differences between sites. Herbicide application is strictly regulated, and the contractor must ensure that all regulations are followed.

The timing of herbicide application is important in order to achieve maximum effectiveness with the first application. In established stands generally it is best to apply the herbicide when the plant has just begun flowering, but before it gets to seed. The timing of flowering and seed set varies between species. For spot control of new plants, generally, it is best to eradicate the plants prior to flowering.

Method of Measurement:

Invasive Species Control, Herbicide application will be measured in square yards of surface area of herbicide applied. Manual cutting of plants prior to herbicide application will be considered part of the contract unit. Additional work required ensuring invasive plant species control during the two-year maintenance period will be measured on a per square yard basis. This work, which may include hand pulling, which will be considered incidental to the unit price, and the seasonal wick application of approved herbicides, will only be undertaken as approved or directed by the Engineer.

Basis of Payment:

Invasive species control will be paid for at the contract unit price per square yard of herbicide applied. Price and payment will constitute full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

ITEM 58 – PIPE VIDEO INSPECTION

Description:

This work consists of the video inspection of the storm drain systems, and/or sanitary sewer systems (all pipe sizes included) in accordance with these Specifications, and the details and locations shown on the Plans and by the Engineer.

Construction Methods:

The entire system(s) involved shall be numbered and then inspected by means of a closed-circuit television. The inspection will be done one section at a time in the presence of the City's inspector. This work shall not be performed until just prior to the placement of the final pavement surface in case repairs need to be done. But, shall be done no sooner than thirty days from the date of pipe placement.

The television camera used for the inspection shall be specifically designed and constructed for such inspection, capable of producing color video. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera shall be equipped with Pan and Tilt, capable of scanning 360° to view the entire joint. The camera, television monitor, and other components of the video system shall be capable of producing quality to the satisfaction of the City. If unsatisfactory, the equipment shall be removed and replaced.

The condition of the entire pipe run shall be documented by moving the camera through the pipe in either direction. At each joint the camera shall stop and pan the entire circumference of the joint. Between joints, the camera shall move at a nominal speed of 10 to 15 feet per minute never exceeding 30 feet per minute. Manual winches, power winches, television cable and power rewinds or other devices shall not obstruct the camera view or interfere with proper documentation of the pipe condition.

The technician operating the camera shall be experienced and qualified in conducting video pipe inspections. The technician shall have the capability of controlling the movement of the television camera, adjusting the brightness of the built-in lighting system and focusing the television camera by remote control. The importance of accurate distance measurements is emphasized. A distance meter and location indicator shall appear on the monitor and video indicating the exact location of the camera in the pipe between (2) structures.

The view scanned by the television camera shall be transmitted to a color monitor of not less than 12 in., measured diagonally across the screen. The monitor shall be located such that the City inspector has full visual access.

Documentation:

Television Inspection Logs: Typed reports shall be submitted to the City for each location clearly showing the relation to the video meter at each problem point observed during inspection. In addition, other points of significance such as locations of catch basins, junction boxes, manholes, open joints, areas of settlement, misaligned pipe, unplugged lift holes, unusual conditions such as a change of pipe size or type within a run, roots, laterals, storm sewer connections, broken or spalled pipe, presence of scale or corrosion and other discernible features shall be recorded and a copy of such records shall be supplied to the City.

For the purposes of documentation of a storm drain system, the following criteria shall be used to determine if a joint shall be considered an open joint:

ALL PIPE TYPES	ALLOWED	MAXIMUM JOINT OPENING
12-36" ROUND		0.75"
42" & LARGER		1.25"
ALL ELLIPTICAL		1.50"

DVD Recordings: The Contractor shall supply a visual and audio record of the drainage and/or sanitary system that may be replayed. A minimum of one video shall be submitted for each location but separate locations shall not be combined on the same DVD. Video recording playback shall be at the same speed that it was recorded. Good quality labeled DVDs in a hard plastic case shall be submitted and become the property of the City.

The separate typed report shall list the Delaware State Plane NA D 83 Coordinates for each structure within the drainage system including catch basins, manholes and all inlet and outlet ends of pipes. This record shall be listed by structure number and record each structure's Northing and Easting coordinates along with street address. This report is to be forwarded to the City's NPDES after review by the construction staff.

Method of Measurement:

The quantity of pipe video inspection will be measured by the linear feet as indicated on the video monitor and verified by the Engineer.

Basis of Payment:

The quantity of pipe video inspection will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for furnishing all materials and equipment, obtaining coordinate and elevations, typed reports, DVD recordings, safety equipment, and for all labor, tools and incidentals necessary to complete the work.

ITEM 62 –FIELD OFFICE – TYPE II

In accordance with The Delaware Department of Transportation's Standard Specification Section 759 – Field Office - Type II.

ITEM 63 –FIBERGLASS PEDESTRIAN BRIDGES

Description:

This item shall consist of furnishing, fabricating and erecting two (2) pedestrian fiber reinforced polymer (FRP) bridges (Bridges 1 and 2) in conformance with the requirements and details shown on the plans and the approved shop drawings and as directed by the Engineer. This work includes all labor, materials and equipment, and all items to be submitted, reviewed and approved by the Engineer.

The complete superstructure assembly shall be designed using allowable stress design methods to provide appropriate safety factors to withstand the combined and total effects of the following loads applied in combination as shown in the 2002 AASHTO Standard Specifications for Highway Bridges and 1997 Guide Specifications for Design of Pedestrian Bridges:

1. Uniform live load of 90 pounds per square foot applied to the entire deck area, AASHTO's H-10 truckload with no impact factor applied, whichever governs.
2. Dead load and superimposed dead loads of the structure.
3. Wind load according to AASHTO Section 3.15.
4. Top chord lateral force of not less than 300 pounds per linear foot for half through trusses.
5. Earthquake loading in accordance with 2002 AASHTO Standard Specifications, Division I-A (Seismic Design, Performance Category A).

Pedestrian bridge shall be a Pratt Thru-Truss design cambered to offset full dead load deflections and manufactured to the grades and vertical curve indicated on the drawings. Bridge railing shall be a continuous life safety rail with a maximum clear opening of 6" and at least one diagonal per panel. Railing height shall be 4'-6" and shall be in accordance with AASHTO requirements for bicycle railings. Bearings shall provide adequate attachment of the superstructure to resist uplift. Provisions shall be made to accommodate movement resulting from variation in temperature as required for span length. Bearings shall be designed, fabricated and supplied by the manufacturer.

Shop drawings shall be submitted in accordance with the requirements of Delaware Department of Transportation's Standard Specification Section 105.

Materials:

FRP Composites:

FRP bridges shall be fabricated from high-strength E-glass and isophthalic polyester resin unless otherwise specified.

Weathering and ultraviolet light protection shall be provided by addition of a veil to the laminate construction.

Minimum material strengths and properties are as follows:

Tension	33,000 psi
Compression	33,000 psi
Shear	4,500 psi
Bending	33,000 psi
Young's Modulus	2,800,000 psi

The minimum thickness of FRP Composite shapes shall be as follows unless otherwise specified: Square tube members (closed type shape) shall be 0.25 in. Wide-flange beams, channel sections, and angles

(open type shapes) shall be a minimum thickness of 0.25 in. Standard plate shall be a minimum thickness of 0.25 in.

Decking:

Wood decking is to be No. 2 Southern Yellow Pine treated according to the American Wood Preservers Bureau in accordance with ground contact use. Standard 3 in. x 12 in. planks are to be provided.

Hardware:

Bolted connections shall be A307 hot-dipped galvanized steel unless otherwise specified. Mounting devices shall be galvanized or stainless steel.

Finishing:

Bridge color shall be determined by Owner. Submit color samples for approval with shop drawings.

Materials and Construction Method:

Construction methods shall be in accordance with the applicable requirements of Delaware Department of Transportation's Standard Specification Section 601, manufacturer's instructions, and the construction plans and/or shop drawings.

Submittals:

Contractor shall submit structural design calculations and shop drawing(s) for each pedestrian bridge to the Engineer for approval. Shop drawings shall show all components and specify finishes. Shop drawings and structural design calculations shall be signed and sealed by a Professional Engineer registered in the State of Delaware. Submit color sample to the Engineer for approval. Shop drawings shall be approved prior to the ordering and/or delivery of pedestrian bridges. Submit color samples for approval with shop drawing submittal.

Method of Measurement:

The quantity of Pedestrian FRP Bridges to be paid for shall be the actual number of each bridge installed in the completed work and accepted.

Basis of Payment:

The payment for the item shall be made for at the contract unit price per each bid for a completed and accepted Pedestrian FRP Bridge (Bridge 1 and 2), which price and payment shall constitute full compensation for furnishing and placing all materials required to construct each bridge, fabricating and erecting the bridge, for shop drawings, design calculations, for all labor, tools, equipment and necessary incidentals to complete the work.

ITEM 64 - HELICAL PILES

Description:

This item shall consist of design, furnishing all materials, and construction of helical piles in accordance with the locations, notes, and details on the Plans and as directed by the Engineer. A minimum of two soil borings with analysis, including a foundation report, must be provided at each bridge location. Also, a helical pile foundation design completed by the Helical Anchor Supplier must be procured. This work

includes all labor, materials and equipment, load testing, and all items to be submitted, reviewed and approved by the Engineer.

Acceptable helical pile manufacturers include:

1. Chance Helical Piles by Hubbell Power Systems - Civil Anchor
Supplied by Danbro Distributors
3700 South 26th St.
Philadelphia, PA 19145
1-866-4-DANBRO
2. Magnum Piering, Inc.
6082 Schumacher Park Drive
West Chester, OH 45069
1-800-822-7437
3. Approved Equal

Working Drawings:

The Contractor shall furnish all necessary materials, skilled labor and supervision to complete the piling work.

The helical pile installers shall be trained and certified by the Helical Anchor Supplier.

Contractor is to conduct a minimum of two soil borings at each bridge location, with analysis, and provide the borings and a foundation report for each bridge location to the Helical Anchor Supplier. The foundation reports are to be stamped and signed by a Professional Engineer registered in the State of Delaware.

Foundation design and helical anchor installation process shall be submitted to the Engineer for review and approval. Furnish, at no expense to the Owner, detailed design engineering calculations, working drawings, and erection methods. Foundation design shall be prepared, stamped and signed by a Professional Engineer registered in the State of Delaware. The design and installation method shall be submitted 30 calendar days prior to the commencement of the helical pile work.

Perform required design of the helical piles in accordance with the 2007 AASHTO LRFD Bridge Design Specifications with current interims, and the DelDOT Bridge Design Manual with current updates, 2001 DelDOT Standard Specifications. Current design practice includes the use of all applicable codes and DelDOT design specifications, publications, policies, and procedures in effect on the date bids are opened.

The Contractor takes full responsibility for the engineering theory and calculations and ensuring that all design assumptions are presented in their drawings and specifications.

The working drawings shall show all connections, materials, dimensions, notations, installation equipment and methods including a plan showing size, number and installation sequence of all piles, reinforcing and other such information necessary to clearly and completely describe the work of this section. The working drawing submission shall include the following:

A drawing showing the location and orientation of each helical pile. An helical pile schedule giving:

- Helical pile number
- Helical pile design load
- Type and size of central steel shaft
- Helix configuration (number and diameter or helix plates)
- Minimum effective installation torque
- Minimum overall length
- Inclination of Helical Pile
- Cut-off elevation
- Helical Pile attachment to structure relative to pile cap

The Contractor shall submit to the Engineer for review and approval or rejection mill test reports for the steel piling components.

The Contractor shall submit plans for production testing for the Helical Piles to the Owner for review and acceptance prior to beginning load tests. The purpose of the test is to determine the load versus displacement response of the Helical Pile and provide an estimation of ultimate capacity.

The Contractor shall submit copies of calibration reports for each torque indicator or torque motor, and all load test equipment to be used on the project. The calibration tests shall have been performed within forty five (45) working days of the date submitted. Helical Pile installation and testing shall not proceed until the calibration reports have been received. These calibration reports shall include, but are not limited to, the following information:

- Name of project and Contractor
- Name of testing agency
- Identification (serial number) of device calibrated
- Description of calibrated testing equipment
- Date of calibration
- Calibration data

Work shall not begin until all the submittals have been received and approved. All costs associated with incomplete or unacceptable submittals shall be the responsibility of the Contractor.

The Contractor shall submit to the Engineer within 30 calendar days after completion of the helical work a report containing:

- As-built drawings showing the location of the helical piles and piles length.
- Detailed drilling records.
- Helical pile test results and graphs.

If the Contractor elects to use an alternate pile type other than those specified herein; complete and detailed plans stamped and signed by Professional Engineer registered in the State of Delaware shall be submitted. There will be no additional time allowed to the Contractor to obtain alternate pile approvals nor any additional time allowed for any reason regardless of cause. Alternate pile types shall be at no additional cost to the Owner. Submittals, reviews and resubmittals shall be in accordance with DelDOT Specifications.

Site Conditions

Prior to commencing Helical Pile installation, the Contractor shall inspect the work of all other trades and verify that all said work is completed to the point where Helical Piles may commence without restriction.

The Contractor shall verify that all Helical Piles may be installed in accordance with all pertinent codes and regulations regarding such items as underground obstructions, right-of-way limitations, utilities, etc.

Installation

Installation equipment and method shall be as per manufacturer's instructions and approved submittals.

The Helical Pile installation technique shall be such that it is consistent with the geotechnical, logistical, environmental, and load carrying conditions of the project.

It is the Contractor's responsibility to ensure the good condition of all piles and to ensure proper penetration to design tip bearing elevation.

The minimum installation torque and minimum overall length criteria as shown on the working drawings shall be satisfied prior to terminating the Helical Pile installation.

The average torque for the last three feet of penetration shall be used as the basis of comparison with the minimum installation torque as shown on the working drawings. The average torque shall be defined as the average of the last three readings recorded at one-foot intervals.

Method of Measurement:

The quantity of Helical Piles to be paid for shall be the actual number of each pile installed and left in place in the completed work and accepted.

Basis of Payment:

The quantity of Helical Piles as measured above, will be paid for at the contract unit price bid for each pile, for Section 64 "Helical Piles," which price and payment shall be full compensation for providing soil borings, foundation reports, procurement of helical anchor foundation design completed by Helical Anchor Supplier, providing shop drawings, load testing, helical anchors, materials, equipment, tools, labor, cut-offs and the disposal thereof, and all incidentals necessary to complete the work.

ITEM 67 – STEEL CANOPY AND FOUNDATIONS

Description:

This item shall consist of designing, furnishing, fabricating and erecting a steel canopy and foundations in conformance with the requirements and details shown on the plans and as directed by the Engineer. This work includes all labor, materials and equipment, and all items to be submitted, reviewed and approved by the Engineer.

Acceptable steel canopy manufacturers are:

Icon Shelter Systems, Inc., as distributed by Camellian PlayScapes, PO Box 26347
Collegeville, PA 19426-0374, (877) 234-6327.

Poligon Park Architecture, as distributed by George Ely Associates, PO Box 396 Carlisle,
PA 17013, (800) 262-8448.

Cedar Forest Products, as distributed by General Recreation, Inc., PO Box 440, 25
Newton Square, PA 19073, (800) 726-4793.

Approved equal

The canopy and foundations shall be designed by the canopy manufacturer in accordance with the 2006 International Building Code, and using appropriate safety factors to withstand the combined and total effects of the loads applied in combination as shown in the 2006 International Building Code. Footings shall be designed for an allowable soil bearing pressure of 1.0 TSF.

The steel canopy shall be located below existing CSX railroad bridge. 5'-0" clear distance is to be maintained between top of canopy and bottom of bridge. Bottom of footing is to be minimum 2'-6" below finished ground line.

Materials:

Structural tube: ASTM A 500 Grade B
Plates: ASTM A36
Bolts: ASTM A325
Nuts: ASTM A563
Roof Decks: 24 gauge steel
Welding Method: GMAW
Portland Cement Concrete: $F'c = 3000$ psi

Hardware:

Bolted connections shall be A307 hot-dipped galvanized steel unless otherwise specified. Roofing screws shall be painted.

Finishing:

Color shall be determined by Owner. Submit color samples for approval with shop drawings.

Materials and Construction Method:

Construction methods shall be in accordance with the applicable requirements of Delaware Department of Transportation's Standard Specifications, City of Newark's Standard Specifications, manufacturer's instructions, and the construction plans and/or shop drawings.

Canopy footings shall be as per the City of Newark's Standard Specifications Item 11 – Portland Cement Concrete Masonry.

Structure is to be designed and fabricated to accommodate future potential removal of roof and roof support members. Roof and roof support members must be easily removable in sections. Connections of roof support members are to be bolted for future disassembly. Vertical support posts do not need to be considered for future removal. Corrugated roofing material is to be attached with self tapping screws or bolts.

The existing 24" diameter RCP adjacent to the canopy is to be located prior to foundation installation. Canopy foundations shall be installed so that minimum 6" horizontal clearance and 2'-0" vertical clearance is maintained above the adjacent RCP; if these clearances cannot be achieved the foundations along the southern edge of the trail are to be installed below the RCP so that 1'-0" vertical clearance is provided between the RCP and the top of the spread footing. Contractor is to maintain and protect existing RCP during construction. If the canopy foundation is installed below the RCP, the RCP is to be shored during excavation and foundation construction. If a portion of the existing RCP is damaged

during construction, the damaged portion is to be restored to original condition, in a manner satisfactory to the City, at no additional cost to the City.

If unsuitable strata is encountered in the existing soil at the level of the proposed bottom of footing, the unsuitable material shall be removed by undercut excavation as specified in section 2C of the specifications. Replace the undercut soil with type A borrow to the elevation of the proposed bottom of footing foundation. The Engineer shall specify the limits of removal for necessary undercut excavations. Payment for undercutting shall be included under item 2C.

Submittals:

Contractor shall submit structural design calculations and shop drawing(s) for the steel canopy and foundations to the Engineer for approval. Shop drawings shall show all components and specify finishes. Shop drawings and structural design calculations shall be signed and sealed by a Professional Engineer registered in the State of Delaware. Shop drawings and calculations shall be approved prior to the ordering and/or delivery of the steel canopy.

Submit color samples for approval with shop drawing submittal. Shop drawings shall be submitted in accordance with the requirements of Delaware Department of Transportation's Standard Specification Section 105.

Method of Measurement:

The steel canopy and foundations will be measured as a lump sum.

Basis of Payment:

The payment for the item shall be made for at the contract unit price per Lump sum bid for a completed and accepted steel canopy and foundations, which price and payment shall constitute full compensation for design of steel canopy and foundations, location, protection, and shoring of existing 24" diameter RCP, furnishing and placing all materials required to construct steel canopy and foundations, fabrication and erection, and all associated incidentals necessary to complete the work.

ITEM 69 - CONTAMINATED MATERIAL

Description:

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

This work describes the excavation, removal and treatment/disposal of contaminated materials resulting from project construction including utility and other types of excavation activities in accordance with the locations and notes on the Plans, and as directed by the Engineer or the Department's environmental representative. The Contractor will be notified of the Department's environmental representative at the pre-construction meeting.

Overview of Costs:

Potential contaminated solids may affect contractor's costs as follows;

Additional cost to normal excavation requirements:

- Cost of 8 mil plastic for placement under and over solid contaminated material,
- Maintaining the segregated contaminated solids staging area.

Reduced cost to normal excavation requirements:

- Not required to, or charged for, transport of contaminated material from site.
- Not required to, or charged for, disposal of contaminated soil.

Potential contaminated liquids will affect contractor's cost as follows;

Additional cost to normal excavation requirements:

-None

Reduced cost to normal excavation requirements:

-None

Construction Methods and Responsibilities:

Contractor's Responsibilities for potential contaminated solids:

The Contractor shall be responsible for providing the appropriate equipment and personnel necessary to excavate, stage, and load contaminated material for off-site disposal, as identified from previous site environmental investigations or identified during construction activities. The work will be performed in accordance with the procedures described in the site specific "Contaminated Material and Water Removal Work Plan" prepared by the Department's environmental representative. A copy of this plan is provided in the bid package at advertisement. The Contractor shall adhere to applicable Occupational Safety and Health standards, Guidelines and/or Laws. This will include compliance with 29 CFR Part 1910.

After award of the Contract, the Contractor shall immediately be responsible for notifying the Department's HAZMAT Coordinator's office (760-2108) for scheduling coordination with the environmental representative. The contractor shall submit a proposed schedule of work to the Department for review and approval prior to any commencement of work on this site. The Contractor is required to perform to a high standard of workmanship to assure protection of workers, local water supplies, and the environment. The Contractor shall coordinate with the utility companies prior to excavation. The Department's environmental representative shall be present during all phases of work associated with the excavation and removal of potentially contaminated material. Payment will not be made for any work done when a Department approved Inspector or environmental representative is not present to provide environmental oversight.

Specific tasks to be performed by the Contractor will include excavating soil per the project specifications. The Contractor will segregate "contaminated" soil as designated by the Department or their environmental representative, from "clean" soil and place the "contaminated" soil in a designated on-site staging area constructed by the Contractor. At a minimum the staging area needs to be lined with 8-mil plastic and a berm constructed to minimize storm water run-off. The "contaminated" soil will need to be covered by the Contractor at the end of each work day. The Contractor will be responsible for loading contaminated soil onto trucks arranged by the Department's environmental representative on the days the contaminated soil is shipped off-site to a licensed disposal/treatment facility. The Contractor will backfill and compact the excavated area(s) according to the project specifications and payment will be made under that item of the Contract.

Department's Responsibilities:

The Department is responsible for providing and paying; the environmental representative; the transportation of contaminated material for disposal; and the disposal of contaminated material.

The Department's environmental representative shall be responsible for developing and submitting a "Contaminated Material and Water Removal Work Plan" to the Department so it is included in the project specifications prior to going out for bid. The work plan will identify; the procedures to be used to excavate and stage the contaminated material; the licensed treatment/disposal facility where the

Department will ship the contaminated material; the method the material will be transported to the treatment/disposal facility; and any additional health and safety requirements for site personnel.

The Department's environmental representative will conduct a health and safety briefing prior to commencement of activities on the sites to insure an understanding of all applicable standards, guidelines, laws, procedures, etc. consistent with the successful completion of this type of activity. The Department's environmental representative will conduct air monitoring during any excavation activities at the site to identify and mitigate fire, explosion and vapor hazards.

The Department's environmental representative shall coordinate the excavation activities with all applicable local, state, and federal environmental regulatory agencies. The Department's environmental representative will also oversee the excavation, removal and treatment/disposal of the material in the designated area(s) and perform such tests as field screening for soil contamination utilizing vapor monitoring techniques and collect soil samples for laboratory analysis to meet the requirements of the treatment/disposal facility, DNREC and/or the USEPA. The Department's environmental representative's personnel will subcontract with the disposal/treatment facility to provide transportation and disposal/treatment of all contaminated materials to be removed as part of the project. The Department's environmental representative is responsible for measuring the quantity of contaminated material removed, via certified scale weights, for the Department's records.

Method of Measurement:

The quantity of contaminated material will not be measured. It will be included in the excavation quantity.

Basis of Payment:

No additional payment will be made for the handling of contaminated material included in the excavation quantities. Contractor's costs for handling contaminated material as described herein are to be included in the standard excavation pay items included in this contract, and will constitute full compensation for excavation, constructing and maintaining the segregated soil staging area, placement of the contaminated soil in the staging area, providing plastic and daily covering of the segregated soil staging area, and loading of contaminated soil for removal by the Department.

This item is a contingency item and the Department reserves the right to delete from the Contract. The Contractor shall make no claims for additional compensation because of deletion of the item.

ITEM 70 – CHANNEL BED FILL

Description:

This work consists of salvaging, stockpiling and placing natural channel bed fill (on-site material) or the furnishing, hauling, and placing similar natural channel bed fill (off-site material) in accordance with the notes and details on the Plans, the Special Provisions, and as directed by the Engineer.

Materials and Construction Methods:

The plan quantity includes the total volume of material necessary for Channel Bed Fill at the locations and dimensions as shown on the plans. This volume will be provided from on-site material, off-site material or a combination thereof. However, all on-site material must be utilized as Channel Bed Fill before any off-site material may be used. Off-site material shall not be used without the approval of the Engineer. It is the Contractor's responsibility to determine if sufficient quantity of Channel Bed Fill will be available on-site and to furnish additional materials as needed.

The material to be used for Channel Bed Fill shall be determined from the native channel bed material present at the project site and in portions of the existing stream immediately upstream and downstream. The existing natural channel bed material may consist of, but not limited to, natural sediments, silt, sand, gravel, pebbles, small stones and all like material and shall constitute the on-site material to be used as Channel Bed Fill. Any existing riprap material shall be excluded from use as Channel Bed Fill. The depth of material acceptable as Channel Bed Fill shall be determined in the field. The existing natural channel bed material shall be excavated from the existing channel bottom within the project limits prior to the removal of any existing substructure elements. Excavation shall be paid under its respective item, but completed in accordance with this item. On-site channel bottom materials shall be stockpiled on-site and kept separate from all other excavation or borrow materials. All stockpiles shall be properly stabilized.

If the volume of on-site material is inadequate, additional off-site material to be utilized as Channel Bed Fill shall have a coloration, shape and gradation similar in appearance to the native channel bed material. Any stone or gravel materials shall be naturally rounded riverbed material or gravel and shall be uncut. If gradation requirements are not provided in the Plans, the Contractor shall have a sieve analysis performed on a sample of the existing streambed material. This sample shall be taken from a location either directly upstream or downstream from each site where the Channel Bed Fill is to be placed and shall be a sample of the streambed surface armoring material, not an augered sample. The new stone shall match as closely as possible to the D_{min} , D_{50} , D_{90} , and D_{max} of the taken sample. The sample size shall consist of a minimum of 200 pieces of the existing streambed surface armoring materials. The results of the sieve analysis and the proposed gradation and sources of additional off-site material shall be submitted to the Engineer for approval.

In areas to receive Channel Bed Fill, the voids of the proposed riprap shall be filled using Borrow Type B prior to the placement of any Channel Bed Fill. The voids shall be filled such that the tops of some individual riprap stones are still visible. Borrow Type B shall be paid under its respective item. Once complete, Channel Bed Fill shall be placed at the locations and dimensions as shown on the plans.

Method of Measurement:

The quantity of Special Borrow for Channel Bed Fill will be measured by cubic yards of material placed and accepted.

Basis of Payment:

The quantity of Channel Bed Fill will be paid for at the Contract unit price per cubic yard. Price and payment will constitute full compensation for salvaging, stockpiling, maintenance of any stockpiles, furnishing, hauling, and installing all materials; for all sample gathering, sieve analysis and submittals associated with use of off-site material; and for all labor, equipment and other incidentals necessary to complete the work. Excavation of all natural streambed material shall be paid under its respective item. Furnishing and placement of Borrow Type B shall be paid under its respective item.

ITEM 71 – TEMPORARY FENCE AND BOARDWALK

Description:

The item shall consist of furnishing, erecting and installing Temporary Fence and Boardwalk at the required location(s) and in accordance with the notes and details on the Plan and as directed by the Engineer.

After the completion of the project, the Temporary Fence and Boardwalk shall become the property of the Contractor and shall be removed from the project site.

Materials and Construction Methods:

The Temporary Fence and Boardwalk shall be used as required during maintenance of traffic and pedestrians during construction as directed by the Engineer. Temporary Fence and Boardwalk must be provided wherever an accessible pedestrian route is required for use as a temporary sidewalk during construction. The minimum width of Temporary Fence and Boardwalk is four (4) feet. The smallest possible slope should be used for all boardwalk. Maximum permissible boardwalk slope is 1:20. Transitions from boardwalk to sidewalks or streets should be flush without abrupt changes. Temporary Boardwalk surfaces must be stable and slip resistant. Changes in surface level up to ¼ inch may be vertical without edge treatment. Changes in surface level greater than ¼ inch must use a ramp. The Contractor shall submit the locations of temporary fence and boardwalk to be used during each stage of construction to the Engineer as part of the maintenance of pedestrian access plan for approval. The Engineer shall approve the Temporary Fence and Boardwalk materials including the posts and methods of fabrication prior to installation.

Due to space limitations, the Contractor may be required to move the temporary fence and boardwalk and/or reposition the temporary fence and boardwalk from time to time so that adjacent construction activities and pedestrian access can coexist within the project site simultaneously as required. No payment shall be made for such relocation and the cost shall be incidental to the item.

Method of Measurement:

The measurement of the item shall be made along the centerline of the Temporary Fence and Boardwalk as the number of linear feet actually furnished and used as required and approved by the Engineer.

Basis of Payment:

The number of Temporary Fence and Boardwalk measured as described above, shall be paid for at the contract unit price bid per linear foot. Price and payment shall be full compensation for furnishing, placing, maintaining, repositioning, preparation and cleaning of boardwalk area, removal and disposal of the temporary fence and boardwalk and related accessories, furnishing all labor, materials, equipment, tools and all incidentals necessary to complete the work. Temporary Fence and Boardwalk stolen or damaged shall be replaced at the Contractor's expense.

ITEM 72 - INSTALLATION OR REMOVAL OF TRAFFIC SIGN ON SINGLE SIGN POST

Description:

This work consists of installing or removing traffic sign(s) on a single post at the locations indicated on the Plans or as directed by the Engineer. This specification also includes installation of posts in boring holes constructed under other items.

Materials:

The Department will provide all sign materials to be used on this project. The Contractor shall contact the DelDOT Sign Shop Supervisor with project plans and quantity sheets at 302-760-2581. Sign fabrication orders require a minimum of four (4) weeks for completion. Orders placed with less than four (4) weeks lead-time will result in a delay. Any delay caused by inadequate lead-time due to a late order will be the sole responsibility of the Contractor. The Contractor shall pick-up the sign materials from the DelDOT Sign Shop and deliver them to the job site without any damage to the sign materials.

Construction Methods:

The Contractor shall pick-up necessary signs, sign posts, hardware, and extensions from the Department and install the signs in the locations indicated on the Plans in accordance with the DeIDOT MUTCD or as directed by the Engineer. The Contractor shall be responsible for obtaining all necessary utility clearances before the signs may be installed. For sign removals, the sign posts shall have all nuts, bolts, and other connectors removed. The disturbed ground shall be graded and backfilled accordingly. All signing materials removed from the project shall be returned to the DeIDOT Sign Shop without any damage to the sign materials.

Method Measurement:

The number of single sign installations or removals will be measured as the actual number of sign posts installed or removed and accepted.

Basis of Payment:

The quantity of single sign post installations or removals will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for installing or removing signs and sign materials, pick-up and delivery of sign materials, grading disturbed areas, and for all labor, equipment, tools, and incidentals required to complete the work. Signs that are not installed in accordance with the DeIDOT MUTCD or signs installed in the incorrect location shall be moved at no additional cost to the Department.

ITEM 73 – CONSTRUCTION SAFETY FENCE

Description:

This work consists of furnishing all materials; erecting construction safety fence at location(s) as noted on the Plans or as directed, relocating if required and maintaining/repairing during the construction period. The construction safety fence shall be removed and disposed of after no longer required as determined by the Engineer.

Materials and Construction Methods:

The construction safety fence shall be 4' (1.2 m) high, high density polyethylene, U.V. stabilized, high visibility orange plastic with standard mesh opening size of approximately 1 ½" (38 mm). The fence post shall be sufficient length for 18" (450 mm) embedment in the ground and be oak wood, a minimum of 2" (50 mm) square or steel 1.25" x 1.00" (32 mm x 25 mm) T-Section. If the fence is to be installed on bituminous and/or concrete pavement, the Contractor shall use the kind of posts which can be anchored by placing sand beds at their base without damaging pavement. The post spacing shall be no more than 10" (3 meters) or as per the manufacturer's recommendation if a shorter spacing is specified. The ties for securing the fence to the post shall be 8" (200 mm) self-locking nylon safety ties. The fencing materials including the posts shall be approved by the Engineer prior to installation.

It shall be the responsibility of the Contractor to reposition/relocate the safety fence as necessary to perform construction activities. No payment shall be made for such repositioning/relocating and the cost shall be incidental to the item.

Method of Measurement:

The quantity of construction safety fence will be measured as the actual number of linear feet (meters) of safety fence furnished, installed and accepted.

Basis of Payment:

The quantity of construction safety fence will be paid for at the Contract unit price per linear foot (meter). Price and payment will constitute full compensation for furnishing, placing, maintaining, relocating and repositioning, cleaning the area, removal and disposal of the fence and related accessories, furnishing all labor, equipment, tools and all incidentals necessary to complete the work. Safety fencing stolen or damaged shall be replaced at the Contractor's expense.

ITEM 74 - WARNING SIGNS

Description:

This work consists of furnishing, installing and maintaining these temporary traffic control devices in accordance with the contract documents and with the latest edition of the manual titled "Delaware Manual on Uniform Traffic Control Devices (MUTCD)," hereafter referred to as the "Delaware MUTCD", including all revisions as of the date of the advertisement of this Contract and as directed by the Engineer.

As required under the section entitled "Certification" temporary traffic control devices shall be crashworthy in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350, the memorandum issued August 28, 1998 by The USDOT Federal Highway Administration, and/or in accordance with the latest edition of the Manual for Assessing Safety Hardware (MASH), published by the American Association of State Highway and Transportation Officials (AASHTO). In case of conflict between the Delaware MUTCD and the requirements of NCHRP Report 350 and/or MASH, the requirements of NCHRP Report 350 and/or MASH shall govern.

Materials and Construction Methods:

Materials and construction of all signs shall meet all requirements including retroreflectorization of the Delaware MUTCD.

Unless specified on the Plans, all temporary traffic control devices shall be either new or restored to a satisfactory condition. All reconditioned and/or restored temporary traffic control devices must be approved by the Engineer before their use. Bases of warning signs, when required, shall be weighted with sandbags to resist overturning.

Lane closures necessary for the installation of barricades and the placement of other temporary traffic control devices shall be in accordance with the requirements of the Delaware MUTCD.

Warning signs shall be retroreflective and shall have rounded corners as per FHWA publication "Standard Highway Signs". Warning signs shall be installed in accordance with the applicable sections of the Delaware MUTCD.

Any permanent warning signs used on the project shall be securely mounted on break away supports such that the supports are installed in the ground per the sign post manufacturers recommendations. Permanent warning signs shall not be mounted on portable sign stands except in the following situations:

- Any signs that are placed on a concrete island in the median of a divided highway may be mounted on portable sign stands with proper ballasting material in order to avoid drilling through the concrete to ground mount the sign.
- If a documented utility conflict exists and field adjustments to the sign location cannot be made, the sign may be mounted on a portable sign stand with proper ballasting material. Documentation of the utility conflict shall be provided to the Engineer.

All holes or trenches within paved roadways or sidewalks which could not be practically backfilled and paved prior to restoring the area to traffic, shall be covered by protective covers consisting of temporary steel plates, furnished, installed and secured in place by the Contractor at no extra cost to the City.

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

Certification:

Temporary traffic control devices used on all highways open to the public in this State shall conform to the Delaware MUTCD. All devices shall be crashworthy in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350, the memorandum issued August 28, 1998 by The USDOT

Federal Highway Administration, and/or in accordance with the latest edition of the Manual for Assessing Safety Hardware (MASH), published by the American Association of State Highway and Transportation Officials (AASHTO).

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

Method of Measurement:

Warning Signs shall be furnished and erected by the Contractor and measurement shall be made per Each for the duration of the sustained phase and/or project.

Basis of Payment:

The number of Warning Signs, measured as described above, shall be paid for at the Contract unit price bid per Each for the item, "Warning Signs" which prices and payments shall be full compensation for providing certification, furnishing, placing, maintaining, and relocating warning signs, and any temporary sign supports, hardware, materials and all labor, equipment, tools, and incidentals necessary to complete the work. Signs stolen or damaged shall be replaced at the Contractor's expense.

Payment for traffic control devices shall be based on the Contractor's daily certification, on a Department's form, that the number of temporary traffic control devices are fully operational (i.e., signs in good legible condition and in their proper position).

ITEM 75 - PROJECT CONTROL SYSTEM DEVELOPMENT PLAN
ITEM 76 - CPM SCHEDULE UPDATES AND/OR REVISED UPDATES

Description:

The Project Control System will be set up and maintained by the Department of Transportation to monitor and record work in progress and to coordinate and synchronize construction management functions. The Department will use Critical Path Method (CPM) scheduling to approve the Contractor's work schedule, review work progress, evaluate time extensions, identify problem areas, and recommend solutions to maintain the established work schedule. The Department will designate a Critical Path Method Administrator (CPMA) to oversee the Project Control System.

The Contractor shall designate a Critical Path Method Coordinator (CPMC) having proven experience in construction scheduling and in CPM concepts and scheduling. The CPMC shall be familiar with and have direct contact with both the Contractor's front office and field staff. The CPMC shall be knowledgeable of the status of all parts of the work throughout the length of the Contract in order to properly coordinate the Contractor's work schedule information and shall be available for consultation and preparation of documents on a daily basis. If this condition is not complied with the Contractor shall submit qualifications for a replacement CPMC to the CPMA for approval by the Engineer.

The CPMC shall submit a working drawing schedule, materials schedule, crew schedule; and shall prepare and provide the "look ahead", original, update, revised update, and final (as-built) update CPM work schedules, written CPM schedule narratives, and other CPM schedule information as required by the Project Control System Development Plan. The CPMC shall prepare and provide the Contractor's work schedule information by email as a single compressed database file in CPM format fully compatible with the Windows® version of Primavera Project Planner® used by the Engineer for generation of the CPM schedules.

The CPM format shall be the Precedence Diagram Method with days as the Planning Unit and shall be based on Calendar Days. Schedules will be developed using every day as a workday; schedules with calendars based in any manner on Working Days will not be allowed. The CPMA will receive the Contractor's CPM schedule databases for input to generate the CPM schedules. The generated CPM schedules are the Contractor's own work schedule and will be reviewed for approval by the Engineer. The scheduling of the construction is the responsibility of the Contractor; the Contractor is responsible to determine, by adequate planning, the most feasible order of work commensurate with the Contractor's abilities and the Contract Documents.

The Contractor's compliance with the Project Control System Development Plan and CPM Schedule Updates and/or Revised Updates, and the Engineer's approval of the generated Original CPM schedule, its updates and/or revised updates will be required before processing monthly estimates for payment.

It is not the intent of this Contract that the Engineer by approving the CPM schedules agrees that it is reasonable in all respects or that the schedule, if followed, will result in timely completion of the Project. The Engineer's approval is based on a review of general conformity for compliance with the requirements of the Project Control System and on the items or time restrictions that the department and/or the Engineer have control. The Contractor is free to make assumptions regarding field conditions, estimated quantities, and/or subsurface conditions. However the Department's concurrence with the Contractor's schedule based on these assumptions does not relieve the Contractor from making necessary revisions to his schedule should his assumptions fail to hold true. No time extension to the Contract which is due to assumptions made by the Contractor and that do not hold true during construction will be considered by the Department. Discrepancies and/or changes initiated by the Department in proposed quantities or plans that cause an extension to the critical path will be considered by the CPMA. The Department's controls or

time restrictions are identified hereinafter and in the Standard Specifications, Special Provisions, and on the Contract Plans as plan notes.

Development of the Project Control System (PCS):

The PCS development plan is as follows:

- (a) Within seven (7) calendar days after the date of the fully executed Contract a workshop meeting will be held with the Engineer, CPMA, Contractor, and CPMC. The CPMA will profile the basics and procedures of the Project Control System and discuss schedule model design at this meeting. Attendance is mandatory,

The Department's partially predetermined Coding Structure (CS) format having a maximum of seventeen (17) code classification levels will be used and will be furnished at the Workshop Meeting. The CS is a specific listing that illustrates the hierarchy of work needed for the project. The hierarchy is categorized into levels or classifications. The CS classifications organize activities into manageable groups through each level of the project, for example; locations, phasing (staging), landmark dates, roadway sections and bridge structures; footings, columns, and caps; contractor and subcontractor.

The CPMC shall assist in determining the breakdown and code title descriptions from south to north and west to east of the location code classification. Activity code values shall be perspicuous for each classification grouping. Additional activity code classifications and values as required by the Engineer from time to time shall be provided and added to the schedule database by the CPMC. The CPMC shall not alter the CS and properly code all activities with the approved CS activity code values for all code classifications including all railroad, waterway, and outside agency activities with approved code values, including classifications as added by the Engineer. Coding enables generation of organized reports and graphics that can summarize any level of the project schedule.

When the Department provides a format database for the Contract, it shall be used by the Contractor as the basis from which to develop their schedule. The CPMC may add, but not insert, code classifications in the format database;

- (b) Within fourteen (14) calendar days after the workshop meeting, the CPMC:
 - (1) Shall submit a working drawing schedule, using the Department's application format or other format as agreed to by the Engineer. This schedule shall also include all other items having content that requires approval to allow any portion of the work to commence or continue. This schedule shall be submitted to the CPMA for approval by the Engineer and shall contain all required working drawings and also include but not be limited to reinforcing bar lists, formwork drawings and calculations, construction procedures, borrow pit security and traffic plans, precast structures, wetland work plans, construction sequencing, load tests, and wave equation analyses. Working drawing information shall include the identification number, description, type, anticipated submittal date, time frame for preparation and review, approval needed by date, and a resubmittal process (if expected) for each listed item. This information shall also give factory leadtime and expected delivery date, if applicable, for each listed item.

The Contractor should be aware that the Department's time frame for review of working drawings and other submittals properly submitted or resubmitted in accordance with Standard Specification Subsection 105.04 will be thirty (30) calendar days duration unless mutually agreed to by the CPMC and CPMA; this 30 day duration supercedes the time frame of the Subsection. If a working drawing or other submittal involves review by a railroad, environmental agency, municipality, federal agency, or the U. S. Coast Guard the time frame for review will be sixty (60) calendar days unless mutually agreed to by the CPMC and CPMA. The time frame will begin on the date of receipt of the drawings by the reviewer and will end on the date of transmittal returning the drawings to the Contractor by the Department. No drawings will be accepted for review until an initial working drawing schedule has been accepted unless agreed to by the Engineer.

The working drawing schedule shall be updated and correlated with the activities of the "look ahead" and all other CPM schedules;

- (2) Shall submit a materials schedule using the Department's application format or other format as agreed to by the Engineer. This schedule shall be submitted to the CPMA for approval by the Engineer and shall contain all required materials, samples, and sources of supply. The materials schedule information shall include the identification number, description, generic or brand name, sample requirement, and manufacturer's and supplier's name, address, and phone number for each listed item. The schedule shall also give the anticipated submittal date, time frame for preparation and review, approval needed by date, factory leadtime, and expected delivery date, if applicable, for each listed item.

The materials schedule shall be updated and for materials having long factory leadtimes shall be correlated with the activities of the "look ahead" and all other CPM schedules;

- (3) Shall submit a crew schedule. This schedule shall be submitted to the CPMA for approval by the Engineer and shall be accompanied by a written narrative and shall contain all crews and their work plan.

The crew schedule shall be updated and correlated with the activities of the "look ahead" and all other CPM schedules;

- (4) Shall prepare and provide a written narrative of the Contractor's work plan and an acceptable "look ahead" schedule database in CPM format. This schedule database shall reflect activities for the Contractor's overall work plan for the entire project detailing the "look ahead" period and shall be submitted to the CPMA for acceptance by the Engineer. The "look ahead" period shall be as determined by the Engineer. The "look ahead" schedule shall be maintained and updated until an Original CPM schedule is approved. The "look ahead" schedule shall also reflect the Sequence of Construction in the plans unless otherwise approved by the Engineer. This "look ahead" schedule, its updates and/or revised updates shall also be incorporated into the Original CPM schedule database. Issue of the Notice to Proceed is contingent upon receipt and acceptance of this schedule in accordance with Standard Specification Subsections 108.02 and 108.03; and

- (5) Shall begin meeting with the CPMA at their office every third business day to prepare and provide a written narrative of the Contractor's work plan and a CPM

schedule database until a useable, logical draft of the full CPM schedule network, responsive to the project requirements and correlated with the required schedules has been developed as determined by the Engineer. The CPMA will generate an initial CPM schedule from the CPMC's logical draft CPM schedule database for review by the Engineer. This initial schedule shall reflect the Sequence of Construction in the plans unless otherwise approved by the Engineer. This initial CPM schedule database, if acceptable, may be used to fulfill the Contractor's "look ahead" schedule requirements;

- (c) If the initial CPM schedule is not acceptable to the Engineer, the CPMC shall continue to meet with the CPMA on every third business day and prepare and provide the Contractor's written narrative and CPM schedule database as necessary until a generated CPM schedule is acceptable to the Engineer; and
- (d) Within twenty-eight (28) calendar days after the workshop meeting, an initial CPM schedule must be generated having the requirements for the Engineer's approval. This schedule shall reflect a clear understanding of the Contractor's work plan, be adequate to determine the Department's staffing requirements, have correct physical logic, incorporate construction and traffic phases, and display clarity of presentation for review and processing. Upon approval the CPMA will furnish the Contractor a graphic and report output of this CPM schedule. This CPM schedule, or Original CPM schedule, is the Contractor's own work schedule and the Contractor's responsibility to maintain.

The ending (cut-off) day for each monthly estimate period shall be proposed by the Contractor subject to Department approval. In the event of a conflict, the Engineer will have the authority to establish the ending day.

Processing of monthly estimates for payment will begin or continue only if the Contractor is in compliance as determined by the Engineer with the PCS Development Plan.

Any information required by the Engineer for analysis of the CPM schedules, their updates and/or revised updates; clarification of charts and other schedules; and evaluation of proposed changes or change orders shall be prepared and provided by the CPMC. A copy of the current approved CPM schedule, its updates and/or revised updates shall be on display at the field office of both the Department and the Contractor.

CPM schedule information and requirements:

The CPMC shall prepare and provide the Contractor's work schedule information in the form of work step and restraint activities:

- (a) Work step activities are single step construction elements,
- (b) Restraint activities are not construction elements but affect the start of other activities.

When setting forth work steps and restraints the breakdown on these activities shall address the following factors:

Work Step factors affecting the duration and/or sequence of activities;

1. Work at locations done at different times or requiring different crews,

2. Work requiring different materials,
3. Work requiring different crew or craft requirements,
4. Work requiring different equipment,
5. Work requiring different responsibility (subcontractors),
6. Structural work having distinct subdivisions,
7. Labor and equipment resource availability,
8. Work as reflected in the Contractor's estimating or accounting breakdown,
9. Work as reflected in the state's breakdown for bidding or payment,
10. Public, private, and/or Contractor utility work and limiting or outage schedules of public and/or private utility organizations, and
11. Maintenance of traffic.

Restraint factors affecting the start of other activities;

1. Preparation of working drawing and materials submittals,
2. Approval, return, and/or resubmittal of working drawings and materials,
3. Specialized material testing,
4. Long lead purchases - material and equipment availability,
5. Material and equipment fabrication time,
6. Testing of special equipment and in place testing,
7. Delivery of unusual shipment or scarce material,
8. Dependency on completion of utility work,
9. Dependency on the Department's approval of issues involving public, private, and/or other governmental agencies,
10. Dependency on completion of part or all of another Department contract or construction of other organizations, whether contiguous or not,
11. Protection and restoration of property, forest protection, special traffic controls, erosion control and water pollution, environmental controls and suspensions, safety, and foreseeable archeological and/or historical evidence delays,
12. Procurement of permits, and
13. Conditions as set forth in Standard Specification Subsection 107.01.

Activities must be identified by a name, symbol, and coding, and shall have duration, sequence, responsibility, and resources.

Activity names or titles shall be descriptive and be single identifiable work steps or restraints. A sample breakdown list of activity titles may be furnished to the Contractor by the Engineer on request. Activities shall be selected, as a minimum, on a structure by structure and/or section by section basis where relevant and have further breakdown into secondary components. Activities shall be inclusive and representative of the Contract work. Activity symbols, or ID's, shall be unique and systematic.

Activity codes shall have classifications and values. The approved CS will determine activity code classifications and values. The CPMC shall identify activities using these classifications and code values. Additional activity codes as required by the Engineer shall be provided by the CPMC.

Activity durations, or Original Durations, shall be reasonable and representative of the scope of the activity. If durations are considered excessive or insufficient, the industry standard will be used. Original Durations may not exceed thirty (30) calendar days unless approved by the Engineer. Durations of activities shall be determined by using productivity rates based on calendar days, not work days. Original Durations of activities may not be less than two (2) calendar days unless agreed to by the CPMA. The use of calendar day productivity rates in CPM scheduling allows for customary days during the work week that the Contractor does not work and for normal weather delays. Productivity rates used to establish durations shall reflect the time periods when work can be scheduled and exclude the non-work period of the activity's calendar. Calendars allow activities to be scheduled only when allowed by the nature of or restraints on the work. Calendars shall not exclude weekends, holidays, or

other times the Contractor does not work. All activities shall be identified by entry of their appropriate Calendar. A minimum of seven (7) shall be used and the first seven (7) shall be ordered and entitled as follows: 1) Full schedule, 2) Winter condition, 3) Concrete Paving, 4) Asphalt Base, 5) Asphalt Super Pave, 6) Asphalt SMA, and 7) Environmental. Calendar non-work periods shall reflect the Delaware weather history of and the environmental regulations for the location of the Contract work and shall be as agreed to by the Engineer.

Activity durations are based on Calendar Days and shall reflect all time necessary to complete an activities work and its requisites. The Contractor shall include in their original schedule narrative their work day to calendar day conversion factors with a discussion of how these factors were determined. When scheduling using multiple resources each resource unit shall have a corresponding activity. All time to complete the activity shall include as a minimum all Contractor unscheduled work days, all Contractor holidays, and allowance for normal weather delays, except for software generated calendars. Inclement weather and failure of a contractor and their subcontractors to provide sufficient resources are not means to recover costs or time due to delay.

Activity sequence shall be typical of proficient scheduling practice. The sequence must be logical and representative of the Contractor's order of the work. Successors and predecessors determine the job logic or activity sequence. Successors are activities that follow an activity. Predecessors are activities that precede an activity. A given activity cannot start until all predecessors have been completed. The Precedence Diagram Method (PDM) shall be used. The PDM places the activities on nodes and the dependencies between them are defined by arrows. Only finish to start dependency relationships (links) shall be used; lag times may not be used unless approved by the CPMA. The Department reserves the right to request a resequencing of activities to effect competent scheduling practice and realistic job logic.

Activities shall be sequenced to reflect resource apportionment. When one crew (resource) is being utilized to perform all of many similar activities, these activities must be linked together in some sequence to reflect that one crew is performing the work. Additionally, when several crews are performing similar activities, these activities must have separate linked sequences equal to the number of crews performing the work. Activities shall be logically connected and coded to reflect the crew (resource) performing the operation. A summary list of crews, their crew codes, and their operation(s) shall be included with each schedule submission unless unchanged. Resource loading will not be required unless otherwise directed by the Engineer. If resource loading is directed, payment will be incidental to the Item 763509 - CPM Schedule Updates and/or Revised Updates.

Activity responsibility shall be identified for each activity except those performed by the Contractor, if requested by the Engineer. Subcontractors, DBE's, utilities, performers of other contracts, and performers of adjoining work on other advertised contracts shall be identified by coding when responsibility for an activity is requested.

Activity resource loading shall be required only if the Contractor demonstrates the inability to maintain the CPM schedule. In this event, the Engineer shall have the authority to require resource information for all activities affecting project completion. Resource information includes manpower, equipment, materials, and/or services and has cost and has a range and amount of availability. Lack of sufficient resources will not be considered cause to extend durations when preparing the CPM schedule. By bidding to contract the work, the Contractor has ensured that sufficient resources are available or will be available in a suitable time frame to perform the work within the Contract Time, even if a resequencing of activities requires an activity or activities to shorten their Remaining Duration. In the event the Contractor demonstrates the inability to maintain the CPM schedule, the Engineer may require the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, supplement construction plant and equipment, or all or any of the foregoing as a step to improve the Contractor's work progress all without additional cost to the Department.

Work activities shall as a minimum be representative of all construction work for each operation, each phase (stage), and each location.

Working drawings requiring submittal shall be included as activities. Preparation, approval, and leadtime (order, manufacture, and delivery time), shall be included as activities for each applicable working drawing item. A separate activity shall be used to begin the submittals of working drawings. Working drawing activities shall not be on the critical path of the original CPM schedule. Time extension(s) will not be considered when submittal

activity(s) affects the critical path except for owner caused delay as recognized by the Engineer. If working drawings require resubmittal(s), activities for their preparation and activities for their approval (having the Department's review time) shall be included in the next CPM schedule update database. Time extension will not be considered when resubmittal activity(s) affects the critical path except for owner caused delay as recognized by the Engineer. Working drawing activities and leadtime activities not requiring submittal shall not be on the critical path of the Original CPM schedule.

Materials having long leadtime and/or manufacture time or that are difficult to acquire and/or fabricate shall have materials approval and leadtime activities included in the schedule for each applicable material item. A separate activity shall be used to begin the submittal of these materials. These material approval and leadtime activities shall not be on the critical path of the Original CPM schedule.

Administrative milestones shall be included as activities. Each milestone of the bidding through first chargeable day process shall be an activity.

Utility work shall be included as activities and shall be identified accordingly. Each utility item on the plans or listed in the Contract's Utility Statement shall be an activity. The activity description shall indicate the utility company and include the number of each listed item or be numbered according to the item's order in the Utility Statement. A separate activity shall be used to begin utility work. Utility activities shall not be impactful on the Original CPM schedule unless authorized by the Engineer.

Agency agreements and/or arrangements and other submittals for approval shall be included as activities. A separate activity shall be used to begin the agency items and other submittals for approval.

The effect of other Department contracts or construction of other organizations on the completion of part or all of this Contract shall be included as activities. A separate activity shall be used to begin these items.

Phasing (staging) shall be included as activities. These activities shall be correlated with the sequence or suggested sequence of construction on the plans and/or in the specifications. A separate start or finish milestone activity shall be used to start and to complete each phase.

When multiple crews are performing an operation or a string of operations, each crew shall be logical connected and coded to reflect the crew performing the operation.

Surcharge durations and special testing, if applicable, shall also be included as activities. Sufficient duration times for these activities will be allowed as per the plans and specifications or as agreed to by the Engineer.

Activity types must be either "task", "start milestone", or finish milestone. "Hammock" type activities may be allowed as agreed to by the Engineer. If the Department requires resource loading, "task" activities may be converted to "independent" type as agreed to by the Engineer.

Date constraints, float and duration constraints, and/or flags for activities will not be allowed. Milestones that do not constrain the schedule shall be allowed as agreed to by the Engineer when unique or unusual events cause a restraint to the Contractor's work schedule. The use of "Start No Earlier Than" (SNET) and "Zero Free Float" (ZFF) constraints for activities may be allowed for the purpose of schedule clarity or definitude if acceptable to the CPMA.

Total Float is defined as the difference between the current schedule finish date and the Contract Completion Date that is entered by constraint ("Project must finish by:" date) in the schedule.

Free float is defined as the amount of time between when an activity "can finish" (the early finish) and when an activity "must finish" (the late finish). Free float is float shared with all other activities and is defined as the amount of time an activity can be delayed without affecting the critical path of the schedule. It shall be

understood by the Contractor and the Department that free float is a shared commodity, not for the exclusive use or financial benefit of either party. Either party has the full use of the free float until it is depleted.

The critical path is defined as the series of activities in a CPM schedule network that has the longest path in time. The submitted activity sequence and durations must generate a CPM schedule having only one (1) critical path; a schedule with multiple or near multiple critical paths will not be allowed. Work like project wide Maintenance of Traffic, Construction Engineering, or Temporary Erosion Control that by their nature are ongoing for long durations or the duration of the project and are basically complementary to other activities, shall be divided and condensed into "establish" and "conclude" activities to prevent this type of work from being the major portion of the critical path or its entirety.

The Project Start Date, or initial Data Date, of the Original CPM schedule shall be the first chargeable day of work. The first schedule activity related to productive work shall be entitled "First Chargeable Day" and shall be a start milestone. Nonproductive work and administrative activities may begin and/or end prior to the Project Start Date and shall be statused as such in the Original CPM Schedule. The submitted activity sequence and durations must generate an Original CPM schedule using all the Contract Time and a critical path having zero total float. An early completion schedule will not be allowed. The Contractor's original schedule shall reflect the use of the entire Contract Time. The schedule ending date that uses all the Contract Time in the Original CPM schedule will be the original Contract Completion Date. This Contract Completion Date shall be fixed (Project must finish by:) in the Original CPM schedule and shall remain unchanged unless a time extension is awarded.

The Contractor's Original CPM schedule shall allocate the work over the entire Contract Time. The Contractor shall not anticipate early completion in bid preparation and shall distribute all time-driven and/or time-dependent costs uniformly over every day of the Contract Time when preparing the bid. No early completion schedules will be accepted.

After the Original CPM schedule utilizing all the allocated Contract Time has been approved, job conditions or logic changes may occur which require revision to the schedule. Only an update may be revised. These revised updates must be reflective of the Contractor's actual intent in constructing the project. The revision may cause the project completion date to be earlier than the completion date of the current approved schedule. This is acceptable to the Department; but no claims will be considered for time-driven and/or time-dependent costs (such as delay and/or extended overhead expense) which are a result of not meeting this new project "early finish" date. Consideration for these costs would occur only for approved extensions that force actual project completion past the originally advertised Contract Time including authorized time extension(s). However, no credits for non-expended overhead will be requested should a Contractor successfully achieve completion of the project prior to the use of all the Contract Time.

If the project is delayed, the contractor must demonstrate the inability to perform other critical or near critical work to receive consideration for an extension of Contract Time.

CPM schedule databases shall be calculated using the relevant Data Date prior to submittal to the CPMA. The Data Date of CPM schedule updates and revised updates shall be the next day after the end of the update period. Schedule calculations of CPM databases shall be based on retained logic, contiguous durations, and total float as finish float.

Activity Log (memo) information is allowed, but must be factual; shall be removed, if redundant; and shall not be masked, but indicated for printing to output reports. Punctuation is not required for activity and Activity Log information unless necessary for clarity.

Statusing or contract progress of activities for updates is the entering of Actual Start dates, Suspend Date(s), Resume Date(s), Actual Finish dates, and changes in Remaining Durations to the database. An activity's Original Duration may not be changed. An activity that begins (has an Actual Start Date) must have its Remaining Duration reduced by at least 1 day.

Activity Suspend and/or Resume Dates shall be added to the activity record and the factual reasons for the cause shall be added to the respective activity Log. If an activity is suspended again it shall be curtailed and assigned an Actual Finish Date equal to the latest suspension date, and a new activity (portion 2) comprising the balance of remaining duration shall be created and inserted in succession; both activities shall indicate by log comment the facts causing this condition.

Log stauting shall be used when an activity has out-of-sequence progress and no Actual Finish Date. Out-of-sequence progress occurs when any previous predecessor of an activity has no Actual Finish date. Log stauting is the entering of the Actual Start date to the Activity Log of the database in the Departments format. These entries are not to be masked, but indicated for printing to output reports. Changes in Remaining Durations shall be entered to the database but not the Activity Log. When progress is no longer out-of-sequence or all previous predecessors of the activity have Actual Finish dates, the activity's Actual Start shall be taken out of log status and entered to the database. Log stauting provides schedule output that prevents graphic distortion of schedule activities and preserves the design sequence of the CPM schedule plan. The Engineer shall have the authority to require a revision of the CPM schedule because of out-of-sequence progress. A suspended activity that requires log stauting shall be treated in the same manner as though it was suspended again.

Each original, update, and revised update schedule database and subsequent draft submitted for approval shall have a unique and manifest Project Name and shall be uniquely identified by entry (Number/Version) in the schedule database.

Corrections are defined as entries to the database that rectify coding and activity identification errors. Corrections shall be identified by written narrative and/or as agreed to by the CPMA. Exception(s) taken in PCS or other Department correspondence shall be complied with in the subsequent update and/or a revised update of the CPM schedule.

Written narratives shall be included with each submission of initial or revised update databases. The narratives must conceptualize work plans, modifications, and/or corrections but may be summary unless otherwise directed by the Engineer. These narratives shall describe where and the crews and order of what is to be done; narratives that are a listing of the work will not be acceptable. The Department will only accept schedule databases that reflect the work plans, modifications, and/or corrections reflected by their respective written narratives.

Inaccurate and/or faulty databases of any CPM schedule update and/or revised update will be unacceptable and shall be summarily corrected and resubmitted. Resubmittals shall be labeled "2nd Draft", "3rd Draft", etc. as appropriate and identified by entry (Number/Version) in the schedule database.

Any activity(s) or activity information that is necessary to generate a CPM schedule acceptable to the Engineer and/or schedule information that is requested by the Engineer shall be prepared and provided by the CPMC.

The CPMA will generate the CPM schedule network reflecting the Contractor's scheduling information. Upon approval of the Original CPM schedule and subsequent CPM schedule updates and/or revised updates, the CPMA will furnish the Contractor graphic and report outputs of these schedules. These CPM schedules are the Contractor's own work schedule and the Contractor's responsibility to maintain.

Monthly CPM Schedule Updates:

The CPMC shall meet with the Contractor and Resident Engineer and prepare the required work schedule progress information (status reports) to update the CPM schedule. This information shall be submitted on status forms provided by the Department that are generated from the Original Schedule and thereafter from the previous CPM schedule update or revised update(s). This update information shall reflect the current state of completed project work. The update information shall include all activities on which work was performed and/or there was progress during the update period and shall include as a minimum their actual start dates, suspend dates, and resume dates; and the estimated remaining durations or actual finish dates. The update information shall be as

agreed to and signed off and dated by the Resident Engineer and the CPMC. The CPMC shall use the signed off and dated information to status and/or log status the update database.

The Contractor shall submit the CPM schedule database update and a copy of the signed off update information within five (5) calendar days after the end of each monthly update period. The database and signed off information must match. The CPMA will generate a CPM schedule update reflecting the Contractor's update information. The five (5) calendar day submittal period will enable the Department to discuss current schedule information at the monthly progress meeting held the following week.

If the critical path of the generated CPM schedule update has less than minus ten (-10) calendar days of total float the CPM schedule update shall be revised.

Upon approval of the CPM schedule update, the CPMA will furnish the Contractor a graphic and report output of this update. This CPM schedule update is the Contractor's own updated work schedule and the Contractor's responsibility to maintain.

CPM Schedule Revised Updates:

The CPM schedule shall be revised if the critical path has less than minus ten (-10) calendar days of total float, conditions require the Contractor to modify the work schedule, the Contractor chooses to make a significant change in the sequence of work, or the Department requests the schedule to reflect the current state of the work and/or the Contractor's acknowledged work plans. The revised update shall reflect the Contractor's current order of work and include new and/or previous activities affected by the change and shall include a written narrative of these changes. Revision as required by this Specification or as requested by the Department does not constitute acceleration unless agreed to by the Engineer. Revisions shall be identified as the revised update of the current approved CPM schedule update. Revisions are to be singular in modification and not lumped together in the same revised update unless otherwise directed by the Engineer. Additional revision(s) of the same update is therefore acceptable. The Department reserves the right to request a resequencing of activities to effect a completion date within the Project Time.

The CPMC shall meet as needed with the CPMA at the Engineer's office within five (5) calendar days after revision is required, formal request for a revision, or the Contractor announces intent to submit a revision. The purpose of the meetings shall be to prepare the Contractor's revised update CPM schedule database and its written narrative of changes. These meetings shall continue until a useable, logical draft of the revised update CPM schedule network, responsive to the modification requirements, has been developed that will generate a workable, CPM schedule revised update having a completion date using or within the Contract Time or that allowable by this specification. The submitted CPM schedule database revised update must reflect its written narrative. Revised updates inconsistent with their written narratives will not be acceptable. The CPMA will generate the CPM schedule revised update reflecting the Contractor's new information. The reports generated by the CPM schedule revised update shall be used to prepare the update information for the next CPM schedule update.

Reduction of activity durations will not be considered acceptable criteria for revision to bring the project back on schedule unless activity quantities have been reduced or the Contractor provides a narrative describing how their means and methods to construct the work shall change and/or their resource allocation to perform the work shall increase.

For activities using like resources, modification of activity relationships to be concurrent (run parallel) with each other will not be considered acceptable criteria for revision to bring the project back on schedule unless the Contractor provides a narrative describing how their crews and/or resource allocation to perform the work shall increase.

A CPM revised update having the requirements for the Engineer's approval must be completed before preparation of the next CPM schedule update. Processing of the next monthly estimate for payment will begin only after the Engineer's approval of the signed CPM schedule revised update.

Upon approval of the CPM schedule revised update, the CPMA will furnish the Contractor a graphic and report output of this revised update. This CPM schedule revision is the Contractor's own revised work schedule and the Contractor's responsibility to maintain.

In the event that the Contractor fails to maintain his CPM schedule in a satisfactory manner, the Engineer reserves the right to enforce the provisions as set forth in Standard Specification Subsection 108.10.

Change Orders and adjustment of completion time:

A Change Order will only be considered for extension of Contract Time when the modified critical path shows requirement of additional time because of the added activity or activities and/or there is justifiable delay as recognized and determined by the Engineer. For any change order that affects the schedule, the Department reserves the right to request a resequencing of activities to effect a completion date within the Project Time.

If the CPM schedule has been updated and/or revised and positive total float has been created, no additional time will be given for added activity(s) unless the modified critical path shows requirement of additional time and/or there is justifiable delay as recognized and determined by the Engineer. Compensation for additional overhead costs will not be considered until all of the original Contract Time has been utilized. The Engineer reserves the right to "bank" (postpone the award of) approved time extensions if the project is ahead of schedule.

If a change order represents issues for which the effect on Contract Time can be readily determined, then any time adjustment will be agreed upon by the CPMC and CPMA prior to final execution of the change order. Determination of time adjustment will be based on the effect of the issue on the CPM schedule, the current approved CPM schedule update or approved CPM revised update, and the Department's Time Evaluation Worksheet (TEW) submitted by the Contractor.

However, if the issues represented by the change order require further analysis and review in order to accurately and fairly evaluate the effect on Contract Time, then the change order contract time assessment block may be marked "not considered at this time". This will be done in order to not delay payment to the contractor for completed work included on a particular change order while the time analysis is being performed. In these cases, final resolution of any time related issues would be made as soon as all required information is received and analyzed by the Department and the Contractor.

After signature by all parties, the change order is considered approved, and work activities and any time modifications as shown on the approved TEW that affect the CPM schedule shall be reflected in the next CPM schedule update or revised update and be documented by written narrative. Only activities on the approved TEW may be included as activity(s) in schedule databases. Updates reflecting change order(s) that are inconsistent with their change order narratives will not be acceptable. No change orders will be processed until their effect on the CPM schedule has been determined, unless otherwise approved by the Engineer. A change order may not be included in a monthly estimate for payment unless approved by the Department on or before the cutoff date of the estimate. All official time extensions will be granted by letters from the applicable District Construction Engineer or his/her designated representative.

Issues involving potential time extensions must be addressed in the CPM schedule update period in which they occur or they cannot be considered. If the Contractor proposes a change to the Contract work, any time the Contractor spends in discussion and preparation, and any time the Department requires for review in the approval or disapproval process for this proposed change to the Contract work will not be considered for granting of additional Contract Time. It is the obligation of the Contractor to complete the project on time according to the original contract documents including current approved changes notwithstanding any change submitted for approval that may or not be accepted. The Contractor is obligated to prosecute the work at any time according to the Contract Documents in covenant at that time.

If an allowance for weather days has been included in the Completion Date section at the beginning of the Contract Special Provisions, these days shall be identified as Contract Weather Days. The following definitions regarding weather days will be utilized:

Weather day – Any Calendar Day (including weekends and Holidays) on which a weather event prohibit contract work on critical path activities. Events include, but are not limited to rain, snow, or extreme temperatures.

Lost day – Any Calendar Day (including weekends and Holidays) on which residual effects from a weather event prohibit contract work on critical path activities. Examples include, but are not limited to, wet conditions from a previous rain event, snow cover, or frozen ground.

Extensions of Contract Time for weather will not be considered until the total of weather days and lost days as defined above exceed the number of Contract Weather Days as listed in the Completion Date section at the beginning of the Contract Special Provisions. The Contractor and the Department will record and agree on weather days and lost days. A day will be considered a weather or lost day if it prevents progress of the current or next work activity on the critical path of the schedule. A day will not be considered a weather or lost day if it occurs during a calendar non-work period of the current or next work activity on the critical path of the schedule. Weekends and holidays will also be excluded from consideration for weather and lost days during calendar non-work periods.

When the total of weather days and lost days recorded in the field exceed the advertised Contract Weather Days, the Contractor will be awarded a day for each day weather or conditions due to previous weather events prevent progress of the current or next work activity on the critical path of the schedule. When weather affects an activity not on the critical path and the activity becomes the critical path, the allowable days of time extension will be only for the days the activity was on the critical path. The Contractor and the Department will record and agree on these weather days. Inability to prosecute work not shown as activities in progress on the most recent CPM schedule will not be considered when determining an extension of Contract Time. The Engineer will have the final decision as to the number of calendar days the Contractor's work was limited to because of weather.

Final (As Built) CPM Schedule Update:

The CPMC shall meet with the Contractor and Resident Engineer and prepare the required as-built work schedule information and corrective work schedule information to finalize the CPM schedule. The progress reports generated by the previous CPM schedule update or revised update will be used to prepare this update information. This final update information shall reflect the final state of the project work. The final update information shall include all activities on which work was performed and/or corrections since the last update period and shall include as a minimum the activity ID and title, the actual start and finish dates, and the actual completion date. The final update information shall also include any revisions and change orders not previously included in the CPM schedule. These correction, revision, and change order modifications shall be reflected by a final update written narrative. The final update information will be as agreed to and signed off by the Resident Engineer and the CPMC. The CPMC will use the signed off information to status the CPM schedule database to prepare the final update schedule.

The Contractor shall submit the final CPM schedule database and a copy of the signed off final update information within five (5) calendar days after formal request for this update. The database and signed off information must match. The CPMA will generate a final CPM schedule update reflecting the Contractor's new information. Upon approval of the final CPM schedule update, the CPMA will furnish the Contractor graphic and report outputs of this final update.

The CPMC shall submit two (2) signed copies of the final CPM schedule update to the CPMA. Processing of the final estimate for payment will begin only after these signed copies are received. This final (as built) CPM schedule is the Contractor's final work schedule.

Method of Measurement:

The Project Control System will be portioned into two (2) items. The item, "Project Control System Development Plan", will be bid price lump sum. The item, "CPM Schedule Updates and/or Revised Updates", will be unit bid price per each approved update.

Basis of Payment:

The item, "Item 75 - Project Control System Development Plan", will be paid for at the Contract lump sum bid price, on the next monthly estimate after completion of the requirements of the Project Control System Development Plan, which includes approval of the Original CPM schedule.

The item, "Item 76 - CPM Schedule Updates and/or Revised Updates", will be paid for at the Contract unit bid price per each approved CPM schedule update. Revised updates are incidental to this item, except that each revised update(s) requested by the Department for purposes of incorporating Plan Revisions will be paid as one (1) approved CPM schedule update.

CSX SPECIFICATIONS

CSXT SPECIAL PROVISIONS

I. AUTHORITY OF CSXT ENGINEER

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

II. INTERFERENCE WITH CSXT OPERATIONS

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

III. NOTICE OF STARTING WORK

Agency or its Contractor shall not commence any work on CSXT Property or rights-of-way until it has complied with the following conditions:

- A. Notify CSXT in writing of the date that it intends to commence Work on the Project. Such notice must be received by CSXT at least ten business days in advance of the date Agency or its Contractor proposes to begin Work on CSXT property. The notice must refer to this Agreement by date. If flagging service is required, such notice shall be submitted at least thirty (30) business days in advance of the date scheduled to commence the Work.
- B. Obtain authorization from the CSXT Representative to begin Work on CSXT property, such authorization to include an outline of specific conditions with which it must comply.
- C. Obtain from CSXT the names, addresses and telephone numbers of CSXT's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

IV. WORK FOR THE BENEFIT OF THE CONTRACTOR

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

V. HAUL ACROSS RAILROAD

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

VI. COOPERATION AND DELAYS

- A. Agency or Contractor shall arrange a schedule with CSXT for accomplishing stage construction involving work by CSXT. In arranging its schedule, Agency or Contractor shall ascertain, from CSXT, the lead time required for assembling crews and materials and shall make due allowance therefore.

- B. Agency or Contractor may not charge any costs or submit any claims against CSXT for hindrance or delay caused by railroad traffic; work done by CSXT or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.
- C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.
- D. Agency and Contractor understand and agree that CSXT does not assume any responsibility for work performed by others in connection the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSXT for any inconvenience, delay or additional cost incurred by Agency or Contractor on account of operations by others.

VII. STORAGE OF MATERIALS AND EQUIPMENT

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

VIII. CONSTRUCTION PROCEDURES

A. General

- 1. Construction work on CSXT property shall be subject to CSXT's inspection and approval.
- 2. Construction work on CSXT property shall be in accord with CSXT's written outline of specific conditions and with these Special Provisions.
- 3. Contractor shall observe the terms and rules of the CSXT Safe Way manual, which Agency and Contractor shall be required to obtain from CSXT, and in accord with any other instructions furnished by CSXT or CSXT's Representative.

B. Blasting

- 1. Agency or Contractor shall obtain CSXT Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSXT property. If permission for use of explosives is granted, Agency or Contractor must comply with the following:
 - a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of Agency or Contractor.
 - b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
 - c. No blasting shall be done without the presence of an authorized representative of CSXT. At least 30 days' advance notice to CSXT Representative is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.
 - d. Agency or Contractor must have at the Project site adequate equipment, labor and materials, and allow sufficient time, to (i) clean up (at Agency's expense) debris resulting from the blasting without any delay to trains; and (ii) correct (at Agency's expense) any track misalignment or other damage to CSXT's property resulting from the blasting, as directed by CSXT Representative, without delay to trains. If Agency's or Contractor's actions result in delay of any trains, including Amtrak passenger trains, Agency shall bear the entire cost thereof.
 - e. Agency and Contractor shall not store explosives on CSXT property.
- 2. CSXT Representative will:
 - a. Determine the approximate location of trains and advise Agency or Contractor of the approximate amount of time available for the blasting operation and clean-up.
 - b. Have the authority to order discontinuance of blasting if, in his or her opinion, blasting is too hazardous or is not in accord with these Special Provisions.

IX. MAINTENANCE OF DITCHES ADJACENT TO CSXT TRACKS

Agency or Contractor shall maintain all ditches and drainage structures free of silt or other obstructions that may result from their operations. Agency or Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining. All such maintenance and repair of damages due to Agency's or Contractor's operations shall be performed at Agency's expense.

X. FLAGGING / INSPECTION SERVICE

- A. CSXT has sole authority to determine the need for flagging required to protect its operations and property. In general, flagging protection will be required whenever Agency or Contractor or their equipment are, or are likely to be, working within fifty (50) feet of live track or other track clearances specified by CSXT, or over tracks.
- B. Agency shall reimburse CSXT directly for all costs of flagging that is required on account of construction within CSXT property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.
- C. Agency or Contractor shall give a minimum of 30 days' advance notice to CSXT Representative for anticipated need for flagging service. No work shall be undertaken until the flag person(s) is/are at the job site. If it is necessary for CSXT to advertise a flagging job for bid, it may take up to 90-days to obtain this service, and CSXT shall not be liable for the cost of delays attributable to obtaining such service.
- D. CSXT shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSXT Representative, such inspection may be necessary. Agency shall reimburse CSXT for the costs incurred by CSXT for such inspection service. Inspection service shall not relieve Agency or Contractor from liability for its Work.
- E. CSXT shall render invoices for, and Agency shall pay for, the actual pay rate of the flagpersons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSXT and its employees, or if the tax rates on labor are changed, bills will be rendered by CSXT and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

XI. UTILITY FACILITIES ON CSXT PROPERTY

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

XII. CLEAN-UP

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

XIII. FAILURE TO COMPLY

If Agency or Contractor violate or fail to comply with any of the requirements of these Special Provisions, (a) CSXT may require Agency and/or Contractor to vacate CSXT Property; and (b) CSXT may withhold monies due Agency and/or Contractor; (c) CSXT may require Agency to withhold monies due Contractor; and (d) CSXT may cure such failure and the Agency shall reimburse CSXT for the cost of curing such failure.

CONSTRUCTION REQUIREMENTS

When performing work on, over or adjacent to CSX Transportation (CSXT) right-of-way or operations, the Contractor must abide by the current CSXT Special Provisions and the following additional requirements.

1. All construction related correspondence will be directed to AECOM, acting as the Construction Monitoring Representative (CMR) on behalf of CSXT, with the following contact and address:

Brian V. Harrison
Manager – Construction Services
AECOM
260 S. Broad Street, Suite 1500
Philadelphia, PA 19102
(215) 966-4846

Upon receipt of notification, the CMR will direct the Contractor to the local CSXT construction contact for the project.

2. The Contractor shall submit the following construction procedures and documents. The Contractor shall obtain written acceptance from CSXT or their representative before proceeding with construction.
 - a. Means and Methods – The Contractor shall develop a detailed submission indicating the progression of work with specific times when tasks will be performed during the project. This submission will include a walkthrough at which time CSXT personnel will be present. Work will not be permitted to commence until the Contractor has provided CSXT with a satisfactory plan that the project will be undertaken without scheduling, performance or safety related issues. Provide a listing of the anticipated equipment to be used, the location of all equipment to be used and insure a contingency plan of action is in place should a primary piece of equipment malfunction. All work in the vicinity of CSXT property that has the potential of affecting CSXT train operations must be submitted and approved by CSXT prior to work being performed. This submission will also include a detailed narrative discussing the coordination of project safety issues between the City of Newark, Contractor, CSXT and the CMR. The narrative shall address project level coordination and day to day, specific work operations including, but not limited to, equipment operations, steel canopy erection plans and temporary works.
 - b. Construction Schedule – Submit a detailed construction schedule for the duration of the project clearly indicating the time periods while working on and around CSXT right-of-way. As the work progresses, this schedule shall be updated and resubmitted as necessary to reflect changes in work sequence, duration and method, etc.

- c. Insurance – Submit all necessary insurance information in accordance with the current CSXT Insurance Requirements for approval. The complete original policies should be submitted to:

Donna W. Melton
Manager – Insurance
CSX Transportation, Inc.
500 Water Street - C907
Jacksonville, FL 32202
Phone: 904-359-1247
Fax: 904-245-2833

with a copy to the CMR. The insurance policies will be required to be in place and approved prior to any work commencing on or that could potentially impact CSXT right-of-way.

- d. Emergency Action Plan – Submit an emergency action plan indicating the location of the site, contact numbers, access to the site, instructions for emergency response and location of the nearest hospitals. This plan should cover all items required in the event of an emergency at the site including fire suppression. Coordinate the Emergency Action Plan with the safety related discussion of the Means and Methods submission discussed above. The plan should also include a method to provide this information to each project worker for each day on site.
3. Up to thirty (30) days will be required to review all construction submissions. Up to an additional thirty (30) days will be required to review any subsequent submissions returned not approved.
 4. The Contractor must ensure that proper erosion control is implemented on and adjacent to CSXT right-of-way during construction.
 5. The Contractor must not use CSXT right-of-way for storage of materials or equipment during construction. The CSXT right-of-way must remain clear at all times.
 6. The Contractor will be required to abide by the provisions of the Construction Agreement between the City of Newark and CSXT. Periodically, throughout the project duration, the Contractor will be required to meet, discuss and, if necessary, take immediate action at the discretion of CSXT personnel and/or the CMR to comply with provisions of that agreement and these specifications.
 7. This project may require use of CSXT Flagmen to protect train operations from project activity in the area of the tracks. While CSXT cannot guarantee the availability of flagmen at all requested times, every accommodation will be extended to the Contractor when forces are available. Flagging requests should be made to CSXT Roadmaster, Mr. Dave Lackford at telephone (302) 994-8715 at least thirty (30) days in advance. Termination or cancellation of a flagman requires ten (10) days notice to avoid incurring costs.
 8. All equipment operations that could potentially impact CSXT right-of-way must be coordinated with the CSXT Flagman.
 9. The Contractor shall execute Schedule I (Contractor's Acceptance) prior to starting work on, under or adjacent to CSXT right of way, which is part of the Construction Agreement to be executed between the City of Newark and CSXT.

INSURANCE REQUIREMENTS

I. Insurance Policies:

Company and Contractor, if and to the extent that either is performing work on or about CSXT's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than \$5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.
2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than \$1,000,000, which insurance must contain a waiver of subrogation against CSXT and its affiliates.
3. Commercial automobile liability insurance with limits of not less than \$500,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.
4. Railroad protective liability insurance with limits of not less than \$5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of \$10,000,000, which insurance shall satisfy the following additional requirements:
 - a. The insurer must be financially stable and rated B+ or better in Best's Insurance Reports.
 - b. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.
 - c. CSX Transportation must be named as the named insured on the Railroad Protective Insurance Policy.
 - d. Name and Address of Contractor and Company must be shown on the Declarations page.
 - e. Description of operations must appear on the Declarations page and must match the Project description, including project or contract identification numbers.
 - f. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.
 - g. Authorized endorsements may include:
 - (i). Broad Form Nuclear Exclusion - IL 00 21
 - (ii) 30-day Advance Notice of Non-renewal or cancellation
 - (iii) Required State Cancellation Endorsement
 - (iv) Quick Reference or Index - CL/IL 240

h. Authorized endorsements may not include:

- (i) A Pollution Exclusion Endorsement except CG 28 31
- (ii) A Punitive or Exemplary Damages Exclusion
- (iii) A “Common Policy Conditions” Endorsement
- (iv) Any endorsement that is not named in Section 4 (f) or (g) above.
- (v) Policies that contain any type of deductible

5. Such additional or different insurance as CSXT may require.

II. Additional Terms

1. Contractor must submit its original insurance policies and two copies and all notices and correspondence regarding the insurance policies to:

Donna W. Melton
Manager – Insurance
CSX Transportation, Inc.
500 Water Street - C907
Jacksonville, FL 32202
Phone: 904-359-1247
Fax: 904-245-2833

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

MODIFICATIONS TO REQUIRED FEDERAL CONTRACT PROVISIONS

The following modifications to the enclosed REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS (located elsewhere in this document) are effective January 18, 2009. Modifications are shown below. Old language is shown crossed out, new language is shown underlined. The full text is not shown, only portions that were modified.

V. STATEMENTS AND PAYROLLS

2. Payrolls and Payroll Records:

b. The payroll records shall contain the name, ~~social security number,~~ and address an individually identifying number for each employee (e.g., the last four digits of the employee's social security number) of each such employee . . .

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under ~~paragraph 2b of this Section V.~~ 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). ~~This~~ The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the FHWA, if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the FHWA the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

d.

(1) that the payroll for the payroll period contains the information required to be ~~maintained under paragraph 2b of this Section V~~ provided under Sec. 5.5(a)(3)(i) of Regulations, 29 CFR part 5, the appropriate information is being maintained under Sec. 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

- end -

CITY OF NEWARK
Delaware

CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

PROPOSAL

TO: The Mayor and City Council
Newark, Delaware

FROM: _____

Gentlemen:

The undersigned bidder has carefully examined the proposed work, the proposal form of contract to be known as Contract No. 11-04 along with the plans and specifications; and binds himself on award to him by the Mayor and City Council of Newark, Delaware, under this proposal 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 the necessary machinery, tools, labor, and other means of construction, and to do all the work, and to furnish all the material necessary to perform and complete the said contract within the time as required by the said contract plans and specifications in accordance with the requirements of the engineer, and at the following named prices for the various items.

Date: _____ Bidder/Contractor: _____

By: _____
Its legally authorized representative

PRINT NAME: _____

TITLE: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE: _____

EMAIL: _____

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL

A. BASE BID

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	1	L.S.	Clearing and Grubbing		
2	7,990	C.Y.	Excavation and Embankment		
2B	5,275	L.F.	Silt Fence		
2C	311	C.Y.	Undercut Excavation		
2D	435	TON	Stabilized Construction Entrance		
2E	235	C.Y.	Sediment Removal		
2F	11	EACH	Inlet Sediment Control, At Grade Inlet		
2G	12	EACH	Inlet Sediment Control, Drainage Inlet		
2H	8,955	S.Y.	Mulching, Straw-Coconut Erosion Blanket		
2I	10	C.Y.	Sediment Trap		
2J	2	EACH	Riser Pipe Assembly for Sediment Trap		
2K	244	L.F.	Reinforced Silt Fence		
4	161	C.Y.	Excavation and Backfill for Structures		
4A	165	C.Y.	Excavation and Backfill for Pipe Trenches		
5A	10	C.Y.	Borrow (Type B)		
5B	1,600	C.Y.	Borrow (Type F)		
5C	2,400	CY	Graded Aggregate Base Course, Type B		
5D	135	C.Y.	Delaware Number 10 Stone		
5E	38	C.Y.	Delaware Number 57 Stone		
5F	30	C.Y.	Delaware Number 3 Stone		
5G	66	C.Y.	Borrow (Type C)		
6 *	1	L.S.	Removal of Structures and Obstructions (C)		
8G	10	TON	Coarse Aggregate for Foundation Stabilization		

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL

A. BASE BID

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
11 *	1	L.S.	Portland Cement Concrete Masonry (C)		
11A	674	S.F.	Form Liners		
13	6,760	L.B.	Bar Reinforcement		
17	236	L.F.	Reinforced Concrete Pipe - 15"		
19	107	L.F.	Perforated Polyvinyl Choride (PVC) Pipe, 6"		
21C	3	EACH	Reinforced Concrete Flared End Sections, 15"		
21D	21	L.F.	Perforated PVC Pipe Underdrains, 6"		
21E	380	L.F.	Perforated PVC Pipe Underdrains, 4"		
21F	25	L.F.	PVC Pipe, 6"		
25C	676	L.F.	PCC Curb, Type 1		
26	2400	S.F.	Portland Cement Concrete Sidewalk, 4"		
26B	63	S.Y.	Unit paver, Type A		
26C	580	S.F.	PCC Curb Ramp, Type 1		
26E	140	S.F.	PCC Curb Ramp, Type 4		
26F	370	S.F.	Sidewalk Surface Detectable Warning System		
27A	2	EACH	Adjusting and Repairing Existing Catch Basins		
27D	725	L.F.	Cleaning Drainage Pipe, 15" to 24"		
27E	8	EACH	Drainage Inlet, 34"x24"		
27F	1	EACH	12" Square Catch Basin		
27H	2	EACH	Convert Existing Drainage Inlet to Junction Box		
28A	6	EACH	Adjusting and Repairing Existing Manholes		
29	26,810	S.Y.	Topsoil (6" Depth)		
31	23,255	S.Y.	Seeding (Standard Roadside Seeding Mix)		

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL

A. BASE BID

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
31A	1,915	S.Y.	Filter Strip Seeding		
31B	2,280	S.Y.	Biofiltration Swale Seeding		
31C	5,565	S.Y.	Native Steep Slope Seeding		
32	14,300	S.Y.	Mulching, Straw		
37B	30	C.Y.	Riprap, R-3		
37C	72	C.Y.	RipRap, R-4		
37D	95	C.Y.	RipRap, R-5		
37E	10	C.Y.	RipRap, R-6		
37F	90	C.Y.	RipRap, R-7		
37G	271	S.Y.	Geotextile for RipRap		
39A	1,250	TON	Superpave Hot-Mix Type C, 115 Gyration, PG 64-22		
39B	144	TON	Superpave Hot-Mix Type B, 115 Gyration, PG 64-22		
39C	256	TON	Superpave Bituminous Concrete Base Course, 115 Gyration, PG 64-22		
39D	861	L.F.	Saw Cutting		
44A	1,517	L.F.	Chain Link Fence - 6'-0" High		
44B	1,653	L.F.	Wooden Split Rail Fence		
45	1	EACH	Chain Link Gate		
46	515	S.Y.	Pavement Milling		
47A	400	L.F.	PVC Conduit Under Existing Pavement, 2"		
47B	6,200	L.F.	PVC Conduit Under New Pavement or in Sodded Trench, 2"		
47C	13	EACH	Conduit Junction Well 12"x12"x12"		
47D	65	EACH	Conduit Junction Well 12"x18"x12"		
47E	6,600	L.F.	Pull Wire		

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL

A. BASE BID

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
48A *	1	L.S.	Basic Electrical Material and Methods		
48B *	1	L.S.	Exterior Lighting		
48C *	1	L.S.	Communications Circuits		
49	30,420	S.Y.	Geotextile, Stabilization		
50 *	1	L.S.	Site Furnishings		
51	1	L.S.	Maintenance of Traffic		
52A	410	L.F.	Permanent Pavement Striping, Epoxy Resin Paint, 4"		
52B	1,615	S.F.	Permanent Pavement Striping, Symbol/Legend, Alkyd-Thermoplastic		
52C	396	L.F.	Retroreflective Preformed Patterned Markings, 4"		
53	1	L.S.	Initial Expense		
54	1	L.S.	Construction Engineering		
55A	2	EACH	Relocate Existing Signs		
56	61	EACH	Reinforced Concrete Sign Foundations		
57 *	1	L.S.	Planting (C)		
57A	5,562	S.Y.	Invasive Species Control		
58	721	L.F.	Pipe Video Inspection		
62	14	EA/MO	Field Office, Type II		
63	2	EACH	Fiberglass Pedestrian Bridges		
64	8	EACH	Helical Piles		
67 *	1	L.S.	Steel Canopy and Foundations (C)		
70	10	C.Y.	Channel Bed Fill		
71	185	L.F.	Temporary Fence and Boardwalk		
72	88	EACH	Installation or Removal of Traffic Sign on Single Post		

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

A. BASE BID

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
73	178	L.F.	Construction Safety Fence		
74	76	EACH	Warning Signs		
75	1	L.S.	Project Control System Development Plan		
76	1	L.S.	CPM Schedule Updates and/or Revised Updates		

TOTAL AMOUNT OF BASE BID **

* CONTRACTOR SHALL FILL OUT BREAKOUT SHEETS IN ENTIRETY AND COSTS ASSOCIATED WITH SHEETS C-7 TO C-12 SHALL BE INCLUDED IN THE BASE BID.

** BASIS FOR 5% BID BOND

If an award of contract is made, it will be made to the lowest responsible bidder, based on the base bid.

B. DELDOT CONTRACTOR WORK

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
68	1	PDA	Traffic Signal Improvements (Cleveland Avenue & South Chapel Street) and Roadway Signage ***	\$ 28,665.67	\$ 28,665.67

*** WORK ASSOCIATED WITH THIS ITEM WILL BE PERFORMED BY THE DELDOT CONTRACTOR AND IS NOT PART OF THE BASE BID.

C. ALTERNATE BID ITEMS

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
Alt. 1	61	EACH	LED Lighting Unit and Luminaire/Light Fixture		
Alt. 2	4	EACH	LED Canopy Light Fixture		
Alt. 3	1	EACH	LED Kiosk Light Fixture		
Alt. 4	4	EACH	House Side Sheild for LED Luminaire		
Alt. 5	20	EACH	Banner Poles for LED Pole		

TOTAL: ALTERNATIVE LIGHTING

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

ITEM 6 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	315	L.F.	Removal of Existing Fence		
2	4	EACH	Removal of Existing Pole Foundations		
3	2	EACH	Removal of Existing Timber Structures		
4	10	EACH	Removal of Existing Street Lights		
5	245	L.F.	Removal of Existing Railroad Rails		

Total: Removal of Structures and Obstructions: _____

CANNOT BE
USED FOR
BIDDING

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

ITEM 11 - PORTLAND CEMENT CONCRETE MASONRY

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	54	C.Y.	Portland Cement Concrete Masonry, Class A		
2	18	C.Y.	Portland Cement Concrete Masonry, Class B		

Total: Portland Cement Concrete Masonry: _____

CANNOT BE
USED FOR
BIDDING

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

ITEM 48A - BASIC ELECTRICAL MATERIAL AND METHODS

ITEM 48B - EXTERIOR LIGHTING

ITEM 48C - COMMUNICATIONS CIRCUITS

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
48A	19,800	L.F.	3/0 Wires		
48A	6,600	L.F.	#6 Wires		
48A	3	L.F.	Power Panel 60 AMP Service Entrance Enclosed C/B		
48A	6,600	L.F.	Marking Tape		

Total: Basic Electrical Materials and Methods: _____

48B	61	EACH	Type 1 Lighting Unit and Luminaire/Light Fixture		
48B	4	EACH	Canopy Light Fixture		
48B	1	EACH	Kiosk Light Fixture		
48B	61	EACH	Pole Foundations		
48B	4	EACH	House Side Shields		
48B	20	EACH	Banner Poles		

Total: Exterior Lighting: _____

48C	13	EACH	Type 2 Luminaire/Light Fixture (Blue Light)		
48C	13	EACH	Emergency Telephone		
48C	6,600	L.F.	12 Pair #19 Telephone Cable		
48C	13	EACH	Phone Jack - FD Box and Cover		

Total: Communications Circuits: _____

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL
ITEM 50 - SITE FURNISHINGS

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	5	EACH	Park Bench		
2	4	EACH	Bicycle Rack		
3	8	EACH	Trash Receptacle		
4	14	EACH	Collapsible Bollard		
5	15	EACH	Trail Marker Post		
6	4	EACH	Removeable Bollard - State Park		
7	1	EACH	Kiosk Structure		
8	58	EACH	Wooden Bollard		
9	2	EACH	Trailhead Information Sign		

Total: Site Furnishings: _____

CANNOT BE
 USED FOR
 BIDDING

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04
POMEROY AND NEWARK RAIL TRAIL
ITEM 57 - PLANTING

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	SIZE	UNIT PRICE	TOTAL AMOUNT
1	20	EACH	Arrowwood Viburnum	30"-36" HT.		
2	184	EACH	Big Blue LillyTurf	1 GALLON		
3	4	EACH	Black Gum	2 1/2"-3" CAL.		
4	8	EACH	Cranberry Bush Viburnum	30"-36" HT.		
5	3	EACH	Dark Green Arborvitae	6'-7' HT.		
6	600	EACH	Duck Potato	2"		
7	23	EACH	Dwarf Fothergilla	24"-36" HT.		
8	11	EACH	Fragrant Sumac	15"-18" HT.		
9	660	EACH	Hard-Stem Bulrush	2"		
10	9	EACH	Inkberry Holly	30"-36" HT.		
11	24	EACH	New England Aster	1 GALLON		
12	19	EACH	Prairie Dropseed	1 GALLON		
13	2	EACH	Purple-Leaf Plum	1 3/4"-2" CAL.		
14	4	EACH	Red Maple	3 1/2"-4" CAL.		
15	10	EACH	Redosier Dogwood	30"-36" HT.		
16	23	EACH	Shore Juniper	3 GALLON		
17	525	EACH	Soft Rush	2"		
18	18	EACH	Spicebush	30"-36" HT.		
19	13	EACH	White Beard Tongue	30"-36" HT.		
20	10	EACH	Winterberry Holly	30"-36" HT.		
21	2	EACH	Willow Oak	2 1/2"-3" CAL.		

Total: Planting: _____

BID PROPOSAL FOR CITY OF NEWARK CONTRACT NO. 11-04

**POMEROY AND NEWARK RAIL TRAIL
ITEM 67 - STEEL CANOPY AND FOUNDATIONS**

ITEM NO.	APPROX. QTY.	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1	1	L.S.	Steel Canopy		
2	145	C.Y.	Excavation and Backfill for Structures		
3	7	C.Y.	Portland Cement Concrete Masonry, Class B		
4	800	LB	Bar Reinforcement, Epoxy Coated		
5	1	L.S.	Locate Existing 24" RCP		
6	1	L.S.	Shore Existing 24" RCP		

Total: Steel Canopy and Foundations: _____

CANNOT BE
USED FOR
BIDDING

CITY OF NEWARK
Delaware

CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

NON-COLLUSION STATEMENT

Date: _____

City of Newark
Newark, Delaware

Gentlemen:

This is to certify that the undersigned bidder _____
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 this proposal submitted to the City of Newark
on the _____ day of _____ 2011.

Signature of bidder/Contractor: _____

By: _____
Its legally authorized representative

Printed Name: _____

Sworn to and subscribed before me on this _____ day of 2011.

My Commission expires _____.

Notary Public

LISTING OF SUBCONTRACTORS – CONTRACT NO. 11-04

Bidder/contractors shall fill in the following listing of subcontractors they intend to use in the performance of the contract work. No subcontractor shall be substituted for any listed below without the written consent of the City. Contractor hereby certifies that he has notified all subcontractors that they are obligated to comply with the provisions of Federal or State laws as they pertain to this project and they must submit evidence of such compliance upon notice of request.

1. Name: _____
Address: _____
Type of Work: _____
2. Name: _____
Address: _____
Type of Work: _____
3. Name: _____
Address: _____
Type of Work: _____
4. Name: _____
Address: _____
Type of Work: _____

Date: _____ Bidder/Contractor: _____

By: _____
Its legally authorized representative

Printed Name: _____

Check: Corporation _____; Partnership _____; Individual _____

Street Address: _____

Mailing Address: _____

City & State: _____

Telephone: _____

Email: _____

CITY OF NEWARK

Delaware

CONTRACT NO. 11-04

POMEROY AND NEWARK RAIL TRAIL

BOND TO ACCOMPANY PROPOSAL

(Not Necessary if Certified or Cashier's Check is Used)

KNOW ALL MEN BY THESE PRESENTS THAT _____

of _____ in the County of _____

and State of _____ Principal, and _____

_____ of _____

as surety, legally authorized to do business in the State of Delaware, are held and firmly bound unto the City of Newark in the sum of _____ Dollars, to be paid to said City of Newark for use and benefit of the Mayor and Council of Newark, 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 be these presents. Sealed with our seals, dated the _____ day of _____ in the year of our Lord, two thousand and eleven, (2011).

NOW THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that if the above bound principal

_____ who has submitted to said City of Newark, a certain proposal to enter into a certain Contract No. 11-04 – Pomeroy and Newark Rail Trail project shall be awarded said Contract, and if said _____ shall well and truly enter into and execute said contract and furnish therewith such surety bond or bonds as may be required by the terms of said contract and approved by said City of Newark, said contract, and said bond to be entered into within fourteen (14) days after the date of official notice of award thereof in accordance with the terms of said proposal, then this obligation to be void, otherwise shall remain in full force and virtue.

SIGNED AND SEALED IN
THE PRESENCE OF
WITNESS:

SIGNED: _____ (SEAL)

BY: _____ (SEAL)

SIGNED: _____ (SEAL)

BY: _____ (SEAL)

**ATTACHMENT A
UTILITY STATEMENT**

UTILITY STATEMENT
State Contract No. 22-015-01
Federal Aid Project No. ESTP-N999(103)
Pomeroy and Newark Rail Trail
Newark, Delaware
May 5, 2011

The following utilities may maintain facilities within the project limits:

City of Newark	(Water and Wastewater)
City of Newark	(Electric)
Comcast	(Communication)
Delmarva Power	(Gas)
Delmarva Power	(Electric)
University of Delaware	(Fiber Optics)
Verizon Communications, Inc.	(Communication)
W.L. Gore & Associates	(Fiber Optics)

The following is a breakdown of the involved utilities and any adjustments and/or relocations as required (station counts, offsets, and times are approximate):

City of Newark (Water and Wastewater)

Water Facilities

The City maintains an existing 8" C.I. water main on North College Avenue at the northern terminus of the project. There is an existing 6" C.I. and a 12" D.I. on North College Avenue that run north to south and cross the proposed trail at Station 273+25 and a 8" C.I. along Kershaw Street that crosses the proposed trail at Station 260+35. The City maintains existing 8" and 12" D.I. water mains within the Courtyard Apartment property (CHF-Delaware) and maintains a 10" D.I. along Main Street and both 12" and 6" D.I. at the intersection of Cleveland Avenue and North Chapel Street. There is an existing 12" D.I. water main on Wyoming Road that crosses Wyoming Road near the location of the proposed trail.

Wastewater Facilities

The City maintains an existing 8" sewer main and manholes on North College Avenue at the northern terminus of the project and an 8" clay main on University of Delaware and DNREC property that crosses the trail at Station 274+85 and another 8" clay main that crosses the trail at Station 266+60. There is an existing 8" Clay main on North College Avenue that runs north to south then goes west from an existing manhole on North College Avenue and maintains one 8" PVC sewer mains within the roadway at Main Street and two (2) 8" PVC mains at the intersection of Cleveland Avenue and North Chapel Street. The City maintains three (3) existing 8" PVC sewer mains within the Courtyard Apartment property (CHF-Delaware).

Proposed Adjustments

1. One sewer manhole located on North Chapel Street at Stations 250+00 (Left) shall be adjusted to finished grade by the Contractor as shown on the Construction Plans.

UTILITY STATEMENT

2. One sewer manhole located on North College Avenue at Station 273+00 (Left) shall be adjusted to finished grade by the Contractor as shown on the Construction Plans.

The above adjustments shall be completed during the construction activities in this area. The Contractor shall determine the number of days required and show that in his CPM schedule, but the work is anticipated to take approximately 5 days. The work is not considered complete until accepted by the City of Newark.

City of Newark (Electric)

The City maintains both 34kV and 12.47kV aerial and underground facilities throughout the corridor within the project limits. In addition to the aerial and underground facilities, the City maintains street lighting that is attached to the utility poles throughout the project limits.

Proposed Relocations:

Existing cobra head light fixtures will be removed on the following City of Newark Utility Poles:

- Pole No. CN27A29
- Pole No. CN27A28
- Pole No. CN27A27
- Pole No. CN27A26
- Pole No. CN27A12
- Pole No. Unknown (Station 210+65, Left)

The removal of light fixtures shall be completed during the construction activities in this area. The Contractor shall determine the number of days required and show that in his CPM schedule, but the work is anticipated to take approximately 10 days. The work is not considered complete until accepted by the City of Newark.

Comcast Cable

Comcast Cable maintains overhead and underground coaxial cable facilities within the limits of the project. Comcast also maintains Fiber-Optic facilities on poles within the project limits. The fiber-optic facilities are located on East Main Street and East Cleveland Avenue. Comcast has major underground fiber-optic facilities located on Wyoming Road. Comcast facilities intersect the Trail on the north side of Wyoming Road and run along the West side of the trail before veering West onto the University of Delaware Computer Center. No conflicts with these facilities are anticipated with the project.

Delmarva Power (Gas)

The Company maintains a 4" PHP under the existing sidewalk on the North side of Wyoming Road.

The Company also maintains two (2) 2" PHP at Main Street. One of the 2" underground lines feeds the Newark Shopping Center to the East and the other feeds the Pomeroy Station Shops to the West. The Company maintains an underground 8" PHP gas main that crosses the proposed trail at approximately Station 246+75. At the Cleveland Avenue intersection there is an existing 4" PHP gas line that crosses under the trail at Station 250+00. On the East side of Kershaw

UTILITY STATEMENT

Street the Company maintains an existing 2" SHP that terminates at the end of Kershaw Street. At the trails intersection with North College Avenue there is a 3" PHP gas main that runs along the East side of North College Avenue and crosses under the trail at Station 273+00. No conflicts are anticipated since the excavation for the trail pavement box will not be as deep as the existing gas mains.

Delmarva Power (Electric)

The Company maintains 34kV aerial facilities throughout the corridor within the project limits. All existing Delmarva Power facilities will be protected at all times throughout construction. Any damages to conduits or damages associated with digging will be the responsibility of the City's Contractor. No conflicts are anticipated as a part of the project.

For exact location, please contact Miss Utility at (800) 282-8555. 16 Del. C. Chapter 74B. Overhead High-Voltage Line Safety §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 line.

University of Delaware (Fiber Optics)

The University maintains two (2) 4" PVC conduits with fiber optic cables that begin at City of Newark Pole #CN27A29 and travel east towards the Comcast Head-End Building. They also maintain four (4) 4" PVC conduits with fiber optic cable that travels from west to east on the south side of Wyoming Road. No conflicts with these facilities are anticipated with the project.

Verizon Communications, Inc. - Telecommunications

The Company maintains aerial communication facilities within the project limits. Existing aerial facilities are located on both City of Newark and Delmarva Power's utility poles. In addition the Company owns a fiber optic line that runs along the CSX railroad corridor and is attached to the existing bridges as it crosses above North Chapel Street. No conflicts with these facilities are anticipated with the project.

W.L. Gore & Associates (Fiber Optics)

The Company maintains fiber optic cables in the City of Newark Conduit in Olin Thomas Park beginning at City of Newark Pole #CN14E37 and travels northward towards Paper Mill Road. The Company also maintains underground PVC conduits with fiber optic cable that travels from west to east on the south side of Wyoming Road. No conflicts with these facilities are anticipated with the project.

NOTES:

THE UTILITY COMPANIES DO NOT WORK ON WEEKENDS OR HOLIDAYS.

COORDINATION AND COOPERATION AMONG THE UTILITY COMPANIES AND THE CITY OF NEWARK CONTRACTOR ARE OF PRIMARY IMPORTANCE. THEREFORE,

UTILITY STATEMENT

THE CONTRACTOR IS ADVISED TO CONTACT THE FOLLOWING UTILITY COMPANY REPRESENTATIVES WITH QUESTIONS REGARDING THIS WORK PRIOR TO CONSTRUCTION. PROPOSED CPM WORK SCHEDULES SHALL REFLECT THE UTILITY COMPANIES PROPOSED RELOCATIONS.

GENERAL NOTES:

1. If utility work is being performed in advance of the project, all bidders are to determine the extent of completion of the advanced utility work, and predicated their bid prices on the extent of utility work completed and anticipated to be completed prior to the start of construction.
2. The Utility Company's forces will perform any additional relocations/adjustments that may be necessary during construction of the project. The time to complete any additional relocations/adjustments will depend upon the nature of the work, the required advance notice to the Utility Company, the need for the City's Contractor to stake out the right-of-way or proposed work, and any work that needs to be done by the City's Contractor in advance of the utility relocation/adjustment.
3. The Contractor's attention is direction 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, but not more than ten working days in advance of starting the work. The Contractor is responsible for the support and protection of all utilities for excavation and/or demolition. The Contractor is responsible for ensuring proper clearances, including safety clearances from overhead utilities for construction equipment. The Contractor is advised to check the site for access purposes for his equipment and, if necessary, make arrangements directly with utility companies for field adjustments for adequate clearances.
4. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present or relocated positions as shown on the plans or described in the Utility Statement and/or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage sustained by him/her 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.
5. The City's Contractor is responsible for rough grading as required by the roadway construction prior to the utility companies placing their proposed facilities, unless otherwise indicated on the plans and/or outlined elsewhere in the Contract Documents.
6. The Contractor shall follow all requirements of the Delaware Code, Title 26, Chapter 8. Underground Utility Damage Prevention And Safety. Chapter 8 includes, among other requirements, Section 806. Duties of Excavators which contains the requirement for the Contractor to excavate prudently and carefully and to take all reasonable steps necessary to properly protect, support and backfill underground utilities lines. This protection shall include but may not be limited to, hand digging within the limits of the planned

UTILITY STATEMENT

excavation or demolition, starting 2 feet of either side of the extremities of the underground utility line for other than parallel type excavations and at reasonable distances along the line of excavation for parallel type excavations.

- 7. The Contractor shall note that the Delaware Code, Chapter 74B, Section 7405B requires notification to and mutually agreeable measures from the public utility for any person intending to carry on any function, activity work or operation within dangerous proximity of any high voltage overhead lines.

NOTE: Coordination and cooperation among the Utility Companies and the City's Contractor are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company Representatives with any questions in regard to this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations.

UTILITY CONTACT LIST:

Mr. Philip Bishop	City of Newark (Water & Wastewater Dept.)	(302) 366-7055
Mr. Rick Vitelli	City of Newark (Electric Department)	(302) 366-7050
Mr. Ken Stronski	Comcast Cable	(302) 661-4435
Mr. Theodore Waugh	Delmarva Power (Gas)	(302) 429-3706
Mr. Angel Collazo	Delmarva Power (Electric)	(302) 454-4370
Mr. John Hall	University of Delaware (Fiber Optics)	(302) 831-3739
Mr. Wayne Keller	Verizon Delaware Inc.	(302) 424-4350
Mr. Tim Manley	W.L. Gore & Associates (Fiber Optics)	(610) 517-4106

The information shown in the Contract Documents, including this Utility Statement, concerning the location, type and size of existing and proposed utility locations and 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.

Prepared and Recommended by:


Pannoni, Matthew A. Goudy, P.E.

5/5/11
DATE

Approved as to form by

Utilities Section, DelDOT

DATE

ATTACHMENT B
STATE OF DELAWARE PREVAILING WAGES



225 Corporate Blvd.
Suite 104
Newark, DE 19702

Telephone: (302) 451-3423
Fax: (302) 368-6604

STATE OF DELAWARE
DIVISION OF INDUSTRIAL AFFAIRS

FACSIMILE TRANSMITTAL SHEET

TO: Ms. Carol S. Houck
City of Newark
City Manager's Office

DATE: April 13, 2011

FAX: (302) 366-7160

FROM: James P. Ryan
Labor Law Enforcement Officer

PAGES: 4 (includes cover)

REMARKS

Hard copy to follow by regular mail.

Confidentiality Notice:

This facsimile is only for the use of the intended recipient(s). If you have received this facsimile in error, please notify the sender immediately by replying to this facsimile; then delete this message and any attachment(s) from your system. Please do not read, copy, or disseminate this communication unless you are the intended recipient(s). This facsimile communication may contain or attach confidential information intended solely for the recipient(s). If you are the intended recipient, federal and/or state law, or contractual agreements might require you to take steps to ensure the confidentiality of the information contained herein, whether retained electronically or reduced to hardcopy. If you have questions about your confidentiality obligations you should speak to your organization's Privacy Official or legal counsel. Any unintended transmission expressly shall not waive the confidentiality of this facsimile.

ATTACHMENT

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 451-3423

Mailing Address:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

Located at:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

PREVAILING WAGES FOR HIGHWAY CONSTRUCTION EFFECTIVE MARCH 15, 2011

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	44.98	44.98	14.51
CARPENTERS	40.86	48.31	38.62
CEMENT FINISHERS	28.11	24.68	23.29
ELECTRICAL LINE WORKERS	22.50	54.05	54.05
ELECTRICIANS	57.10	57.10	57.10
IRON WORKERS	42.20	22.98	25.35
LABORERS	25.44	23.33	24.00
MILLWRIGHTS	16.11	15.63	13.49
PAINTERS	41.42	41.42	41.42
PILEDRIVERS	59.23	23.75	26.95
POWER EQUIPMENT OPERATORS	31.46	26.00	26.31
SHEET METAL WORKERS	22.75	20.31	18.40
TRUCK DRIVERS	26.54	21.68	19.96

CERTIFIED: 4/13/11

BY: 
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

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

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 451-3423.

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

PROJECT: 22-015-01, Pomeroy and Newark Rail Trail, New Castle County

ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

GUIDELINES

HIGHWAY CONSTRUCTION

Highway projects include the construction, alteration, or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

EXAMPLES: Alleys, Base Courses, Bituminous treatments, Bridle Paths, Concrete pavement, Curbs, Excavation and embankment (for road construction), Fencing (highway), Grade crossing elimination (overpasses and underpasses), Guard rails on highway, Highway signs, Highway bridges (overpasses, underpasses, grade separation), Medians, Parking lots, Parkways, Resurfacing streets and highways, Roadbeds, Roadways, Runways, Shoulders, Stabilizing courses, Storm sewers incidental to road construction, Street paving, Surface courses, Taxiways, and Trails.

ANY QUESTIONS REGARDING THE APPLICATION OF THE GUIDELINES ABOVE TO A PARTICULAR PROJECT OR ANY DISPUTES REGARDING THE APPLICATION OF THE WAGE SCHEDULES ARE TO BE REFERRED TO THE WAGE AND HOUR DIVISION, U.S. DEPARTMENT OF LABOR FOR RESOLUTION, AND THE INSTRUCTIONS OF THE WAGE AND HOUR DIVISION ARE TO BE OBSERVED IN ALL INSTANCES.

* ALL AGENCY MEMORANDUM NO. 130
U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, DC 20210

GENERAL DECISION: DE100013 5/21/2010 DE13

General Decision Number: DE100013

State: DELAWARE

Construction Type: HIGHWAY

COUNTY: New Castle County in Delaware

HIGHWAY CONSTRUCTION PROJECTS: (excluding tunnels, building structures in rest area projects and railroad construction; bascule, suspension and spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number Publication Date
0 05/21/2010

SUDE2010-001 05/01/2009

	Rates	Fringes
Bricklayer	43.48	
Carpenter	40.35	
Cement Mason/Concrete Finisher	31.04	
ELECTRICIAN		
Electrician	55.35	
Line Worker	34.29	
Ironworker	42.20	
Laborer	23.81	
Millwright	16.11	
Painter	51.47	
Piledriverman	59.23	
Power Equipment Operation	33.37	
Truck Driver	26.19	

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

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

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

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

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

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

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

END OF GENERAL DECISION

ATTACHMENT C
ENVIRONMENTAL STATEMENT AND
ARMY CORP OF ENGINEERS NATIONWIDE
PERMIT NO. 23



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

OCT 28 2010

Regulatory Branch
Application Section I

SUBJECT: CENAP-OP-R-2008-0934 (NWP 23) **Modification** Special conditions 6 and 13
Project Name: Newark City of Pomeroy Branch Rail to Trail Project

Mr. Charles R. Emerson
City of Newark
220 Elkton Road P.O. Box 390
Newark, DE 19715-0390

*Approved modifications to
CORPS requirements due to
project delays.
Original CORPS PERMIT
attached. dated Sept 14, 2009*

Dear Mr. Emerson:

Reference is made to Department of the Army Nationwide Permit verification letter, dated September 14, 2009, authorizing the City of Newark to perform regulated work associated with the construction of an approximately 2-mile long multi-use recreational trail along the defunct Pomeroy and Newark Branch Railroad, located in Newark, New Castle County, Delaware.

In accordance with your request dated September 16, 2010, special conditions 6 and 13 below are approved to supersede special conditions 6 and 13 in the letter dated September 14, 2009:

Special condition 6. That the permittee shall initiate compensation site construction prior to, or concurrent with commencement of the authorized project construction and complete all compensation work (i.e. grading, planting, and stabilization) no later than September 14, 2011. This work shall be performed to the satisfaction of the District Engineer in accordance with the development criteria specified on the wetlands mitigation plan.

Special condition 13. Deed restrictions (restrictive covenants) shall be placed on the wetland mitigation site by the City of Newark to hold the property in perpetuity as a wetlands with restrictions the same, or similar to those indicated in Section 2.3, subparagraphs A through G in the mitigation plan entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A. D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009. **The deed restriction shall be recorded in the Office of the Recorder of Deeds of New Castle County, Delaware within 60 days of completion of the authorized work.**

The revised conditions provide for and extension of time for completion of the proposed compensatory mitigation and extension of time for recordation of a deed restriction to protect the compensatory mitigation area.

All other conditions to which this permit was made subject remain in full force and effect. This authorization does not affect your responsibility to obtain any other Federal, State or local approvals required by law for this project before beginning work.

If you should have any questions regarding this matter, please contact Michael F. Green at (215) 656-6836 or write to the above address.

Sincerely,



Frank J. Cianfrani
Chief, Regulatory Branch



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

*copy: Carol H.
Pennoni*

SEP 14 2009

Regulatory Branch
Application Section I

SUBJECT: CENAP-OP-R-2008-934 (NWP 23)
Project Name: Newark City of Pomeroy Branch Rail to Trail Project
DDNREC#: CZM/WQC Issued for NWP 23

Mr. Charles R. Emerson
City of Newark
220 Elkton Road
P.O. Box 390
Newark, DE 19715-0390

Dear Mr. Emerson:

This is in regard to your proposal to construct an approximately 2-mile long multi-use recreational facility along the defunct Pomeroy and Newark Branch Railroad, located in Newark, New Castle County, Delaware. The limits of the trail will run from Creek Road southward to a point along the James F. Hall Trail, just south of Wyoming Road.

Under current Federal regulations, a Department of the Army permit is required for work or structures in navigable waters of the United States and/or the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Based upon our review of the information you have provided, it has been determined that the proposed work is approved by the existing Department of the Army Nationwide Permit (NWP) described below.

NATIONWIDE PERMIT 23. APPROVED CATEGORICAL EXCLUSIONS

23. Approved Categorical Exclusions. Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are the: Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at: <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm> Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same web site.

You are advised that this verification of NWP authorization is valid for two (2) years from the date of this letter, unless the NWP authorization is modified, suspended, or revoked. In the event that the NWP authorization is reissued and/or modified during that time period, this two-year expiration date will remain valid, provided the activity complies with any subsequent reissuance and/or modification of the NWP authorization.

The enclosed table (Enclosure 1) identifies those NWPs which require a preconstruction notification (PCN) to the Corps of Engineers, those which have been regionally conditioned by the Division Engineer, and those which have been denied 401 Water Quality Certification (WQC) and/or Coastal Zone Management (CZM) consistency by the State. It is noted that CZM consistency from the State is only required for those activities in or affecting a State's coastal zone. Additionally, some of the NWPs do not involve a discharge of dredged or fill material, and as such, do not require a 401 WQC. For those NWPs not requiring a 401 WQC, the appropriate rows and columns have been identified with the term "NA". If the State has denied the required WQC and/or not concurred with the Corps' CZM consistency determination, the NWP authorization is considered denied without prejudice until an individual project specific WQC and/or CZM approval is obtained. This approval must be obtained in order for the activity to be authorized under the NWP and a copy provided to this office before work begins. Any project specific conditions required by the State for the WQC and/or CZM approval will automatically become part of the NWP authorization.

You should carefully note that this NWP authorization is based upon your agreement to comply with the terms and conditions of this NWP (Enclosure 2), including any and all attached project specific special conditions listed below. Initiation of any authorized work shall constitute your agreement to comply with all of the NWP's conditions. You should also note that the authorized work may be subject to periodic inspections by a representative of this office. The verification of a Nationwide Permit including all general and special conditions is not subject to appeal.

In addition, a preliminary jurisdictional determination (JD) is included with this Department of the Army authorization. This preliminary determination identifies the location(s) of waters and wetlands that may be waters of the United States for the subject site. This preliminary

jurisdictional determination is non-binding and indicates that there may be waters of the United States, including wetlands, on the parcel. Enclosed is a copy of the Preliminary Jurisdictional Determination Form signed by the applicant or agent agreeing to accept a preliminary jurisdictional determination (Enclosure 3). Preliminary JDs are advisory in nature and may not be appealed (See attached Notification of Appeal Form (Enclosure 4) and 33 C.F.R. 331.2.); however, the applicant retains the right to request an approved Jurisdictional Determination, which may be appealed, for the site.

For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision was made based on the preliminary JD. All waters and wetlands on the site that may be affected in any way by the permitted activity were treated as though they were jurisdictional waters of the United States. The project plan(s) depicting the location of waters and wetlands within the project area are entitled as follows: (a) "Pomeroy and Newark Rail Trail, Environmental Compliance Plan", sheet 80 or 113, last revised August 18, 2009; and (b) "Pomeroy Trail" Wetland Delineation sheets 1 of 12 through 12 of 12, contract 24-041-03, New Castle County; as included with Wetlands report dated May 28, 2008, prepared by A.D. Marble and Company, Conshohocken, Pennsylvania.

This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participating in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This preliminary jurisdictional determination is issued in accordance with current Federal regulations and is based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify the preliminary jurisdictional determination at any time should existing site conditions or Federal regulations change, or should the information provided by you prove to be false, incomplete, or inaccurate.

PROJECT SPECIFIC SPECIAL CONDITIONS:

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans identified as follows:

(a) "Pomeroy and Newark Rail Trail, Environmental Compliance Plan", prepared by Delaware Department of Transportation, sheet 80 of 113, last revised August 18, 2009;

(b) "Pomeroy and Newark Rail Trail, Wetland Mitigation Plan", sheet 1, prepared by Delaware Department of Transportation, scale as shown, last revised August 18, 2009;

The project plans provide for construction of an approximately 2-mile long multi-use recreational facility along the defunct Pomeroy and Newark Branch Railroad, located in Newark, New Castle County, Delaware. The stated purpose of the project is to provide for a north-south link between two pre-existing recreational areas, the James F. Hall Trail and Walter S. Carpenter State Park.

2. Construction activities shall not result in the disturbance or alteration of greater than 0.26 acre of waters of the United States, including wetlands.
3. Any deviation in construction methodology or project design from that shown on the above noted drawings or repair plan must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.
4. This office shall be notified prior to the commencement of authorized work by completing and signing the enclosed Notification/ Certification of Work Commencement Form (Enclosure 5). This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the enclosed Notification/Certification of Work Completion/Compliance Form (Enclosure 6). All notifications required by this condition shall be in writing. The Notification of Commencement of work may be sent to this office by facsimile or other electronic means; all other notification shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Similar notification is required each time maintenance work is to be done under the terms of this Corps of Engineers permit.
5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
6. That the permittee shall initiate compensation site construction prior to, or concurrent with commencement of the authorized project construction and complete all compensation work (i.e. grading, planting, and stabilization) no later than November 30, 2010. This work shall be performed to the satisfaction of the District Engineer in accordance with the development criteria specified on the wetland mitigation plan.
7. Prior to seeding and planting, the permittee shall have an inspector onsite to verify grades of the compensation site.
8. That the permittee shall submit an as-built survey plan, accurate to one foot contour interval of the compensation site(s) within 60 days of completion of excavation and grading activities.
9. Two (2) data monitoring points shall be established, one within the wetland creation/mitigation area and the second within a bio-filtration swale. Wooden stakes or other appropriate markers shall be installed in the field at each of the monitoring points as a reference for each annual monitoring event.
10. Monitoring of the mitigation shall be performed for a five (5) year period as stated in the mitigation plan entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A.

D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009. The permittee shall monitor the wetlands compensation site for five consecutive growing seasons, and submit to this office one monitoring report per season (submitted in December). Each monitoring report shall contain the following information to aid in determining whether the compensatory mitigation site is meeting performance standards: (a) observations of hydrology indicating depth of surface water and/or depth to saturated soil; (b) dominant vegetative species within the wetland creation/mitigation area with per cent aerial cover and/or stem count of various species; (c) dominant vegetation within the bio-filtration swales per cent aerial cover and/or stem count of various species; (d) percent aerial coverage of volunteer hydrophytic (native, non-invasive) species; (e) a brief written statement regarding need for measures such as invasive species control; (f) a brief written statement, if appropriate, regarding actions used to minimize dominance of invasive plant species and/or damage from wildlife; (g) representative photographs from each of the established monitoring data points showing view to the north, east, south, and west.

11. Monitoring shall be performed during the early part of the early part of the first growing season (spring) following the completion of construction, and during the growing season for each year for the following four years, with a monitoring report submitted by December 15 of the year during which the monitoring was conducted.

12. That the created wetland shall have a minimum of 85% aerial plant coverage of hydrophytic, non-invasive plants after the first growing season. This percentage can include both planted stock and volunteer species. Failure to achieve these rates will require the replacement of all dead plants, with new stock or other means until a permanent stand of non-invasive hydrophytic vegetation is established over the mitigation site. Statistically valid proof of 85% coverage is required.

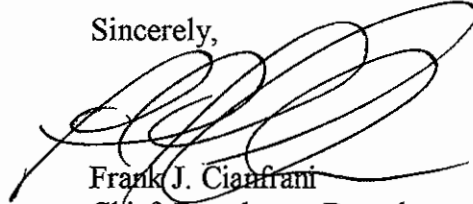
13. Conservation easement restrictions shall be placed on the wetland mitigation site by the City of Newark to hold the property in perpetuity as a wetland with the restrictions indicated in Section 2.3, subparagraphs A through G in the mitigation plan, entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A. D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009. The conservation easement shall be placed no later than May 30, 2011.

14. Your responsibility to complete the require compensatory mitigation as set forth in Special Conditions and/or the mitigation plan entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A. D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009, will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U. S. Army Corps of Engineers.

15. That the authorized excavation, filling and associated activities shall be performed in accordance with the State and/or County standards for Soil Erosion Sediment Control.

Also enclosed is a pre-addressed postal card (Enclosure 7) soliciting your comments on the processing of your application. Any comments, positive or otherwise, on the procedures, timeliness, fairness, etc., may be made on this card. If you should have any questions regarding this matter, please contact Michael F. Green at 215-656-6836 or write to the above address.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank J. Cianfrani', written over a horizontal line.

Frank J. Cianfrani
Chief, Regulatory Branch

Enclosures



**US Army Corps
of Engineers**
Philadelphia District

This card is being sent to solicit your views and comments concerning the recent processing of your Permit application. Any input, positive or otherwise, on procedures, timeliness, fairness, etc., would be appreciated.

Please write your comments in the space provided and return the card to the Philadelphia District.

Thank you.

Department of the Army
U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

POSTAGE

**PHILADELPHIA DISTRICT
U.S. ARMY CORPS OF ENGINEERS
ATTN: REGULATORY BRANCH
WANAMAKER BUILDING
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390**

NWP CZM AND WQC STATUS TABLE DELAWARE, NEW JERSEY, PENNSYLVANIA (10-15-07)

NWP #	PCN	DE CZM	DE WQC	NJ CZM	NJ WQC	PA CZM	PA WQC
NWP 1	NO	ISSUED	N/A	ISSUED	N/A	ISSUED	N/A
NWP 2	NO	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 3	YES *	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 4	NO	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED
NWP 5	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 6	NO	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 7	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 8	YES	DENIED	N/A	DENIED	N/A	ISSUED	N/A
NWP 9	NO	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 10	YES *	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 11	YES	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 12	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 13	YES *	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 14	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 15	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 16	NO	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 17	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 18	YES *	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 19	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 20	NO	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 21	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 22	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
✓ NWP 23	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 24	NO	ISSUED	N/A	ISSUED	N/A	ISSUED	N/A
NWP 25	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 27	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 28	YES *	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 29	YES	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 30	YES *	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED
NWP 31	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 32	N/A	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 33	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 34	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 35	NO	ISSUED	N/A	DENIED	N/A	ISSUED	N/A
NWP 36	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 37	YES	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED	ISSUED
NWP 38	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 39	YES	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 40	YES	DENIED	DENIED	DENIED	DENIED	ISSUED	ISSUED
NWP 41	YES *	DENIED	DENIED	DENIED	DENIED	ISSUED	ISSUED
NWP 42	YES	DENIED #	DENIED #	DENIED	DENIED	ISSUED	ISSUED
NWP 43	YES *	DENIED	DENIED	DENIED	DENIED	ISSUED	ISSUED
NWP 44	YES	DENIED	DENIED	DENIED	DENIED	ISSUED	ISSUED
NWP 45	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 46	YES	DENIED	DENIED	DENIED	DENIED	ISSUED	ISSUED
NWP 47	NO **	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 48	YES *	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 49	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED
NWP 50	YES	ISSUED	ISSUED	DENIED	DENIED	ISSUED	ISSUED

Note: * A PCN is required under certain circumstances. Review the terms and conditions of the NWP or general conditions to identify those circumstances. ** Requires a post construction report. # The State of Delaware has denied the CZM and WQC for this NWP in critical resource waters only.

ENCLOSURE 1

Nationwide Permit General Conditions

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through fill, or downstream by substantial turbidity) of an important spawning area are not authorized.

4. Waterfowl Breeding Areas. Activities in breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water, or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. **Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate

14. **Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. **Wild and Scenic Rivers**. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. **Tribal Rights**. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. **Endangered Species**. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in the designated critical habitat and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activity will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened

and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWP 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with State coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) If 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN

must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic

environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): SEP 04 2009

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD: City of Newark, 220 Elkton Road, P.O. Box 390, Newark, DE 19715; contact: Charles R. Emerson

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OP-R-2008-934
Pomeroy Branch Rail to Trail Project

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: DELAWARE County/parish/borough: NEW CASTLE COUNTY City: NEWARK
Center coordinates of site (lat/long in degree decimal format):
Lat. 39.687397° N, Long. -75.749426° W
Universal Transverse Mercator: Easting (x) Northing (y)
Name of nearest waterbody: WHITE CLAY CREEK

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 350 linear feet: width (ft) and/or 0.08 acres.

Cowardin Class: Palustrine

Stream Flow: (4) Perennial and (2) intermittent streams

Wetlands: 0.26 acres.

Cowardin Class: emergent/scrub shrub

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: NONE

Non-Tidal: NONE

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination.

Date:

Field Determination.

Date(s):

October 6, 2008

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.


2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project", City of Newark, New Castle County, DE
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:.
- Corps navigable waters' study:.
- U.S. Geological Survey Hydrologic Atlas:.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Newark East, DE 1"=2000.
- USDA Natural Resources Conservation Service Soil Survey. Citation: New Castle County, DE, October 1970.
- National wetlands inventory map(s). Cite name:.
- State/Local wetland inventory map(s): DNREC SWMP Wetlands, US Aerial 1"=1,000'
- FEMA/FIRM maps:.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth (date not determined).
- Other (Name & Date): On site photographs submitted by consultant, dated November 2007 and December 2007
- Previous determination(s). File no. and date of response letter: .
- Other information (please specify): .

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


Signature and date of
Regulatory Project Manager
(REQUIRED)



Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the
signature is impracticable)

TABLE 1

Site Number	Latitude	Longitude	Cowardin Class	Estimated Amount of aquatic resource in review	Class of aquatic resource
1	39.675°	-75.741°		0.26	wetlands
2	39.679°	-75.743°		32 linear feet	Stream (#1)
3	39.687°	-75.750°		33 linear feet	Stream (#2)
4	39.689°	-75.754°		94 linear feet	Stream (#3)
5	39.691°	-75.755°		97 linear feet	Stream (#4)
6	39.692°	-75.756°		61 linear feet	Stream (#5)
7	39.693°	-75.757°		33 linear feet	Stream (#6)
8					
9					
10					

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: City of Newark, Delaware

File Number: CENAP-OP-R-2008-934

Date: **SEP 14 2009**

Attached is:

See Section below

<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the Philadelphia District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations (JD) associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the Philadelphia District Engineer. Your objections must be received by the Philadelphia District Engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the Philadelphia District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the Philadelphia District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the Philadelphia District Engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the North Atlantic Division Engineer, ATTN: CENAD-PD-PSD-O, Fort Hamilton Military Community, Building 301, General Lee Avenue, Brooklyn, NY 11252-6700. This form must be received by the North Atlantic Division Engineer within 60 days of the date of this notice with a copy furnished to the Philadelphia District Engineer.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:

Michael F. Green
U.S. Army Corps of Engineers, Philadelphia District
ATTN: CENAP-OP-R
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390
Telephone: 215-656-6836

If you only have questions regarding the appeal process you may also contact:

Mr. Michael G. Vissichelli
Administrative Appeals Review Officer
North Atlantic Division, Corps of Engineers Fort Hamilton
Military Community Bldg. 301, General Lee Avenue Brooklyn,
NY 11252-6700
Telephone: (718) 765-7163
Email: Michael.G.Vissichelli@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
---	-------	-------------------

NOTIFICATION/CERTIFICATION OF WORK COMMENCEMENT FORM

Permit Number: CENAP-OP-R-2008-934
State Permit #: CZM/WQC issued for NWP23
Name of Permittee: City of Newark (contact: Mr. Charles R. Emerson) 220 Elkton Road, P.O. Box 390, Newark, DE 19715-0390
Project Name: Newark City of Pomeroy Branch Rail to Trail Project
Waterway: White Clay Creek
County: New Castle State: Delaware
Compensation/Mitigation Work Required: Yes No

TO: U.S. Army Corps of Engineers, Philadelphia District
Wanamaker Building - 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
Attention: CENAP-OP-R

I have received authorization to: Construct an approximately 2-mile long multi-use recreational pedestrian and bicycle facility along the defunct Pomeroy and Newark Branch Railroad, (aka "Old Pomeroy Branch") located in Newark, New Castle County, Delaware.

The work will be performed by:

Name of Person or Firm _____

Address: _____

I hereby certify that I have reviewed the approved plans, have read the terms and conditions of the above referenced permit, and shall perform the authorized work in strict accordance with the permit document. The authorized work will begin on or about _____ and should be completed on or about _____.

Please note that the permitted activity is subject to compliance inspections by the Army Corps of Engineers. If you fail to return this notification form or fail to comply with the terms or conditions of the permit, you are subject to permit suspension, modification, revocation, and/or penalties.

Permittee (Signature and Date)

Telephone Number

Contractor (Signature and Date)

Telephone Number

NOTE: This form shall be completed/signed and returned to the Philadelphia District Office a minimum of 10 days prior to commencing work.

NOTIFICATION/CERTIFICATION OF WORK COMPLETION/COMPLIANCE FORM

Permit Number: CENAP-OP-R-2008-934
State Permit #: CZM/WQC issued for NWP23
Name of Permittee: City of Newark (contact: Mr. Charles R. Emerson) 220 Elkton Road, P.O. Box 390, Newark, DE 19715-0390
Name of Contractor: _____
Project Name: Newark City of Pomeroy Branch Rail to Trail Project
County: New Castle State: Delaware
Waterway: White Clay Creek

Within 10 days of completion of the activity authorized by this permit, please sign this certification and return it to the following address:

U.S. Army Corps of Engineers, Philadelphia District
Wanamaker Building - 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
Attention: CENAP-OP-R

Please note that the permitted activity is subject to a compliance inspection by an Army Corps of Engineers representative. If you fail to return this notification form or fail to perform work in compliance with the permit, you are subject to administrative, civil and/or criminal penalties. Further, the subject permit may be suspended or revoked.

The authorized work was commenced on _____.

The authorized work was completed on _____.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the above noted permit.

Signature of Contractor

Signature of Permittee

Address: _____

Address: _____

Telephone Number: _____

Telephone Number: _____

For project located in areas identified as shellfish habitat, you must include with this form a bill of lading; sales order or any other document(s) demonstrating non-polluting materials were purchased and utilized for your project. I hereby certify that I and/or my contractor have utilized non-polluting materials as defined in the above noted permit.

Signature of Contractor

Signature of Permittee



September 30, 2009

375 East Elm Street
Suite 200
Conshohocken, PA 19428
Telephone: (484) 533-2500
Fax: (484) 533-2599

City of Newark
220 Elkton Road
P.O. Box 390
Newark, DE 19715-0390
Attn: Mr. Charlie Emerson

**RE: Pomeroy Branch Rail Trail Project
NW #23 Special Conditions Summary (CENAP-OP-R2008-934)***

Mr. Emerson,

I reviewed the approved NW #23 Permit (September 14, 2009) and provided a summary of Special Conditions 1 through 15 below. Pages 3 through 6 of the permit contain the Special Conditions and are attached for reference. Please note that in order to stay in compliance with the permit, all of the Special Conditions must be followed.

General Construction Requirements:

- All work must be performed in accordance with the plans that we submitted to USACE, specifically Sheets 80 of 113 revised August 18, 2009 and the Wetland Mitigation Plan revised August 18, 2009. All work will be in accordance with State and County E&S Standards and to the satisfaction of the District Engineer.
- The construction activities cannot impact more than 0.26 acres of wetland.
- If construction methodology or design changes then USACE must be advised in writing prior to the commencement of work.
- Send enclosed *Notification/Certification of Work Commencement Form* into USACE prior to commencement of construction. Notify the USACE office within 10 days of completion of authorized work by sending in *Notification/Certification of Work Completion/Compliance Form*. All notification should be in writing and by registered mail.
- All construction work on the wetland mitigation site shall be completed (including grading, planting and stabilization) no later than November 30, 2010. The work must be in accordance with the development criteria on the wetland mitigation plan.
- Grading shall be verified by an inspector before seeding and planting.
- Provide an As-Built survey (accurate to 1-foot contours) within 60 days of the completion of excavation and grading activities.

Monitoring Requirements:

- 2 monitoring points shall be established, 1 in the wetland and 1 within the biofiltration swale using a stake or appropriate marker. These will be reference points for the 5-year monitoring requirements.
 - Monitoring Report Requirements:
 - Consists of short report containing observations of hydrology such depth of surface water and/or depth of saturated soil;
 - Dominant vegetative species with percent aerial coverage and/or stem count of various species;
 - Dominant species within biofiltration swales with percent aerial coverage and/or stem count of various species;
 - Percent aerial coverage of volunteer species hydrophytic (wetland) and native, non-invasive species;
 - Brief written statement regarding actions used to minimize invasive plants and/or damage to wildlife if appropriate;
 - Representative photographs from each of the established monitoring points looking north, east, south, and west.
 - Should be performed in early part of the first growing season (i.e. early spring) following the completion of construction and during the growing season for the following 4 years (i.e. late spring/early summer or fall) with the Monitoring Report submitted by December 15th each year.
- The wetland should have a minimum of 85% aerial plant coverage of wetland species (non-invasive) after the first growing season (late fall 2011). If this is not the case, new plants and or/seed mix will be required to achieve this in both the wetland and biofiltration swales.

Conservation Easement:

- A Conservation Easement is required for the wetland mitigation site. This is required to be in place no later that May 30, 2011.

Final Approval:

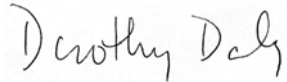
- The wetland mitigation site will not be considered successful until written notice is received by USACE.

(Please note that based on conversations with USACE, if after 3 years the vegetation has sufficiently established itself, the USACE may deem it successful and not require the additional 2 years of monitoring.)

I am also enclosing copies of the NW #3 Permit information. As I mentioned in previous correspondence, the stabilization work at WUS 2 is being completed under the NW #3 Maintenance Permit Section A. This permit does not require a Preconstruction Notice (PCN), or formal application, but the information should be available if there are any questions about the work since it is occurring in a USACE regulated waterway.

Please let me know if you have any comments or questions. I can be reached at 484-533-2567 or ddaly@admarble.com.

Sincerely,
A.D. Marble & Company



Dorothy Daly, AICP

cc: Phil Horsey, PE, Pennoni Associates Inc.
Matt Goudy, PE, Pennoni Associates Inc.
Jason Vendetti, A.D Marble & Company

*Attachment- Special Conditions from NW #23 Permit (September 14, 2009)
NW #3 Permit Information*

Nationwide #23 Permit Special Conditions 1-15
Pages 3-6

jurisdictional determination is non-binding and indicates that there may be waters of the United States, including wetlands, on the parcel. Enclosed is a copy of the Preliminary Jurisdictional Determination Form signed by the applicant or agent agreeing to accept a preliminary jurisdictional determination (Enclosure 3). Preliminary JDs are advisory in nature and may not be appealed (See attached Notification of Appeal Form (Enclosure 4) and 33 C.F.R. 331.2.); however, the applicant retains the right to request an approved Jurisdictional Determination, which may be appealed, for the site.

For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision was made based on the preliminary JD. All waters and wetlands on the site that may be affected in any way by the permitted activity were treated as though they were jurisdictional waters of the United States. The project plan(s) depicting the location of waters and wetlands within the project area are entitled as follows: (a) "Pomeroy and Newark Rail Trail, Environmental Compliance Plan", sheet 80 or 113, last revised August 18, 2009; and (b) "Pomeroy Trail" Wetland Delineation sheets 1 of 12 through 12 of 12, contract 24-041-03, New Castle County; as included with Wetlands report dated May 28, 2008, prepared by A.D. Marble and Company, Conshohocken, Pennsylvania.

This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participating in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This preliminary jurisdictional determination is issued in accordance with current Federal regulations and is based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify the preliminary jurisdictional determination at any time should existing site conditions or Federal regulations change, or should the information provided by you prove to be false, incomplete, or inaccurate.

PROJECT SPECIFIC SPECIAL CONDITIONS:

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans identified as follows:

(a) "Pomeroy and Newark Rail Trail, Environmental Compliance Plan", prepared by Delaware Department of Transportation, sheet 80 of 113, last revised August 18, 2009;

(b) "Pomeroy and Newark Rail Trail, Wetland Mitigation Plan", sheet 1, prepared by Delaware Department of Transportation, scale as shown, last revised August 18, 2009;

The project plans provide for construction of an approximately 2-mile long multi-use recreational facility along the defunct Pomeroy and Newark Branch Railroad, located in Newark, New Castle County, Delaware. The stated purpose of the project is to provide for a north-south link between two pre-existing recreational areas, the James F. Hall Trail and Walter S. Carpenter State Park.

2. Construction activities shall not result in the disturbance or alteration of greater than 0.26 acre of waters of the United States, including wetlands.
3. Any deviation in construction methodology or project design from that shown on the above noted drawings or repair plan must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.
4. This office shall be notified prior to the commencement of authorized work by completing and signing the enclosed Notification/ Certification of Work Commencement Form (Enclosure 5). This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the enclosed Notification/Certification of Work Completion/Compliance Form (Enclosure 6). All notifications required by this condition shall be in writing. The Notification of Commencement of work may be sent to this office by facsimile or other electronic means; all other notification shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Similar notification is required each time maintenance work is to be done under the terms of this Corps of Engineers permit.
5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
6. That the permittee shall initiate compensation site construction prior to, or concurrent with commencement of the authorized project construction and complete all compensation work (i.e. grading, planting, and stabilization) no later than November 30, 2010. This work shall be performed to the satisfaction of the District Engineer in accordance with the development criteria specified on the wetland mitigation plan.
7. Prior to seeding and planting, the permittee shall have an inspector onsite to verify grades of the compensation site.
8. That the permittee shall submit an as-built survey plan, accurate to one foot contour interval of the compensation site(s) within 60 days of completion of excavation and grading activities.
9. Two (2) data monitoring points shall be established, one within the wetland creation/mitigation area and the second within a bio-filtration swale. Wooden stakes or other appropriate markers shall be installed in the field at each of the monitoring points as a reference for each annual monitoring event.
10. Monitoring of the mitigation shall be performed for a five (5) year period as stated in the mitigation plan entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A.

D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009. The permittee shall monitor the wetlands compensation site for five consecutive growing seasons, and submit to this office one monitoring report per season (submitted in December). Each monitoring report shall contain the following information to aid in determining whether the compensatory mitigation site is meeting performance standards: (a) observations of hydrology indicating depth of surface water and/or depth to saturated soil; (b) dominant vegetative species within the wetland creation/mitigation area with per cent aerial cover and/or stem count of various species; (c) dominant vegetation within the bio-filtration swales per cent aerial cover and/or stem count of various species; (d) percent aerial coverage of volunteer hydrophytic (native, non-invasive) species; (e) a brief written statement regarding need for measures such as invasive species control; (f) a brief written statement, if appropriate, regarding actions used to minimize dominance of invasive plant species and/or damage from wildlife; (g) representative photographs from each of the established monitoring data points showing view to the north, east, south, and west.

11. Monitoring shall be performed during the early part of the early part of the first growing season (spring) following the completion of construction, and during the growing season for each year for the following four years, with a monitoring report submitted by December 15 of the year during which the monitoring was conducted.

12. That the created wetland shall have a minimum of 85% aerial plant coverage of hydrophytic, non-invasive plants after the first growing season. This percentage can include both planted stock and volunteer species. Failure to achieve these rates will require the replacement of all dead plants, with new stock or other means until a permanent stand of non-invasive hydrophytic vegetation is established over the mitigation site. Statistically valid proof of 85% coverage is required.

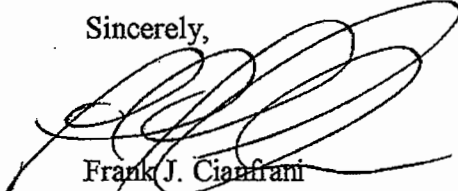
13. Conservation easement restrictions shall be placed on the wetland mitigation site by the City of Newark to hold the property in perpetuity as a wetland with the restrictions indicated in Section 2.3, subparagraphs A through G in the mitigation plan, entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A. D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009. The conservation easement shall be placed no later than May 30, 2011.

14. Your responsibility to complete the require compensatory mitigation as set forth in Special Conditions and/or the mitigation plan entitled: "Wetland Mitigation Plan, Pomeroy and Newark Branch Rail to Trail Project, City of Newark, New Castle County, Delaware", prepared for City of Newark and Pennoni Associates, Inc., 62 Rockford Road, Suite 201, Wilmington, Delaware, prepared by A. D. Marble and Company, 375 East Elm Street, Suite 200, Conshohocken, Pennsylvania, dated June 2009, will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U. S. Army Corps of Engineers.

15. That the authorized excavation, filling and associated activities shall be performed in accordance with the State and/or County standards for Soil Erosion Sediment Control.

Also enclosed is a pre-addressed postal card (Enclosure 7) soliciting your comments on the processing of your application. Any comments, positive or otherwise, on the procedures, timeliness, fairness, etc., may be made on this card. If you should have any questions regarding this matter, please contact Michael F. Green at 215-656-6836 or write to the above address.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank J. Cianfrani', written over a horizontal line.

Frank J. Cianfrani
Chief, Regulatory Branch

Enclosures

Nationwide #3 Information

- 1. NW #3 Permit Description**
- 2. Federal Register Definition**
- 3. NW #3 Permit Summary**

DECISION DOCUMENT NATIONWIDE PERMIT 3

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative impacts, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of and within existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the district engineer under separate authorization. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation or beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). Where maintenance dredging is proposed, the pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authority

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have minimal adverse effects on the aquatic environment and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal adverse effects on the aquatic environment, individually or cumulatively, cannot be authorized by NWPs. Individual review of each activity authorized by an NWP will not normally be performed, except when

address those concerns through their permit processes. The NWP's can be regionally conditioned to restrict or prohibit NWP activities in springs, seeps, headwater streams, and fens.

One commenter requested that the Corps reissue NWP 26, which authorized discharges into headwaters and isolated waters, in accordance with the limits described in the December 13, 1996 **Federal Register** notice.

There are no plans to reissue NWP 26. This NWP expired on June 7, 2000. We have issued NWP's that have replaced NWP 26.

Water Quality Certification/Coastal Zone Management Act Consistency Determination Issues

One commenter said that the Corps should provide an opportunity for state and Tribal water quality certification agencies to participate early in the NWP reissuance process, to reduce potential conflicts during the water quality certification process. Another commenter requested clarification regarding enforcement of the NWP's, in cases where a provisional NWP verification is issued, but the permittee proceeds with work without receiving the individual water quality certification. This commenter asked whether the Corps or the state would initiate an enforcement action. One commenter objected to use of provisional NWP verifications in cases where water quality certification has not yet been issued for a particular NWP activity.

We cannot begin coordination for water quality certification at an earlier time in the NWP reissuance process. States and Tribes need to see the proposed permit and general condition language, which is not available until the publication of the proposal in the **Federal Register**, in order to proceed with the certification process. We believe there is generally adequate time to complete the water quality certification process, however, where there is not, the Corps will issue only provisional verifications until the State or Tribe has completed its certification process; in this case, permittees are required to obtain individual certification directly from the State or Tribe before commencing work.

If a provisional NWP verification is issued, the activity is not authorized by NWP until the required water quality certification is obtained or waived. If the project proponent begins the work before water quality certification is obtained or waived, the district engineer has full authority to initiate an enforcement action for the discharge of dredged or fill material into waters of

the United States without a valid permit, in violation of the Clean Water Act. The district engineer will use his or her discretion, when determining whether to pursue an enforcement action. The use of provisional NWP verifications is necessary to provide timely responses to prospective permittees in cases where the State or Tribe has not yet completed its certification process. In addition, some States prefer not to issue general certifications for some or all NWP's. These States require a review of individual PCNs before issuing water quality certification for a particular activity.

Discussion of Comments and Final Permit Decisions

Nationwide Permits

NWP 1. Aids to Navigation. There were no changes proposed for this NWP, and no comments were received. This NWP is reissued without change.

NWP 2. Structures in Artificial Canals. There were no changes proposed for this NWP, and no comments were received. This NWP is reissued without change.

NWP 3. Maintenance. We proposed to modify this NWP by removing the provisions for the restoration of uplands damaged by discrete events. We also proposed to add maintenance dredging or excavation of intakes, outfalls, and canals, which was authorized by NWP 7.

Several commenters expressed support for the proposed changes to this NWP. One commenter objected to the removal of the explicit references to the "water quality" and "management of water flows" general conditions, stating that the removal of those references would change the intent of the NWP. One commenter recommended removing the language regarding the disposal of excavated material in upland areas, since it implies that excavation activities are regulated by the Corps under Section 404 of the Clean Water Act. Several commenters recommended adding language to clarify that excavation activities, or incidental fallback, do not require a section 404 permit. One commenter said that the definition of "currently serviceable" should remain in the text of this NWP, instead of moving it to the "Definitions" section.

Even though explicit references to general conditions were removed from its text, all general conditions, including those general conditions cited above, are still applicable to this NWP. The terms of this NWP require permittees to deposit and retain dredged or excavated

materials in an upland area, unless the district engineer authorizes the use of another area. This term does not suggest that excavation activities not involving discharges of fill or dredge material into Section 404 waters are regulated by the Corps. Instead, it specifies the type of site that may receive dredged or excavated material under this NWP for activities that do require Section 404 authorization. Excavation activities in waters of the United States require section 404 permits if they result in a discharge of dredged or fill material into those waters (see 33 CFR 323.2(d)). Activities that result in only incidental fallback do not require permits. Since the definition of "currently serviceable" is used in NWP's 41 and 47, it is more appropriate to have the definition in the "Definitions" section, for easier reference.

A couple of commenters objected to moving the provision authorizing the repair, rehabilitation, or replacement of structures or fills destroyed or damaged by discrete events to proposed NWP A, which requires pre-construction notification for all activities. These commenters said that the proposed change would hinder the ability of utility companies and transportation departments to quickly repair utility lines, roads, and other important infrastructure damaged or destroyed by severe storms. One commenter suggested adding another note to this NWP, to refer potential applicants to NWP 45 in cases where structures that have been made non-functional by some discrete event may qualify for repair, rehabilitation, or replacement.

We have restored the language authorizing the repair, rehabilitation, or replacement of structures or fills destroyed or damaged by storms or other discrete events in paragraph (a) of NWP 3, and removed it from proposed NWP A (now designated as NWP 45). Because of this change, it is no longer appropriate to add a note to this NWP to refer to NWP 45.

One commenter suggested that this NWP should not be used to authorize additional or new work, fill, riprap or structures that was not part of the original authorization. One commenter stated that the continued maintenance, repair, restoration, and replacement of a structure may represent ongoing impacts that are more than minimal, and may preclude restoration of environmental features at the project site. This commenter said that those types of activities should require ongoing mitigation. Another commenter said that this NWP should not be reissued, since its use results in more than minimal adverse impacts to the

aquatic environment. Another commenter suggested that this NWP should not authorize replacement of structures and fill, and that it should be restricted to repair or rehabilitation activities involving 50 percent or less of a structure. One commenter said that this NWP should authorize modifications to older structures that would help improve the aquatic environment. This commenter also recommended replacing the use of riprap with less environmentally damaging alternatives, such as bioengineered structures.

This NWP does not authorize any significant increase in the original structure or fill. Only minor deviations necessary to conduct repairs and maintenance, or the placement of the minimum necessary riprap to protect the structure, are eligible for authorization under this NWP. Because of the nature of activities authorized by this NWP, as a general rule compensatory mitigation should not be required for these maintenance activities. If a Department of the Army permit was required to construct the original structure or fill, appropriate compensatory mitigation would have been required by the district engineer when the permit was issued, to offset the loss of aquatic resource functions and services resulting from the authorized work. Additional compensatory mitigation is usually unnecessary to maintain those structures or fills. The terms and conditions for NWP 3, plus any regional conditions imposed by division engineers, will ensure that this NWP authorizes only those activities with minimal individual and cumulative adverse effects on the aquatic environment. We believe that this NWP should continue to authorize the replacement of structures or fills, or rehabilitation activities, since those activities usually result in minimal adverse effects on the aquatic environment. As for modifying this NWP to authorize changes to structures that would improve the aquatic environment, we believe it would be more appropriate for district engineers to authorize such changes through other permits. Changes to structures would require more thorough evaluation to ensure that net improvements to the aquatic environment will occur. The use of bioengineering methods to protect existing structures may not be very effective, because of the environmental conditions, such as water flows, near these structures. Riprap is usually the most effective means of protecting these structures, and the terms of this NWP

require minimization of the footprint of the riprap. District engineers can consider bioengineering on a case-by-case basis, and authorize such activities as appropriate.

One commenter said that this NWP should not authorize the maintenance of bank stabilization structures that are more than 300 feet long. One commenter suggested dividing paragraph (b) into two subparagraphs. One subparagraph would authorize debris and sediment removal and the other subparagraph would authorize riprap. This commenter also indicated that this NWP should be modified to limit the removal of sediment to the minimum necessary to "restore the bed of the waterway to its natural grade."

This NWP authorizes only activities that repair or return an activity to previously existing conditions. We do not believe it is necessary to further restrict this NWP to limit maintenance of bank stabilization structures. Dividing paragraph (b) into two subparagraphs is not needed, since the riprap is typically used to protect the structure once the accumulated sediment has been removed. The purpose of this NWP is to authorize restoring structures or fills to their original condition. It may not be possible to determine the "natural grade" of the waterway, and this may not have been the condition at the time the structure or fill was originally authorized. Therefore, we believe the current language is more appropriate.

Several commenters recommended modifying this NWP to authorize both permanent and temporary impacts of maintenance activities, since the requirement to submit a pre-construction notification for temporary impacts would significantly increase regulatory and administrative burdens on the applicants and the Corps, without any environmental benefits or added value to the process.

We agree, and have added a new paragraph (c) to this NWP to address temporary structures, fills, and work necessary to conduct the maintenance activities authorized by this NWP.

Several commenters objected to the requirement to provide information about original design capacities and configurations of the structures and canals as part of the pre-construction notification for the proposed activity. These commenters stated that this information may not exist or be readily available, particularly for old facilities and structures. These commenters recommended that the information be required only where it is reasonably available. Alternatively, the commenters proposed retaining the language

regarding the project not causing more than minimal changes to the flow characteristics of the stream, or increased flooding, instead of specifically requiring original design information.

The provision to require information regarding the original design capacities and configurations of structures and other features is only applicable when maintenance dredging is proposed. We believe that this information can be developed fairly easily, since the capacities and configurations of the outfalls, intakes, impoundments, and canals can be developed or inferred by examining the existing facilities, in cases where historical documentation is not available.

Several commenters expressed opposition to the terms of the NWP that limit the removal of sediment to the minimum necessary to restore the waterway to the approximate dimensions that existed when the structure was built. Another commenter recommended changing the language to require restoration of the project to its original design conveyance capacity.

The current language is adequate to ensure that this NWP authorizes necessary sediment removal activities that result in minimal adverse effects on the aquatic environment. We believe that the limits for the removal of sediments should be established with regard to the conditions of the waterway itself at the time of project construction rather than to the specifications of the structures.

One commenter requested clarification as to whether the 200 foot limit on the removal of accumulated sediment is subject to the ½ acre limit found in other NWPs.

This NWP does not have a ½ acre limit. If this NWP is used with another NWP to authorize a single and complete activity, then the activity is subject to the requirements of general condition 24, Use of Multiple Nationwide Permits. If this NWP is used with an NWP with a ½ acre limit, such as NWP 39, then the ½ acre limit would apply to the single and complete project.

One commenter requested the addition of "flood conveyance channels" to paragraph (b) of this NWP, instead of requiring the use of NWP 31. Another commenter stated that additional routine maintenance activities, which are authorized by NWPs 31 and 43, should be consolidated under NWP 3. One commenter suggested adding language to clarify that this NWP authorizes emergency repairs of submarine fiber optic cables.

NWP 31 is being reissued to authorize maintenance activities for existing flood control facilities, including flood conveyance channels. Therefore, we do not believe it is necessary to modify NWP 3 to authorize those activities. We are also reissuing NWP 43 to authorize maintenance activities for storm water management facilities. Emergency repairs of submarine fiber optic cables may be authorized by this NWP, provided the activity meets its terms and conditions.

One commenter indicated that small sediment removal projects should not require pre-construction notification. Another commenter stated that pre-construction notification should not be required for the placement of riprap to protect structures. A few other commenters said that pre-construction notification should not be required for activities authorized by paragraph (b) of this NWP. In contrast, one commenter suggested that pre construction notification should be required for all activities covered under NWP 3.

We believe that the pre-construction notification requirements for this NWP are appropriate. Pre-construction notification is required for those activities that may have the potential to cause more than minimal adverse effects on the aquatic environment.

One commenter recommended that sediments should be sampled to project depth prior to dredging, and that sandy sediment suitable for nearshore disposal should be returned to the littoral system down drift of the project site.

Regulatory Guidance Letter 06-02 establishes that testing of dredge material is not required when there is reason to believe that no contaminants are present in the material. Therefore, a standard requirement to sample and test sediments to be dredged under NWP 3 would not be appropriate. The nearshore disposal of sandy sediments should be addressed through separate authorizations, such as individual permits, since those activities may have more than minimal adverse environmental effects.

One commenter indicated that significant wetland habitat development has been observed on sediments left in place for many years within canals associated with outfall and intake structures. That commenter stated that exempting maintenance activities in such canals from the 200 linear foot restriction may have a significant impact on the wetland habitats in these channels. Another commenter suggested that the placement of riprap or any other bank stabilization material in, or the removal of accumulated sediment from,

any special aquatic site should be prohibited.

Since this NWP only authorizes activities that restore an area to its previous condition, we do not believe it is appropriate to prohibit the maintenance of structures or fills simply because a special aquatic site may have formed in these areas. District engineers will review pre-construction notifications to determine if the placement of riprap or the removal of accumulated sediments in special aquatic sites would cause more than minimal impact, and use discretionary authority to address situations where they would.

One commenter stated that affected tribes should be informed of all pre-construction notifications for this NWP that involve in-water work and be provided 30 days to provide comments. This commenter also suggested that while bioengineered projects are less environmentally damaging than riprap and offer benefits to salmon, the presence of wood in some bank protection structures has the potential to interfere with treaty fishing access by preventing the use of nets.

Coordination of proposed NWP 3 activities with Indian tribes is more appropriately addressed through government-to-government consultations with Corps districts. General condition 16, Tribal Rights, does not allow an activity or its operation to impair reserved tribal rights, including but not limited to, reserved water rights and treaty fishing and hunting rights. Compliance with this general condition, along with coordination with interested Indian Tribes, will help protect tribal rights.

One commenter suggested that the placement of riprap should be the minimum necessary to protect the structure, in order to reduce adverse effects to habitat-forming processes within waterbodies, such as salmon habitat. Another commenter said that this NWP should not authorize maintenance work on culverts that fail to meet appropriate standards for the upstream and downstream passage of fish, or culverts that do not allow for the downstream passage of substrate and wood.

The terms and conditions of this NWP limit the placement of riprap to the minimum necessary to provide adequate erosion protection. Other NWP general conditions, such as general condition 17 for endangered species, may provide additional protection for species of concern, as well as their habitat. General condition 2 prohibits activities which could disrupt the necessary life cycle movements of aquatic species.

One commenter stated that pre-construction notifications should be required for all NWP 3 activities to ensure compliance with its terms and conditions. Another commenter stated that the Corps should carefully review all maintenance applications to ensure that the area impacted is not larger than needed to complete the maintenance activities, and that no additional impacts are authorized or conducted.

We do not agree that pre-construction notification should be required for all activities. The terms and conditions of this NWP are adequate to ensure that it authorizes only those activities with minimal adverse effects on the aquatic environment. Where there are concerns for the aquatic environment, division engineers can regionally condition this NWP to require pre-construction notification or other measures.

One commenter said that streams near roads may migrate from their original location and compromise the road. This commenter said that for those situations, this NWP should authorize relocation of the stream back to its original location. The commenter also indicated that small channel realignments should be authorized to properly convey the water into culverts.

This NWP does not authorize new stream channelization or stream relocation projects. Those activities may be authorized by other Department of the Army permits.

This NWP is reissued with the modifications discussed above.

NWP 4. *Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities*. We proposed to remove the provision for shellfish seeding, since we proposed to modify NWP 27 to authorize this activity. No comments were received. This NWP is reissued as proposed.

NWP 5. *Scientific Measurement Devices*. We proposed to remove the pre-construction notification requirement for discharges of 10 to 25 cubic yards for the construction of small weirs and flumes, but retain the 25 cubic yard limit for such construction.

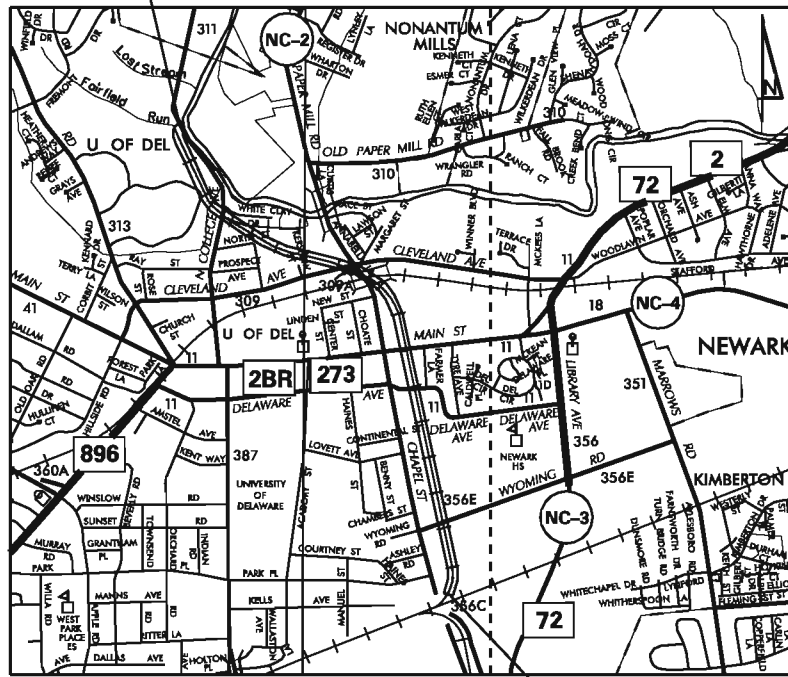
Several commenters supported this NWP and the proposed removal of the pre-construction notification requirement on the basis that activities authorized under this NWP result in minimal impacts. Another commenter agreed with the removal of the pre-construction notification requirement for discharges of 10 to 25 cubic yards for construction of weirs and flumes because it will facilitate the implementation of water quality improvement projects sponsored by Federal, State, and local agencies, as well as the scientific community. Two

Summary of the 2007 Nationwide Permits¹

Nationwide Permit	Statutory Authority	Limits	Pre-Construction Notification (PCN) Threshold	Delineation Required?	Applicable Waters	Changes in 2007	Other Information
NWP 1 – Aids to Navigation	10	none	PCN not required	no	navigable waters of the U.S.	none	
NWP 2 – Structures in Artificial Canals	10	none	PCN not required	no	navigable waters of the U.S.	none	
NWP 3 – Maintenance	10/404					removed provision for the restoration of uplands to new NWP 45	
(a) Repair, rehabilitation, or replacement of previously authorized, currently serviceable structures or fills		authorizes only minor deviations for maintenance	PCN not required	no	all waters of the U.S.	none	does not authorize maintenance dredging for the primary purpose of navigation or beach restoration; does not authorize new stream channelization or stream relocation projects
(b) Discharges associated with removal of accumulated sediments and debris in the vicinity of existing structures, including intake and outfall structures and associated canals		200 feet from structure; minimum necessary to restore capacity intake or outfall or associated canal	all activities	yes	all waters of the U.S.	added maintenance dredging/excavation provision for intakes, outfalls, and canals from NWP 7; 200 linear foot limit doesn't apply to removal of sediments from intake or outfall structures or canals	also authorizes placement of rip rap to protect the structure
(c) Temporary structures, fills, and work necessary to conduct maintenance activity			PCN not required	no	all waters of the U.S.	added temporary structures, fills, and work associated with the maintenance activity	temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations
NWP 4 – Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities	10/404	none	PCN not required	no	all waters of the U.S.	moved provision for shellfish seeding to NWP 27	does not authorize impoundments or artificial reefs; does not authorize covered oyster trays or clam racks
NWP 5 – Scientific Measurement Devices	10/404	25 cubic yards for weirs and flumes	PCN not required	no	all waters of the U.S.	removed PCN requirement	
NWP 6 – Survey Activities	10/404	25 cubic yards for temporary pads	PCN not required	no	all waters of the U.S.	added exploratory trenching and temporary pads	does not authorize fills for roads; does not authorize permanent structures
NWP 7 – Outfall Structures and Associated Intake Structures	10/404	none	all activities	yes	all waters of the U.S.	changed title; also authorizes modification of these structures; moved maintenance dredging/excavation activities to NWP 3	activity must comply with National Pollutant Discharge Elimination System Program

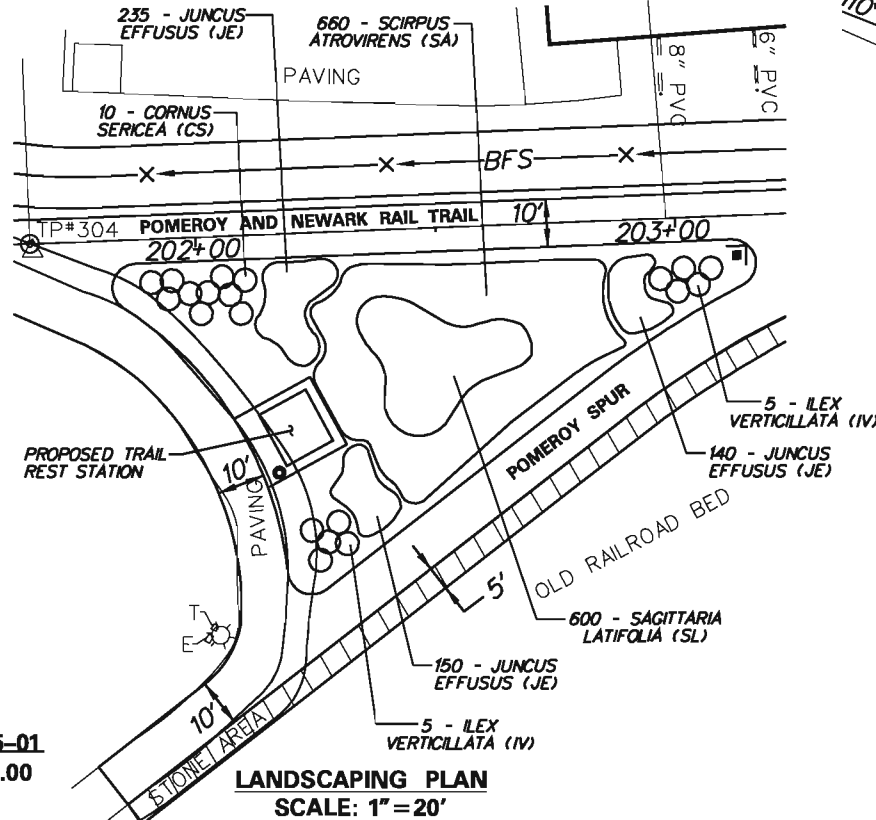
¹ This table is intended to provide general information on the nationwide permits published in the March 12, 2007, *Federal Register* (72 FR 11092). Prospective users of the nationwide permits should read the text of the nationwide permits, general conditions, and definitions to assess whether a particular nationwide permit could authorize a specific project. Prospective users should also review the pre-construction notification requirements of the nationwide permits and contact the appropriate Corps district to determine if any regional conditions have been imposed on the nationwide permits.

END
CONTRACT 22-015-01
STATION 290+10.63

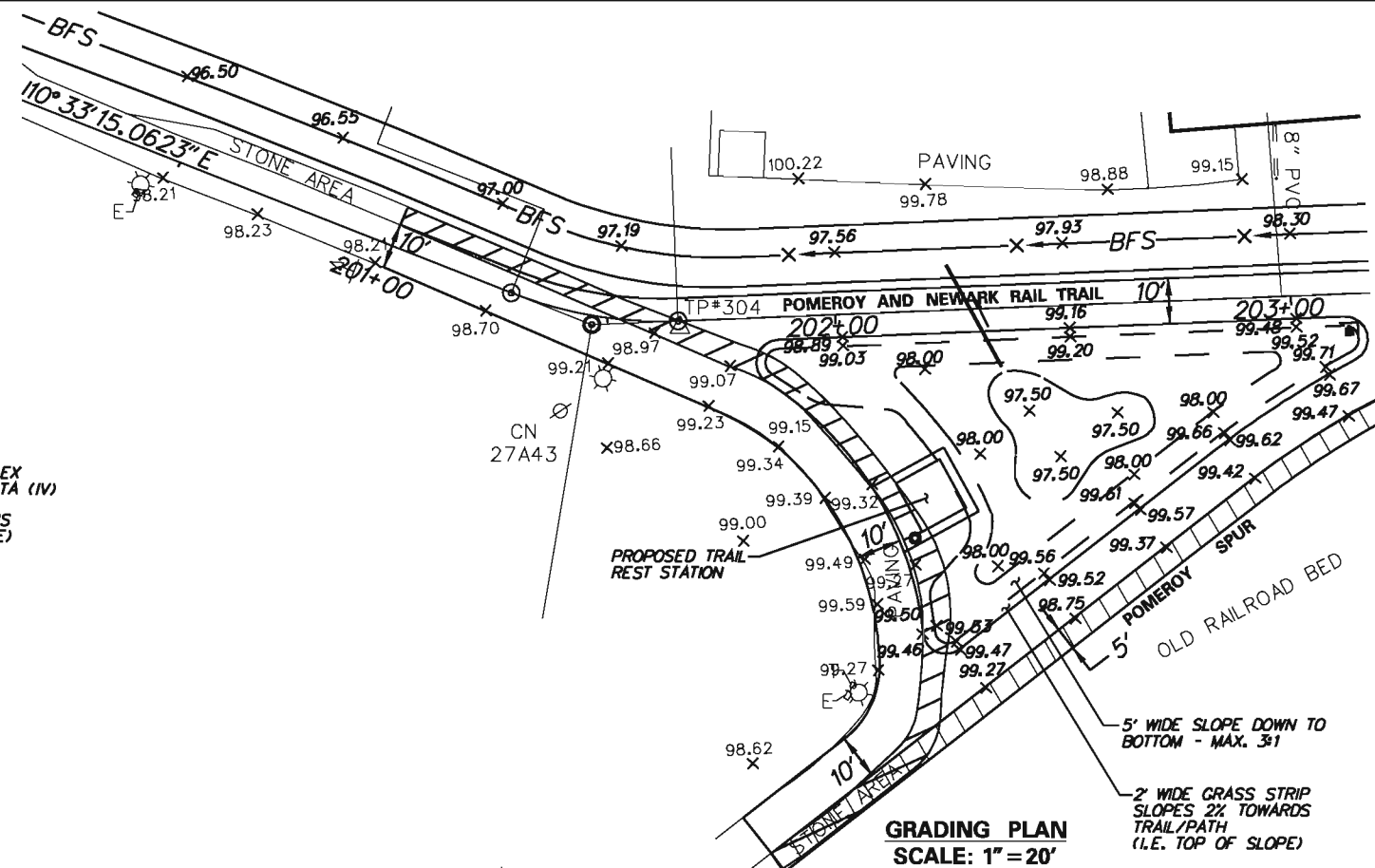


LOCATION MAP
SCALE: 1" = 3000'

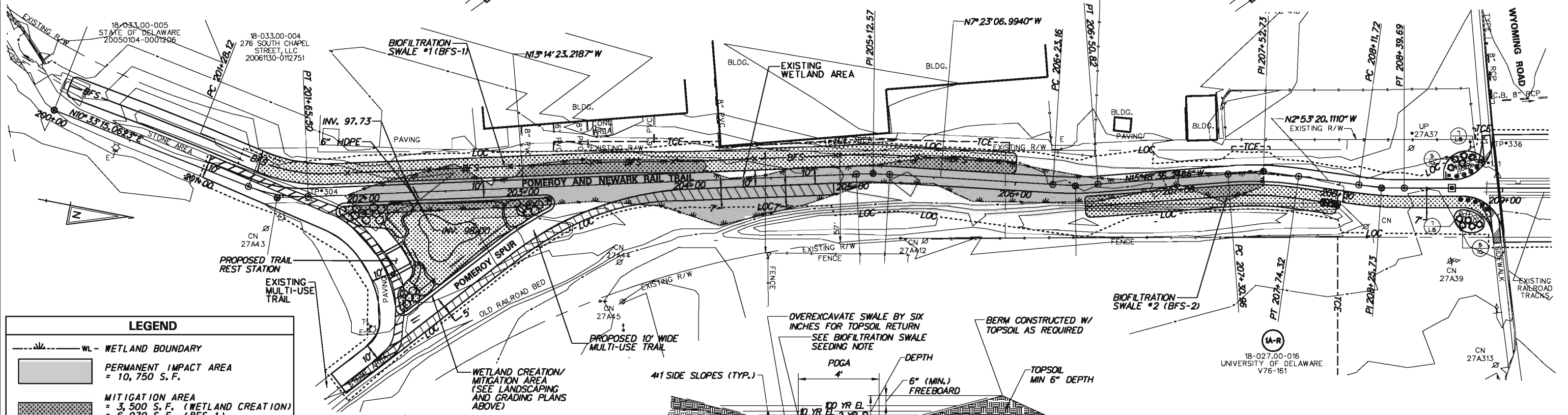
BEGIN
CONTRACT 22-015-01
STATION 201+00.00



LANDSCAPING PLAN
SCALE: 1" = 20'



GRADING PLAN
SCALE: 1" = 20'

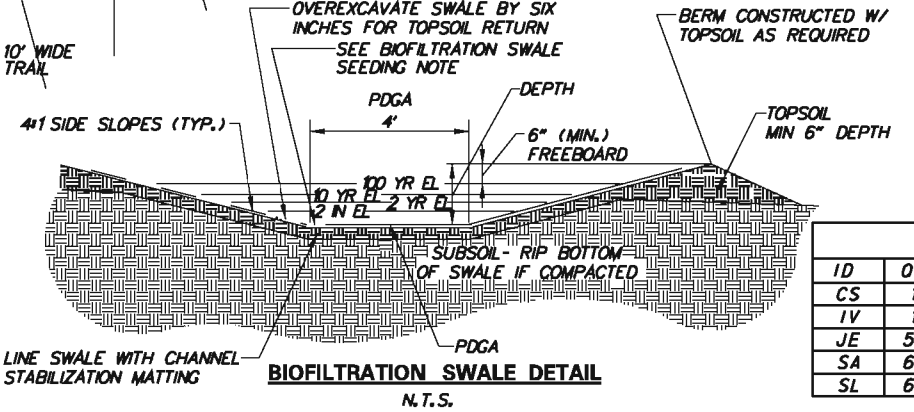


LEGEND

- WL - WETLAND BOUNDARY
- PERMANENT IMPACT AREA = 10,750 S.F.
- MITIGATION AREA = 3,500 S.F. (WETLAND CREATION) = 6,070 S.F. (BFS-1) = 2,000 S.F. (BFS-2) TOTAL = 11,570 S.F.
- LOC - LIMIT OF DISTURBANCE
- FILTER STRIP
- BIO-FILTRATION SWALE (BFS)

BIOFILTRATION SWALE SEEDING NOTE:
1. PERMANENT SEEDING MIXTURE TO BE (SEEDING RATE - 0.33 LBS. / 1,000 SF):

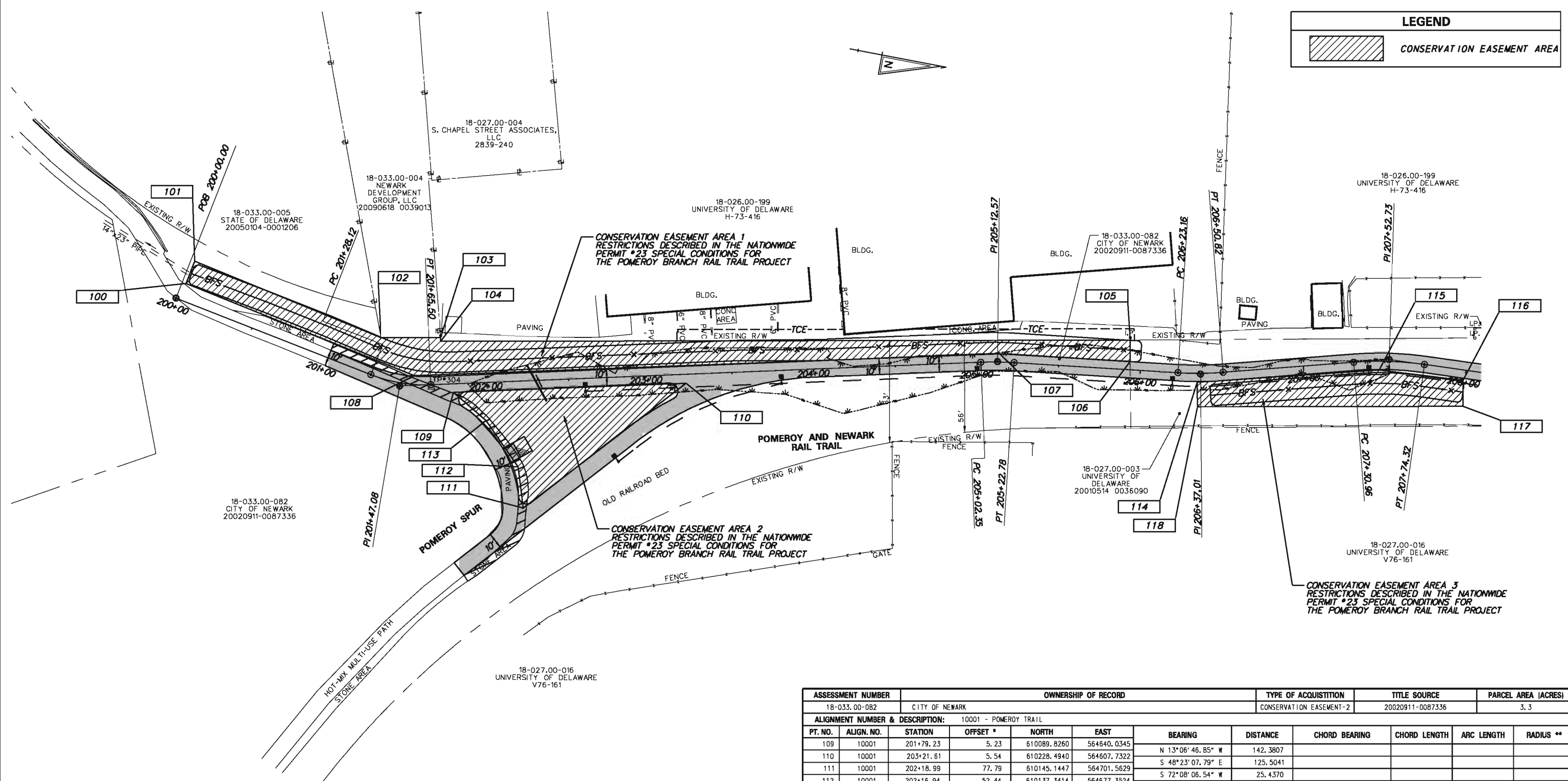
20% VIRGINIA WILD RYE	5% EASTERN BUR REED
15% FOX SEDGE	4% GREEN BULRUSH
10% SOFT RUSH	3.5% COSMOS SEDGE
8% GIANT BUR REED	3.5% LURID SEDGE
8% BLUE VERVAIN	2% RATTLESNAKE GRASS
6% WOOL GRASS	2% HOP SEDGE
5% NEW ENGLAND ASTER	2% MIDDING SEDGE
5% AMERICAN MANNAGRASS	1% WILD BROME GRASS



LANDSCAPE PLANTING SUMMARY SCHEDULE

ID	QTY	BOTANICAL NAME	COMMON NAME	SIZE	METHOD	COMMENTS
CS	10	CORNUS SERICEA	REDOSIER DOGWOOD	30" - 36" HT	CONT.	PLANT 6' O.C.
IV	10	ILEX VERTICILLATA	WINTERBERRY HOLLY	30" - 36" HT	CONT.	PLANT 6' O.C.
JE	525	JUNCUS EFFUSUS	SOFT RUSH	2"	PLUG	PLANT 12" O.C.
SA	660	SCIRPUS ATROVIRENS	HARD-STEM BULRUSH	2"	PLUG	PLANT 18" O.C.
SL	600	SAGITTARIA LATIFOLIA	DUCK POTATO	2"	PLUG	PLANT 12" O.C.

LEGEND	
	CONSERVATION EASEMENT AREA



ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
18-033.00-082	CITY OF NEWARK	CONSERVATION EASEMENT-1	20020911-0087336	3.3							
ALIGNMENT NUMBER & DESCRIPTION: 10001 - POMEROY TRAIL											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
100	10001	200+02.47	-10.49	609916.5618	564605.6303	N 79°58'06.41" W	14.6387				
101	10001	200+02.34	-25.13	609919.1118	564591.2154	N 11°21'54.88" E	123.2530				
102	10001	201+25.58	-23.38	610039.9479	564615.5040	N 11°08'32.77" W	36.5100				
103	10001	201+72.78	-28.74	610075.7697	564608.4484	N 80°56'46.78" E	2.5130				
104	10001	201+72.60	-26.23	610076.1651	564610.9301	N 11°00'39.61" W	421.8900				
105	10001	205+92.72	-18.09	610490.2884	564530.3501	N 78°42'29.56" E	13.1084				
106	10001	205+93.62	-5.02	610492.8551	564543.2048	S 7°33'00.60" E	80.0400				
107	10001	205+13.80	-4.99	610413.5089	564553.7216	S 13°02'18.15" E	358.3858				
108	10001	201+55.05	-5.35	610064.3627	564634.5747	S 11°04'48.89" W	150.6083				
100	10001	200+02.47	-10.49	609916.5618	564605.6303						

FIGURE 60001 AREA = 8324,8557 SQ. FT. (0.1911 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
18-033.00-082	CITY OF NEWARK	CONSERVATION EASEMENT-2	20020911-0087336	3.3							
ALIGNMENT NUMBER & DESCRIPTION: 10001 - POMEROY TRAIL											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
109	10001	201+79.23	5.23	610089.8260	564640.0345	N 13°06'46.85" W	142.3807				
110	10001	203+21.61	5.54	610228.4940	564607.7322	S 48°23'07.79" E	125.5041				
111	10001	202+18.99	77.79	610145.1447	564701.5629	S 72°08'06.54" W	25.4370				
112	10001	202+16.94	52.44	610137.3414	564677.3524	S 44°17'41.51" W	34.5386				
113	10001	201+98.40	23.30	610112.6202	564653.2323	S 30°04'14.68" W	26.3393				
109	10001	201+79.23	5.23	610089.8260	564640.0345						

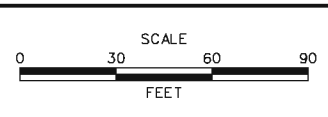
FIGURE 60002 AREA = 4618.1219 SQ. FT. (0.1060 ACRES)

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
18-027.00-003	UNIVERSITY OF DELAWARE	CONSERVATION EASEMENT-3	20010514-0036090	12.5							
ALIGNMENT NUMBER & DESCRIPTION: 10001 - POMEROY TRAIL											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
114	10001	206+35.02	5.48	610535.5308	564547.8956	N 14°43'25.27" W	111.5644				
115	10001	207+46.60	5.39	610643.4317	564519.5406	N 3°58'38.50" W	51.6592				
116	10001	207+99.08	6.27	610694.9665	564515.9574	N 78°59'14.40" E	15.9297				
117	10001	208+01.33	22.04	610698.0095	564531.5938	S 11°00'45.60" E	162.6008				
118	10001	206+35.07	20.52	610538.4031	564562.6548	S 78°59'14.40" W	15.0361				
114	10001	206+35.02	5.48	610535.5308	564547.8956						

FIGURE 60003 AREA = 3054,8464 SQ. FT. (0.0701 ACRES)



ADDENDUMS / REVISIONS



POMEROY AND NEWARK RAIL TRAIL

CONTRACT	BRIDGE NO.	N/A
22-015-01	DESIGNED BY:	TAM / MAC
COUNTY	CHECKED BY:	PAH
NEW CASTLE		

CONSERVATION EASEMENT PLAN		SHEET NO.
		1
		TOTAL SHTS.
		1



United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106-2878

IN REPLY REFER TO:

L6015 (NERO/NRS-NWSR)

March 20, 2009

Ms. Dorothy Daly, A.I.C.P.
A.D. Marble & Company
375 East Elm St. Suite 200
Conshohocken, PA 19428

Re: Pomeroy & Newark Branch Rail Trail Project, Newark DE, New Castle County, DE

Dear Ms. Daly:

The above referenced project is located adjacent to a designated segment of the White Clay Creek National Wild and Scenic River (P.L.106-357). National wild and scenic rivers are protected by Section 7(a) of the Wild & Scenic Rivers Act. Pursuant to Section 7(a): "no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established."

The National Park Service considers water resource projects to include dams, diversion projects, bridge and roadway projects involving construction in the bed or on the banks of the river, bank stabilization projects and activities that require a section 404 permit from the Army Corps of Engineers. This project is considered a water resources project and, therefore, reviewable under section 7 of the Wild & Scenic Rivers Act (P.L. 90-542).

We have determined that the above referenced project, as proposed in drawings and details prepared by Pennoni Associates entitled "Pomeroy and Newark Rail Trail," stamped "Semi-Final" in general will not significantly, or negatively impact White Clay Creek or its resource values, and should not adversely affect the White Clay Creek National Wild and Scenic River. However, two sections of the proposed trail, the Penncader Connector and the section below Pedestrian Bridge #2 are relatively steep grades. We therefore are requiring that at least one (1) grade control structure (check dam) be installed in the associated grass drainage swale on each of these sections of trail. This should alleviate any potential erosion problems and assist with infiltration of stormwater coming off the trail.

Care should be taken in the selection of erosion control mats for this project. **Strict sedimentation and erosion controls are appropriate, but "excelsior mat" or "curlex" type materials should not be used.** The plastic netting associated with these materials does not readily decompose over time and may be a long term hazard to wildlife. We recommend the use of **no-net products (no nets top or bottom of blanket)**, burlap, jute matting or blankets made from coconut fibers. We also do not recommend the use of "geosynthetic filter fabrics" for the same reasons.

Thank you for consulting with us. If you have any other questions, please call me at (215) 597-6482.

Sincerely,

Charles Barscz, Jr.
Acting Division Chief, National Wild and Scenic Rivers

ATTACHMENT D
RIGHT OF WAY CLEARANCE

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

**CERTIFICATE OF RIGHT-OF-WAY STATUS
STATE PROJECT NO. T200201501**

F.A.P. No. ESTP-N999(103)

POMEROY AND NEWARK RAIL TRAIL

NEW CASTLE COUNTY

Certificate of Right-of-Way Status – 100%

As required by 23CFR Part 635, all necessary right of way has been acquired in accordance with current State/Federal rules and regulations covering the acquisition of real property.

This is to certify that all project rights of way is currently available in accordance with the project right-of-way plans.

It is further certified that there were no individuals or families displaced by this project. Therefore the provisions of 49 CFR Part 24 is not applicable to the project.

There are no improvements to be removed or demolished as part of this project.

REAL ESTATE SECTION

Carol V. O'Donoghue
Assistant Chief, Real Estate

March 21, 2011

**ATTACHMENT E
PAYROLL REPORT**

DATE _____

I, _____
(Name of signatory party) (Title)

do hereby state:

1. That I pay or supervise the payment of persons employed by
_____ on the
(Contractor or Subcontractor)

(public project)

that during the payroll period commencing on the _____ day of
_____, 20____ and ending on the _____ day of
_____, 20____ all persons employed on said project

have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of the contractor or subcontractor from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in the prevailing wage regulations of the State of Delaware.

2. That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work performed.

3. That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a state apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, and that the worksite ratio of apprentices to mechanics does not exceed the ratio permitted by the prevailing wage regulations of the State of Delaware.

List only those fringe benefits:

For which the employer has paid; and
Which have been used to offset the full prevailing wage rate.

(See Delaware Prevailing Wage Regulations for explanation of how hourly value of benefits is to be computed.)

HOURLY COST OF BENEFITS							
(List in same order shown on front of record)							
Employee							
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

I hereby certify that the foregoing information is true and correct to the best of my knowledge and belief. I realize that making a false statement under oath is a crime in State of Delaware

Signature

STATE OF _____

COUNTY OF _____

SWORN TO AND SUBSCRIBED BEFORE ME, A NOTARY PUBLIC,

THIS _____ DAY OF _____, A.D. 20_____.

Notary Public

An employer who fails to submit sworn payroll information to the Department of Labor weekly shall be subject to fines of \$1,000.00 and \$5,000. for each violation.