

DEPARTMENT OF TRANSPORTATION  
OFFICE OF TRANSPORTATION SOLUTIONS  
PLANS AND SPECIFICATIONS FOR

CONTRACT NUMBER - T201206302.01

SOUTH MAINTENANCE

FEDERAL AID NUMBER - ESTP-2012(21)

PRIMAVERA ID - 11-06307

CONTRACT TITLE - PAVEMENT & REHABILITATION - SOUTH II-II, 2012

PAGE 1 OF 28

PLANS PREPARED BY:

*Paul Farkas*

DESIGN TECHNICIAN

DATE RECOMMENDED:

*7/6/2011*

*Bradford L. Salms*

GROUP ENGINEER, CONSTRUCTION

DATE RECOMMENDED:

*7-24-11*

*James T. Pappas III*

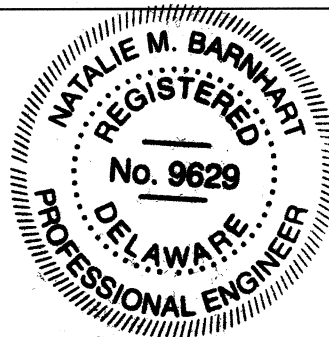
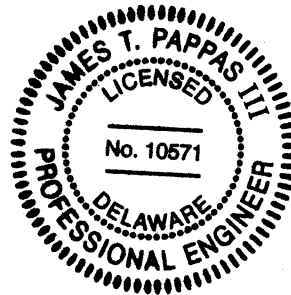
ASSIST. DIRECTOR, DESIGN

DATE RECOMMENDED:

*7/24/11*

*Natalie Barnhart*

CHIEF ENGINEER



DEPARTMENT OF TRANSPORTATION

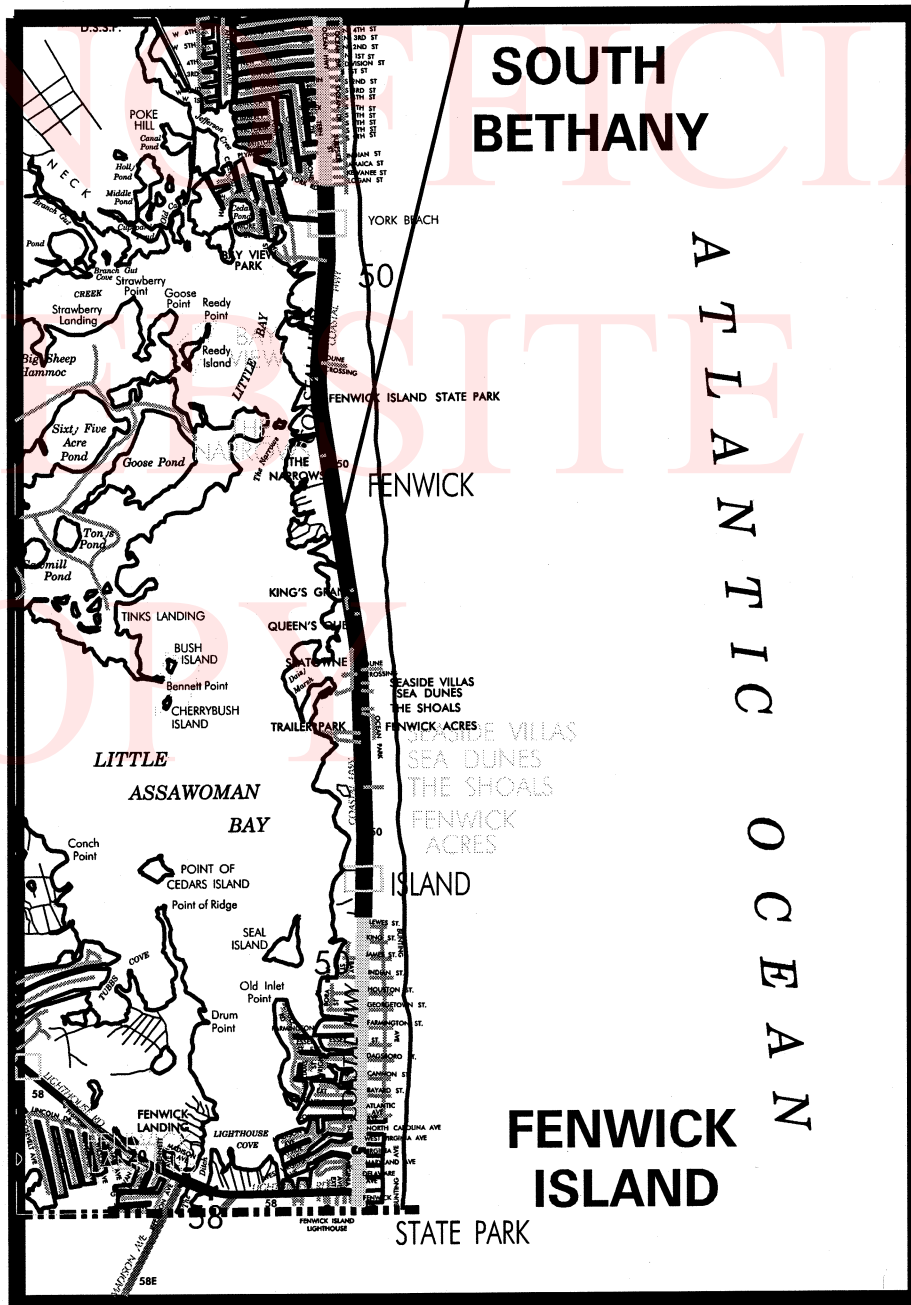
CONTRACT NUMBER- T201206302

PAGE 2 OF 28

PENNSYLVANIA AVE, RT1 NB AND SB

LOCATION MAP

Location 1



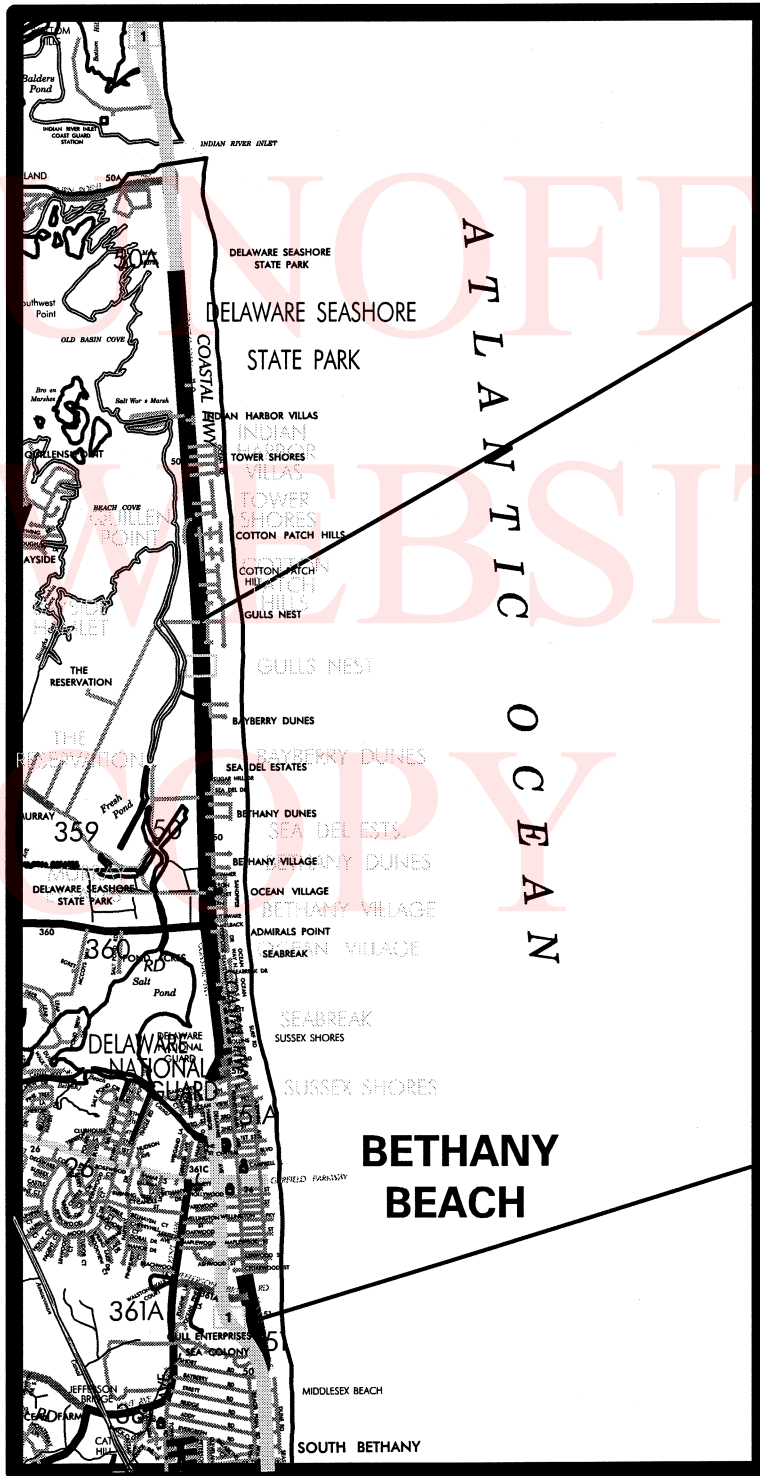
DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

PAGE 3 OF 28

PENNSYLVANIA AVE, RT1 NB AND SB

LOCATION MAP



Location 2

Location 3

PAVEMENT & REHABILITATION, SOUTH II-II, 2012

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GENERAL CONTRACT PLAN NOTES

REVISED 7/11

GENERAL

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, THE MOST RECENT STANDARD CONSTRUCTION DETAILS, DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THESE PLANS.
2. THE PURPOSE OF THIS CONTRACT IS TO MAKE GENERAL IMPROVEMENTS TO ROADS AND/OR STREETS WITHIN THE DISTRICT HEREIN SPECIFIED. DEPENDING ON FUND AVAILABILITY, THE DEPARTMENT RESERVES THE RIGHT TO ADD OR DELETE LOCATIONS AND/OR QUANTITIES FOR THIS CONTRACT. SUCH LOCATION OR QUANTITY ADDITIONS OR DELETIONS SHALL NOT BE CAUSE FOR AN INCREASE OR DECREASE IN ANY CONTRACT UNIT BID PRICES. NO ITEM PRICES ARE TO BE RENEGOTIATED DUE TO EITHER AN INCREASE OR DECREASE IN QUANTITY USAGE RESULTING FROM SAID ADDITIONS OR DELETIONS.
3. THE CONTRACTOR SHALL PROVIDE ALL RESIDENTS AND BUSINESSES WHO LIVE ADJACENT TO THE WORK ZONE A MINIMUM 48 HR. PRIOR WRITTEN NOTICE FOR THE START OF CONSTRUCTION WORK. THIS NOTIFICATION SHALL INCLUDE THE SCOPE OF WORK, WORKING HOURS, ANTICIPATED START AND COMPLETION DATES, CONTRACTOR NAME & ADDRESS, AND DELDOT CONTACT NUMBERS. FAILURE TO GIVE PROPER NOTICE WILL RESULT IN A SUSPENSION OF WORK REQUIRING NOTICE, UNTIL PROPER NOTICE IS PROVIDED. 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 FOR TIE-IN PURPOSES SHALL BE COORDINATED WITH THE ENGINEER AND/OR PROPERTY OWNER IN ADVANCE OF THE CLOSURE.
4. THE CONTRACTOR SHALL SUBMIT THE REQUIRED COPIES OF A DETAILED PROGRESS SCHEDULE (PSC) AS OUTLINED IN STANDARD SPECIFICATION 108.04 PRIOR TO OR AT THE PRECONSTRUCTION MEETING. DETAILS SHALL INCLUDE A DESCRIPTION OF EACH WORK ACTIVITY, THE PLANNED DAYS OF WORK, MULTIPLE CREWS OR SHIFTS, AND SCHEDULED WORKING HOURS. DURING THE CONTRACT, THE CONTRACTOR SHALL SUBMIT TWO-WEEK (OR AS REQUIRED) "LOOK AHEAD" SCHEDULES TO THE AREA ENGINEER/ MANAGER NO LATER THAN NOON OF EACH THURSDAY. FAILURE TO COMPLY WILL RESULT IN A SUSPENSION OF ALL CONTRACT WORK WITH TIME CHARGES CONTINUING TO BE ASSESSED.

MAINTENANCE OF TRAFFIC

5. THE CONTRACTOR SHALL BE REQUIRED TO SHOW PROOF THAT HE HAS SUFFICIENT APPROVED STRIPING MATERIALS ON HAND TO ENSURE STRIPING IS COMPLETED PRIOR TO FULL OPENING ROADWAY TO TRAFFIC.
6. AT THE END OF EACH DAY'S OPERATION AND BEFORE TRAFFIC IS RETURNED TO UNRESTRICTED ROADWAY USE, TEMPORARY STRIPING SHALL BE UTILIZED AT LOCATIONS THAT REQUIRE PERMANENT STRIPING, SHALL BE INSTALLED IN ACCORDANCE WITH THE TEMPORARY STRIPING POLICY. TEMPORARY PAVEMENT STRIPING MUST MATCH PERMANENT PAVEMENT STRIPING IN ALL REGARDS. TEMPORARY PAVEMENT MARKINGS SHALL BE PAID AT THE APPLICABLE CONTRACT UNIT PRICE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE TEMPORARY MARKINGS IN GOOD CONDITION SUCH THAT THE PAVEMENT IS PROPERLY DELINEATED AT ALL TIMES. ANY REFRESHING OF THE TEMPORARY MARKINGS WILL BE AT THE CONTRACTOR'S EXPENSE.
7. 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 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, PART 6, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT FOR BIDS.



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PAVEMENT & REHABILITATION, SOUTH II-II, 2012

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**GENERAL CONTRACT PLAN NOTES**

8. THE CONTRACTOR SHALL MAINTAIN ACCESS TO AND ALONG PEDESTRIAN FACILITIES AT ALL TIMES DURING CONSTRUCTION. EARTH, STONE AND GRAVEL SURFACES ARE NOT ACCEPTABLE FOR PROVIDING PEDESTRIAN ACCESS. WHERE PEDESTRIAN ROUTES ARE CLOSED OR BLOCKED, ALTERNATE PEDESTRIAN ACCESS SHALL BE PROVIDED USING TA-28 AND/OR TA-29 OF THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR TO THE SATISFACTION OF THE ENGINEER. PEDESTRIAN DETOUR ROUTES OR ALTERNATE PEDESTRIAN FACILITIES SHALL CONSIST OF ADA COMPLIANT FACILITIES TO THE LEVEL OF WHICH EXISTS ON THE PEDESTRIAN ROUTE. THE COST FOR ANY PROVISIONS SHALL BE INCIDENTAL TO ITEM 763XXX - MAINTENANCE OF TRAFFIC.

**PEDESTRIAN MAINTENANCE OF TRAFFIC: THIS WORK SHALL CONSIST OF PROVIDING AND MAINTAINING AN ACCESSIBLE PEDESTRIAN ROUTE THROUGHOUT THE PROJECT'S LIMITS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990 (ADA) TITLE II, PARAGRAPH 35.130.**

THE CONTRACTOR SHALL BE REQUIRED TO REVIEW EACH CURB RAMP LOCATION AND SUBMIT THE APPROPRIATE MAINTENANCE OF TRAFFIC DETAIL AND DEVICES TO THE ENGINEER FOR EACH LOCATION AT LEAST 2 WEEKS BEFORE CONSTRUCTION FOR REVIEW, COMMENT, AND APPROVAL. THE FOLLOWING CONSIDERATIONS SHALL BE TAKEN INTO ACCOUNT WHEN ADDRESSING ACCESSIBLE PEDESTRIAN MAINTENANCE OF TRAFFIC:

- ALL PEDESTRIANS, INCLUDING PERSONS WITH DISABILITIES, SHALL BE PROVIDED WITH A REASONABLY SAFE, CONVENIENT AND ACCESSIBLE PATH THAT REPLICATES AS MUCH AS PRACTICABLE THE EXISTING PEDESTRIAN FACILITIES.
- MAINTAIN ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES.
- PROVIDE PEDESTRIAN ACCESS THROUGH OR AROUND THE WORK ZONE. IF A DETOUR IS CHOSEN THE CONTRACTOR MUST SUBMIT THE DETOUR ROUTE TO THE ENGINEER FOR REVIEW AND APPROVAL. THE DETOUR ROUTE MUST MEET OR EXCEED THE CURRENT CONDITIONS.
- WORK SHOULD BE PHASED SO THAT ALL AREAS OF AN INTERSECTION/SIDEWALK PATH ARE NOT UNDER CONSTRUCTION AT THE SAME TIME UNLESS A CLEAR PATH IS PROVIDED AND IDENTIFIED.
- TRAFFIC CONTROL DEVICES AND OTHER CONSTRUCTION MATERIALS AND FEATURES SHALL NOT INTRUDE INTO THE USABLE WIDTH OF THE SIDEWALK, TEMPORARY PATHWAY OR OTHER PEDESTRIAN FACILITY.
- SIGNS AND OTHER DEVICES MOUNTED LOWER THAN 7 FT ABOVE THE TEMPORARY PEDESTRIAN PATHWAY SHALL NOT PROJECT MORE THAN 4 IN. INTO ACCESSIBLE PEDESTRIAN ROUTE.

A SMOOTH, CONTINUOUS HARD SURFACE SHALL BE PROVIDED THROUGHOUT THE ENTIRE LENGTH AND WIDTH OF THE PEDESTRIAN ROUTE THROUGHOUT CONSTRUCTION. THERE SHALL BE NO CURBS OR VERTICAL ELEVATION CHANGES GREATER THAN ¼ IN. IN GRADE OR TERRAIN THAT COULD CAUSE TRIPPING OR BE A BARRIER TO WHEELCHAIR USE.

9. AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR SHALL BE REQUIRED FOR ALL LOCATIONS SPECIFIED IN THE CONTRACT PLANS. A COPY OF THE CERTIFICATION CARD FOR THE ATSSA TRAFFIC CONTROL SUPERVISOR SHALL BE SUBMITTED AT THE PRECONSTRUCTION MEETING. THE PAPER CERTIFICATE IS NOT ACCEPTABLE.

**PAVEMENT MARKINGS**

10. AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS (INCLUDING BUT NOT LIMITED TO EXISTING STRIPING LENGTHS, LANE AND SHOULDER WIDTHS, TURN LANE LENGTHS, LOCATIONS OF STOP BARS, TURN ARROWS, CROSSWALKS AND RAILROAD CROSSINGS) THAT DEPICT THE EXISTING PAVEMENT MARKINGS FOR EACH PROJECT LOCATION. THESE DRAWINGS WILL

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

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**GENERAL CONTRACT PLAN NOTES**

BE REVIEWED BY THE DEPARTMENT'S TRAFFIC SECTION TO DETERMINE IF ANY CHANGES TO THE FINAL PAVEMENT MARKINGS ARE REQUIRED. FINAL PAVEMENT MARKINGS SHALL CONFORM TO ALL EXISTING PATTERNS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE DEPARTMENT WILL PROVIDE STRIPING LAYOUT AT LOCATIONS WHERE NO PAVEMENT MARKINGS PREVIOUSLY EXISTED. IF DEPARTMENT FORCES PROVIDE STRIPING LAYOUT ON LOCATIONS WHERE MARKINGS PREVIOUSLY EXISTED, THEN THE CONTRACTOR SHALL REIMBURSE THE DEPARTMENT FOR THE LAYOUT COSTS.

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHITE EDGE LINES SHALL WRAP AROUND THE RADIUS OF ALL SIDE STREETS AND MAJOR COMMERCIAL ENTRANCES TO A TANGENT POINT. YELLOW CENTERLINES SHALL BE CONTINUOUS AROUND MEDIAN ISLANDS. ALL DOUBLE YELLOW CENTERLINES SHALL BE PLACED IN A 5-6-5 CONFIGURATION (2 EACH, 5" YELLOW STRIPES WITH A 6" GAP BETWEEN).

11. ANY ERRONEOUS MARKING WILL NOT BE PAID FOR AND SHALL BE CORRECTED IMMEDIATELY AT THE CONTRACTORS EXPENSE. ERRONEOUS MARKINGS OR SHADOWS THAT EXCEED ONE (1) INCH IN WIDTH SHALL BE REMOVED BY EITHER SAND OR WATER BLASTING AS DIRECTED BY THE ENGINEER. NO OTHER REMOVAL METHODS WILL BE ALLOWED. A FLAT BLACK PAINT OR DRIVEWAY SEALER SHALL BE APPLIED IN THE AREA OF THE REMOVED MARKING TO MASK THE REPAIR. ANY DAMAGE TO THE PAVEMENT CAUSED BY REMOVAL OF ERRONEOUS MARKINGS SHALL BE REPAIRED / REPLACED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTORS EXPENSE.

12. STOP LINES "BARS" SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 3B.16 OF THE 2011 DELAWARE MUTCD.

13. ALL CROSSWALKS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 3B.18 OF THE 2011 DELAWARE MUTCD.

**TRAFFIC SIGNAL NOTES**

14. TRAFFIC DETECTION LOOPS SHALL BE PLACED IN THE FINAL WEARING SURFACE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

15. TRAFFIC DETECTION LOOPS THAT ARE CURRENTLY 5'x7' SHALL BE REPLACED WITH LOOPS THAT ARE 6'x6' AT THE SAME LOCATION. STOP BAR DETECTION LOOPS SHALL BE THE SAME SIZE AS CURRENTLY EXISTING, AND SHOULD BE PLACED STARTING TWO FEET BEHIND THE STOP BAR, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF SEPARATE SIGNAL PLANS HAVE BEEN DEVELOPED, THE PLANS SUPERSEDE THIS NOTE.

**PROJECT**

16. UNLESS SPECIFIED, OVERLAY WIDTHS SHALL MATCH EXISTING WIDTHS.

17. THE COST OF CLIPPING BACK THE EDGES OF THE ROADWAY, SHOULDERS, AND THE FIRST 3' OF UNPAVED DRIVEWAY ENTRANCES, PICKING UP AND DISPOSING OF WASTE AND EXCESS MATERIAL, AND CLEANING THE EXISTING PAVEMENT PRIOR TO OVERLAY SHALL BE INCIDENTAL TO SECTION 401(.). PREPARING UNPAVED DRIVEWAY ENTRANCES BEYOND THE FIRST 3' SHALL BE PAID UNDER THE APPROPRIATE CONTRACT ITEMS: 202000 AND/OR 30200X.

18. BUTT JOINTS SHALL BE PLACED AT ALL INTERSECTING HOT MIX ROADS AND ANY OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. BUTT JOINTS AT DRAINAGE STRUCTURES NOT TO BE RESURFACED SHALL BE AS PER THE INCLUDED PLAN DETAIL OR LOCATION NOTES. BUTT JOINTS CUT PRIOR TO THE DAY OF THE PAVEMENT OVERLAY SHALL BE RAMPED WITH HOT MIX TRM. IN MILLING AREAS, THERE WILL BE NO SEPARATE PAYMENT FOR BUTT JOINTS. AFTER PAVEMENT MILLING, ALL TRANSVERSE VERTICAL

PAVEMENT & REHABILITATION, SOUTH II-II, 2012

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**GENERAL CONTRACT PLAN NOTES**

DIFFERENCES, RAISED EDGES OF MANHOLES, CATCH BASINS, WATER VALVE BOXES, ETC...SHALL BE RAMPED WITH HOT-MIX TRM AT A 20:1 OR FLATTER SLOPE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. PAVEMENT MILLINGS WILL NOT BE ALLOWED FOR USE AS RAMPING MATERIAL.

19. TAPER MILLING IS INTENDED FOR MILLING IN THE AREA OF FIXED STRUCTURES (I.E. CURBS GUARDRAIL, ETC.) THE MILLED DEPTH AT THE STRUCTURE SHALL BE THE DEPTH OF THE PROPOSED OVERLAY AND 0" AT A DISTANCE OF +/- 6½' FROM THE STRUCTURE. THE COMPUTED DEPTH FOR PAYMENT PURPOSES IS THE AVERAGE OF THE TWO DEPTHS.

20. ALL MILLED MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE STATED.

21. EXCAVATION FOR P.C.C. CURBS, SIDEWALK OR VALLEY GUTTER SHALL BE INCIDENTAL TO THE BID PRICE FOR THESE RESPECTIVE ITEMS. EXCAVATED MATERIAL, NOT NEEDED ON THE PROJECT, SHALL BE REMOVED FROM THE CONTRACT AT THE CONTRACTORS EXPENSE. ITEM 732XXX, TOPSOIL, SHALL BE USED AS BACKFILL MATERIAL FOR CURB AND SIDEWALK AS DIRECTED BY THE ENGINEER. TOPSOIL SHALL BE SCREENED/SIFTED SO AS NO MATERIAL GREATER THAN .5" IS PRESENT IN MATERIAL USED FOR BACKFILL. AT EACH LOCATION, BACKFILLING SHALL BE PERFORMED IMMEDIATELY UPON REMOVAL OF FORMS FOR CURB OR SIDEWALK WORK. COMPLETE RESTORATION, TOPSOIL, SEEDING, AND REMOVAL OF ALL MATERIALS FOR CURB & GUTTER OR SIDEWALK; SEALING OF VALLEY GUTTERS AND PARGING OF CATCH BASINS, SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS OF COMPLETION OF THE ITEM OF WORK. FAILURE TO COMPLY WILL RESULT IN A SUSPENSION OF ALL OTHER CONTRACT WORK WITH TIME CHARGES CONTINUING TO BE ASSESSED.

22. ALL ADJUSTMENTS SHALL BE MADE NO MORE THAN SEVEN (7) CALENDAR DAYS PRIOR TO THE PLACEMENT OF THE FINAL COURSE OF HOT MIX UNLESS OTHERWISE APPROVED BY THE ENGINEER. FAILURE TO COMPLY WILL RESULT IN A SUSPENSION OF ALL OTHER CONTRACT WORK WITH TIME CHARGES CONTINUING TO BE ASSESSED.

23. ALL PAVING, INCLUDING TURN LANES, SHOULDERS AND INTERSECTIONS, IS TO BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FROM THE TIME THE AREA WAS MILLED. FAILURE TO COMPLY WILL RESULT IN A SUSPENSION OF ALL OTHER CONTRACT WORK WITH TIME CHARGES CONTINUING TO BE ASSESSED.

24. THE CONTRACTOR SHALL TAKE CARE IN REMOVING PAVEMENT AROUND UTILITIES, BUTT JOINTS, CURBING, ETC. SO THAT EXISTING PAVEMENT BEYOND THE SPECIFIED DEPTHS IS NOT DAMAGED. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS MAY RESULT IN PLACING LEVELING COURSES AT THE CONTRACTOR'S EXPENSE. THE REMOVAL AND CLEAN UP OF THE HOT MIX RESIDUE WEDGE REMAINING AFTER MILLING OPERATIONS SHALL BE INCIDENTAL TO THE MILLING ITEM. THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS (RPM'S) SHALL BE INCIDENTAL TO THE APPLICABLE MILLING AND/OR RECLAMATION ITEMS.

25. ALL PORTLAND CEMENT CONCRETE MUST BE RECEIVED FROM AN APPROVED PRODUCTION PLANT UNLESS OTHERWISE APPROVED BY THE ENGINEER. ONLY CALIBRATED VOLUMETRIC CONCRETE TRUCKS WILL BE PERMITTED TO PROVIDE ON-SITE MIXTURES. THIS PERTAINS TO BOTH WORK OCCURRING DURING NORMAL WORKING HOURS AND NIGHTTIME RESTRICTED WORK.

26. DRAINAGE INLETS, WHICH ARE 4' GREATER IN DEPTH AND ARE SLATED FOR REPAIR WILL HAVE STEPS INSTALLED IN ACCORDANCE WITH SECTION 708.07 OF THE STANDARD SPECIFICATIONS. PAYMENT SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 710001.

27. THE PORTLAND CEMENT CONCRETE USED WITHIN ITEM 701002 - ADJUST AND REPAIR EXISTING MAN HOLES AND ITEM 750000 - ADJUST WATER VALVE BOX SHALL CONFORM TO THE REQUIREMENTS OF CLASS A CONCRETE AS STATED WITHIN SECTION 503.02 OF THE DEPARTMENT'S STANDARD SPECIFICATIONS.



DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

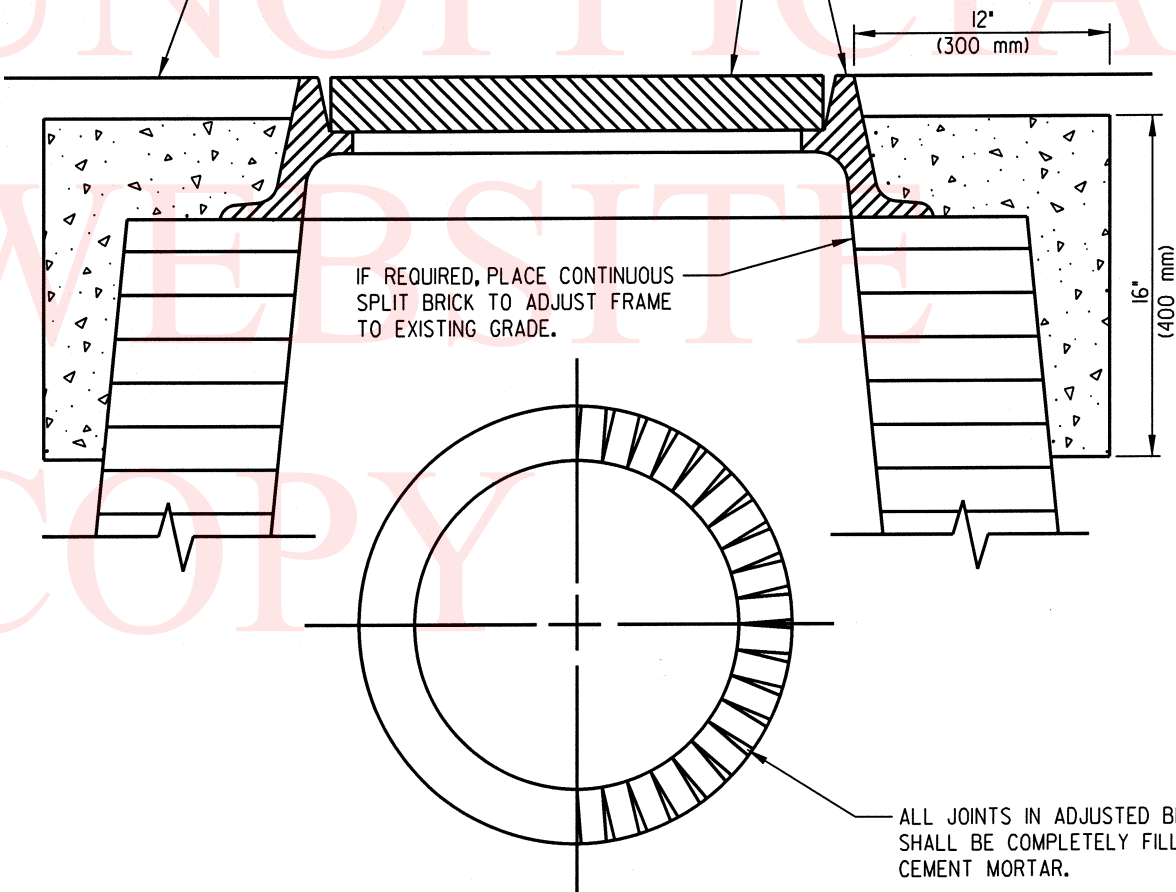
PAGE 8 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET

REMOVE AND DISPOSE OF EXISTING FRAME AND COVER AS DIRECTED BY OWNER IF NOT UTILIZED IN THE ADJUSTMENT. PLACE NEW OR EXISTING FRAME AND COVER (AS REQUIRED) TO CORRECT ELEVATION AND RECOLLAR. NEW FRAME AND COVER (IF REQUIRED) TO BE PROVIDED BY OWNER.

REMOVE HOT MIX AND CONCRETE COLLAR FROM AROUND MANHOLE.



ADJUSTING AND REPAIRING MANHOLE

N.T.S.

**NOTE:** MANHOLES IN CONCRETE ROADWAYS SHALL BE SAWCUT FULL DEPTH TO THE SPECIFIED DIMENSION PRIOR TO ANY ADJUSTMENT BEING MADE. THE SAWCUTTING SHALL BE INCIDENTAL TO ITEM 710002.

ANY ADJUSTMENTS AND/OR RELOCATIONS OF MUNICIPALLY OWNED SEWER OR WATER FACILITIES SHALL BE DONE IN ACCORDANCE TO THE RESPECTIVE AGENCIES STANDARD SPECIFICATIONS AS DIRECTED BY THE ENGINEER.



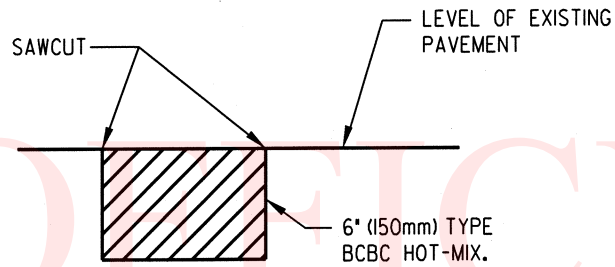
DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

PAGE 9 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



HOT MIX PATCH DETAIL

N.T.S.

**NOTE:** ALL EDGES TO BE SAWCUT. CUTTING BY USE OF AIR HAMMERS MAY BE SUBSTITUTED FOR SAWCUTTING IF THE AREA IS TO BE OVERLAID UNDER THE SAME CONTRACT. THIS DETAIL SHALL BE USED FOR ALL HOT-MIX PATCHES UNLESS OTHERWISE SHOWN ON THE PLANS.

WHEN PCC PATCHING IS REQUIRED ON A COMPOSITE PAVEMENT(HOT-MIX OVER CONCRETE), THE CONTRACTOR MAY ELECT TO ELIMINATE ANY GRADE DIFFERENCE BETWEEN THE TOP OF THE CONCRETE PATCH AND THE TOP OF THE EXISTING HOT-MIX PAVEMENT BY EITHER PLACING HOT-MIX TRM MATERIAL(PAYMENT UNDER ITEM 402000) OR PLACING CONCRETE FLUSH WITH EXISTING HOT-MIX PAVEMENT(ADDITIONAL CONCRETE PAID AS ITEM 503503). IF CONCRETE IS PLACED FLUSH WITH EXISTING HOT-MIX, THE MILLING OF THE CONCRETE WILL BE PAID FOR AS MILLING HOT-MIX.

P.C.C. PATCHING NOTES

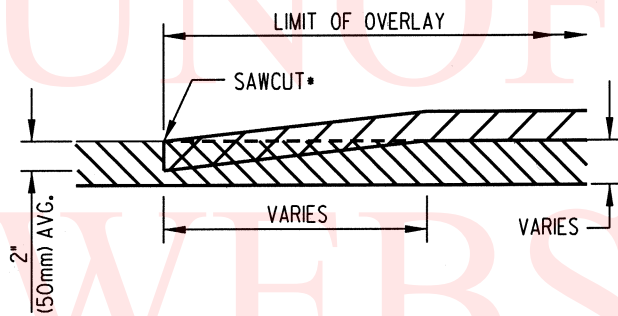
DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302




PAGE 10 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



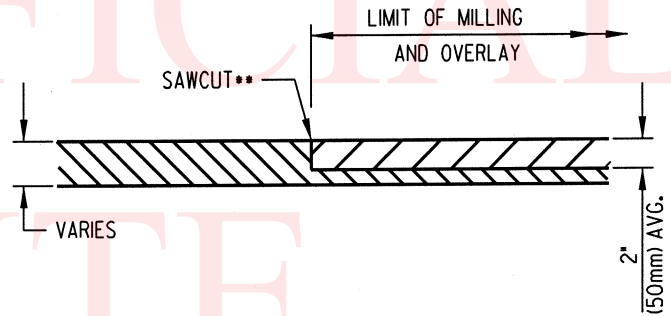
LEGEND

-  — PROPOSED OVERLAY
-  — EXISTING PAVEMENT
-  — EXISTING PAVEMENT TO BE REMOVED



**BUTT JOINT  
FOR OVERLAY SECTION\***

PAYMENT UNDER ITEM 761001.

\*SAWCUT IS INCIDENTAL TO ITEM 761001.



LEGEND

-  — PROPOSED FULL WIDTH MILLING AND HOT MIX OVERLAY
-  — EXISTING PAVEMENT (TO REMAIN)

**HOT MIX JOINT  
FOR FULL WIDTH MILLING SECTION\*\***

PAYMENT INCIDENTAL TO ITEM 760XXX, MILLING.

\*\*SAWCUT SHALL BE PAID UNDER ITEM 762001.

**NOTES:**

THE FOLLOWING LENGTHS ARE BASED ON THE POSTED SPEED OF THE ROADWAY:

1. LESS THAN 50 MPH = 20 FT (6m) PER 1" (25mm) OF OVERLAY DEPTH.
2. EQUAL TO OR GREATER THAN 50 MPH = 30 FT (9.1m) PER 1" (25mm) OF OVERLAY DEPTH.
3. AT STOP SIGNS = 15 FT (4.6m) PER 1" (25mm) OF OVERLAY DEPTH.

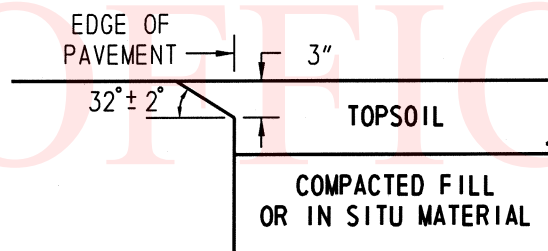
DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

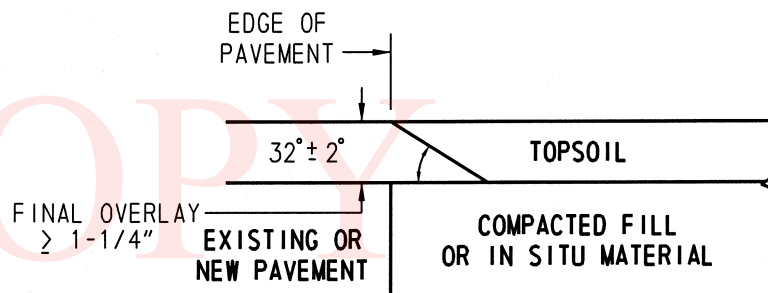
PAGE 11 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



CONCRETE PAVEMENTS  
NOT TO SCALE



HOT-MIX PAVEMENTS AND OVERLAYS  
NOT TO SCALE

SAFETY EDGE DETAIL  
NOT TO SCALE

**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT NUMBER- T201206302**

**PAGE 12 OF 28**

**SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB**

**DETAILS SHEET**

**ROUTE 1 CROSS PIPE JOINT REPAIR & REPLACEMENT**

**BETWEEN FENWICK ISLAND TO SOUTH BETHANY**

PIPE NO.	LENGTH	SIZE & TYPE	REMEDY	Distance NB from centerline of Lewis St.
1		24" RCP	Joint repair	188'
2		24" RCP	Joint repair	361'
3		24" RCP	Joint repair	481'
4		24" RCP	Joint repair	5170'
5	70' ±	18" RCP	Replace pipe SB lanes	5980'
6		18" RCP	Joint repair	7410'
7	70' ±	36" RCP	Replace pipe SB lanes	8010'
8	70' ±	24" RCP	Replace pipe SB lanes	9180'
9		24" RCP	Joint repair	11510'
10	70' ±	18" RCP	Replace pipe SB lanes	12000'
11	115' ±	36" CMP	Replace pipe NB&SB lanes	12320'
12		36" RCP	Joint repair	12770'
13		18" RCP	Joint repair	15110'

**BETWEEN N. BETHANY BEACH TO INDIAN RIVER INLET BRIDGE**

PIPE NO.	LENGTH	SIZE & TYPE	REMEDY	Distance NB from centerline of Collins St.
14		18" RCP	Joint repair	945'
15		18" RCP	Joint repair	4594'
16		(2) 18" RCP	Joint repair	7814'
17		18" RCP	Joint repair	8894'
18		(2) 18" RCP	Joint repair	9694'
19		18" RCP	Joint repair	9944'
20		18" RCP	Joint repair	10564'
21		24" RCP	Joint repair	11734'
22		18" RCP	Joint repair	13694'
23		18" RCP	Joint repair	14164'
24		18" RCP	Joint repair	15094'
25		18" RCP	Joint repair	16464'
26		18" RCP	Joint repair	16994'



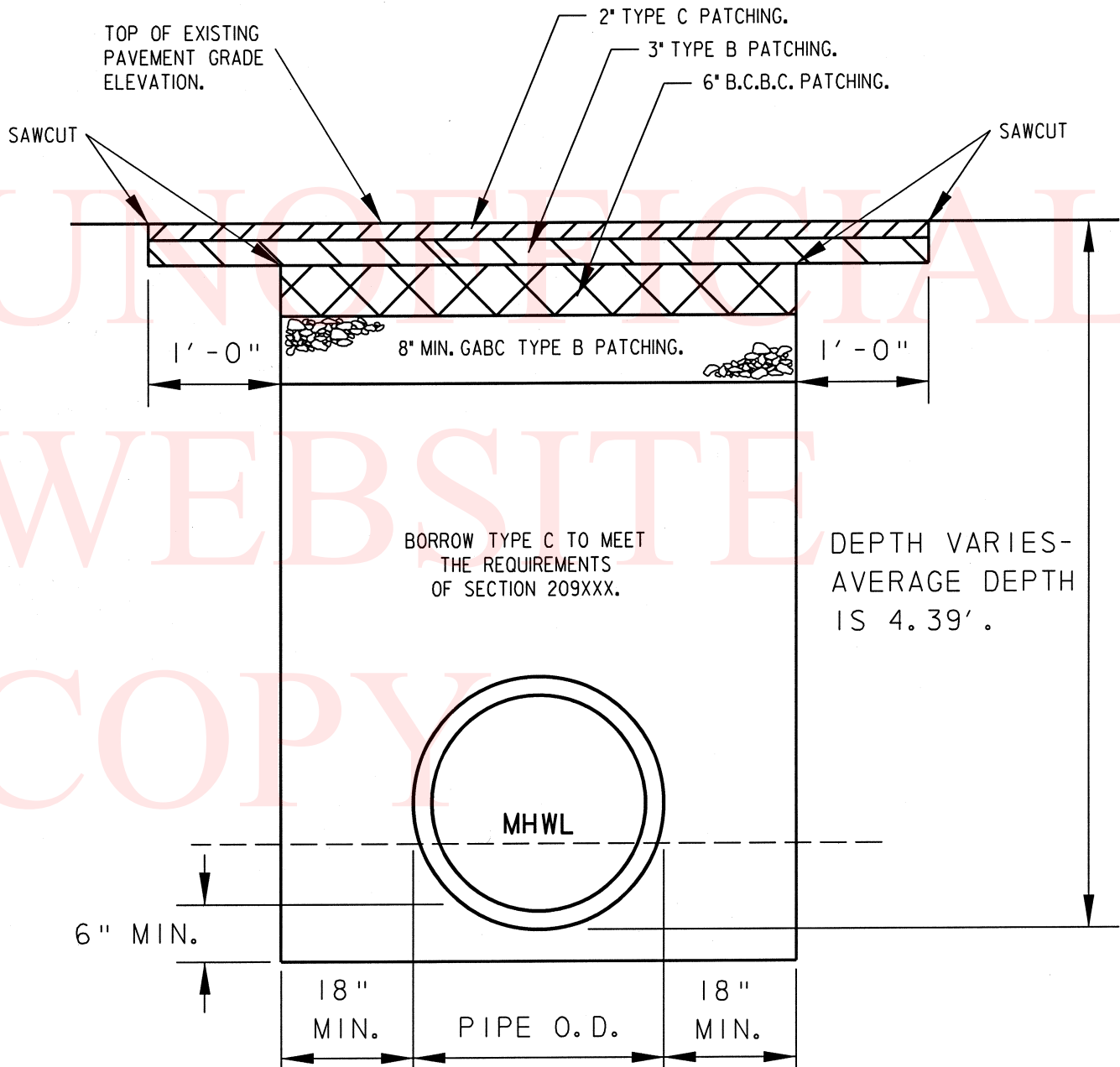
DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

PAGE 13 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



Typical crosspipe repair & replacement section

N.T.S.

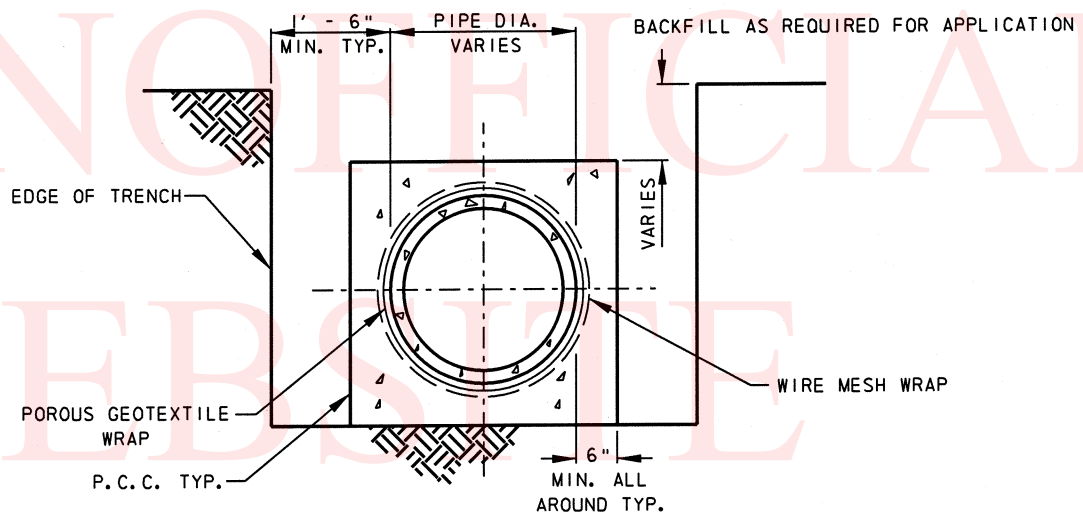
DELAWARE DEPARTMENT OF TRANSPORTATION

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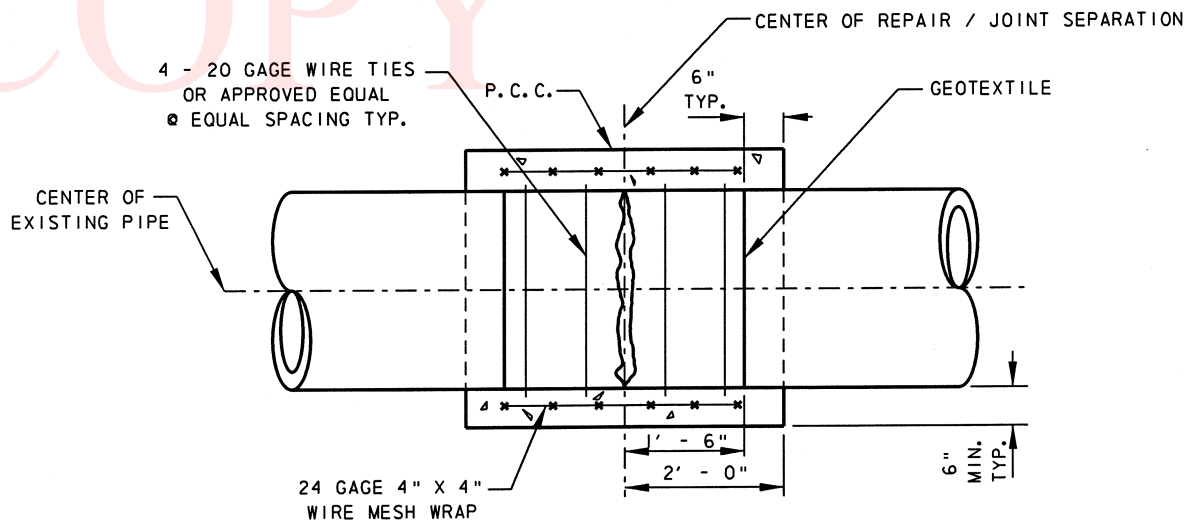
PAGE 14 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



CONCRETE PIPE REPAIR DETAIL  
NOT TO SCALE



SECTION  
NOT TO SCALE

DELAWARE DEPARTMENT OF TRANSPORTATION

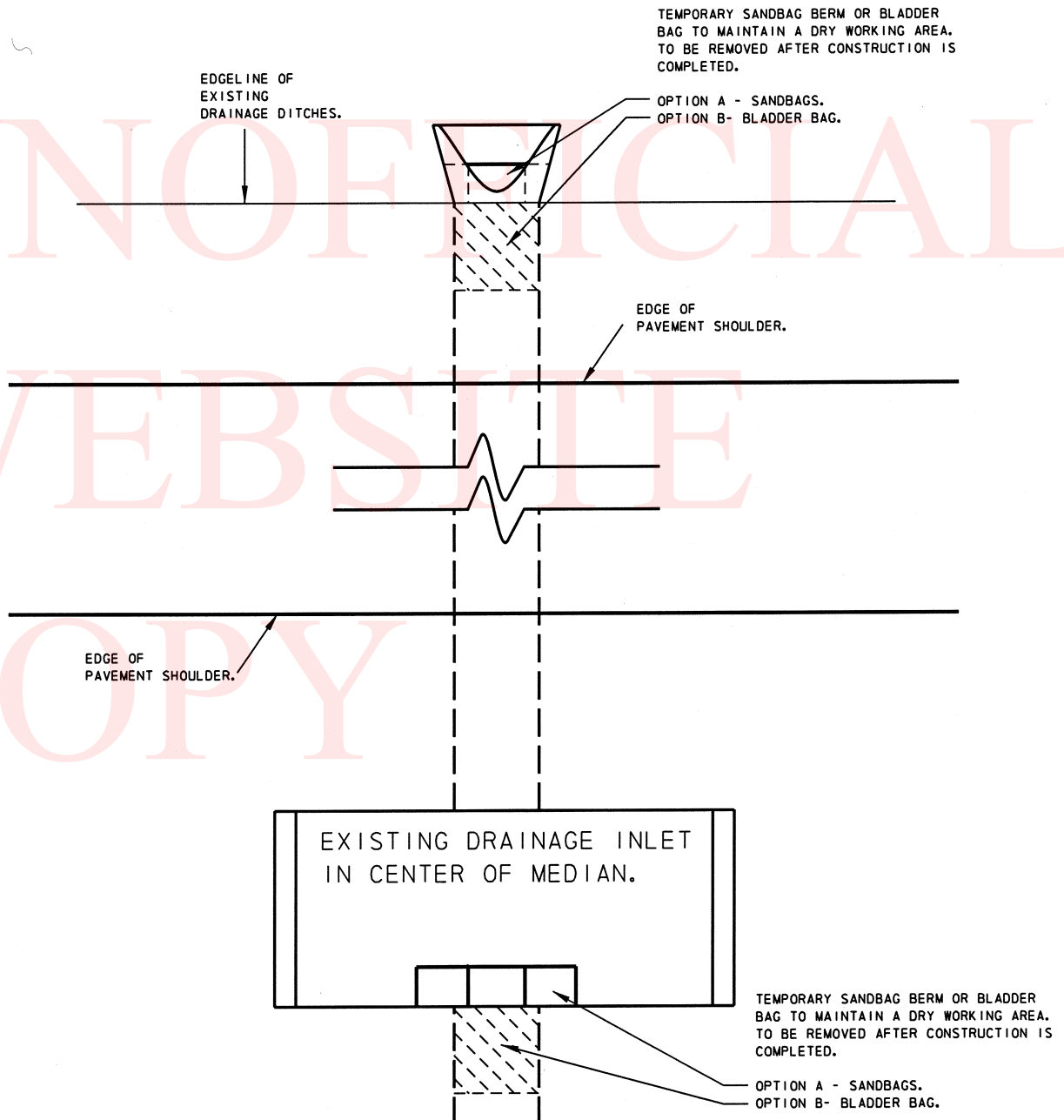
CONTRACT NUMBER- T201206302

PAGE 15 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET

OSF OF DISTURBANCE EACH OUTFALL.  
TOTAL DISTURBANCE IS OSF.



Typical for crosspipe joint repair (Inlet&Outfall)

N.T.S.

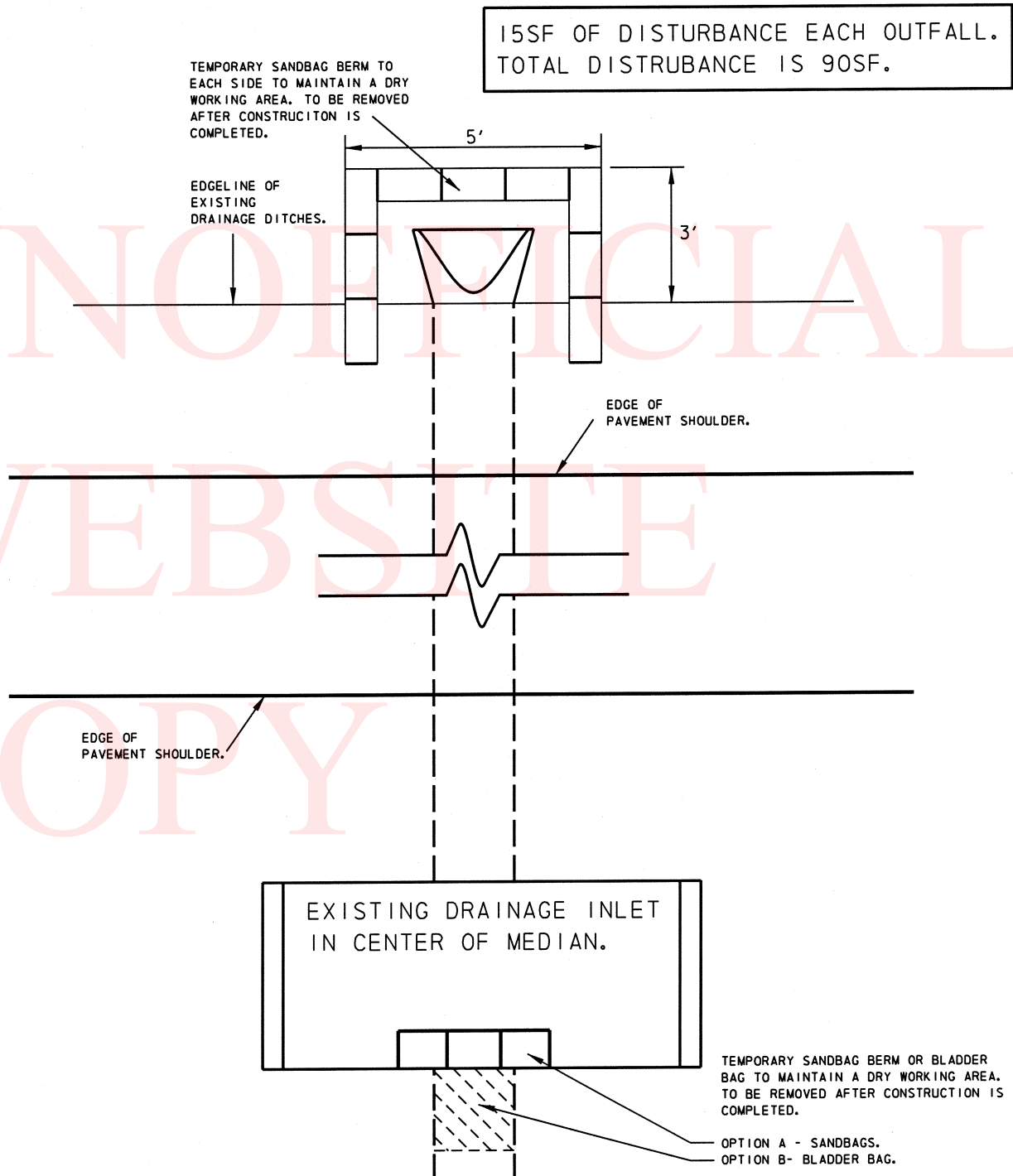
DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT NUMBER- T201206302

PAGE 16 OF 28

SOUTH MAINTENANCE PENNSYLVANIA AVE, RT1 NB AND SB

DETAILS SHEET



Typical for crosspipe replacement (Inlet&Outfall)

N.T.S.



**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT T201206302**

**PAGE 17 OF 28**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

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**LOCATION 1                      COASTAL HWY SR 1, NB & SB (S50) FROM FENWICK TOWN LIMITS TO YORK RD**

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LENGTH            9083.04 m                      29800 L.F.                      AADT    18530

**GENERAL IMPROVEMENTS**

HM PATCHING, 1 1/4" MILLING (OPEN GRADE @ 27' W) AND 2" WARM-MIX TYPE C (64-22) FULL WIDTH OVERLAY.

**COMMENTS:**

Please see attached sheets for comments

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**MATERIAL ESTIMATE FOR LOCATION 1**

208000	EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	988.00 C.Y.
210000	FURNISHING BORROW TYPE "C" FOR PIPE, UTILITY TRENCH, AND STRUCTURE BACKFILL	514.00 C.Y.
302005	GRADED AGGREGATE BASE COURSE, TYPE B	50.00 TON
302008	GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	192.00 C.Y.
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	300.00 TON
401822	WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, PATCHING	150.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	900.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	14,800.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	50.00 TON
406001	HOT-MIX PATCHING	10,000.00 SY-IN
612003	REINFORCED CONCRETE PIPE, 18", CLASS III	410.00 L.F.
612005	REINFORCED CONCRETE PIPE, 24", CLASS III	730.00 L.F.
612009	REINFORCED CONCRETE PIPE, 36", CLASS III	380.00 L.F.
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	20.00 EACH
732004	TOPSOIL (TON)	820.00 TON
734013	PERMANENT GRASS SEEDING, DRY GROUND	9,933.00 S.Y.
743003	ARROW PANELS, TYPE C	40.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	14.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	160.00 EA-DY
743007	** TRAFFIC OFFICERS	600.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	40.00 EA-DY
743052	** FLAGGER, SUSSEX COUNTY, STATE	2,000.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	300.00 HOUR
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	400.00 L.F.
746776	LOOP DETECTOR SPLICE	6.00 EACH
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	400.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	89,400.00 L.F.

**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT T201206302**

**PAGE 18 OF 28**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

**LOCATION 1                      COASTAL HWY SR 1, NB & SB (S50) FROM FENWICK TOWN LIMITS TO YORK RD**

LENGTH            9083.04 m                      29800 L.F.            AADT    18530

**GENERAL IMPROVEMENTS**

HM PATCHING, 1 1/4" MILLING (OPEN GRADE @ 27' W) AND 2" WARM-MIX TYPE C (64-22) FULL WIDTH OVERLAY.

**COMMENTS:**

Please see attached sheets for comments

**MATERIAL ESTIMATE FOR LOCATION 1**

<b>748026</b>	<b>TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND</b>	<b>400.00 S.F.</b>
<b>748502</b>	<b>RAISED/RECESSED PAVEMENT MARKER</b>	<b>373.00 EACH</b>
<b>748548</b>	<b>PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"</b>	<b>89,400.00 L.F.</b>
<b>748553</b>	<b>PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, BIKE SYMBOL</b>	<b>18.00 EACH</b>
<b>748554</b>	<b>PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, PEDESTRIAN SYMBOL</b>	<b>18.00 EACH</b>
<b>760012</b>	<b>RUMBLE STRIPS, BIKE-FRIENDLY, HOT-MIX</b>	<b>59,600.00 L.F.</b>
<b>760502</b>	<b>PAVEMENT MILLING, TAPER CUT</b>	<b>1,500.00 SY-IN</b>
<b>760507</b>	<b>PROFILE MILLING, HOT-MIX</b>	<b>111,750.00 SY-IN</b>
<b>761001</b>	<b>BUTT JOINTS, HOT MIX</b>	<b>900.00 S.Y.</b>
<b>762001</b>	<b>SAW CUTTING, HOT MIX</b>	<b>4,500.00 L.F.</b>
<b>763501</b>	<b>CONSTRUCTION ENGINEERING</b>	<b>1.00 L.S.</b>

**\*\* DENOTES FIXED PRICE ITEM**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

**LOCATION 1 COASTAL HWY SR 1, NB & SB (S50) FROM FENWICK TOWN LIMITS TO YORK RD**

**COMMENTS:**

1. RECOMMENDED M.O.T. CASE NO. TA-33 (TRAVEL LANES).  
CASE NO. TA-5B (SHOUDLERS).
2. NIGHTTIME WORK HOURS: 8:00PM TO 6:00AM.
3. SUMMER SEASON LANE CLOSURES ARE NOT PERMITTED BETWEEN MAY 21 TO SEPT. 10, 2012.
4. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END" SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER.
5. MULTI USE PATHS/BIKE LANES SHALL BE MAINTIANED THROUGH THE WORK ZONE FOR ALL LOCATIONS WHERE IT APPLIES AND SHALL BE CHANNELIZED FROM THE WORK ARE USING CONES.
6. COORDINATION WITH THE ADJACENT CONTRACTOR FOR PAVEMENT AND REHABILITATION CONTRACT NO. T201006305 FOR M.O.T. LANE CLOSURES AND SIGNAGE MAY BE NECESSARY.
7. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
8. TRM HOT-MIX ASPHALT SHALL BE USED ONLY, COLD-MIX ASPHALT (COLD PATCH) WILL NOT BE ACCEPTED.
9. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.
10. 2" TAPER MILL IN FRONT OF EXISTING CURB.
11. A MATERIAL TRANSFER VEHICLE SHALL BE USED FOR MAINLINE PAVING OPERATIONS.
12. THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS SHALL BE INCIDENTAL TO THE MILLING OPERATION.
13. CROSS PIPE REPLACEMENT NOTES  
-----  
A. THE COST FOR ANY DEWATERING AND PUMPING REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEMS 612003, 612005 AND 612009.  
  
B. NO SURVEY DATA WILL BE PROVIDED. ALL SURVEY WORK REQUIRED TO COMPLETE THE CROSSPIPE REPLACEMENTS IS INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING. THIS INCLUDES ALL PIPES AND ALL OTHER MISCELLANEOUS WORK TO FULLY COMPLETE THE PROJECT.  
  
C. THE CONTRACTOR SHALL MATCH THE EXISTING GRADES AND INVERTS FOR ALL PIPE REPLACEMENTS. ANY ADJUSTMENTS REQUIRED SHALL BE BY THE APPROVAL OF THE FIELD ENGINEER.  
  
D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY/ALL UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/REPLACE.  
  
E. PIPE TRENCH DEPTH VARIES; AVERAGE DEPTH OF TRENCH IS 4.39 FEET +/-.  
  
F. \*\*\*\*LOCATION 11 (36" CMP REPLACEMENT) - SEVERAL RARE WILD PLANT SPECIES HAVE BEEN IDENTIFIED WITHIN THE CROSSPIPE CONSTRUCTION AREA AND WILL BE TRANSPLANTED BY STATE FORCES DURING MORE SEASONABLE WEATHER CONDITIONS WITHIN THE PERIOD OF SEPT-OCT. 2012.

SOUTH  
MAINTENANCE

PAVEMENT &amp; REHABILITATION, SOUTH II-II, 2012

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**LOCATION 1 COASTAL HWY SR 1, NB & SB (S50) FROM FENWICK TOWN LIMITS TO YORK RD**

---

NO WORK OR DISTURBANCES SHALL BE PERMITTED AT SAID CROSSPIPE LOCATION UNTIL APPROVAL FROM THE ENVIRONMENTAL SECTION IS OBTAINED.\*\*\*\*

## 14. REINFORCED CONCRETE PIPE JOINT REPAIR

A. THE COST FOR ANY DEWATERING AND PUMPING REQUIRED TO COMPLETE THE PIPE JOINT REPAIRS SHALL BE INCIDENTAL TO ITEM 208200.

B. NO SURVEY DATA WILL BE PROVIDED. ALL SURVEY WORK REQUIRED TO COMPLETE THE PIPE JOINT REPAIRS IS INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.

C. THE CONTRACTOR SHALL MATCH THE EXISTING GRADES AND INVERTS FOR ALL PIPE REPLACEMENTS. ANY ADJUSTMENTS REQUIRED SHALL BE BY THE APPROVAL OF THE FIELD ENGINEER.

D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY/ALL UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/REPLACE.

E. A CONCRETE COLLAR SHALL BE PLACED AFTER WRAPPING THE PIPE WITH A WELDED WIRE MESH AND APPROVED GEO-TEXTILE MATERIAL FASTENED SECURELY AROUND THE PIPE WITH EPOXY COATED TIE WIRE.

F. THE COLLAR (SEE DETAIL SHEET PAGE XX) SHALL CONSIST OF A 4x4 INCH WELDED WIRE MESH GEO-TEXTILE WRAP OFFSET FROM THE PIPE WALL WITH CEMENT BRICK AS REQUIRED AND A CONCRETE COLLAR. THE COLLAR SHALL SURROUND THE LENGTH OF THE PIPE FAILURE (TOP, BOTTOM AND SIDES). ALL MATERIALS NEEDED (WELDED WIRE MESH, GEO-TEXTILE, FORMS, MORTAR, NON-SHRINK GROUT, ETC...) INCLUDING LABOR AND EQUIPMENT TO FULLY COMPLETE THE REPAIR SHALL BE INCIDENTAL TO ITEMS 208000 AND 602002.

G. NO CONCRETE SHALL BE RELEASED OR PLACED UNTIL THE DEPTH AND THE CHARACTER OF THE FOUNDATION MATERIAL, THE ADEQUACY OF THE FORMS AND FALSE WORK, AND THE PLACING OF REINFORCEMENTS HAVE BEEN INSPECTED AND APPROVED BY THE FIELD ENGINEER.

H. PIPE TRENCH DEPTH VARIES; AVERAGE DEPTH OF TRENCH IS 4.39 FEET +/-.

## 15. ADDITIONAL COMMENTS

A. THERE SEEMS TO BE AN EXISTING WATER MAIN LEAK LOCATED @ THE KINGS COURT AFFECTING BOTH SOUTHBOUND AND NORTHBOUND LANES OF SR1. VISIBLE DEPRESSIONS AND EXISTING HOT-MIX PATCHES.

B. THERE SEEMS TO BE AN EXISTING SANITARY LINE LEAK LOCATED IN THE ENTRANCE TO SEATOWNE, VISIBLE DEPRESSION IN PAVEMENT.

THIS LOCATION SHALL MEET THE TOLERANCES OF SUBSECTION 401580 - RIDE QUALITY OF HOT-MIX PAVEMENT REQUIREMENTS, AS SPECIFIED IN THE SPECIAL PROVISIONS.

## ADJUSTMENTS

20 - SUSSEX COUNTY SANITARY



**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT T201206302**

**PAGE 21 OF 28**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

**LOCATION 2                      RT 1 COASTAL HWY NB & SB (S50) FROM HMJ @ FIFTH ST TO 1800FT NORTH  
FROM 3R'S BEACH ENTRANCE.**

**LENGTH      11603.736 m                      38070 L.F.                      AADT    18530**

**GENERAL IMPROVEMENTS**

**HM PATCHING AND 2" WARM-MIX TYPE C(64-22) FULL WIDTH OVERLAY**

**COMMENTS:**

Please see attached sheets for comments

**MATERIAL ESTIMATE FOR LOCATION 2**

208000	EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	117.00 C.Y.
210000	FURNISHING BORROW TYPE "C" FOR PIPE, UTILITY TRENCH, AND STRUCTURE BACKFILL	62.00 C.Y.
302005	GRADED AGGREGATE BASE COURSE, TYPE B	150.00 TON
302008	GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	18.00 C.Y.
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	500.00 TON
401822	WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, PATCHING	14.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	2,627.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	25,100.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	100.00 TON
406001	HOT-MIX PATCHING	44,500.00 SY-IN
612003	REINFORCED CONCRETE PIPE, 18", CLASS III	2,160.00 L.F.
612005	REINFORCED CONCRETE PIPE, 24", CLASS III	140.00 L.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	30.00 S.F.
705008	CURB RAMP, TYPE 1	225.00 S.F.
708060	REPLACE DRAINAGE INLET GRATE(S)	2.00 EACH
708061	REPLACE DRAINAGE INLET FRAME(S)	2.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	2.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	20.00 EACH
732004	TOPSOIL (TON)	1,047.00 TON
734013	PERMANENT GRASS SEEDING, DRY GROUND	12,690.00 S.Y.
743003	ARROW PANELS, TYPE C	80.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	14.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	320.00 EA-DY
743007	** TRAFFIC OFFICERS	1,000.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	3,400.00 EA-DY
743052	** FLAGGER, SUSSEX COUNTY, STATE	510.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	480.00 HOUR

**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT T201206302**

**PAGE 22 OF 28**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

**LOCATION 2                      RT 1 COASTAL HWY NB & SB (S50) FROM HMJ @ FIFTH ST TO 1800FT NORTH  
FROM 3R'S BEACH ENTRANCE.**

**LENGTH      11603.736 m                      38070 L.F.                      AADT    18530**

**GENERAL IMPROVEMENTS**

**HM PATCHING AND 2" WARM-MIX TYPE C(64-22) FULL WIDTH OVERLAY**

**COMMENTS:**

Please see attached sheets for comments

**MATERIAL ESTIMATE FOR LOCATION 2**

744520	CONDUIT JUNCTION WELL, TYPE 1, PRECAST CONCRETE	10.00 EACH
745527	SUPPLY OF 2 1/2" GALVANIZED STEEL CONDUIT	650.00 L.F.
745542	INSTALLATION OF CONDUIT UNDER EXISTING PAVEMENT-DIRECTIONAL BORE	550.00 L.F.
745544	INSTALLATION OF CONDUIT IN UNPAVED TRENCH	100.00 L.F.
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	900.00 L.F.
746776	LOOP DETECTOR SPLICE	13.00 EACH
746831	INSTALLATION OF PEDESTAL POLE	8.00 EACH
746850	POLE BASE, TYPE 4	8.00 EACH
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	2,600.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	122,390.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	2,600.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	476.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	122,390.00 L.F.
748553	PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, BIKE SYMBOL	91.00 EACH
748554	PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, PEDESTRIAN SYMBOL	91.00 EACH
760012	RUMBLE STRIPS, BIKE-FRIENDLY, HOT-MIX	76,140.00 L.F.
760502	PAVEMENT MILLING, TAPER CUT	1,500.00 SY-IN
761001	BUTT JOINTS, HOT MIX	1,700.00 S.Y.
762001	SAW CUTTING, HOT MIX	1,000.00 L.F.
763501	CONSTRUCTION ENGINEERING	1.00 L.S.
763621	CONSTRUCTION ENGINEERING, REHABILITATION	1.00 HOUR

**\*\* DENOTES FIXED PRICE ITEM**

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT T201206302

PAGE 23 OF 28

SOUTH  
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH II-II, 2012

LOCATION 2 RT 1 COASTAL HWY NB & SB (S50) FROM HMJ @ FIFTH ST TO 1800FT NORTH FROM  
3R'S BEACH ENTRANCE.

COMMENTS:

1. RECOMMENDED M.O.T. CASE NO. TA-33 (TRAVEL LANES).  
CASE NO. TA-5B (SHOUDLERS).  
CASE NO. TA-29 (SIDEWALK).
2. NIGHTTIME WORK HOURS: 8:00PM TO 6:00AM.
3. SUMMER SEASON LANE CLOSURES ARE NOT PERMITTED BETWEEN MAY 21 TO SEPT. 10, 2012.
4. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END ROAD WORK" SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER.
5. MULTI USE PATHS/BIKE LANES SHALL BE MAINTIANED THROUGH THE WORK ZONE FOR ALL LOCATIONS WHERE IT APPLIES AND SHALL BE CHANNELIZED FROM THE WORK ARE USING CONES.
6. COORDINATION WITH THE ADJACENT CONTRACTOR FOR THE INDIAN RIVER BRIDGE CONTRACTS NO. 26-073-03(BRIDGE CONST.) AND 29-073-01(EMBANKMENT, APPROACHES & ROADWAY) FOR M.O.T. LANE CLOSURES AND SIGNAGE MAY BE NECESSARY.
7. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
8. TRM HOT-MIX ASPHALT SHALL BE USED ONLY, COLD-MIX ASPHALT (COLD PATCH) WILL NOT BE ACCEPTED.
9. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.
10. 2" TAPER MILL IN FRONT OF EXISTING CURB.
11. A MATERIAL TRANSFER VEHICLE SHALL BE USED FOR MAINLINE PAVING OPERATIONS.
12. THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS SHALL BE INCIDENTAL TO THE OVERLAY INCLUDING PLACING BACK COMPACTED HOT-MIX MATERIAL TO FILL THE EXPOSED VOID.
13. CROSS PIPE REPLACEMENT NOTES  
-----
  - A. THE COST FOR ANY DEWATERING AND PUMPING REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEMS 612003, 612005 AND 612009.
  - B. NO SURVEY DATA WILL BE PROVIDED. ALL SURVEY WORK REQUIRED TO COMPLETE THE CROSSPIPE REPLACEMENTS IS INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING. THIS INCLUDES ALL PIPES AND ALL OTHER MISCELLANEOUS WORK TO FULLY COMPLETE THE PROJECT.
  - C. THE CONTRACTOR SHALL MATCH THE EXISTING GRADES AND INVERTS FOR ALL PIPE REPLACEMENTS. ANY ADJUSTMENTS REQUIRED SHALL BE BY THE APPROVAL OF THE FIELD ENGINEER.
  - D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY/ALL UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/REPLACE.
  - E. PIPE TRENCH DEPTH VARIES; AVERAGE DEPTH OF TRENCH IS 4.39 FEET +/-.

14. REINFORCED CONCRETE PIPE JOINT REPAIR

CONTRACT T201206302

PAGE 24 OF 28

SOUTH  
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH II-II, 2012

LOCATION 2 RT 1 COASTAL HWY NB & SB (S50) FROM HMJ @ FIFTH ST TO 1800FT NORTH FROM  
3R'S BEACH ENTRANCE.

A. THE COST FOR ANY DEWATERING AND PUMPING REQUIRED TO COMPLETE THE PIPE JOINT REPAIRS SHALL BE INCIDENTAL TO ITEM 208200.

B. NO SURVEY DATA WILL BE PROVIDED. ALL SURVEY WORK REQUIRED TO COMPLETE THE PIPE JOINT REPAIRS IS INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.

C. THE CONTRACTOR SHALL MATCH THE EXISTING GRADES AND INVERTS FOR ALL PIPE REPLACEMENTS. ANY ADJUSTMENTS REQUIRED SHALL BE BY THE APPROVAL OF THE FIELD ENGINEER.

D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ANY/ALL UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE INCURRED BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/REPLACE.

E. A CONCRETE COLLAR SHALL BE PLACED AFTER WRAPPING THE PIPE WITH A WELDED WIRE MESH AND APPROVED GEO-TEXTILE MATERIAL FASTENED SECURELY AROUND THE PIPE WITH EPOXY COATED TIE WIRE.

F. THE COLLAR (SEE DETAIL SHEET PAGE XX) SHALL CONSIST OF A 4x4 INCH WELDED WIRE MESH GEO-TEXTILE WRAP OFFSET FROM THE PIPE WALL WITH CEMENT BRICK AS REQUIRED AND A CONCRETE COLLAR. THE COLLAR SHALL SURROUND THE LENGTH OF THE PIPE FAILURE (TOP, BOTTOM AND SIDES). ALL MATERIALS NEEDED (WELDED WIRE MESH, GEO-TEXTILE, FORMS, MORTAR, NON-SHRINK GROUT, ETC...) INCLUDING LABOR AND EQUIPMENT TO FULLY COMPLETE THE REPAIR SHALL BE INCIDENTAL TO ITEMS 208000 AND 602002.

G. NO CONCRETE SHALL BE RELEASED OR PLACED UNTIL THE DEPTH AND THE CHARACTER OF THE FOUNDATION MATERIAL, THE ADEQUACY OF THE FORMS AND FALSE WORK, AND THE PLACING OF REINFORCEMENTS HAVE BEEN INSPECTED AND APPROVED BY THE FIELD ENGINEER.

H. PIPE TRENCH DEPTH VARIES; AVERAGE DEPTH OF TRENCH IS 4.39 FEET +/-.

THIS LOCATION SHALL MEET THE TOLERANCES OF SUBSECTION 401580 - RIDE QUALITY OF HOT-MIX PAVEMENT REQUIREMENTS, AS SPECIFIED IN THE SPECIAL PROVISIONS.

#### CURB RAMP LOCATIONS

RT 1 @ THE SANCTUARY - 3

#### ADJUSTMENTS

1 - DELDOT  
7 - WATER  
19 - SUSSEX COUNTY SANITARY  
1 - OTHER



**DELAWARE DEPARTMENT OF TRANSPORTATION**

**CONTRACT T201206302**

**PAGE 25 OF 28**

**SOUTH  
MAINTENANCE**

**PAVEMENT & REHABILITATION, SOUTH II-II, 2012**

**LOCATION 3                      PENNSYLVANIA AVENUE (S51) FROM COASTAL HWY RT 1 (S50) TO SOUTH  
BETHANY TOWN LIMITS**

**LENGTH              606.552 m                      1990 L.F.                      AADT    1718**

**GENERAL IMPROVEMENTS**

**HM PATCHING AND 1 1/4" WARM-MIX TYPE C (64-22,C) FULL WIDTH OVERLAY.**

**COMMENTS:**

Please see attached sheets for comments

**MATERIAL ESTIMATE FOR LOCATION 3**

<b>302005</b>	<b>GRADED AGGREGATE BASE COURSE, TYPE B</b>	<b>50.00 TON</b>
<b>401696</b>	<b>ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE</b>	<b>100.00 TON</b>
<b>401823</b>	<b>WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING</b>	<b>700.00 TON</b>
<b>401827</b>	<b>WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)</b>	<b>800.00 TON</b>
<b>406001</b>	<b>HOT-MIX PATCHING</b>	<b>11,400.00 SY-IN</b>
<b>705007</b>	<b>SIDEWALK SURFACE DETECTABLE WARNING SYSTEM</b>	<b>40.00 S.F.</b>
<b>705008</b>	<b>CURB RAMP, TYPE 1</b>	<b>300.00 S.F.</b>
<b>710002</b>	<b>ADJUSTING AND REPAIRING EXISTING MANHOLE</b>	<b>6.00 EACH</b>
<b>732004</b>	<b>TOPSOIL (TON)</b>	<b>55.00 TON</b>
<b>734013</b>	<b>PERMANENT GRASS SEEDING, DRY GROUND</b>	<b>670.00 S.Y.</b>
<b>743004</b>	<b>FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN</b>	<b>14.00 EA-DY</b>
<b>743052</b>	<b>** FLAGGER, SUSSEX COUNTY, STATE</b>	<b>451.00 HOUR</b>
<b>743064</b>	<b>** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME</b>	<b>68.00 HOUR</b>
<b>746774</b>	<b>SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE</b>	<b>200.00 L.F.</b>
<b>746776</b>	<b>LOOP DETECTOR SPLICE</b>	<b>2.00 EACH</b>
<b>748015</b>	<b>PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC</b>	<b>700.00 S.F.</b>
<b>748019</b>	<b>TEMPORARY MARKINGS, PAINT, 4"</b>	<b>12,000.00 L.F.</b>
<b>748026</b>	<b>TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND</b>	<b>700.00 S.F.</b>
<b>748548</b>	<b>PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"</b>	<b>12,000.00 L.F.</b>
<b>760502</b>	<b>PAVEMENT MILLING, TAPER CUT</b>	<b>200.00 SY-IN</b>
<b>761001</b>	<b>BUTT JOINTS, HOT MIX</b>	<b>900.00 S.Y.</b>
<b>762001</b>	<b>SAW CUTTING, HOT MIX</b>	<b>200.00 L.F.</b>

**\*\* DENOTES FIXED PRICE ITEM**

**SOUTH  
MAINTENANCE**

PAVEMENT & REHABILITATION, SOUTH II-II, 2012

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**LOCATION 3    PENNSYLVANIA AVENUE (S51) FROM COASTAL HWY RT 1 (S50) TO SOUTH  
BETHANY TOWN LIMITS**

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**COMMENTS:**

1. RECOMMENDED M.O.T. CASE NO. TA-17 (TRAVEL LANES).  
    .                                    CASE NO. TA-4 (SHOUDLERS).  
    .                                    CASE NO. TA-29 (SIDEWALK).
  
2. RESTRICTED WORK HOURS: 8:00AM TO 4:00PM
  
3. SUMMER SEASON LANE CLOSURES ARE NOT PERMITTED BETWEEN MAY 23 TO SEPT. 12, 2011.
  
4. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END"  
 SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE  
 WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA  
 BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER
  
5. MULTI USE PATHS/BIKE LANES SHALL BE MAINTIANED THROUGH THE WORK ZONE FOR ALL LOCATIONS  
 WHERE IT APPLIES AND SHALL BE CHANNELIZED FROM THE WORK ARE USING CONES.
  
6. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
  
7. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.

**CURB RAMP LOCATIONS**

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 WILMINGTON TRUST - 2  
 SEA COLONY - 2

**ENTRANCE AND DRIVEWAY LOCATIONS**

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 SEA COLONY - 11'  
 LOFTLAND LANE - 7'  
 SOURWOOD DR - 8'  
 JEFFERSON BRIDGE RD - 62'  
 SUMMER PLACE CT - 12'  
 HICKMAN PLAZA RD - 6'  
 WILMINGTON TRUST - 10'

**ADJUSTMENTS**

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 6 - SUSSEX COUNTY SANITARY

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**DELAWARE DEPARTMENT OF TRANSPORTATION****CONTRACT: T201206302****PAGE 27 OF 28****SOUTH PAVEMENT & REHABILITATION, SOUTH II-II, 2012  
MAINTENANCE**

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**CONTRACT QUANTITIES SUMMARY SHEET**

208000	EXCAVATION AND BACKFILLING FOR PIPE TRENCHES	1,105.00 C.Y.
210000	FURNISHING BORROW TYPE "C" FOR PIPE, UTILITY TRENCH, AND STRUCTURE BACKFILL	576.00 C.Y.
302005	GRADED AGGREGATE BASE COURSE, TYPE B	250.00 TON
302008	GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	210.00 C.Y.
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	900.00 TON
401822	WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22, PATCHING	164.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	4,227.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	40,700.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	150.00 TON
406001	HOT-MIX PATCHING	65,900.00 SY-IN
612003	REINFORCED CONCRETE PIPE, 18", CLASS III	2,570.00 L.F.
612005	REINFORCED CONCRETE PIPE, 24", CLASS III	870.00 L.F.
612009	REINFORCED CONCRETE PIPE, 36", CLASS III	380.00 L.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	70.00 S.F.
705008	CURB RAMP, TYPE 1	525.00 S.F.
708060	REPLACE DRAINAGE INLET GRATE(S)	2.00 EACH
708061	REPLACE DRAINAGE INLET FRAME(S)	2.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	2.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	46.00 EACH
732004	TOPSOIL (TON)	1,922.00 TON
734013	PERMANENT GRASS SEEDING, DRY GROUND	23,293.00 S.Y.
743003	ARROWPANELS, TYPE C	120.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	42.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	480.00 EA-DY
743007	** TRAFFIC OFFICERS	1,600.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	3,440.00 EA-DY
743052	** FLAGGER, SUSSEX COUNTY, STATE	2,961.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	848.00 HOUR

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**DELAWARE DEPARTMENT OF TRANSPORTATION****CONTRACT: T201206302****PAGE 28 OF 28****SOUTH PAVEMENT & REHABILITATION, SOUTH II-II, 2012  
MAINTENANCE**

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**CONTRACT QUANTITIES SUMMARY SHEET**

744520	CONDUIT JUNCTION WELL, TYPE 1, PRECAST CONCRETE	10.00 EACH
745527	SUPPLY OF 2 1/2" GALVANIZED STEEL CONDUIT	650.00 L.F.
745542	INSTALLATION OF CONDUIT UNDER EXISTING PAVEMENT-DIRECTIONAL BORE	550.00 L.F.
745544	INSTALLATION OF CONDUIT IN UNPAVED TRENCH	100.00 L.F.
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	1,500.00 L.F.
746776	LOOP DETECTOR SPLICE	21.00 EACH
746831	INSTALLATION OF PEDESTAL POLE	8.00 EACH
746850	POLE BASE, TYPE 4	8.00 EACH
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	3,700.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	223,790.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	3,700.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	849.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	223,790.00 L.F.
748553	PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, BIKE SYMBOL	109.00 EACH
748554	PREFORMED RETROREFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS, PEDESTRIAN SYMBOL	109.00 EACH
760012	RUMBLE STRIPS, BIKE-FRIENDLY, HOT-MIX	135,740.00 L.F.
760502	PAVEMENT MILLING, TAPER CUT	3,200.00 SY-IN
760507	PROFILE MILLING, HOT-MIX	111,750.00 SY-IN
761001	BUTT JOINTS, HOT MIX	3,500.00 S.Y.
762001	SAW CUTTING, HOT MIX	5,700.00 L.F.
763000	INITIAL EXPENSE	LUMP SUM
763501	CONSTRUCTION ENGINEERING	1.00 L.S.
763621	CONSTRUCTION ENGINEERING, REHABILITATION	1.00 HOUR
763643	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP SUM

\*\* DENOTES FIXED PRICE ITEM