

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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| STATE PROJECT REFERENCE NO. | SHEET NO. |
| B-4031 | TCP-1 |

**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION
BRUNSWICK COUNTY**

B-4031

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"- PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|-------------------------------------------------|
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.03 | TEMPORARY ROAD CLOSURES |
| 1101.04 | TEMPORARY SHOULDER CLOSURES |
| 1101.05 | WORK ZONE VEHICLE ACCESSES |
| 1101.06 | WARNING SIGNS FOR BLASTING ZONES |
| 1101.11 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1110.02 | PORTABLE WORK ZONE SIGNS |
| 1115.01 | FLASHING ARROW PANELS |
| 1130.01 | DRUM |
| 1135.01 | CONES |
| 1145.01 | BARRICADES |
| 1150.01 | FLAGGING DEVICES |
| 1160.01 | TEMPORARY CRASH CUSHION |
| 1165.01 | TRUCK MOUNTED IMPACT ATTENUATOR |
| 1170.01 | PORTABLE CONCRETE BARRIER |
| 1180.01 | SKINNY-DRUM |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES & OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS |
| 1205.03 | PAVEMENT MARKINGS - INTERCHANGES |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS |
| 1205.05 | PAVEMENT MARKINGS - TURN LANES |
| 1205.06 | PAVEMENT MARKINGS - THRU LANE DROPS |
| 1205.07 | PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS |
| 1205.10 | PAVEMENT MARKINGS - SCHOOL AREAS |
| 1205.11 | PAVEMENT MARKINGS - RAILROAD CROSSINGS |
| 1205.12 | PAVEMENT MARKINGS - BRIDGES |
| 1250.01 | PAVEMENT MARKER SPACING |
| 1251.01 | RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT) |
| 1253.01 | SNOWPLOWABLE RAISED PAVEMENT MARKERS |
| 1261.01 | GUARDRAIL & BARRIER DELINEATOR SPACING |
| 1261.02 | GUARDRAIL & BARRIER DELINEATOR TYPES |
| 1262.01 | GUARDRAIL END DELINEATION |
| 1264.01 | OBJECT MARKERS |
| 1264.02 | PLACEMENT OF OBJECT MARKERS |
| 1267.01 | FLEXIBLE DELINEATOR INSTALLATION |
| 1267.02 | FLEXIBLE DELINEATOR SPACING |
| 1267.03 | FLEXIBLE DELINEATOR-INTERCHANGES |

INDEX OF SHEETS

| SHEET NO. | TITLE |
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| TCP-1 | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, INDEX OF SHEETS, AND PHASING |
| TCP-2 | GENERAL NOTES |
| TCP-3 | ADVANCED WORK ZONE WARNING SIGNS |

PHASING

NOTE: MAINTAIN TRAFFIC FOR ALL DRIVEWAYS AND SECONDARY ROADS THROUGHOUT THE PROJECT FOR THE DURATION OF THE PROJECT.

PHASE I

STEP 1: INSTALL ALL WORK ZONE ADVANCE WARNING SIGNS PRIOR TO ANY CONSTRUCTION ACTIVITY AS SHOWN ON TCP-3.

STEP 2: USING LANE CLOSURES AND FLAGGERS AS DESCRIBED IN ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9, WIDEN THE SHOULDERS UP TO AND INCLUDING THE FINAL LIFT OF THE SURFACE COURSE ALONG THE DETOUR ROUTE. USE ROADWAY STANDARD DRAWINGS 1205.02, SHEET 1 OF 3 AND 1205.04, SHEET 1 OF 3 TO PLACE PAVEMENT MARKINGS (PAINT) ON THE DETOUR ROUTE. (SEE CONSTRUCTION PLANS)

PHASE II

STEP 1: ONCE STATE FORCES HAVE INSTALLED OFF-SITE DETOUR SIGNING, USE ROADWAY STANDARD DRAWING 1101.03 SHEET 1 OF 9 TO CLOSE -L- FROM STA. 21+25 TO STA. 30+75. PLACE TRAFFIC ON THE OFF-SITE DETOUR.

STEP 2: REMOVE EXISTING STRUCTURE AND CONSTRUCT NEW STRUCTURE AND ROADWAY APPROACHES UP TO AND INCLUDING THE FINAL LIFT OF THE SURFACE COURSE FROM L STA. 21+25+/- TO STA. 30+75+/- . PLACE FINAL PAVEMENT MARKINGS (THERMOPLASTIC & COLD APPLIED PLASTIC, TYPE 3) AND MARKERS (PERM. RAISED). (SEE CONSTRUCTION PLANS)

PHASE III

REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ROAD TO FINAL TRAFFIC PATTERN.

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT. EXIST. PVMT.
- WORK AREA
- REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM SKINNY DRUM
- FLASHING ARROW PANEL (TYPE C)
- STATIONARY SIGN
- PORTABLE SIGN
- STATIONARY OR PORTABLE SIGN
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER

PAVEMENT MARKINGS

- CRYSTAL/CRYSTAL PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- CRYSTAL/RED PAVEMENT MARKER
- PAVEMENT MARKING SYMBOLS

TIP PROJECT:

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| APPROVED: DATE: | PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT |
| | J. S. BOURNE, PE TRAFFIC CONTROL ENGINEER |
| | G. L. GETTIER, PE TRAFFIC CONTROL PROJECT ENGINEER |
| | J. W. WOOLARD, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER |
| | L. K. DONALDSON TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN |

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- G) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

- H) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- I) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- J) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- K) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.
- L) PROVIDE DETOUR SIGNING WITHIN THE PROJECT LIMITS.
- M) COVER OR REMOVE ALL DETOUR SIGNS WITHIN THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

- P) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- Q) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- R) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- S) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

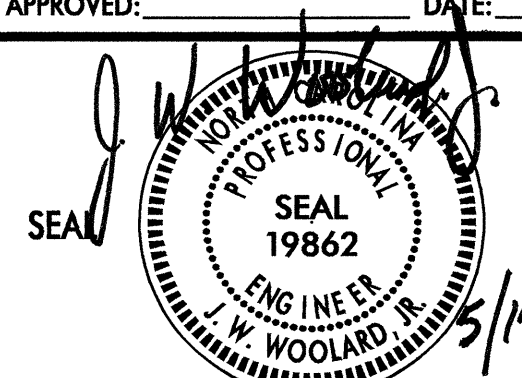
| ROAD NAME | MARKING | MARKER |
|----------------------|------------------------------|--------------|
| NC 179 (BEACH DRIVE) | THERMOPLASTIC | PERM. RAISED |
| NC 179 BRIDGE DECK | COLD APPLIED PLASTIC, TYPE 3 | PERM. RAISED |
| HALE SWAMP ROAD | PAINT | NONE |

- T) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- U) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- V) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- W) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 350 AND 700 RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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| APPROVED: _____ DATE: _____  | <h2 style="margin: 0;">GENERAL NOTES</h2> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">SCALE: NONE</td> <td style="width: 50%; text-align: center;">REVISIONS</td> </tr> <tr> <td>DATE:</td> <td></td> </tr> <tr> <td>DWG. BY: LKD</td> <td></td> </tr> <tr> <td>DESIGN BY: LKD</td> <td></td> </tr> <tr> <td>REVIEWED BY: JWW</td> <td></td> </tr> </table> | SCALE: NONE | REVISIONS | DATE: | | DWG. BY: LKD | | DESIGN BY: LKD | | REVIEWED BY: JWW | |
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