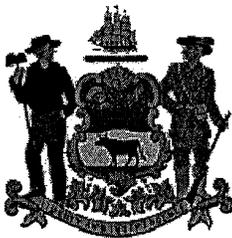


THE STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION
OFFICE OF TRANSPORTATION SOLUTIONS
PLANS AND SPECIFICATIONS FOR

CONTRACT NUMBER- T201106102

NORTH MAINTENANCE

FEDERAL AID NUMBER- ESTP-2011(04)

PAGE 1 OF 30

CONTRACT TITLE- PAVEMENT & REHABILITATION - NORTH II, 2011

PLANS PREPARED BY:

George LeCates

DESIGN TECHNICIAN

DATE RECOMMENDED: 3/1/11

DATE RECOMMENDED: 3-1-11

Christopher Cantello

GROUP ENGINEER, CONSTRUCTION - NORTH II

Samuel County

ASSIST. DIRECTOR, CONSTRUCTION - NORTH

DATE RECOMMENDED: 3-2-11

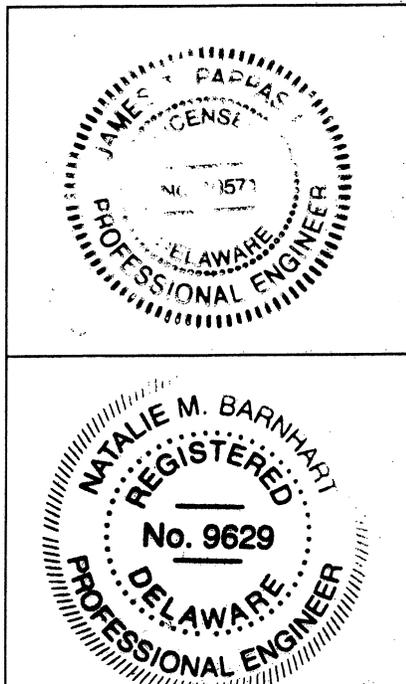
Jan T. Pappas III

ASSIST. DIRECTOR, DESIGN

DATE RECOMMENDED: 3-2-11

Natalie Barnhart

CHIEF ENGINEER



UNOFFICIAL
WEBSITE
COPY

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CONTRACT NUMBER- T201106102

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MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO LANCASTER PIKE (RD237), LANCASTER PIKE (RD237) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271), OLD LANCASTER PIKE (RD300) FROM ERICKSON DR TO LANCASTER PIKE

LOCATION MAP

Loc. #1 - Lancaster Pike from Centerville Road to Route 141



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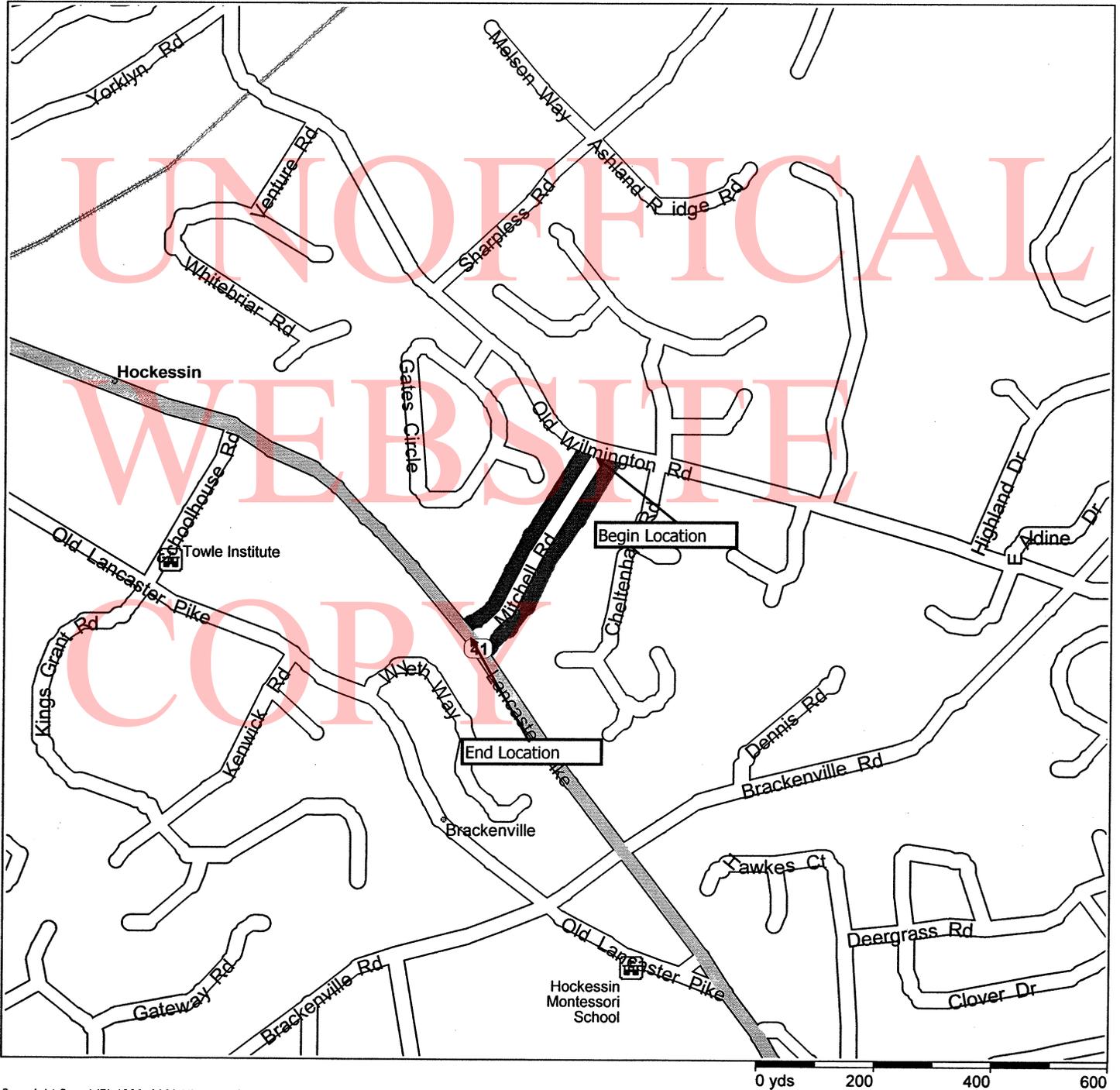
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MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO LANCASTER PIKE (RD237), LANCASTER PIKE (RD237) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271), OLD LANCASTER PIKE (RD300) FROM ERICKSON DR TO LANCASTER PIKE

LOCATION MAP

Loc. #2 - Mitchell Road from Old Wilmington Road to Lancaster Pike



DEPARTMENT OF TRANSPORTATION

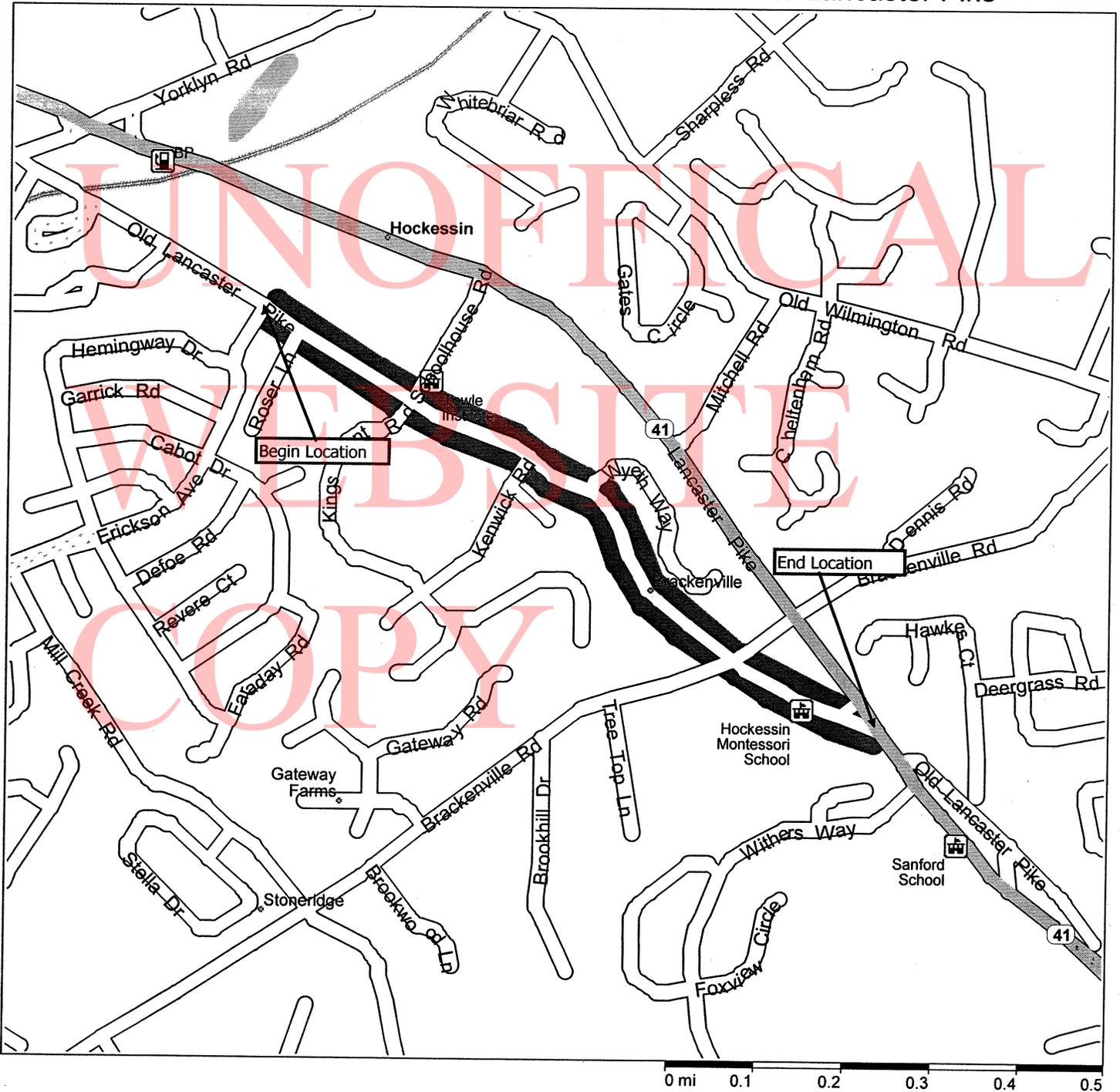
CONTRACT NUMBER- T201106102

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MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO LANCASTER PIKE (RD237), LANCASTER PIKE (RD237) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271), OLD LANCASTER PIKE (RD300) FROM ERICKSON DR TO LANCASTER PIKE

LOCATION MAP

Loc. #3 - Old Lancaster Pike from Erickson Drive to Lancaster Pike



PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

REVISED 8/10

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.

PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

MAINTENANCE OF TRAFFIC AND PAVEMENT MARKINGS

5. 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 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 4-6-4 CONFIGURATION (2 EACH, 4" YELLOW STRIPES WITH A 6" GAP BETWEEN).

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. 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.

7. 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. TEMPORARY PAVEMENT STRIPING

PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

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.

8. 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, PART 6, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT FOR BIDS.

9. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, INCLUDING THE NECESSARY NCHRP 350 CERTIFICATIONS FOR ALL DEVICES THAT WILL BE UTILIZED, FOR EACH LOCATION BEFORE THE START OF THE PRE-CONSTRUCTION MEETING. WRITTEN APPROVAL MUST BE RECEIVED BEFORE THE START OF WORK AT EACH AND EVERY LOCATION.

10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN NEW OR REFURBISHED CONDITION AND SHALL BE IN COMPLIANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND NCHRP 350 AS DEFINED IN SECTION "6A.01" OF THE MANUAL. THE DEVICES SHALL BE APPROVED BY THE DISTRICT SAFETY OFFICER PRIOR TO USE AND SHALL BE MAINTAINED IN GOOD CONDITION FOR THE DURATION OF THE CONTRACT.

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

12. 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.

13. EFFECTIVE 1/5/10 THE HORIZONTAL CIRCUMFERENTIAL MARKINGS ON PLASTIC DRUMS SHALL BE MADE OF FLOURESCENT ORANGE AND WHITE PRISMATIC RETROFLECTIVE SHEETING.

14. ALL PERMANENT WARNING SIGNS SHALL BE MADE OF NCHRP 350 COMPLIANT RIGID

PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

MATERIAL.

15. STOP LINES "BARS" SHALL BE PLACED AT ALL STOP SIGNS AND SHALL BE 16 INCHES WIDE AS PER THE MUTCD MANUAL SECTION 3B.16 DeIDOT REVISION.

16. ALL CROSSWALKS SHALL BE NO LESS THAN 6 FEET IN WIDTH AS PER THE MUTCD MANUAL SECTION 3B.17 DeIDOT REVISION.

PROJECT

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

18. 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.

19. 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 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.

20. 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.

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

22. EXCAVATION FOR P.C.C. CURBS, SIDEWALK OR VALLEY GUTTER SHALL BE

PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

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.

23. 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.

24. 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.

25. THE CONTRACTOR SHALL TAKE CARE IN REMOVING PAVEMENT AROUND UTILITIES, BUTT JOINTS, CURBS, 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.

26. 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.

27. **DRAINAGE INLETS**, WHICH ARE 4' GREATER IN DEPTH AND ARE SLATED FOR

PAVEMENT & REHABILITATION, NORTH II, 2011

GENERAL CONTRACT PLAN NOTES

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.

28. 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.

29. 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 CASE 16 OF THE 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 EXIST ON THE EXISTING PEDESTRIAN ROUTE. THE COSTS FOR ANY PROVISIONS SHALL BE INCIDENTAL TO ITEM 763643 MAINTENANCE OF TRAFFIC, ALL INCLUSIVE.

30. A AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR SHALL BE REQUIRED FOR ALL LOCATIONS SPECIFIED IN THE CONTRACT PLANS.

31. WITHIN THE MAINLINE WORK AREA, PERMANENT ADVANCE WARNING SIGNS WITH THE LEGENDS "ROAD WORK 1500 FT", "ROAD WORK 1000 FT", AND "ROAD WORK 500 FT" SHALL BE INSTALLED IN ADVANCE OF THE WORK AREA IN BOTH DIRECTIONS. AND "END ROAD WORK" SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM FROM THE WORK AREA. ON INTERSECTING ROADWAYS WITHIN THE PROJECT LIMITS, A "ROAD WORK AHEAD" SIGN SHALL BE PLACED AT A DISTANCE NOT LESS THAN 500 FEET DOWNSTREAM OF THE WORK AREA. ALL PERMANENT ADVANCE WARNING SIGNS SHALL BE GROUND MOUNTED ON TWO NCHRP-350 OR MASH APPROVED BREAK-AWAY POSTS AND SHALL BE MOUNTED IN COMPLIANCE WITH THE DEMUTCD. PERMANENT ADVANCE WARNING SIGNS SHALL BE MOUNTED AT A HEIGHT OF 7 FEET, MEASURED FROM THE ROADWAY TO THE BOTTOM OF THE SIGN. THE USE OF SKID MOUNTED SIGN SUPPORTS IS NOT ALLOWED UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT A UTILITY CONFLICT EXISTS, WHICH SHALL BE VERIFIED BY THE ENGINEER; OR CONCRETE MEDIANS PREVENT THE INSTALLATION OF THE PERMANENT SIGNS IN THE APPROPRIATE LOCATION."

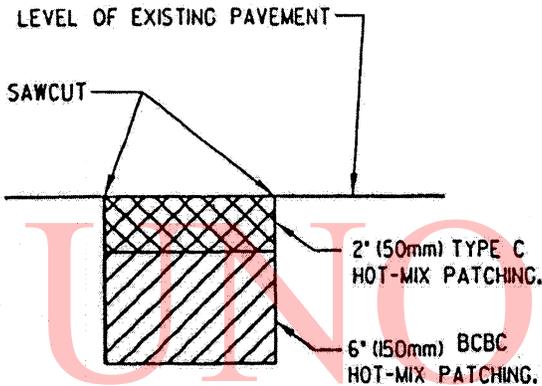
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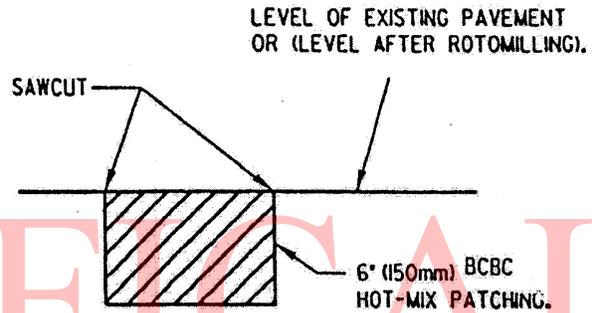
NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET



HOT MIX PATCH - NO OVERLAY

N.T.S.



HOT MIX PATCH - OVERLAY SECTION

N.T.S.

•UNDERCUT EXCAVATION PATCHING TO BE UTILIZED BELOW 8' (200mm) WHEN DIRECTED BY THE ENGINEER.

•UNDERCUT EXCAVATION PATCHING TO BE UTILIZED BELOW 6' (150mm) WHEN DIRECTED BY THE ENGINEER.

NOTE: PREFERRED EXCAVATION METHOD TO BE BY ROTOMILLING. SAWCUTTING EDGES SHALL BE AS DIRECTED BY ENGINEER AND DEPENDENT ON THE CONDITION LEFT BY THE ROTOMILLING OPERATION.

BACKFILL FOR UNDERCUT EXCAVATION SHALL BE SUPERPAVE BCBC PATCH (SEPERATE LIFT).

MINIMUM WIDTH OF PATCHING 6' (1.8M).

THIS DETAIL SHALL BE USED FOR ALL HOT MIX PATCHES UNLESS OTHERWISE SHOWN ON THE PLANS.

ALL HOT MIX TO BE PLACED USING A PAVER.

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 ROTOMILLING OF THE CONCRETE WILL BE PAID FOR AS ROTOMILLING HOT-MIX.

P.C.C. PATCHING NOTES

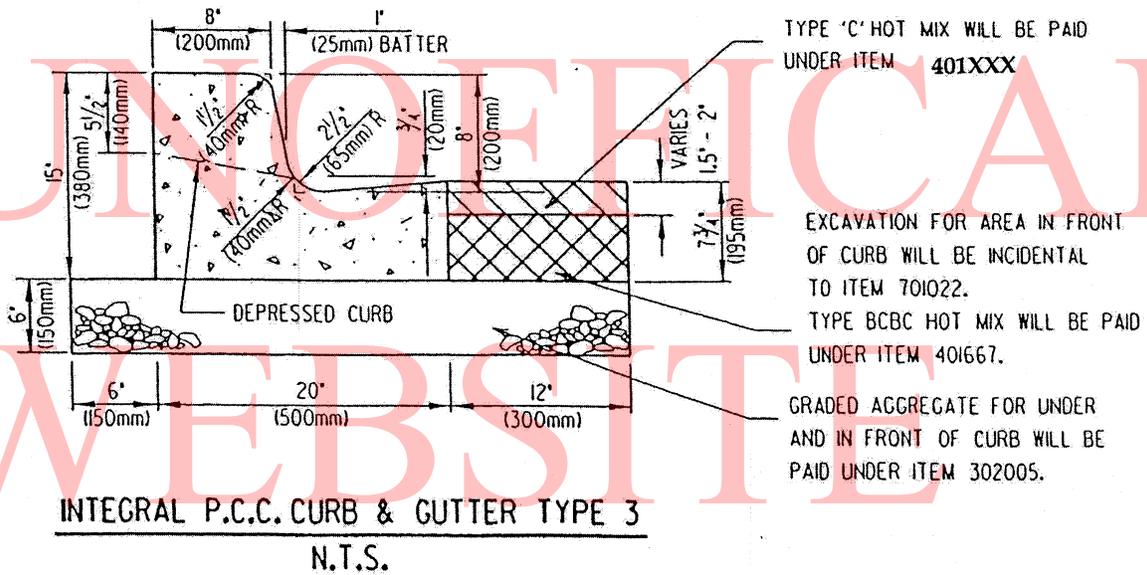
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

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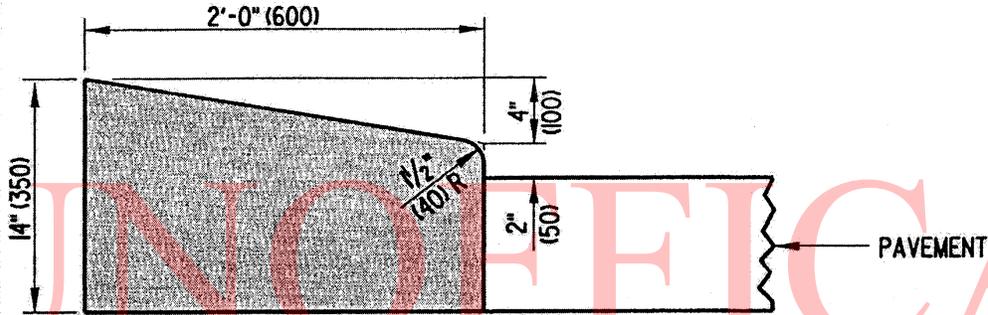
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET



P.C.C. CURB
TYPE 2

NOTES:

1. WHEN P.C.C. CURB OR INTEGRAL P.C.C. CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON STANDARD P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2. DEPRESS CURB AT ENTRANCES AS DETAILED ON THIS SHEET.
3. DEPRESS CURB FLUSH WITH PAVEMENT AT CURB RAMPS. MAXIMUM SLOPE OF CURB AT CURB RAMPS IS 20:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE STANDARD NO C-2, 1 OF 4.
4. DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT NOSE OF ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 12:1.

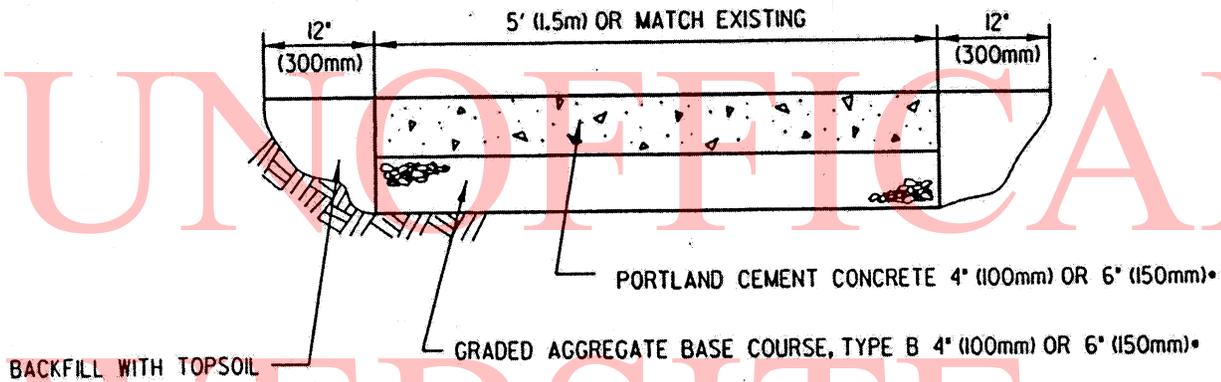
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET



P.C.C. SIDEWALK
N.T.S.

• NOTE: 6" (150mm) CONCRETE OVER 6" (150mm) GRADED AGGREGATE TO BE USED FOR DRIVEWAY PLACEMENT

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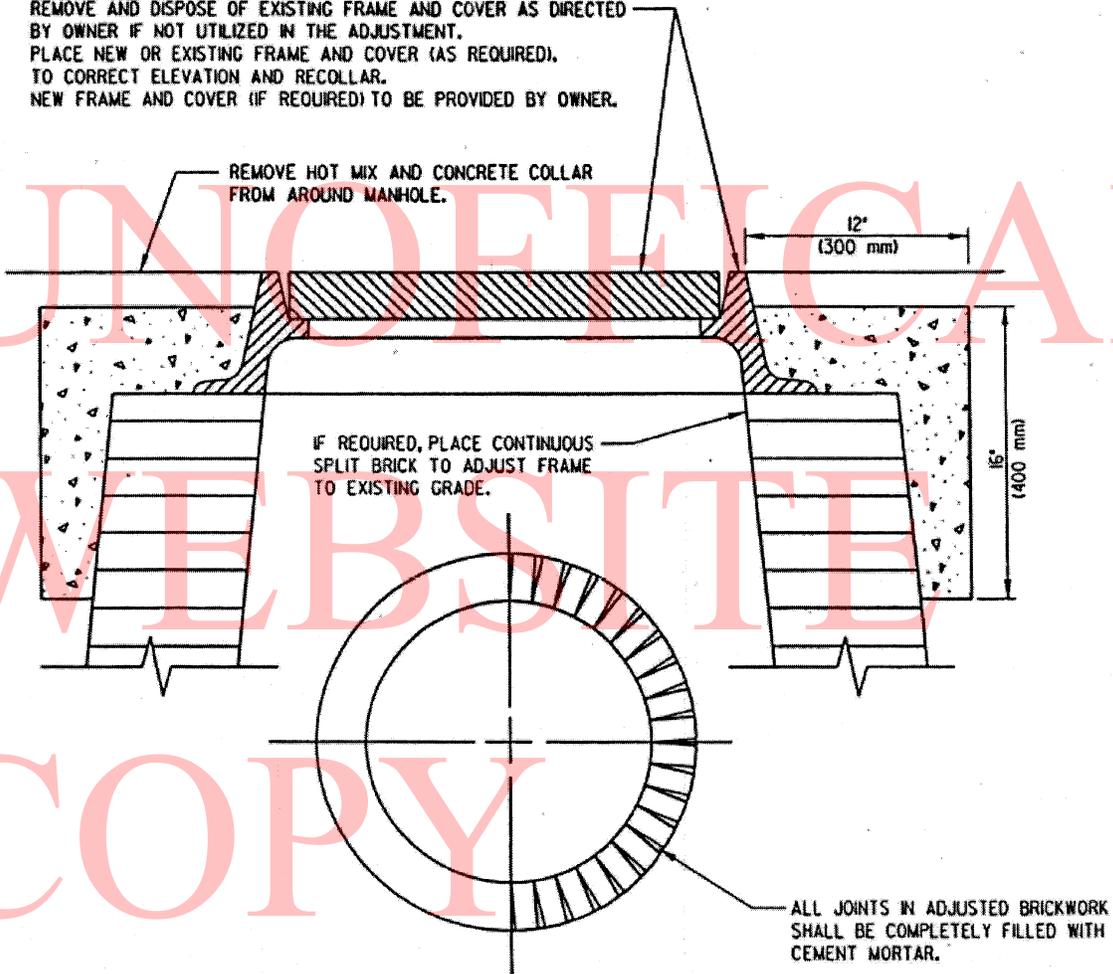
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

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.

DELAWARE DEPARTMENT OF TRANSPORTATION

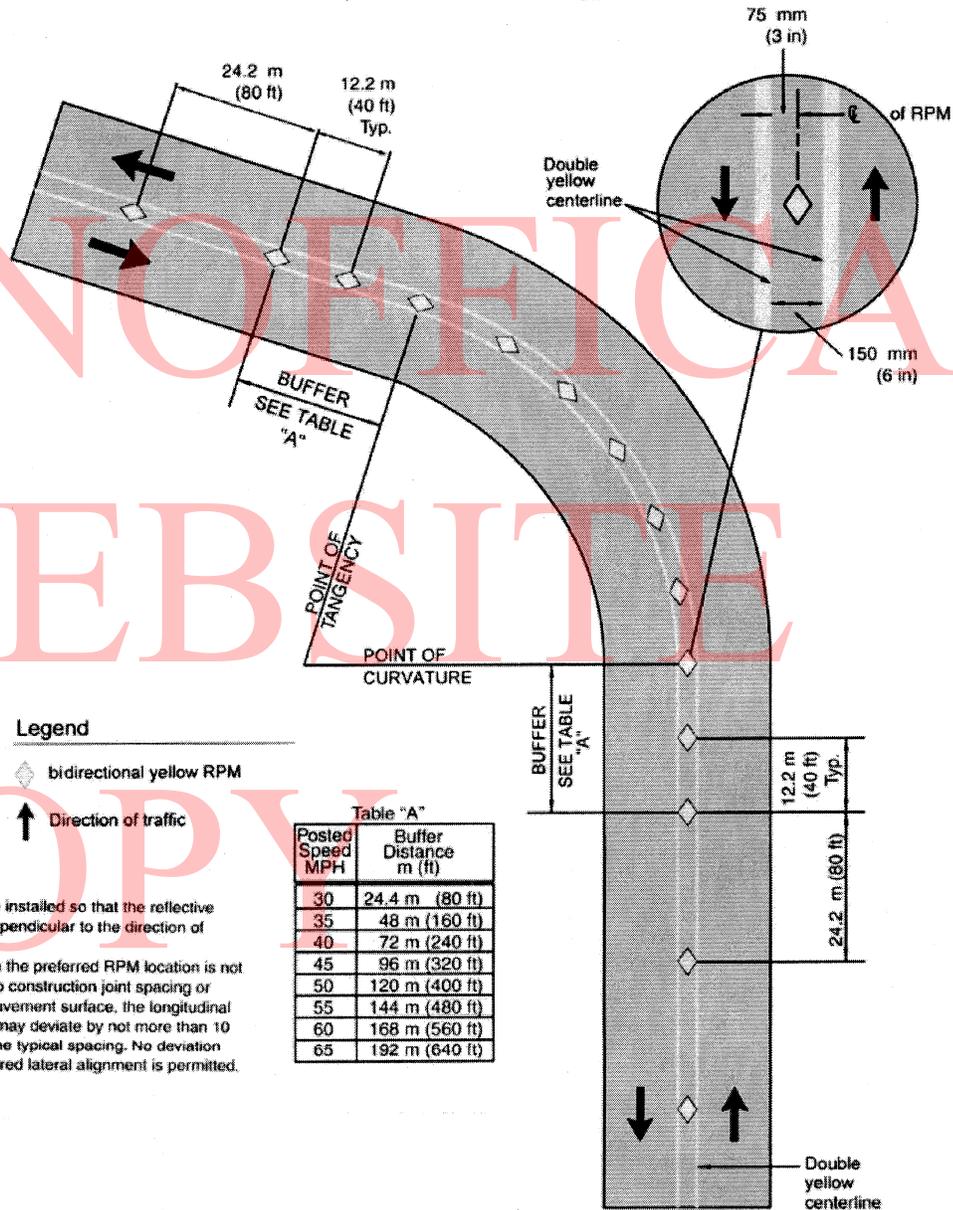
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET

Figure 3B-13D. Example of Raised Pavement Marker (RPM) Application on Arterial and Other Two Lane Roads (DeIDOT MUTCD Only)



Legend

- ◆ bidirectional yellow RPM
- ↑ Direction of traffic

General Notes:

1. RPM's shall be installed so that the reflective element is perpendicular to the direction of traffic
2. In cases where the preferred RPM location is not practical due to construction joint spacing or deteriorated pavement surface, the longitudinal RPM spacing may deviate by not more than 10 percent from the typical spacing. No deviation from the preferred lateral alignment is permitted.

Posted Speed MPH	Buffer Distance m (ft)
30	24.4 m (80 ft)
35	48 m (160 ft)
40	72 m (240 ft)
45	96 m (320 ft)
50	120 m (400 ft)
55	144 m (480 ft)
60	168 m (560 ft)
65	192 m (640 ft)

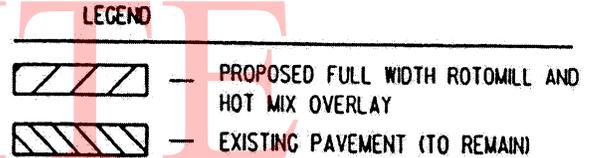
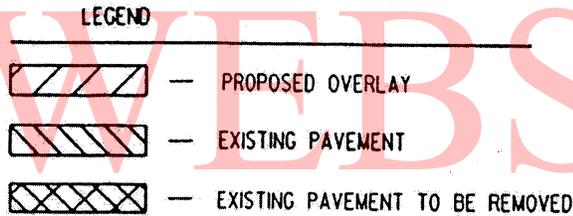
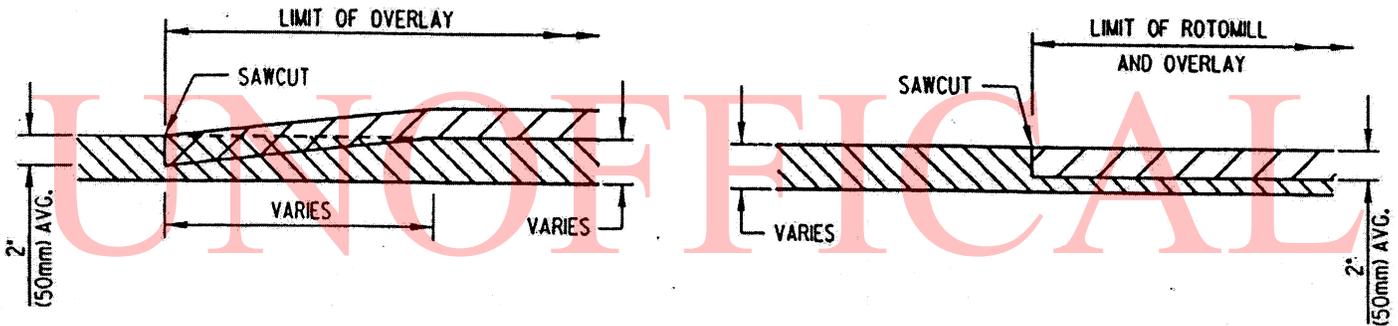
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET



BUTT JOINT FOR OVERLAY SECTION

PAYMENT UNDER ITEM 76100L

HOT MIX JOINT FOR FULL WIDTH ROTOMILL SECTION

PAYMENT INCIDENTAL TO ITEM 760XXX, ROTOMILLING.

HOT MIX JOINT DETAIL

•NOTE: THE FOLLOWING LENGTHS ARE BASED ON THE POSTED SPEED OF THE ROADWAY:
 LESS THAN 50 MPH = 20 FT (6m) PER 1" (25mm) OF OVERLAY DEPTH.
 EQUAL TO OR GREATER THAN 50 MPH = 30 FT (9.1m) PER 1" (25mm) OF OVERLAY DEPTH.
 AT STOP SIGNS = 15 FT (4.6m) PER 1" (25mm) OF OVERLAY DEPTH.

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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET

Project Note

The contractor shall attach a device to the screed of the paver that confines the material at the end gate and extrudes the asphalt material in such a way that results in a compacted wedge shape pavement edge of approximately 30 degrees (not steeper than 35 degrees). Contact shall be maintained between the device and the road shoulder surface. The device shall be manufactured so that it can be easily adjusted to transition at cross roads, driveways and obstructions without stopping the paver. The device's shape shall constrain the asphalt and cause compaction and increasing the density of the extruded profile.

The TransTech Shoulder Wedge Maker or the Advant-Edge shall be used to produce the wedge.

Contact information for these wedge shape compaction devices is the following:

1. TransTech Systems, Inc.
1594 State Street
Schenectady, NY 12304
1-800-724-6306
www.transtechsys.com
2. Advant-Edge Paving Equipment LLC
P.O. Box 9163
Niskayuna, NY 12309-0163
Ph. 518-280-6090
Contact: Gary D. Antonelli
Cell 518-368-5699
email: garya@nycap.rr.com
Website: www.advantedgepaving.com

The wedge shall not be installed adjacent to curb or in front of guardrail sections.

The cost of the wedge device and all other work needed to construct the wedge, including but not limited to preparation of the shoulder surface, additional fill, and compaction, in accordance with this note and the details on the plans shall be incidental to the hot-mix item being placed.

Safety Edge Detail

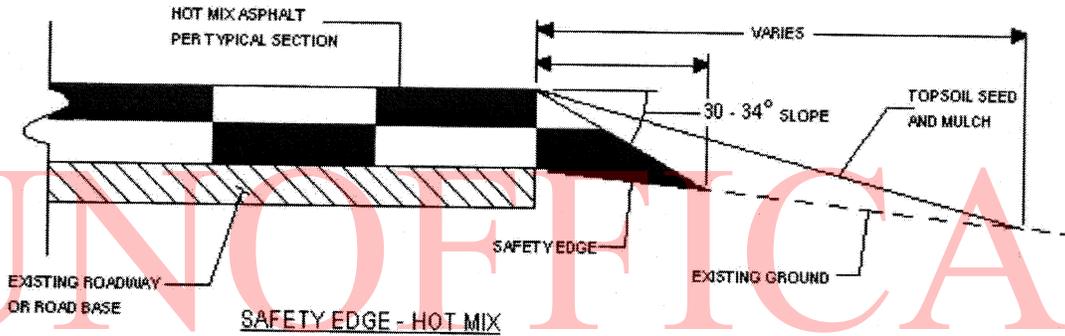
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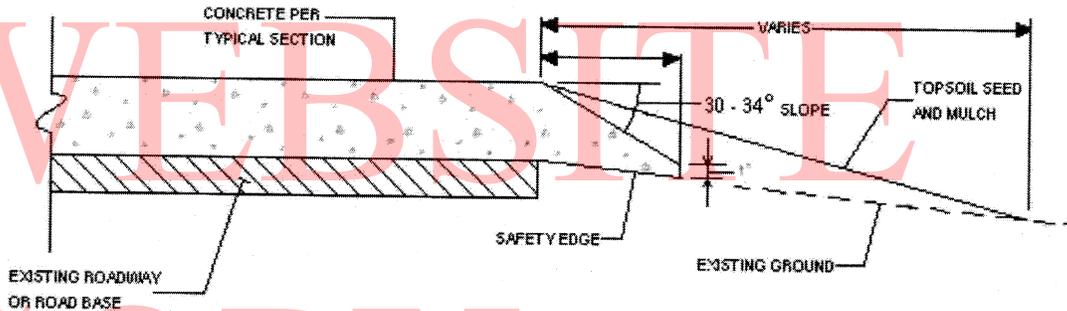
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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

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SAFETY EDGE - HOT MIX



SAFETY EDGE - CONCRETE

GENERAL NOTES

1. THE SAFETY EDGE WILL BE CONSTRUCTED AS PART OF THE ROADWAY PAVEMENT. A SHOULDER WEDGE DEVICE WILL BE ADDED TO THE SCREED OF THE PAVING MACHINE.
2. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITION AND TURNOUTS.
3. SITE PREPARATION AND ADDITIONAL EARTHWORK REQUIRED TO CONSTRUCT THE SAFETY EDGE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

SAFETY EDGE DETAIL

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NORTH MAINTENANCE MITCHELL RD (RD237A) FROM OLD WILMINGTON RD (RD275) TO I

DETAILS SHEET

*Table 6G-1. Vertical Difference
(DeIDOT MUTCD Only)*

Type of Vertical Difference	Type of Direction	Height of Vertical Difference			
		1" (25mm) or less	greater than 1" (25mm) to 2" (50mm)	greater than 2" (50mm) to 6" (150mm)	greater than 6" (150mm)
Longitudinal less than 12 FT (3.7m) from edge of Travelway.	Standard	No channelizing devices required.	For differences along or between travelways, the UNEVEN LANES (W8-11) sign shall be used. For differences between the travelway and a shoulder, or at the edge of pavement less than 10 FT (3m) from the travelway, the LOW SHOULDER (W8-9) sign shall be used.	At the end of the work day, a fillet of material, a wedge of gravel, or other suitable material as directed by the Chief Traffic Engineer or designee shall be placed in a manner that will provide stability for errant vehicles. This material shall be placed no steeper than a 4 to 1 slope. Temporary traffic barrier shall be used if fillet cannot be placed. Drums shall be used throughout vertical difference condition, until fillet is placed. (1) Warning signs shall be used.	Temporary traffic barrier shall be used. Work area shall be limited to distances of not more than 1,000 FT (305m). (1)
	Guidance		Wedge not required, however, vertical difference should be eliminated within 5 calendar days. Drums should be used throughout vertical difference condition. If there is no shoulder or the shoulder is less than 4' wide, a fillet of material must be placed by the end of each work day. Work area should be limited to distances of not more than 1,000 FT (305m). (1)	Cases should be used to determine additional devices required for specific operations. Work area should be limited to distances of not more than 1,000 FT (305m). (1)	Cases should be used to determine additional devices required for specific operations.
Longitudinal from 12 FT (3.7m) to 30 FT (9.1m) from edge of Travelway. (2),(3)	Standard	No channelizing devices required.	No channelizing devices required.	Drums shall be used throughout vertical difference condition. (2)	Drums shall be used throughout vertical difference condition. (2)
Transverse	Standard	No channelizing devices required.	BUMP (W8-1) or DIP (W8-2) sign shall be used.	Ramp with Bituminous Temporary Roadway Material at a slope of 20 to 1 or flatter.	Ramp with Bituminous Temporary Roadway Material at a slope of 20 to 1 or flatter.

(1) Unless otherwise directed by the Chief Traffic Engineer or designee.

(2) No channelizing devices are required if the vertical difference is:

- outside right-of-way.
- behind guardrail, barrier or curb.

(3) No channelizing devices are required if the vertical difference is further than 30 FT (9.1m) from the edge of roadway.

The edge of the travelway shall be defined as the white stripe. If there is no white line, the curb or the edge of pavement shall be the edge of travelway.

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 1 237(LANCASTER PIKE) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271)

LENGTH 1993.3920 m 6540.0000 L.F. AADT 29776

GENERAL IMPROVEMENTS

2" PROFILE MILL, HOT-MIX PATCHING, 2" WMA TYPE C 76-22, EXTENSION OF LEFT TURN LANES @ LANCASTER PIKE AND SR 141 (SEE PLAN SHEETS)

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 1

202000	EXCAVATION AND EMBANKMENT	140.00 C.Y.
208001	FLOWABLE FILL	5.00 C.Y.
302005	GRADED AGGREGATE BASE COURSE, TYPE B	150.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	150.00 TON
401816	WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 76-22	50.00 TON
401819	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22	70.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	250.00 TON
401833	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 76-22, (NON-CARBONATE STONE)	6,400.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	50.00 TON
406001	HOT-MIX PATCHING	1,800.00 SY-IN
612002	REINFORCED CONCRETE PIPE, 15", CLASS III	4.00 L.F.
701022	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3	80.00 L.F.
701025	PORTLAND CEMENT CONCRETE CURB, TYPE 2 MODIFIED	330.00 L.F.
705001	P.C.C. SIDEWALK, 4"	125.00 S.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	50.00 S.F.
705009	CURB RAMP, TYPE 2, 3, AND/OR 4	1,000.00 S.F.
705010	CURB RAMP, TYPE 5	800.00 S.F.
705524	DECTABLE WARNINGS RETROFIT	150.00 S.F.
708051	DRAINAGE INLET, 34" X 24"	2.00 EACH
708500	REPLACING CATCH BASIN GRATES	5.00 EACH
708504	REPLACING CATCH BASIN FRAMES	5.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	15.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	6.00 EACH
716000	CONVERTING EXISTING DRAINAGE INLET TO JUNCTION BOX	1.00 EACH
743003	ARROWPANELS, TYPE C	30.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	10.00 EA-DY
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	30.00 EA-DY

DELAWARE DEPARTMENT OF TRANSPORTATION

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 1 237(LANCASTER PIKE) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271)

LENGTH 1993.3920 m 6540.0000 L.F. AADT 29776

GENERAL IMPROVEMENTS

2" PROFILE MILL, HOT-MIX PATCHING, 2" WMA TYPE C 76-22, EXTENSION OF LEFT TURN LANES @ LANCASTER PIKE AND SR 141 (SEE PLAN SHEETS)

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 1

743050	** FLAGGER, NEW CASTLE COUNTY, STATE	1,000.00 HOUR
743062	** FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	100.00 HOUR
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	1,000.00 L.F.
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	3,500.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	50,200.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	7,000.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	700.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	25,100.00 L.F.
758000	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	440.00 S.Y.
760505	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVEMENT MILLING SURCHARGE	1,400.00 S.Y.
760507	PROFILE MILLING, HOT-MIX	115,000.00 SY-IN
762001	SAW CUTTING, HOT MIX	750.00 L.F.
762002	SAW CUTTING, CONCRETE, FULL DEPTH	100.00 L.F.
763621	CONSTRUCTION ENGINEERING, RE-SURFACING	0.40 L.S.

** DENOTES FIXED PRICE ITEM

NORTH
MAINTENANCE

PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 1 237(LANCASTER PIKE) FROM CENTERVILLE RD (RD272) TO ROUTE 141 (RD271)

COMMENTS:

Restricted Work Hours: 8:00 AM to 4:00 PM

Recommended Traffic Control: Case #7 - Roadway
Case #3 - Shoulders
Case #16 - Sidewalk

Curb Ramp Locations:

Courtney Rd. - 1
Stone Barn Lane - 2
Masonic Home - 1
Harlech Dr. - 1

PLEASE NOTE: TOPSOIL AND SEEDING AROUND THE CURB RAMPS WILL BE INCIDENTAL TO THE CURB RAMP ITEMS.

Entrance and Driveway Locations:

Courtney Rd. 40'
Hedgerow Place entrance 70'
Hedgerow Place exit 70'
Stone Barn Lane 20'
Harlech Dr. 70'

Manhole Adjustments:

2 - DelDOT Storm
3 - NCCDSS
1 - Verizon
1 - Delmarva Gas valve by others

General Notes:

Removal of deteriorated open-grade hot-mix

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 2 **237A(MITCHELL RD) FROM OLD WILMINGTON RD (RD275) TO LANCASTER PIKE (RD237)**

LENGTH 304.8 m 1000 L.F. AADT 1545

GENERAL IMPROVEMENTS

HOT-MX PATCHING, 2" WMA TYPE C 64-22 OVERLAY

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 2

401576	RECYCLED ASPHALT PAVEMENT	150.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	40.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	250.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	270.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	20.00 TON
406001	HOT-MIX PATCHING	4,600.00 SY-IN
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	10.00 EA-DY
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	5.00 EA-DY
743050	** FLAGGER, NEW CASTLE COUNTY, STATE	100.00 HOUR
743062	** FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	10.00 HOUR
748019	TEMPORARY MARKINGS, PAINT, 4"	150.00 L.F.
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	150.00 L.F.
761001	BUTT JOINTS, HOT MIX	200.00 S.Y.
762001	SAW CUTTING, HOT MIX	300.00 L.F.

** DENOTES FIXED PRICE ITEM

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 2 237A(MITCHELL RD) FROM OLD WILMINGTON RD (RD275) TO LANCASTER PIKE
(RD237)

COMMENTS:

Restricted Work Hours: 8:00 AM to 4:00PM

Recommended Traffic Control: Case #6

Curb Ramp Locations:

No curb ramps anticipated at this location

Entrance and Driveway Locations:

#100 20'
#102 20'
#104 20'
#112 20'
#116 20'
#120 20'
#113 20'

Manhole Adjustments:

No manhole adjustments anticipated at this location

General Notes:

Item 401576 for edge drop-offs

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 3 **300(OLD LANCASTER PIKE - SOUTH SECTION) FROM ERICKSON DR TO LANCASTER PIKE (RD237)**

LENGTH 1513.332 m 4965 L.F. AADT 2887

GENERAL IMPROVEMENTS

2" PROFILE MILL, HOT-MIX PATCHING, 2" WMA TYPE C 64-22

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 3

302005	GRADED AGGREGATE BASE COURSE, TYPE B	20.00 TON
401511	REMOVE AND CONSTRUCT SPEED HUMP	70.00 L.F.
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	250.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	800.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	1,800.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	20.00 TON
406001	HOT-MIX PATCHING	14,500.00 SY-IN
705001	P.C.C. SIDEWALK, 4"	400.00 S.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	80.00 S.F.
705009	CURB RAMP, TYPE 2, 3, AND/OR 4	1,400.00 S.F.
708500	REPLACING CATCH BASIN GRATES	5.00 EACH
708504	REPLACING CATCH BASIN FRAMES	5.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	5.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	10.00 EACH
716502	CONVERTING EXISTING CATCH BASIN TO DRAINAGE INLET	7.00 EACH
743003	ARROWPANELS, TYPE C	20.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	10.00 EA-DY
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	20.00 EA-DY
743050	** FLAGGER, NEW CASTLE COUNTY, STATE	1,000.00 HOUR
743062	** FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	100.00 HOUR
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	160.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	44,000.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	320.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	120.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	22,000.00 L.F.
760505	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVEMENT MILLING SURCHARGE	2,300.00 S.Y.
760507	PROFILE MILLING, HOT-MIX	32,730.00 SY-IN

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PAVEMENT & REHABILITATION, NORTH II, 2011

LOCATION 3 300(OLD LANCASTER PIKE - SOUTH SECTION) FROM ERICKSON DR TO
LANCASTER PIKE (RD237)

LENGTH 1513.332 m 4965 L.F. AADT 2887

GENERAL IMPROVEMENTS

2" PROFILE MILL, HOT-MIX PATCHING, 2" WMA TYPE C 64-22

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 3

762001	SAW CUTTING, HOT MIX	300.00 L.F.
763621	CONSTRUCTION ENGINEERING, RE-SURFACING	0.60 L.S.

** DENOTES FIXED PRICE ITEM

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PAVEMENT & REHABILITATION, NORTH II, 2011

**LOCATION 3 300(OLD LANCASTER PIKE - SOUTH SECTION) FROM ERICKSON DR TO
LANCASTER PIKE (RD237)**

COMMENTS:

Restricted Work Hours: 8:00 AM to 4:00 PM

Recommended Traffic Control: Case #6 - Roadway
Case #16 - Sidewalk

Curb ramp Locations:

Entrance to Hockesson Montessori School - 1
Kenwick Rd. NB - 2
Kings Grant Rd. NB - 2
Erickson Dr. - 3

PLEASE NOTE: TOPSOIL AND SEEDING AROUND THE CURB RAMPS WILL BE INCIDENTAL TO THE CURB RAMP ITEMS.

Entrance and Driveway Locations:

North Entrance to Hockesson Montessori School 15'
#1031 20'
#1033 15'
#1040 12'
Wyeth Way entrance and exit 45'
Kenwick Rd. entrance and exit - brick template cross walk with white line 25'
Entrance to St. Mary of the Assumption Church 20'
#1083 10'
Kings Grant Rd. - brick template cross walk with white line 10'
School House Rd. 45'
#1105 25'
#1114 10'
#1115 15'
#1121 25'
#1120 10'
#1125 15'
#1124 25'
#1132 10'
#1133 10'
Roser Lane 20'
#1139 20'
#1142 15'
#1144 15'

Manhole Adjustments:

7 - NCCDSS
3 - Verizon
6 - Water valves by others
1 - Delmarva Gas by others

General Notes:

Two schools and one church at this location

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NORTH PAVEMENT & REHABILITATION, NORTH II, 2011
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CONTRACT QUANTITIES SUMMARY SHEET

202000	EXCAVATION AND EMBANKMENT	140.00 C.Y.
208001	FLOWABLE FILL	5.00 C.Y.
302005	GRADED AGGREGATE BASE COURSE, TYPE B	170.00 TON
401511	REMOVE AND CONSTRUCT SPEED HUMP	70.00 L.F.
401576	RECYCLED ASPHALT PAVEMENT	150.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	440.00 TON
401816	WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 76-22	50.00 TON
401819	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22	70.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	1,300.00 TON
401827	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (NON- CARBONATE STONE)	2,070.00 TON
401833	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 76-22, (NON- CARBONATE STONE)	6,400.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	90.00 TON
406001	HOT-MIX PATCHING	20,900.00 SY-IN
612002	REINFORCED CONCRETE PIPE, 15", CLASS III	4.00 L.F.
701022	INTEGRAL PORTLAND CEMENT CONCRETE CURB AND GUTTER, TYPE 3	80.00 L.F.
701025	PORTLAND CEMENT CONCRETE CURB, TYPE 2 MODIFIED	330.00 L.F.
705001	P.C.C. SIDEWALK, 4"	525.00 S.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	130.00 S.F.
705009	CURB RAMP, TYPE 2, 3, AND/OR 4	2,400.00 S.F.
705010	CURB RAMP, TYPE 5	800.00 S.F.
705524	DECTABLE WARNINGS RETROFIT	150.00 S.F.
708051	DRAINAGE INLET, 34" X 24"	2.00 EACH
708500	REPLACING CATCH BASIN GRATES	10.00 EACH
708504	REPLACING CATCH BASIN FRAMES	10.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	20.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	16.00 EACH
716000	CONVERTING EXISTING DRAINAGE INLET TO JUNCTION BOX	1.00 EACH
716502	CONVERTING EXISTING CATCH BASIN TO DRAINAGE INLET	7.00 EACH

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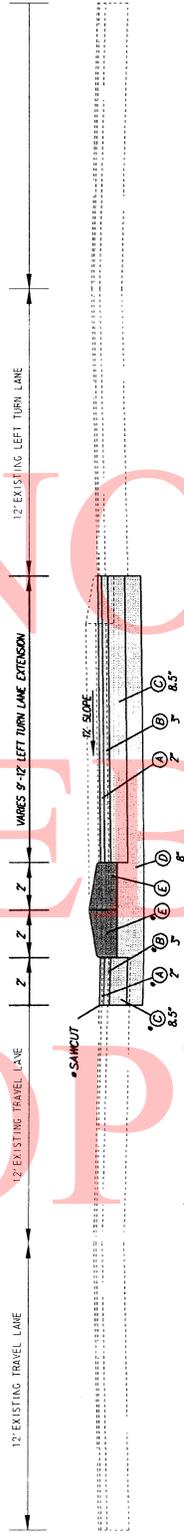
NORTH PAVEMENT & REHABILITATION, NORTH II, 2011
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CONTRACT QUANTITIES SUMMARY SHEET

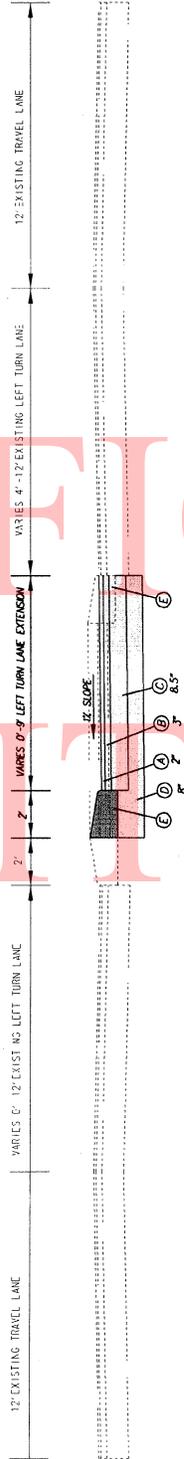
743003	ARROWPANELS, TYPE C	50.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	30.00 EA-DY
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	55.00 EA-DY
743050	** FLAGGER, NEW CASTLE COUNTY, STATE	2,100.00 HOUR
743062	** FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	210.00 HOUR
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	1,000.00 L.F.
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	3,660.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	94,350.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	7,320.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	820.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	47,250.00 L.F.
758000	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	440.00 S.Y.
760505	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVEMENT MILLING SURCHARGE	3,700.00 S.Y.
760507	PROFILE MILLING, HOT-MIX	147,730.00 SY-IN
761001	BUTT JOINTS, HOT MIX	200.00 S.Y.
762001	SAW CUTTING, HOT MIX	1,350.00 L.F.
762002	SAW CUTTING, CONCRETE, FULL DEPTH	100.00 L.F.
763000	INITIAL EXPENSE	LUMP SUM
763621	CONSTRUCTION ENGINEERING, RE-SURFACING	1.00 L.S.
763643	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP SUM

** DENOTES FIXED PRICE ITEM

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**SR 48 LANCASTER PIKE
STATION 124+00 TO STATION 126+50**



**SR 48 LANCASTER PIKE
STATION 123+00 TO STATION 124+00**

*SAWCUT AS NEEDED, DIRECTED BY THE ENGINEER IN THE FIELD AT ANY POINTS WHERE EXISTING CURB ON THE WEST BOUND SIDE IS IN NEED OF REPLACEMENT OR REPAIR.

LEGEND

- A 401425 - SUPERPAVE WMA, TYPE B, PG 6A-22
- B 401815 - SUPERPAVE WMA, TYPE B, PG 6A-22
- C 401823 - SUPERPAVE WMA, B.C.B.C., PG 6A-22, TWO LIFTS 1" & 45°
- D 502069 - GRADED AGGREGATE BASE COURSE, TYPE B
- E 701025 - PORTLAND CEMENT CONCRETE CURB, TYPE 2 MODIFIED

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUM / REVISIONS		CONTRACT 120106102	SHEET NO. 1	PROJECT NO. NVA	TYPICAL SECTIONS
			COUNTY N.C.	DESIGNED BY: TEL	CHECKED BY: FSB	TOTAL SHEETS 3
PAVEMENT AND REHABILITATION, NORTH II, 2011						
NOT TO SCALE						



SIGNING LEGEND

- ① REMOVE EXISTING SIGN
- ② EXISTING SIGN TO REMAIN
- ③ PLACE NEW SIGN
- ④ RENEW EXISTING SIGN
- ⑤ REPOSITION EXISTING SIGN

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	PORTLAND CEMENT CONCRETE CURB TYPE 2	306.00 LF
2	PORTLAND CEMENT CONCRETE CURB TYPE 2	20.00 LF

DRAINAGE INLET SCHEDULE

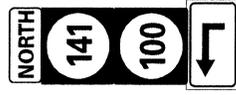
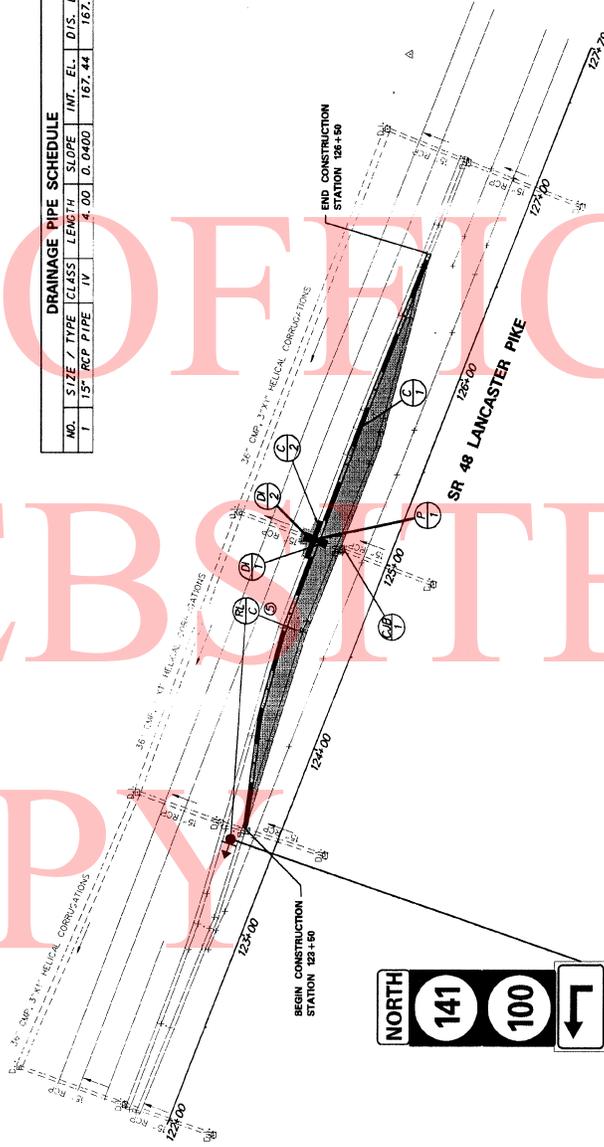
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.C. EL.	INV. EL.
1	125+00.00	33.53	34" X 22"	4	174.28	167.44
2	125+00.00	41.60	34" X 22"	4	174.19	167.21

CONVERT TO JUNCTION BOX SCHEDULE

NO.	STATION	OFFSET	T.C. EL.	INV. EL.
1	125+00.00	23.73	172.14	167.96

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	D.IS. EL.
1	15" RCP PIPE	IV	4.00	0.0400	167.44	167.28



 DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE: 1" = 30'	CONTRACT NO. T20106102 COUNTY N.C.	IMA DESIGNED BY: TEL CHECKED BY: TEE	SHEET NO. 2 TOTAL SHEETS 3
	PAVEMENT AND REHABILITATION, NORTH II, 2011			CONSTRUCTION PLAN	

DATUM REFERENCE:
 HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).
 VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88 AND BASED ON THE FOLLOWING STATE OF DELAWARE BENCHMARKS ESTABLISHED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION:
 GPS *LPIA, ELEVATION 178.67
 GPS *LPOI, ELEVATION 188.98

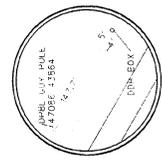
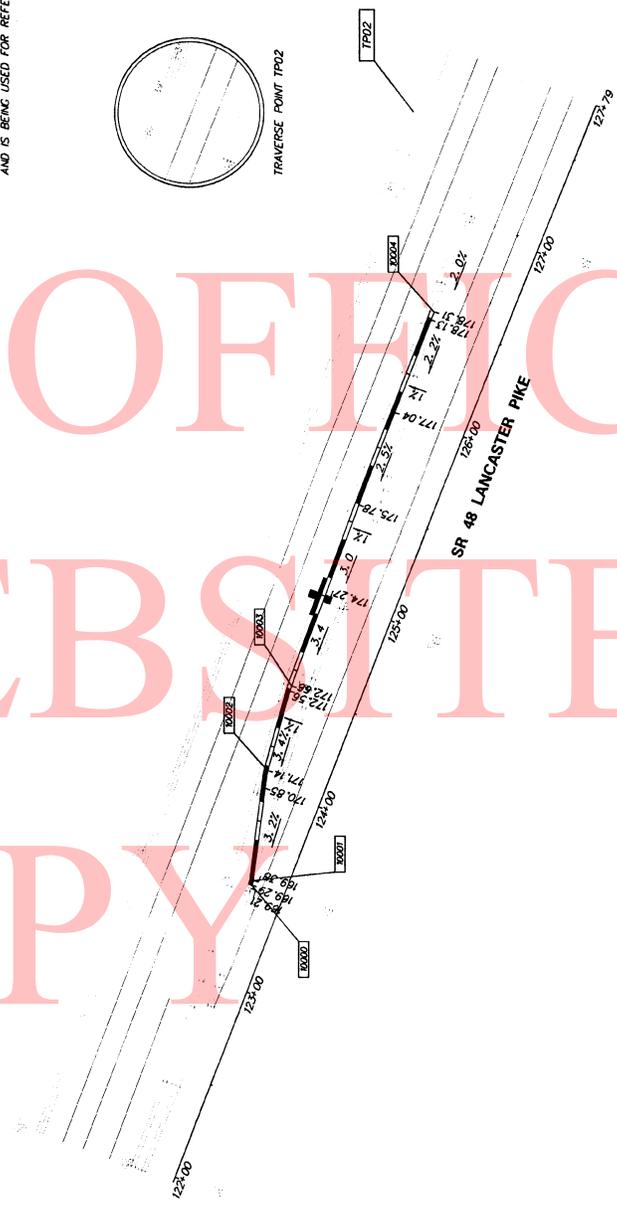
COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
10000	123+51.2724	-17.0041	640854.6862	602832.1756
10001	123+54.2826	-17.2058	640853.9795	602834.5815
10002	124+08.7969	-30.4838	640846.7741	602889.7414
10003	124+52.7927	-34.8328	640834.8774	602832.1765
10004	126+54.3460	-36.6929	640760.1950	603120.4801

HORIZONTAL / VERTICAL CONTROL DATA

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
TP02	127+42.3480	-83.5717	640773.0042	603327.1882	175.6716
TP01	124+80.3723	603876.1869	188.9498		

* TP01 IS OUTSIDE THE SURVEY LIMITS. THEREFORE, IT IS A WELL DEFINED POINT, AND IS BEING USED FOR REFERENCE PURPOSES.



TRAVERSE POINT TP01

SHEET NO.	3
TOTAL SHEETS	3

CONTRACT	T20106102
COUNTY	N.C.

PAVEMENT AND REHABILITATION, NORTH II, 2011

DESIGNED BY: TEL	
CHECKED BY: TRB	

ADDENDUMS / REVISIONS	
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DELAWARE DEPARTMENT OF TRANSPORTATION

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