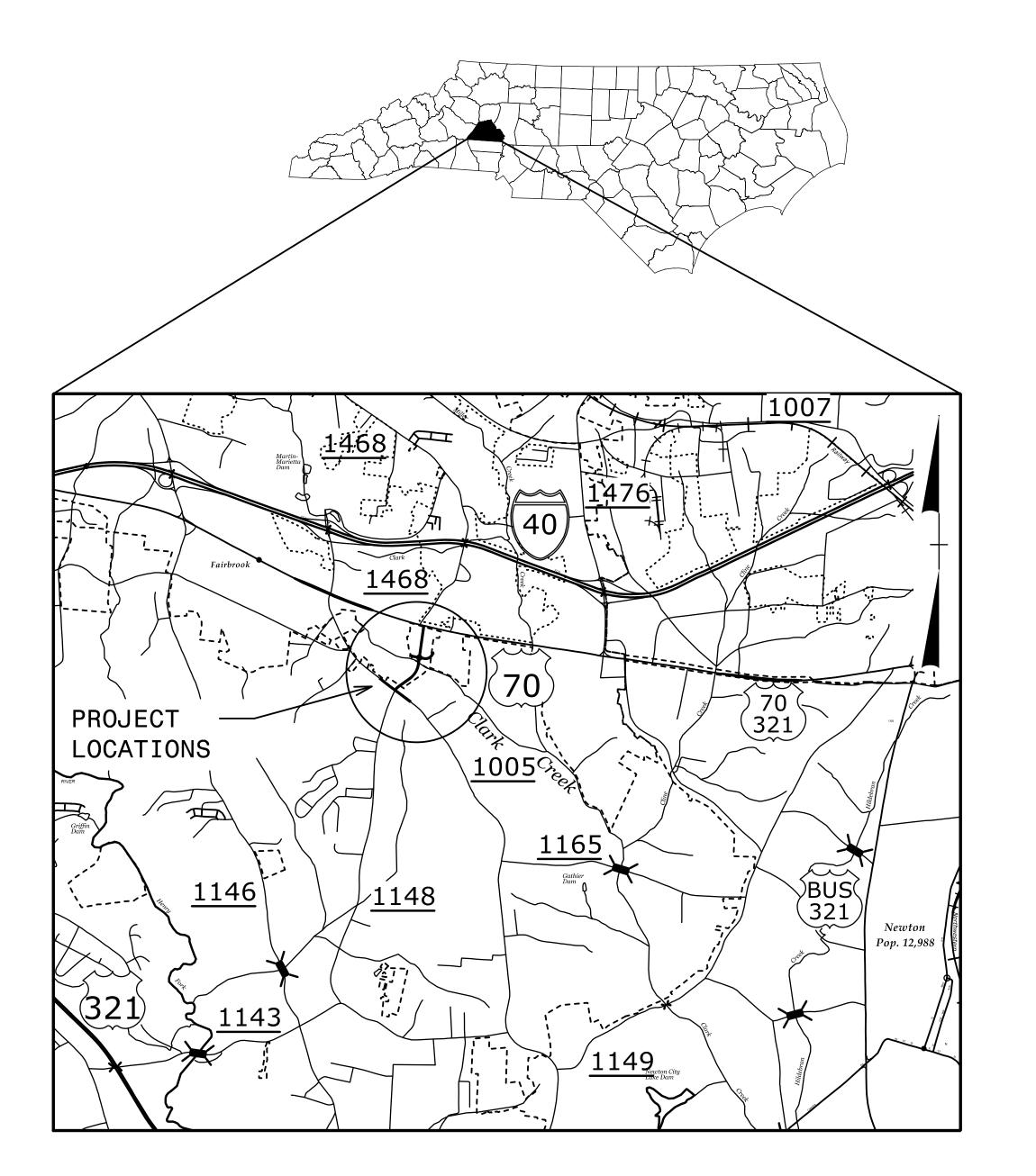
TRANSPORTATION MANAGEMENT PLAN

CATAWBA COUNTY



INDEX OF SHEETS

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LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND TMP-1A

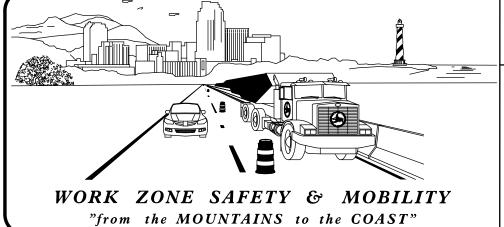
TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND LOCAL NOTES) TMP-1B

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PHASE I OVERVIEW TMP-3 PHASE II OVERVIEW

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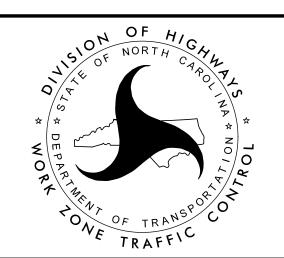
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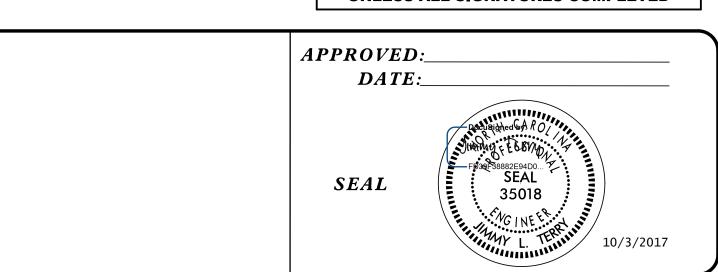


PLAN PREPARED FOR N.C.D.O.T. BY:



TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28 150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275 JIMMY L. TERRY, PE PROJECT ENGINEER SANDRA G. MELVIN DESIGN TECHNICIAN





ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" -PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

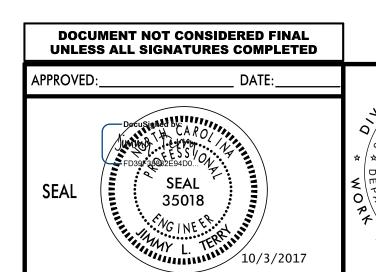
RAISED PAVEMENT MARKERS - INSTALLATION SPACING

RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

PROJ. REFERENCE NO. SHEET NO. U-5510 TMP-1A TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28 150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

LEGEND

TRAFFIC CONTROL DEVICES **GENERAL** DIRECTION OF TRAFFIC FLOW BARRICADE (TYPE III) DIRECTION OF PEDESTRIAN TRAFFIC FLOW ---- EXIST. PVMT. DRUM SKINNY DRUM O TUBULAR MARKER NORTH ARROW TEMPORARY CRASH CUSHION FLASHING ARROW BOARD PROPOSED PVMT. FLAGGER TEMP. SHORING (LOCATION PURPOSES ONLY) LAW ENFORCEMENT WORK AREA TRUCK MOUNTED ATTENUATOR (TMA) CHANGEABLE MESSAGE SIGN REMOVAL TEMPORARY SIGNING PORTABLE SIGN USER DEFINED (IF NEEDED) STATIONARY SIGN STATIONARY OR PORTABLE SIGN USER DEFINED (IF NEEDED) PAVEMENT MARKERS SIGNALS CRYSTAL/CRYSTAL EXISTING CRYSTAL/RED ◆ YELLOW/YELLOW PAVEMENT MARKINGS PAVEMENT MARKING SYMBOLS PAVEMENT MARKING SYMBOLS ——EXISTING LINES ——TEMPORARY LINES





ROADWAY STANDARD DRAWINGS & LEGEND

1250.01

1251.01

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.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME

DAY AND TIME RESTRICTIONS

US 70 STARTOWN RD (-Y1-) MON THRU FRI 6:00 AM TO 9:00 AM MON THRU FRI 4:00 PM TO 7:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

US 70 STARTOWN RD

HOL I DAY

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 4:00 P.M. DECEMBER 31st TO 9:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 4:00 P.M. THURSDAY AND 9:00 A.M. MONDAY.
- 4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY TO 9:00 A.M. TUESDAY.
- 5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 4:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- 6. FOR LABOR DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 9:00 A.M. TUESDAY.
- 7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4:00 P.M. TUESDAY TO 9:00 A.M. MONDAY.
- 8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF 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.
- E) 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.
- F) 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.
- G) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) 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.

I) 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

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

SIGNING

- K) 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.
- L) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- M) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.
- N) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.
- P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PROJ. REFERENCE NO. SHEET NO.

U-5510 TMP-1B

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28 150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

LOCAL NOTES

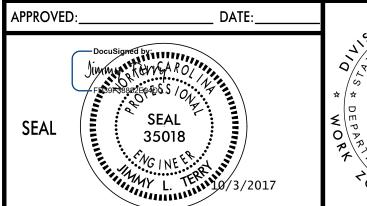
UNLESS OTHERWISE NOTED MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES USING INCIDENTAL STONE AND DRUMS TO DELINEATE THE TRAVELWAYS.

MANAGEMENT STRATEGIES

THE MAJORITY OF THE CONSTRUCTION OF THE PROPOSED SWEETWATER ROAD EXTENSION INCLUDING THE ROUND-A-BOUT AND THE -Y2- ALIGMNENT WILL BE CONSTRUCTED AWAY FROM TRAFFIC. USING FLAGGERS AND TEMPORARY ROAD CLOSURES ONLY FOR THE CONSTRUCTION OF THE TIE-INS.

THE PROPOSD CONSTRUCTION OF STARTOWN ROAD AND ROBINWOOD ROAD WILL BE PERFORMEND USING TEMPORARY LANE CLOSURES AND FLAGGERS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





TRANSPORTATION
OPERATIONS
PLAN

STEP 2:

WITHOUT DISTURBING ANY EXISTING TRAFFIC CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE TMP-3): -L- STA 12 + 28 TO 33 + 53 -Y2- STA 13 + 20 TO 15 + 15

CONSTRUCT THE ADJACENT SIDEWALK, RETAINING WALL, AND CURB AND GUTTER.

CONSTRUCT THE DRIVEWAY RT OF _L_ STA. 32 + 80.00

ON THE WESTSIDE OF SWEETWATER RD EXT (-L-) TIE THE CURB AND GUTTER TO EXISTING AT -L- STA 33+58.36 AND PLACE THE SIDEWALK TO -L- STA 33+77.53 AS SHOWN ON PLANS (SEE TMP-3).

UNTIL FUTURE CONSTRUCTION CLOSE Y2- AT STA 13+20 AND 15+15 USING GUARDRAIL AS SHOWN ON PLANS (SEE TMP-3).

INSTALL THE ROADWAY DRAINAGE ALONG -L (SWEETWATER RD EXT.) AND -Y2-, INCLUDING THE CULVERT ON THE TRIB. TO CLARK CREEK AT -L STA 24+78+/-. (SEE ROADWAY PLANS)

PHASE II

WORK IN THIS PHASE TAKES PLACE IN 2 DIFFERENT AREAS:

AREA A – WORK ALONG STARTOWN RD (–Y1–) AND ROBINWOOD RD (–L–)

AREA B – SWEETWATER RD EXT (–L–) WIDENING AND TIE–IN TO 21" ST DR SE

THE CONTRACTOR CAN WORK CONCURRENTLY IN BOTH AREAS.

AREA A

WITH TRAFFIC IN ITS EXISTING PATTERN DO THE FOLLOWING:

STEP 1:

USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED CONSTRUCT THE NORTHSIDE WIDENING AND SHOULDER UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE ALONG -Y1- (STARTOWN RD) FROM -Y1- STA. 11+07 TO 26+00. (SEE TMP 4 & 5).

CONSTRUCT THE WIDENING AND SHOULDERS OF ROBINWOOD DR (-L-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA 8+00 TO 11+92. (SEE TMP-4 & 5).

BEGIN THE INSTALLATION OF THE ROADSIDE DRAINAGE ALONG -Y1- (STARTOWN RD) AND -L- (ROBINWOOD DR) (SEE ROADWAY PLANS).

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

SEE RDY STD DWG 1101.02 (SHT 1 OF 15) AND RDY STD DWG 1101.04

STEP 2:

USING TEMPORARY LANE CLOSURES AND FLAGGERS CONSTRUCT ROBINWOOD DR (-L-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA 8+00 TO 11+92. (SEE TMP-4 & 5)

COMPLETE THE INSTALLATION OF THE ROADWAY DRAINAGE ALONG -Y1- (STARTOWN RD) AND -L- (ROBINWOOD DR) (SEE ROADWAY PLANS).

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

SEE RDY STD DWG 1101.02 (SHT 1 OF 15)

STEP 3:

USING TEMPORARY LANE CLOSURES AND FLAGGERS PLACE THE TEMPORARY PAVEMENT MARKINGS AS FOLLOWS (SEE TMP-6):
-L- STA. 8+00 TO 11+92 & -Y1- STA. 11+07 TO 26+00

USING TEMPORARY LANE CLOSURES AND FLAGGERS PLACE THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS (SEE TMP-6):
-L- STA. 8+00 TO 11+92 & -Y1- STA. 11+07 TO 26+00

USING TEMPORARY LANE CLOSURES AND FLAGGERS PLACE FINAL PAVEMENT MARKINGS AND MARKERS AS FOLLOWS (SEE TMP-6 & PAVEMENT MARKING PLANS)
-L- STA. 8+00 TO 11+92 & -Y1- STA. 11+07 TO 26+00

PRIOR TO OPENING SWEETWATER ROAD EXT. (-L-) TO TRAFFIC AND OPEN THE NEW TRAFFIC PATTERN ON STARTOWN RD (-Y1-) USE DRUMS TO DELINEATE TRAFFIC TO REMAIN IN ITS EXISTING PATTERN.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

SEE RDY STD DWG 1101.02 (SHT 1 OF 15)

AREA B

WITH TRAFFIC IN ITS EXISTING PATTERN DO THE FOLLOWING

STEP 1:

USING TEMPORARY LANE CLOSURES AND FLAGGERS CONSTRUCT THE EASTSIDE 21° ST DR (-L-) WIDENING FROM -L- STA 33+53 TO 37+65.92 UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE TMP-4 & 7).

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

SEE RDY STD DWG 1101.02 (SHT 1 OF 15) AND RDY STD DWG 1101.04

STEP 2:

AFTER PLACING ALL INCOMING AND OUTGOING TRAFFIC ONTO THE DRIVEWAY AT -L- STA 35+30 LT CLOSE 21° ST DR SE (-L-) AT -L- STA 34+50 TO TRAFFIC. MILL AND WEDGE THE EXISTING PAVEMENT FROM -L- STA 33+53 TO 34+50 AS NECESSARY TO ALLOW THE PLACEMENT OF THE FINAL LAYER OF SURFACE COURSE IN THE NEXT STEP. (SEE TMP-4 & 7).

STEP 3:

USING TEMPORARY LANE CLOSURES AND FLAGGERS WHERE NECESSARY PLACE THE FINAL LAYER OF SURFACE COURSE AND THE FINAL PAVEMENT MARKINGS AS FOLLOWS (SEE TMP 4 & 8, SEE PAVEMENT MARKING PLANS): -L- STA. 12+32 TO 37+65.92 -Y2- STA. 13+20 TO 15+15

PHASE III

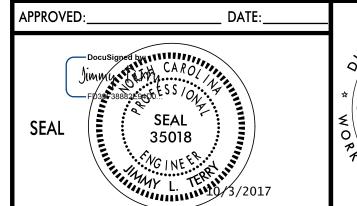
REMOVE ALL BARRIERS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES FROM SWEETWATER RD EXT.(-L-), ROBINWOOD DR (-L-), STARTOWN RD (-Y1-) AND-Y2- CONSTRUCTION AND OPEN ALL TO TRAFFIC.

PROJ. REFERENCE NO. SHEET NO.

U-5510 TMP-2

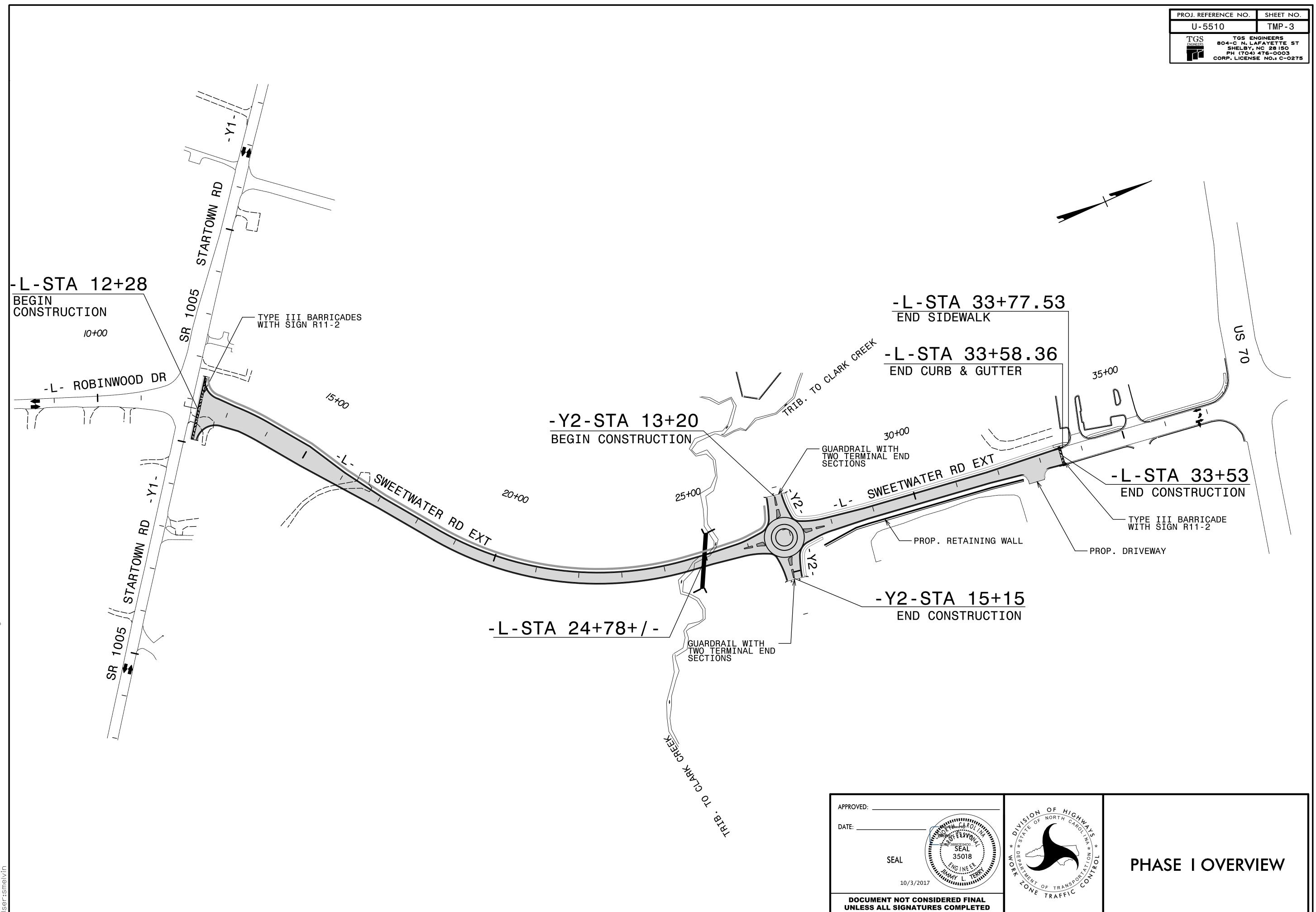
TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28 150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

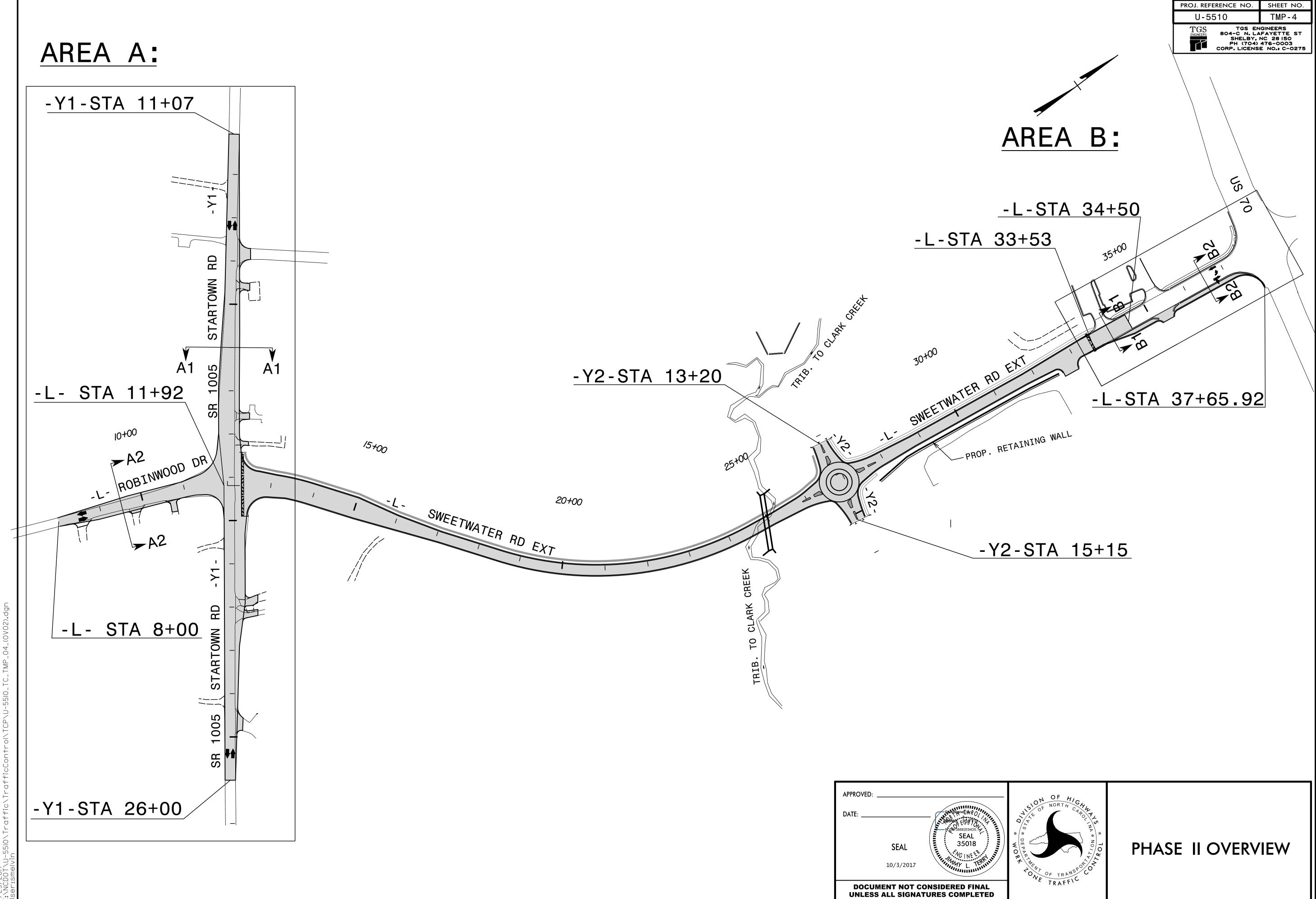
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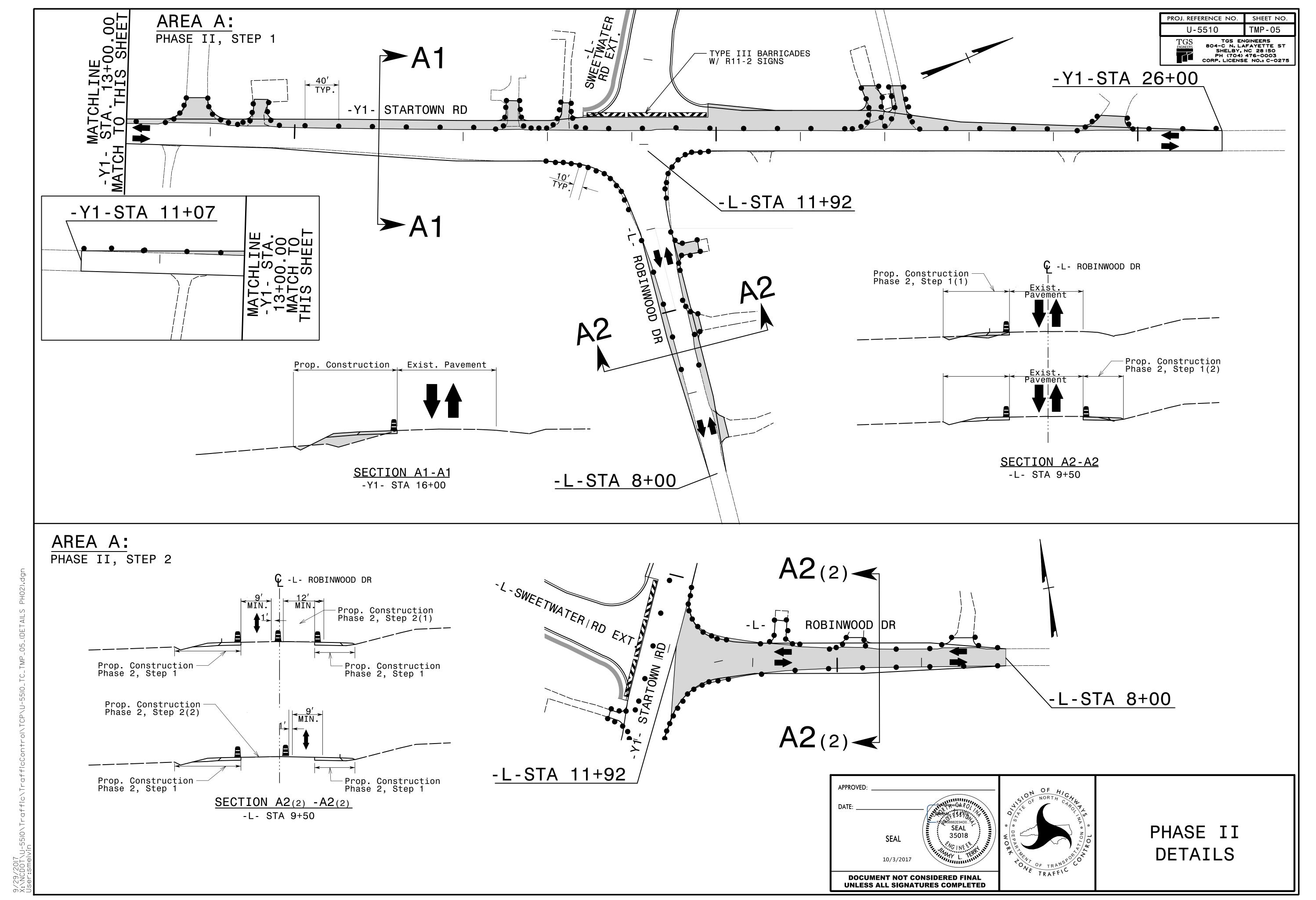


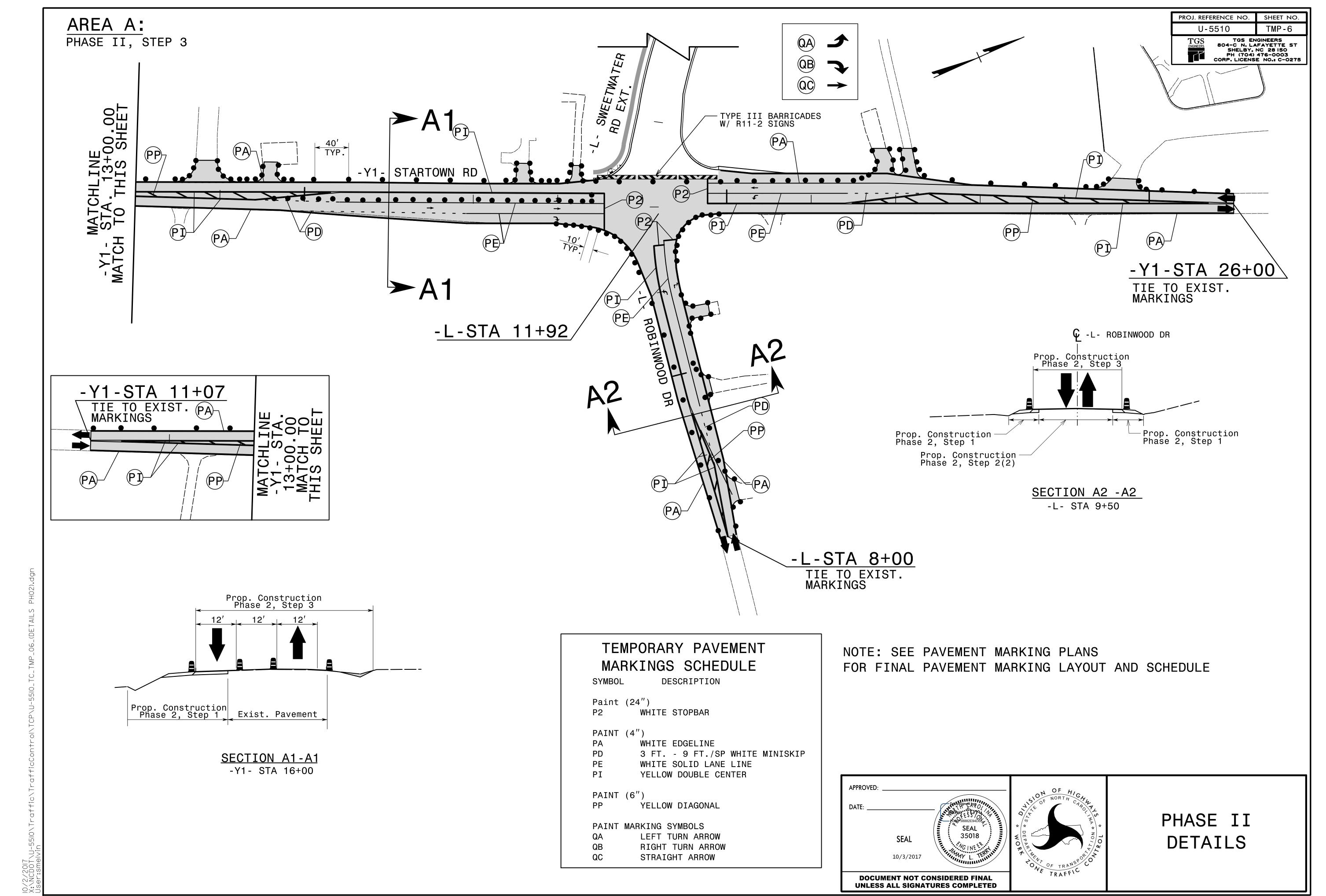
PHASING

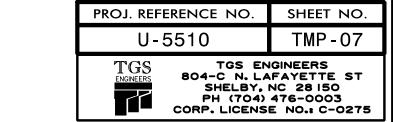


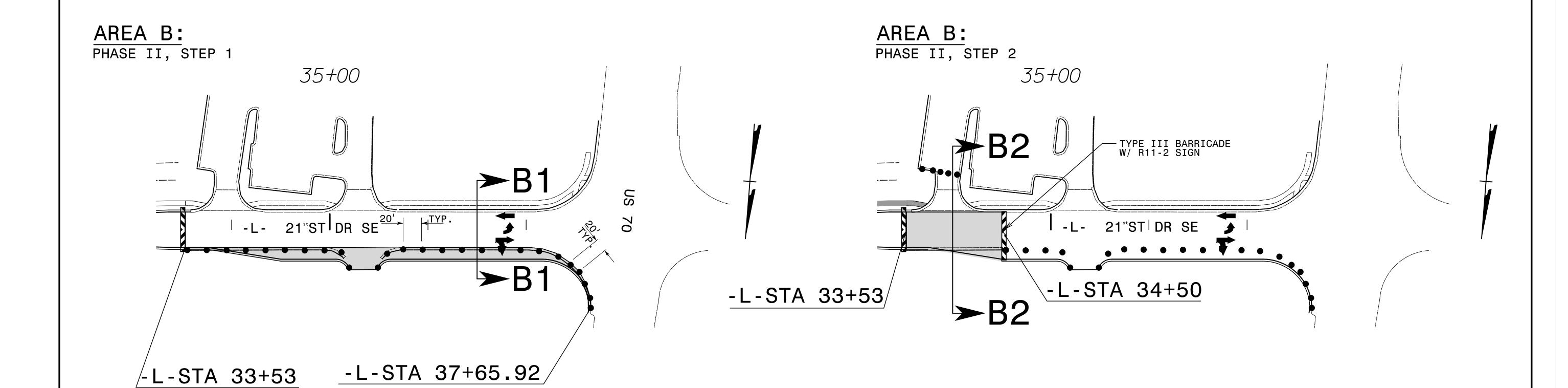


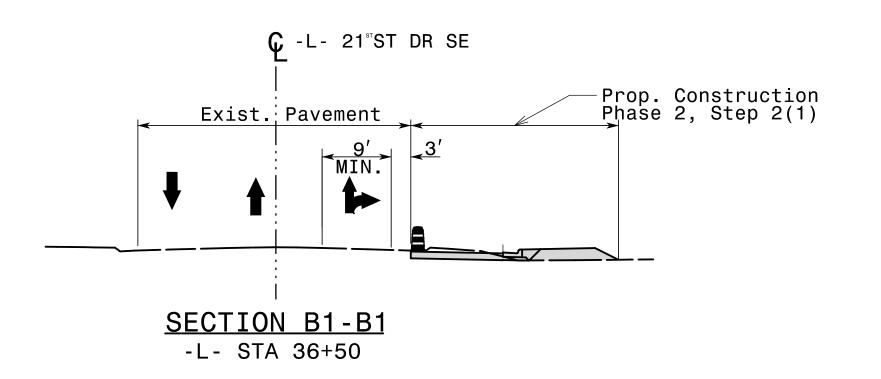
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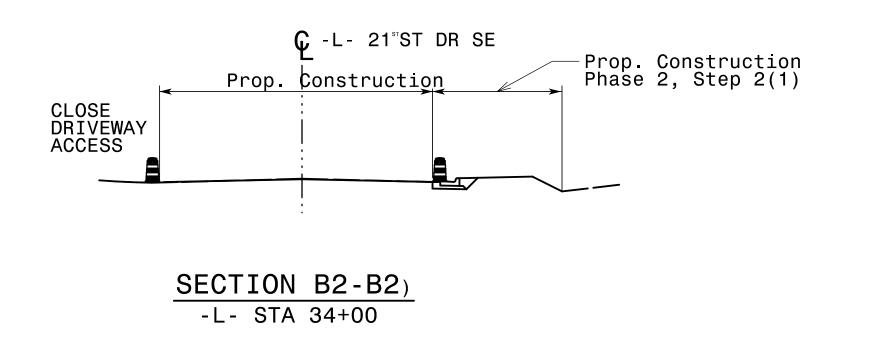


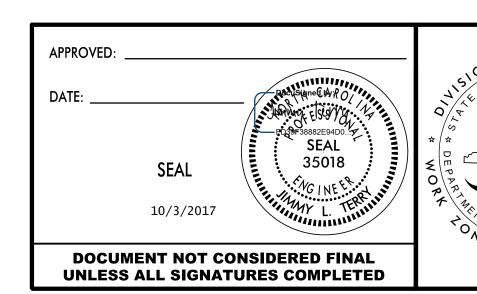












PHASE II

DETAILS

