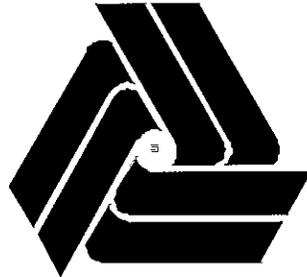


STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION



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MAINTENANCE AND OPERATIONS

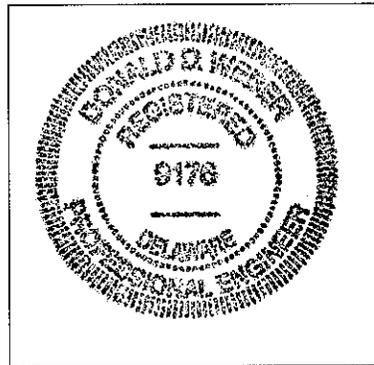
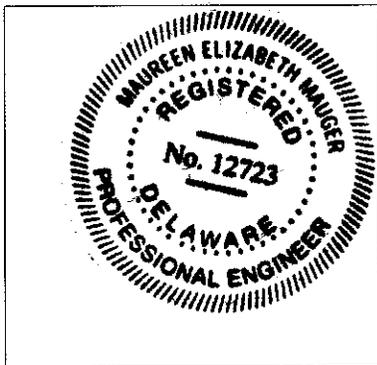
NORTH DISTRICT

PLANS AND SPECIFICATIONS FOR

Contract Number: T201303401

Federal Aid Project Number: ESTP-2013(10)

INTERSTATE MAINTENANCE DRAINAGE REPAIR, FY 2014, 2015, 2016



RECOMMENDED:

North District Design Engineer
Maintenance and Operations

APPROVED:

North District Engineer
Maintenance and Operations

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No. T201303401
North District - Open End

Interstate Maintenance Drainage Repairs
FY 2014, 2015, 2016

CONTRACT DESCRIPTION

The purpose of this contract is to perform maintenance and repair of storm drainage systems. The location of work includes interstate I-95 in the State of Delaware, from Maryland state line to Pennsylvania state line. The location of work also includes the entire length of interstate I-495 and I-295 within the State of Delaware. Locations of work will include unpaved areas adjacent to roadway (within State right-of-way), and repairs to pipe crossings beneath paved roadway surfaces of the Interstate.

The work activities include, but are not limited to, the following:

- Roadside ditch excavation and re-grading to maintain and improve drainage
- Placement of riprap or concrete at drainage pipe inlets/outfalls and other locations as necessary for erosion protection
- Repair / replacement of concrete lining in drainage ditches
- Clearing, grubbing, vegetation removal and tree removal along roadside drainage ditches
- Repair / replacement of drainage pipes
- Removal of obstructions from drainage pipes and drainage inlets (catch basins)
- Re-sealing joints in pipes
- Repair / replacement of deteriorated drainage inlets (catch basins)
- Re-grading, placement of borrow material, and establishment of grass in eroded areas along roadside and median
- Other maintenance and repair work for drainage systems

Specific work sites for this Contract are not listed herein, but will be assigned as available by the Delaware Department of Transportation Maintenance office.

PROJECT NOTES

1. All work shall be performed in accordance with the Delaware Department of Transportation Standard. Specifications dated August 2001 (as amended by the Supplemental Specifications), the DelDOT Special Provisions, Standard Construction Details, and these project notes.
2. Contract Term: This contract shall be for a period of three years from the date of Initial Notice to Proceed. The Contractor shall be responsible for obtaining all forms necessary to renew the Performance Bond each year the contract is in force. Unit prices will remain the same.
3. Depending on fund availability, the Department reserves the right to increase or decrease the quantities of the items specified in this contract. Such additions or deletions shall not be cause for an increase or decrease in any contract unit bid prices. The total contract value, with all additional work added, shall not exceed 150 percent of the original contract value.
4. The work will be scheduled by issuance of work orders from the Department. The work orders will indicate the work to be performed at each site. Field personnel representing the Department are not authorized to change scope of the work, contract provisions, schedules, or other contract documentation as stated by the Engineer for each work order location.
5. Clearing and grubbing of trees, shrubs and other vegetation less than 6 inches in diameter shall be incidental to the applicable repair, replacement or excavation Pay Item. There shall be no separate payment for clearing and removal of trees, shrubs and vegetation less than 6 inches in diameter.
6. Any test holes and or test pitting required for the completion of each work item shall be paid under Item 208000 (Excavation and Backfill for Pipe Trenches).
7. All replacement pipes shall be the same size and material as the pipe that was removed, or as directed by the Engineer.
8. Work orders will be issued to the Contractor by the Department, describing the work to be performed or deleted. Each work order will indicate the location of work, the Pay Items and quantities of the work, property owner notification requirements, and the allowable time to perform the work.
9. Each work order shall be considered a separate unit of work. The Engineer will make payment monthly for the completed invoices as outlined in Section 109.07.
10. Prosecution and progress of work:
 - a. The Contractor shall commence work indicated on the work order no later than the third day after issuance unless required materials are not available. Non-availability of materials shall be verified by at least three (3) different sources. Verification shall be formal and supplied by the Contractor in writing.

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- b. Issuance of each work order constitutes the notice to proceed with the work described on the work order.
- c. If there is a verified non-availability of materials, time charges shall commence on the first (1st) working day following the delivery date of said materials.
- d. The Contractor may have up to twelve (12) active work orders at a time until all assigned work has been completed. The Contractor is required to have a minimum of two working crews readily available to work on this contract simultaneously as work warrants, with the ability to provide additional working crews if requested by the Engineer.
- e. Upon the substantial completion of the work at an individual location, the Engineer will stop time at that location and perform a semi-final inspection for the work order location in accordance with Subsection 105.20. If the work is satisfactorily completed, the Engineer will release the Contractor from maintenance responsibility for that location. The Engineer reserves the right to require the Contractor to add work or make repairs to completed locations at the Engineer's expense until such a location has been accepted by the Department. The Contractor must repair all defects in the Work caused by poor workmanship or materials at his/her own expense until the Department accepts the Contract after the Final Inspection.

A Final Inspection will be completed on an annual basis for work orders completed in a calendar year. Upon satisfactory completion of the Final Punch-list, the Department will accept the location and release the Contractor from responsibility for the Work at that location. If a work order is sufficiently large and complex as determined by the Engineer, a Final Inspection may be held upon the individual completion of that work order.

- 11. The Department reserves the right to, at any time prior to completion of the Contract, make adjustments in Contract Item quantities, or make such other alterations considered necessary to satisfactorily complete the Contract.

For this Contract, the following text shall be deleted from Section 104.05 (Changes in Character of Work) of the Standard Specifications:

A change will also be considered to have occurred when a major item of work, as defined elsewhere in the Contract, is increased in excess of 125% or decreased below 75% of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125% of original Contract item quantity, or in case of a decrease below 75%, to the actual amount of work performed. Such changes will be issued in writing by the Engineer.

- 1. Such changes do not invalidate the Contract or release the Contract surety.*
- 2. If as a result of such changes the Contractor requires additional time to complete the Contract, adjustments in the Contract time will be made under Subsection 108.07.*
- 3. Payment for changes will be made as provided in Subsection 109.03 or 109.04. Payment shall exclude any amount for loss of anticipated profits alleged to result from the change.*
- 4. Adjustments to the unit price of a Contract item based on increases or decreases in Contract quantities will be considered only on major items and then only for the increase*

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in excess of 125% or decrease below 75% of the original bid quantity. The increase or decrease in the unit price of a Contract item shall apply only to that portion in excess of 125% of the Contract quantity. In cases of a decrease below 75% of Contract quantity, the increase and decrease in the unit price shall apply to the entire quantity. The amount of the increase or decrease in the unit price will be determined in accordance with Subsection 109.04.

5. When payment for the Contract work cannot be agreed upon by the Contractor and the Department prior to starting such work ordered, the Department may direct the Contractor to perform the work under the Force Account provisions of Subsection 109.04. The Contractor will proceed immediately with work so ordered and such direction shall neither invalidate the Contract, nor release the surety.

12. Section 101.91(4) of the DelDOT Standard Specifications is amended. There will not be a winter shutdown from December 16th to March 15th. The Department reserves the right to issue work and charge time between these dates.
13. All additional work shall be performed by contract unit prices. In the case where contract prices are not available, prices are to be negotiated or performed by Force Account procedures.
14. When drainage inlets (catch basins) are designated for replacement, removal and disposal of the existing drainage inlet shall be incidental to the pay item for new drainage inlet installation.
15. Replacement of drainage inlets (catch basins) that have a depth less than or equal to 5 feet shall be paid at the unit price bid for the applicable replacement Pay Item. Replacement of drainage inlets with a depth greater than 5 feet will be negotiated or performed by Force Account.
16. In locations that include a double grated drainage inlet, the payment for catch basin repair shall be 1.5 times the bid item rate. In locations that include a triple grated drainage inlet, the payment for repair shall be 2 times the bid item rate. This shall apply to Pay Item 710001 (Adjusting and Repairing Existing Drainage Inlet).
17. Excavation of roadway materials for patching shall be incidental to the patching items being placed.
18. If required during the placement or repair of PCC items, half-inch cork expansion material shall be placed at designated locations as directed by the Engineer. Payment for furnishing and placing the half-inch cork expansion material shall be incidental to the PCC items.
19. Patching of warm-mix and graded aggregate base course within roadway (including shoulders and travel lanes) shall be performed to match existing full depth pavement section with respect to course thickness and pavement structural number.
20. Proper disposal of construction related wastes shall be the sole responsibility of the Contractor, and shall be performed in accordance with all applicable State regulations.

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21. Trash, rubbish, debris or brush that hampers repair / maintenance work in this Contract (as determined by the Engineer) shall be removed within the project limits, and shall be incidental to Pay Item 763000 (Initial Expense).
22. Grass and soil areas within State right-of-way that have been damaged by the Contractor's equipment during this contract shall be restored with topsoil, seed and mulch at Contractor's own expense, and in accordance with the requirements of Special Provisions 732002, 734013, 734015 and Soil Retention Blanket Mulch pay items.
23. The Contractor shall not trespass on private property unless the Department has acquired a "Temporary Trespass Agreement" from the property owner. If the work is within a permanent easement, the work shall not begin until the adjacent property owners have been notified. Prior to starting work on temporary or permanent easement, the Contractor shall notify affected property owners of the proposed work dates.
24. No utility relocation involvement is anticipated. Should any conflicts be encountered during construction requiring adjustment and/or relocation of the agencies' existing facilities, the necessary relocation work shall be accomplished by the respective agencies' forces, as directed by the District Engineer. Any adjustments and/or relocations of municipally owned facilities shall be done by the State's contractor in accordance with the respective agencies' standard specifications as directed by the District Engineer.
25. No environmental permits are required for this work provided no jurisdictional wetlands or waters are impacted. If there is any question as to whether or not a water or wetland is jurisdictional, contact the DelDOT Environmental Section at (302) 760-2264.
26. It is anticipated that all work will occur within DelDOT's existing right of way or easement areas. Should the need occur to trespass onto private property; it will be the responsibility of the DelDOT Project Manager to secure such trespass needs. The Contractor shall not trespass on private property unless the District has acquired a "Temporary Trespass Agreement" from the property owner. If the work is within a permanent easement, the work shall not begin until the adjacent property owners have been notified. Prior to starting work on private property, the Contractor shall notify affected property owners of proposed work dates.
27. It is anticipate that all work will occur within DelDOT's right of way. Should the need occur to trespass onto railroad property, including the highway-rail crossing; it will be the responsibility of the Project Manager to contact the railroad chief engineer and obtain written authorization before entering.

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28. Concrete paved drainage ditches shall be repaired in locations as directed by the Engineer. Locations requiring complete replacement of existing sections of concrete in ditches shall be performed under Items 701002 or 701003 (Portland Cement Concrete Gutter, 6" or 8") as directed by the Engineer. Horizontal and vertical extents of the concrete placement shall be as directed by the Engineer. The Contractor shall thoroughly clean the concrete area prior to repair work, including removal of vegetation, soil and debris. Removal of existing vegetation, soil and debris from concrete shall be incidental to the applicable concrete paving Pay Item for ditches.
29. Sealing of cracks in concrete paved ditches shall be paid under Item 503501 or 503502 (Crack and Joint Sealing Less Than $\frac{3}{4}$ " Wide, or $\frac{3}{4}$ " and $1\frac{3}{4}$ " Wide) as directed by the Engineer. The Contractor shall thoroughly clean the concrete area prior to repair work, including removal of vegetation, soil and debris. Removal of existing vegetation, soil and debris from concrete shall be incidental to the applicable concrete crack repair pay item.
30. Existing drainage ditches shall be cleared of debris, and vegetative materials, and re-graded to establish positive flow as directed by the Engineer. Side slopes of the ditches that are within the clear zone shall be re-graded, if necessary, to meet current clear zone requirements as directed by the Engineer. The contractor shall be responsible for confirming that positive flow in the existing ditches is established. Payment for this work shall be incidental to item number 714000 (Lateral or Longitudinal Ditching).
31. When required, new drainage ditches shall be excavated and paid for under item 202000 (Excavation and Embankment). Any additional materials required to establish the new ditch, such as topsoil, seed and mulch, shall be paid for under their respective contract items. Clearing and grubbing of all vegetative matter 6" in diameter or less to establish new ditches shall be incidental to item 202000. The contractor shall be responsible for confirming that positive flow in the new ditches is established.
32. At a minimum, Soil Retention Blanket Mulch Type 5 will be specified in the flow line of ditches, unless shear stress calculations show that Type 6 or Type 7 blanket is needed.
33. Vegetation and debris shall be removed from the vicinity of pipe and culvert inlets/outlets as directed by the Engineer. Payment shall be incidental to the applicable excavation or ditching pay item, as directed by the Engineer. There shall be no separate payment for vegetation and debris removal.

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34. Pipe failures shall be repaired in one of two ways or at the discretion of the Engineer. The minimum repair will be to plug lift holes or seams as directed and triple wrap the pipe with a 3 feet wide strip of an approved geotextile material fastened securely around the pipe with three wraps of tie wire. Pipes in the roadway or in cases of severe joint or pipe dislocation a concrete collar shall be placed after the wrapping of the pipe with geotextile as stated above. The collar shall consist of a double wrap of heavy gauge 4 inch x 4 inch welded wire fabric offset a minimum of 2 inches from the pipe wall with cement brick, and an 8 inch thick concrete collar with a 24 inch lap on each side of the failure. The collar shall surround the length of the pipe that has failed (top, bottom, and sides). Any geotextile, welded wire fabric, mortar for plugging lift holes or seams, lumber for form work or miscellaneous hardware or material required for pipe repairs shall be incidental to Items 208000, 602603, or applicable repair or replacement item. No concrete shall be released or placed until the depth of the excavation and the character of the foundation material, the adequacy of the forms and falsework, and the placing of reinforcement have been inspected and approved by the Engineer. Immediately upon placing, concrete shall be consolidated by means of a vibrator.
35. The Department and the Contractor shall inspect all existing pipes and drainage structures to be used in the final drainage system and agree on the condition prior to the start of construction. Existing pipes and drainage structures damaged due to Contractor operations shall be repaired or replaced in-kind at the Contractor's expense. The Department will video inspect new pipe runs to confirm condition prior to acceptance. Pipe cleaning prior to video inspection and Maintenance of Traffic during the video inspection are the responsibility of the Contractor and incidental to the pipe item that is being video inspected.
36. Repair cracks on concrete headwalls and wingwalls of drainage pipes in locations as directed by the Engineer. Crack repair shall be performed under Pay Item 602626 (Rout and Seal Cracks).
37. Repair spalls and delamination on concrete headwalls and wingwalls of drainage pipes in locations as directed by the Engineer. Perform sounding of concrete for delamination around visible cracks, spalls and deterioration. Payment for sounding of concrete shall be incidental to pay item 602572 (Repairing Existing P.C.C. Structures). Remove and replace delaminated and deteriorated concrete. Spall repair for concrete headwalls, wingwalls and other vertical concrete surfaces shall be paid under Items 602572 or 602586 (Rehabilitation of Concrete Structure), as approved by the DelDOT Inspector.
38. Apply sealant coating on concrete headwalls and wingwalls of drainage pipes in locations as directed by the Engineer. Payment shall be under Item 602646 (Silicone Acrylic Concrete Sealer). Ensure proper surface preparation prior to application of sealant, in accordance with special provision requirements.
39. Apply sealant at base of wingwalls in locations as directed the Engineer, to prevent stormwater from penetrating beneath wingwall foundation. Payment shall be under Item 406507 (Crack Sealing). All vegetation, sediment, debris and existing debonded sealant in vicinity of base of wingwall joint shall be removed prior to applying sealant. Payment for removal and cleaning of joint shall be incidental to pay item 406507.

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40. When repairing concrete vertical surfaces, such as headwalls and wingwalls of drainage pipes, perform repairs in accordance with the following requirements:
- For spall and delamination repairs less than or equal to 2.0" deep, use Item 602572 (with no exposed reinforcing steel).
 - For spall and delamination repairs greater than 2.0" in depth, or when reinforcing steel is exposed before or during repair activities, payment shall be under Item 602586.
 - For spall and delamination repairs with a uniform depth of 5" or greater, resulting in 1.5" minimum clear removal depth between the back edge of steel reinforcement bar and concrete repair surface, and with a total volume greater than 1 cubic yard, payment shall be under the following Items:
 - Item 602001 - Portland Cement Concrete Masonry, Class A (CY)
 - Item 602580 - Partial Removal of P.C.C. Masonry (CY)
 - Spalls with surface area less than 0.25 SF, and depth less than 3", shall be paid under Item 602572.
 - Perform sounding for delamination of concrete around visible cracks, spalls and other deterioration. Sounding of concrete shall be incidental to pay item 602572. Remove and replace delaminated and deteriorated concrete.
 - When reinforcing steel is exposed before or during repair activities, remove concrete behind bar and prepare surface in accordance with included drawing detail for deep spall repair. Payment shall be under Item 602586.
 - Crack widths larger than one half inch shall be repaired by grouting. Payment will be under Item 602572.

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MAINTENANCE OF TRAFFIC
PROJECT NOTES

1. The Project Manager shall be responsible for coordinating with the Traffic Section relating to any impacts to Traffic Section facilities (including but not limited to traffic loops, junction wells etc.) at least 4 weeks in advance of the start of the activity. Prior to initiating any work on this contract (or sites), the Project Manager shall be responsible for preparing and submitting for approval of the Safety Section, a Maintenance of Traffic Plan. Sufficient time shall be provided for the review and approval of the plan. The Maintenance of Traffic Plan shall include proposed time restrictions on the closure of travel lanes subject to the approval of the Safety Section.
2. All work shall be performed in a manner that will reasonably provide the least practicable obstruction to all road users, including vehicular, pedestrian, and bicycle traffic, and shall conform to the requirements of the Delaware Manual on Uniform Traffic Control Devices (MUTCD), Part 6, including revisions up to the date of advertisement for bids.
3. All travel lane closures on any interstate and interstate ramps shall be performed at night between 8:00 PM to 5:00 AM, Sunday night to Friday morning. Each night-time Interstate travel lane closure shall be re-opened prior to 5:00 AM on the following morning. Day-time travel lane closures between 5:00 AM and 8:00 PM may be considered for approval by the North District Engineer for specific locations. All lane closures on interstates shall be reviewed for approval by the DelDOT Traffic Safety Officer.
4. No lane closures will be permitted on holidays or holiday weekdays, unless approved by the Engineer. This requirement applies to all roads impacted in this Contract, including interstate and associated ramps.
5. No lane closures will be permitted unless applicable work activity is taking place.
6. The Project Manager is responsible for ensuring any required documents and analysis as part of the adopted Work Zone Safety and Mobility Procedures and Guidelines has been completed prior to any work starting on this contract.
7. The Contractor shall prepare and submit a Traffic Control Plan for approval ten (10) working days prior to the start of assigned work orders, and for each project site. Costs for preparation of Traffic Control Plans for each site shall be included in the bid price for pay item 743000 (Maintenance of Traffic).

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8. If a road closure is required at ramp locations, the Contractor shall be required to submit the proposed detour route to the DelDOT Safety Officer for approval. A two week detour review lead time shall be required for any requested detour. Payment for detour plan preparation shall be included in the bid price for Item 743000. The Contractor shall also coordinate the closure with the Department. The Department will coordinate with the Safety Section and be responsible for the necessary emergency notifications. The detour route requires approval by the Department prior to closure. The Contractor shall be responsible for furnishing and maintaining the Maintenance of Traffic apparatus at the closure (i.e. Type III Barricade, Road Closed signs, etc.) and all advance-warning signs. The Contractor shall be responsible for placement of detour trailblazers. Payment for detour trailblazers shall be under Item 743024 (Temporary Warning Signs and Plaques). If necessary, the Engineer will assign the detour route.
9. For locations requiring a flagging operation, the flagger will be paid the fixed hourly rate per Item 743050.
10. All flaggers utilized by the Contractor for this project shall be ATSSA certified. All flaggers shall have their certification cards with them while working. Absence of a certification card will be justification for flagger dismissal from the site and corresponding suspension of work. All construction and Contractor vehicles and self-propelled equipment shall be equipped with an operating roof mounted amber flashing light. All workers shall wear a retro reflective safety vest while they are within the right-of-way or adjacent to it. All retro-reflective safety vests must be minimum ANSI Class 2.
11. Drums will be required in work areas where the completion time will extend beyond one daylight operation.
12. All open excavations shall be secured with the plastic drums and orange, construction safety fence. If the construction activity results in a vertical difference or drop-off along, adjacent to or across a travel way, the Contractor shall eliminate or remedy the hazard by the methods detailed in Section 6G.21 of the Traffic Control Manual as directed by the Engineer. The construction safety fence, tie wire, etc. shall be incidental to the work it protects.
13. The Traffic Control Plan must clearly indicate orientation of traffic control devices to be used for each site. The plan must be approved by DelDOT Safety Officer and DelDOT Engineer prior to commencement of work at each site.
14. All required Maintenance of Traffic Warning Signs and Plaques will be paid under Item 743024 as determined by the duration of construction. All temporary traffic control devices used on all highways open to the public in this State shall be crashworthy in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350 and the memorandum issued August 28, 1998 by The USDOT Federal Highway Administration Information: Crash Tested Work Zone Traffic Control Devices. It is the requirement of the Department that such certification be submitted for traffic control devices used on all projects, not just those involving the National Highway System.

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15. No separate payment shall be made for the use of Traffic Cones. Traffic Cones and/or work associated with their use, such as set up, removal, cleaning, etc., shall be incidental to the work for which they protect.
16. Portable Light Assemblies will be required for all night time operations and as directed by the Engineer. Payment for portable lighting shall be under pay item 743005.
17. A truck mounted attenuator, Type II (Item 743010) shall be required on roads for shoulder work, travel lane work and for other operations as outlined in the DelDOT Traffic Control Manual, or as directed by the Engineer.
18. All equipment and/or material shall be removed from the job sites on a daily basis, except when allowed by the DelDOT approved Traffic Safety Plan, or as approved by the Engineer.

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