


The State of Delaware Department of Transportation
Maintenance and Operations – Canal District
Plans and Specifications for Contract Number T2011-064-01
PCC Patching - Open End
FY 2012



Recommended:

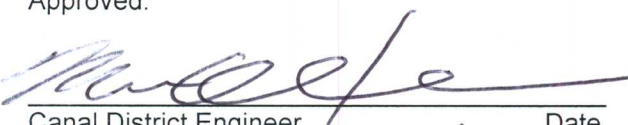

Canal District Maintenance Engineer 2/3/11 Date

Recommended:


Canal District Contracts Engineer 1/31/11 Date



Approved:


Canal District Engineer 2/7/11 Date

DELAWARE DEPARTMENT OF TRANSPORTATION

**Contract No. T2011-064-01
PCC Patching - Canal District – Open End**

**FY 12
Page 2 of 19**

Contract Description

The purpose of this contract is to repair sections of portland cement concrete pavement on transportation infrastructure in the Canal District. Work includes saw cutting, removal of existing PCC pavement, placing concrete and dowel bars, replacing damaged striping and/or paint striping and adjusting and repairing of catch basins and manholes.

The specific work sites are not listed herein, but will be assigned as available by the District Maintenance office via work orders.

This is a working day contract that will end one year (365 calendar days) from date of Notice To Proceed.

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DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 3 of 19

Project Notes

1. Construction of this contract shall conform to Delaware Department of Transportation Standard Specifications dated August 2001, as amended by the Supplemental Specifications, the Special Provisions and these Plans.
2. The Performance Bond shall be submitted at the beginning of the fiscal year. Failure on the part of the contractor to submit the Performance Bond shall result in the contract being cancelled. Unit prices will remain the same unless justified price changes are warranted.
3. Depending on fund availability, the department reserves the right to increase or decrease quantities of items specified in this contract. Such additions or subtractions shall not be cause for an increase or decrease in contract unit bid prices. The total contract value, with all additional work if added, shall not exceed 150 percent of the original contract value. When total alterations involve an increase or decrease of more than 50 percent in the quantity of any contract item, either party to the contract shall be entitled to demand a Supplemental Agreement on that portion of the work.
4. The Contractor and all others shall perform all work in a manner that shall ensure the least practical obstruction to the traveling public and shall conform to the requirements of the latest version of the Manual entitled "Delaware Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations", herein referred to as the "Manual on Uniform Traffic Control Devices (MUTCD)", in effect at the time of advertisement for bids.
5. 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 on 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.
6. No environmental permits are required for this work provided no jurisdictional wetlands or waters are impacted. If there is a question as to whether or not a water or wetland is jurisdictional, contact the DeIDOT Environmental Section at 302-760-2264.
7. It is anticipated that all work will occur within DeIDOT's existing right of way or easement areas. Should the need occur to trespass onto private property; it will be the responsibility of the project manager to secure such trespass needs.
8. It is anticipated that all work will occur within DeIDOT'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.

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 4 of 19

9. 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 private property, the Contractor shall notify affected property owners of proposed work dates.
10. 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 four weeks in advance of the start of the construction 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. Typically, the work shall be done using Case 6 of the Manual on Uniform Traffic Control Devices (MUTCD). Restricted working hours will be included on the work orders and will be in effect on state numbered roads as dictated by traffic volumes. For locations requiring a flagging operation, the flagger will be paid the fixed hourly rate per Item 742500.

If a road closure is required, the Contractor shall be required to submit the proposed detour route to the Traffic Engineer for approval. The Contractor shall coordinate the closure with the Engineer. The detour route must be approved by the Engineer prior to closure. Typically, the detour set-up shall follow Case 15 of the Manual on Uniform Traffic Control Devices (MUTCD). All Traffic Control Devices shall be compliant as per NCHRP Report 350. 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. If necessary, the Engineer will assign the detour route.

Drums with florescent sheeting will be required in work areas where completion time will extend beyond one daylight operation. For roadways with a posted speed limit of 25 MPH or less, a minimum of three drums with florescent sheeting will be required and warning lights will not be required. For roadways with a posted speed limit greater than 25 MPH, Type 'A' or 'B' warning lights will be required as outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and additional drums with florescent sheeting may be required as directed by the Engineer or representative.

All open excavations shall be secured with plastic drums with florescent sheeting and orange, plastic snow 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 this hazard by the methods detailed in Section 6G.21 of the Manual on Uniform Traffic Control Devices (MUTCD) as directed by the Engineer. The snow fence, tie wire, etc shall be incidental to the work it protects.

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 5 of 19

11. 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.
12. Work located in Municipalities requires Town Agreements. Work in these locations cannot commence before obtaining them. To obtain a Town Agreement, the contractor must work with Hugo Dreibelbis of DeIDOT's TEAM Support at (302) 760-2251.
13. Clearing and grubbing of trees and shrubs less than 6 inches in diameter shall be incidental to the applicable repair or replacement item. Other clearing and grubbing will be negotiated or performed by Force Account procedures.
14. The Contractor shall protect all driveways from damage due to Contractor's equipment and shall be responsible for all such damage done by Contractor's equipment.
15. Underground utilities may be present at all locations. Therefore, all standard practices and procedures regarding utilities shall be followed. Contractor is required to make Miss Utility calls to have utilities marked-out prior to starting each work order.
16. Prosecution and progress of work:

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.

Issuance of each work order constitutes the notice to proceed with the work described on the work order.

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.

The work will be scheduled via work orders from the department. Work sites will vary in complexity. The work orders will indicate the work to be performed at each site. Any questions pertaining to any locations, during construction, shall be referred to the Engineer or his representative.

The Contractor shall have up to four (4) active work orders at any one time until all assigned work has been completed. The Contractor shall be required to have simultaneous operations up to the limit of four (4) active work orders. The District will attempt to issue the work orders grouped together by location. The Contractor shall be required to work in multiple areas concurrently to engage in the limit of four (4) work orders simultaneously. The Contractor is required to have a minimum of three viable working crews readily available to work on this contract unless otherwise directed by the Engineer or representative. Each crew is required to have a qualified superintendent as

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 6 of 19

outlined in Section 105.07 of the Standard Specifications and at least two (2) qualified equipment operators.

Failure to complete assigned work orders in the calculated time constitutes “Failure to Pursue the Work” and subjects the Contractor to liquidated damages as outlined in Subsection 108.09 of the Standard Specifications. If work on a specific work order is not completed within the allotted time, liquidated damages will be assessed in accordance with Subsection 108.09 and based on the total value of that work order.

A final inspection will be performed in accordance with Subsection 105.20 on each work order and if the work is satisfactorily completed it will be accepted by the department. When seeding is required on the work order, a full stand of grass will be required. The stand shall be established for a minimum of seven days prior to final inspection.

17. Each work order shall be considered a single unit of work. Upon completion of each single unit of work and acceptance by the department, one itemized invoice will be prepared by the department for that unit. A summary of the work orders will also be provided. The Contractor shall review and approve the invoices and summary. Payment will be monthly for the completed invoices as outlined in Section 109.07.
18. The following changes to the Standard Specifications are applicable to this contract:
- (a) Delete subsection 108.02.
 - (b) Delete the second sentence of subsection 104.05 and subsections A through E.
19. 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.
20. At the discretion of the Engineer or representative, there may be periodic winter shutdowns due to inclement weather and/or low temperatures. During winter shutdowns, the Contractor shall not be charged time for issued work orders.
21. All flaggers utilized by the Contractor for this project shall be ATSSA certified. All flaggers shall have 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.
22. The location of the work to be performed shall be designated by zones. The zone limits are depicted in these specifications on numbered zone maps. The boundaries of the zones are roads, rivers, county lines and other natural boundaries.

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 7 of 19

The Department expects to issue work orders such that when one location is completed, the Contractor can immediately move to the next location. The Department will make every attempt to minimize the distance between locations.

When a work order contains a divided highway where work is to be done on both directions of the highway, the work shall be considered continuous and the Contractor will be paid one mobilization.

One mobilization fee shall be paid for each location, except when another location or work order can be completed without using a trailer to transport the equipment (I.E. paver, roller, miller). This determination shall be agreed upon by the Contractor and Department prior to mobilization.

23. The Contractor shall submit a traffic control plan for approval before the start of the work at each location. Restricted working hours will be in effect on state numbered roads as dictated by traffic volumes. These hours are 9:00 am to 3:30 pm. Night time hours are 8:00 pm to 5:30 am.
24. When a location is designated for night time paving operations, all paving work, patching, and restoration shall be performed at night during the hours set by the engineer (see note #25). All related costs for night time work shall be included in the contract (I.E. light plants, drums).
25. The work will be scheduled via work orders from the District Maintenance office. Work sites will vary in size. Typically, the work will involve PCC patching the roadway.

The work orders will indicate the work to be performed at each site. Any questions pertaining to any locations, during construction, shall be referred to the engineer or his representative.

26. All required maintenance of traffic warning signs will be paid under Item 743525, temporary warning signs. All warning signs shall be diamond grade retro reflective. Wood sheeting is not permitted.
27. No separate payment shall be made for 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.

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 8 of 19

28. Prosecution and progress of work:

The Contractor shall commence work indicated on the work order no later than the seventh (7th) 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.

Issuance of each work order constitutes the notice to proceed with the work described on the work order.

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.

29. The Contractor, with the Engineer or his representative, shall inventory all signs on all roads subject to improvements. Necessary signs shall be maintained in operation during construction and any other signs shall be properly stored with the Contractor, who shall be responsible for loss or damage. Immediately prior to final inspection, the Contractor and Engineer shall again inventory the traffic signs and account for any lost or damaged signs.
30. The Contractor shall provide residents 24-hour prior written notice for all phases of contract work. This notice shall be given to all residents whose property is adjacent to the street on which work is to be performed. Failure to give notice will result in a suspension of work.
31. The Contractor shall take care in removing pavement around utilities, butt joints, curb edges and other objects to be patched around when cleaning after a patching operation. Care should be taken so as not to dig deeper than the required depth. Failure to do so will result in the Contractor placing leveling courses at his own expense.
32. All excavated material, shall remain the property of the Contractor.
33. For work locations in this contract, a patch thickness of 9.0" (+/- 1 inches) should be assumed. Additional thickness can be paid using Item 503503 – Patching Concrete.
34. All pavement edge treatments (termed Safety Edges) installed on this contract shall comply with DelDOT Design Guidance Memorandum 1-25, which may be referenced at www.deldot.gov.
35. Before the start of any paving operation, and where there is existing striping, the Contractor shall be required to provide proof that enough material of an approved striping method is available onsite to ensure striping is complete before traffic is allowed on the roadway.
36. Payment for Item 503543 - Nighttime PCC Patching Surcharge, New Castle County, shall be a separate pay item.

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 9 of 19

37. Time to perform the work assigned per work order shall be developed by the following method and items:

LEGEND: A= SQUARE YARDS (SQ) OF PCC PATCHING IN WORK ORDER.
B= LINEAR FEET (LF) OF FULL DEPTH PCC SAWCUT IN WORK ORDER.
T= TIME ALLOWED TO PERFORM JOB ORDER ROUNDED UP TO THE NEXT WHOLE WORKING DAY.

FORMULA:

$$T = \frac{A}{56 \text{ SY}} + \frac{B}{504 \text{ LF}}$$

SAMPLE CALCULATION:

A= 80 SQUARE YARDS
B= 56 LINEAR FEET

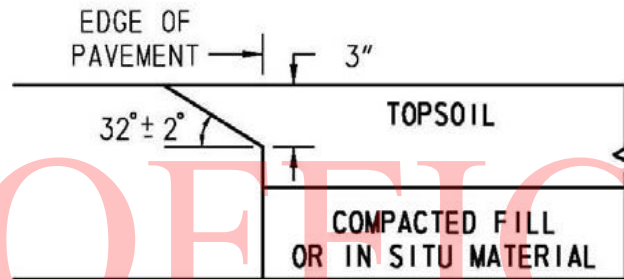
$$T = \frac{80 \text{ SY}}{56 \text{ SY}} + \frac{288 \text{ LF}}{504 \text{ LF}}$$

$$T = 1.43 + 0.57$$

$$T = 2.0 = 2 \text{ WORKING DAYS}$$

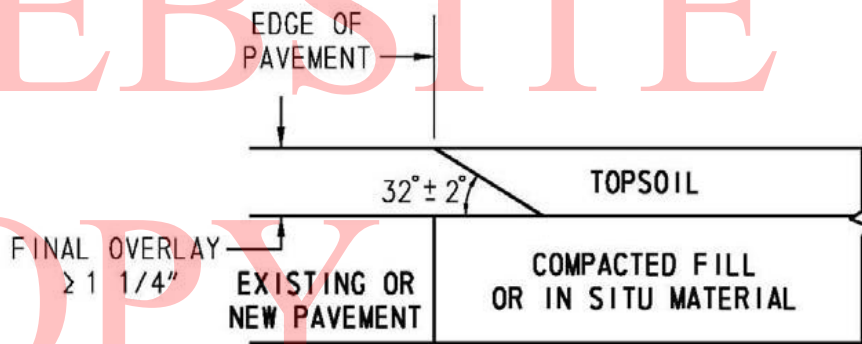
38. Daytime restricted work hours may be required on some job orders. The time for these locations shall be increased by fifty percent (ie. 2 working days will become 3 working days).

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CONCRETE PAVEMENTS

N. T. S.



BITUMINOUS CONCRETE PAVEMENTS AND OVERLAYS

N. T. S.

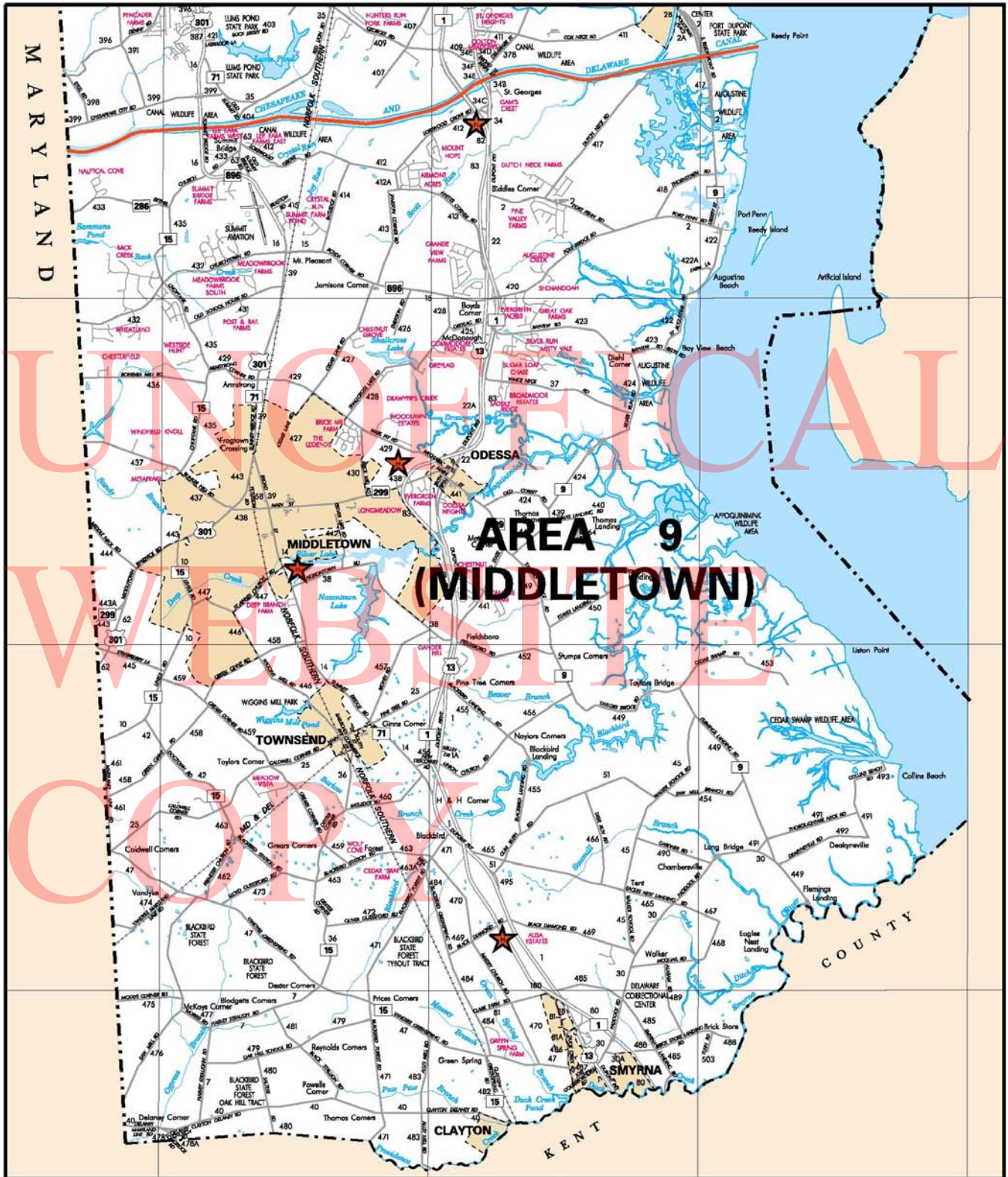
DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 11 of 19



AREA 9

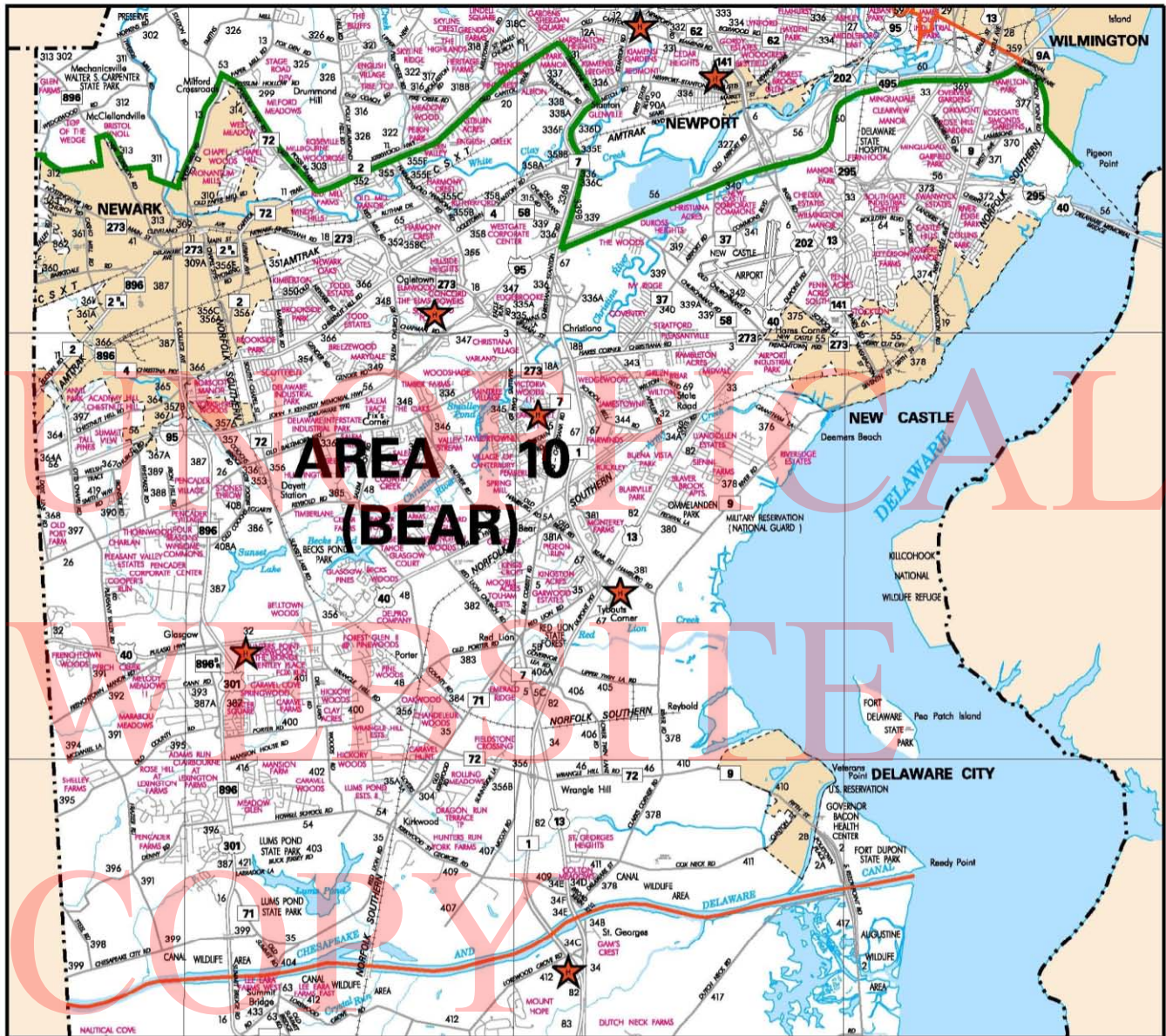
DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 12 of 19



AREA 10

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 13 of 19

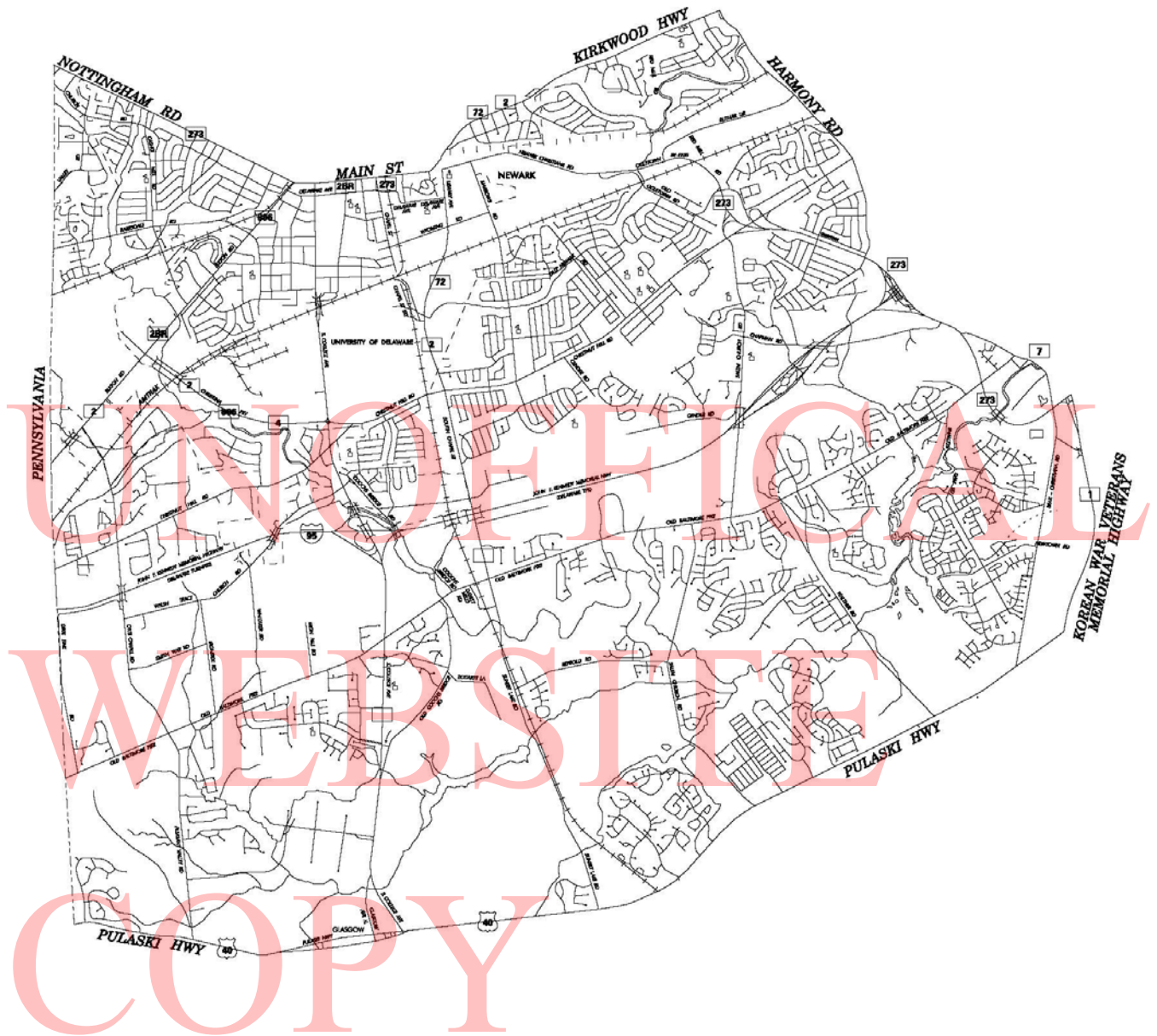


MOBILIZATION ZONE - 3

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 14 of 19



MOBILIZATION ZONE - 6

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District - Open End

FY 12
Page 15 of 19

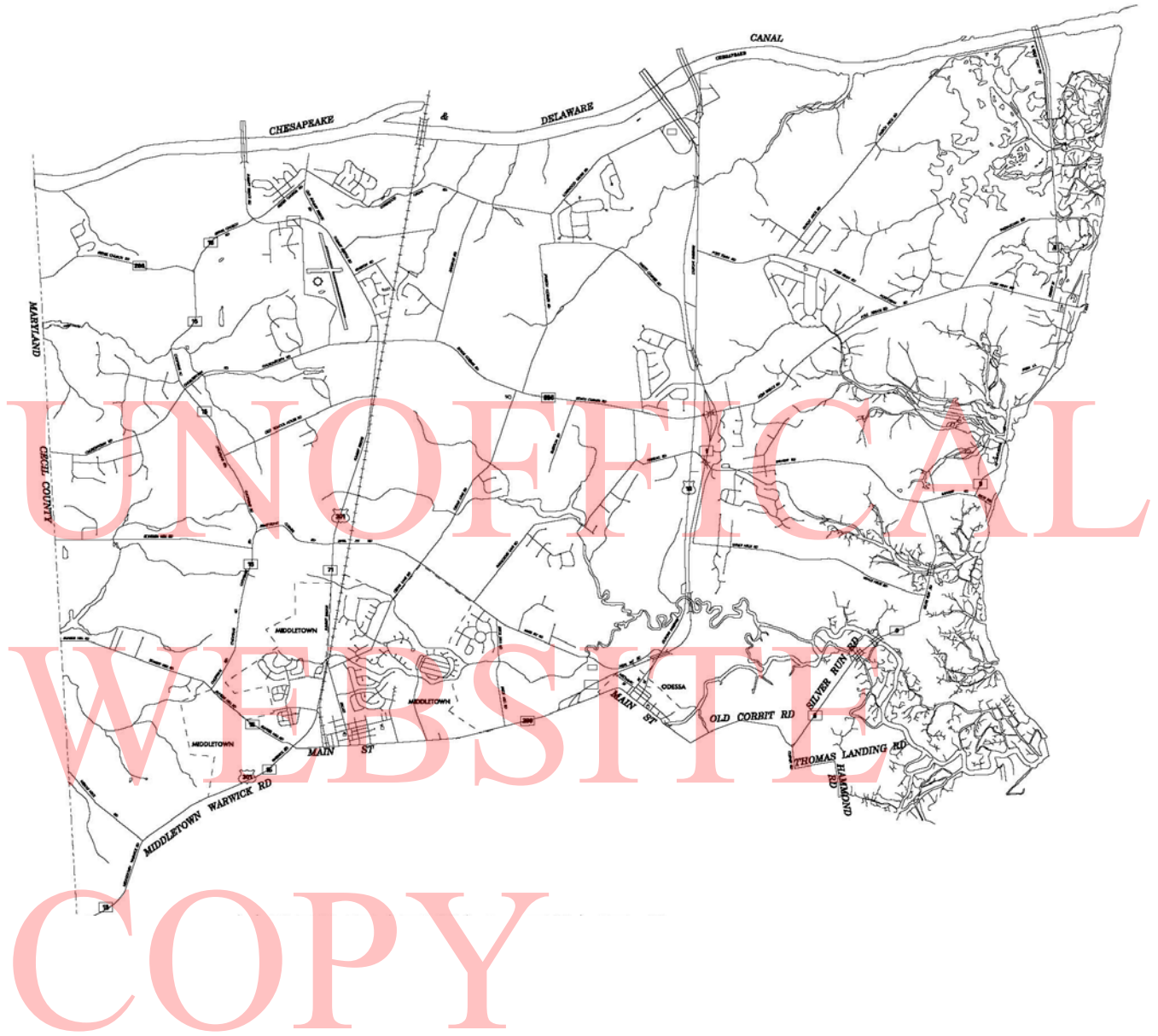


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DELAWARE DEPARTMENT OF TRANSPORTATION

**Contract No. T2011-064-01
PCC Patching - Canal District – Open End**

**FY 12
Page 16 of 19**



MOBILIZATION ZONE - 8

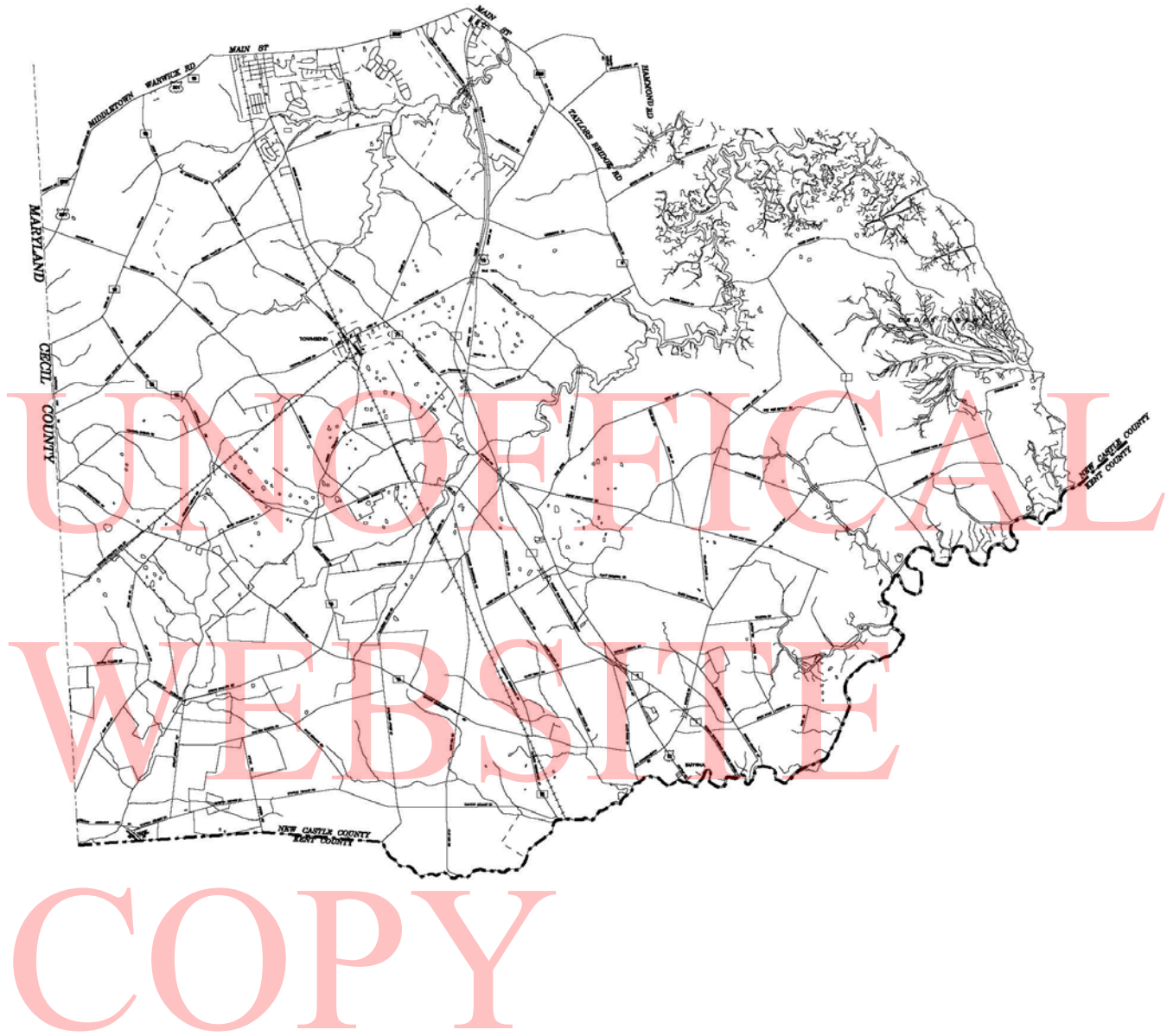
DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 17 of 19



DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01
PCC Patching - Canal District – Open End

FY 12
Page 18 of 19

Quantity Summary

ITEM	DESCRIPTION	UOM	Qty
212001	UNDERCUT EXCAVATION, PATCHING	C.Y.	3
302007	GRADED AGGREGATE BASE COURSE, TYPE "B"	C.Y.	3
503001	PATCHING P.C.C. PAVEMENT, 6' TO 20', TYPE "A"	S.Y.	300
503002	PATCHING P.C.C. PAVEMENT >THAN 20' TO 100', TYPE "B"	S.Y.	200
503006	DOWEL BARS	EACH	2,000
503009	PATCHING PCC PAVEMENT	S.Y.	180
503501	CRACK AND JOINT SEALING LESS THAN 3/4" WIDE	L.F.	120
503502	CRACK AND JOINT SEALING 3/4" TO 1 3/4" WIDE	L.F.	60
503503	PATCHING CONCRETE	SY-IN	220
503526	PCC PATCHING SURCHARGE, ZONE 3	S.Y.	30
503529	PCC PATCHING SURCHARGE, ZONE 6	S.Y.	30
503530	PCC PATCHING SURCHARGE, ZONE 7	S.Y.	30
503531	PCC PATCHING SURCHARGE, ZONE 8	S.Y.	30
503532	PCC PATCHING SURCHARGE, ZONE 9	S.Y.	30
503543	NIGHTTIME PCC PATCHING SURCHARGE, NEW CASTLE COUNTY	S.Y.	110
708500	REPLACING CATCH BASIN GRATES	EACH	2
708504	REPLACING CATCH BASIN FRAMES	EACH	2
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	3
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	EACH	3
732000	TOPSOIL, 4" DEPTH	S.Y.	10
734013	PERMANENT GRASS SEEDING, DRY GROUND	S.Y.	700
735534	SOIL RETENTION BLANKET MULCH, TYPE 4	S.Y.	700
743003	ARROWPANELS, TYPE C	EA-DY	10
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	EA-DY	20
743006	PLASTIC DRUMS	EA-DY	320
743007	TRAFFIC OFFICERS	HOUR	30

DELAWARE DEPARTMENT OF TRANSPORTATION

Contract No. T2011-064-01

FY 12

PCC Patching - Canal District – Open End

Page 19 of 19

743009	FURNISH AND MAINTAIN TRUCK-MOUNTED ATTENUATOR, TYPE I	EA-DY	5
743010	FURNISH AND MAINTAIN TRUCK-MOUNTED ATTENUATOR, TYPE II	EA-DY	10
* 743050	FLAGGER, NEW CASTLE COUNTY, STATE	HOUR	950
* 743062	FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	HOUR	150
743501	WARNING LIGHTS , TYPE B	EA-DY	20
743525	TEMPORARY WARNING SIGNS	EA-DY	230
746774	SUPPLY AND INSTALLATION OF DETECTOR WIRE	L.F.	110
748019	TEMPORARY MARKINGS, PAINT, 4"	L.F.	140
748506	PERMANENT PAVEMENT STRIPING, EPOXY RESIN, 4"	L.F.	200
748507	PERMANENT PAVEMENT STRIPING, EPOXY RESIN, 6"	L.F.	200
748509	PERMANENT PAVEMENT STRIPING, EPOXY RESIN, 12"	L.F.	30
750000	ADJUST WATER VALVE BOXES	EACH	3
762002	SAWCUTTING CONCRETE, FULL DEPTH	L.F.	2,100
763546	ROAD LOCATION MOBILIZATION, ZONE 3	EACH	1
763549	ROAD LOCATION MOBILIZATION, ZONE 6	EACH	1
763550	ROAD LOCATION MOBILIZATION, ZONE 7	EACH	1
763551	ROAD LOCATION MOBILIZATION, ZONE 8	EACH	1
763552	ROAD LOCATION MOBILIZATION, ZONE 9	EACH	1
763563	PERFORMANCE AND PAYMENT BOND	L.S.	1

* Fixed Price Items