

THE STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION
MAINTENANCE AND OPERATIONS
CONSTRUCTION PLANS AND SPECIFICATIONS FOR

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

CONTRACT NUMBER - T201906306.01

PRIMAVERA ID - 18-12010

FEDERAL AID NUMBER - NONE

COUNTY: SUSSEX

PLANS PREPARED BY: *T. P. [Signature]*
DESIGNER

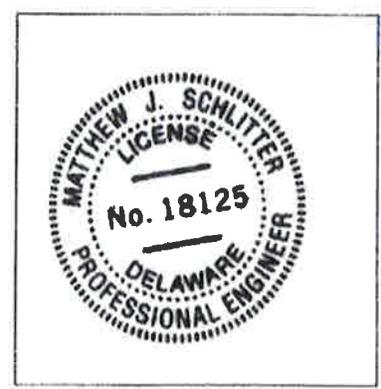
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DELDOT STORMWATER ENGINEER: *Vincent W. Davis, P.E.* DATE: *21 JAN 20*

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND THAT ALL CLEARING, GRADING, AND CONSTRUCTION WILL BE ACCOMPLISHED PURSUANT TO THE PLAN."

Matthew J. Schlitter
DELDOT - CE IV/PROJECT MANAGER
MAINTENANCE AND OPERATIONS - (SOD)

1/21/20
DATE



THIS SEAL APPLIES TO ALL SHEETS
BEARING THE "SOD" SECTION
DESIGNATION

APPROVED FOR ADVERTISEMENT
[Signature]
DIRECTOR OF MAINTENANCE AND OPERATIONS

2-19-2020
DATE

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SOUTH MAINTENANCE

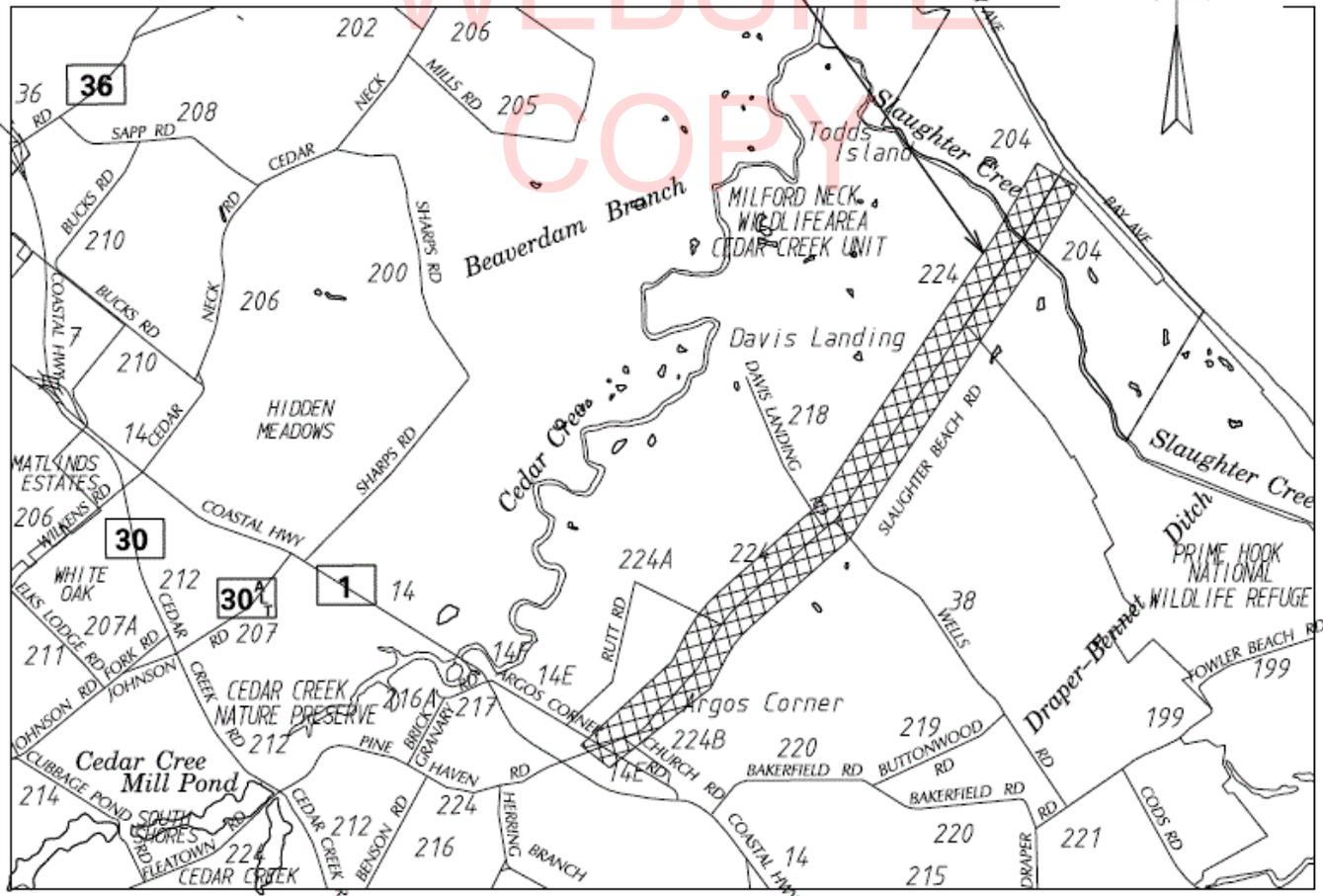
SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

CONTRACT DESCRIPTION & LOCATION MAP

The purpose of this contract is to rebuild the existing shoulders, mill, and prepare existing roadway for chip seal and fog seal. Chip seal and fog seal operations shall be completed by DeIDOT District forces and all work shall be coordinated with the District. The location is listed below, however the Department reserves the right to add or delete locations and/or quantities with no change in unit prices. The work shall include milling, excavation of existing shoulder area, placement of GABC, bituminous paving of existing shoulder, guardrail improvements, striping, topsoiling, seeding, restoration, maintenance of traffic (MOT) and any other work associated with this location. This project does not include any extensions of existing shoulders or placement of new shoulders where shoulders do not currently exist.

Location	Rd Description	From	To	Length
1	S224 (Slaughter Beach Rd)	S14E (Argos Corner Rd)	S204 (Bay Ave)	3.68 miles

LOCATION 1
S224 SLAUGHTER BEACH RD
FROM S14E ARGOS CORNER RD
TO S204 BAY AVE



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SOUTH MAINTENANCE

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

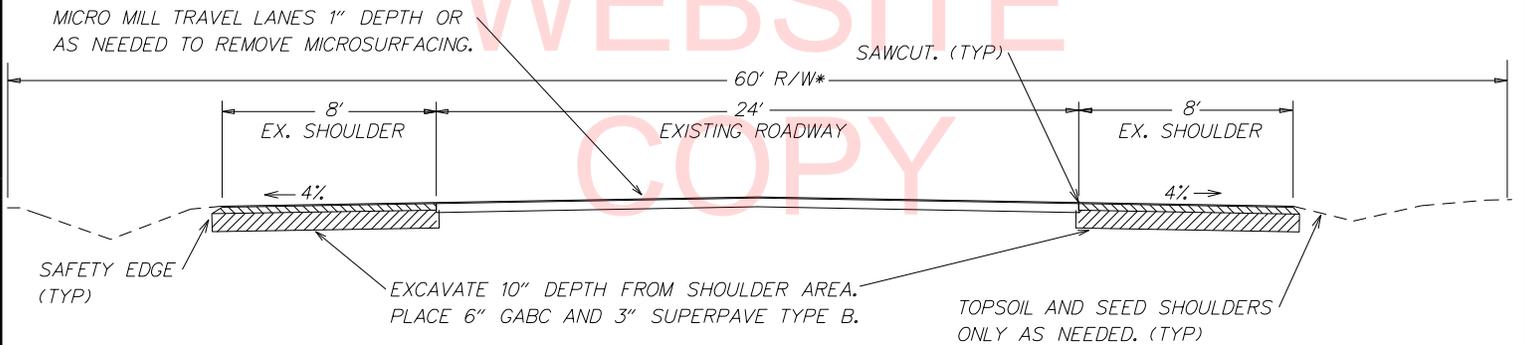
SLAUGHTER BEACH RD TYPICAL SECTIONS

SCOPE OF WORK

1. SET UP ALL MOT DEVICES PER DELAWARE MUTCD. (ITEM 801500)
2. SAWCUT SHOULDER EDGE LINE. (ITEM 762000)
3. EXCAVATE SHOULDER AREAS PER PLANS AND/OR AS INSTRUCTED BY THE ENGINEER. (ITEM 202000)
4. PLACE ONE - 6" LIFT OF GABC, COMPACTED. (ITEM 301001)
5. PLACE ONE - 3" LIFT OF SUPERPAVE, TYPC B, COMPACTED*. PROVIDE SAFETY EDGE ON SHOULDER. (ITEM 401014)
6. TOPSOIL AND SEED SHOULDERS ONLY AS NEEDED (ITEMS 908001 AND 908014)
7. MICRO MILL TRAVEL LANES TO REMOVE MICROSURFACING. (ITEM 760505)
8. OTHER CONTRACT ITEMS SUCH AS GUARDRAIL, PATCHING, AND STRIPING SHALL BE SCHEDULED THROUGHOUT AS NEEDED SO AS TO MINIMIZE TRAFFIC IMPACTS AND ELIMINATE THE DOUBLING OF EFFORTS.
9. UPON COMPLETION, ALL MOT DEVICES SHALL BE REMOVED. (ITEM 801500)
10. ALL EDGE DROP OFFS SHALL BE BACKED UP NIGHTLY PER THE DELAWARE MUTCD. (INCIDENTAL TO ITEM 801500)
11. STRIPING NOTES: TEMPORARY STRIPING SHALL BE PLACED DAILY AS REQUIRED BY THE DELAWARE MUTCD.

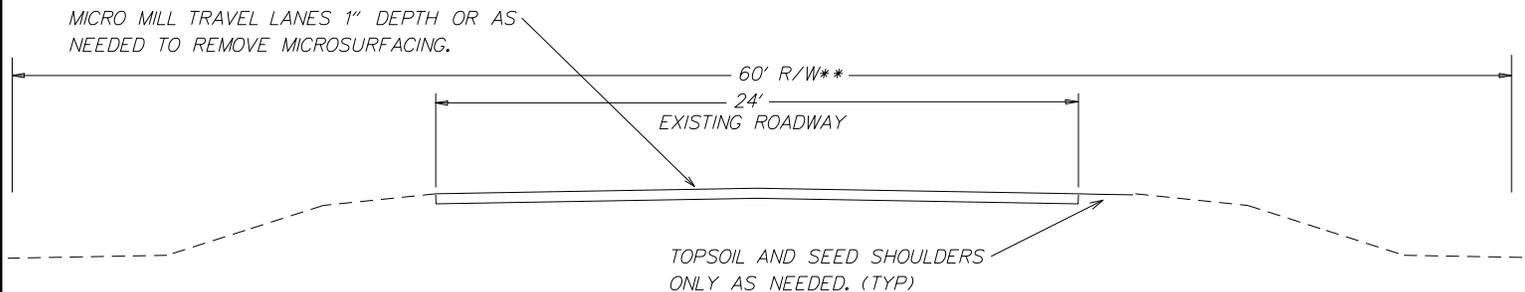
TEMPORARY STRIPING SHALL BE PLACED AGAIN IMMEDIATELY AFTER COMPLETION OF SURFACE TREATMENT.
 TEMPORARY STRIPING SHALL BE PLACED AGAIN IMMEDIATELY AFTER COMPLETION OF FOG SEAL.
 PERMANENT STRIPING SHALL BE PLACED WITHIN 5 DAYS AFTER COMPLETION OF FOG SEAL.

*THE CONTRACTOR SHALL ENSURE THAT FINAL ROADWAY MILLING AND SHOULDER PAVEMENT ELEVATIONS MATCH AND PROVIDE SMOOTH TRANSITION FOR NEW SURFACE TREATMENT AND FOG SEAL. THERE SHALL BE NO IRREGULARITIES PERMITTED AT THE JOINT.



ROADWAY IMPROVEMENTS CROSS SECTION WHERE SHOULDERS ARE PRESENT

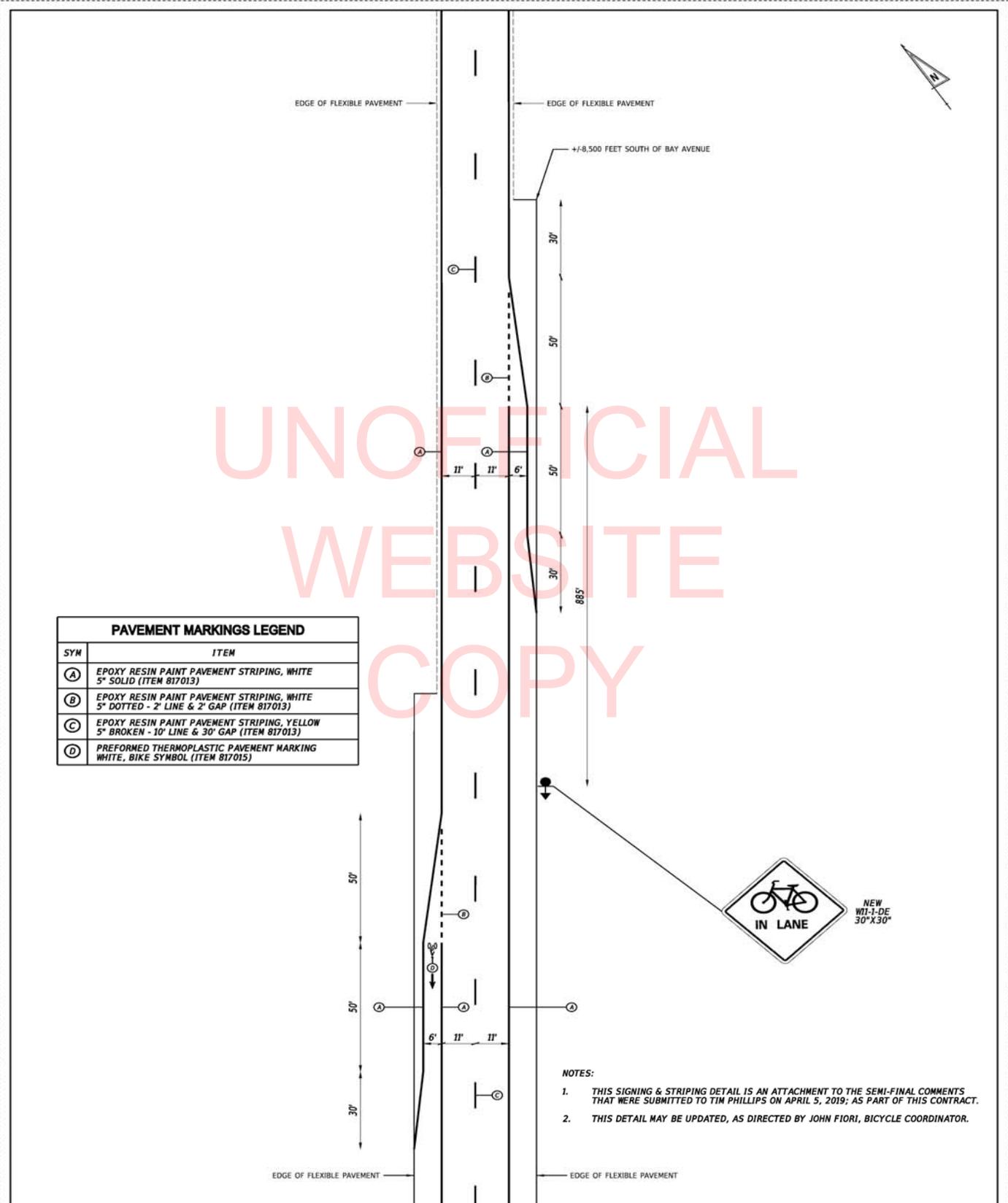
STATION 0+00 - 149+00



ROADWAY IMPROVEMENTS CROSS SECTION WHERE NO SHOULDERS ARE PRESENT

STATION 149+00 - 194+60

*60' R/W PER CONTRACT SSR7940
 **60' R/W PER CONTRACT 73-040-05



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PAVEMENT MARKINGS LEGEND	
SYM	ITEM
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 2' GAP (ITEM 817013)
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)
(D)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)



- NOTES:**
- THIS SIGNING & STRIPING DETAIL IS AN ATTACHMENT TO THE SEMI-FINAL COMMENTS THAT WERE SUBMITTED TO TIM PHILLIPS ON APRIL 5, 2019; AS PART OF THIS CONTRACT.
 - THIS DETAIL MAY BE UPDATED, AS DIRECTED BY JOHN FIORI, BICYCLE COORDINATOR.

NOT TO SCALE	SLAUGHTER BEACH ROAD REHABILITATION		CONTRACT ROAD NO. S224	SIGNING AND STRIPING DETAIL	SECTION
			DESIGNED BY: JWB		TD
			CHECKED BY: MS		SHEET NO.
					1

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SOUTH DISTRICT

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

GENERAL CONTRACT NOTES

1. Construction of this contract shall conform to the Delaware Department of Transportation Standard Specifications dated August 2016 as amended by the Supplemental Specifications, the Special Provisions, the most recent Standard Construction Details, the Delaware Manual of Uniform Traffic Control Devices and these plans.
2. 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. 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 Wednesday. Failure to comply will result in a suspension of all contract work with time charges continuing to be assessed.
3. Location listings indicate general limits of construction, major types of improvements, and estimated quantities. During the bidding period, any questions pertaining to locations shall be directed to contract administration. After the award, such questions shall be referred to the District Engineer or their representative.
4. The Department reserves the right to prioritize, substitute, add, or delete locations and quantities at any time during the contract.
5. Any and all construction engineering, including survey and/or layout of pipes, drainage ditches, guardrail, structures, etc., shall be incidental to the items being installed. The contractor should anticipate the need for construction engineering and bid items accordingly.
6. All work added shall be performed at contract unit prices. In the case where contract unit prices are not available the prices are to be negotiated prior to the commencement of work.
7. It will be the responsibility of the District to obtain a trespass agreement for any work outside the existing right of way. No work is anticipated outside of existing right of way.
8. The contractor is reminded that section 105.07 of the standard specifications requires the general contractor to have a competent superintendent or foreman on the project at all times.
9. For full depth pavement construction, curb ramp construction, sidewalk, sidewalk construction, and/or utility relocations, bare soils shall be covered within three (3) calendar days to prevent erosion. This can be accomplished by placing proposed subbase material such as graded aggregate base course (GABC) or geotextile/plastic sheeting that is secured so as to not blow away or be undermined by runoff. No additional payment will be made for the above mentioned work. For this contract, the contractor shall only be permitted to mill out / excavate what can be put back with GABC during the same day's operations.
10. The contractor shall designate an Erosion and Sediment Control Supervisor before any ground disturbance can begin. The Erosion and Sediment Control Supervisor shall be certified as specified in the Delaware Sediment and Stormwater Regulations, Section 6.2 or 6.3 and follow the provisions as outlined in the DeIDOT Standard Specifications, Section 901.

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PROJECT NOTES

11. Unless specified in contract notes, overlay widths shall match existing widths, or as directed by the Engineer.
12. The cost of clipping back the edges of the roadway, shoulders, and the first 3 feet 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. When clipping back roadway edges, all debris, vegetation and/or organics shall be removed as the Engineer and/or Inspector deems acceptable. The edge of the roadway shall be clipped back at a minimum of 6" beyond the edge of pavement to expose the pavement edge. No paving shall be completed on organic soil. The use of a milling machine will not be permitted for this work.
13. Preparing unpaved driveway entrances beyond the first 3' shall be paid under the appropriate contract items. Crack/joint sealing shall be required at all butt joint locations. The cost for this work shall be incidental to section 762 of the 2016 Specifications.
14. All property owners shall be notified when sprinkler heads, fencing, or other personal property is within the construction limits and needs to be relocated. If the contractor damages any personal property due to the contractor's failure to notify the owner of said property, repairs will be made at the contractor's expense. The contractor shall provide proof to the department, that sufficient notification has been issued. This notification shall be incidental to the contract and no separate payments shall be made.
15. Butt joints shall be placed at all intersecting bituminous roads and any other locations as directed by the Engineer. All butt joints shall be saw cut. This saw cut shall be incidental to the butt joint item per section 762. A milled vertical edge will not be acceptable.
16. Joint sealing shall be required at all butt joint locations where Type C is used. The cost for sealing shall be incidental to the butt joint item per section 762 of the 2016 Specifications.
17. Butt joints cut prior to the day of the pavement overlay shall be ramped with bituminous TRM. Bituminous TRM shall be incidental to the corresponding butt joint / milling item. Pavement millings will not be allowed for this purpose. In pavement milling areas, there will be no separate payment for butt joints.
18. After pavement milling, all transverse vertical differences, raised edges of manholes, catch basins, water valve boxes, etc. shall be ramped with bituminous TRM at a 20:1 or flatter slope prior to opening the roadway to traffic. Pavement millings will not be allowed for this purpose. All TRM shall be incidental to the milling item or other corresponding items.
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.

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PROJECT NOTES cont.

21. The minimum and maximum single lift thicknesses of materials shall be as follows:

-Type C:	1.25" - 2.00"
-Type B:	2.25" - 4.00"
-BCBC:	3.00" - 6.00"
-GABC:	0.00" - 8.00"

22. The purpose of the bituminous wedge course, when specified, is to remove existing excessive crown resulting in a final cross slope of between 2% and 4% or as directed by the engineer.
23. A safety edge shall be used on all patches that extend to the edge of the riding surface of the shoulder. A safety edge shall also be placed at edge of all Type B shoulder paving. The safety edge shall be placed on the newly added stone base.
24. Materials used to fill shoulder areas adjacent to new overlays may be one or more of the following materials as directed by the Engineer: 908001-Topsoil or 301003-Graded Aggregate Base Course, Type B. The unit price shall include furnishing, placement, grading and compacting the material. If a wedge course is placed, the shoulder shall be filled with item 209010 Borrow, Type F prior to the top lift of Type C paving. Note that this backfill must be completed no later than the next day even if a safety edge is present. The top 2" shall be filled with topsoil after the final overlay has been completed.
25. All centerline joints shall be straight. Any non-uniform joints as identified by the department shall be immediately saw cut at the contractor's expense prior to the adjacent pass of paving being completed.
26. All utility adjustments shall be made no more than seven (7) calendar days prior to the placement of the final overlay 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.
27. All paving, including turn lanes, shoulders and intersections, is to be completed within seven (7) calendar days of each day's milling operation. Failure to comply will result in a suspension of all other contract work with time charges continuing to be assessed.
28. The contractor shall take care in removing pavement around utilities, butt joints, curbs, etc. so as to not disturb the existing pavement beyond the specified depth. Any damage caused by contractors operation 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 items and/or patching items.
29. Where sidewalks exist within the location limits, curb ramps shall be either newly installed or retrofitted as directed by the engineer in compliance with the most current Delaware Standard Construction Details or as shown on the plans. Payment will be made under the appropriate curb ramp and detectable warning system items.

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PROJECT NOTES cont.

30. Excavation for PCC curbs, sidewalk or valley gutter shall be incidental to the bid price for each respective item. Excavated material, not needed on the project, shall be removed from the project at the contractor's expense. Item 908001, 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" should be present in the material used for backfill. When replacement of curb and gutter has been completed and the forms removed at each location of this contract, backfilling shall be done immediately. Complete restoration, topsoil, seeding, and removal of all materials for curb & gutter or sidewalk; sealing of valley gutters, flow channels and parging of catch basins, shall be completed within seven (7) calendar days. Failure to comply will result in a suspension of all other contract work with time charges continuing to be assessed.
31. 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.
32. Drainage inlets, which are 4' or greater in depth and are slated for repair will have steps installed in accordance with Section 602 of the standard specifications. Payment shall be incidental to the unit price bid for adjusting and repairing drainage inlets.
33. Drainage inlet grates within the location limits that do not meet the standard detail for a Type 1 grate (i.e. don't have 45 degree slots) shall be replaced. The engineer shall determine the actual locations and need for grate or frame modifications. Drainage inlet frames shall include necessary adjustments to meet proposed grades incidental to the drainage inlet frame item. All replaced grates/frames shall be delivered to the nearest district maintenance yard with delivery costs incidental to the appropriate bid items. Payment for replaced grates/frames shall not be made until receipt of delivered materials is produced and signed by a DelDOT maintenance yard supervisor. The cost for the work shall be negotiated prior to the replacement of any drainage inlet grates.
34. The Portland Cement Concrete used for - Adjusting and Repairing Existing Man Holes and- Adjusting Water Valve Boxes shall conform to the requirements of Class A concrete as stated within Section 503.02 of the Standard Specifications.
35. The contractor shall give a two (2) weeks' notice to the property owner when any fixture, shrub or another object must be removed from the right of way or easement area. If the owner has not attempted to salvage this property, the contractor shall remove it without obligation. Compensation shall be incidental to the contract.
36. The Department and the contractor shall inspect all existing pipes and drainage structures to be used in the final drainage system and agree to the condition prior to the start of construction. Existing pipes and drainage structures damaged due to contractor operations shall be repaired or replaced in-kind at the contractor's expense.
37. The Department will video-inspect new pipe runs to confirm condition prior to acceptance. Pipe cleaning prior to video inspection and maintenance of traffic during the video inspection is the responsibility of the contractor and incidental to the pipe item that is being video inspected.

PROJECT NOTES cont.

38. All manhole adjustments placed in concrete shall require a liberal amount of tack on all bituminous to concrete surfaces and joint sealing application per 1042.01.2. These items are incidental to the manhole adjustment per Sections 401.03.M and item 762.03.D in the 2016 Standard Specifications.
39. All concrete to bituminous interfaces shall require tack on all vertical surfaces. All longitudinal interfaces shall be sealed with an approved joint sealant material. These items shall be incidental to the bituminous paving item. No separate payment will be made for the sealing of these joints.
40. All newly created pavement joints that will not be overlaid shall be sealed with a uniform band of tack coat of PG 64-22 hot liquid asphalt cement. The PG-64-22 shall be applied by a distributor truck. The band shall be at least 6" wide and ensure a minimum of a triple overlap of PG 64-22 from the spray bar nozzles. An exception will be made where the adjacent pass to the newly laid pass has not cooled below 175 degrees Fahrenheit. All vertical contact surfaces shall be tacked before placing any new mixture against the joint. These items shall be incidental to the bituminous paving item. No separate payment will be made for the sealing of these joints.
41. The contractor is directed to Standard Specification Section 902 –Pumping Operations. Section 902 shall apply to the dewatering of all work sites. This item is not measured or paid and shall be included with the respective pipe item.

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MAINTENANCE OF TRAFFIC AND PAVEMENT MARKINGS

42. At the preconstruction meeting, the contractor shall submit to the South District Safety Officer the necessary NCHRP 350 / MASH certifications for all traffic control devices expected to be used on the contract. In addition, prior to the start of any work order, the contractor must submit a traffic control plan including any additional NCHRP 350 / MASH certifications not previously submitted. Written approval must be received before the start of work at each and every location.
43. The contractor shall submit to the South District Safety Officer their proposed lane closure time frames for approval. This shall be submitted a minimum of 2 weeks prior to the start of work.
44. Work shall be performed in a manner that will reasonably provide the least practical obstruction to traffic, consistent with safety standards and shall comply with the latest edition of the manual titled "Delaware Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways" here after referred to as the Traffic Control Manual.
45. An American Traffic Safety Services Association (ATSSA) certified traffic control supervisor shall be required for each location on this project. A copy of the certification card for the ATSSA traffic control supervisor shall be submitted at the pre-construction meeting. The paper certificate is not acceptable. The ATSSA officer shall be incidental to section 801500 – Maintenance of Traffic, All Inclusive
46. Maintenance of traffic during lane closures and lane shifts shall conform to Typical Application 10 of the Delaware MUTCD.
47. When required by the DE MUTCD, permanent advance warning signs shall be installed with the legends "ROAD WORK AHEAD" AND "END ROAD WORK" located 500 feet downstream of 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 in advance of the work area and an "END ROAD WORK" sign shall be located 500 feet downstream of the work area. 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. All temporary and permanent signs shall be included in the lump sum MOT item.
48. Portable Changeable Message Signs (PCMS) shall be placed in both directions, 10 days in advance of construction; before the start of construction for each road, as well as prior to any major traffic pattern changes. All PCMS boards shall be approved by the district safety officer. PCMS boards shall be incidental to item 801500 and shall not be paid separately.
49. The use of millings and graded aggregate base course (GABC) in the travel way, temporary travel way, high volume entrances, and access ramps for the purpose of providing temporary roadway service, pothole repair, tapered edge for utilities, butt joints, and longitudinal drop-offs (milling and paving operations) is prohibited. Bituminous TRM (cold patch or bituminous concrete), as approved by the Engineer, shall be used for this purpose. Bituminous TRM shall be incidental to the work it protects and shall not be paid separately.

MAINTENANCE OF TRAFFIC AND PAVEMENT MARKINGS cont.

50. Millings or GABC shall be used at the following locations where access to a business, residence, or edge drop off needs to be maintained unless otherwise noted in the plans or directed by the Engineer to use bituminous TRM. All millings and GABC shall be rolled and compacted to prevent material from unraveling.
- a. Driveways
 - b. Entrances
 - c. Low volume access ramps (identified in the contract documents)
 - d. Edge drop offs adjacent to live roadway (lane, shoulder, or turn lane) and the proposed road construction
 - e. Edge of roadway drop off
51. Grading and maintaining base course that is being used for roadway wedge/fillet between travel lanes and pavement box, edge of travel way, driveway or entrance access shall be incidental to the work it protects and shall not be paid separately. The base course material shall be placed at no greater than the slope specified in table 6G-1 and shall be compacted. No separate payment shall be made for temporary roadway material. All vertical differences shall be corrected in accordance with table 6G-1 of the Delaware MUTCD.
52. The contractor is responsible for ensuring that the Traffic Management Center (1-302-659-4600) is notified each and every day when work is being performed in State Right of Way. The contractor must identify the type of work, any lane(s) or shoulder(s) closed, the length of time for work when the lane restriction is in place and when the lane restriction is picked up, contact person/number and state inspector.
53. The contractor shall be responsible for notifying the local 911 center, local schools, and the DeIDOT public information center of all roads and lanes to be closed a minimum of seven calendar days before the closure. If temporarily blocking access to a fire hydrant, notification must be given to Sussex County, the local firefighting authorities, and the 911 center.
54. The contractor shall be responsible for daily coordination efforts with his/her work with other contractors in the immediate area.
55. The contractor shall provide all residents and businesses 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 DeIDOT contact numbers. Failure to give proper notice will result in a suspension of work requiring notice until proper notice is provided.
56. Access to all businesses and residences within the project limits shall be maintained throughout the duration of the contract. Any temporary closure of an entrance for tie in purposes shall be coordinated with the engineer and / or property owner in advance of the closure.
57. Prior to additional lifts, all vertical differences shall be secured before next lift per Delaware MUTCD 6G.1, even when a safety edge is present.

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SOUTH DISTRICT

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

MAINTENANCE OF TRAFFIC AND PAVEMENT MARKINGS cont.

58. The contractor is responsible for the maintenance of existing pavement and shoulders within the project limits for the duration of the contract or as directed by the Engineer or their designee.
59. All roadways and entrances not open to traffic shall be closed using Type III Barricades and shall be placed per the Traffic Control Manual, Section 6F.63 & 6F.68.
60. A safety edge shall be used on all overlays including the shoulder base mix on this project.
61. All storage of equipment and material shall comply with section 6G.21 of the Traffic Control Manual.
62. All flaggers shall comply with Chapter 6E of the Traffic Control Manual.
63. All roadway excavation in or adjacent to travel ways shall be properly backfilled at the end of each day prior to traffic returning to unrestricted travel per Section 6G.20 and Table 6G-1 of the Traffic Control Manual. This includes all utilities and/or obstacles within or adjacent to the travel ways as outlined in the Traffic Control Manual.
64. 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.
65. The contractor shall submit detailed drawings (including but not limited to lane and shoulder widths, turn lane lengths, locations of stop bars, turn arrows, crosswalks and railroad crossings) that depict the existing pavement markings for each project location at the preconstruction meeting. These drawings will be reviewed by the department's traffic section to determine if any changes to the final pavement markings are required.
66. Final pavement markings shall conform to all existing patterns unless otherwise directed by the Engineer. The final pavement markings shall be placed within five (5) calendar days after the completion of the paving. Failure to comply will result in suspension of all other contract work with time charges continuing to be assessed.
67. 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 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, including the replacement of peeling temporary tape.
68. Any erroneous marking will not be paid for and shall be corrected immediately at the contractor's expense. Erroneous markings or shadows that exceed one (1) inch in width shall be removed by either sand or water blasting. No other removal methods will be allowed. An asphalt sealer shall be applied in the area of the removed marking to mask the repair. Any damage to the pavement caused by the removal of erroneous markings shall be repaired/replaced to the satisfaction of the Engineer at the contractor's expense.

MAINTENANCE OF TRAFFIC AND PAVEMENT MARKINGS cont.

69. All markings that are no longer in use and conflict with the pavement markings in use by the traveling public are to be removed and must be completely obliterated by a method approved by the Engineer. Painting over the conflicting striping will not be accepted as a method of removal.
70. The contractor, with the Engineer, shall inventory all signs on all roads subject to improvements. Necessary signs shall be maintained in operation during construction and any other signs shall be properly stored by the contractor, who shall be responsible for any loss or damage. Immediately prior to final inspection, the contractor and Engineer shall again inventory the traffic signs and account for any lost or damaged signs.
71. Traffic detection loops shall be placed in the final wearing surface unless otherwise directed by the Engineer.
72. 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.
73. Stop lines "bars" shall be installed in accordance with section 3B.16 of the Delaware MUTCD.
74. All crosswalks shall be installed in accordance with Section 3B.18 of the Delaware MUTCD.
75. **At all intersections of state maintained roadways, designated bicycle lanes shall be marked per Figure 9C-1D of the Delaware MUTCD including the Memorial Volunteer Fire Company entrances.**
76. **Transverse Rumble Strip Markings (items 817037 & 817038) shall be installed per section 3J.02 of the Delaware MUTCD. No-passing zone markings/striping for both directions of travel shall be installed where the transverse rumble strip markings are placed.**
77. **Install new Bicycle IN LANE (W11-1-DE) sign approaching the roadway section without shoulder area from Argos Corner Road. In addition, the contractor shall install edge line pavement markings to transition bicyclists in and out of the existing shoulder. This will be achieved by providing a 30-foot long taper from the edge of flexible pavement to create a 6-foot wide bicycle lane (50 feet in length, and by providing a 30-foot long taper towards the edge of travel lane (refer to signing & striping detail).**
78. **Remove existing Watch Children (W21-11P-DE) sign mounted to utility pole approaching the Memorial Volunteer Fire Company from Argos Corner Road.**
79. **Install new Delaware Bayshore Byways (D6-4) signs at either entrance point of Slaughter Beach Road.**

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SOUTH MAINTENANCE

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

LOCATION 1 **S224 (SLAUGHTER BEACH ROAD)**
FROM S14E (ARGOS CORNER RD) TO S204 (BAY AVE)

LENGTH 19461.0000 L.F.

GENERAL IMPROVEMENTS

MICRO MILL TRAVEL LANES, EXCAVATE AND REBUILD EXISTING SHOULDERS WITH GABC AND TYPE B WMA. TAR & CHIP AND FOG SEAL TRAVEL LANES AND SHOULDERS BY OTHER. UPGRADE GUARDRAIL.

MATERIAL ESTIMATE FOR LOCATION 1

202000	EXCAVATION AND EMBANKMENT	7,600.00	C.Y.
211002	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (GUARDRAIL)	300.00	L.F.
301001	GRADED AGGREGATE BASE COURSE, TYPE B	4,800.00	C.Y.
401014	SUPERPAVE TYPE B, PG 64-22	4,940.00	TON
401029	SUPERPAVE TYPE C, PG 64-22, PATCHING	50.00	TON
401030	SUPERPAVE TYPE B, PG 64-22, PATCHING	75.00	TON
402000	BITUMINOUS CONCRETE PATCHING	1,250.00	SY-IN
721001	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	4.00	EACH
721011	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2-31	4.00	EACH
760001	RUMBLE STRIPS, FULL LANE WIDTH	300.00	L.F.
760505	MICRO-MILLING OF BITUMINOUS CONCRETE (0 TO 2 INCHES)	51,900.00	S.Y.
762000	SAW CUTTING, BITUMINOUS CONCRETE	30,780.00	L.F.
808002	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	60.00	EA-DY
811003	FLAGGER, SUSSEX COUNTY, STATE	1,820.00	hour
811015	FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	180.00	hour
817001	PAINTING OF WHITE OR YELLOW, SYMBOL/LEGEND	18.00	S.F.
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	84.00	S.F.
817003	TEMPORARY MARKINGS, PAINT, 4"	202,280.00	L.F.
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	67,400.00	L.F.
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	8.00	EACH
817037	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 4"	220.00	L.F.
817038	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 6"	220.00	L.F.
819018	INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE SIGN POST	5.00	EACH
908001	TOPSOIL	300.00	TON
908014	PERMANENT GRASS SEEDING, DRY GROUND	8,650.00	S.Y.

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT T201906306.01

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SOUTH MAINTENANCE

SLAUGHTER BEACH RD REHABILITATION, SOUTH, 2019

CONTRACT QUANTITIES SUMMARY SHEET

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762000	SAW CUTTING, BITUMINOUS CONCRETE	30,780.00	L.F.
763000	INITIAL EXPENSE/DE-MOBILIZATION	LUMP	SUM
801500	MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP	SUM
808002	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	60.00	EA-DY
811003	FLAGGER, SUSSEX COUNTY, STATE	1,820.00	HOUR
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