and by reference hereby are considered a part of these plans:

EFF. 01–16–2018

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

-5878/I-5883/I-5986B /A **DOCUMENT NOT CONSIDERED FINAL**

PROJECT REFERENCE NO.

UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN **ENGINEER** SEAL 027373 Susan C Lancaster 5/14/202

SHEET NO.

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STD.NO. DIVISION 2 – EARTHWORK Method of Clearing – Method 200.02 Method of Clearing – Method III Guide for Grading Subgrade – Interstate and Freeway Guide for Grading Subgrade - Secondary and Local 225.02 Deceleration and Acceleration Lanes 225.03 Method of Obtaining Superelevation – Two Lane Pavement 225.05 Method of Obtaining Superelevation – Divided Highways Method of Grading Sight Distance at Intersections Grading for False Cut at Grade Separations 225.07 Guide for Shoulder and Ditch Transition at Grade Separations Guide for Berm Ditch Construction 240.01 DIVISION 3 – PIPE CULVERTS CLEARING: Method of Pipe Installation 300.01 310.10 **Driveway Pipe Construction** DIVISION 4 – MAJOR STRUCTURES Bridge Approach Fills – Type I Standard Approach Fill DIVISION 5 – SUBGRADE, BASES AND SHOULDERS Method of Shoulder Construction – High Side of Superelevated Curve – Method Method of Shoulder Construction – High Side of Superelevated Curve – Method II DIVISION 6 - ASPHALT BASES AND PAVEMENTS Guide for Paving Shoulders Under Bridges – Method IV 654.01 Pavement Repairs Asphalt Shoulders – Milled Rumble Strips 665.01 DIVISION 8 - INCIDENTALS 815.02 Subsurface Drain Concrete Pads – for Shoulder Drain Installation 816.01 Aggregate Shoulder Drain 816.02 816.04 Markers for Drainage Structure and Concrete Pad Concrete Endwall for Single and Double Pipe Culverts – 15" thru 48" Pipe 90 Skew SIDE ROADS: Brick Endwall for Single and Double Pipe Culverts – 15" thru 48" Pipe 90 Skew 838.11 Reinforced Concrete Endwall – for Single 54" Pipe 90 Skew 838.21 Reinforced Concrete Endwall – for Single 60" Pipe 90 Skew 838.27 Reinforced Concrete Endwall - for Single 66" Pipe 90 Skew 838.33 Notes for Reinforced Concrete Endwall – Std. Dwg 838.21 thru 838.40 838.45 Reinforced Brick Endwall – for Single 54" Pipe 90 Skew 838.51 838.57 Reinforced Brick Endwall – for Single 60" Pipe 90 Skew BERM DITCHES: 838.63 Reinforced Brick Endwall – for Single 66" Pipe 90 Skew Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70 838.75 Precast Endwalls – 12" thru 72" Pipe 90 Skew 838.80 Concrete Base Pad for Drainage Structures 840.00 Brick Catch Basin - 12" thru 54" Pipe 840.01 Concrete Catch Basin – 12" thru 54" Pipe 840.02 840.03 Frame, Grates and Hood – for Use on Standard Catch Basin 840.04 Concrete Open Throat Catch Basin – 12" thru 48" Pipe Brick Open Throat Catch Basin - 12" thru 48" Pipe 840.05 Concrete Drop Inlet – 12" thru 30" Pipe 840.14 Brick Drop Inlet – 12" thru 30" Pipe 840.15 Drop Inlet Frame and Grates – for use with Std. Dwg 840.14 and 840.15 Concrete Grated Drop Inlet Type 'A' – 12" thru 72" Pipe 840.17 Concrete Grated Drop Inlet Type 'B' – 12" thru 36" Pipe 840.18 840.19 Concrete Grated Drop Inlet Type 'D' – 12" thru 36" Pipe **DRIVEWAYS:** 840.20 Frames and Wide Slot Flat Grates 840.22 Frames and Wide Slot Sag Grates Frames and Narrow Slot Sag Grates 840.24 Anchorage for Frames – Brick or Concrete or Precast 840.25 Brick Grated Drop Inlet Type 'A' – 12" thru 72" Pipe 840.26 Brick Grated Drop Inlet Type 'B' – 12" thru 36" Pipe 840.27 Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe 840.28 840.29 Frames and Narrow Slot Flat Grates Concrete Junction Box – 12" thru 66" Pipe 840.31 Brick Junction Box - 12" thru 66" Pipe 840.32 **GUARDRAIL**: Traffic Bearing Junction Box – for Use with Pipes 42" and Under 840.34 Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates 840.36 Traffic Bearing Grated Drop Inlet – for Steel (840.37) Double Frame and Grates Steel Grate and Frame 840.37 **Precast Drainage Structure** 840.45 Traffic Bearing Precast Drainage Structure 840.46 840.54 Manhole Frame and Cover **Drainage Structure Steps** 840.66 Concrete and Brick Pipe Plug 840.71 840.72 Pipe Collar **END BENTS:** 846.01 Concrete Curb, Gutter and Curb & Gutter Drop Inlet Installation in Expressway Gutter 846.02 Drop Inlet Installation in Shoulder Berm Gutter Concrete Sidewalk 848.01 Driveway Turnout – Radius Type 848.02 **UTILITIES:** 848.04 Street Turnout 848.05 Curb Ramp - Proposed Curb & Gutter Curb Ramp - Existing Curb & Gutter 848.06 850.01 Concrete Paved Ditches Guide for Berm Drainage Outlet – 15" and 18" Pipe 850.10 Guide for Berm Drainage Outlet - 24" and 30" Pipe 850.11 852.01 Concrete Islands Median Curb for Catch Basin – for Use with 1'-6" Curb and Gutter 852.05 852.06 Method for Placement of Drop Inlets in Concrete Islands 854.02 Double Faced Concrete Barrier – Types 'T', 'T1' and 'T2'

Concrete Median Transition Barrier - Location of Overhead Assembly

Anchoring End of Guardrail - B-77 and B-83 Anchor Units

854.05

862.01

862.02

862.03

862.04

865.01 866.02

876.01

876.02

876.04

Guardrail Placement

Cable Guiderail

Guardrail Installation

Rip Rap in Channels

Structure Anchor Units

Woven Wire Fence - with Wood Post

Drainage Ditches with Class 'B' Rip Rap

Guide for Rip Rap at Pipe Outlets

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch –

N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01–16–2018 **REVISED:** GRADING AND SURFACING OR RESURFACING AND WIDENING: THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF Michael Baker Engineering, Inc THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE Michael Baker Suite 600 2754 ENGINEER IN ORDER TO SECURE A PROPER TIE-IN. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II AND METHOD III. SUPERELEVATION: ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. SHOULDER CONSTRUCTION: ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND STD. NO. 560.02 THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED. BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SUBSURFACE DRAINS: SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER. SHOULDER DRAINS: SHOULDER DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 816.02 AND DETAILS IN PLANS AT LOCATIONS DIRECTED BY THE ENGINEER. DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER STREET TURNOUT: STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS. THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL. TEMPORARY SHORING: SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING". THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE. UTILITY OWNERS ON THIS PROJECT ARE Conterra (communications)

Johnston County Public Utilities (water), Duke Energy (power), South River EMC (power),

Town of Benson, (power), PNG (gas), Century Link (communications), Spectrum (communications)

Harnett Regional Water, City of Dunn (water & sewer), Benson Public Utilities (water & sewer)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT

AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.