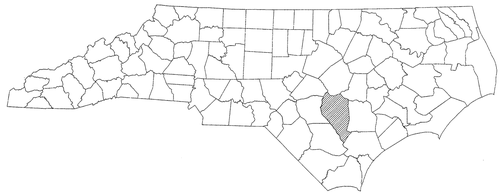
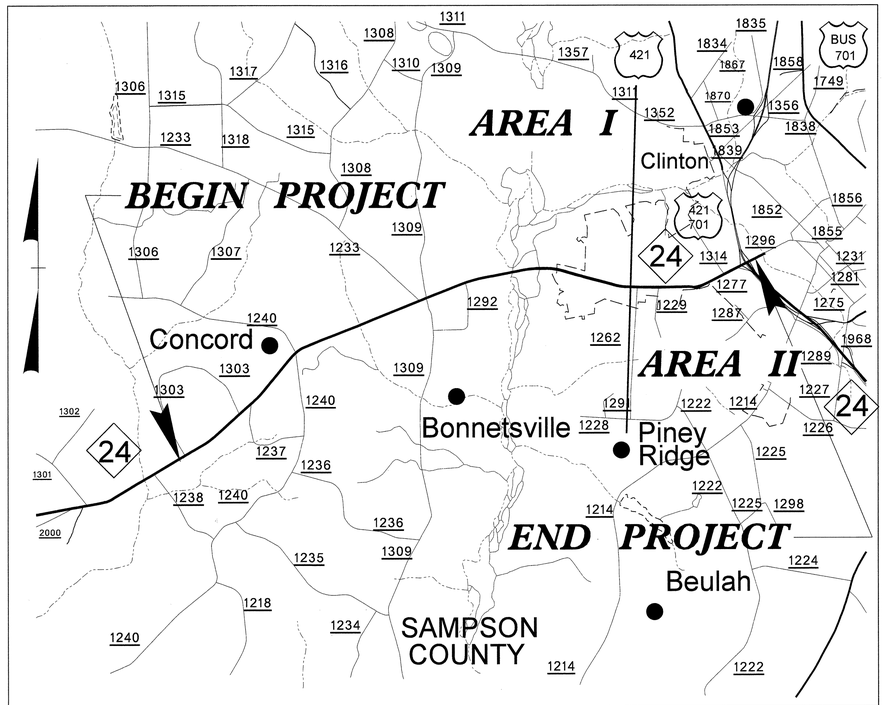
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

SAMPSON COUNTY





VICINITY MAP

INDEX OF SHEETS

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SHEET NO.
TMP-1

TIP PROJECT: R-2303D

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

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RALEIGH, NORTH CAROLINA 27609
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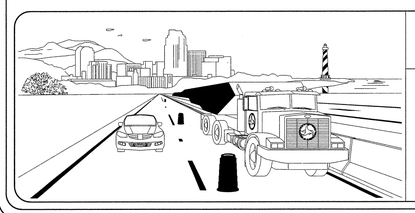

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
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LISA M. MOON, P.E.
TRAFFIC CONTROL
PROJECT DESIGN ENGINEER

J. ABRAHAM WILES
TRAFFIC CONTROL
DESIGN ENGINEER

APPROVED: J. Todd Brooks
DATE: 6-19-13

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PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-1A

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 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
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 - TYPE III
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION - REFLECTIVE END TREATMENT
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION - PORTABLE CONCRETE BARRIER
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE & MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMPORARY SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- WEDGING/OVERLAY OF EXIST
- TEMPORARY PAVEMENT
- GRADING & EMBANKMENT UP TO EDGE AND ELEVATION OF EXISTING TRAVEL WAY
- R-2303C CONSTRUCTION

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM — SKINNY DRUM — TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN
- PORTABLE CONCRETE BARRIER (P.C.B.)
- WATER FILLED BARRIER (W.F.B.)
- ORANGE CONSTRUCTION FENCING
- MODULAR LANE SEPARATOR
- TEMPORARY GUARDRAIL

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMP TEMPORARY

TEMPORARY PAVEMENT MARKING

PA	WHITE EDGE LINE	PAINT (4")	LF
PB	YELLOW EDGE LINE	PAINT (4")	LF
PC	10 FT. WHITE SKIP	PAINT (4")	LF
PD	2 FT. WHITE MINISKIP	PAINT (4")	LF
PE	WHITE LANE LINE	PAINT (4")	LF
PF	YELLOW CENTER LINE	PAINT (4")	LF
PG	2 FT. YELLOW MINISKIP	PAINT (4")	LF
PH	10 FT. YELLOW SKIP	PAINT (4")	LF
PI	YELLOW DOUBLE CENTER LINE	PAINT (4")	LF
PS	WHITE DIAGONAL	PAINT (12")	LF
PX	WHITE CROSSWALK LINE	PAINT (8")	LF
P1	WHITE GORELINE	PAINT (8")	LF
P3	WHITE LINE, RR CROSSBUCK	PAINT (16")	LF
P4	WHITE STOP BAR	PAINT (24")	LF
QA	LEFT TURN ARROW MARKING SYMBOLS	PAINT	EA
QB	RIGHT TURN ARROW MARKING SYMBOLS	PAINT	EA
QC	STRAIGHT ARROW MARKING SYMBOLS	PAINT	EA
QD	COMBO. STRT / LT ARROW MARKING SYMBOLS	PAINT	EA
QE	COMBO. STRT / RT ARROW MARKING SYMBOLS	PAINT	EA
QF	COMBO. LT / RT ARROW MARKING SYMBOLS	PAINT	EA
QG	LEFT/RIGHT/STRAIGHT/ MARKING SYMBOLS	PAINT	EA
QI	ALPHANUMERIC CHARACTERS	PAINT CHARACTER	EA
QP	MERGE ARROW	PAINT	EA
MH	YELLOW & YELLOW, TEMPORARY RAISED PAVEMENT MARKER		EA
MI	CRYSTAL & RED, TEMPORARY RAISED PAVEMENT MARKER		EA
RA	WHITE EDGE LINE	REMOVABLE TAPE (4")	LF
RB	YELLOW EDGE LINE	REMOVABLE TAPE (4")	LF
RD	2 FT. WHITE MINISKIP	REMOVABLE TAPE (4")	LF
RE	WHITE LANE LINE	REMOVABLE TAPE (4")	LF
RF	YELLOW CENTER LINE	REMOVABLE TAPE (4")	LF
RI	YELLOW DOUBLE CENTER LINE	REMOVABLE TAPE (4")	LF

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

EXISTING PAVEMENT MARKING SYMBOLS

EXISTING PAVEMENT MARKING SYMBOLS

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 6/19/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

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PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-01B

MANAGEMENT STRATEGIES

PROJECT IS SEPARATED INTO 2 AREAS TO GIVE CONTRACTOR MORE FLEXIBILITY FOR SCHEDULING AND ALLOW INCENTIVES.

AREA 1

NC 24-BEGIN PROJECT TO STA 1373+94+- CONSTRUCTION SUMMARY:
NC 24 WILL BE CONSTRUCTED MAINLY AWAY FROM TRAFFIC, BUT WILL ALSO EMPLOY A COMBINATION OF TEMPORARY PAVEMENT, LANE CLOSURES, WEDGING UNDER TRAFFIC, TEMPORARY PORTABLE CONCRETE BARRIER, TEMPORARY GUARDRAIL, SHORING FOR CULVERT CONSTRUCTION, TEMPORARY TRAFFIC SIGNALS, MINIMAL OFF-SITE DETOURS FOR -Y-LINE CONSTRUCTION, TEMPORARY GRADES, AND MULTIPLE TRAFFIC SHIFTS.

CONSTRUCTION WILL BE STAGED TO COMPLETE THE EB LANES SOUTH OF EXISTING NC 24, AS MUCH AS POSSIBLE, THEN SHIFT TRAFFIC TO SOUTH SIDE OF NC 24 ON COMBINATION OF EXISTING AND PROPOSED PAVEMENT TO BE ABLE TO CONSTRUCT WB LANES NORTH OF NC 24. TRAFFIC IS THEN SHIFTED TO THE FINAL WB LANES AND THE REMAINING CONSTRUTION ON EB LANES IS COMPLETED. CONSTRUCTION IS COMPLETED WITH A FINAL SHIFT OF TRAFFIC TO THE PROPOSED OUTSIDE THROUGH LANES TO ALLOW CONSTRUCTION OF THE MEDIAN.

AREA II

NC 24-STA 1373+94+/-TO PROJECT END CONSTRUCTION SUMMARY:
NC 24 WILL BE CONSTRUCTED UNDER MULTIPLE SHORT LANE CLOSURES TO MINIMIZE IMPACT ON BUSINESS AND TRAFFIC IN THE AREA. CONSTRUCTION IN THIS AREA INCLUDES A COMBINATION OF LANE CLOSURES, WEDGING UNDER TRAFFIC, TEMPORARY TRAFFIC SIGNALS, MODULAR LANE SEPARATORS AND ONE TRAFFIC SHIFT.

CONSTRUCTION FROM THE US 421/701 INTERCHANGE EASTWARD WILL BE STAGED TO CONSTRUCT US 421/701 INTERCHANGE RAMPS, PIPE UNDER US 421/701 BRIDGES, AND NC 24 IMPROVEMENTS PRIOR TO COMMENCING WORK ON NC 24 TO THE WEST. THIS UP-FRONT WORK INCLUDES CONSTRUTION OF -SR1- TO PROVIDE AN ALTERNATE ROUTE FOR NC 24 TRAFFIC WHEN CONSTRUCTION TO WEST BEGINS.

CONSTRUCTION WEST OF US 421/701 WILL BE STAGED TO COMPLETE CONSTRUCTION OF OUTSIDE WIDENING, PIPES AND CURB AND GUTTER, THEN TRAFFIC WILL BE SHIFTED TO FINAL PATTERN WITH MEDIANS OUTLINED WITH PAINT FOR CONSTRUCTION UNDER LANE CLOSURES IN SECOND PHASE.

US 401/701 RAMP CONSTRUCTION SUMMARY:
US 401/701 RAMPS WILL BE CONSTRUCTED USING A COMBINATION OF SHORT TEMPORARY RAMP CLOSURES, MINIMAL OFF-SITE DETOURS, LANE CLOSURES, TEMPORARY PORTABLE CONCRETE BARRIER, AND TEMPORARY TRAFFIC SIGNALS.

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.

TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 24 BEGIN PROJECT TO -Y47-	MONDAY THROUGH FRIDAY FROM 7:00 A.M. TO 7:00 P.M. SATURDAY FROM 10:00 A.M. TO 6:00 P.M.
NC 24 -Y47- TO END PROJECT	MONDAY THROUGH FRIDAY FROM 9:00 A.M. TO 8:00 P.M.

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

ROAD NAME

NC 24 US 421/701

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

3. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 8:00 P.M. TUESDAY.

4. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

5. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.

6. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY AND 8:00 P.M. MONDAY.

7. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY ONE WEEK BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. JANUARY 2ND. IF NEW YEARS DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY, THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
-RPA- -RPB- -RPC- -RPD-	MONDAY THROUGH SUNDAY 7:00 A.M. TO 9:00 P.M.

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

E) 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.

F) 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.

G) 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.

H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT 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.

I) 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.

J) DO NOT INSTALL MORE THAN ONE MILE OF LANE CLOSURE ON NC 24 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

K) DO NOT INSTALL MORE THAN TWO SIMULTANEOUS LANE CLOSURES IN ANY ONE DIRECTION ON NC 24.

L) PROVIDE A MINIMUM OF 1 MILE BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

APPROVED: J. Todd Brooks DATE: 7/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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GENERAL NOTES CONTINUED

PAVEMENT EDGE DROP OFF REQUIREMENTS

M) 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.

N) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

P) 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.

Q) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLANS.

R) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

S) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

T) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

U) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE / RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

V) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS: (SEE ALSO 1101.05)

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

W) 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.

X) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

Y) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

Z) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 24	PAINT	TEMPORARY RAISED
US 421 / 701 RAMPS	PAINT	TEMPORARY RAISED
US 421 / 701 THROUGH LANES IMPACTED BY RAMP CONSTRUCTION	PAINT	TEMPORARY RAISED
ALL -Y-LINES	PAINT	NONE

AA) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

BB) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

CC) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

DD) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS/SKINNY DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION

MISCELLANEOUS

EE) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

LOCAL NOTES

LN-1 CONSTRUCT TEMPORARY/PERMANENT LATERAL WEDGING BETWEEN NEWLY CONSTRUCTED PAVEMENT AND EXISTING PAVEMENT TO MAINTAIN POSITIVE DRAINAGE OF EXISTING PAVEMENT (I.E., PREVENT PONDING OF WATER) AND PREVENT DROP-OFF BETWEEN NEW AND EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER.

LN-2 PARTIALLY CONSTRUCT DRAINAGE BOX FOR PROPOSED D.I. OR C.B. TO AN INTERIM ELEVATION BELOW GRADE, COVER WITH TEMPORARY TRAFFIC BEARING COVER, BACKFILL AND PATCH PAVEMENT.

LN-3 RELAP EXISTING GUARDRAIL OR INSTALL TEMPORARY GUARDRAIL FOR CHANGE IN DIRECTION OF TRAFFIC ADJACENT TO GUARDRAIL. TEMPORARY APPROACH ANCHOR UNITS MAY BE NECESSARY. TEMPORARY GUARDRAIL AND TEMPORARY ANCHOR UNITS ARE ROADWAY DETAILS AND PAY ITEMS.

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(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 6/12/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER T. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

18-JUN-2013 17:04
R:\Transportation\Traffic\Curr\0003115\R-2303D TCP\TMP Plans\R2303D_TC_TCP_Notes.dgn
13853 AT RALE2A148OFHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-2

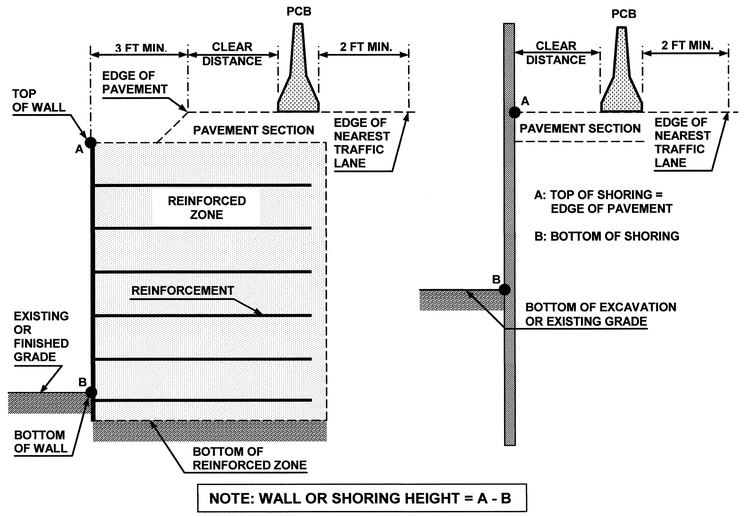


FIGURE A

NOTES

1- REFER TO THE TRAFFIC CONTROL PLANS FOR TEMPORARY SHORING LOCATIONS AND NOTES.

2- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR INFORMATION ABOUT TEMPORARY SHORING AND PORTABLE CONCRETE BARRIER (PCB).

3- PCB IS REQUIRED IF TEMPORARY SHORING IS LOCATED WITHIN THE CLEAR ZONE IN ACCORDANCE WITH THE AASHTO ROADSIDE DESIGN GUIDE. DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE. (CONTACT NCDOT PAVEMENT MANAGEMENT UNIT FOR APPLICABLE PAVEMENT DESIGN).

4- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED OR ANCHORED PCB FROM THE TABLE SHOWN IN FIGURE B. CLEAR DISTANCE IS DEFINED AS SHOWN IN FIGURE A AND OFFSET IS DEFINED AS SHOWN IN FIGURE B.

5- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET PCB NEXT TO AND UP AGAINST THE TRAFFIC SIDE OF THE TEMPORARY SHORING EXCEPT FOR BARRIER ABOVE TEMPORARY WALLS. PCB WITH THE MINIMUM REQUIRED CLEAR DISTANCE IS REQUIRED ABOVE TEMPORARY WALLS.

6- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.

7- PCB REQUIREMENTS FOR TEMPORARY WALLS APPLY TO TEMPORARY MECHANICALLY STABILIZED EARTH (MSE) WALLS AND TEMPORARY SOIL NAIL WALLS.

8- SET PCB WITH A MINIMUM HORIZONTAL DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A UNLESS OTHERWISE SHOWN IN THE PLANS AND OR AS APPROVED BY THE ENGINEER.

9- FOR PCB ABOVE AND BEHIND TEMPORARY WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.

10- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200 FT IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph <30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
		>56	32	36	42	45	47	51
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
		50-56	26	26	28	32	35	38
		>56	26	27	29	32	36	38
Anchored PCB	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

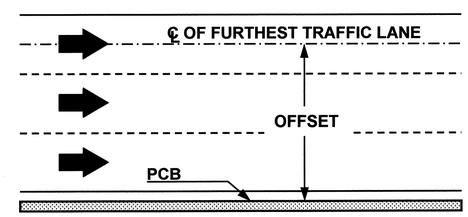


FIGURE B

APPROVED: DATE: 06-18-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 30864 ENGINEER DAVID W. BISSETTE

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS

6/18/2013
\\Dot\dfsroot01\Proj\TIPProjects-R\R2303d\Traffic\TrafficControl\TCP\R-2303D_TC_TMP_02.dgn
User:dwbissette

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-2A

TEMPORARY SHORING DATA

SHORING LOCATION NO. 1

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 1108+86 ±, 12.0 FT ± RIGHT, TO STATION -L- 1109+64 ±, 12.0 FT ± RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 124.9 FT

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 1109+18.65 ±, 12.0 FT ± RIGHT, TO STATION -L- 1109+26.43 ±, 12.0 FT ± RIGHT. SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. 2

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 1223+88 ±, 1.5 FT ± LEFT, TO STATION -L- 1225+05 ±, 1.5 FT ± LEFT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 119.9 FT

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 1224+41.43 ±, 1.5 FT ± LEFT, TO STATION -L- 1224+50.57 ±, 1.5 FT ± LEFT. SEE STANDARD DRAWING NO. 1801.02 FOR STANDARD TEMPORARY WALLS.

SHORING LOCATION NO. 3

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 1108+85 ±, 3.0 FT ± RIGHT, TO STATION -L- 1109+34 ±, 3.0 FT ± RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 124.9 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 1108+85 ±, 3.0 FT ± RIGHT, TO STATION -L- 1109+34 ±, 3.0 FT ± RIGHT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 1108+85 ±, 3.0 FT ± RIGHT, TO STATION -L- 1109+34 ±, 3.0 FT ± RIGHT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SHORING LOCATION NO. 4

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 1224+36 ±, 7.0 FT ± RIGHT, TO STATION -L- 1224+56 ±, 7.0 FT ± RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 119.9 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 1224+36 ±, 7.0 FT ± RIGHT, TO STATION -L- 1224+56 ±, 7.0 FT ± RIGHT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 1224+36 ±, 7.0 FT ± RIGHT, TO STATION -L- 1224+56 ±, 7.0 FT ± RIGHT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

SHORING LOCATION NO. 5

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- 1327+41 ±, 0.9 FT ± RIGHT, TO STATION -L- 1328+43 ±, 2.4 FT ± RIGHT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30
DEGREES COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 89.0 FT

DO NOT USE A TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION -L- 1327+41 ±, 0.9 FT ± RIGHT, TO STATION -L- 1328+43 ±, 2.4 FT ± RIGHT.

AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L- 1327+41 ±, 0.9 FT ± RIGHT, TO STATION -L- 1328+43 ±, 2.4 FT ± RIGHT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH SEALED DOCUMENTS FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENTS WERE SUBMITTED TO THE WZTC SECTION ON FEBRUARY 12, 2013 AND FEBRUARY 21, 2013 AND SEALED BY PROFESSIONAL ENGINEER, JINYOUNG PARK, P.E., LICENSE # 32171.

APPROVED DATE: 07-15-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 30864 ENGINEER DAVID W. BISSETTE

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TEMPORARY SHORING NOTES

7/15/2013
P:\TIPProjects-R\R2303d\Traffic\TrafficControl\TCP\R-2303D_TC_TMP_02A.dgn
User:dwbissette

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-2B

SIGN NUMBER: SP 02
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 3'-6"
HEIGHT: 2'-0"
TOTAL AREA: 7.0 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

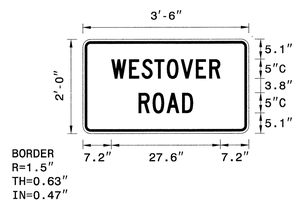
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

Letters	Series/Size	Text Length
W E S T O V E R	C 2000	27.6
7.2 11.7 14.9 18.1 21.3 24.8 28.6 32		
R O A D	C 2000	13.8
14.1 17.7 21.2 25.1		

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP 02
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 4'-6"
HEIGHT: 2'-0"
TOTAL AREA: 9.0 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

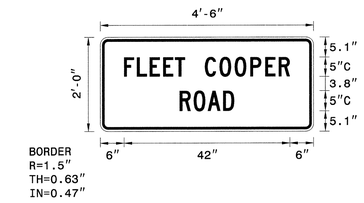
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

Letters	Series/Size	Text Length
F L E E T C O O P E R	C 2000	42
6 9.3 12.5 15.9 18.9 21.5 26.5 30.2 34 38 41.8 45.2		
R O A D	C 2000	13.8
20.1 23.7 27.2 31.1		

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP 03
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 3'-6"
HEIGHT: 2'-0"
TOTAL AREA: 7.0 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

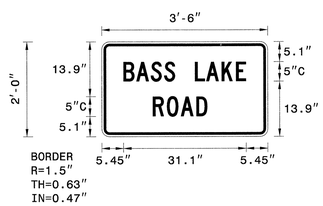
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

Letters	Series/Size	Text Length
B A S S L A K E	C 2000	31.1
5.5 8.7 12.4 15.8 18.6 23.6 26.4 30.3 34		
R O A D	C 2000	13.8
12.9 16.5 20 23.9		

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP 04
TYPE: STATIONARY
QUANTITY: SEE PLANS
SIGN WIDTH: 3'-6"
HEIGHT: 1'-6"
TOTAL AREA: 5.3 Sq.Ft.
BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

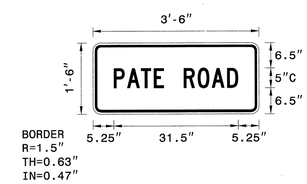
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

Letters	Series/Size	Text Length
P A T E R O A D	C 2000	31.5
5.3 8.7 12.2 15.4 18 23 26.5 30.1 34		

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN DESIGNS (sheet 1 of 2)

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:04
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13833 AT RAL2\A480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-2C

SIGN NUMBER: SP 05
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4'-0"
HEIGHT: 1'-6"
TOTAL AREA: 6.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

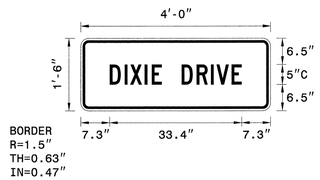
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

												Series/Size Text Length
D	I	X	I	E		D	R	I	V	E		C 2000
7.3	11.1	12.5	16.2	18	20.5	25.5	29.3	33	34.4	38.2		33.4

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP 06
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 5'-6"
HEIGHT: 2'-0"
TOTAL AREA: 11.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

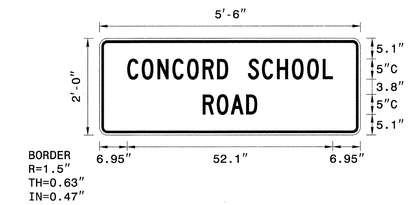
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																								Series/Size Text Length
C	O	N	C	O	R	D		S	C	H	O	O	L											C 2000
7	10.7	14.6	18.4	22.1	26.1	29.7	32.5	37.5	41.1	44.9	48.7	52.5	56.5											52.1
R	O	A	D																					C 2000
26.1	29.7	33.2	37.1																					13.8

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP 07
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 5'-0"
HEIGHT: 2'-0"
TOTAL AREA: 10.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.47"
WIDTH: 0.63"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

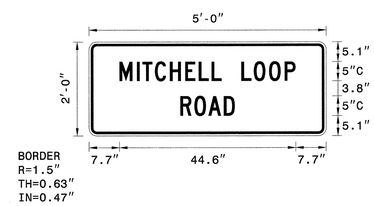
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: AM Thigpen
PROJECT ID: R-2303D
CHECKED BY:
DIV: 03
DATE: May 06, 2013

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

																								Series/Size Text Length
M	I	T	C	H	E	L	L		L	O	O	P												C 2000
7.7	12.1	13.5	16.7	20.5	24.4	27.8	31	33.6	38.6	41.7	45.6	49.5												44.6
R	O	A	D																					C 2000
23.1	26.7	30.2	34.1																					13.8

FILENAME: detour sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN DESIGNS (sheet 2 of 2)

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:04
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13833 AT RAL2UA148OFHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-3

AREA I – PHASING

–L– STA. 1097+00 TO –L– STA. 1373+94

PHASE I

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

STEP 1: -WHILE MAINTAINING TRAFFIC ON EXISTING NC 24, CONSTRUCT THE FOLLOWING AWAY FROM TRAFFIC:

- PROPOSED EB LANES (RIGHT HALF) OF NC 24 FROM STA 1097+00 +/- TO STA 1149+53 +/- AND FROM STA 1151+35 +/- TO STA 1184+30 +/- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE (SEE TMP-04 THROUGH TMP-08 AND TMP-10 THROUGH TMP-12) INCLUDING :
  - DOWNSTREAM (RIGHT) HALF OF RCBC AT STA 1109+00 +/- (SEE TMP-05 AND SECTION A-A)
  - TEMPORARY PAVEMENT FROM STA 1102+43 +/- TO STA 1106+00 +/- (SEE TMP-05 AND ROADWAY PLANS)
  - TEMPORARY PAVEMENT FROM STA 1109+20 +/- TO STA 1115+39 +/- (SEE TMP-05, TMP-06 AND ROADWAY PLANS)
- TEMPORARY GRADE 1 FROM STA 1184+30 +/- TO STA 1185+73 +/- AND FROM STA 1186+85 +/- TO STA 1193+06 +/-, EXCLUDING TIE TO NC 24. (SEE TMP-12 AND ROADWAY PLANS)
- TEMPORARY GRADE 2 FROM STA 1237+00 +/- TO STA 1247+48 +/-, EXCLUDING TIE-IN TO NC 24. (SEE TMP-17 AND TMP-18 AND ROADWAY PLANS)
- PROPOSED EB LANES ON NEW LOCATION UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE:
  - FROM STA 1247+48 +/- TO STA 1262+27 +/- (SEE TMP-18 THRU TMP-19)
  - FROM STA 1263+58 +/- TO STA 1285+54 +/- INCLUDING TEMPORARY PAVEMENT FROM STA 1263+58 +/- TO STA 1268+51 +/ (SEE TMP-18, TMP-19 AND ROADWAY PLANS)
  - FROM STA 1286+53 +/- TO STA 1293+00 +/- (SEE TMP-21 AND TMP-23)
- TEMPORARY GRADE 3 FROM STA 1293+00 +/- TO STA 1301+79 +/-, EXCLUDING TIE-IN TO NC 24. (SEE TMP-23 AND ROADWAY PLANS)

-WHILE MAINTAINING TRAFFIC ON EXISTING NC 24, BEGIN CONSTRUCTION OF PROPOSED NC 24 WB LANES (LEFT HALF) AWAY FROM TRAFFIC AS FOLLOWS UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE:

- FROM STA 1191+50 +/- TO STA 1240+00 +/- (SEE TMP-12, AND TMP-14 TO TMP-17), INCLUDING UPSTREAM (LEFT) HALF OF RCBC AT STA 1224+50 +/- (SEE TMP-16 AND SECTION B-B)
- FROM STA 1246+00 +/- TO STA 1262+27 +/-, INCLUDING TEMPORARY PAVEMENT FROM STA 1257+60 +/- TO STA 1262+04 +/ (SEE TMP-17 THRU TMP-19 AND ROADWAY PLANS)
- FROM STA 1263+58 +/- TO STA 1285+54 +/- (SEE TMP-19 AND TMP-21)
- FROM STA 1286+53 +/- TO STA 1293+00 +/- (SEE TMP-21 AND TMP-23)
- STA 1301+80 +/- TO STA 1329+00 +/-, INCLUDING BRIDGES FROM STA 1305+58 +/- TO STA 1317+58 +/- AND FROM STA 1326+04 +/- TO STA 1327+84 +/- (SEE TMP-24 AND TMP-25)

-USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, CONSTRUCT PROPOSED RETAINING WALLS ON RIGHT SIDE OF NC 24 SHOWN ON SHEETS TMP-26 AND TMP-27 (SEE SECTION D-D ON TMP-26). SEE STRUCTURE PLANS FOR RETAINING WALL DETAILS. AFTER CONSTRUCTION OF RETAINING WALLS, USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, CONSTRUCT TEMPORARY PAVEMENT ON RIGHT SIDE OF NC 24 UP TO EDGE AND ELEVATION OF EXISTING FROM STA 1329+00 +/- TO STA 1367+43 +/- (SEE TMP-26 THROUGH TMP-28)

-USING RSD 1101.03 SHEETS 1 AND 2 OF 9, ALTERNATELY CLOSE -Y41- AND -Y42- AS FOLLOWS. ITEMS A & B MAY BE DONE IN EITHER ORDER AT THE DISCRETION OF THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER:

A. CONSTRUCT -Y41- IN THE FOLLOWING SEQUENCE (SEE TMP-09):

i. USING RSD 1101.03, SHEETS 1 AND 2 OF 9, CLOSE -Y41- (PATE ROAD). DETOUR TRAFFIC ON ROUTES SHOWN.

ii. CONSTRUCT -Y41- (PATE ROAD) AND -L- FROM STA 1148+00 +/- TO STA 1149+53 +/- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE. USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, CONSTRUCT TEMPORARY TIE TO NC 24.

iii. PLACE SIGNS, MARKINGS, & DEVICES AS SHOWN.

iv. REOPEN TO TRAFFIC IN 2L, 2W PATTERN.

B. CONSTRUCT TEMPORARY GRADE 1 AT -Y42- IN THE FOLLOWING SEQUENCE:

i. USING RSD 1101.03, SHEETS 1 AND 2 OF 9, CLOSE -Y42- (FLEET COOPER ROAD). DETOUR TRAFFIC ON ROUTES SHOWN ON TMP-12.

ii. CONSTRUCT TEMPORARY GRADE AT -Y42- (FLEET COOPER ROAD) AS SHOWN ON TMP-13 AND ROADWAY PLANS.

iii. USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, WEDGE ALONG NC 24 AND -Y42- (CONCORD SCHOOL ROAD/FLEET COOPER ROAD) AS SHOWN ON TMP-13.

iv. PLACE SIGNS, MARKINGS, & DEVICES AS SHOWN ON TMP-13.

v. REOPEN -Y42- (FLEET COOPER ROAD) TO TRAFFIC IN 2L, 2W PATTERN.

-AFTER COMPLETION OF -Y41- CONSTRUCTION ON NEW ALIGNMENT, AWAY FROM TRAFFIC, CONSTRUCT PROPOSED EB LANES (RIGHT HALF) OF -L- FROM STA 1149+53 +/- TO STA 1151+35 +/- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE (SEE TMP-09).

-PLACE PHASE II TEMPORARY MARKINGS ON NEWLY CONSTRUCTED LANES AS MUCH AS POSSIBLE AWAY FROM TRAFFIC (SEE TMP-30 THROUGH TMP-37 AND TMP-42 THROUGH TMP-46 FOR PHASE II TEMPORARY MARKINGS).

-INSTALL AND COVER SIGNING FOR UPCOMING TRAFFIC SHIFTS.

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK REQUIRED IN AREA I, PHASE I, STEPS 2, 3 AND 4 WITHIN 14 CALENDAR DAYS. [SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES]

STEP 2: -CONSTRUCT -Y44- IN THE FOLLOWING SEQUENCE (SEE TMP-22):

A. USING RSD 1101.03 SHEETS 1 & 2 OF 9, CLOSE -Y44- (DIXIE DRIVE). DETOUR TRAFFIC ALONG ROUTE SHOWN.

B. CONSTRUCT -Y44- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE AS SHOWN.

C. INSTALL CMS, BUMP AND CURVE WARNING SIGNS AND REOPEN TRAFFIC TO 2L, 2W PATTERN AS SHOWN.

STEP 3: -CONSTRUCT -Y43- IN THE FOLLOWING SEQUENCE (SEE TMP-20):

A. USING RSD 1101.03 SHEETS 1 & 2 OF 9, CLOSE -Y43- (BASS LAKE ROAD). DETOUR TRAFFIC ALONG ROUTE SHOWN.

B. CONSTRUCT -Y43- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE AS SHOWN. INSTALL ALL PAVEMENT MARKINGS FOR PHASE II PATTERN AS SHOWN ON TMP-44.

STEP 4: -USING RSD 1101.02, SHEET 1 OF 15 AND LAW ENFORCEMENT AS NEEDED AND WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN A SINGLE WORK PERIOD TO SHIFT NC 24 TRAFFIC INTO PHASE II TEMPORARY TRAFFIC PATTERN ON NEW ALIGNMENT BETWEEN STA 1237+00 +/- TO STA 1301+79 +/-:

A. COMPLETE ALL REMAINING TIE-IN WORK AND INSTALL REMAINING TEMPORARY PAVEMENT MARKINGS RIGHT SIDE OF -L- BETWEEN STA 1237+00 +/- AND STA 1301+79 +/- AND ON -Y44- FROM STA 13+32 +/- TO STA 15+71 +/-. (SEE MARKINGS ON TMP-42 THROUGH TMP-46)

B. SHIFT THE NC 24 TRAFFIC TO THE PHASE II TEMPORARY PATTERN.

C. REOPEN -Y43- IN PHASE II TRAFFIC PATTERN AS SHOWN ON TMP-44.

STEPS 5 AND 6 MAY BE DONE IN EITHER ORDER AT THE DISCRETION OF THE CONTRACTOR SUBJECT TO APPROVAL OF THE ENGINEER

STEP 5: -USING RSD 1101.02, SHEET 1 OF 15 AND LAW ENFORCEMENT AS NEEDED AND WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN A SINGLE WORK PERIOD TO SHIFT NC 24 TRAFFIC INTO PHASE II TEMPORARY TRAFFIC PATTERN ON EB LANES BETWEEN STA 1329+00 +/- AND STA 1369+50 +/-:

A. REVISE PAVEMENT MARKINGS TO PHASE II TEMPORARY PATTERN ON -L- BETWEEN STA 1329+00 +/- AND STA 1369+50 +/- AND ON -Y46- FROM STA 12+56 +/- TO STA 14+28 +/-. (SEE MARKINGS ON TMP-49 THROUGH TMP-52)

B. SHIFT THE NC 24 TRAFFIC TO THE PHASE II TEMPORARY PATTERN.

STEP 6: -USING RSD 1101.02, SHEET 1 OF 15 AND LAW ENFORCEMENT AS NEEDED AND WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN A SINGLE WORK PERIOD TO SHIFT NC 24 TRAFFIC INTO PHASE II TEMPORARY TRAFFIC PATTERN ON NEW ALIGNMENT BETWEEN STA 1097+00 +/- TO STA 1193+06 +/-:

A. COMPLETE ALL REMAINING TIE-IN WORK AND INSTALL REMAINING PHASE II TEMPORARY PAVEMENT MARKINGS FOR THE FOLLOWING (SEE MARKINGS ON TMP-30 THROUGH TMP-37):

- RIGHT SIDE OF -L- BETWEEN STA 1097+00 +/- AND STA 1193+06 +/-
- -Y39- FROM STA 13+06 +/- TO STA 14+09 +/- (SEE TMP-31)
- -Y40- FROM STA 12+83 +/- TO STA 15+13 +/- (SEE TMP-34)
- -Y41- FROM STA 10+57 +/- TO STA 12+94 +/- (SEE TMP-34)
- -Y42- FROM STA 12+66 +/- TO STA 16+29 +/- (SEE TMP-37)

B. SHIFT THE NC 24 TRAFFIC TO THE PHASE II TEMPORARY PATTERN ON EB PAVEMENT.

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASING
PHASE I

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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AREA I – PHASING

–L– STA. 1097+00 TO –L– STA. 1373+94

PHASE II

STEP 1: -USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, AND LAW ENFORCEMENT, INSTALL AND ACTIVATE TEMPORARY SIGNAL TO REVISE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF NC 24 AT -Y46- (FOREST DRIVE) TO ACCOMMODATE WIDENING / CONSTRUCTION DURING PHASE II. (SEE TMP-52 AND SIGNAL PLANS)

-AWAY FROM TRAFFIC, CONTINUE CONSTRUCTION OF NC 24 WB LANES (LEFT HALF) UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE BEGUN IN PHASE I:

- FROM STA 1191+50 +/- TO STA 1240+00 +/- (SEE TMP-37 AND TMP-39 THRU TMP-42)
- FROM STA 1246+00 +/- TO STA 1262+27 +/- (SEE TMP-42 THRU TMP-44)
- FROM STA 1263+58 +/- TO STA 1285+54 +/- (SEE TMP-44 THRU TMP-45)
- FROM STA 1286+53 +/- TO STA 1293+00 +/- (SEE TMP-45 THRU TMP-46)
- TEMPORARY PAVEMENT FROM STA 1257+60 +/- TO STA STA 1262+04 +/- (SEE TMP-43, TMP-44 AND ROADWAY PLANS)
- FROM STA 1301+80 +/- TO STA 1329+00 +/- INCLUDING BRIDGES FROM STA 1305+58 +/- TO STA 1317+58 +/- AND FROM STA 1326+04 +/- TO 1327+84 +/- (TMP-47 THRU TMP-48)

-AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF PROPOSED WB LANES (LEFT HALF) OF NC 24 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE AS FOLLOWS:

- FROM STA 1097+00 +/- TO STA 1105+64+/- INCLUDING TEMPORARY PAVEMENT FROM STA 1101+08 +/- TO STA 1105+45 +/- (SEE TMP-30, TMP-31 AND ROADWAY PLANS)
- FROM STA 1106+70 +/- TO STA 1142+21+/- (SEE TMP-31 TO TMP-34), INCLUDING UPSTREAM (LEFT) HALF OF RCBC AT 1109+25 +/-
- FROM STA 1143+35 +/- TO STA 1185+95+/- (SEE TMP-34 TO TMP-37)
- FROM STA 1187+50 +/- TO STA 1190+00+/- (PARTIAL WIDTH - MINIMUM 2 THRU LANES PLUS 6′ OF SHOULDER) (SEE TMP-37)
- FROM STA 1190+00 +/- TO STA 1191+50+/- (SEE TMP-37)
- FROM STA 1240+00 +/- TO STA 1246+00 +/- (TMP-42)
- FROM STA 1293+00 +/- TO STA 1301+80 +/- (TMP-46)
- FROM STA 1329+00 +/- TO STA 1366+11 +/- (TMP-49 THRU TMP-51)

-USING RSD 1101.02, SHEETS 1 AND 2 OF 15, LAW ENFORCEMENT AND FLAGGERS, CONSTRUCT UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE FOR THE FOLLOWING:

- PROPOSED WB LANES (LEFT HALF OF -L-) FROM STA 1366+11 +/- TO STA 1373+94 +/- (TMP-51 AND TMP-52)
- PROPOSED NORTH LEG OF -Y45- (COHARIE DRIVE) (TMP-50)
- PROPOSED NORTH LEG OF -Y46- (FOREST DRIVE) (TMP-52)

-USING RSD 1101.02, SHEETS 1 AND 2 OF 15, AND FLAGGERS, CONSTRUCT UP TO EXISTING EDGE AND ELEVATION OF PROPOSED -Y40- (MITCHELL MILL LOOP ROAD) (SEE TMP-34)

-CONSTRUCT -Y39- IN THE FOLLOWING SEQUENCE AS SHOWN ON TMP-31:

A. USING 1101.03, SHEETS 1 AND 2 OF 9, TEMPORARILY CLOSE -Y39- (MITCHELL LOOP ROAD) AND DETOUR TRAFFIC TO -Y40- (EAST END OF MITCHELL LOOP ROAD).

B. BEHIND ROAD CLOSURE, CONSTRUCT -Y39- WITH TIE INTO NC 24 AND -L- FROM 1105+64 +/- TO STA 1106+70 +/- UP TO BUT NOT INCLUDING FINAL SURFACE LAYER.

C. PLACE TEMPORARY MARKINGS ON -Y39- AND REOPEN -Y39- TO TRAFFIC.

STEP 2: -USING RSD 1101.02, SHEET 1 OF 15, WEDGE THE -Y40- (MITCHELL LOOP ROAD) TIE INTO NC 24 PROPOSED WB LANES AND COMPLETE CONSTRUCTION OF -Y40- AND -L- FROM STA 1142+21 +/- TO STA 1143+35 +/- UP TO BUT NOT INCLUDING FINAL SURFACE COURSE. REVISE PAVEMENT MARKINGS ON MITCHELL LOOP ROAD TO NEW ALIGNMENT SHOWN ON TMP-34.

-AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF PROPOSED WB LANES (LEFT HALF) OF NC 24 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE AS FOLLOWS:

- FROM STA 1097+00 +/- TO STA 1105+64 +/- INCLUDING TEMPORARY PAVEMENT FROM STA 1101+08 +/- TO STA 1105+45 +/- (SEE TMP-30, TMP-31 AND ROADWAY PLANS)
- FROM STA 1106+70 +/- TO STA 1142+21 +/- (SEE TMP-31 TO TMP-34), INCLUDING UPSTREAM (LEFT) HALF OF RCBC AT 1109+25 +/-
- FROM STA 1143+35 +/- TO STA 1185+95 +/- (SEE TMP-34 TO TMP-37)
- FROM STA 1187+50 +/- TO STA 1190+00 +/- (PARTIAL WIDTH - MINIMUM 2 THRU LANES PLUS 6′ OF SHOULDER) (SEE TMP-37)
- FROM STA 1190+00 +/- TO STA 1191+50+/- (SEE TMP-37)
- FROM STA 1240+00 +/- TO STA 1246+00 +/- (TMP-42)
- FROM STA 1293+00 +/- TO STA 1301+80 +/- (TMP-46)
- FROM STA 1329+00 +/- TO STA 1366+11 +/- (TMP-49 THRU TMP-51)

-AWAY FROM TRAFFIC, INSTALL ALL PHASE III TEMPORARY PAVEMENT MARKINGS POSSIBLE ON COMPLETED NC 24 WB PAVEMENT AS SHOWN ON TMP-53 THRU TMP-75 TO PREPARE FOR SHIFT TO PHASE III TRAFFIC PATTERN.

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE ALL WORK REQUIRED IN AREA I, PHASE II, STEP 3 WITHIN 14 CALENDAR DAYS. [SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES]

STEP 3: -COMPLETE CONSTRUCTION OF -Y42- (CONCORD SCHOOL ROAD) AND THE TRAFFIC SHIFT TO PHASE III PATTERN BETWEEN STA 1097+00 +/- AND STA 1373+94 +/- IN THE FOLLOWING SEQUENCE:

A. USING RSD 1101.03, SHEETS 1 AND 2 OF 9, TEMPORARILY CLOSE -Y42- (CONCORD SCHOOL ROAD) AND DETOUR -Y42- TRAFFIC AS SHOWN ON TMP-38.

B. BEHIND ROAD CLOSURE, CONSTRUCT PROPOSED WB LANES OF NC 24 FROM STA 1185+95 +/- TO STA 1187+50 +/- (PARTIAL WIDTH - MINIMUM 2 THRU LANES PLUS 6′ OF SHOULDER) AND -Y42- (CONCORD SCHOOL ROAD) WITH TIE INTO NC 24 UP TO BUT NOT INCLUDING FINAL SURFACE LAYER (SEE TMP-38). PLACE TEMPORARY MARKINGS IN PHASE III PATTERN ON NC 24 WB PAVEMENT AND -Y42- AS SHOWN ON TMP-60, BUT DO NOT REOPEN -Y42- (CONCORD SCHOOL ROAD) UNTIL NC 24 TRAFFIC HAS BEEN SHIFTED INTO PHASE III TRAFFIC PATTERN IN PHASE III, STEP 3C.

C. USING RSD 1101.02, SHEET 1 OF 15 AND LAW ENFORCEMENT AS NEEDED AND WORKING IN A CONTINUOUS MANNER, COMPLETE IN A SINGLE WORK PERIOD THE FOLLOWING TO SHIFT NC 24 INTO PHASE III TEMPORARY 2L, 2W TRAFFIC PATTERN ON WB PAVEMENT AS SHOWN ON TMP-53 THROUGH TMP-75:

i. REVISE THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF NC 24 AT -Y46- (FOREST DRIVE). (SEE TMP-75)

ii. COMPLETE ALL REMAINING TIE-IN WORK AND INSTALL TEMPORARY PAVEMENT MARKINGS FOR THE FOLLOWING:

- LEFT SIDE OF -L- BETWEEN STA 1366+11 +/- AND STA 1373+94 +/- (SEE TMP-74 TO TMP-75)
- -Y39- FROM STA 13+12 +/- TO STA 13+31 +/-(SEE TMP-54)
- -Y40- FROM STA 14+21 +/- TO STA 14+43 +/- (SEE TMP-57)
- -Y41- FROM -L- TO STA 12+31 +/- (SEE TMP-57)
- -Y43- FROM STA 14+75 +/- TO STA 17+60 +/-. (SEE TMP-67)
- -Y44- FROM STA 12+79 +/- TO STA 14+16 +/- (SEE TMP-68)
- -Y46- FROM STA 12+56 +/- TO STA 15+71 +/- (SEE TMP-75)

iii. SHIFT NC 24 TRAFFIC INTO PHASE III TEMPORARY 2L, 2W PATTERN ON WB PAVEMENT BETWEEN STA 1097+00 +/- AND STA 1373+94 +/-. REOPEN -Y42- (CONCORD SCHOOL ROAD) TO TRAFFIC ONCE NC 24 TRAFFIC HAS BEEN SHIFTED ONTO WB PAVEMENT AND USING RSD 1101.03, SHEETS 1 AND 2 OF 9, CLOSE -Y42- (FLEET COOPER ROAD) AND DETOUR -Y42- TRAFFIC AS SHOWN ON TMP-60 AND TMP-61.

iv. ACTIVATE TRAFFIC SIGNAL AT -Y46- (FOREST DRIVE) AND OPEN TO PHASE III TRAFFIC PATTERN.

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASING
PHASE II

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AREA I – PHASING

–L– STA. 1097+00 TO –L– STA. 1373+94

PHASE III

STEP 1: -CONSTRUCT REMAINDER OF PROPOSED EB LANES (RIGHT HALF) OF NC 24 UP TO BUT NOT INCLUDING FINAL SURFACE LAYER, USING RSD 1101.02, SHEETS 1 AND 2 OF 15 AS NECESSARY, FOR THE FOLLOWING:

- FROM STA 1184+30 +/-TO STA 1247+48 +/- (TMP-60 THRU TMP-66), INCLUDING DOWNSTREAM (RIGHT) HALF OF RCBC AT STA 1224+50 +/- (SEE SECTION H-H ON TMP-64)

- FROM STA 1293+00 +/- TO STA 1345+00 +/- (TMP-69 THRU TMP-73), INCLUDING PROPOSED EB BRIDGES. (SEE TMP-70 AND TMP-71).

- FROM STA 1353+50 +/- TO STA 1366+11 +/- (TMP-73 THRU TMP-74).

-AWAY FROM TRAFFIC, CONSTRUCT REMAINING PROPOSED LANES AND LEFTOVER LOCATIONS IN MEDIANS UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE FROM STA 1151+35 +/-TO STA 1157+65 +/- (TMP-57 AND TMP-58) AND FROM STA 1178+10 +/-TO STA 1178+90 +/- (TMP-59)

-USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, CONSTRUCT RIGHT SIDE OF -L- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE FROM STA 1345+00 +/-TO STA 1353+50 +/- (TMP-73), INCLUDING SOUTH LEG OF -Y45- (COHARIE SQUARE).

-USING RSD NO. 1101.02, SHEET 1 OF 15, CONSTRUCT CONCRETE ISLANDS AT ALL U-TURN LOCATIONS ALONG NC 24. INSTALL CONES ALONG EDGE OF ISLAND ADJACENT TO TRAFFIC AS SHOWN ON PLANS WHILE CONCRETE CURES (SEE TMP-53, TMP-56, TMP-58, TMP-59, TMP-62, TMP-66, AND TMP-69).

-USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, AND LAW ENFORCEMENT, CONSTRUCT RIGHT SIDE OF -L- UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE FROM STA 1366+11 +/- TO STA 1373+94 +/- (TMP-74 AND TMP-75), INCLUDING SOUTH LEG OF -Y46-(FOREST DRIVE).

-CONSTRUCT -Y42- (FLEET COOPER ROAD) IN THE FOLLOWING SEQUENCE:

A. WHILE -Y42- IS CLOSED TO TRAFFIC, CONSTRUCT -Y42- (FLEET COOPER ROAD) AND -L- FROM STA 1186+61 +/- TO STA 1187+40 +/- AS MUCH AS POSSIBLE AWAY FROM TRAFFIC (TMP-60)

B. USING RSD NO. 1101.02, SHEET 1 OF 15 ON NC 24, COMPLETE CONSTRUCTION OF -Y42- AT THE TIE-IN TO NC 24, EB LANES OF -L- FROM STA 1186+61 +/- TO STA 1187+40 +/- AND REMAINING WORK ON WB LANES OF NC 24 BETWEEN STA 1185+95 +/- TO STA 1190+00 +/- (TMP-60) UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE.

C. INSTALL PAVEMENT MARKINGS AS SHOWN ON TMP-61 AND REOPEN -Y42- (FLEET COOPER ROAD) TO TRAFFIC AS SHOWN ON TMP-61.

-PLACE TEMPORARY MARKINGS ON NEWLY CONSTRUCTED EB LANES IN PROPOSED PHASE IV TEMPORARY PATTERN AS MUCH AS POSSIBLE AWAY FROM TRAFFIC AS SHOWN ON TMP-83 THROUGH TMP-87 AND ON TMP-91 THROUGH TMP-97.

-INSTALL FINAL SIGNS AS DIRECTED BY THE ENGINEER AND APPROPRIATE FOR FIELD CONDITIONS (SEE SIGNING PLANS) AND COVER. UNCOVER SIGNING AT COMPLETION OF TRAFFIC SHIFT IN STEP 2.

STEP 2: -USING RSD 1101.02, SHEET 1 OF 15 AND LAW ENFORCEMENT AS NEEDED AND WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING IN A SINGLE WORK PERIOD TO SHIFT NC 24 TRAFFIC TO THE PHASE IV TEMPORARY PATTERN AS SHOWN ON TMP-76 THROUGH TMP-97: :

A. REVISE TRAFFIC SIGNAL AT -Y46- (FOREST DRIVE) FOR TRAFFIC SHIFT TO PHASE IV PATTERN. (SEE TMP-97)

B. COMPLETE ALL REMAINING TIE-IN WORK AND INSTALL TEMPORARY PAVEMENT MARKINGS (PAINT) IN THE PHASE IV PATTERN FOR THE FOLLOWING:

- -L-BETWEEN STA 1343+92 +/- AND STA 1353+42 +/- (SEE TMP-95 FOR MARKINGS) AND BETWEEN STA 1364+80 +/- AND STA 1373+94 +/- (SEE TMP-96 AND TMP-97 FOR MARKINGS)

- -L- BETWEEN STA 1373+94 +/- TO STA 1379+34 +/- (TMP-97)

- -Y41- FROM STA 10+47 +/- TO STA 12+94 +/- (TMP-80)

- -Y42- (FLEET COOPER ROAD) FROM STA 14+79 +/- TO STA 15+80 +/- (TMP-83)

- -Y43- (SOUTH LEG) FROM STA 15+95 +/- TO STA 17+60 +/- (TMP-89)

- -Y44- (SOUTH LEG) FROM STA 14+06 +/- TO STA 16+49 +/- (TMP-90)

- -Y45- (COHARIE SQUARE) FROM STA 15+39 +/- TO STA 17+10 +/- (TMP-95)

- -Y46- (SOUTH LEG) FROM STA 15+33 +/- TO STA 15+71 +/- (TMP-97)

MAINTAIN PHASE III MARKINGS ON SIDE STREETS, UNLESS SPECIFICALLY CALLED FOR ABOVE, UNTIL SIDE STREET ISLANDS ARE INSTALLED IN STEP 1B OF PHASE IV UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

C. SHIFT NC 24 EB TRAFFIC INTO PHASE IV TEMPORARY PATTERN ON EB PAVEMENT BETWEEN STA 1097+00 +/- AND -Y47- (AIRPORT ROAD).

D. OPEN U-TURN MOVEMENTS (AS SHOWN ON TMP-76 THROUGH TMP-97) THEN CLOSE MEDIANS AT -Y- LINES AND INSTALL SIGNING AS SHOWN FOR RIGHT ONLY MOVEMENTS FROM -Y-LINES. UNCOVER FINAL SIGNING INSTALLED IN STEP 1.

E. ACTIVATE TRAFFIC SIGNAL AT -Y46- (FOREST DRIVE) AND OPEN TO PHASE IV TRAFFIC PATTERN. (TMP-97)

PHASE IV

STEP 1: -AWAY FROM TRAFFIC COMPLETE REMAINING MEDIAN CONSTRUCTION BETWEEN STA 1345+00 +/- AND -Y47- (AIRPORT ROAD) AS SHOWN ON TMP-95 THRU TMP-97.

-COMPLETE ALL REMAINING MEDIAN CONSTRUCTION BETWEEN STA 1097+00 +/- AND STA 1296+00 +/-, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE IN THE FOLLOWING SEQUENCE (SEE TMP-76 THRU TMP-91):

A. AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF ALL MEDIAN WORK, INCLUDING LEFTOVER CHANNELIZATION AT -Y- LINE INTERSECTIONS.

B. USING RSD 1101.02, SHEET 1 OF 15, COMPLETE RIGHT TURN ISLANDS AT ALL -Y- LINES. INSTALL CONES AROUND ISLAND AS SHOWN ON DETAIL A WHILE CONCRETE CURES. INSTALL TEMPORARY MARKINGS (PAINT) IN FINAL PATTERN AT ALL -Y- LINES ON NORTH SIDE OF NC 24 (-L-) AS FOLLOWS:

- -Y39- FROM STA 12+31 +/- TO STA 13+52 +/- (TMP-77)

- -Y40- FROM STA 13+36 +/- TO STA 14+52 +/- (TMP-80)

- -Y42- FROM STA 12+82 +/- TO STA 13+82 +/- (TMP-83)

- -Y43- FROM STA 14+00 +/- TO STA 14+98 +/- (TMP-89)

- -Y44- FROM STA 11+89 +/- TO STA 13+12 +/- (TMP-90)

- -Y45- FROM STA 13+61 +/- TO STA 14+70 +/- (TMP-95)

- -Y46- FROM STA 13+00 +/- TO STA 13+99 +/- (TMP-97)

C. INSTALL DRUMS TO CHANNELIZE LEFT-TURNING TRAFFIC TO LEFTOVERS AND OPEN LEFTOVERS TO TRAFFIC AS EACH -Y- LINE IS COMPLETED.

STEP 2: -WHILE MAINTAINING TRAFFIC IN OUTSIDE LANE OF NC 24, PLACE FINAL LAYER OF SURFACE ON INSIDE LANES.

-WHILE MAINTAINING OPERATION OF TEMPORARY SIGNAL AT -Y46-, INSTALL FINAL TRAFFIC SIGNAL AT -Y46- IN FINAL PATTERN. BAG SIGNAL HEADS OF FINAL SIGNAL UNTIL FINAL SIGNAL IS ACTIVATED.

STEP 3: -USING LAW ENFORCEMENT, FLAGGERS AND PILOT VEHICLE, WORKING IN A CONTINUOUS MANNER TO COMPLETE IN A SINGLE WORK PERIOD, SHIFT NC 24 EB AND WB TRAFFIC TO INSIDE LANES.

-BAG SIGNAL HEADS OF TEMPORARY SIGNAL AND UN-BAG SIGNAL HEADS FOR FINAL PATTERN AND ACTIVATE FINAL SIGNAL DESIGN FOR -Y46-.

STEP 4: -PLACE FINAL LAYER OF SURFACE ON OUTSIDE LANES.

-USING RSD 1101.02, PLACE FINAL LAYER OF SURFACE ON ALL -Y-LINES FROM WEST END OF THE PROJECT UP TO BUT NOT INCLUDING -Y47-.

-USING RSD 1101.02, PLACE TEMPORARY PAVEMENT MARKINGS IN FINAL PATTERN.

-OPEN ALL LANES TO THE PROPOSED FINAL PATTERN.

STEP 5: -ALL FINAL PAVEMENT MARKINGS FOR THE PROJECT WILL BE INSTALLED AT THE COMPLETION OF ALL OTHER WORK FOR BOTH AREA I AND AREA II. USING RSD 1101.02, PLACE FINAL PAVEMENT MARKINGS AND MARKERS ON ENTIRE LENGTH OF R-2303D PROJECT, INCLUDING BOTH AREA I AND AREA II.

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
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(919) 876-6888 NCBEES #F-0326

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASING
PHASES III & IV

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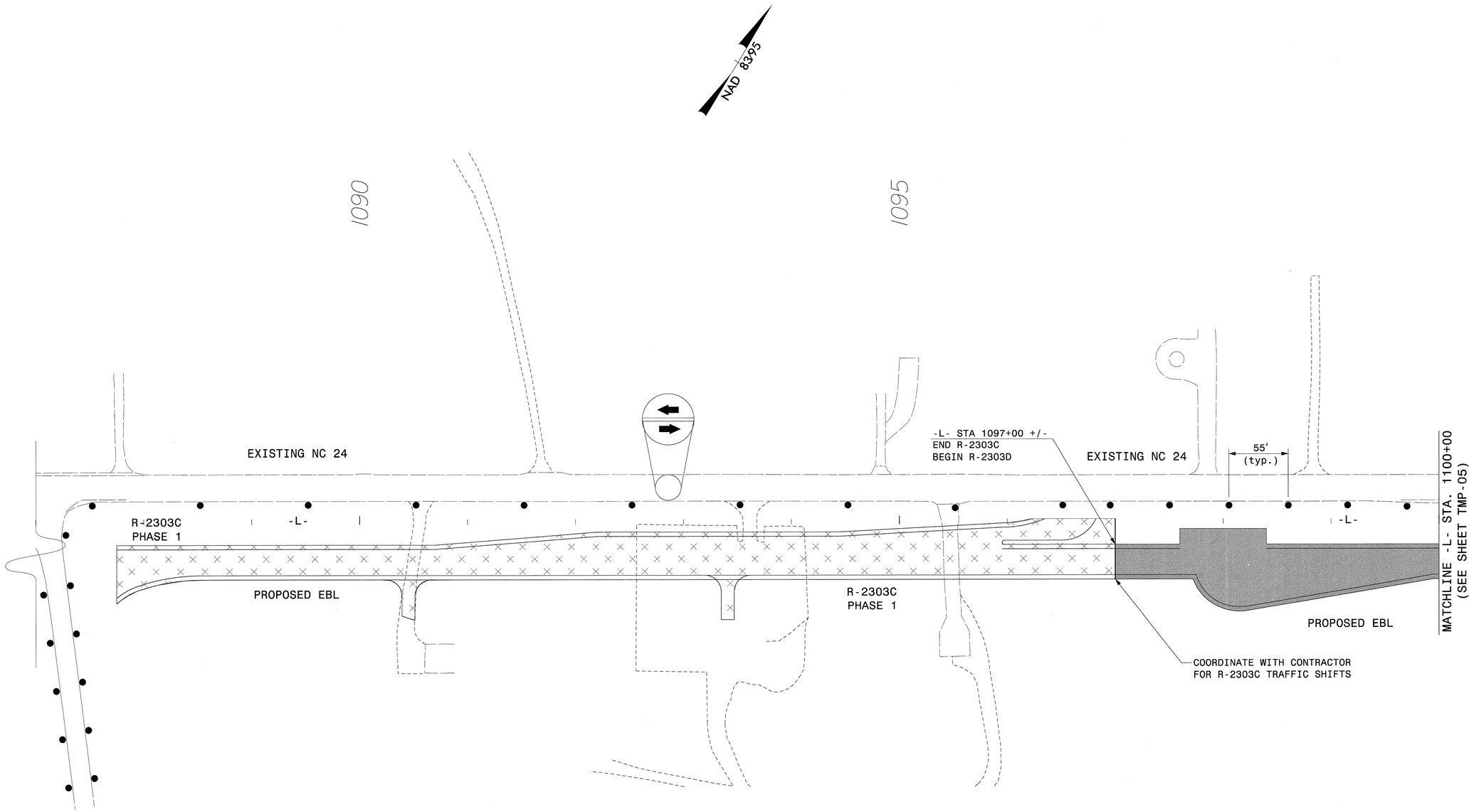
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-04



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE I DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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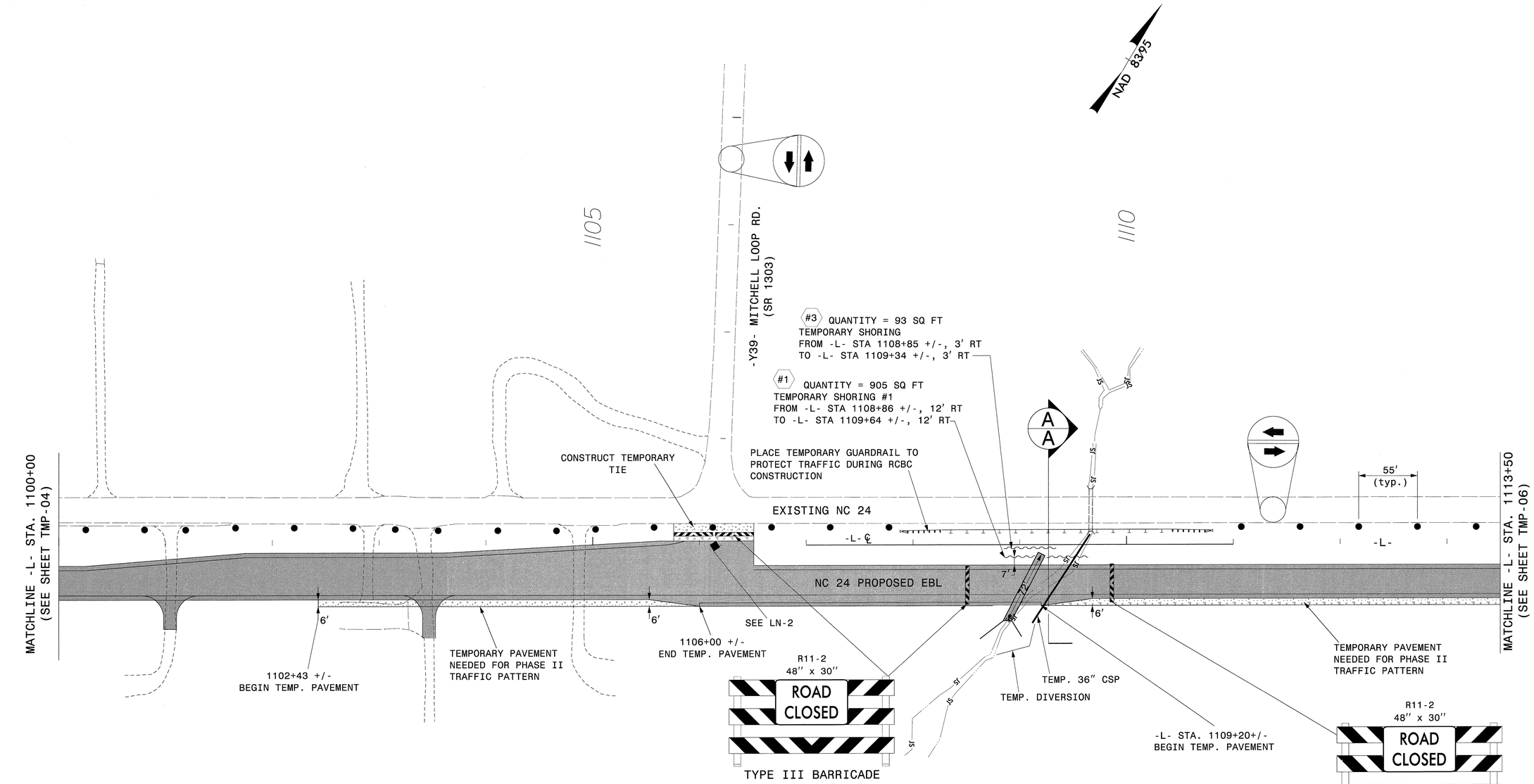
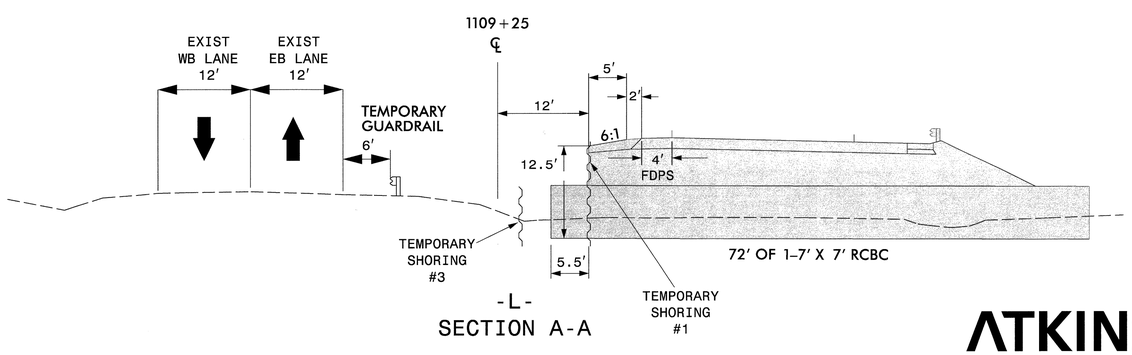
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-05



SEE TMP-2A FOR TEMPORARY SHORING DATA

SEE ROADWAY PLANS FOR TEMPORARY GUARDRAIL INFORMATION

SEE ROADWAY PLANS FOR TEMPORARY PAVEMENT INFORMATION



-L-
SECTION A-A

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
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APPROVED: DATE: 4/19/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L- NC 24 & -Y39-

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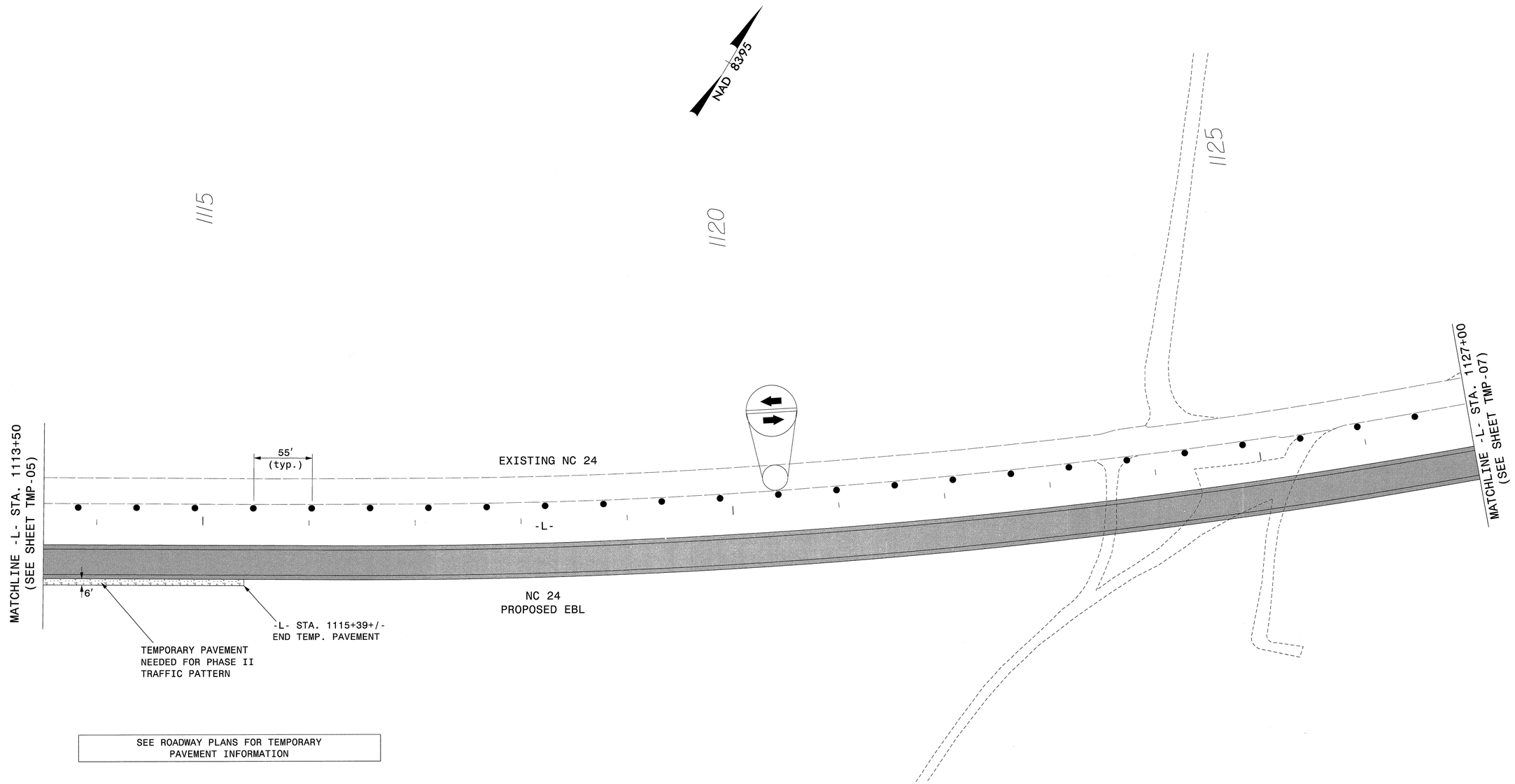
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-06



SEE ROADWAY PLANS FOR TEMPORARY PAVEMENT INFORMATION

APPROVED: J. Todd Brooks DATE: 6/19/13

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AREA I
PHASE I DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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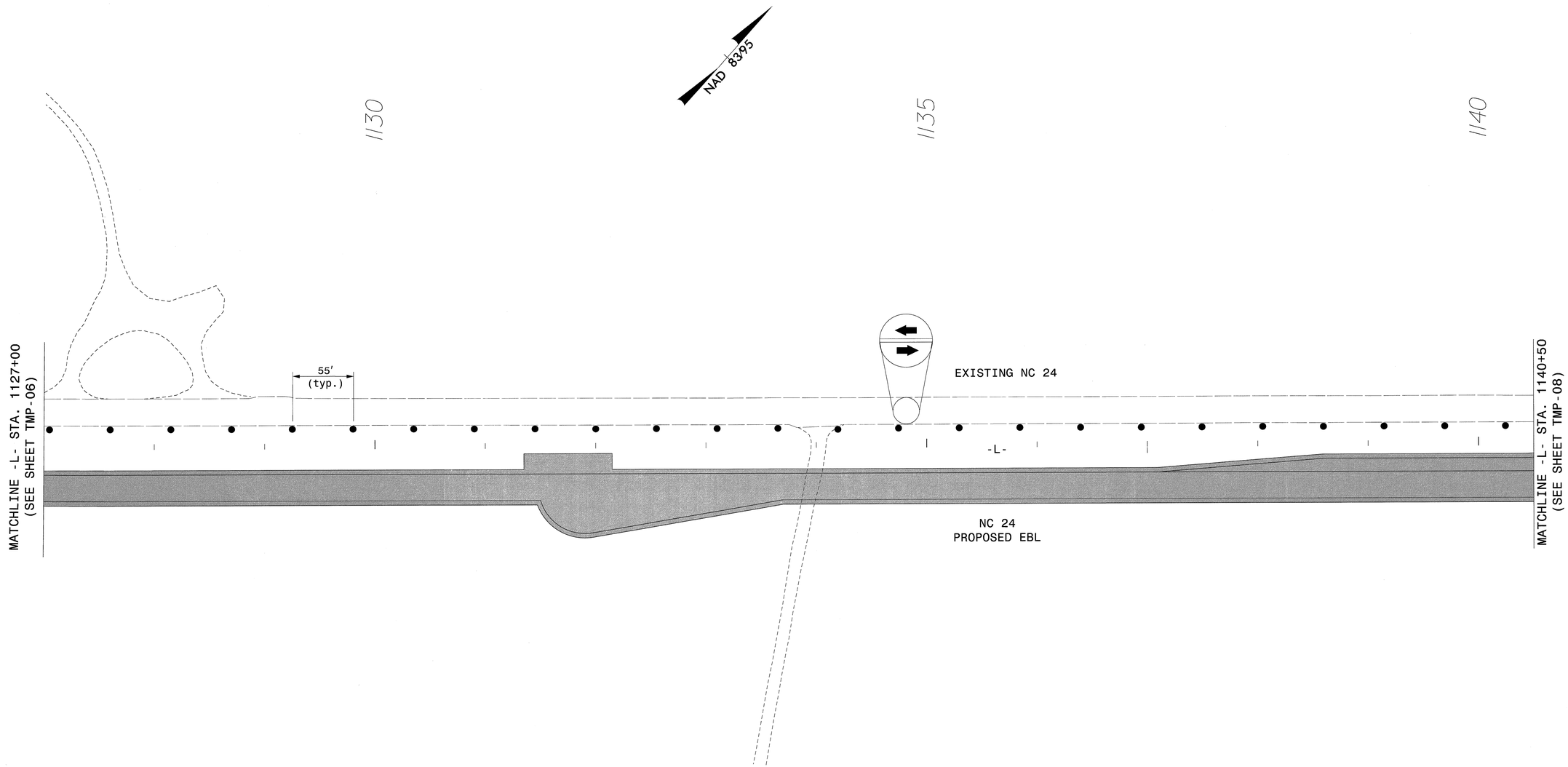
R-2303D	TMP-07



APPROVED: J. Todd Brooks DATE: 6/19/13

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AREA 1
PHASE 1 DETAIL
-L- NC 24

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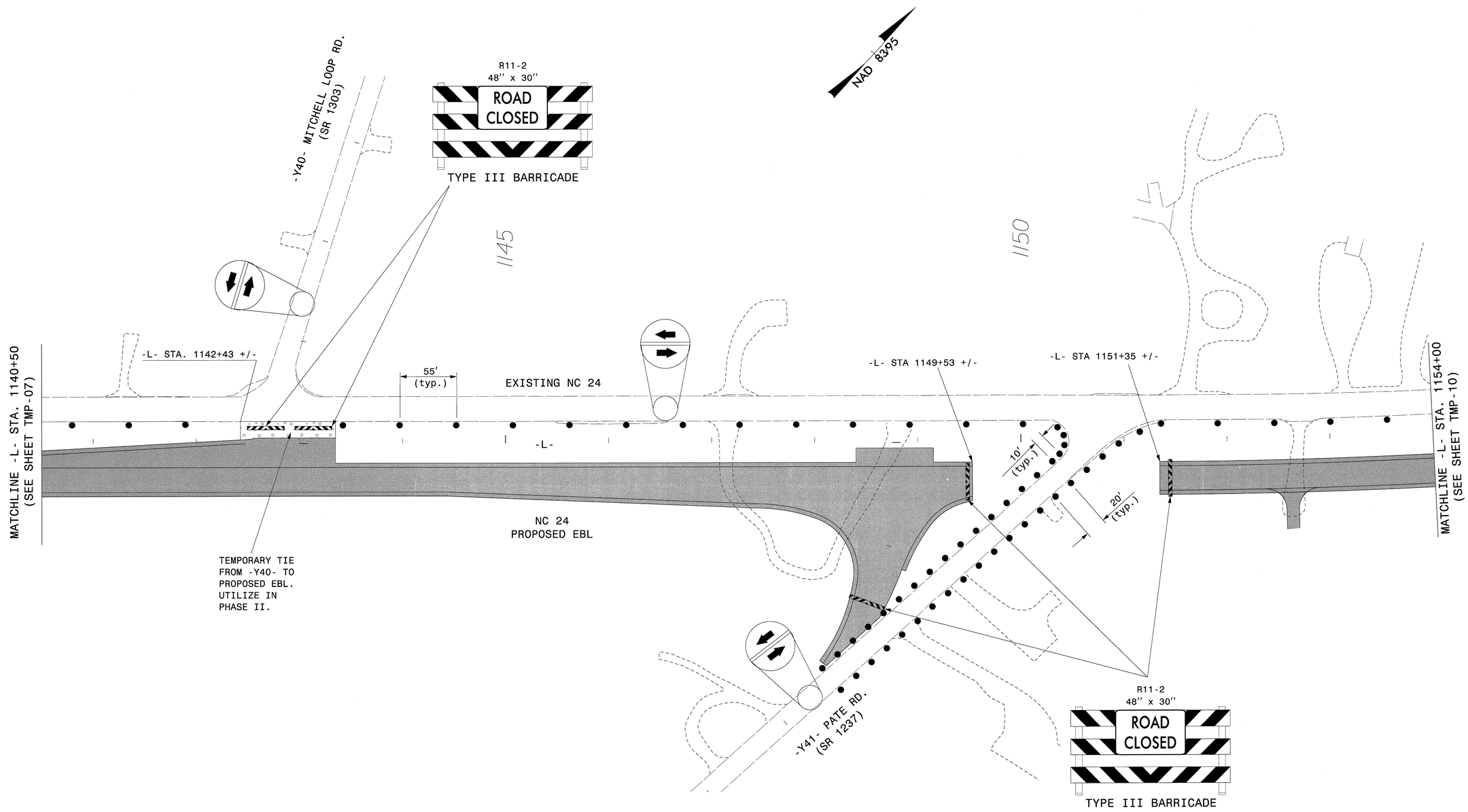
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-08



APPROVED: DATE: 6/18/13

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AREA 1 PHASE 1 DETAIL -L- NC 24, -Y40- & -Y41-

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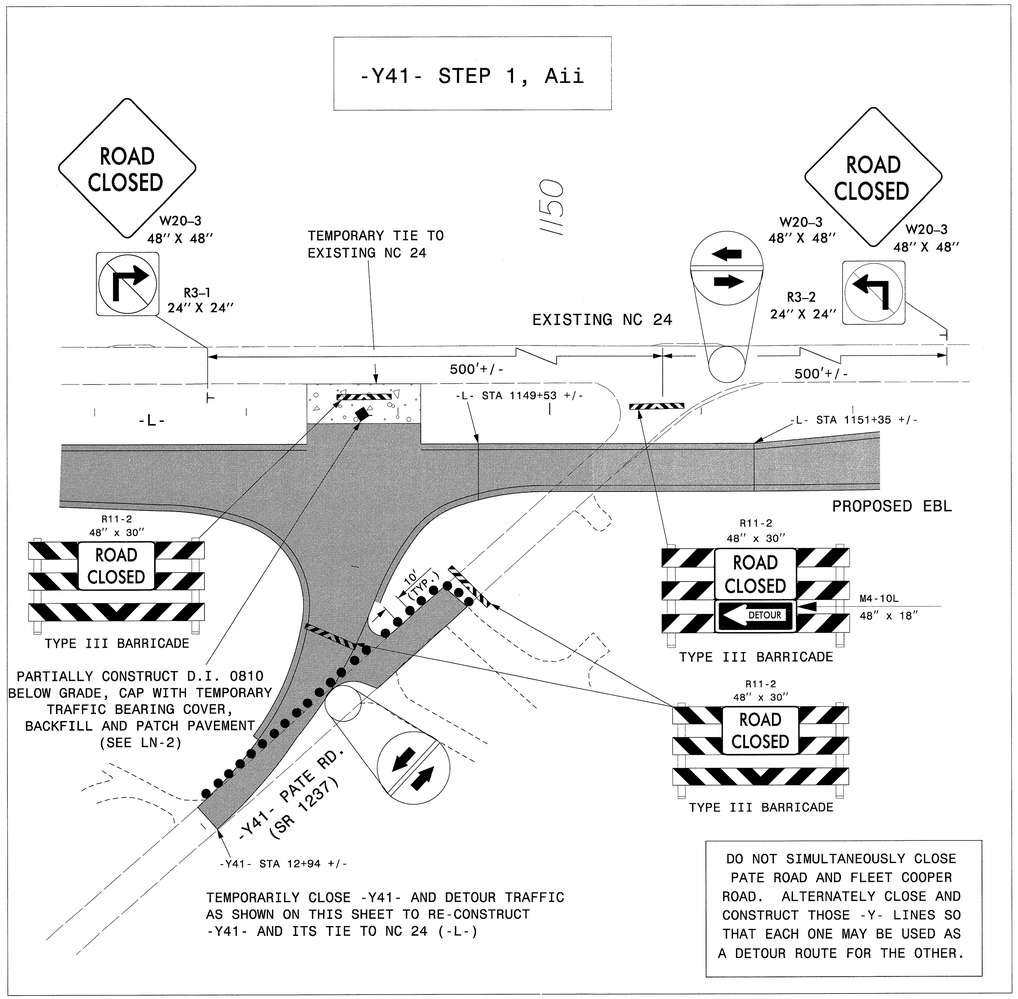
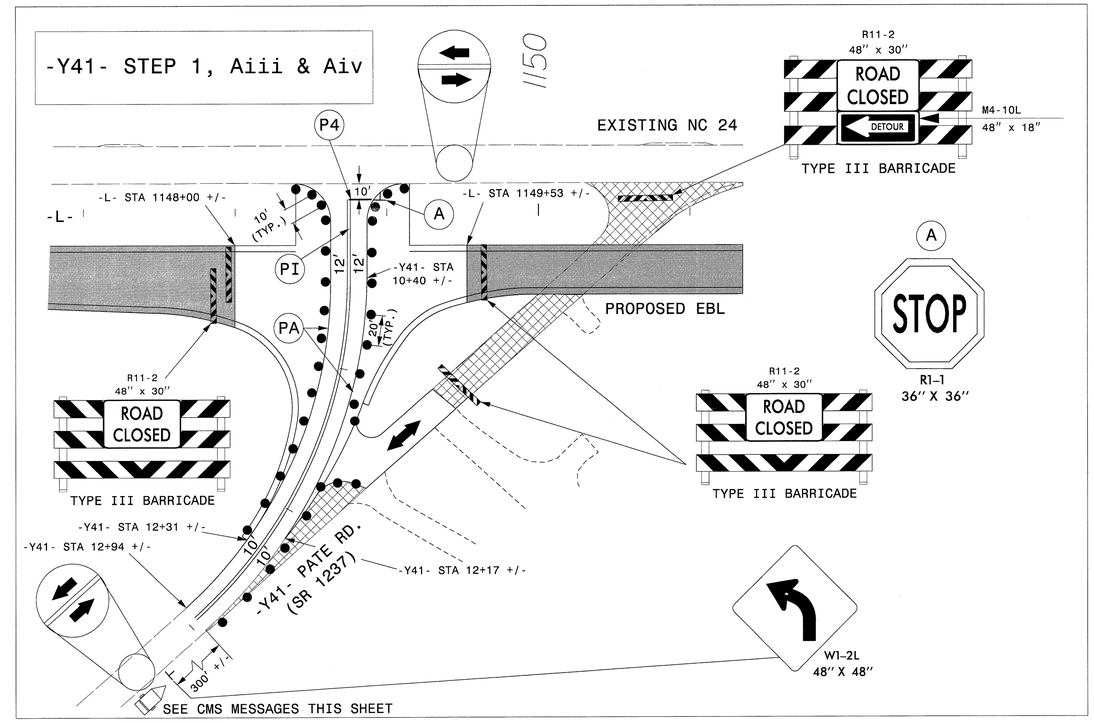
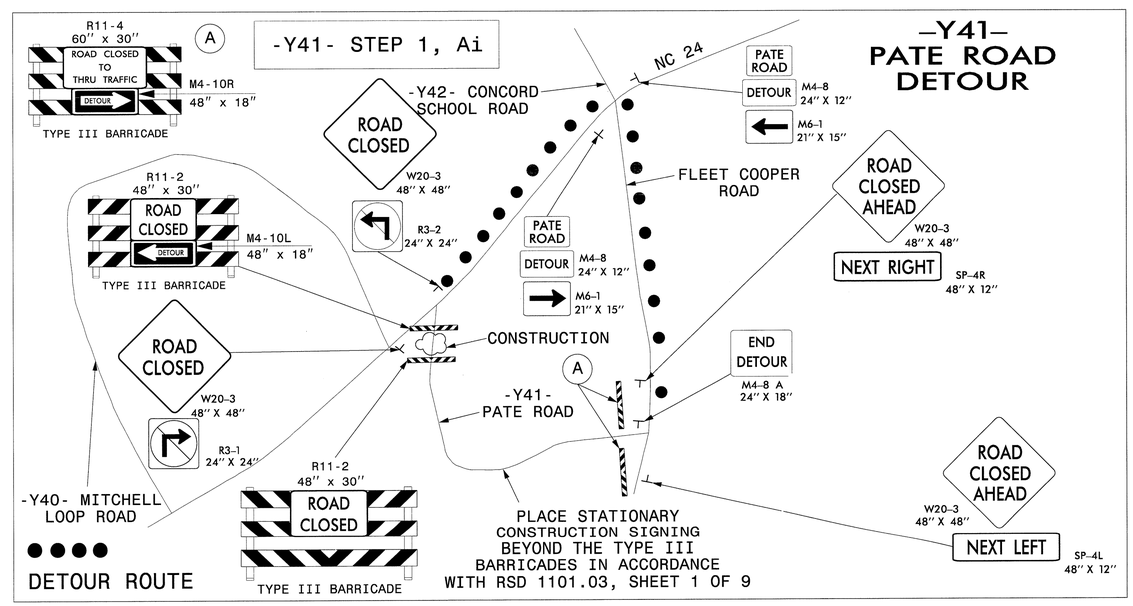
R-2303D	TMP-09







-Y41- PATE ROAD DETOUR

MESSAGES FOR CMS ON PATE RD. TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

-Y41- STEP 1, Aiii CMS PLACEMENT

APPROVED: Todd Brooks DATE: 6/19/13

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AREA 1
PHASE 1 DETAIL
-Y41-

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PROJ. REFERENCE NO.	SHEET NO.
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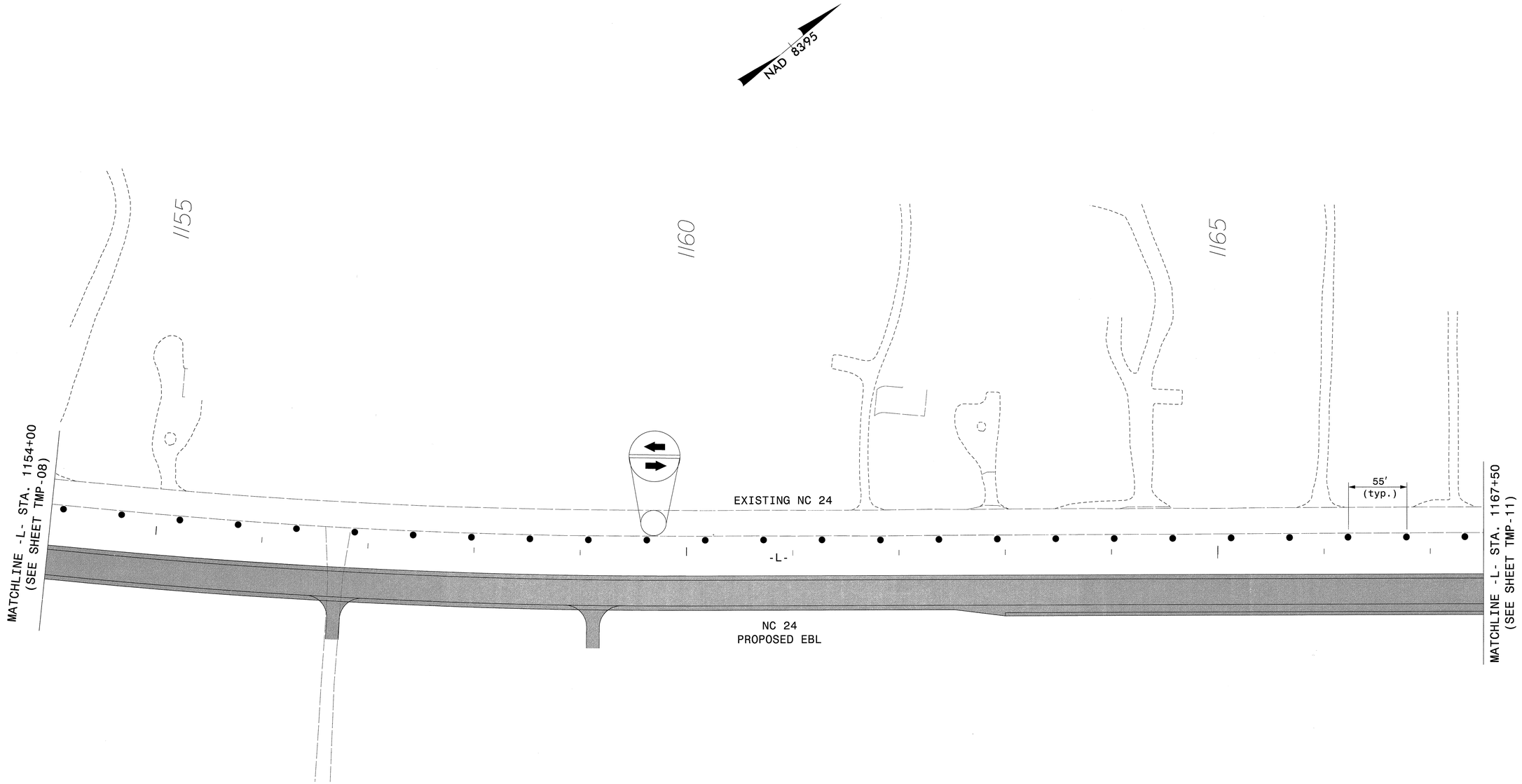
R-2303D	TMP-10



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AREA 1
PHASE 1 DETAIL
–L– NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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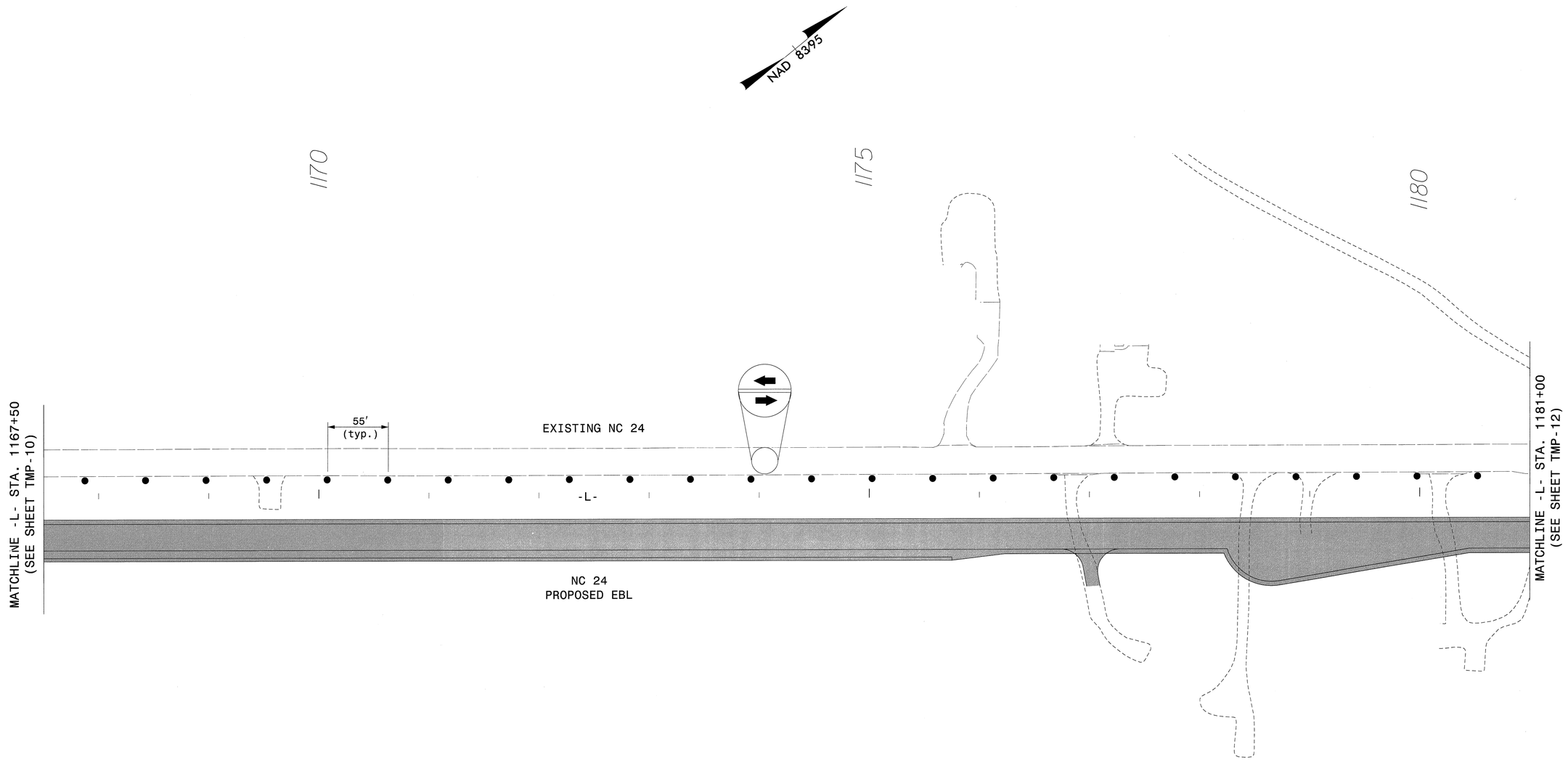
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-11



APPROVED: DATE: 6/14/13

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AREA 1
PHASE 1 DETAIL
-L- NC 24

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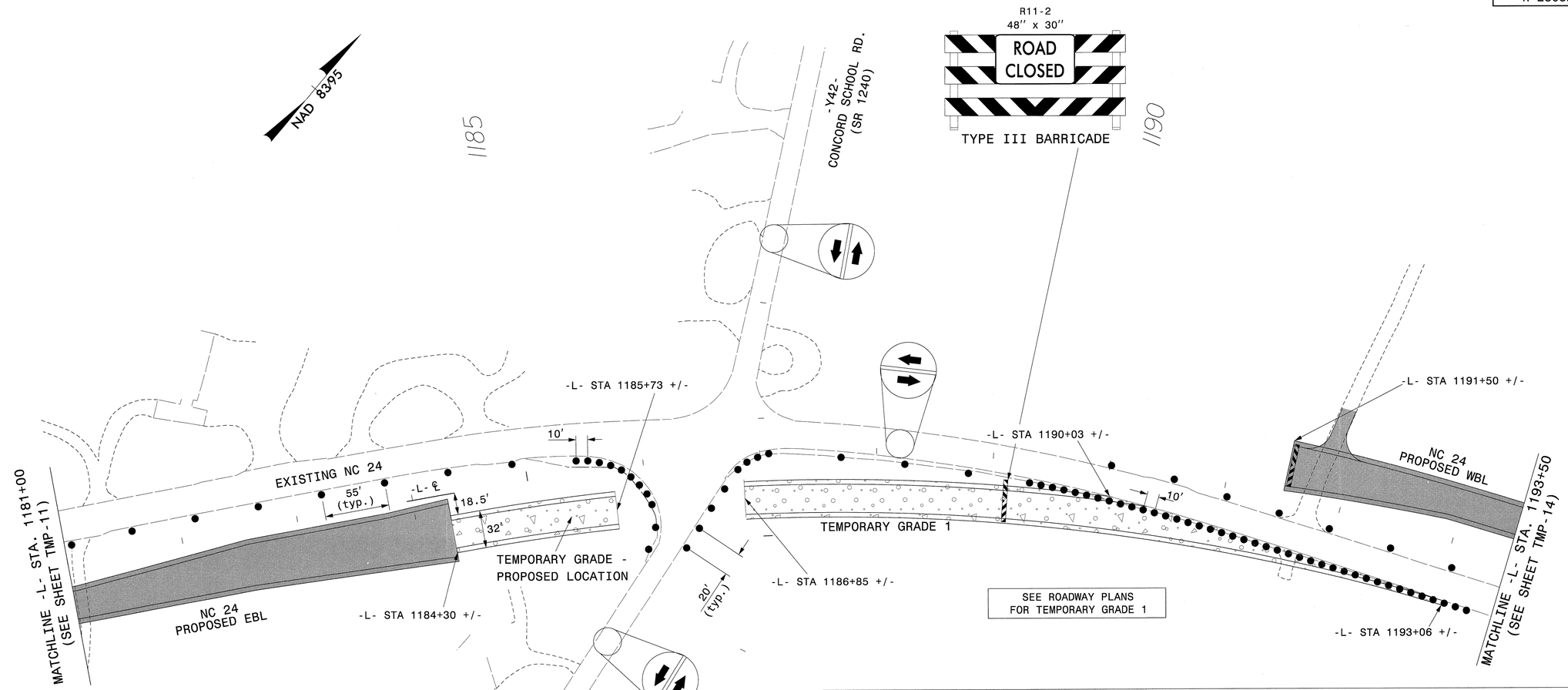
R-2303D	TMP-12



-Y42- STEP 1, Bi

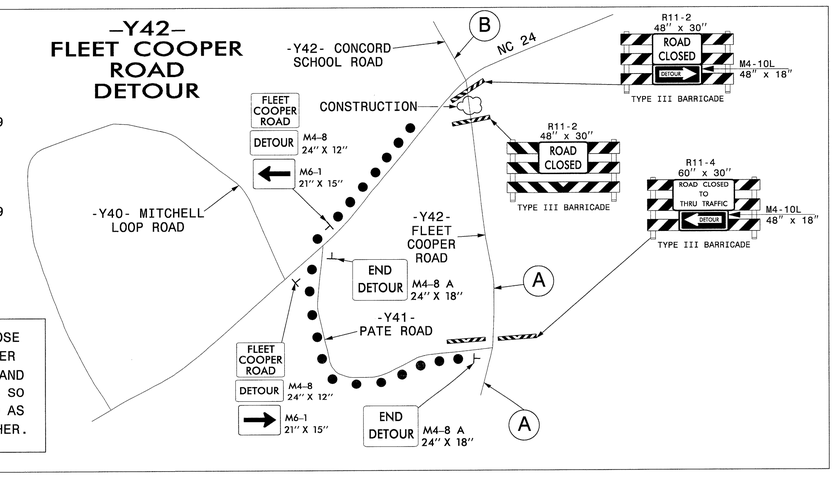
(A) PLACE STATIONARY CONSTRUCTION SIGNING IN ACCORDANCE WITH RSD 1101.03, SHEET 1 OF 9

(B) PLACE STATIONARY CONSTRUCTION SIGNING IN ACCORDANCE WITH RSD 1101.03, SHEET 2 OF 9

●●●● DETOUR ROUTE

DO NOT SIMULTANEOUSLY CLOSE PATE ROAD AND FLEET COOPER ROAD. ALTERNATELY CLOSE AND CONSTRUCT THOSE -Y- LINES SO THAT EACH ONE MAY BE USED AS A DETOUR ROUTE FOR THE OTHER.

-Y42- FLEET COOPER ROAD DETOUR



APPROVED: J. Todd Brooks DATE: 6/19/13

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AREA 1 PHASE 1 DETAIL -L- NC 24 & -Y42-

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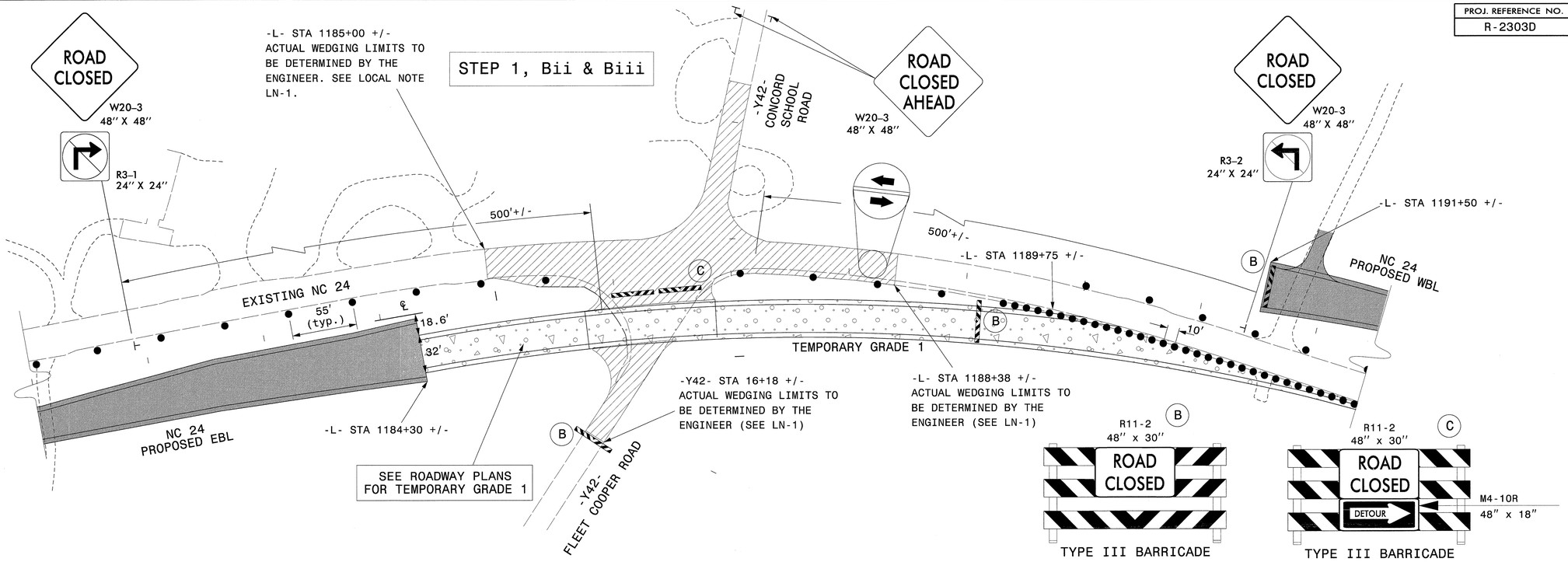
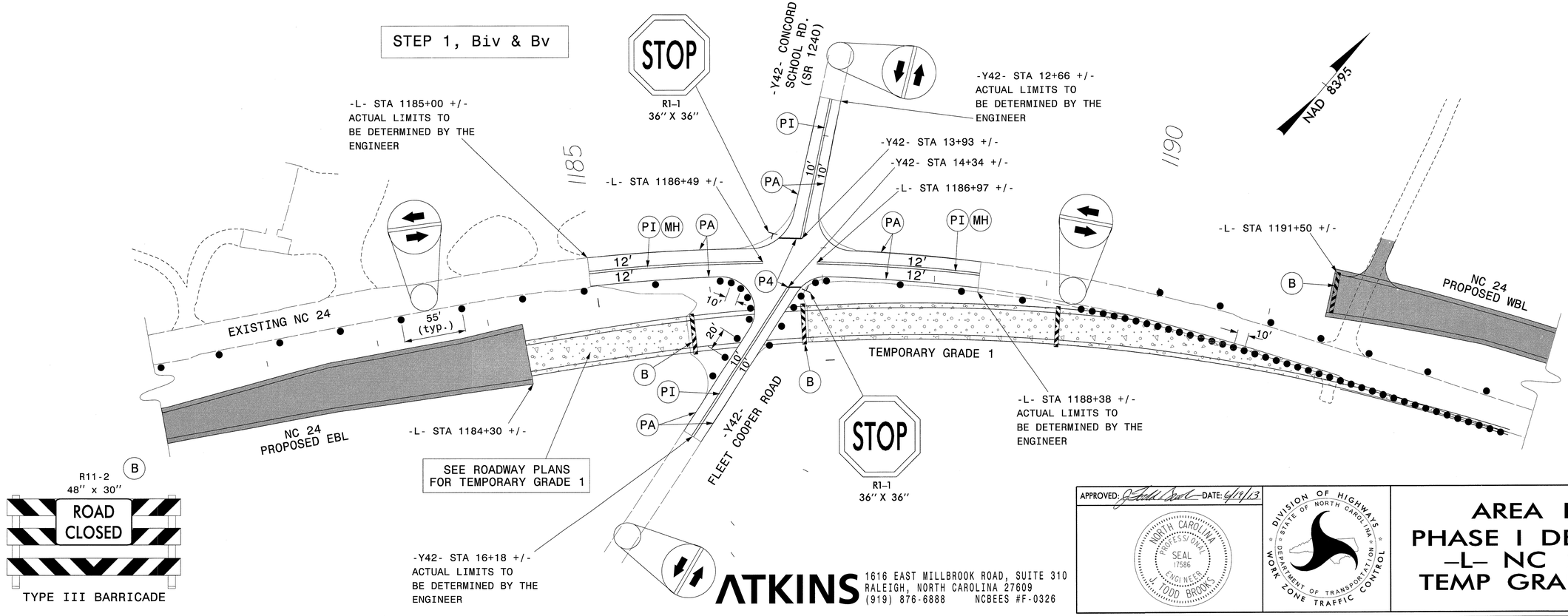
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-13





APPROVED: J. Todd Brooks DATE: 6/19/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L- NC 24
TEMP GRADE 1

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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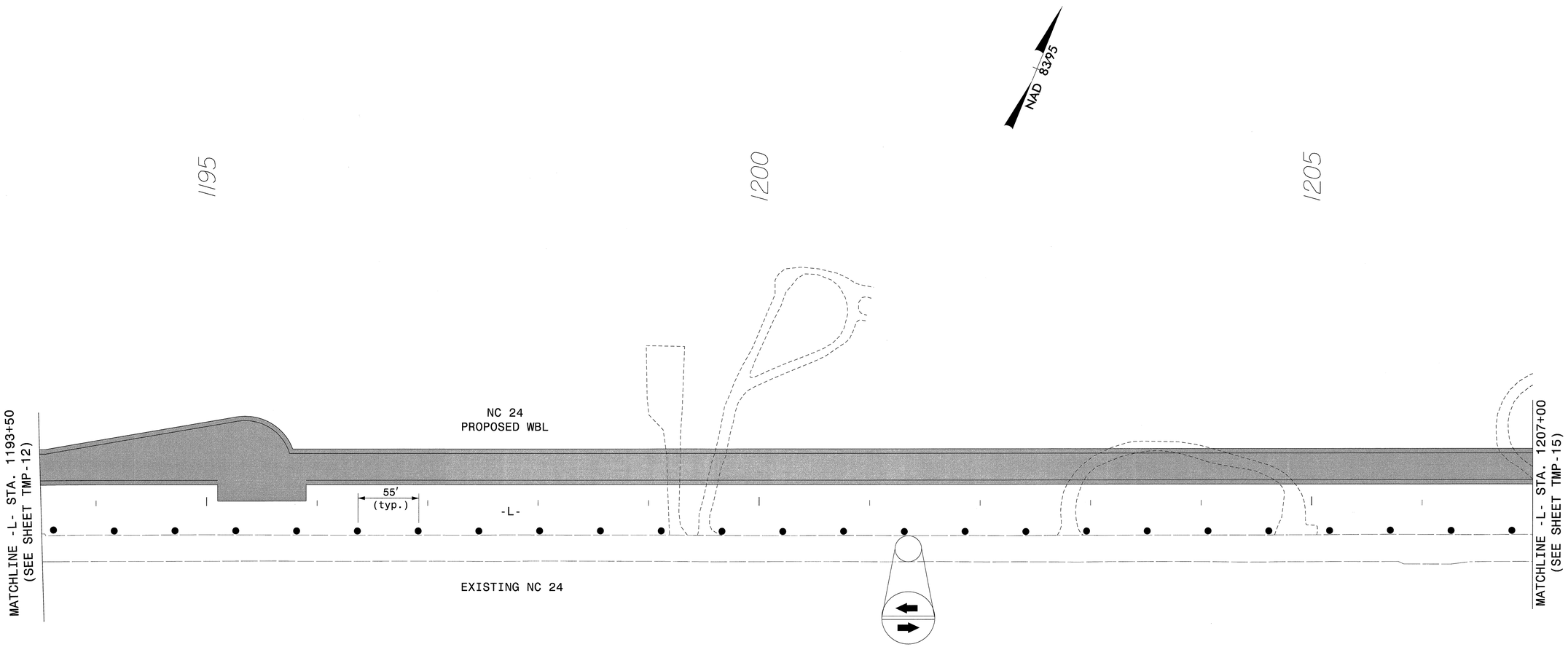
R-2303D	TMP-14



APPROVED: J. Todd Brooks DATE: 6/18/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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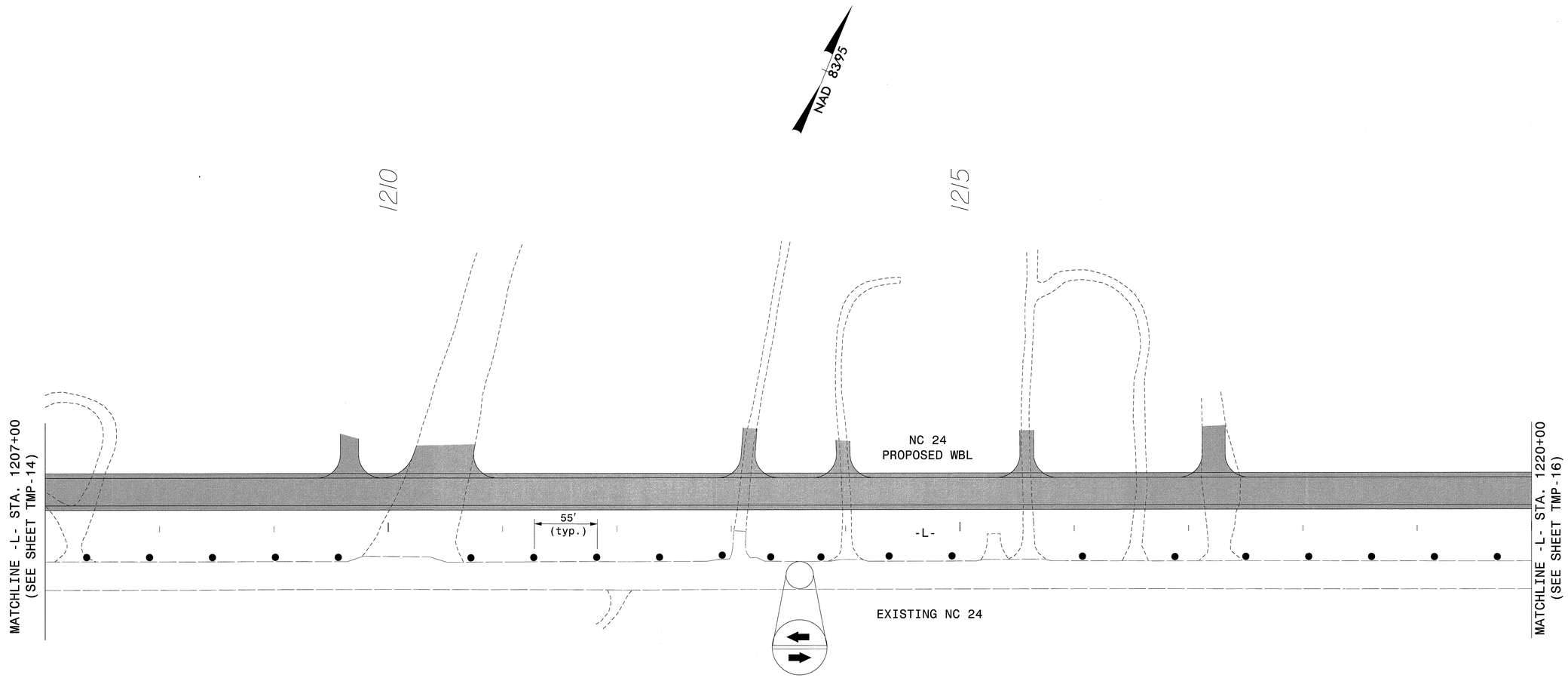
R-2303D	TMP-15



APPROVED: J. Todd Brooks DATE: 6/13/13

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AREA 1
PHASE 1 DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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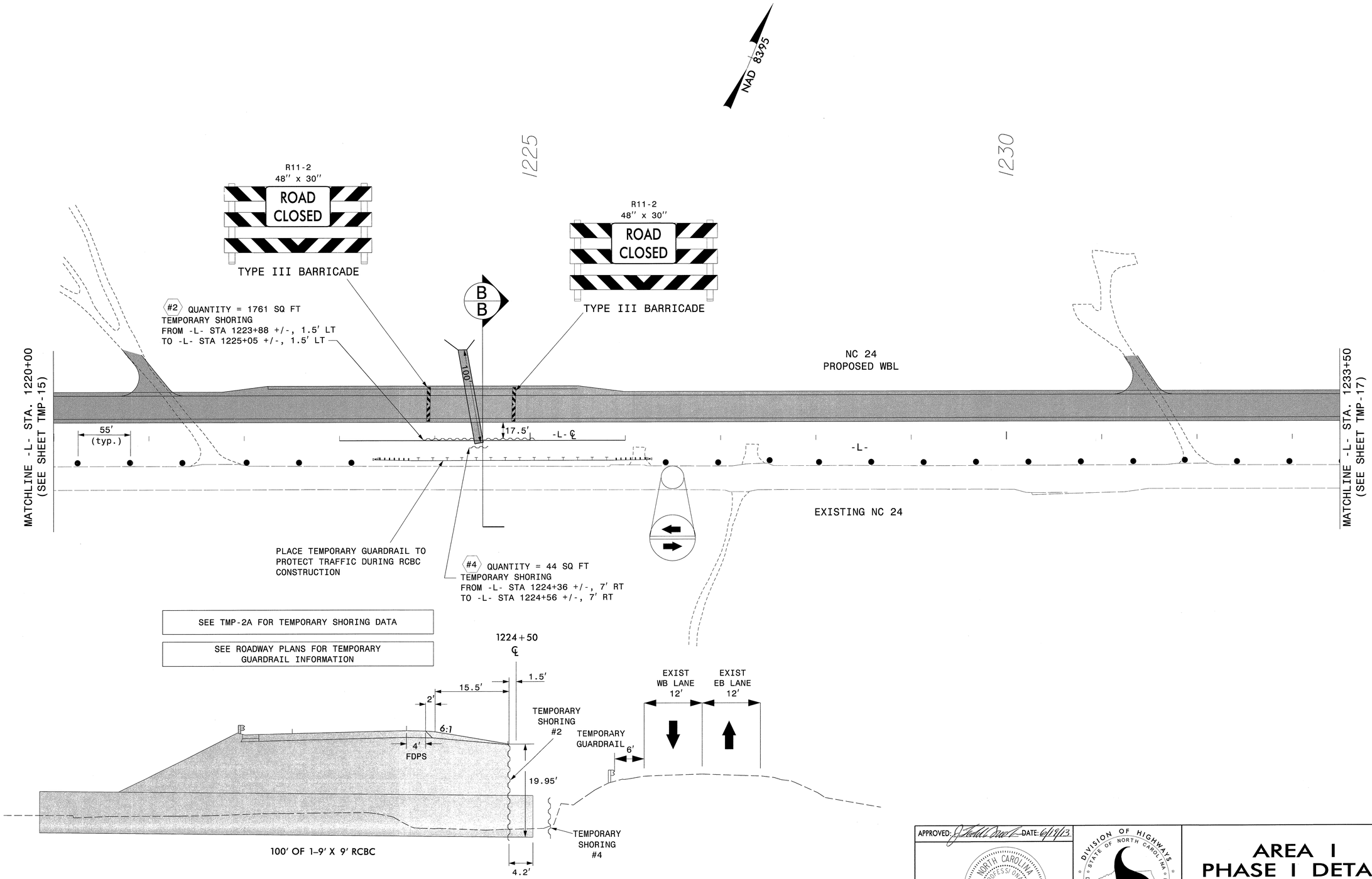
R-2303D	TMP-16



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APPROVED: [signature] DATE: 6/19/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE I DETAIL
-L- NC 24
& CULVERT

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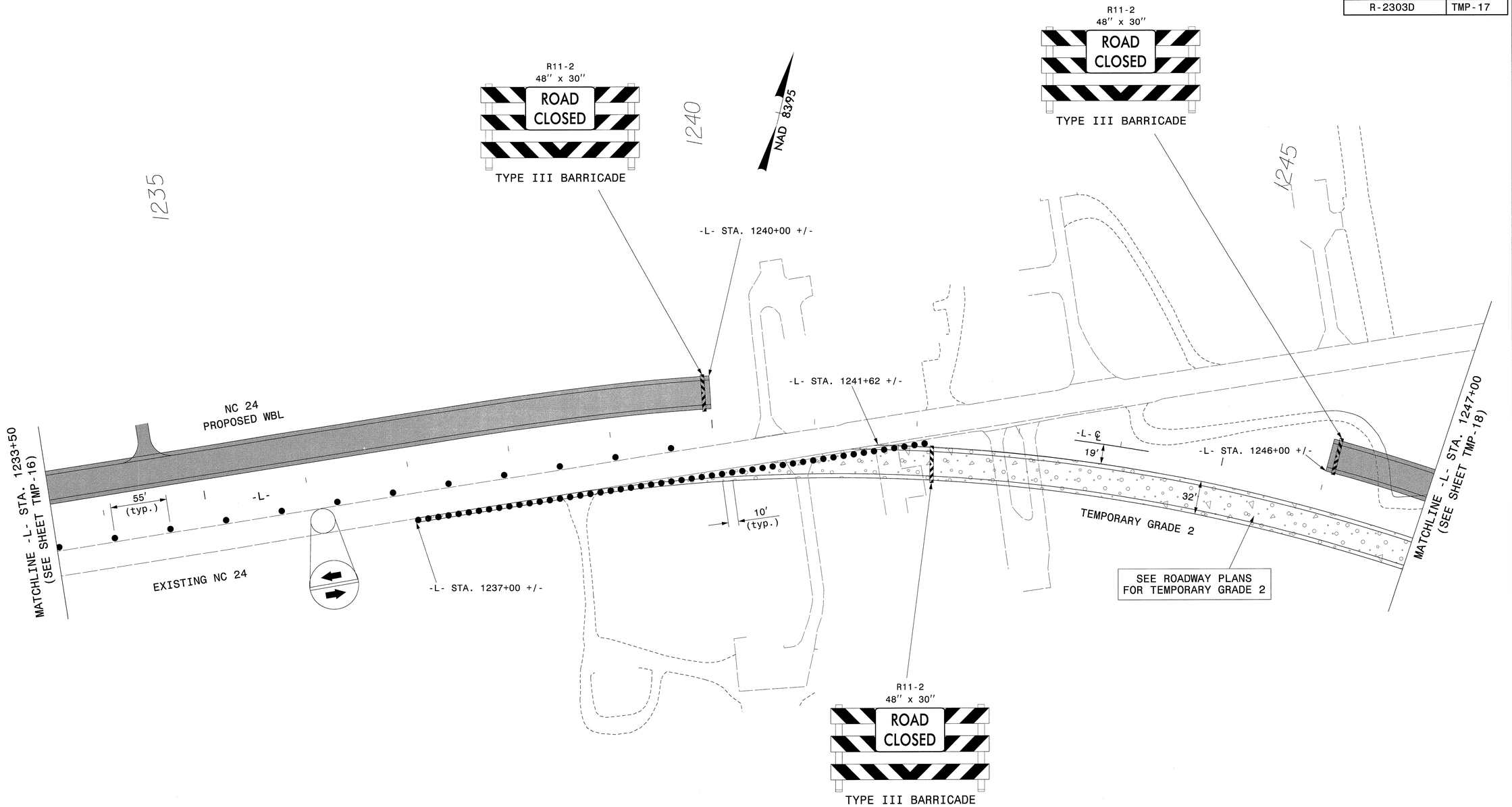

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L-,
EXISTING NC 24
& TEMP GRADE 2

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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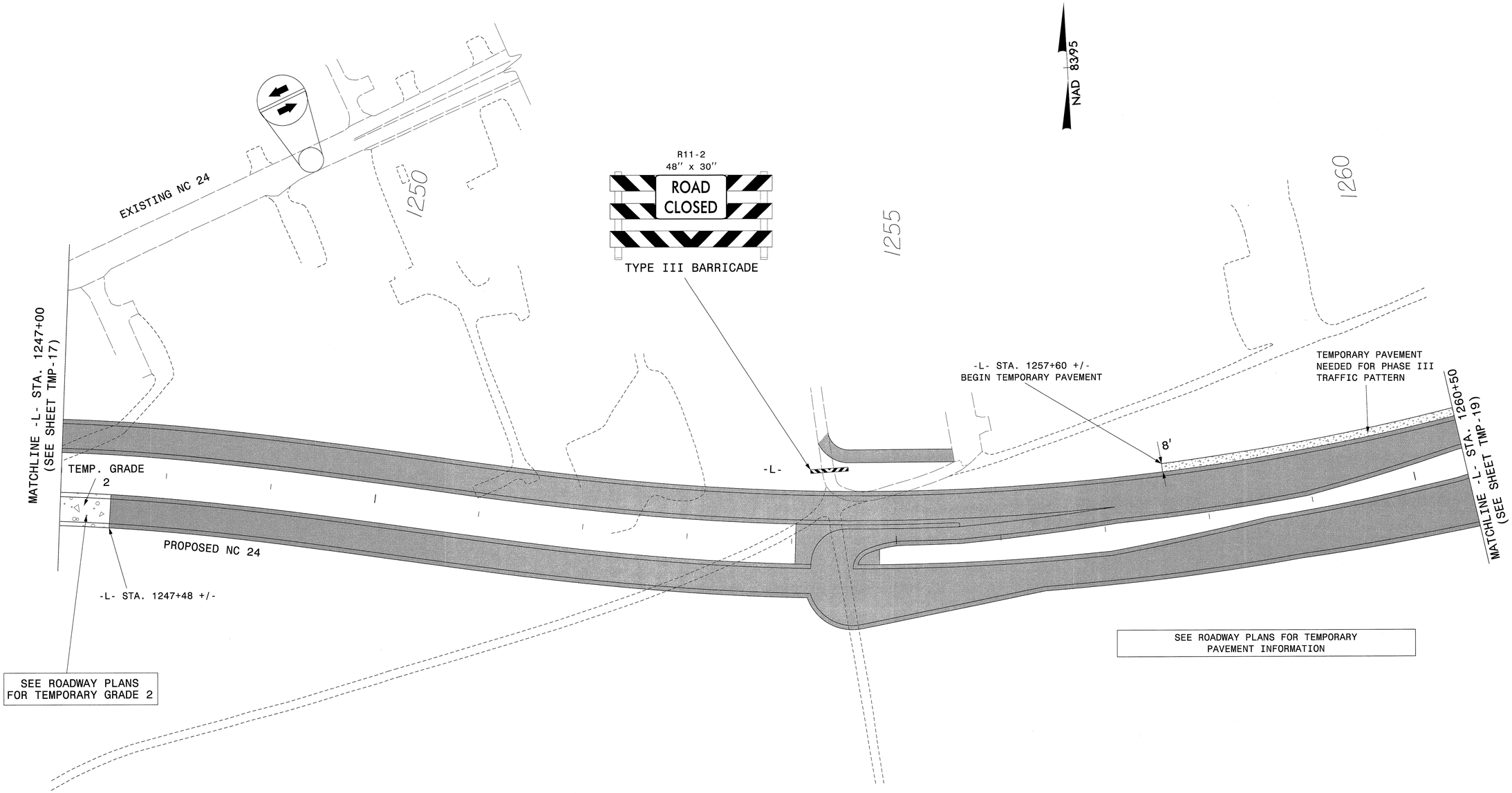
R-2303D	TMP-18



APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L-, EXISTING NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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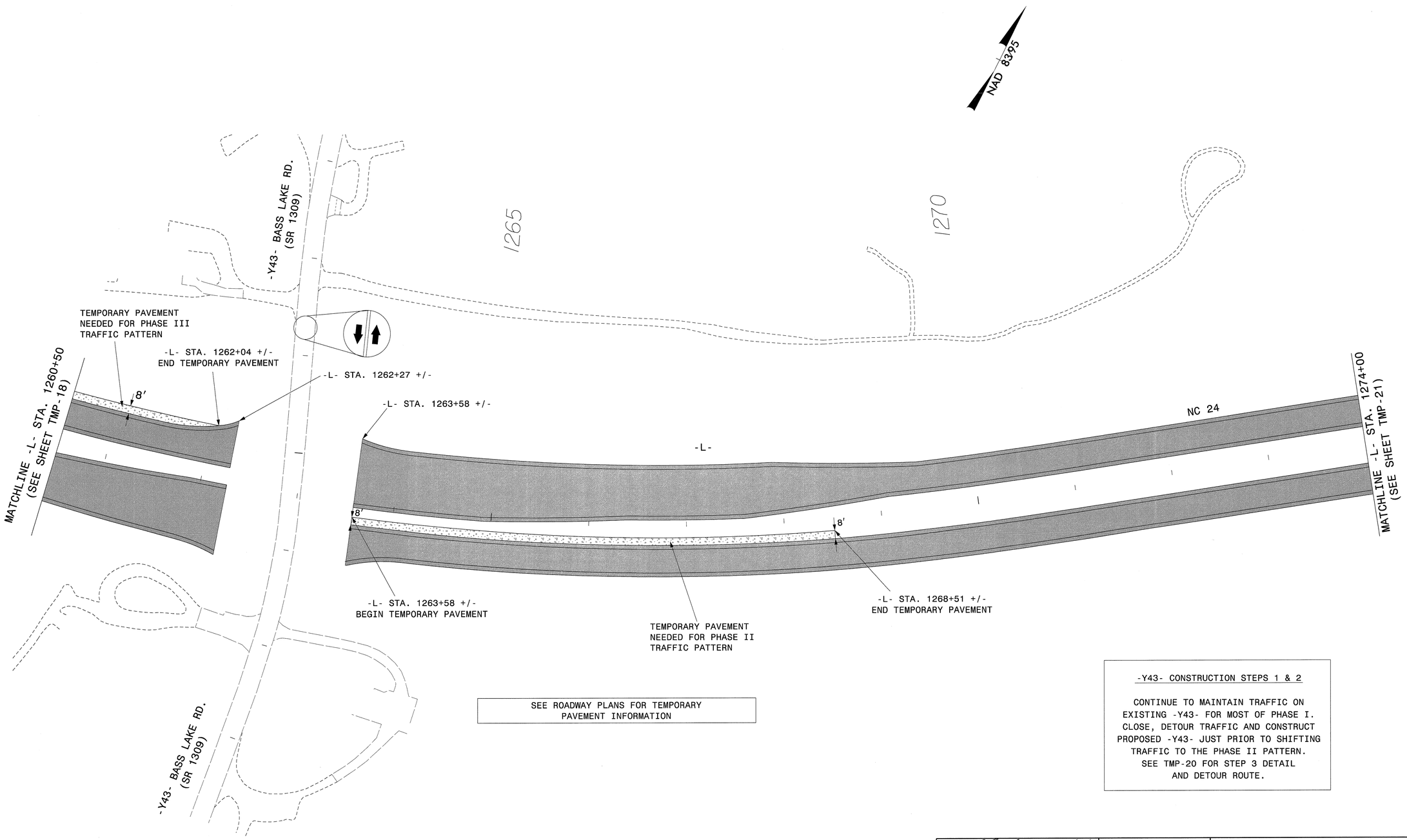
R-2303D	TMP-19



SEE ROADWAY PLANS FOR TEMPORARY PAVEMENT INFORMATION

-Y43- CONSTRUCTION STEPS 1 & 2

CONTINUE TO MAINTAIN TRAFFIC ON EXISTING -Y43- FOR MOST OF PHASE I. CLOSE, DETOUR TRAFFIC AND CONSTRUCT PROPOSED -Y43- JUST PRIOR TO SHIFTING TRAFFIC TO THE PHASE II PATTERN. SEE TMP-20 FOR STEP 3 DETAIL AND DETOUR ROUTE.

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE I DETAIL
-L- & -Y43-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-20

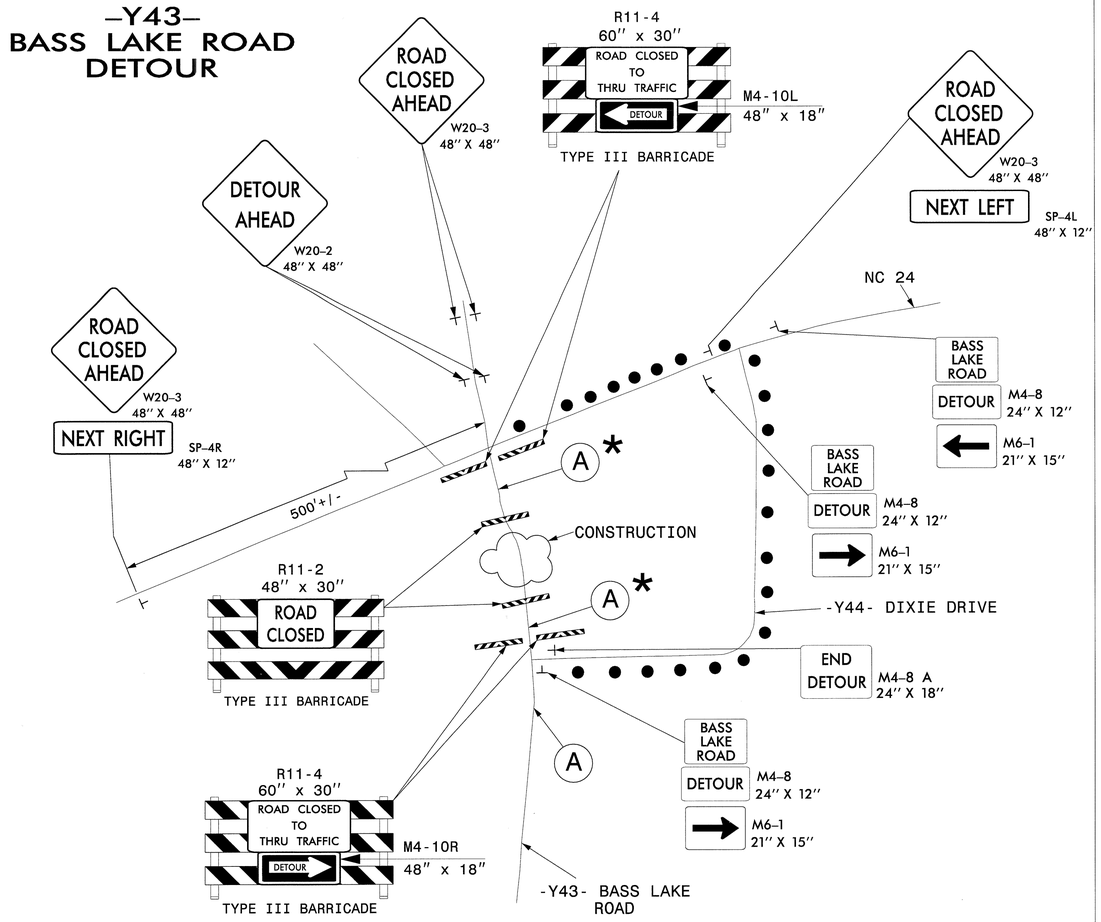
●●●● DETOUR ROUTE

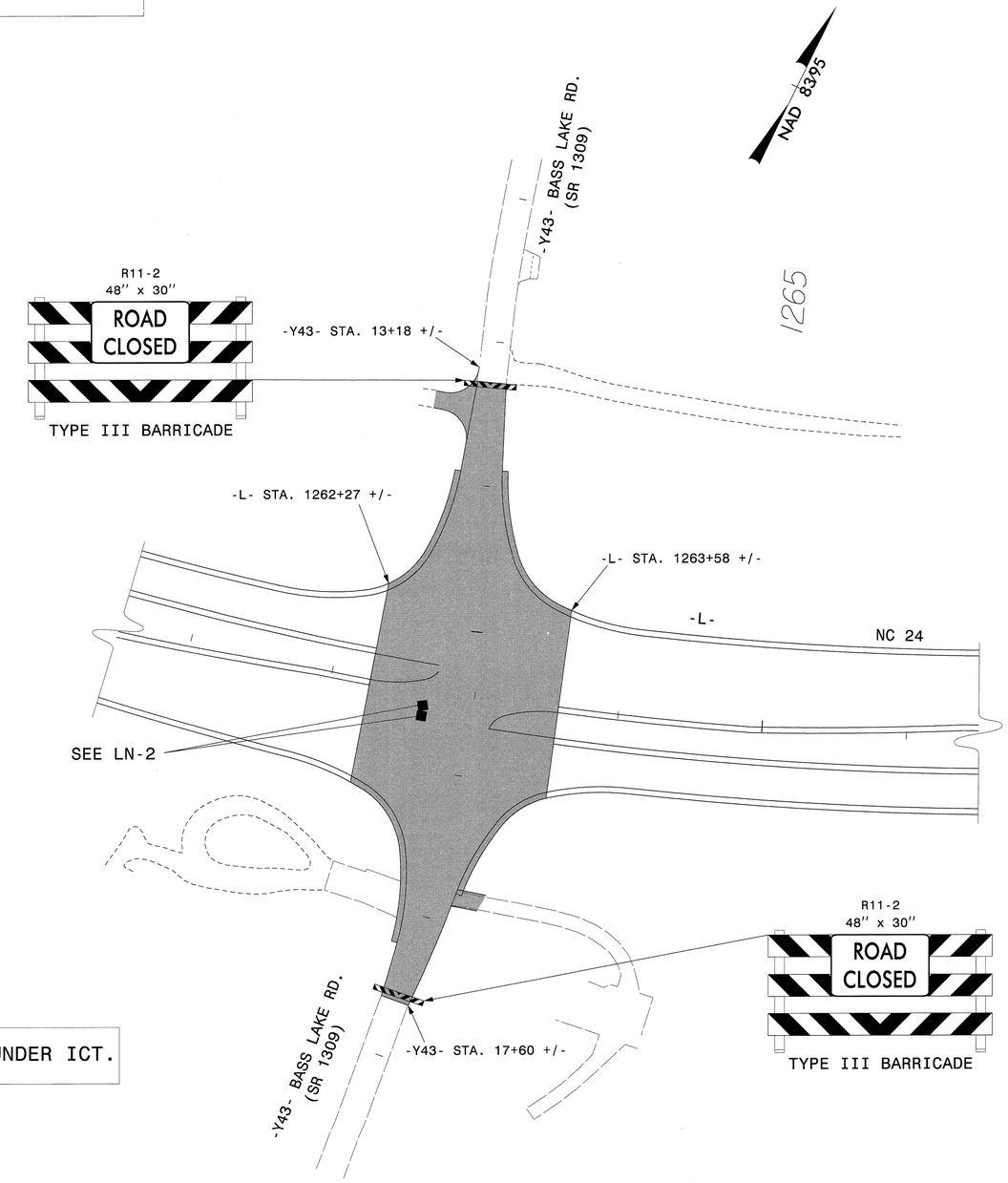
-Y43- STEP 3A

CLOSE, DETOUR TRAFFIC AND CONSTRUCT -Y43- JUST PRIOR TO SHIFTING TRAFFIC TO THE PHASE II PATTERN.

-Y43- STEP 3B

-Y43- BASS LAKE ROAD DETOUR





(A) PLACE STATIONARY CONSTRUCTION SIGNING IN ACCORDANCE WITH RSD 1101.03, SHEET 1 OF 9

* NOTE: MODIFY SIGNING AND SPACING TO FIT FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER

WORK TO BE DONE UNDER ICT.

DO NOT SIMULTANEOUSLY CLOSE -Y43- BASS LAKE ROAD AND -Y44- DIXIE DRIVE. FIRST CLOSE AND CONSTRUCT -Y44- AS SHOWN ON SHEETS TMP-21 & 22.

ONCE TRAFFIC IS SHIFTED TO -Y44-, CLOSE AND CONSTRUCT -Y43- JUST PRIOR TO SHIFTING TRAFFIC TO THE PHASE II PATTERN.

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE I DETAIL -Y43- STEP 3

18-JUN-2013 17:05
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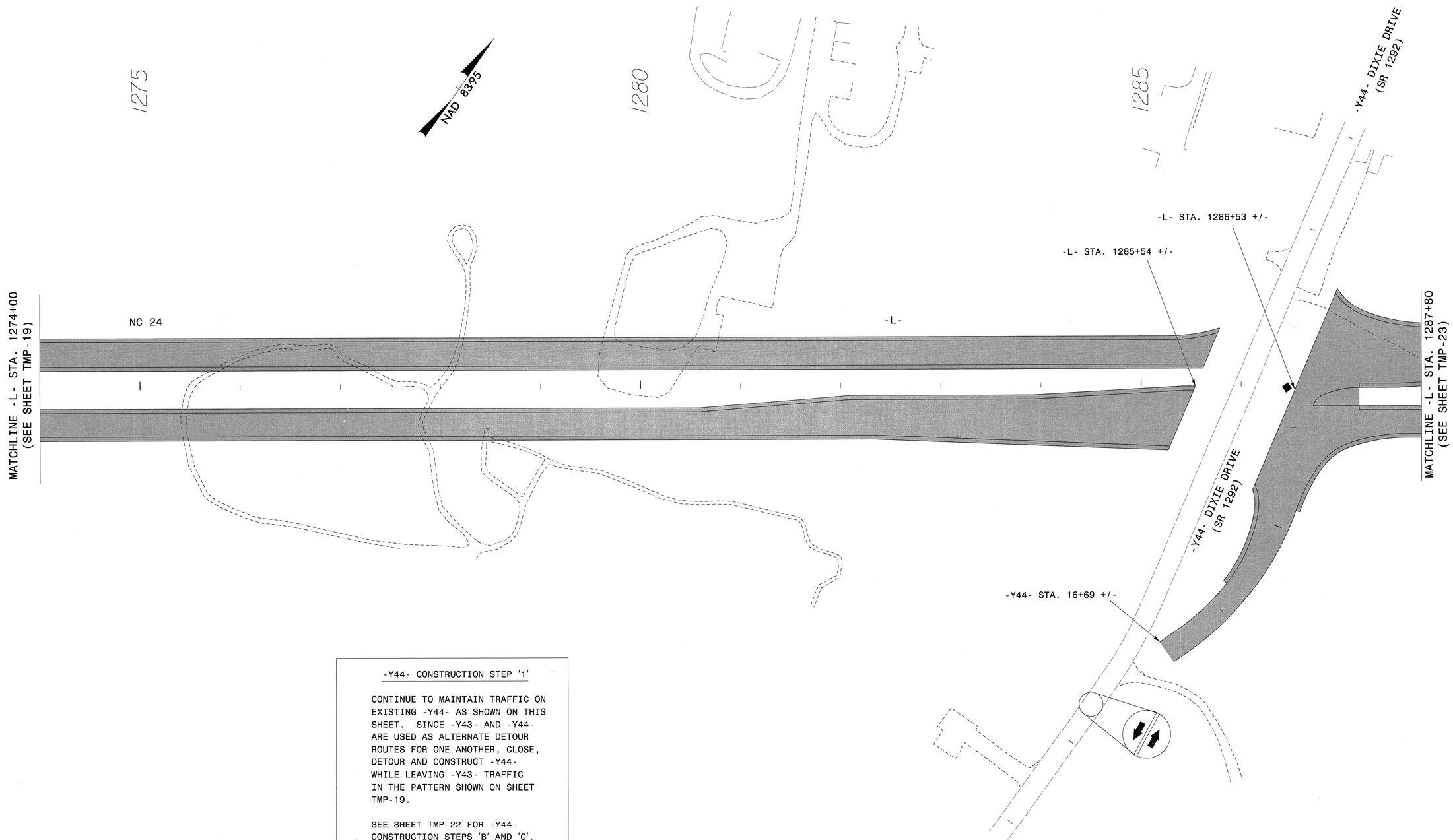
13833 AT RAL21A480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-21



-Y44- CONSTRUCTION STEP '1'

CONTINUE TO MAINTAIN TRAFFIC ON EXISTING -Y44- AS SHOWN ON THIS SHEET. SINCE -Y43- AND -Y44- ARE USED AS ALTERNATE DETOUR ROUTES FOR ONE ANOTHER, CLOSE, DETOUR AND CONSTRUCT -Y44- WHILE LEAVING -Y43- TRAFFIC IN THE PATTERN SHOWN ON SHEET TMP-19.

SEE SHEET TMP-22 FOR -Y44- CONSTRUCTION STEPS 'B' AND 'C'. ONCE -Y44- IS CONSTRUCTED AND REOPENED TO TRAFFIC AS SHOWN IN STEP 'C', CLOSE -Y43- AND DETOUR THAT TRAFFIC TO -Y44-.

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NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L- & -Y44-
STEP 1

18-JUN-2013 17:05
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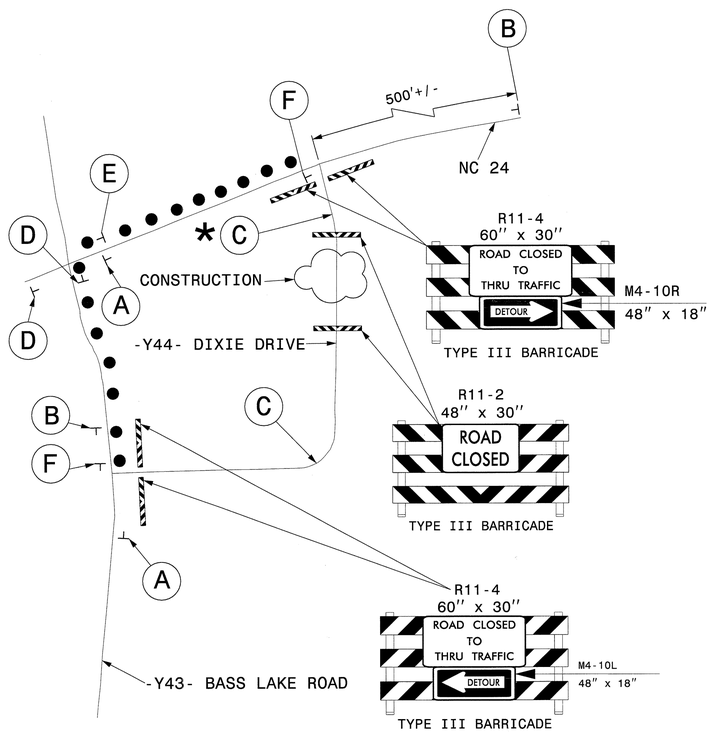
13833 AT RAL21A480FHW

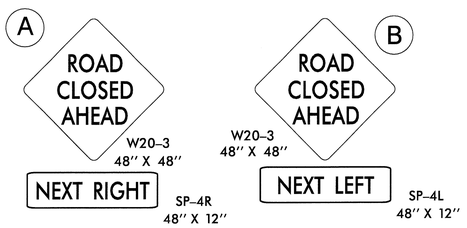
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-22

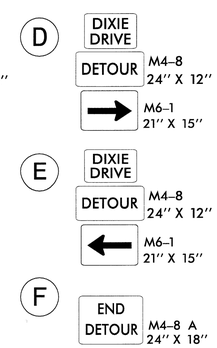
WORK TO BE DONE UNDER ICT.

-Y44- STEP 2A

DETOUR ROUTE
–Y44–
DIXIE DRIVE
DETOUR



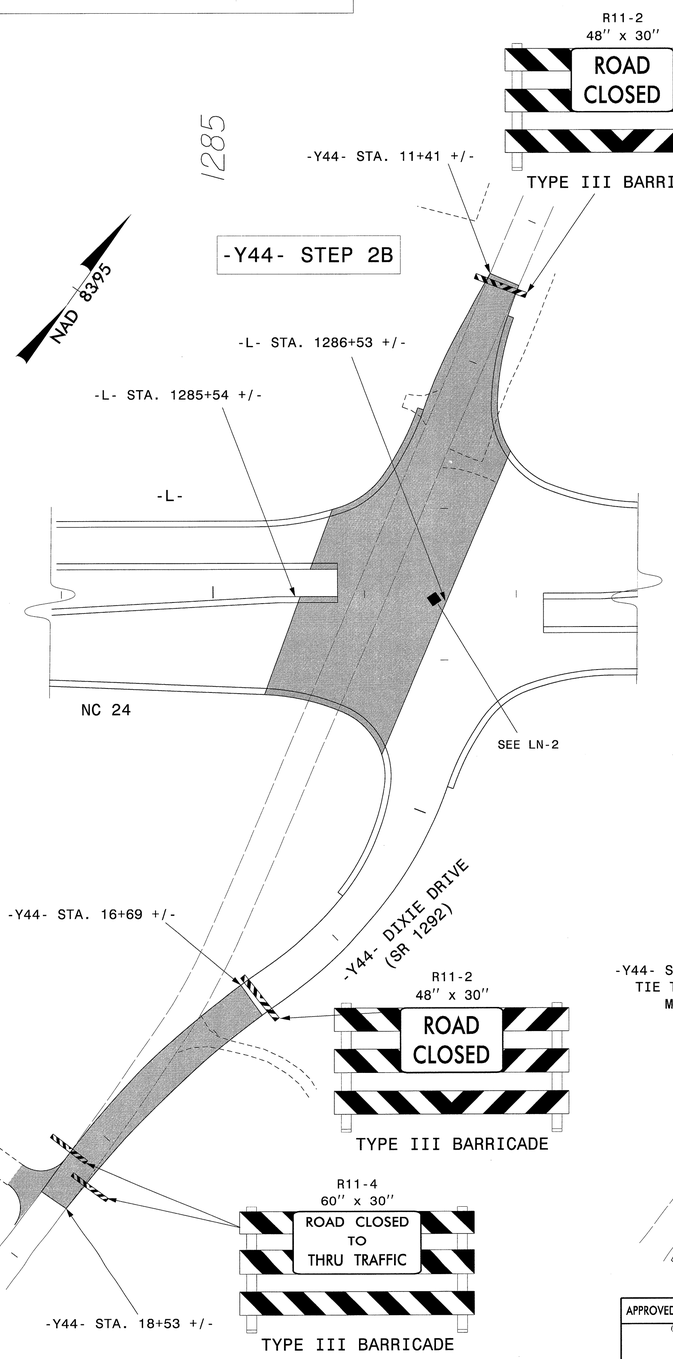




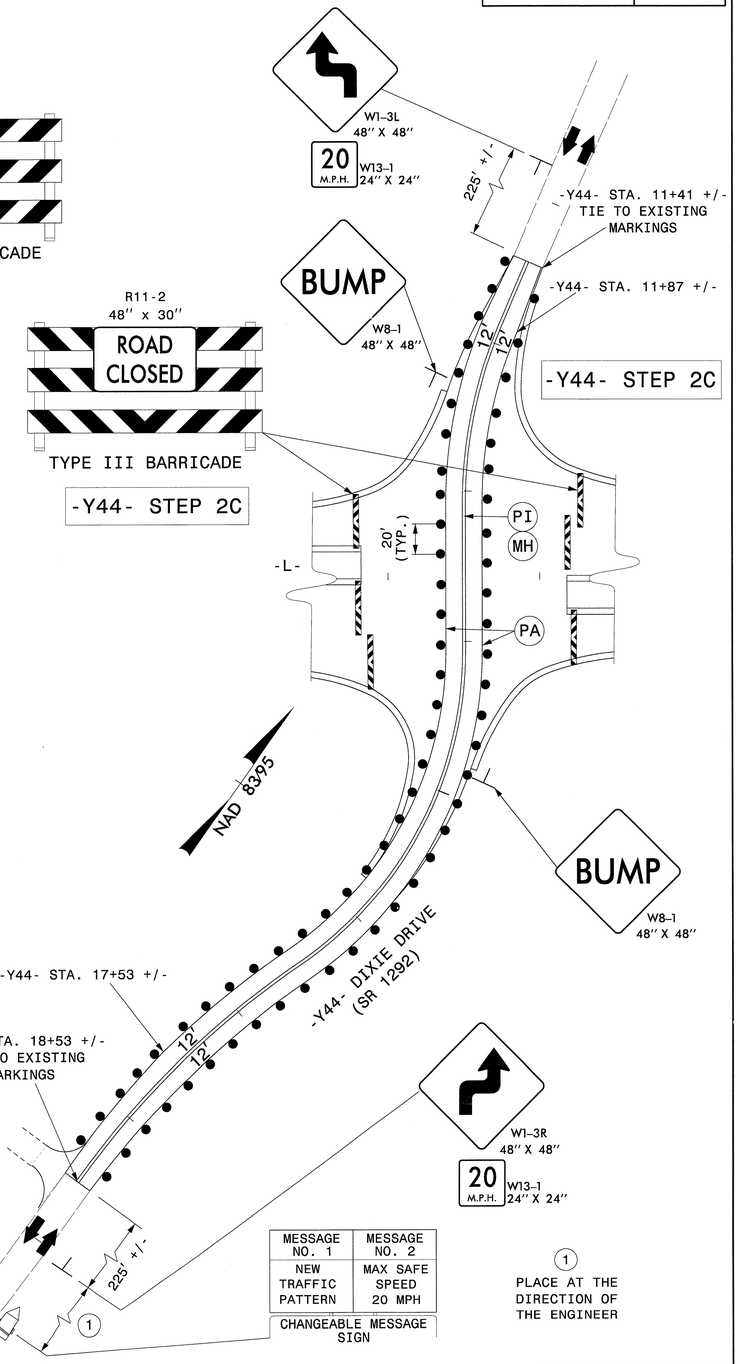
C PLACE STATIONARY CONSTRUCTION SIGNING BEYOND THE TYPE III BARRICADES IN ACCORDANCE WITH RSD 1101.03, SHEET 1 OF 9

* NOTE: MODIFY SIGNING AND SPACING TO FIT FIELD CONDITIONS UNDER THE DIRECTION OF THE ENGINEER

-Y44- STEP 2B



-Y44- STEP 2C



MESSAGE NO. 1	MESSAGE NO. 2
NEW TRAFFIC PATTERN	MAX SAFE SPEED 20 MPH

CHANGEABLE MESSAGE SIGN

1 PLACE AT THE DIRECTION OF THE ENGINEER

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
–Y44–
STEP 2

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
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(919) 876-6888 NCBEES #F-0326

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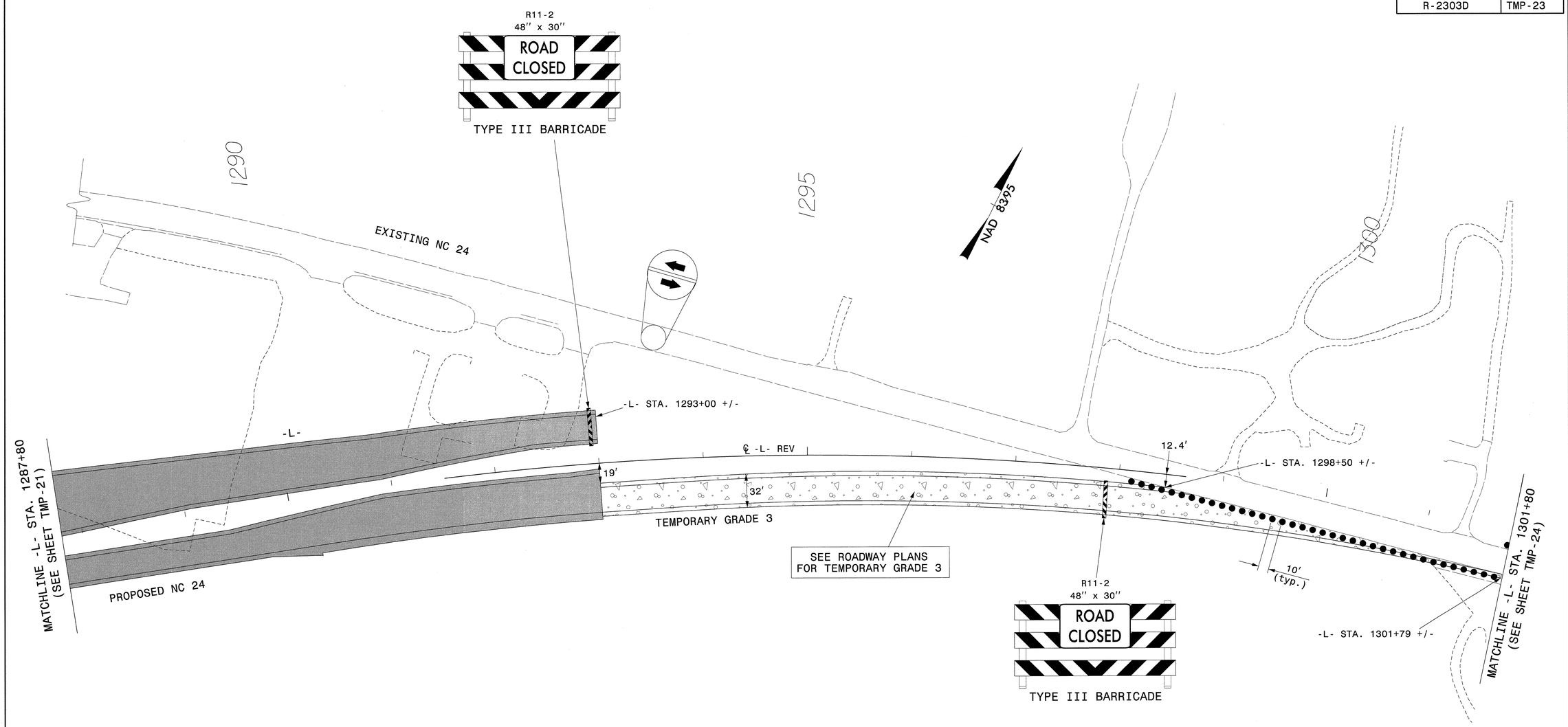
13833 AT RALZIIA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-23



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE I DETAIL -L-, EXISTING NC 24 & TEMP GRADE 3

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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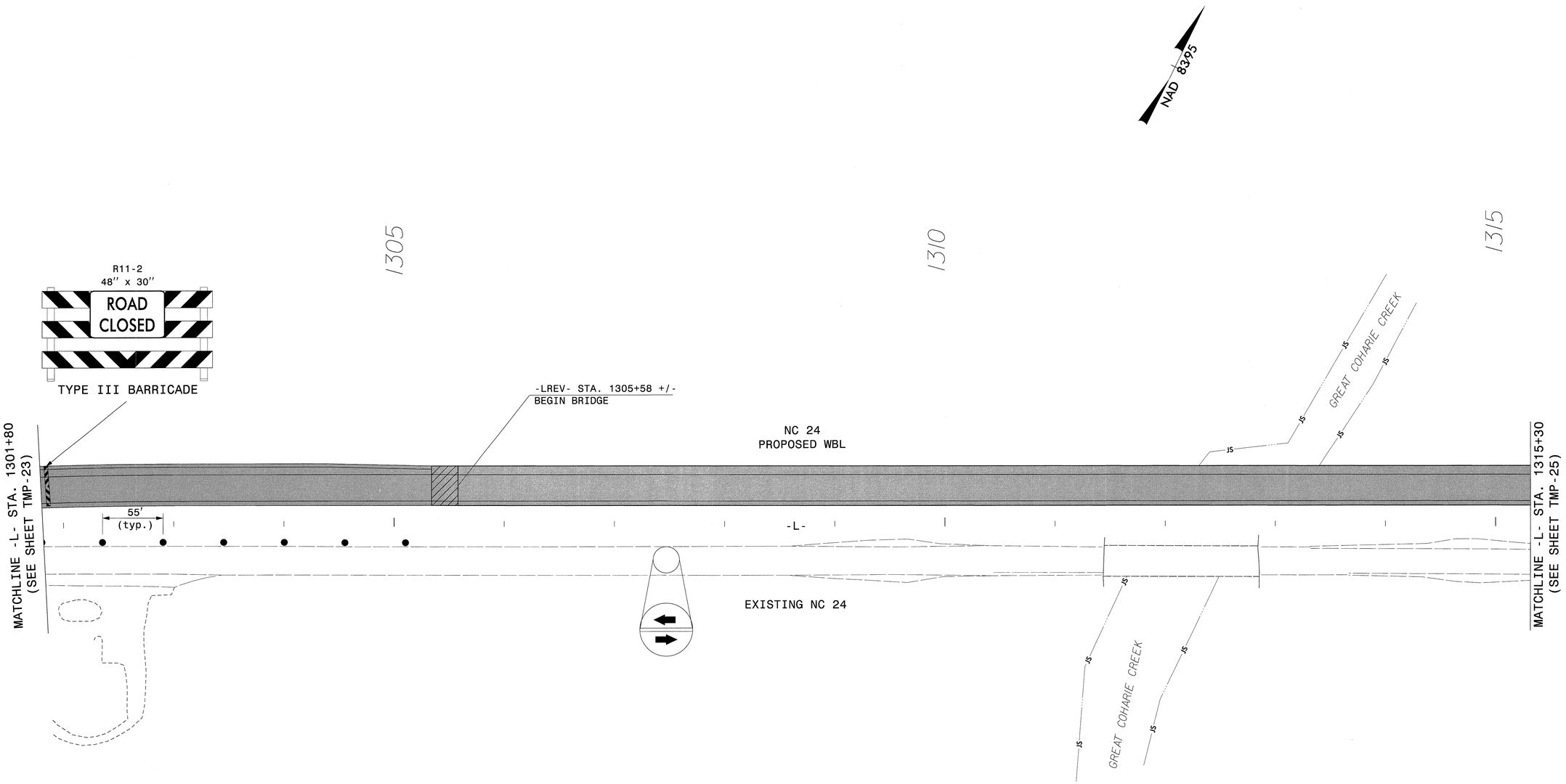
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-24



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NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA 1
PHASE 1 DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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18-JUN-2013 17:05
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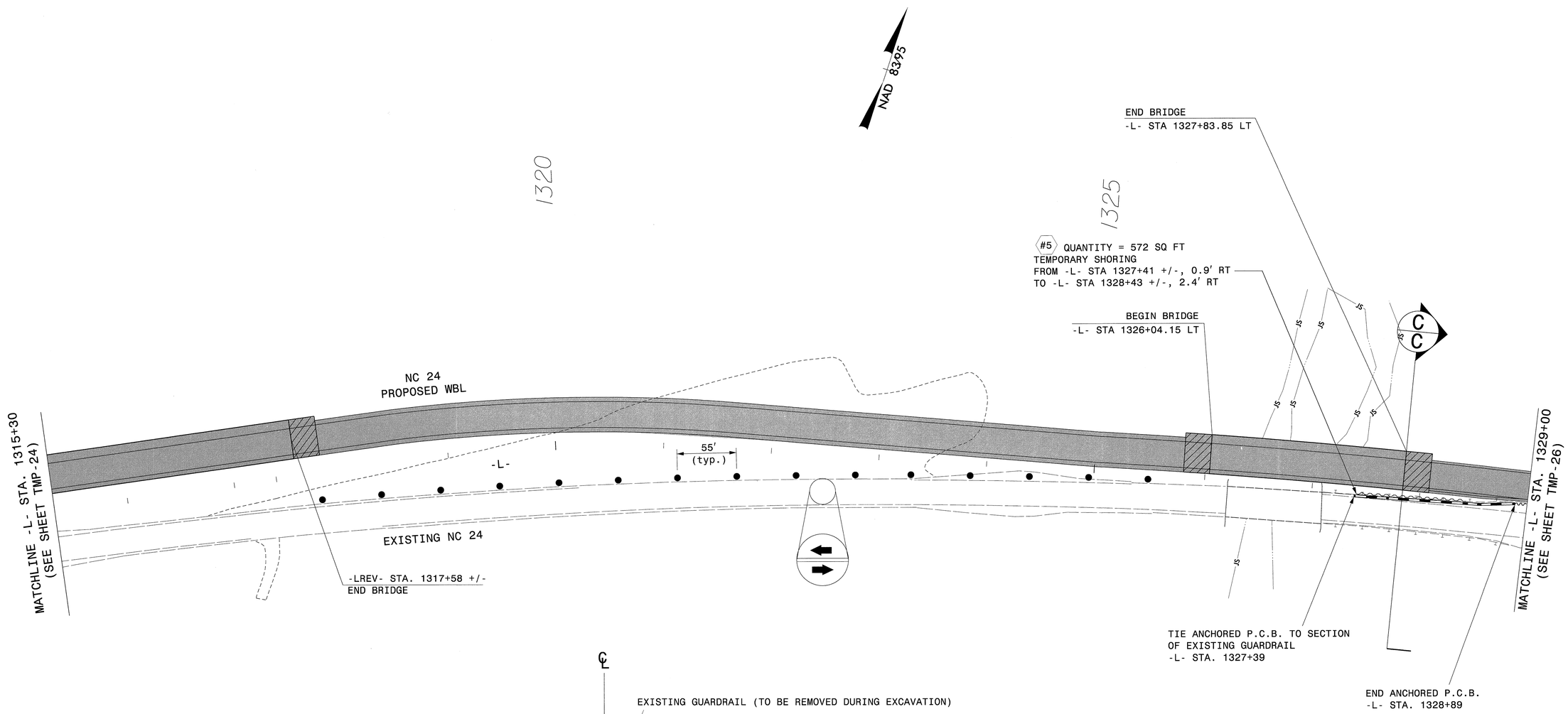
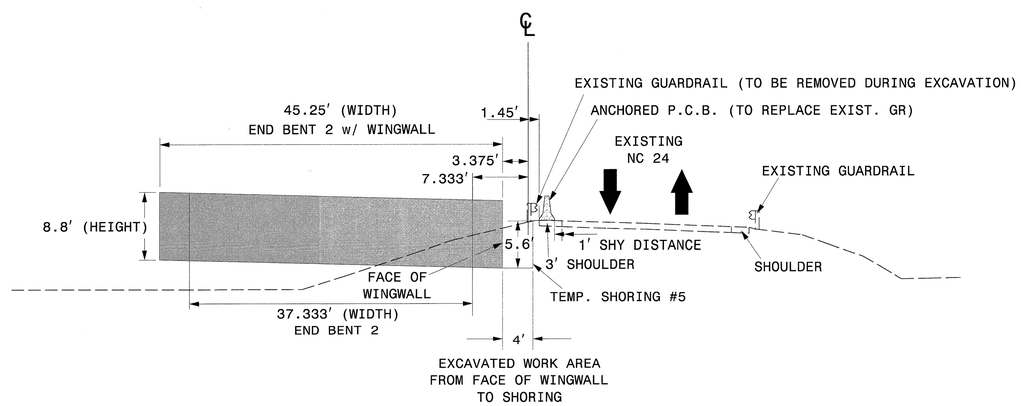
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-25



SEE TMP-2A FOR TEMPORARY SHORING DATA



-L- STA 1327+83
END BENT 2
SECTION C-C

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA 1
PHASE 1 DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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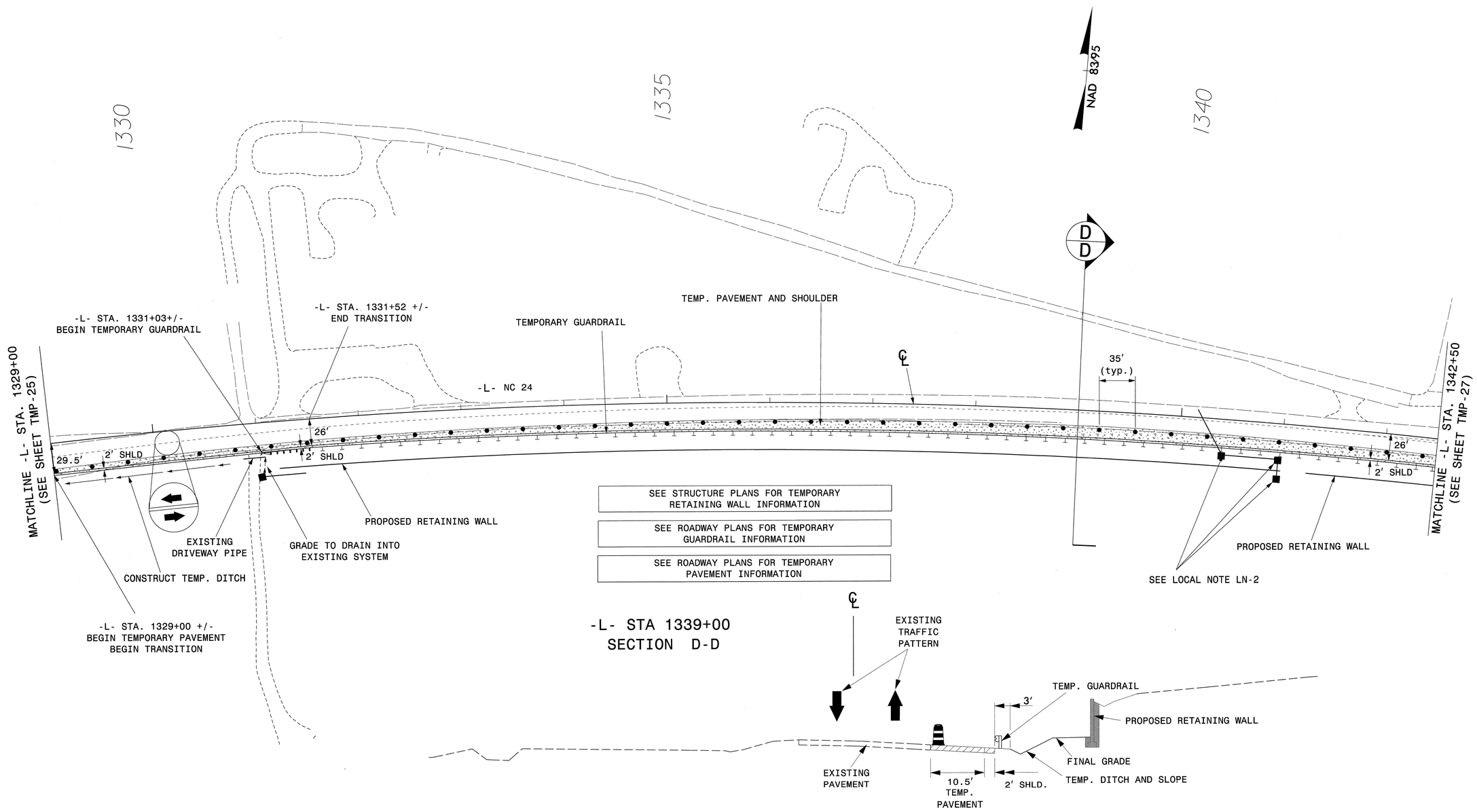
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-26



APPROVED: J. Todd Brooks DATE: 6/14/13

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AREA 1
PHASE 1 DETAIL
-L- NC 24

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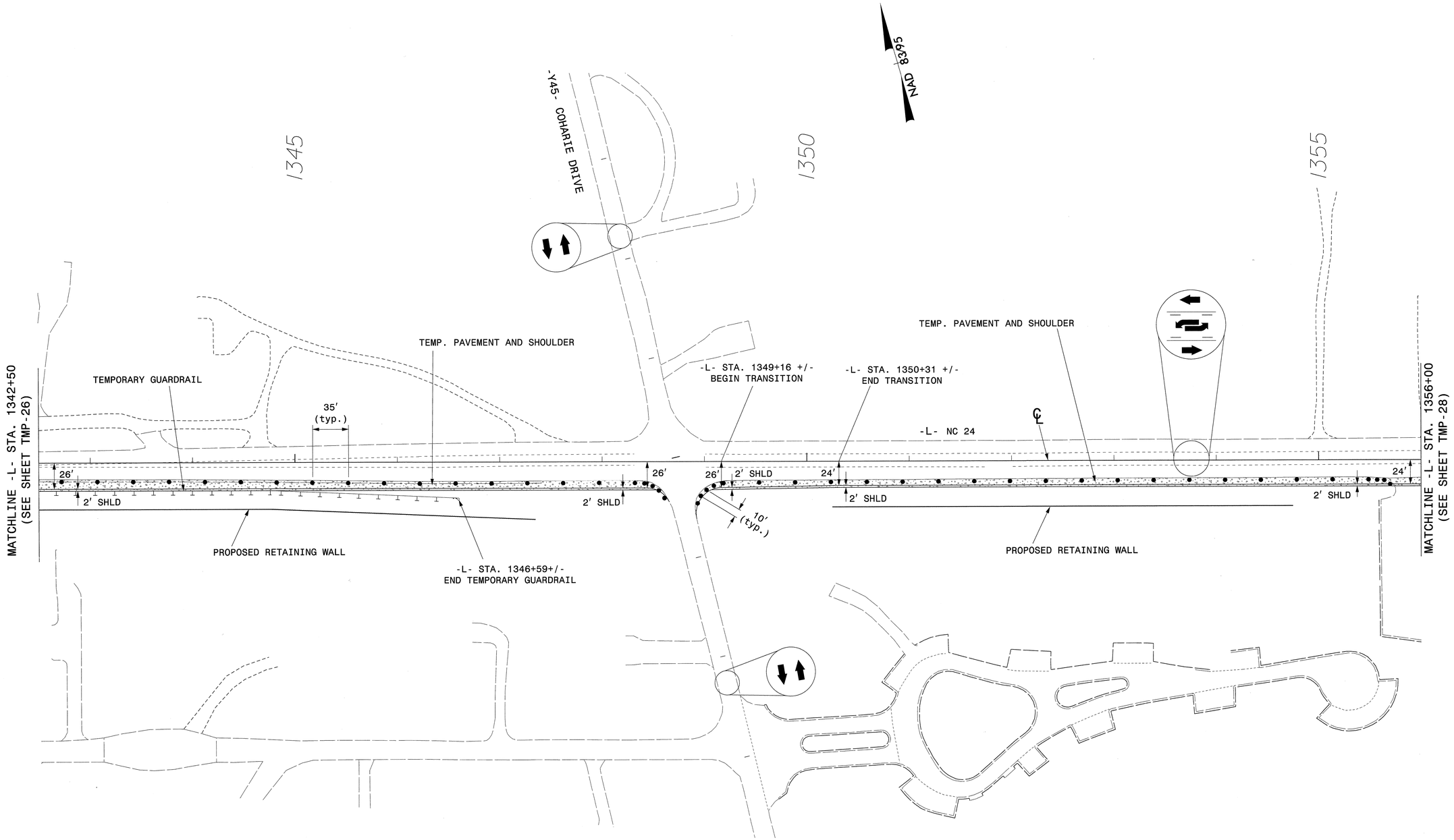
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-27



SEE STRUCTURE PLANS FOR TEMPORARY RETAINING WALL INFORMATION

SEE ROADWAY PLANS FOR TEMPORARY GUARDRAIL INFORMATION

SEE ROADWAY PLANS FOR TEMPORARY PAVEMENT INFORMATION

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE 1 DETAIL
-L- NC 24
& -Y45-

18-JUN-2013 17:05
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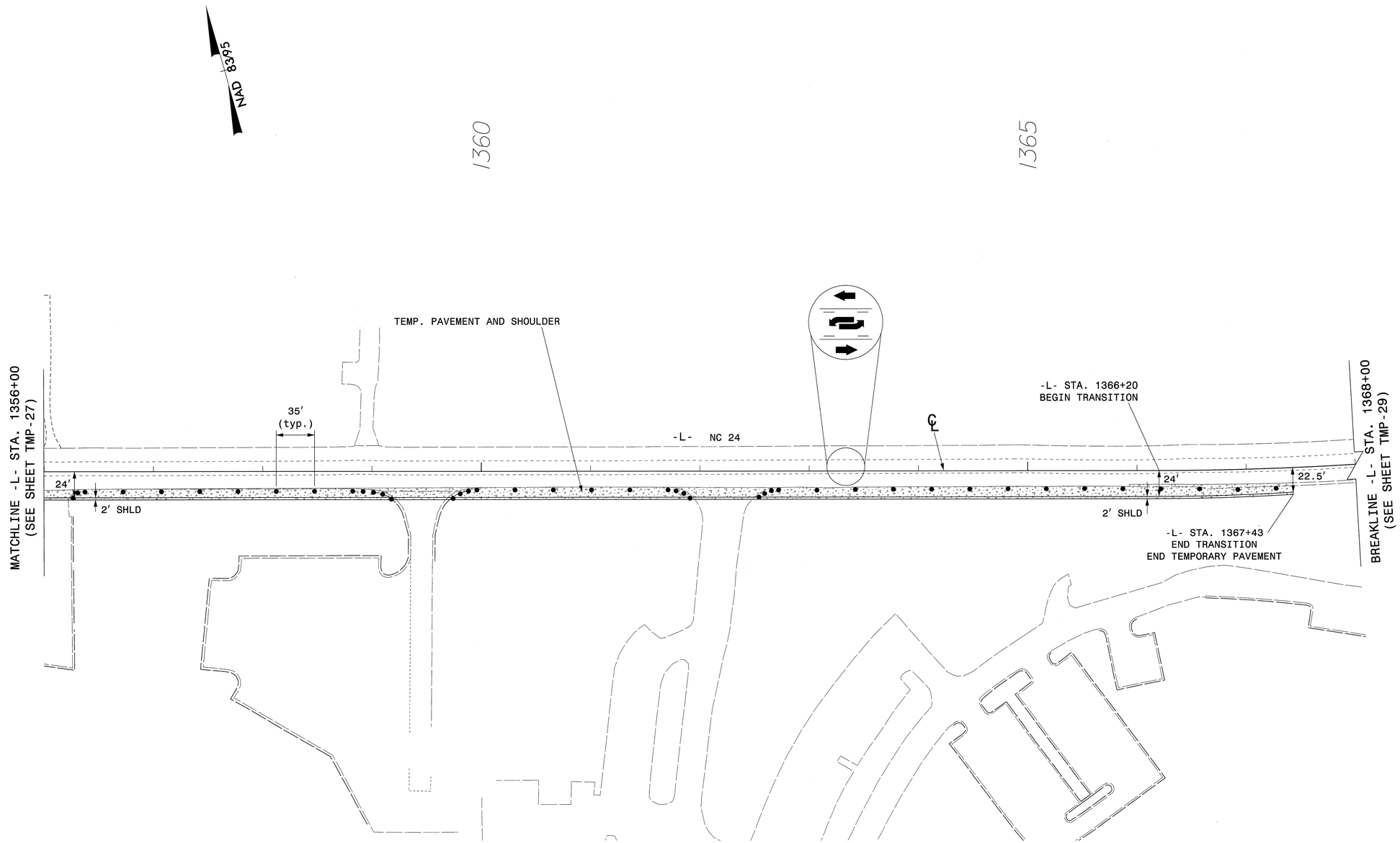
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-28



SEE ROADWAY PLANS FOR TEMPORARY PAVEMENT INFORMATION

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA 1
PHASE 1 DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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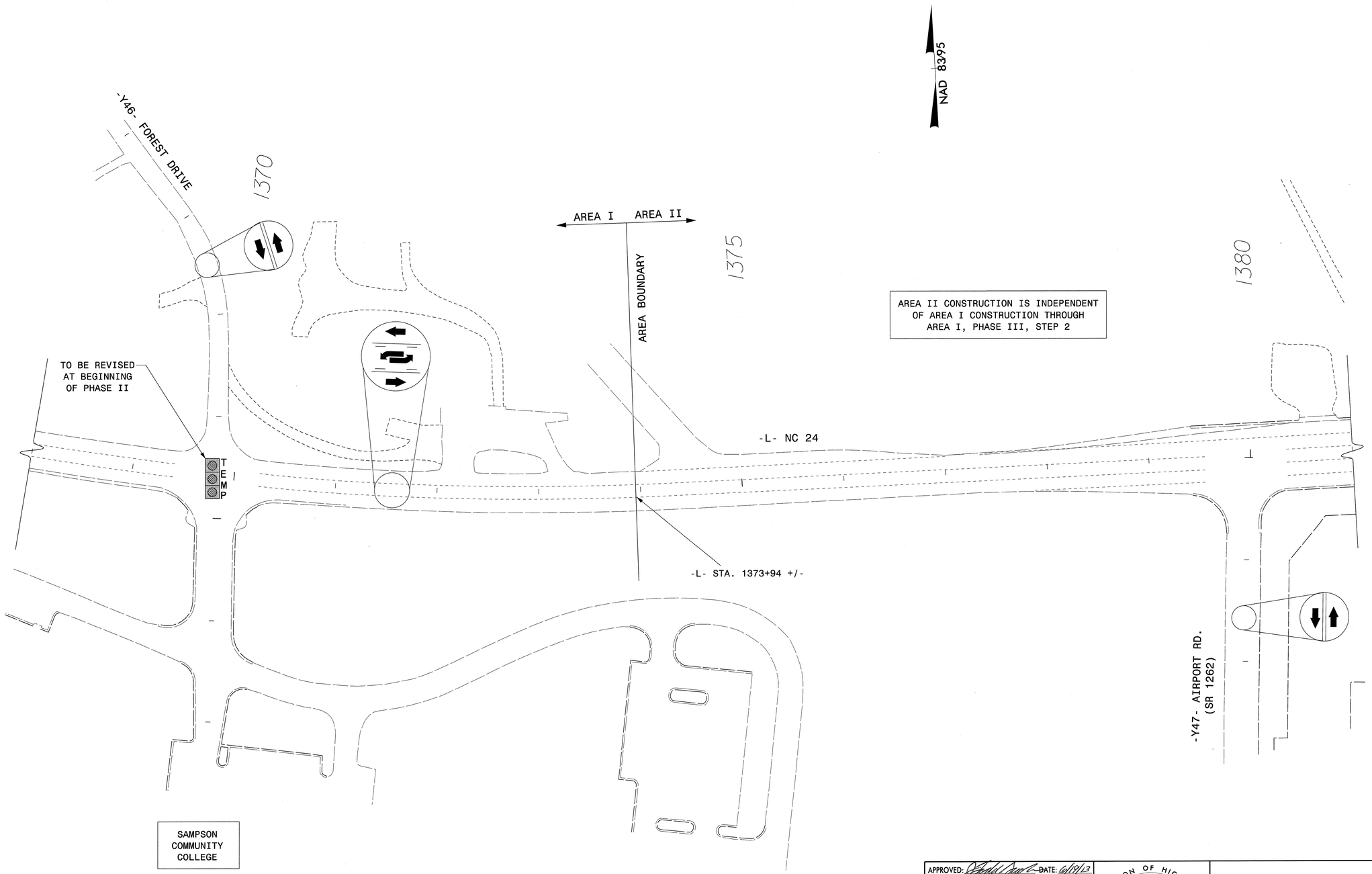
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-29



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE I DETAIL
-L- NC 24, -Y46- & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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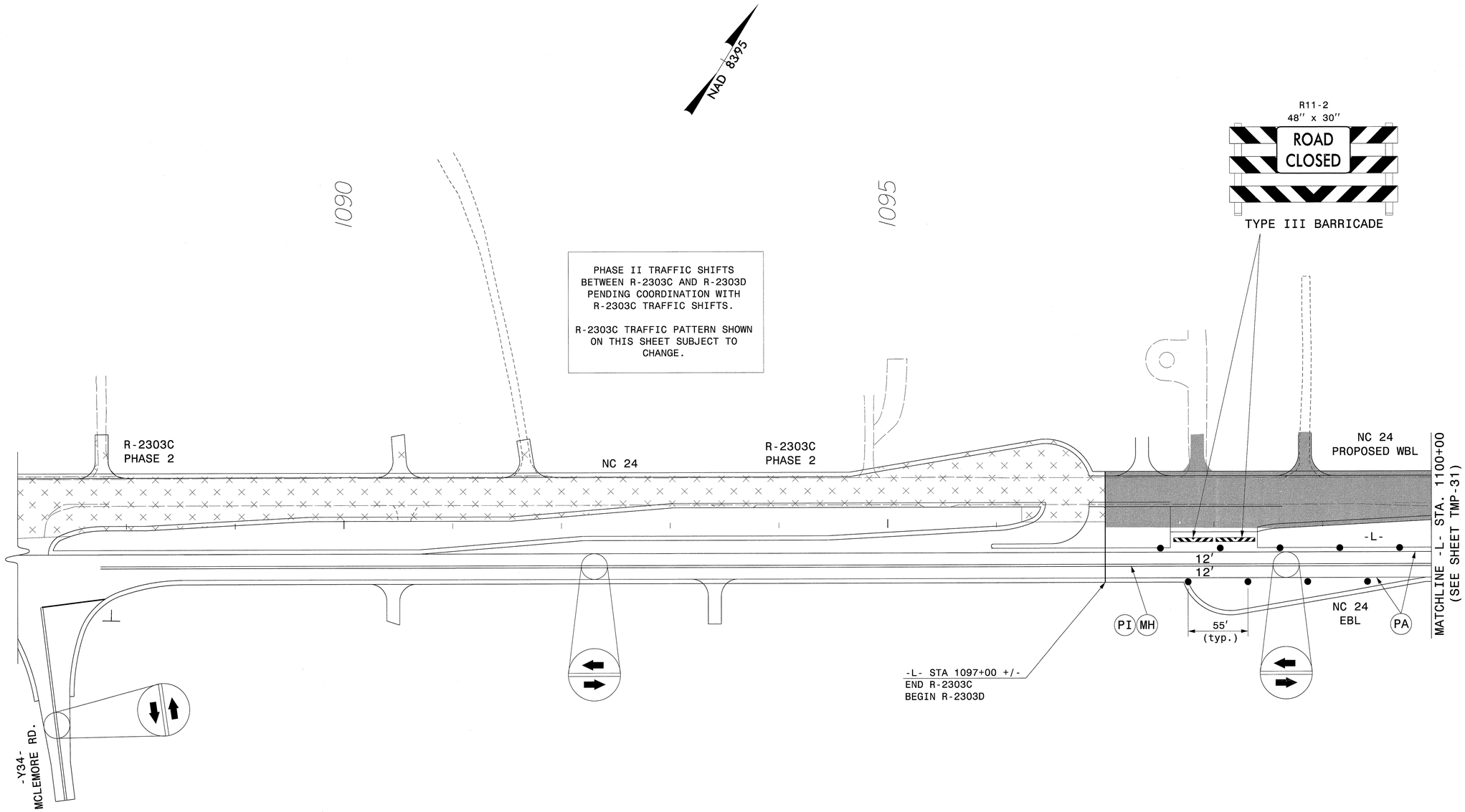
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-30



PHASE II TRAFFIC SHIFTS BETWEEN R-2303C AND R-2303D PENDING COORDINATION WITH R-2303C TRAFFIC SHIFTS.

R-2303C TRAFFIC PATTERN SHOWN ON THIS SHEET SUBJECT TO CHANGE.

APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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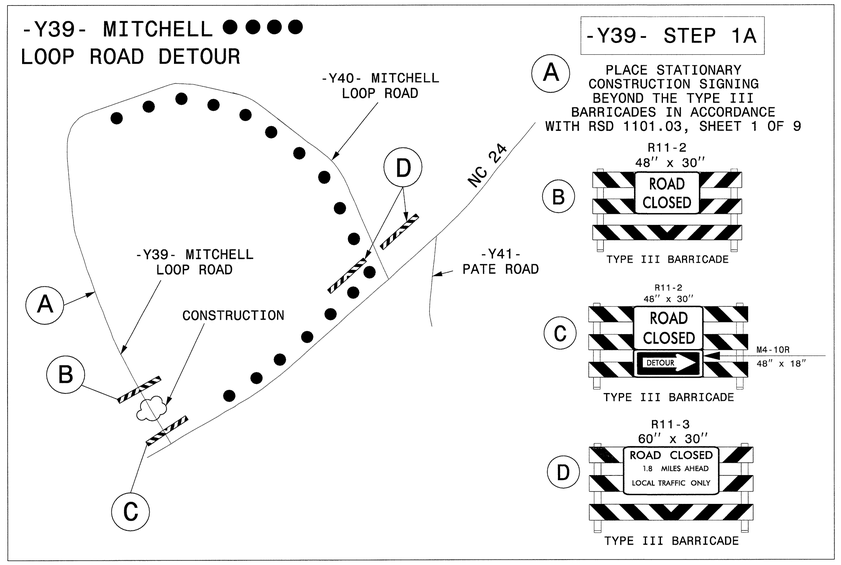
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-31



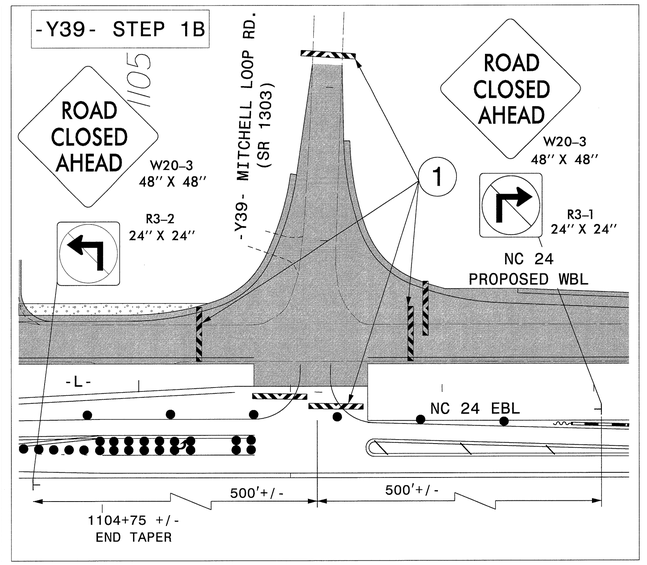
-Y39- STEP 1A

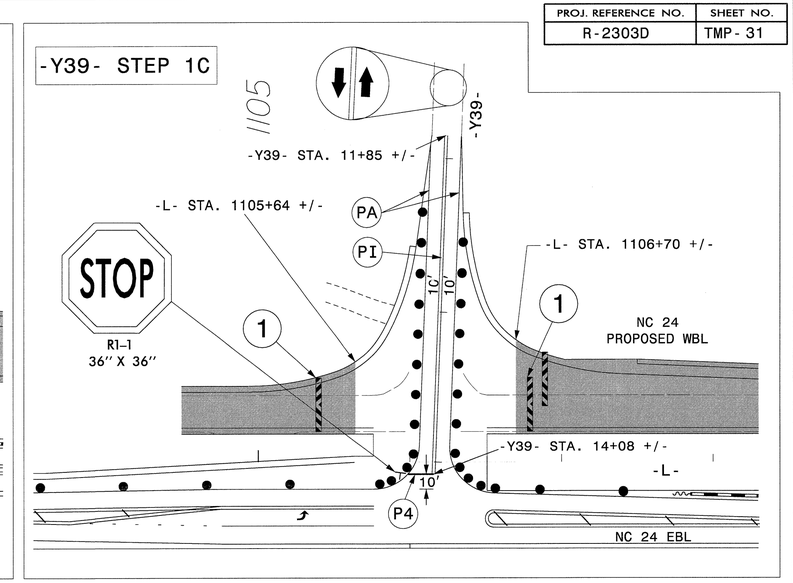
A PLACE STATIONARY CONSTRUCTION SIGNING BEYOND THE TYPE III BARRICADES IN ACCORDANCE WITH RSD 1101.03, SHEET 1 OF 9

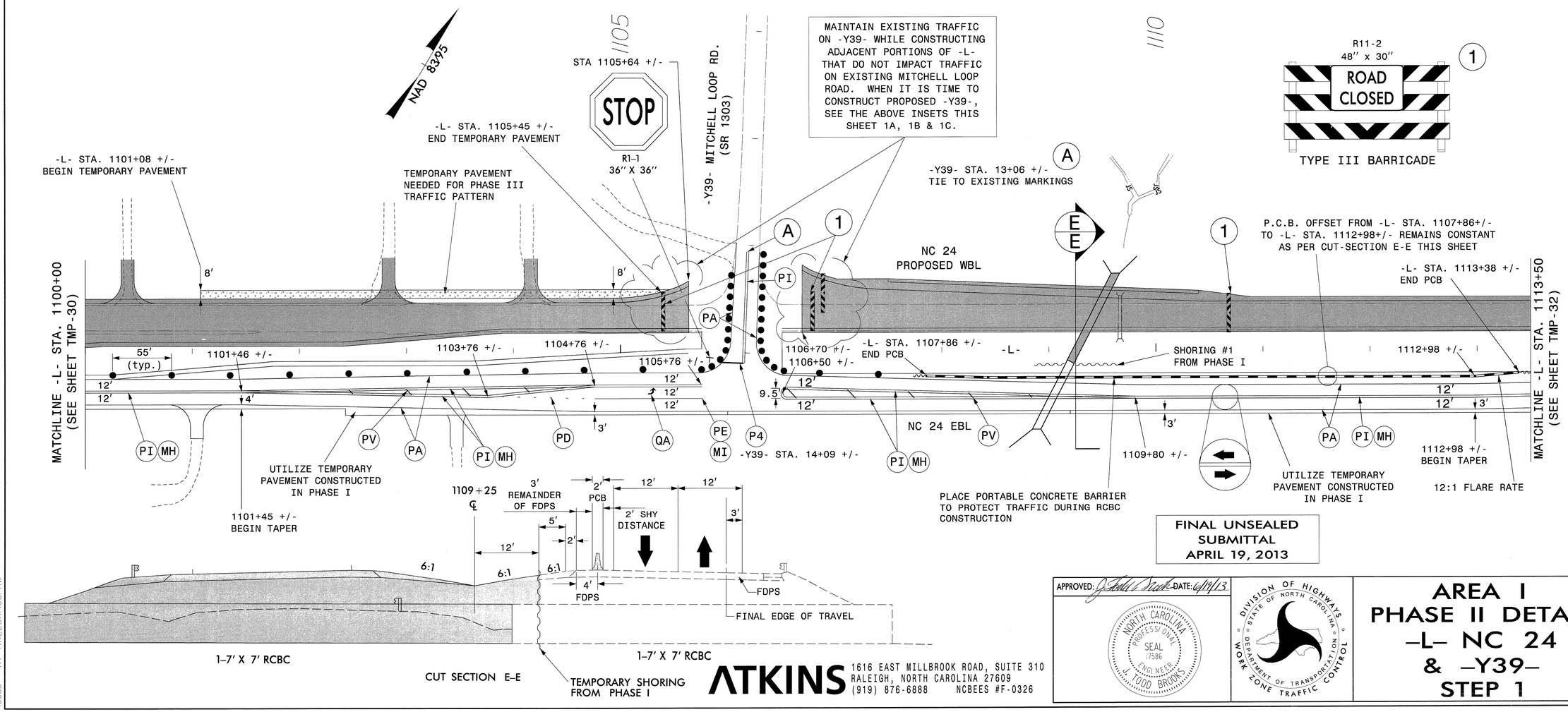
B R11-2 48" x 30" ROAD CLOSED — TYPE III BARRICADE

C R11-2 48" x 30" ROAD CLOSED DETOUR; M4-10R 48" x 18" — TYPE III BARRICADE

D R11-3 60" x 30" ROAD CLOSED 1.8 MILES AHEAD LOCAL TRAFFIC ONLY — TYPE III BARRICADE







FINAL UNSEALED SUBMITTAL APRIL 19, 2013

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

AREA 1 PHASE II DETAIL -L- NC 24 & -Y39- STEP 1

18-JUN-2013 17:05
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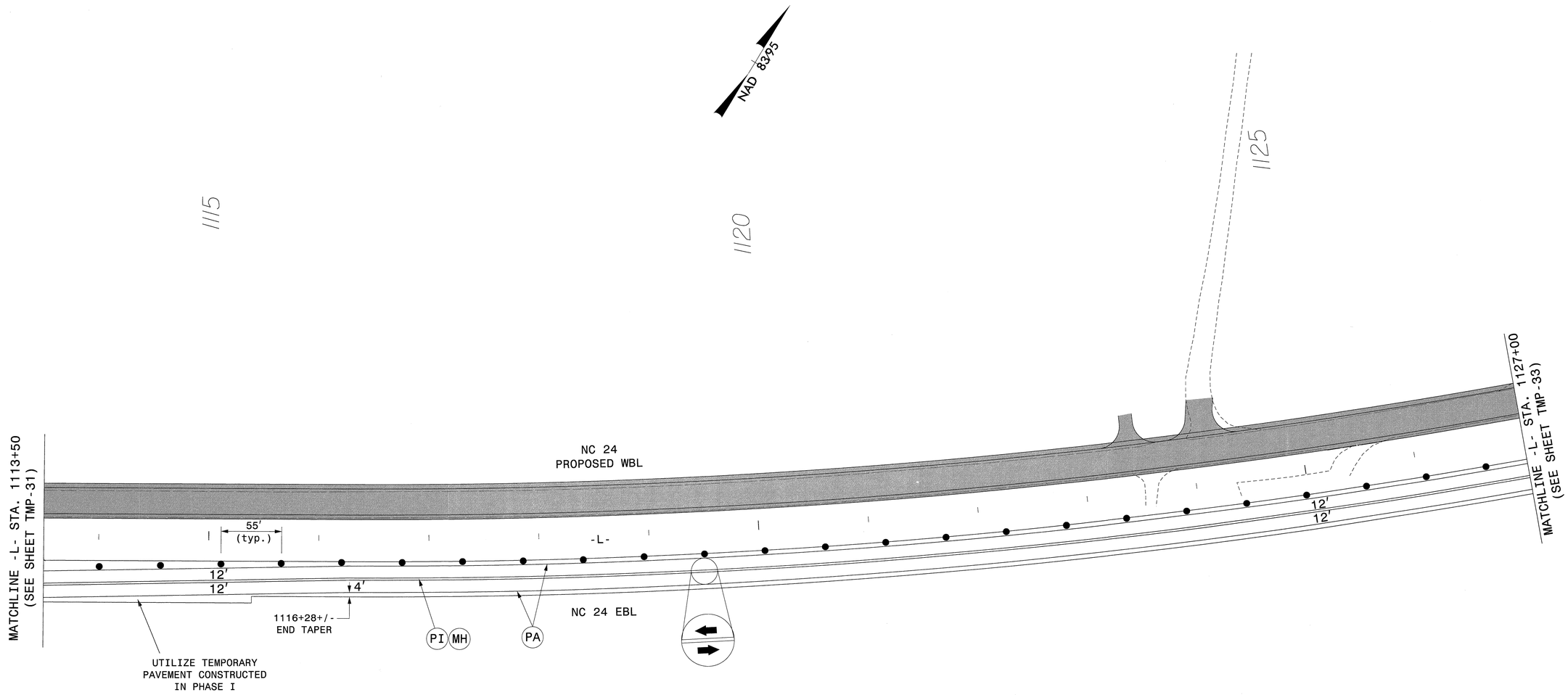
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-32



APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1

PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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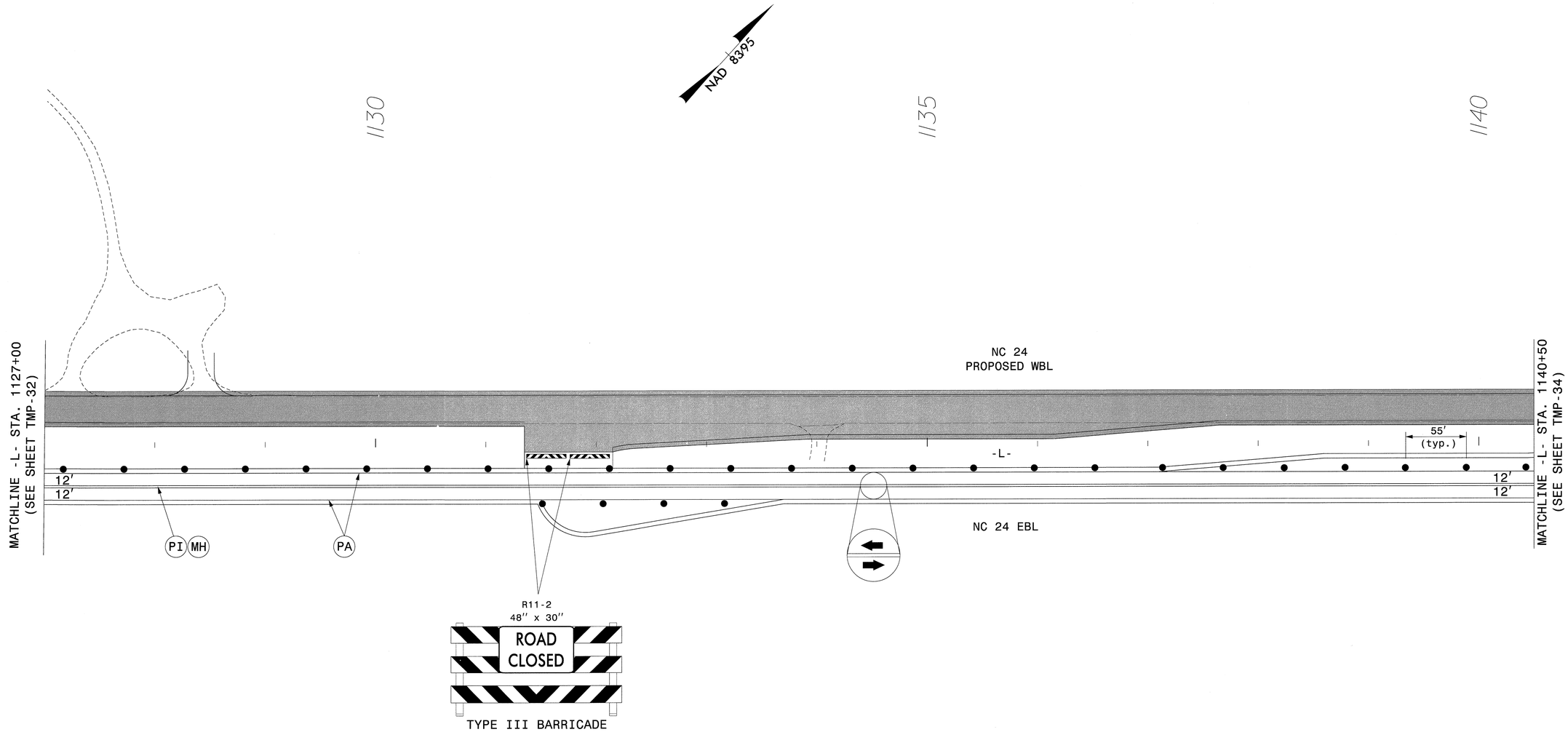
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-33



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(919) 876-6888 NCBEES #F-0326

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
-L- NC 24

18-JUN-2013 17:05
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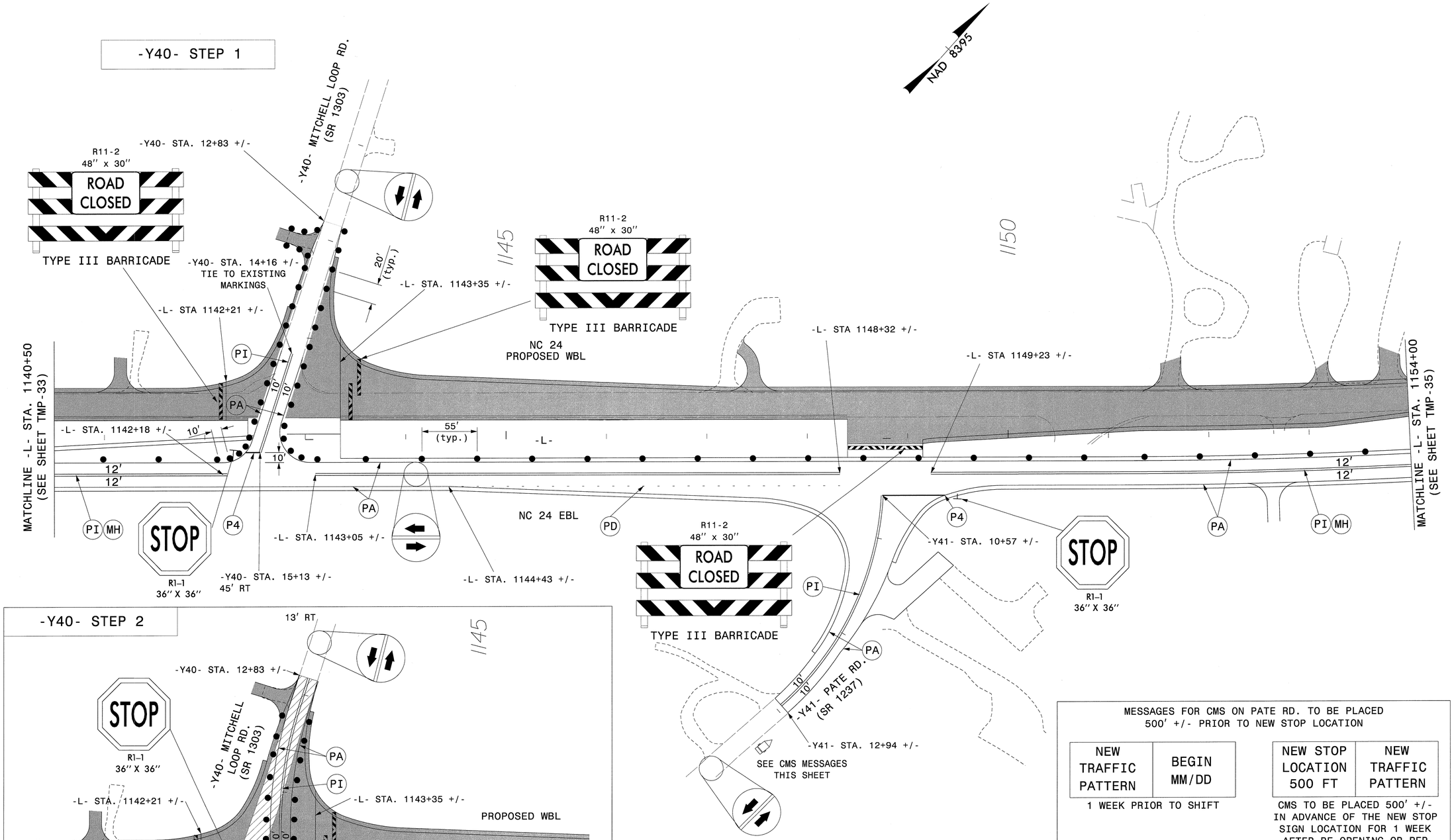
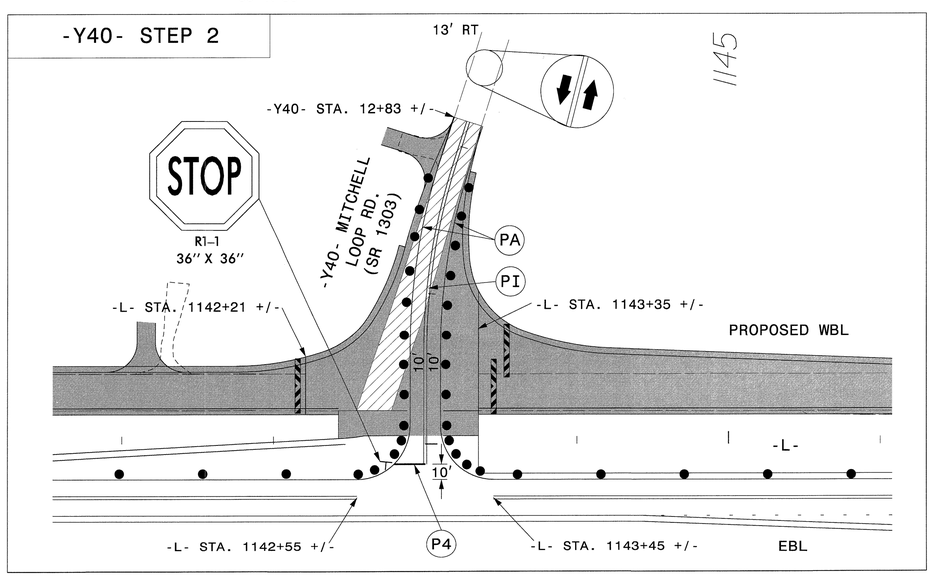
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-34





MESSAGES FOR CMS ON PATE RD. TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1 PHASE II DETAIL -L- NC 24, -Y40- & -Y41- STEPS 1 & 2

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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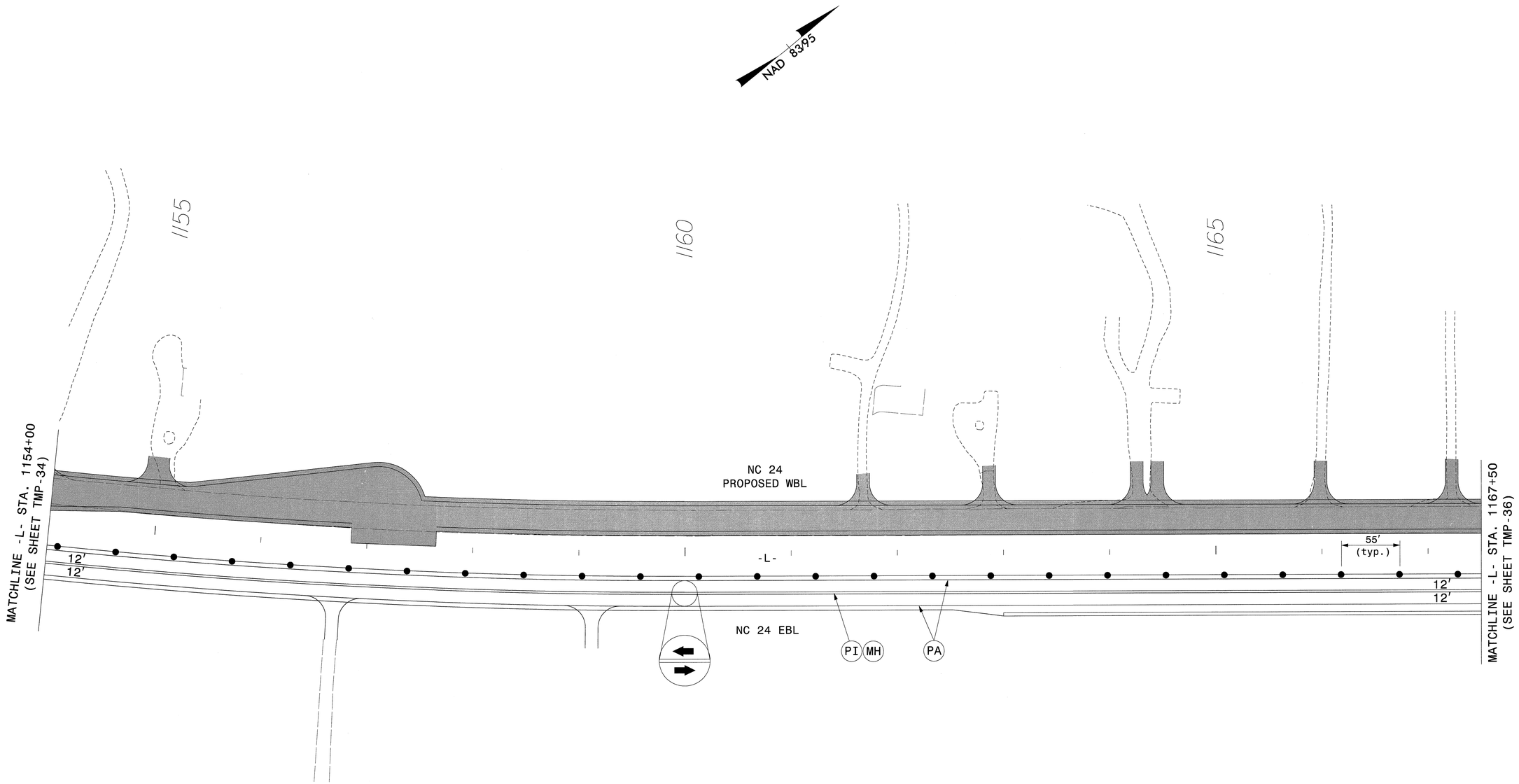
13833 AT RALZUA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-35



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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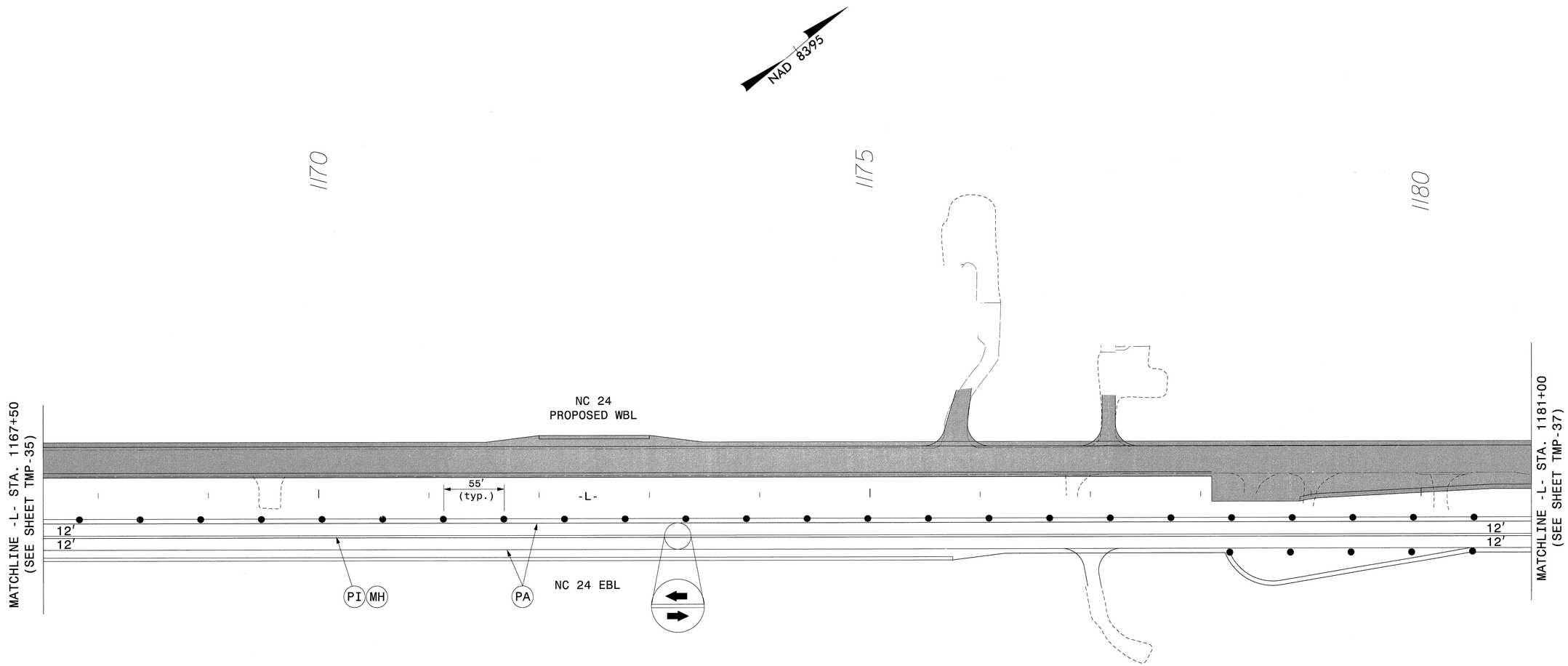
13833 AT RAL2\AI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-36



APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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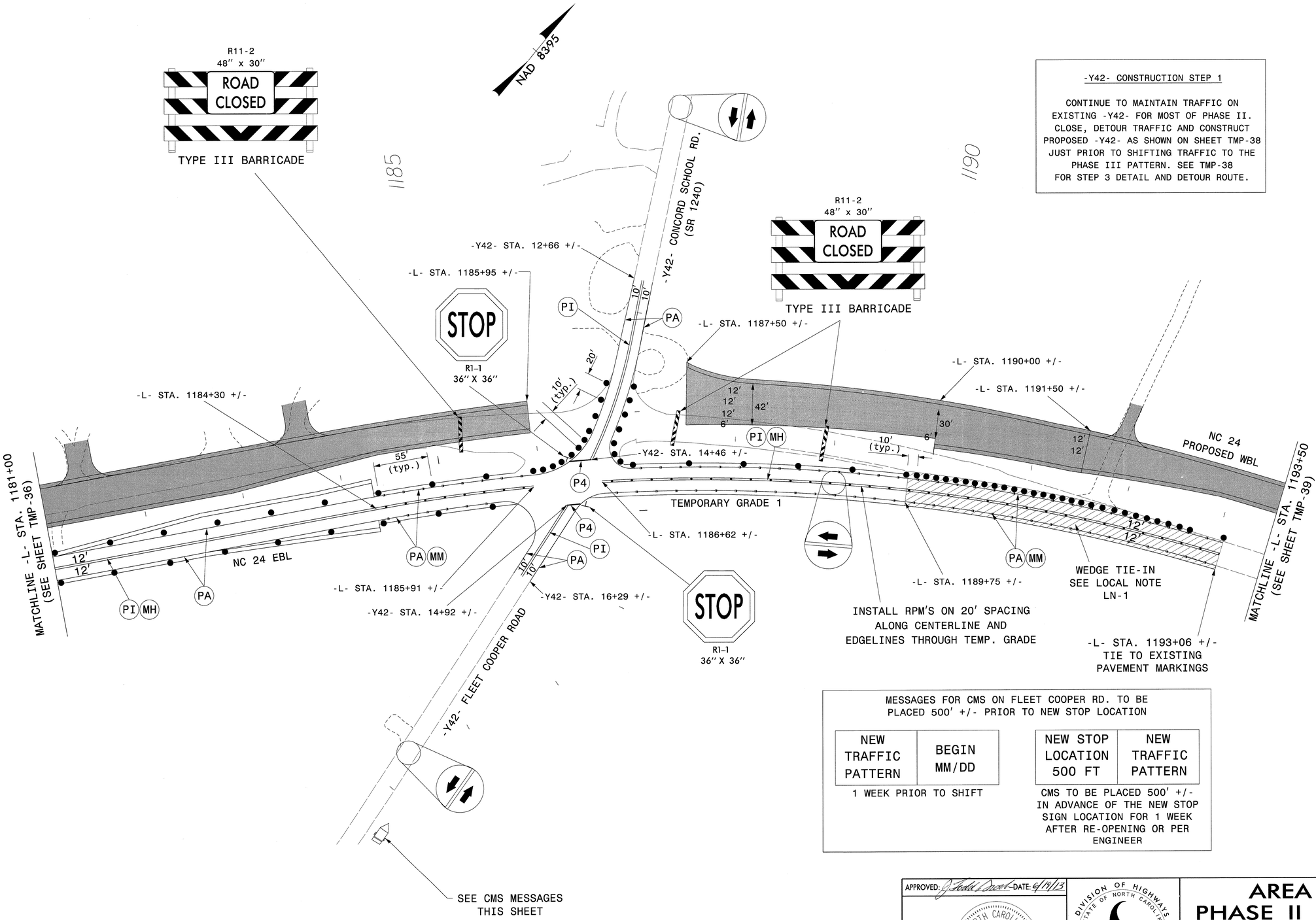
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-37



-Y42- CONSTRUCTION STEP 1

CONTINUE TO MAINTAIN TRAFFIC ON EXISTING -Y42- FOR MOST OF PHASE II. CLOSE, DETOUR TRAFFIC AND CONSTRUCT PROPOSED -Y42- AS SHOWN ON SHEET TMP-38 JUST PRIOR TO SHIFTING TRAFFIC TO THE PHASE III PATTERN. SEE TMP-38 FOR STEP 3 DETAIL AND DETOUR ROUTE.

MESSAGES FOR CMS ON FLEET COOPER RD. TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 4/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1 PHASE II DETAIL -L- NC 24 & -Y42- STEP 1

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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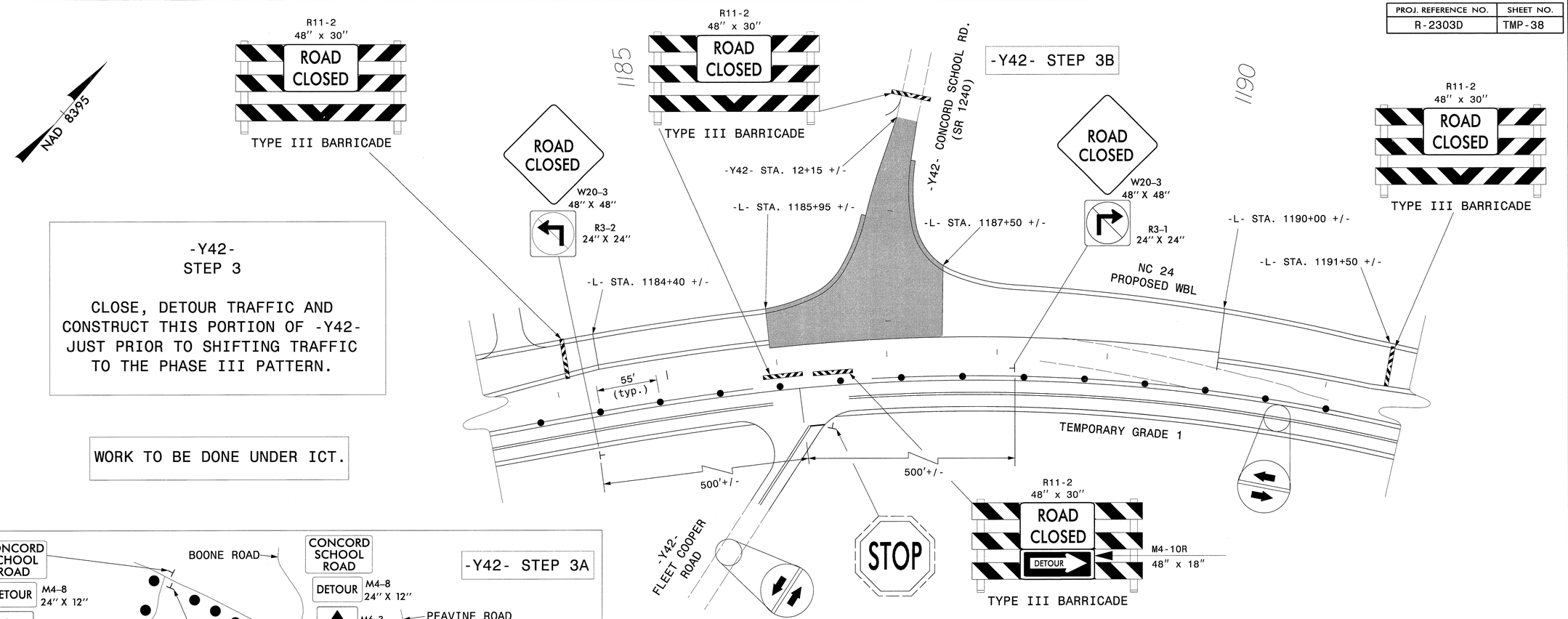
13833 AT RAL2UA480FHW

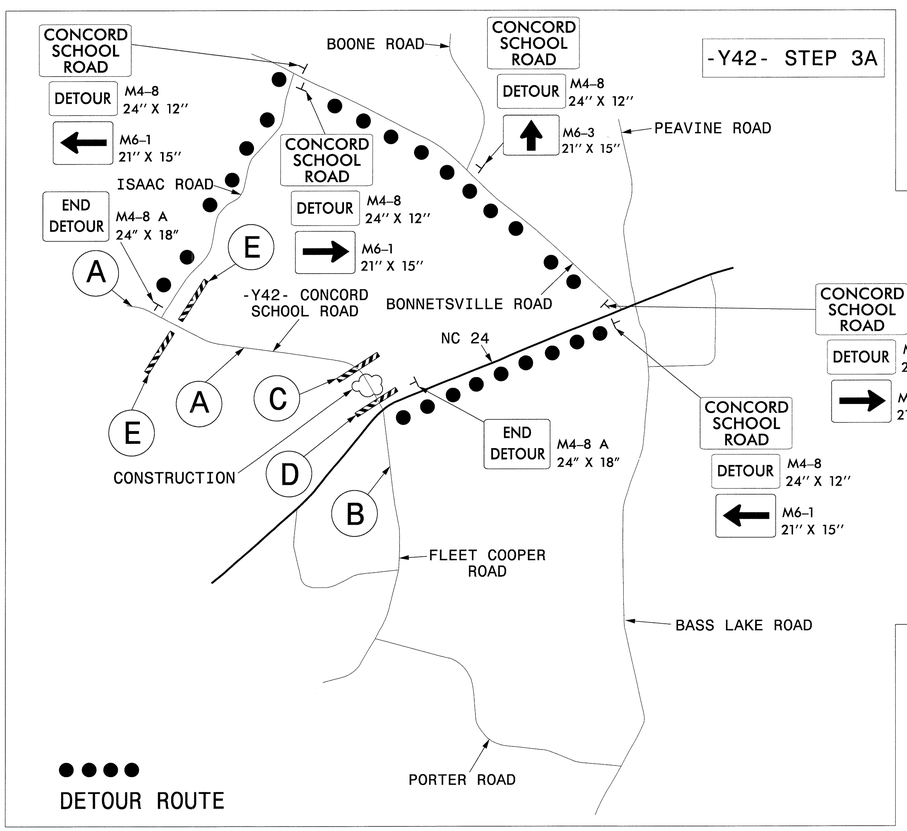
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-38



-Y42-
STEP 3

CLOSE, DETOUR TRAFFIC AND CONSTRUCT THIS PORTION OF -Y42- JUST PRIOR TO SHIFTING TRAFFIC TO THE PHASE III PATTERN.

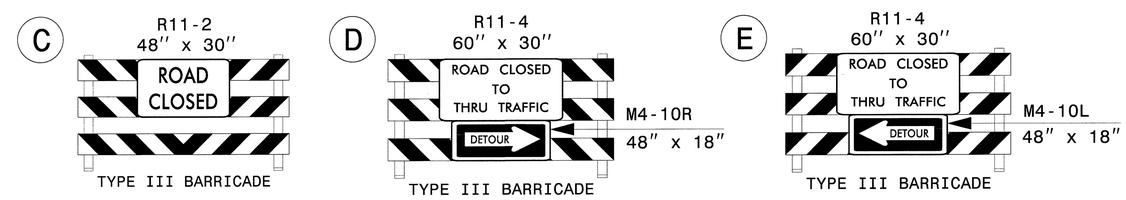
WORK TO BE DONE UNDER ICT.



-Y42- CONCORD SCHOOL ROAD DETOUR

(A) PLACE STATIONARY CONSTRUCTION SIGNING IN ACCORDANCE WITH RSD 1101.03, SHEET 1 OF 9

(B) PLACE STATIONARY CONSTRUCTION SIGNING IN ACCORDANCE WITH RSD 1101.03, SHEET 2 OF 9



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

AREA I
PHASE II DETAIL
-L- NC 24
& -Y42-
STEP 3

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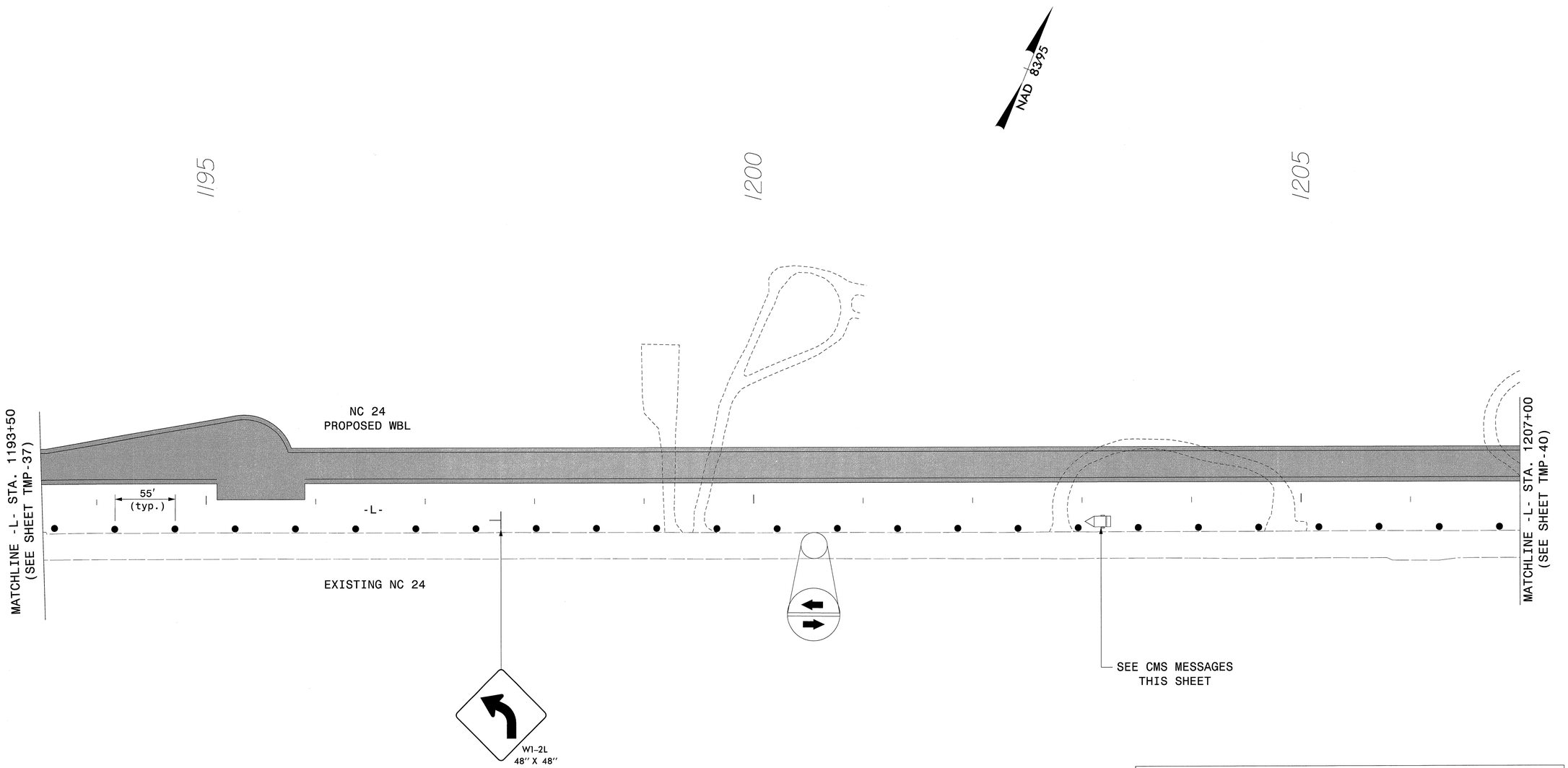
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-39



NEW TRAFFIC PATTERN	BEGIN MM/DD

2 WEEKS PRIOR TO SHIFT

TRAFFIC SHIFT 1000 FT	ADVISORY SPEED 45 MPH

FOLLOWING THE TRAFFIC SHIFT
BEGINNING MORNING OF SHIFT

APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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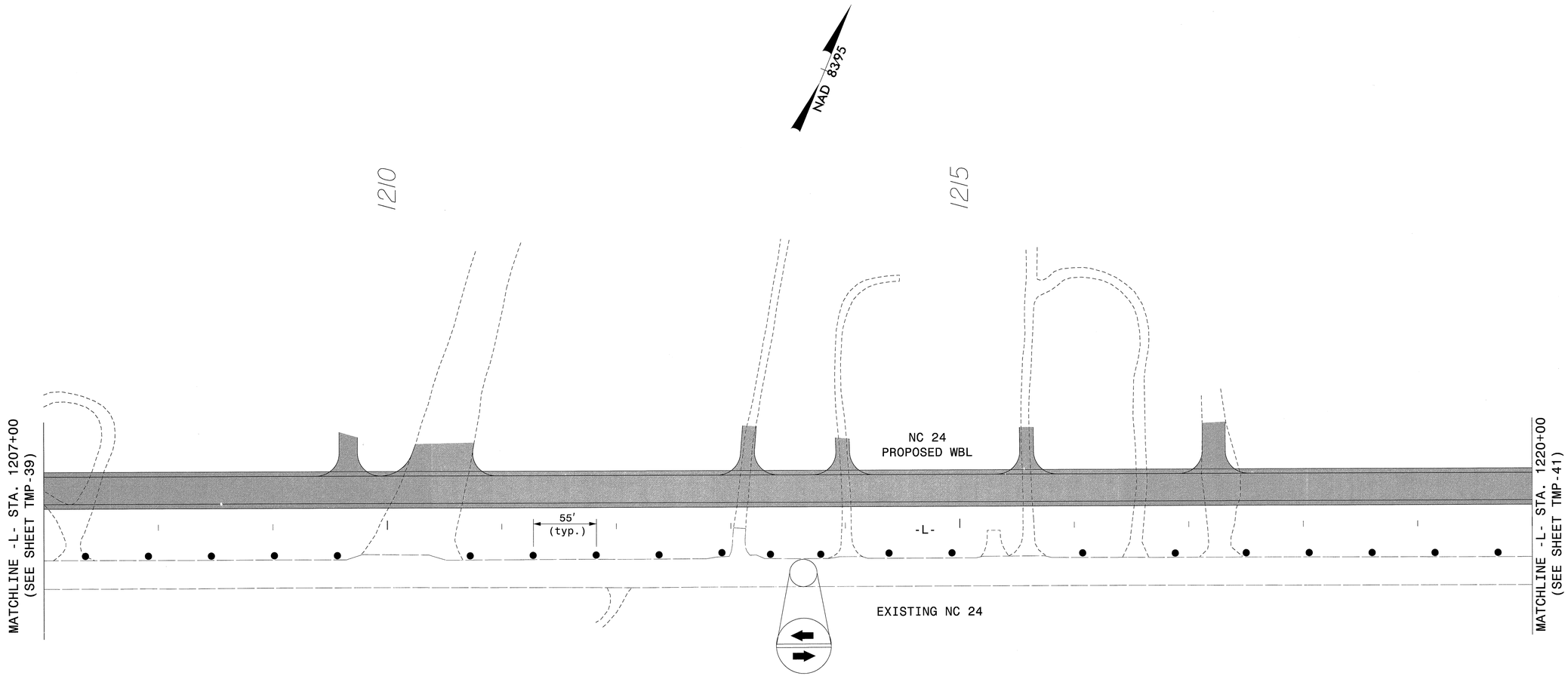
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-40



APPROVED: DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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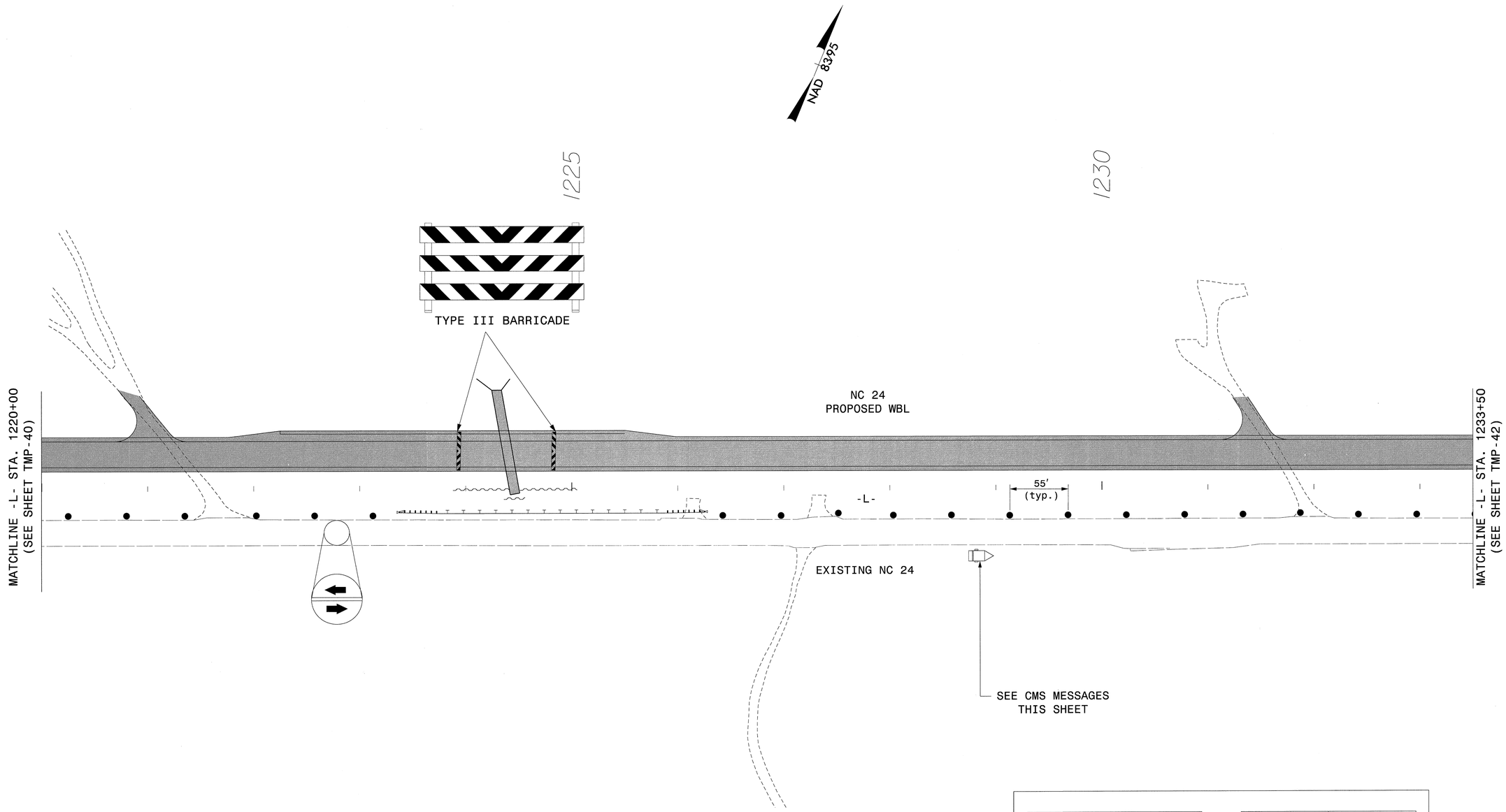
13833 AT RAL2LAN480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-41



NEW TRAFFIC PATTERN	BEGIN MM/DD

2 WEEKS PRIOR TO SHIFT

TRAFFIC SHIFT 1000 FT	ADVISORY SPEED 45 MPH

FOLLOWING THE TRAFFIC SHIFT BEGINNING MORNING OF SHIFT

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
-L- NC 24
& CULVERT

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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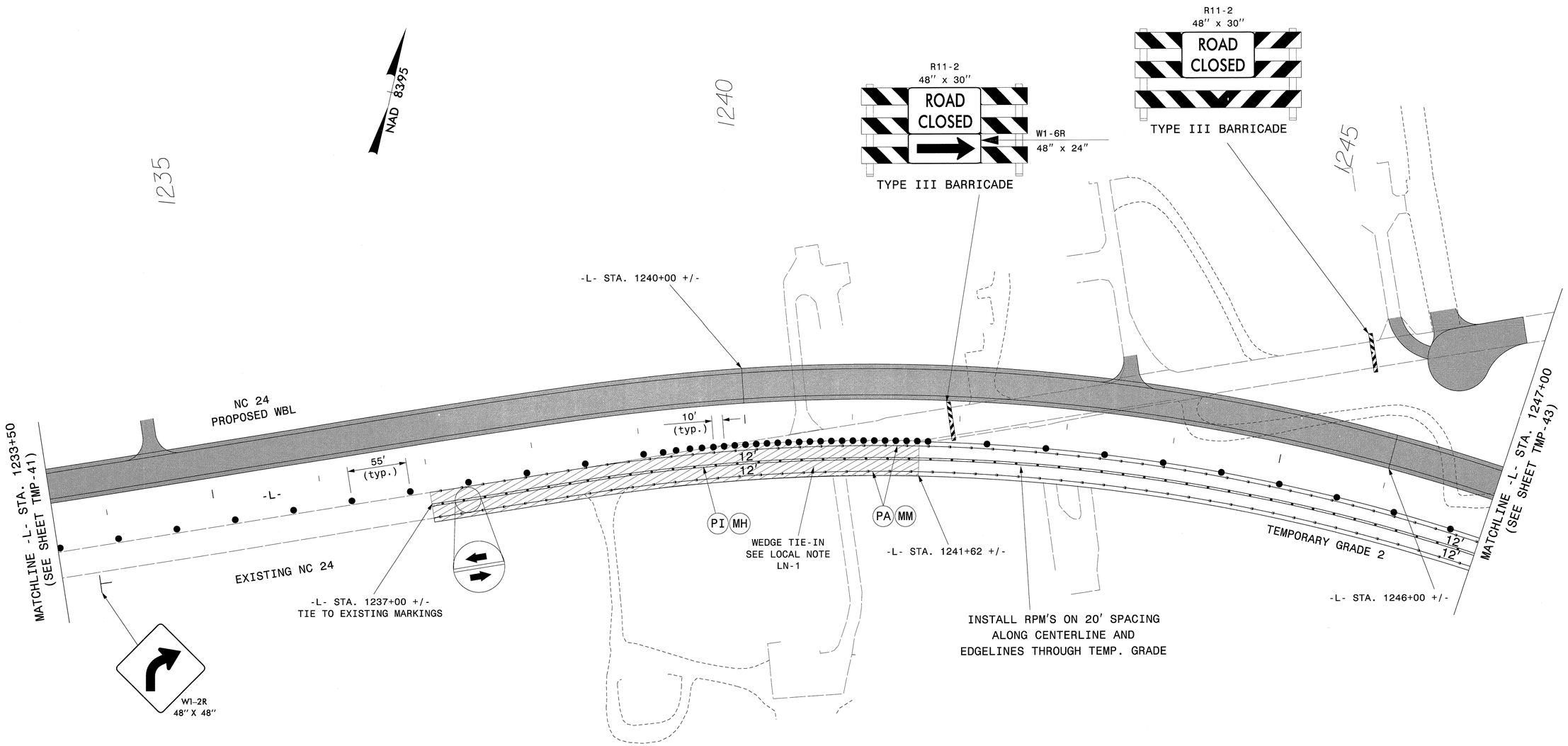
13833 AT RAL21IA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-42



APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
–L–,
EXISTING NC 24
& TEMP GRADE 2

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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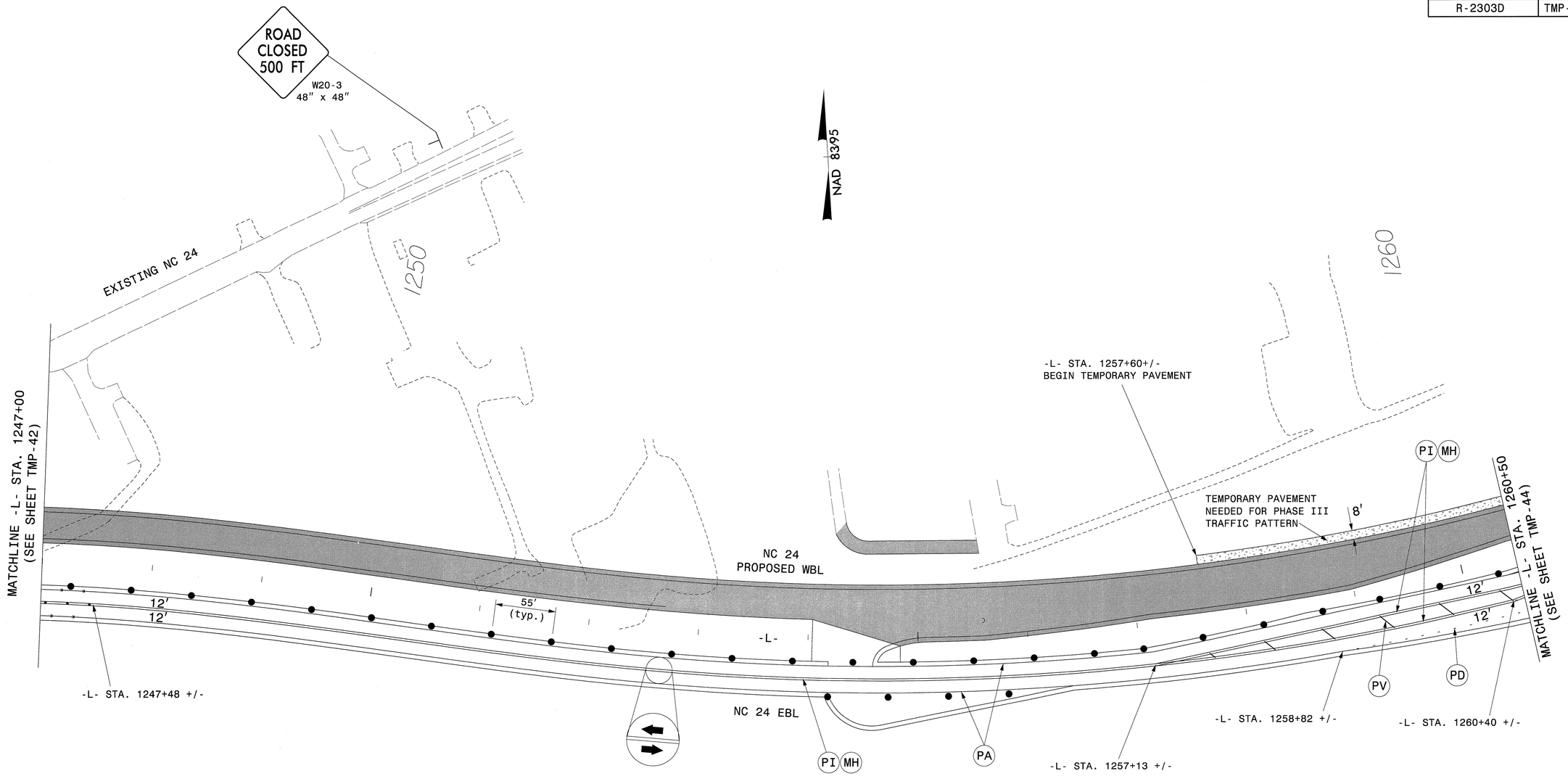
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-43



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE II DETAIL -L- & EXISTING NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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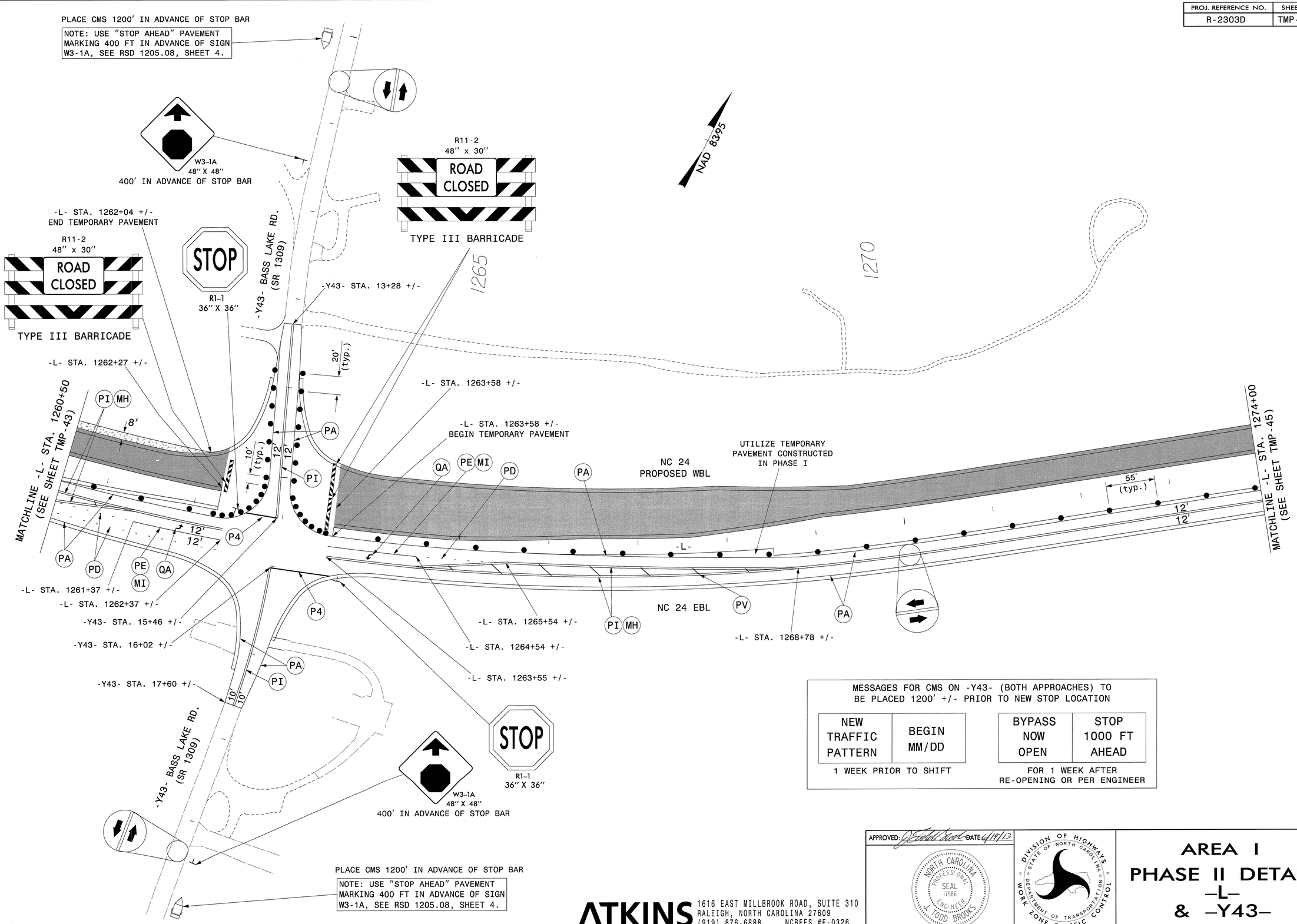
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-44



MESSAGES FOR CMS ON -Y43- (BOTH APPROACHES) TO BE PLACED 1200' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

BYPASS NOW OPEN	STOP 1000 FT AHEAD

FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L-
& -Y43-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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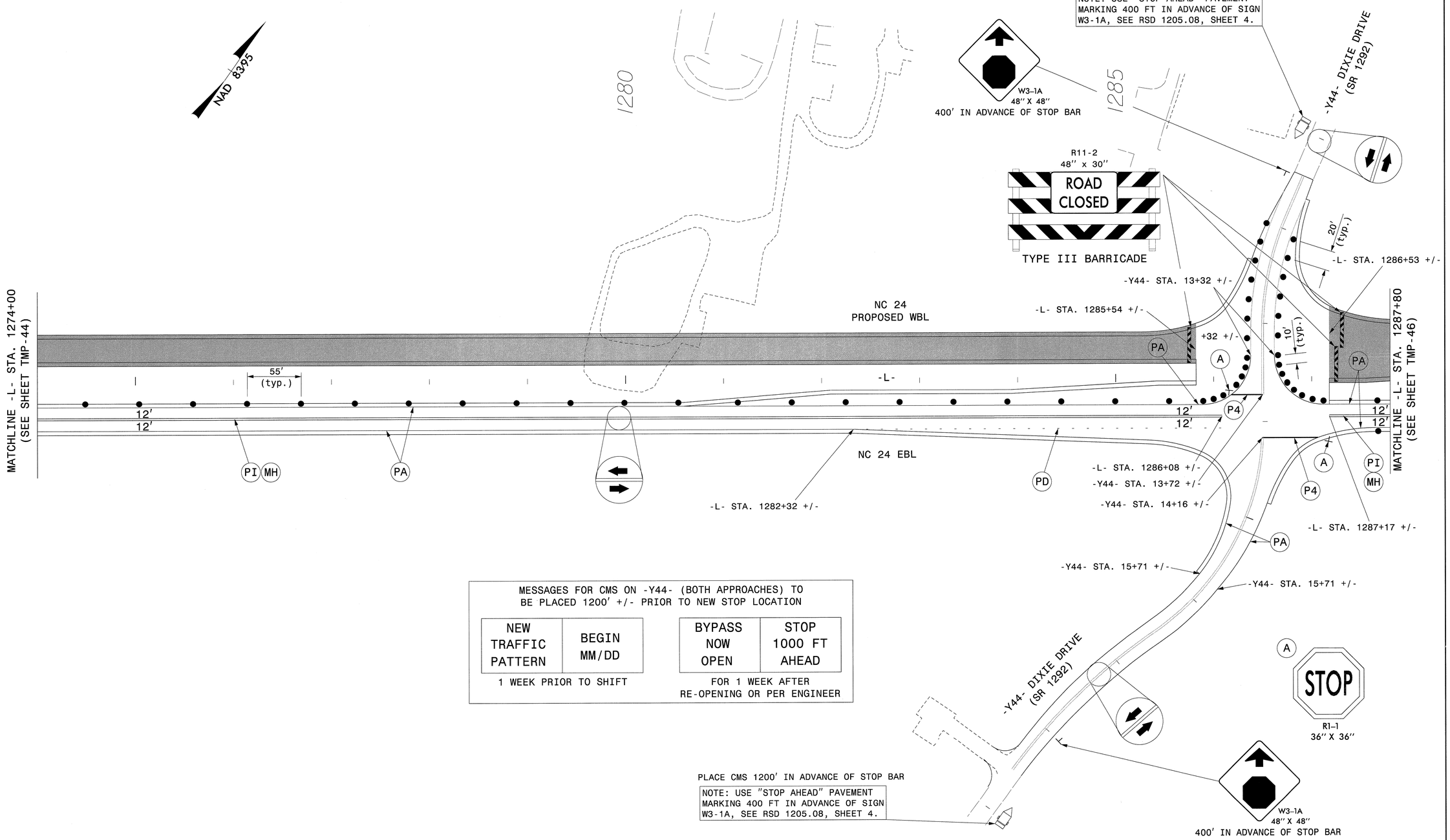
3833 AT RAL2\A1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-45



MESSAGES FOR CMS ON -Y44- (BOTH APPROACHES) TO BE PLACED 1200' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

BYPASS NOW OPEN	STOP 1000 FT AHEAD

FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
–L–
& –Y44–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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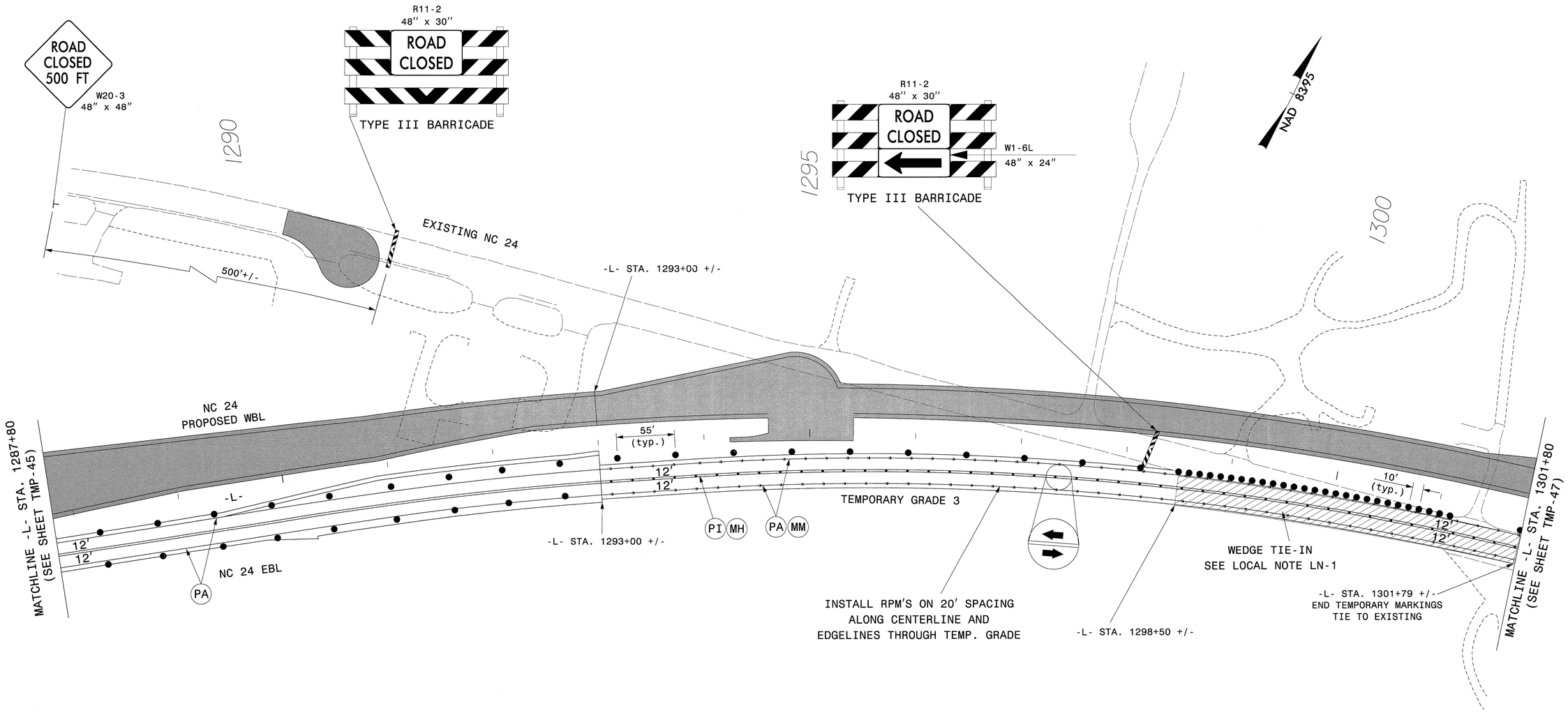
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-46



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L-, EXISTING NC 24 & TEMP GRADE 3

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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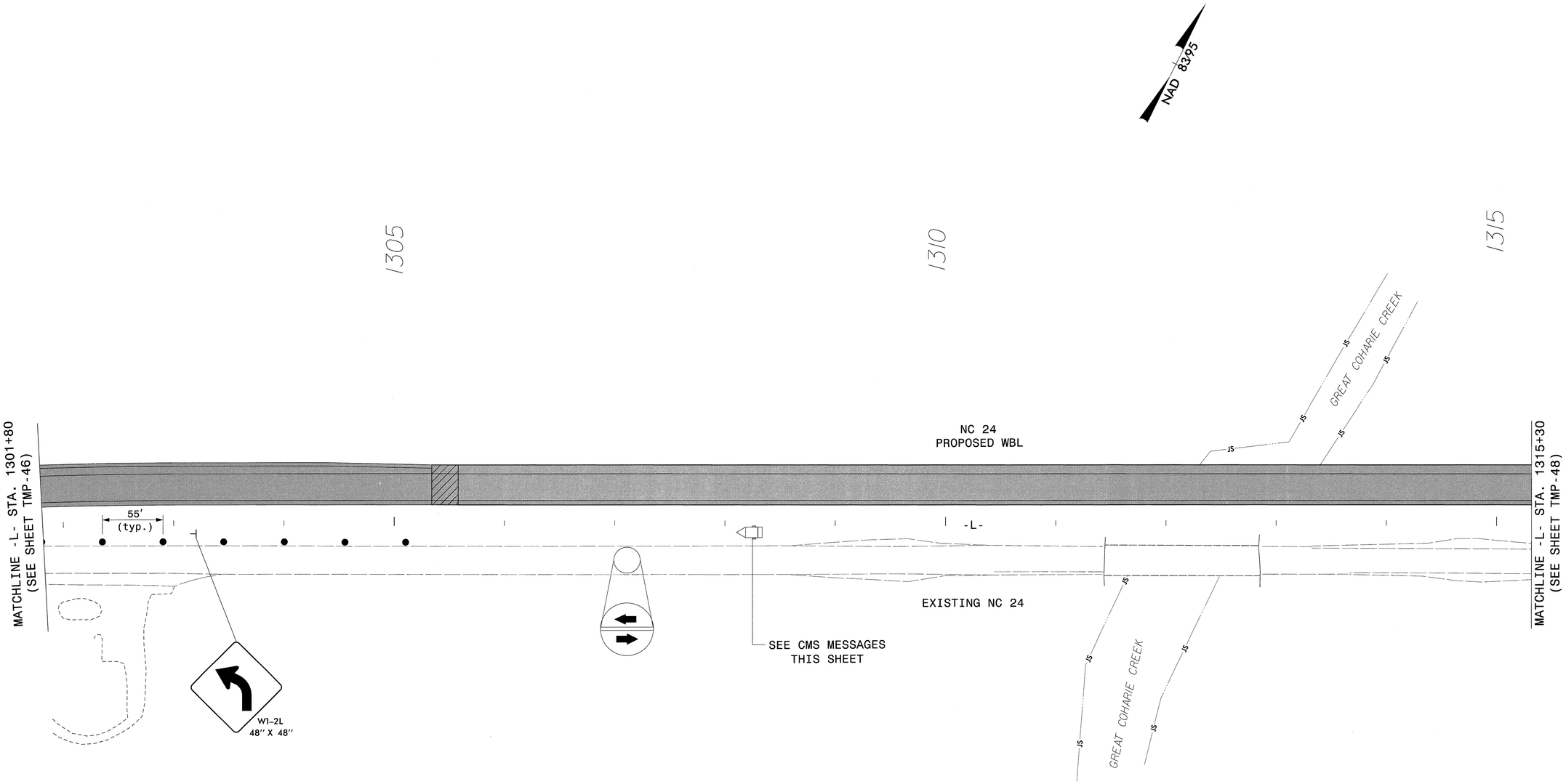
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-47



NEW TRAFFIC PATTERN	BEGIN MM/DD
2 WEEKS PRIOR TO SHIFT	

TRAFFIC SHIFT 1000 FT	ADVISORY SPEED 45 MPH
FOLLOWING THE TRAFFIC SHIFT BEGINNING MORNING OF SHIFT	

APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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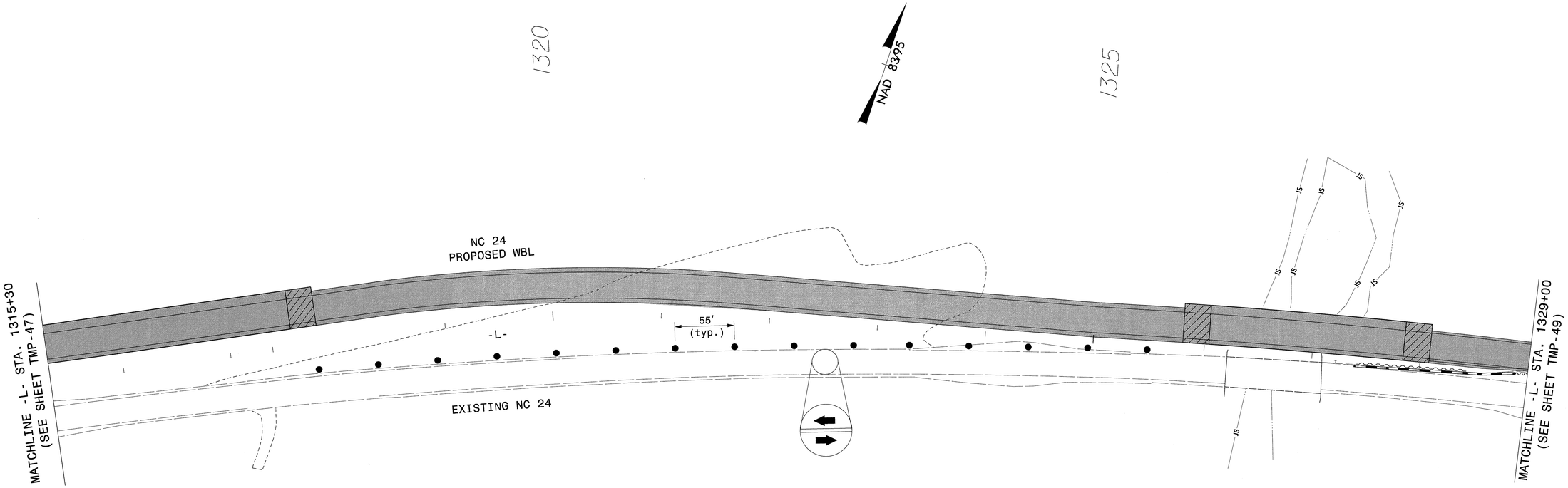
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-48



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RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
-L- NC 24

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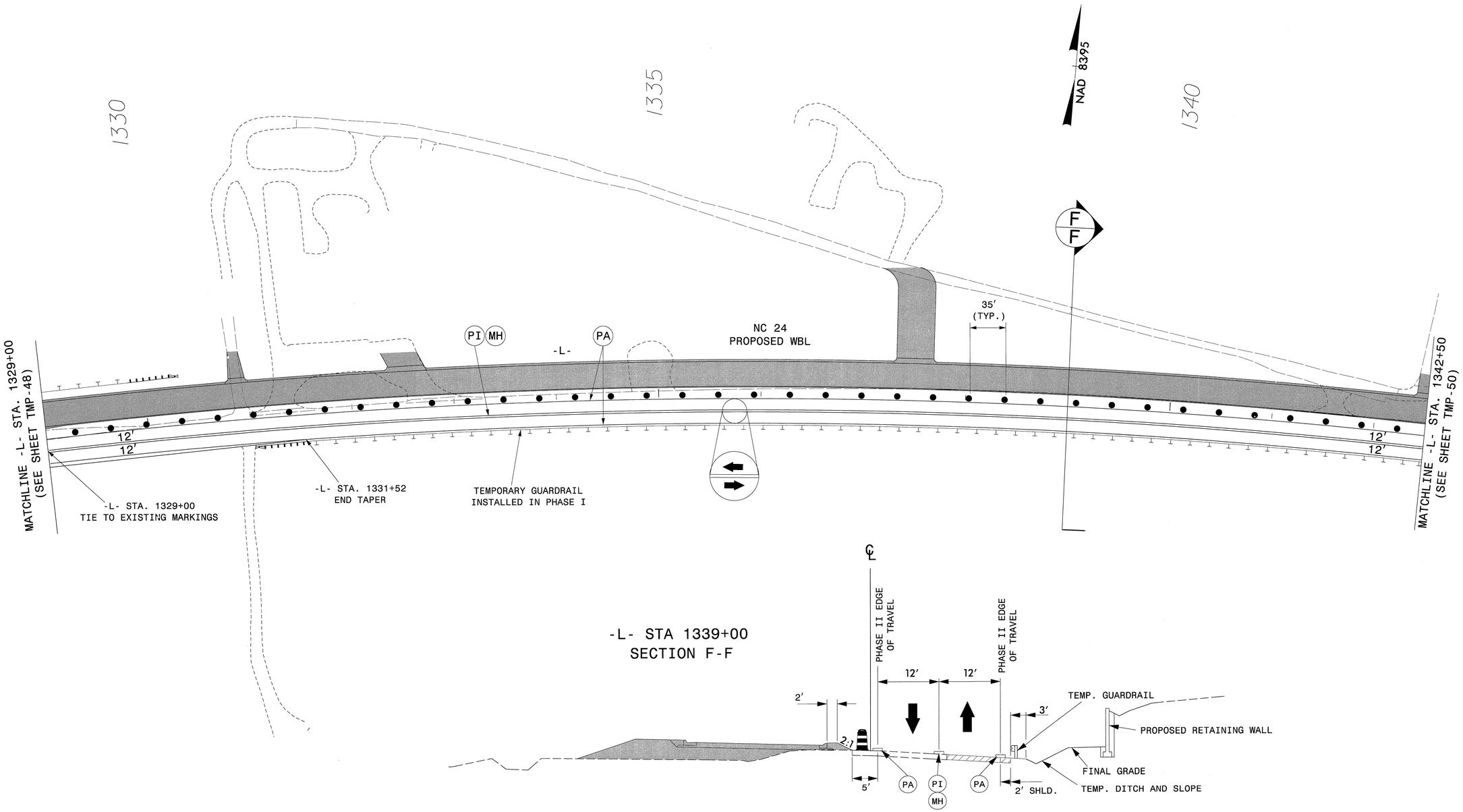
13833 AT RAL2UA48OFHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-49



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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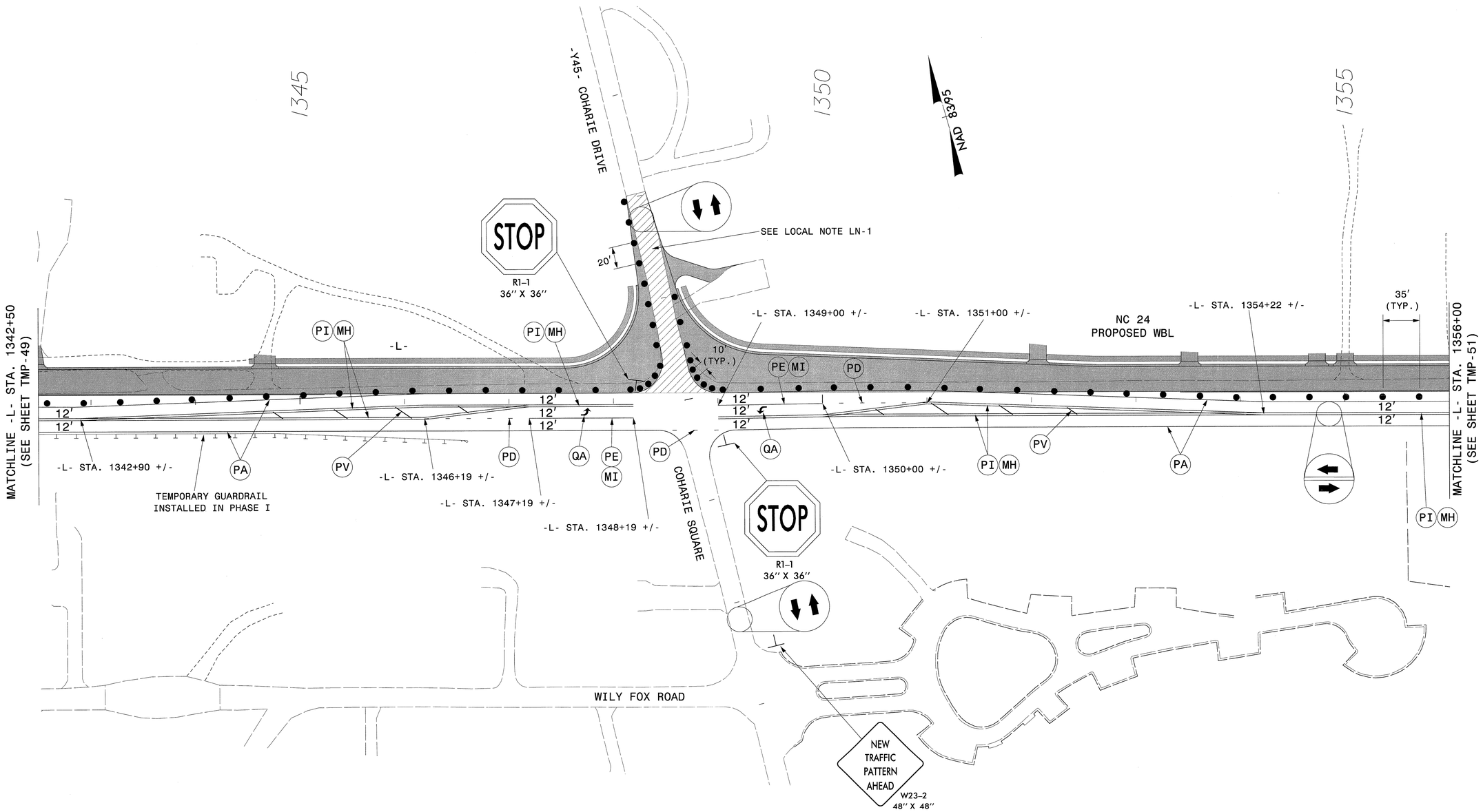
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-50



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24
& -Y45-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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13833 AT RAL2UAI480FHW

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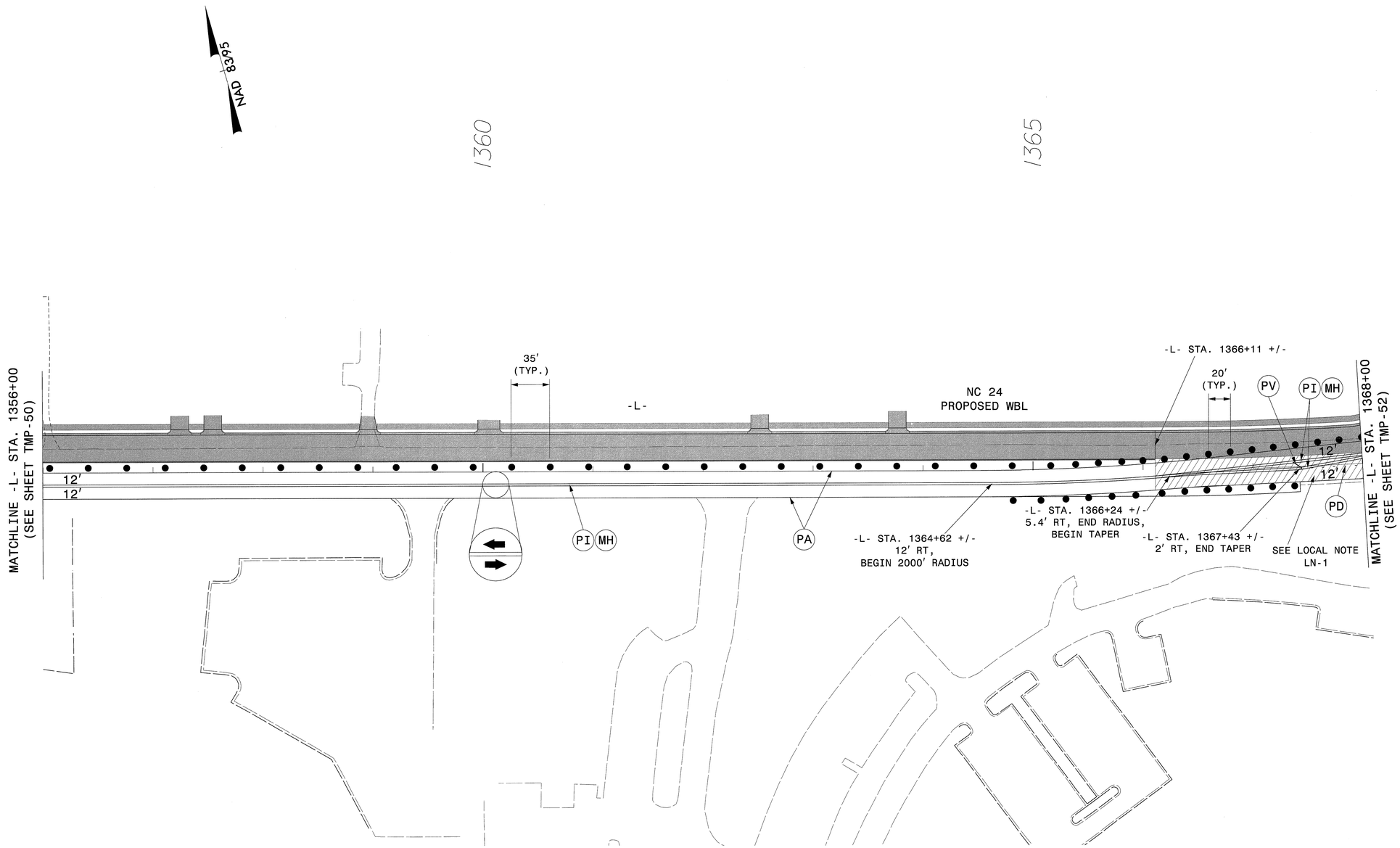
R-2303D	TMP-51



APPROVED: J. Todd Scott DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE II DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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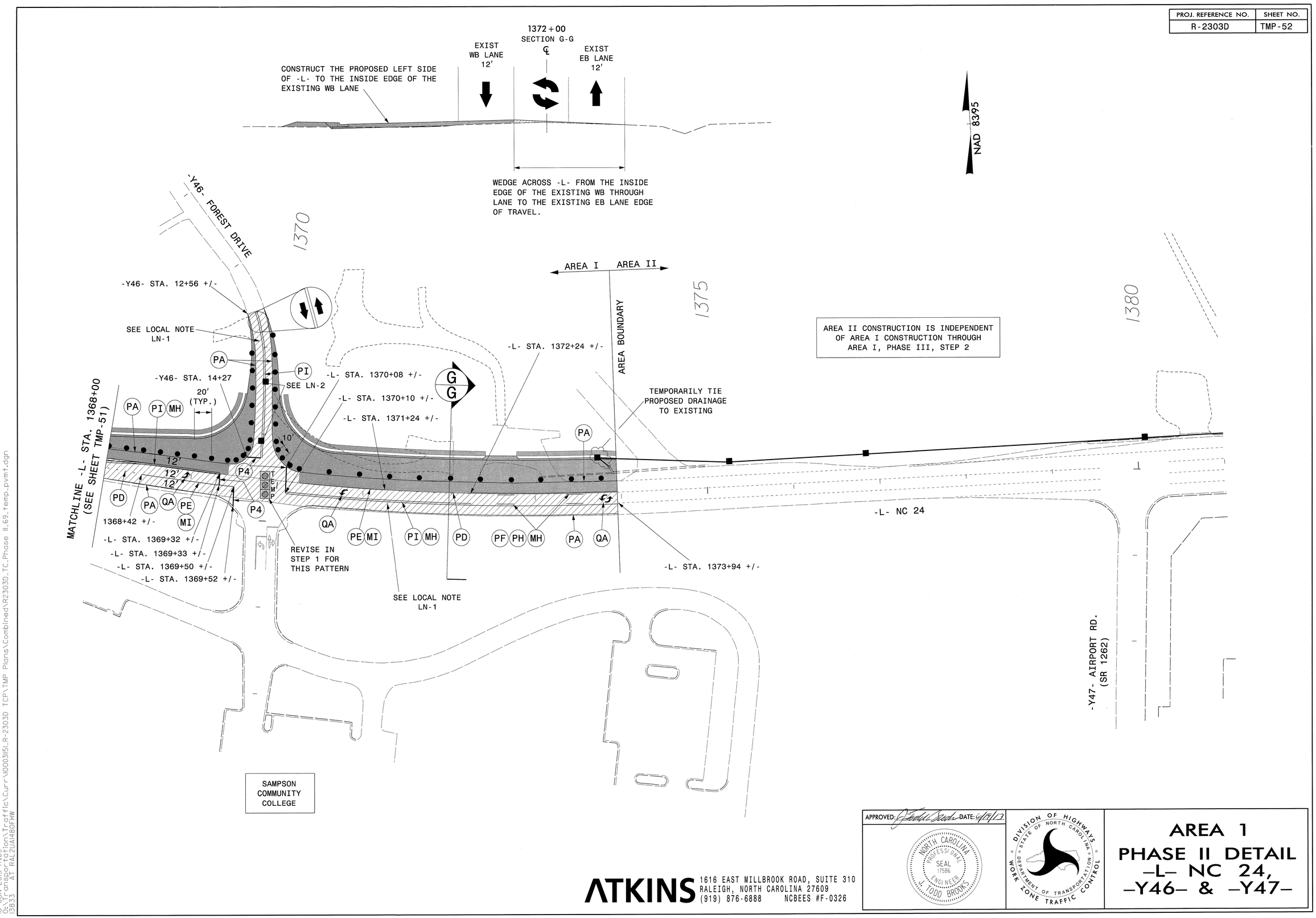
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-52



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE II DETAIL
-L- NC 24, -Y46- & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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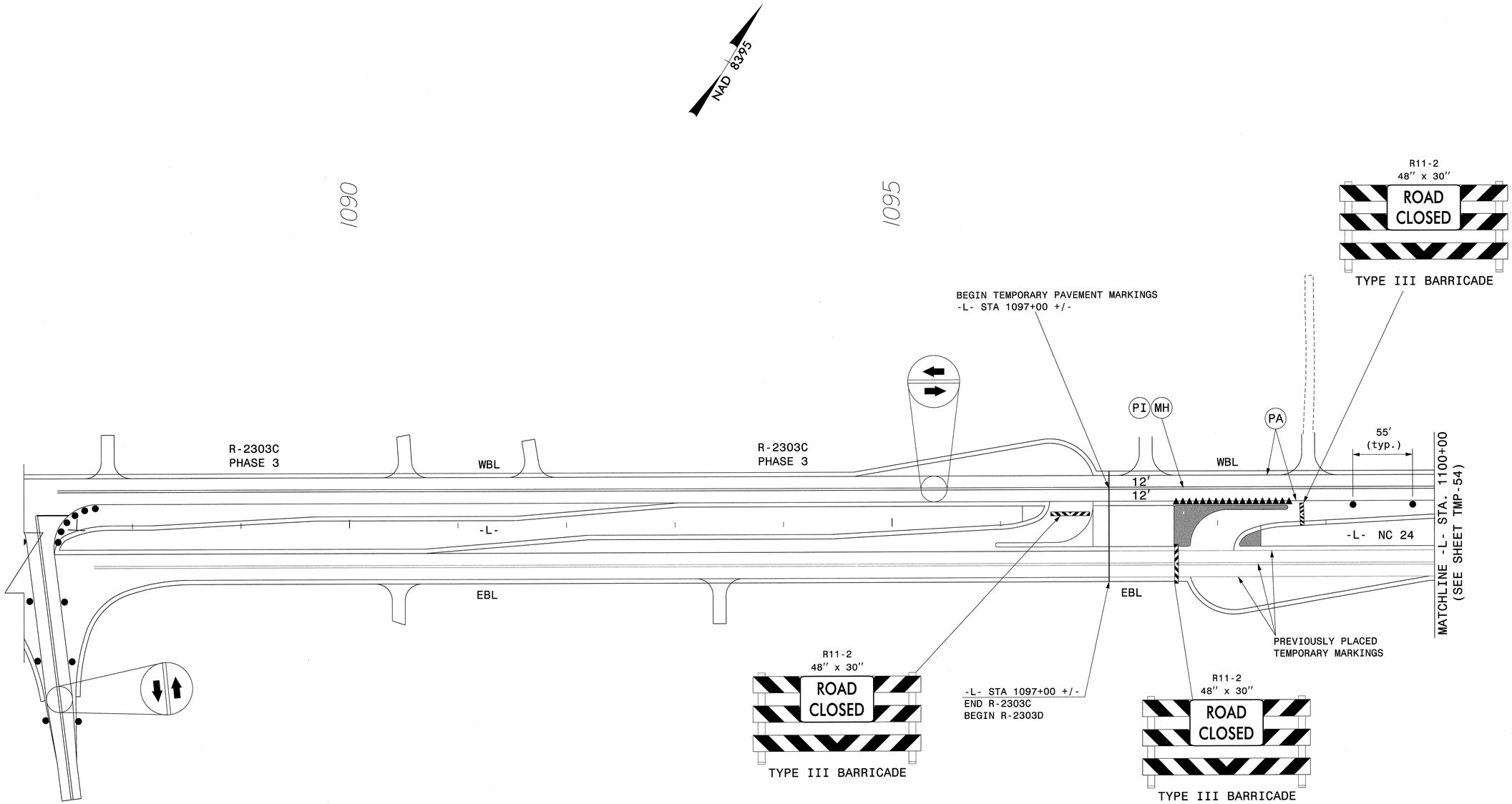
13833 AT RAL21IA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-53



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-54

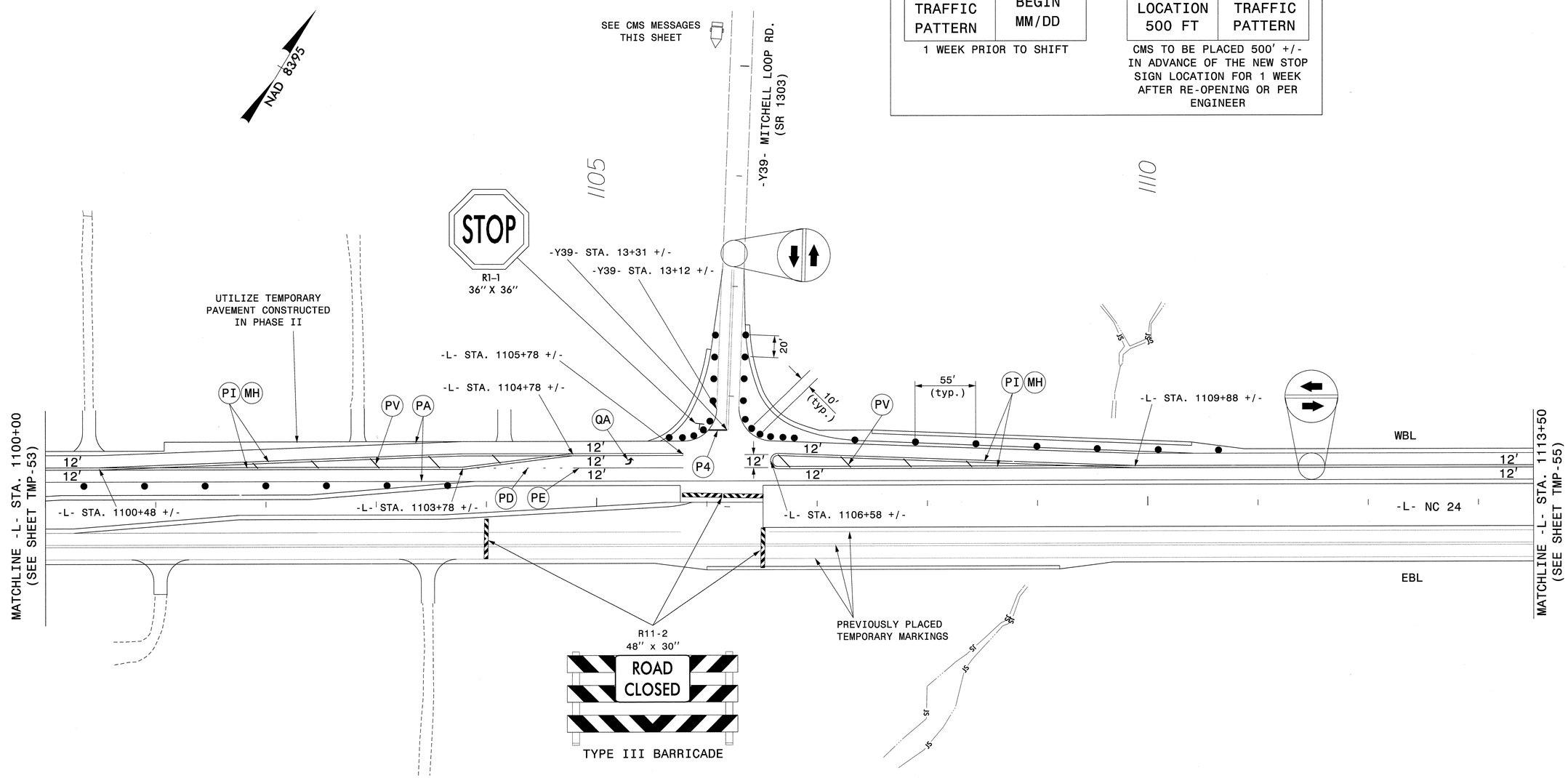
MESSAGES FOR CMS ON -Y39- TO BE PLACED 500′ +/-
PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500′ +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER



APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
–L– NC 24
& –Y39–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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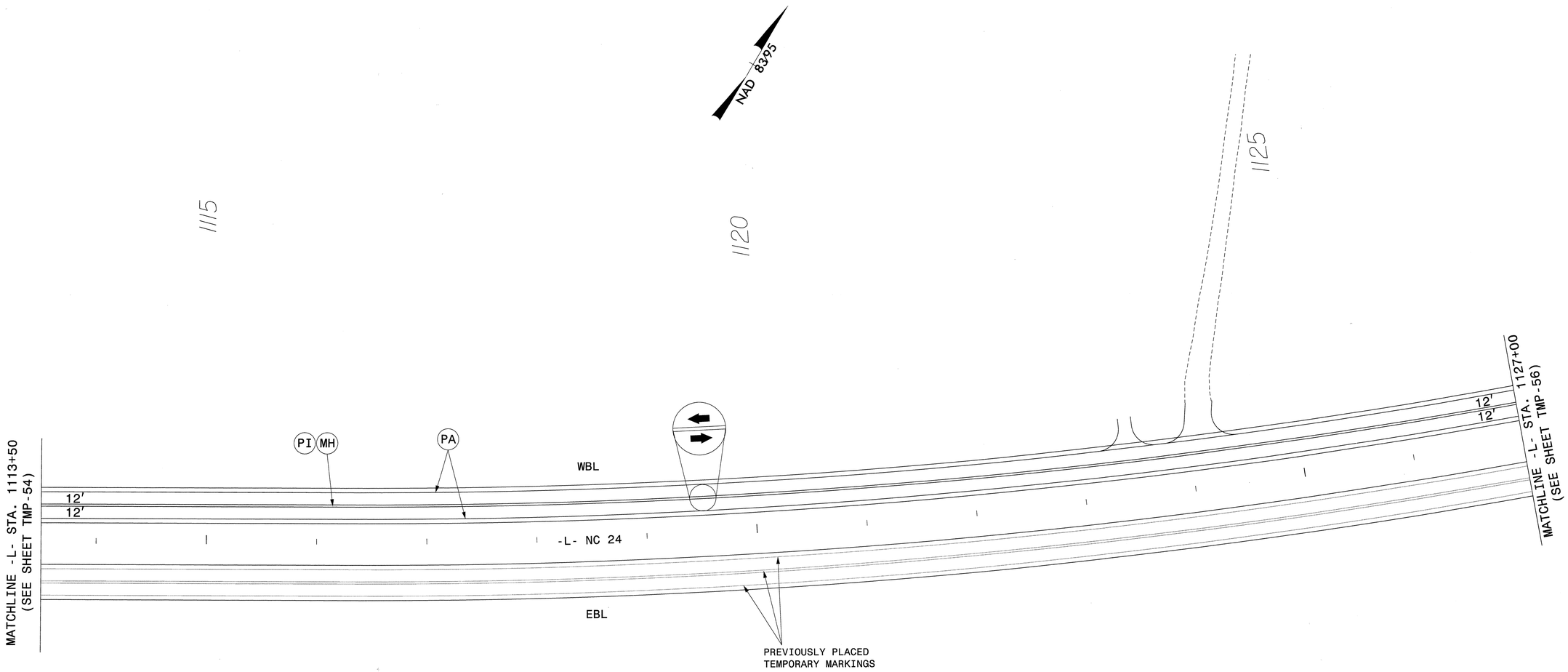
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-55



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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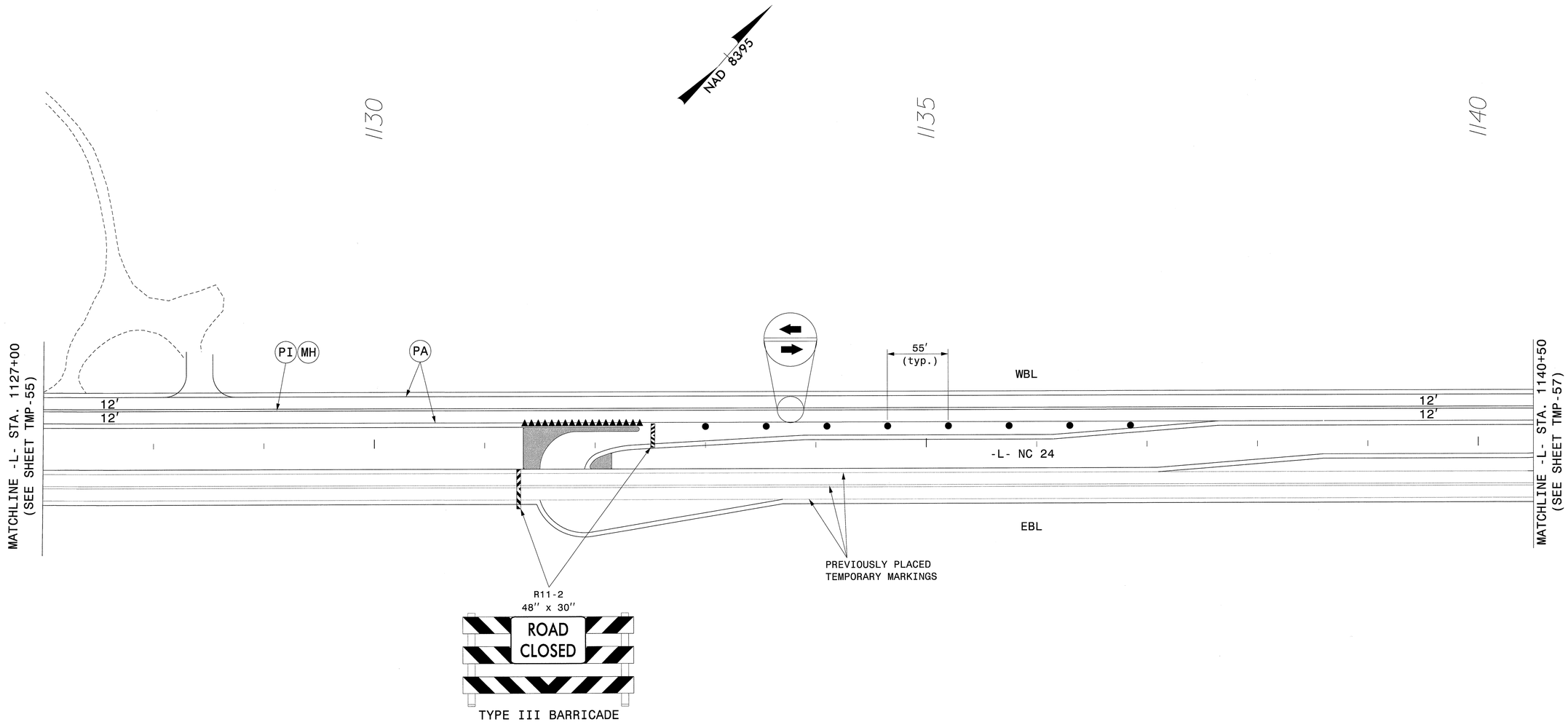
13833 AT RAL2\IAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-56



ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE III DETAIL
-L- NC 24

18-JUN-2013 17:05
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13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-57

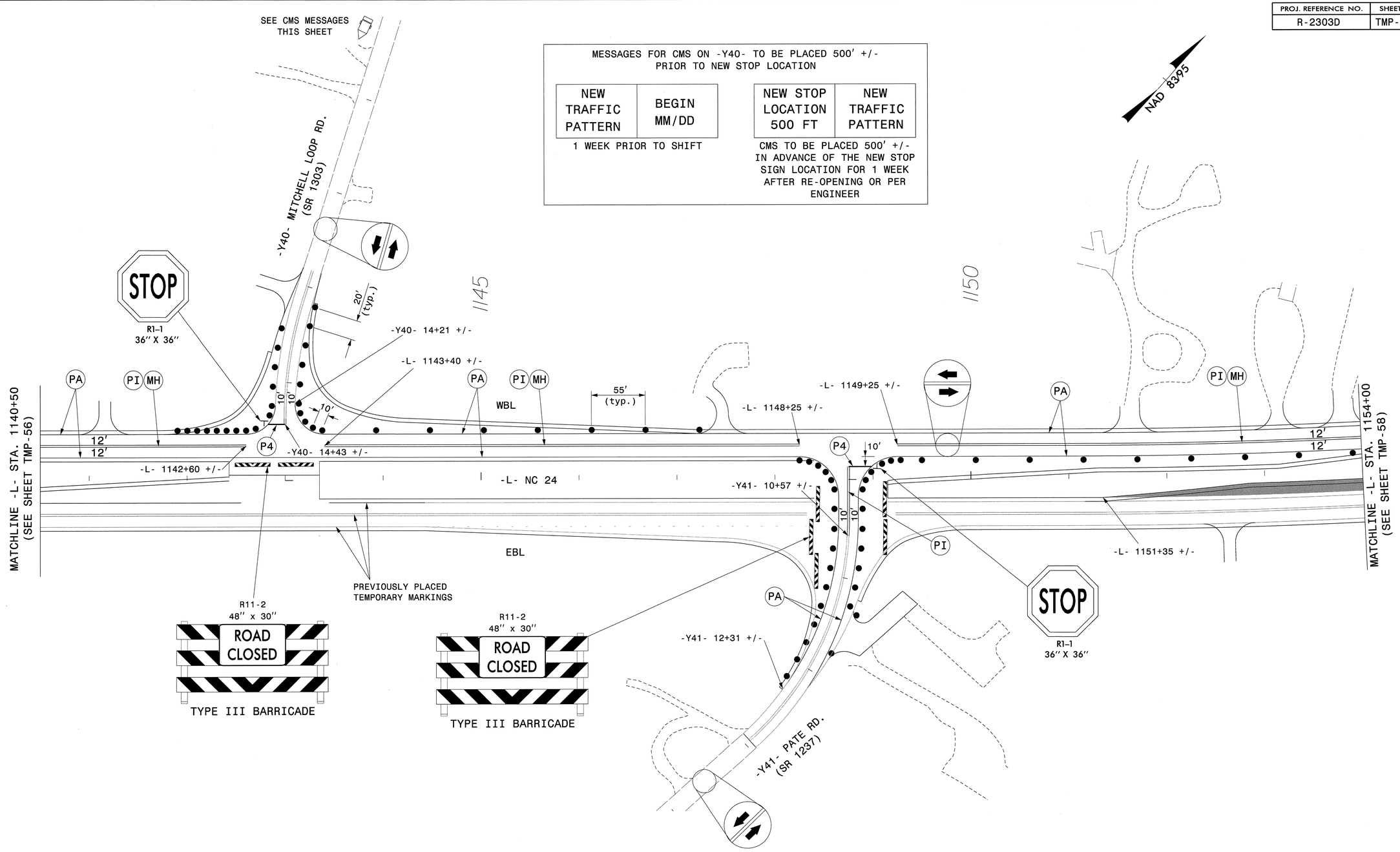
MESSAGES FOR CMS ON -Y40- TO BE PLACED 500' +/-
PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24, -Y40- & -Y41-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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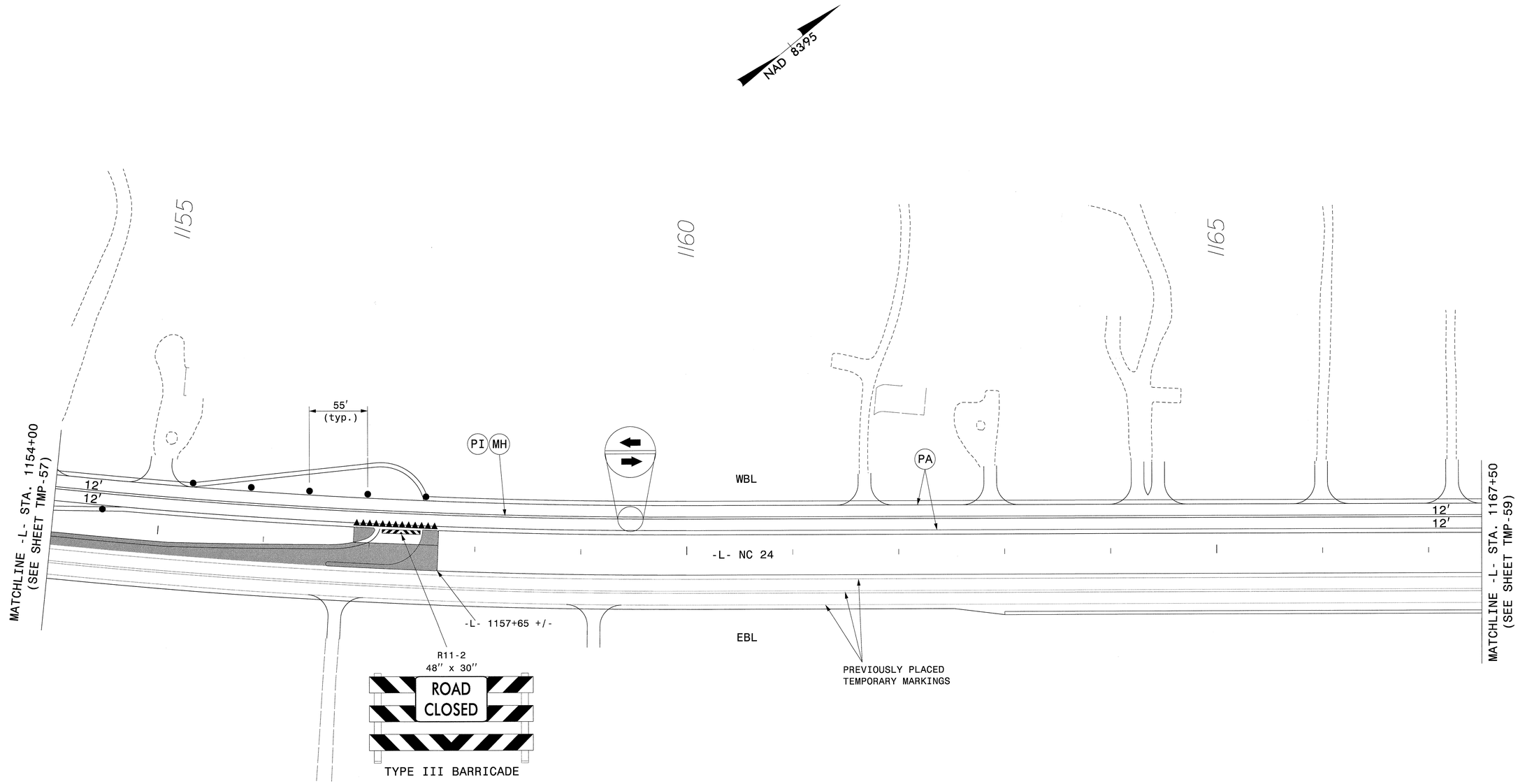
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-58



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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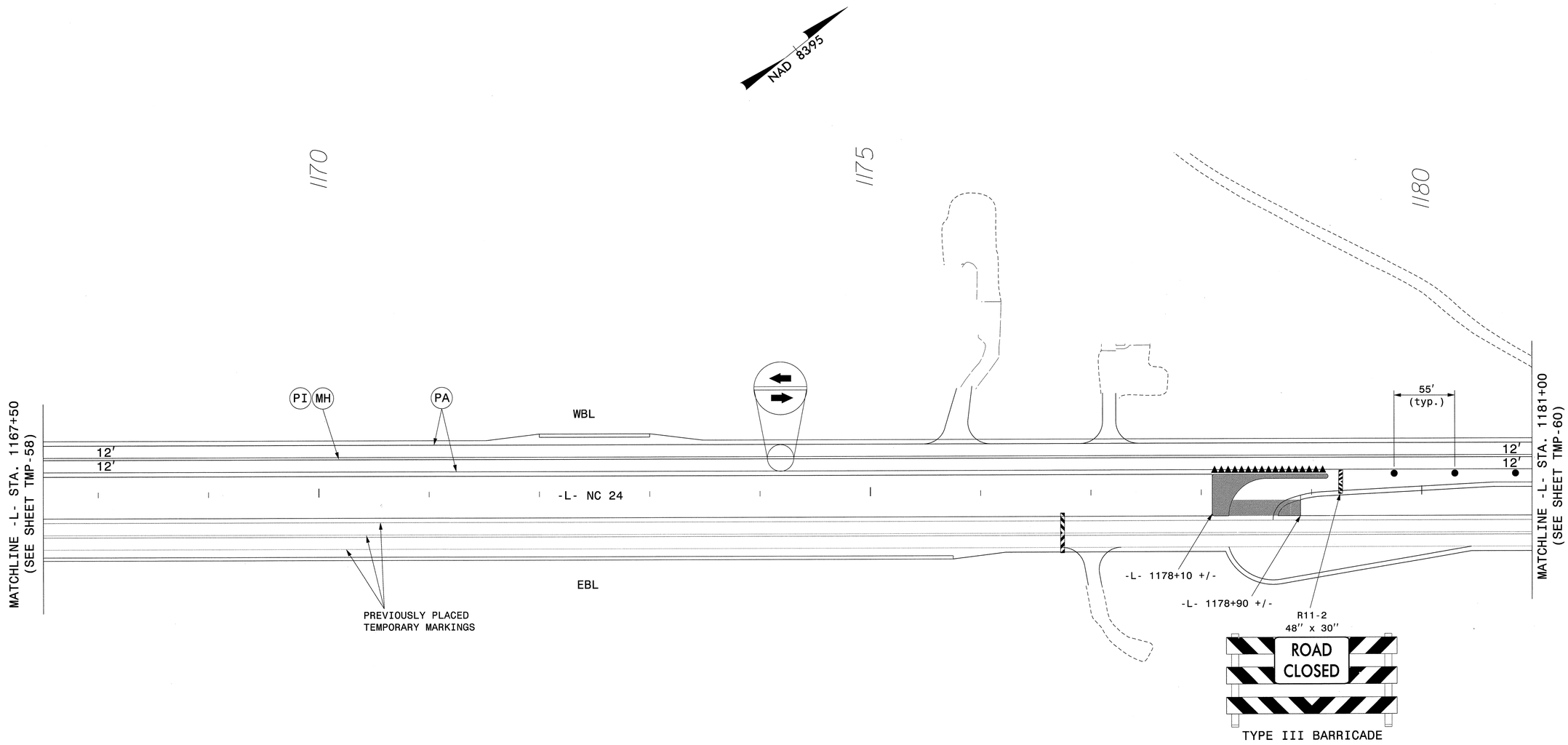
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-59



APPROVED: DATE: 6/17/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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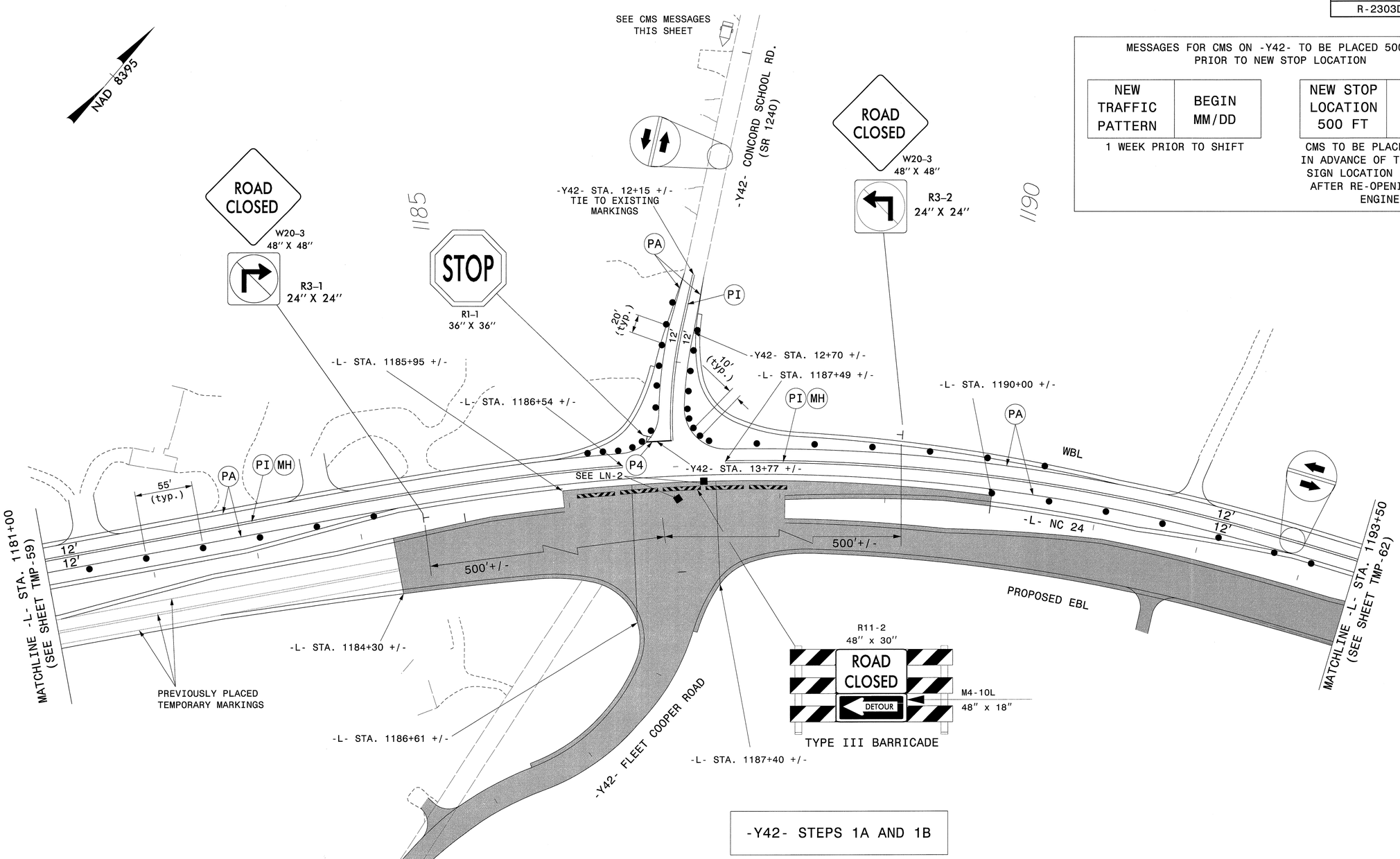
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-60



MESSAGES FOR CMS ON -Y42- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

-Y42- STEPS 1A AND 1B

APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE III DETAIL -L- NC 24 & -Y42- STEPS 1A & 1B

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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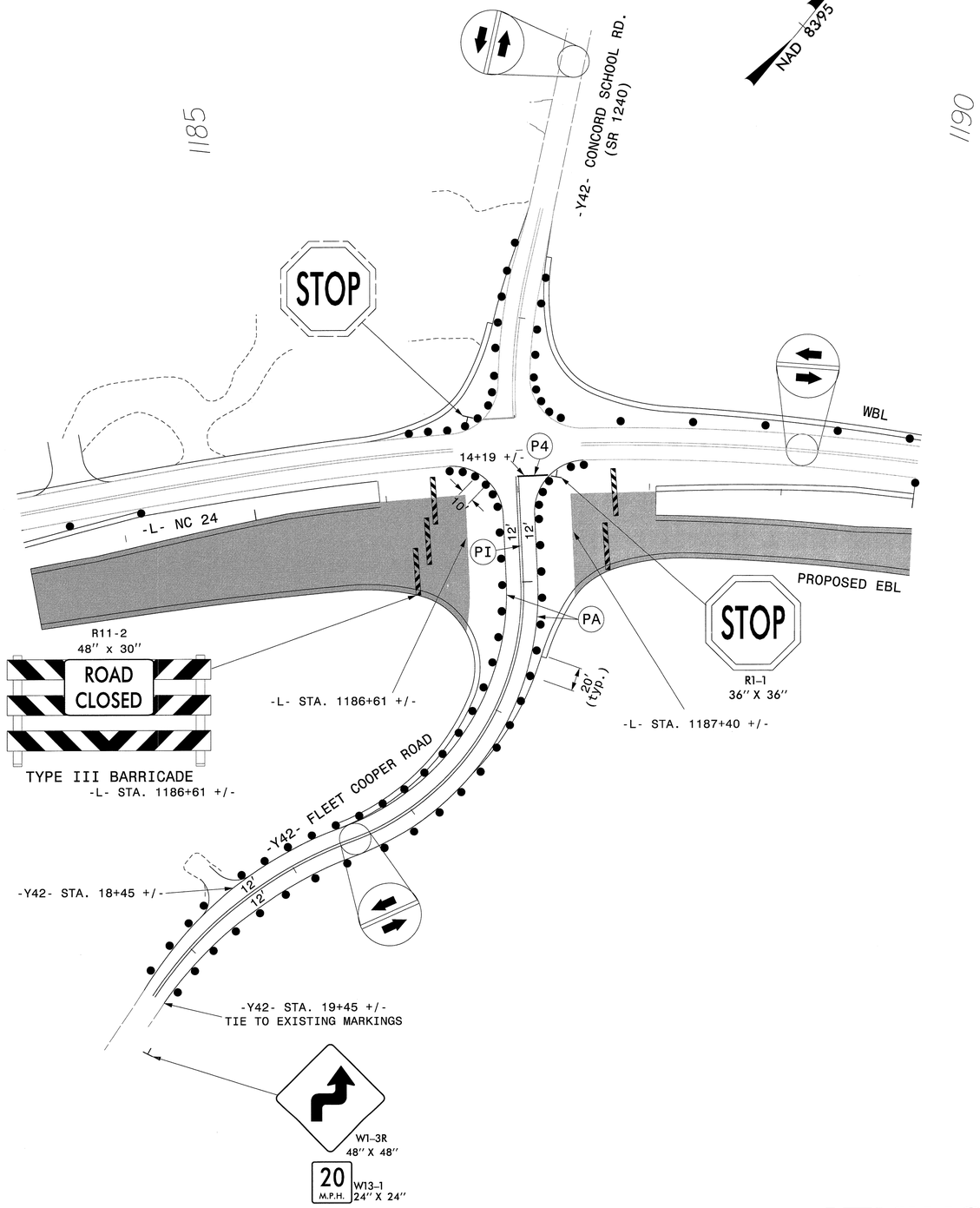
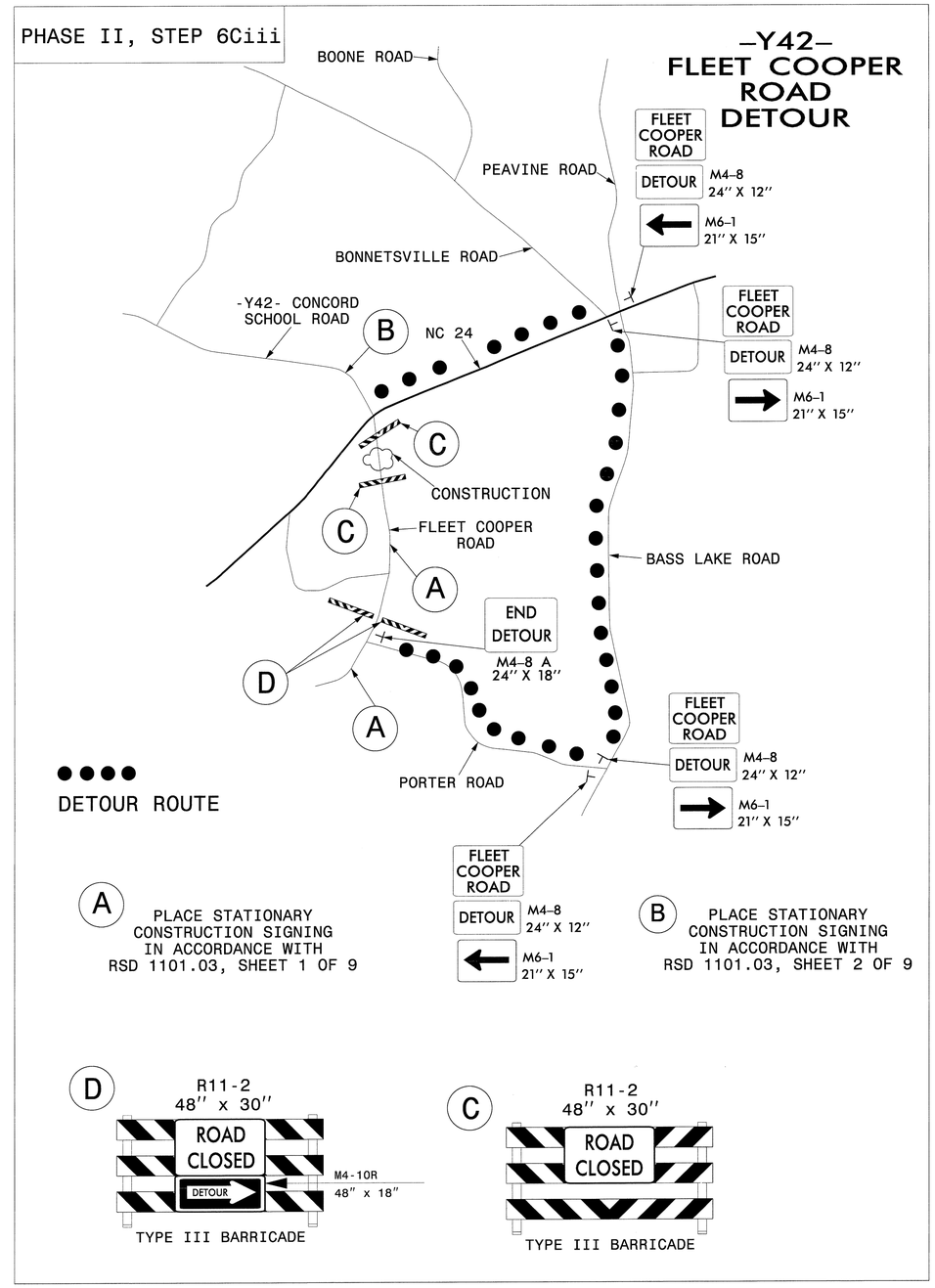
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-61

-Y42- STEP 1C



PHASE II, STEP 6Ciii



APPROVED: J. Todd Brooks DATE: 6/17/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-Y42-
STEP 1C

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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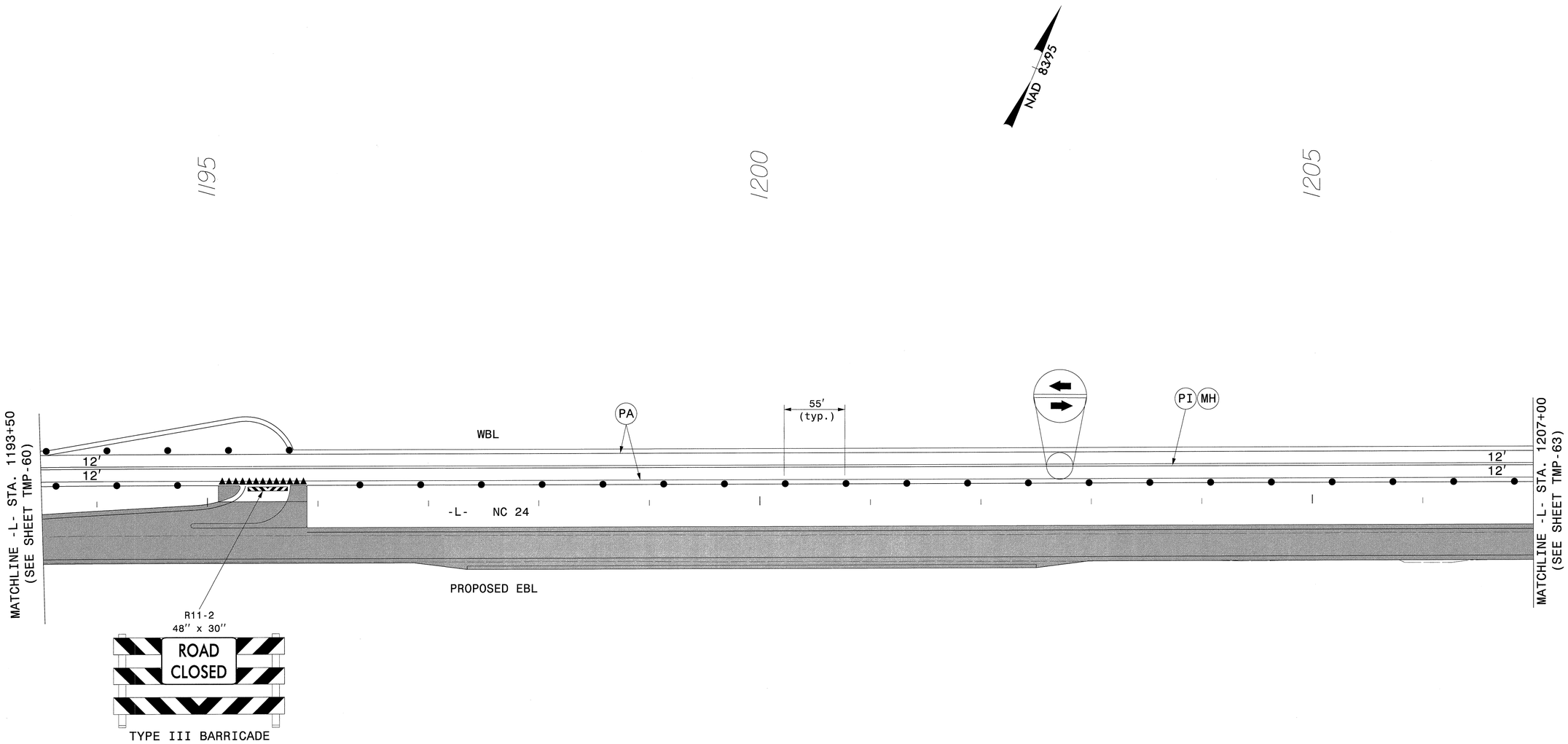
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-62



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(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24

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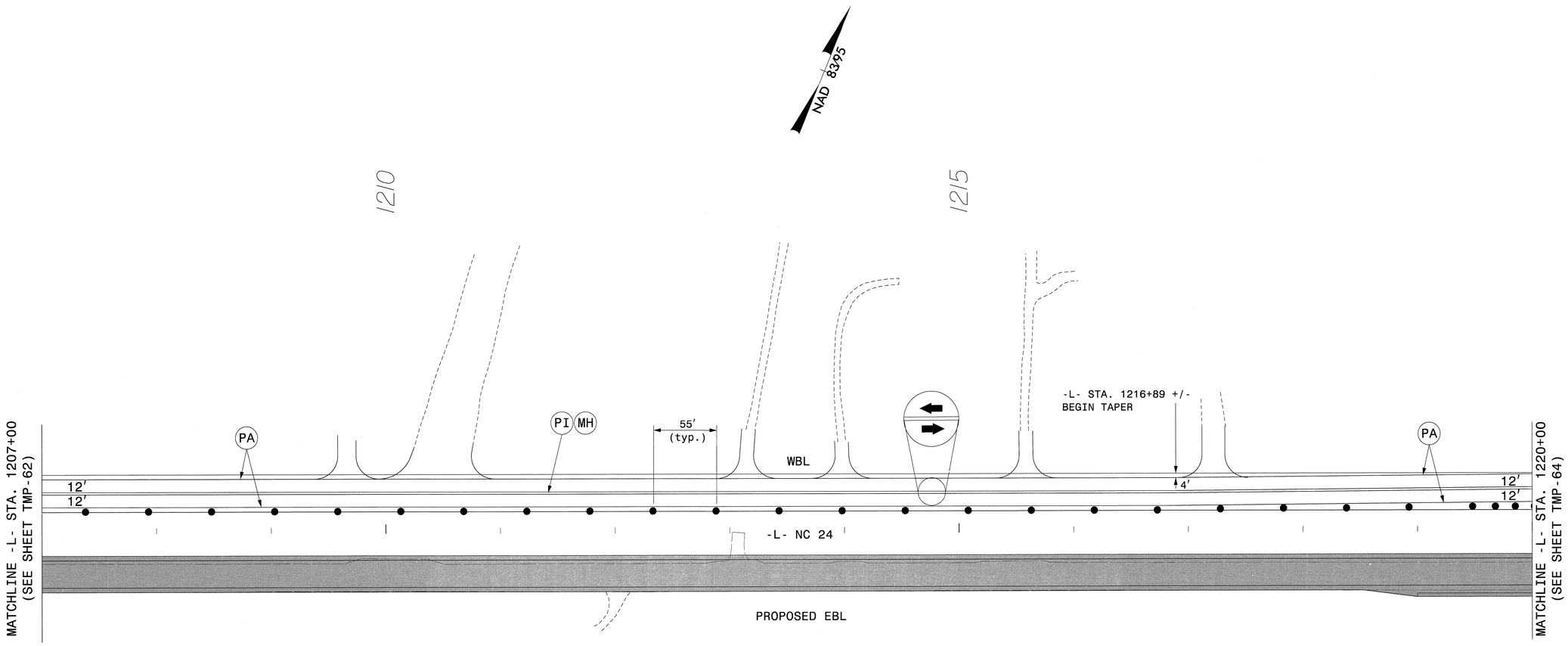
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-63



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

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AREA I
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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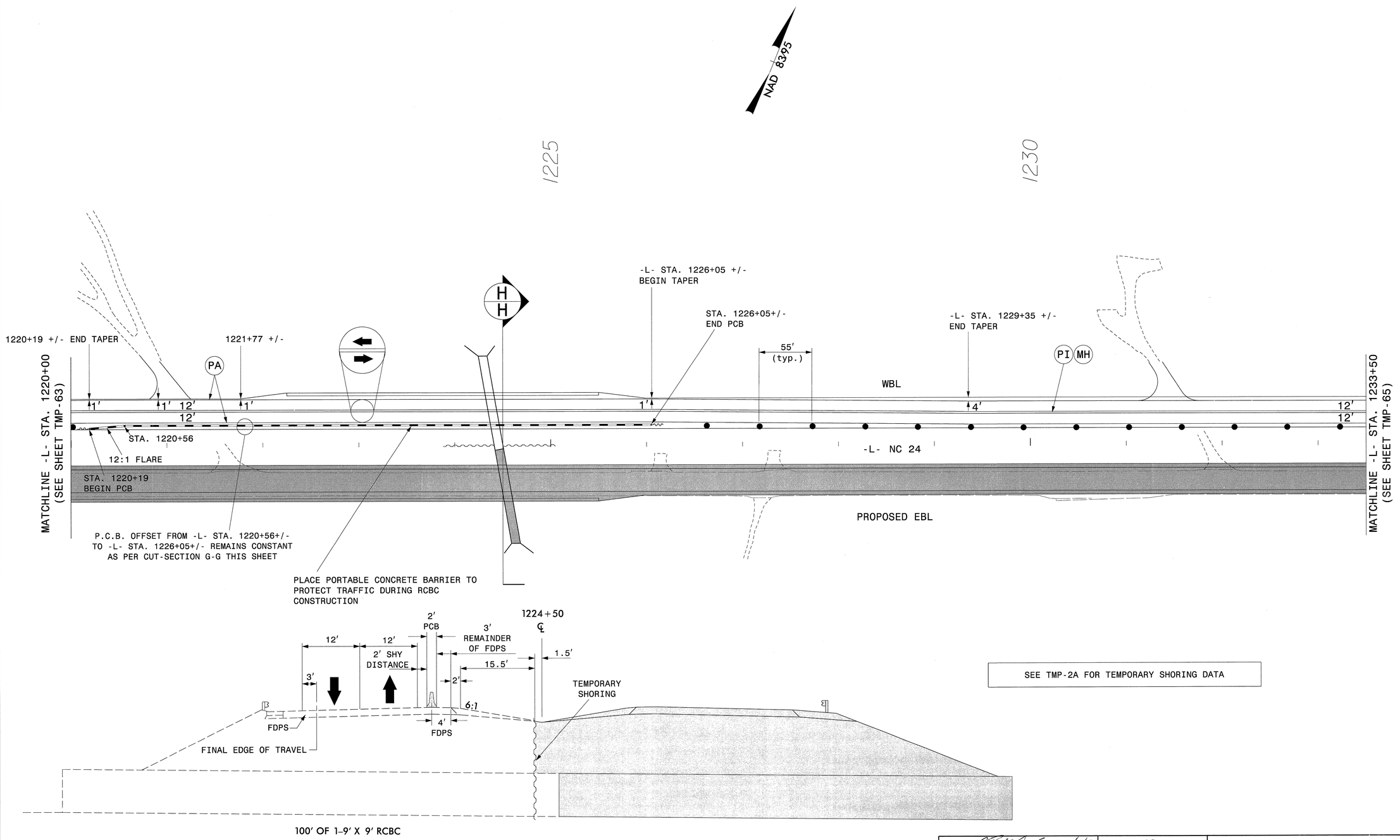

SEE TMP-2A FOR TEMPORARY SHORING DATA

CUT SECTION H-H
-L- STA. 1224+50

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
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APPROVED: DATE: 4/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24
& CULVERT

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13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
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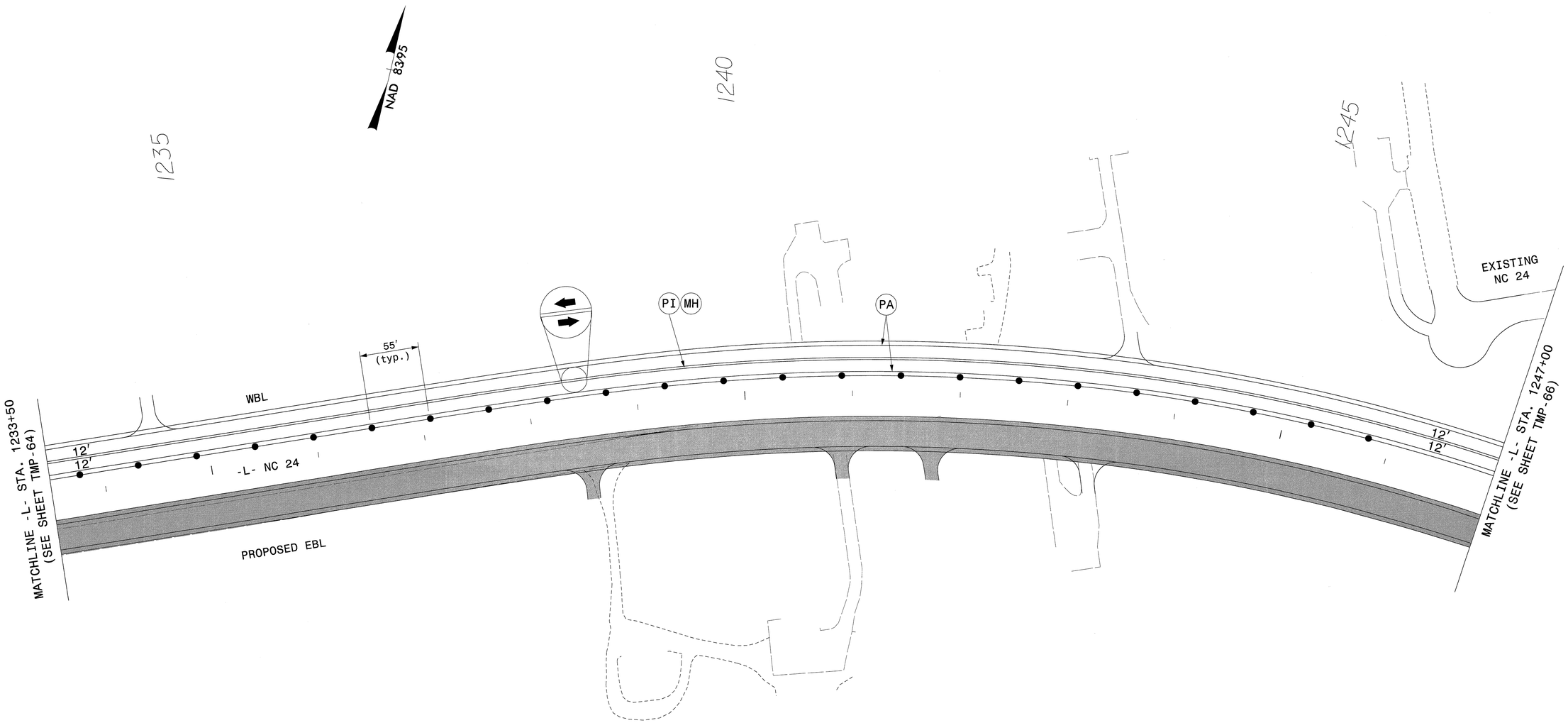

APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER JOHN TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L-, EXISTING NC 24

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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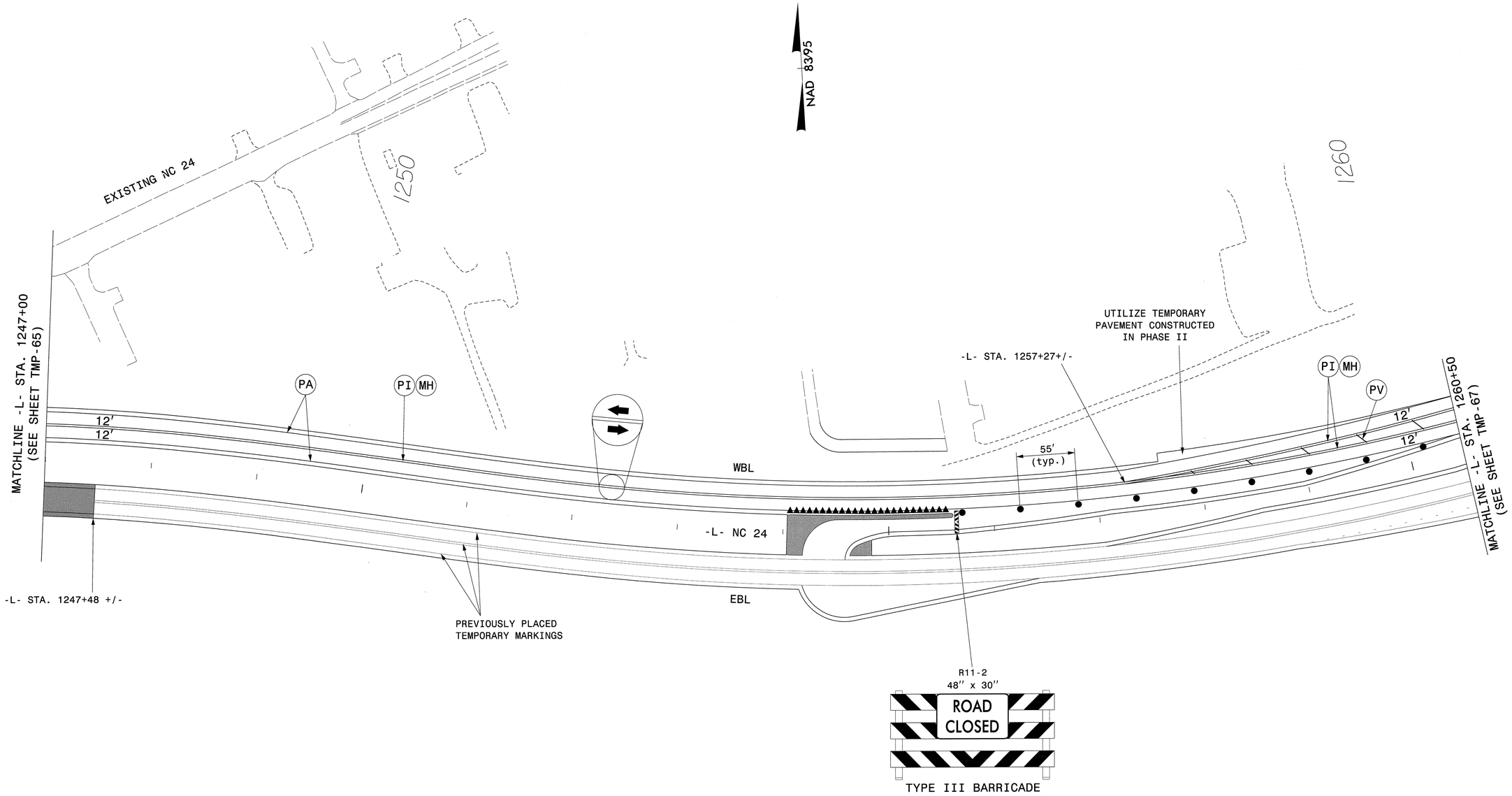

APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- &
EXISTING NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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13833 AT RAL2UIA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-67

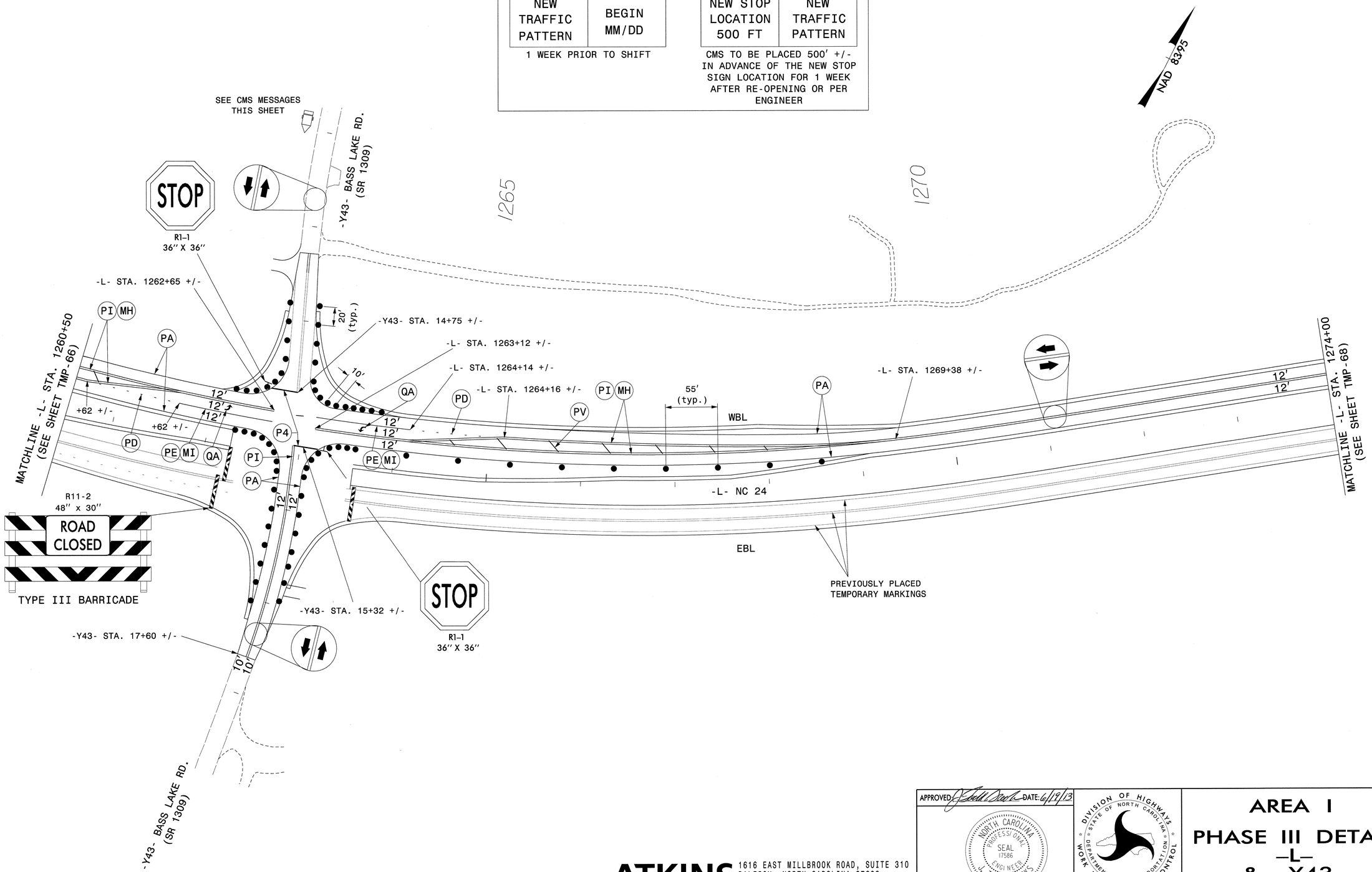
MESSAGES FOR CMS ON -Y43- TO BE PLACED 500' +/-
PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L-
& -Y43-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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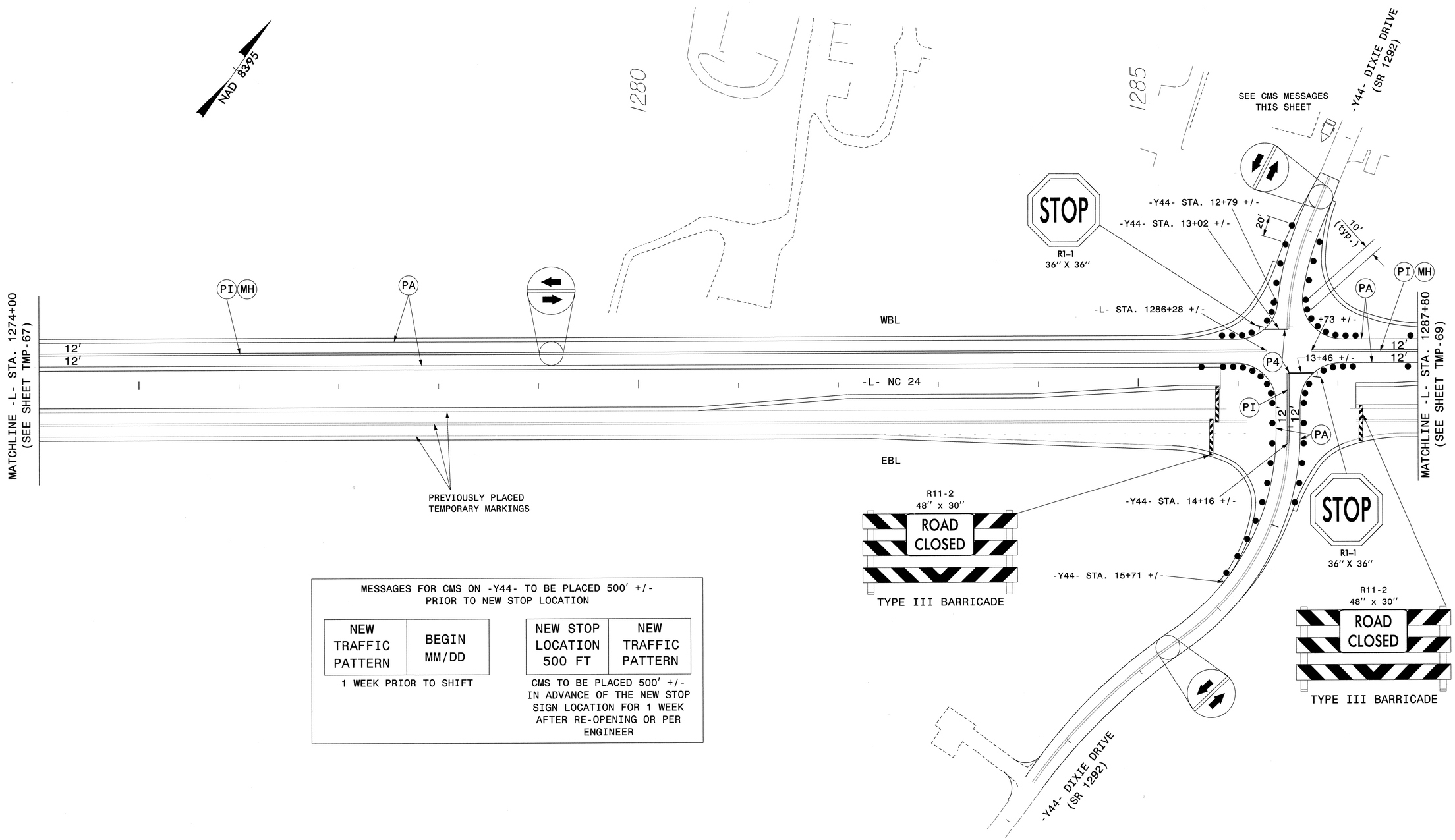
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-68



MESSAGES FOR CMS ON -Y44- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L-
& -Y44-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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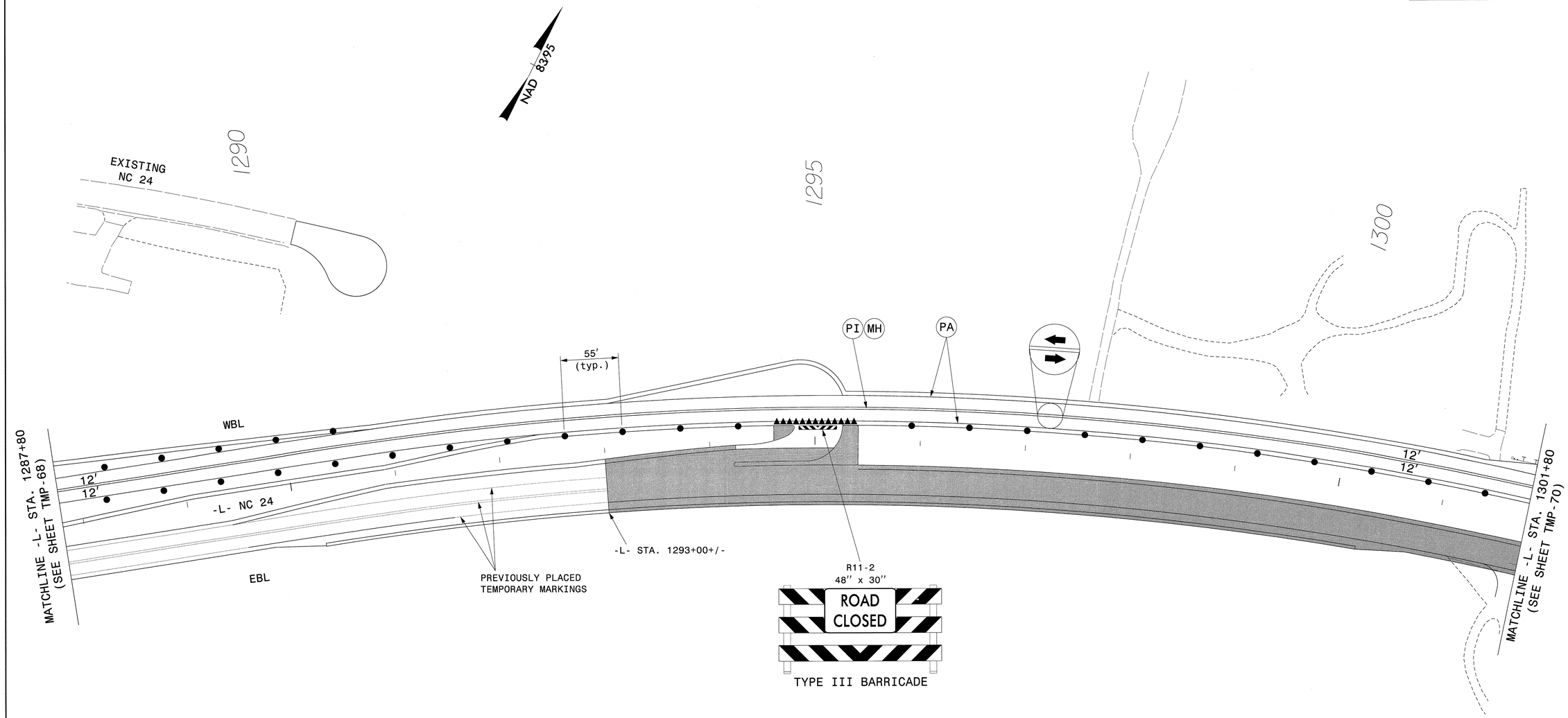
R-2303D	TMP-69



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RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: J. Todd Brooks DATE: 6/19/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE III DETAIL -L- & EXISTING NC 24

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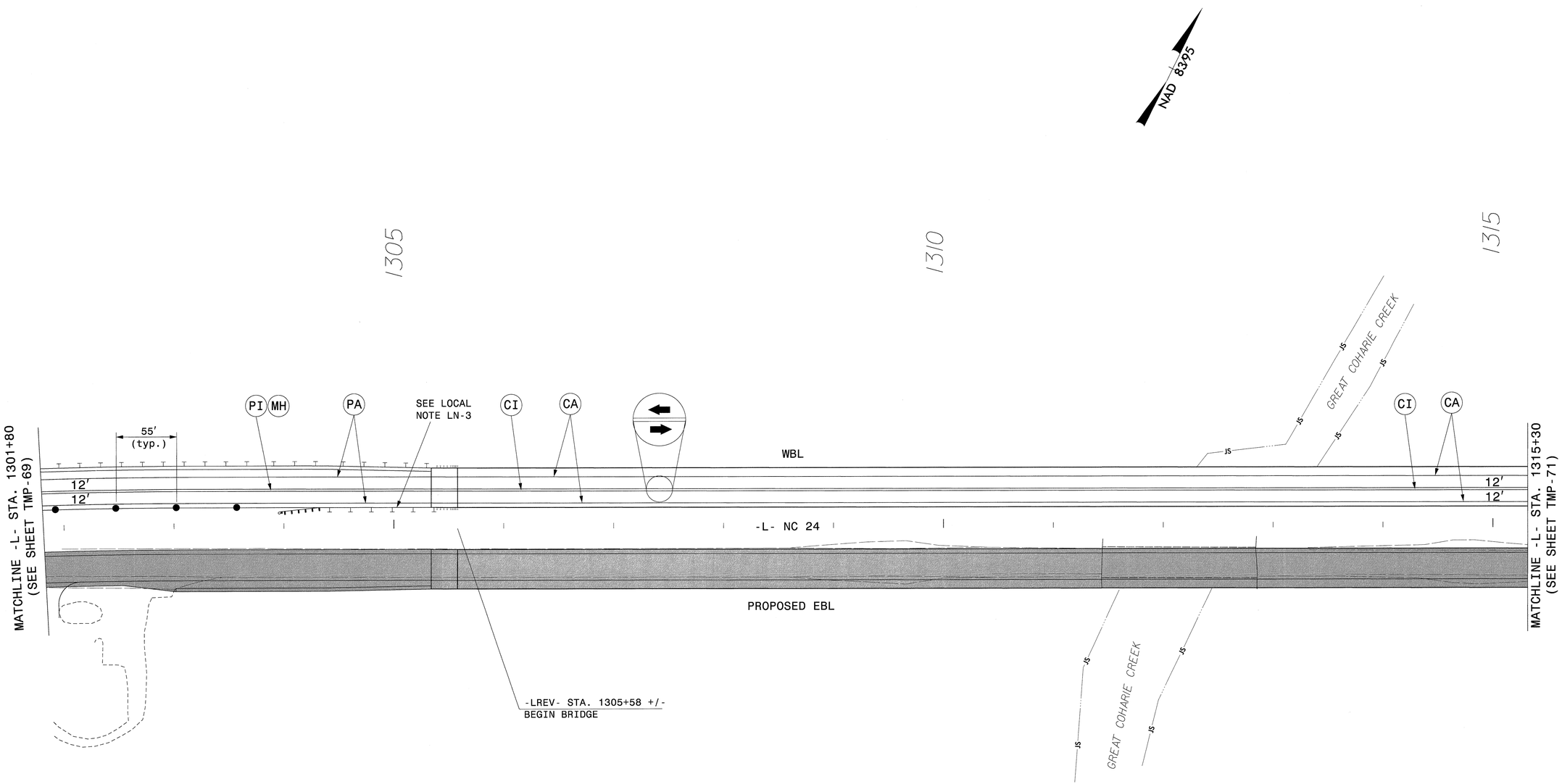
R-2303D	TMP-70



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE III DETAIL -L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:05
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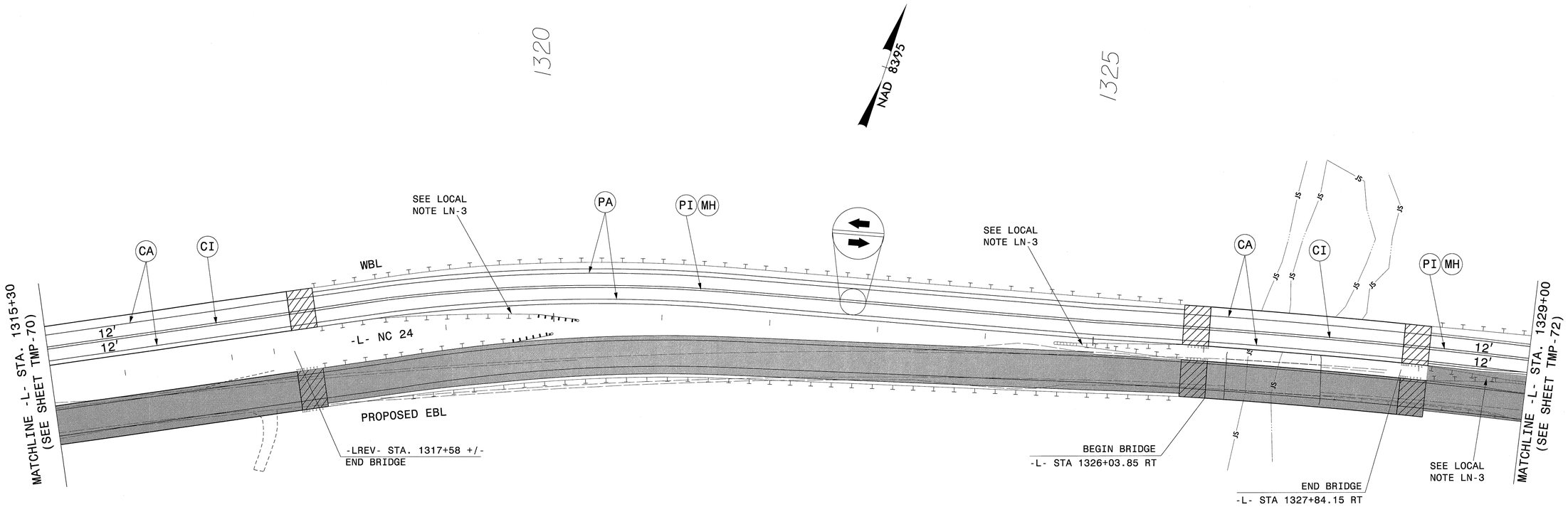
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-71



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
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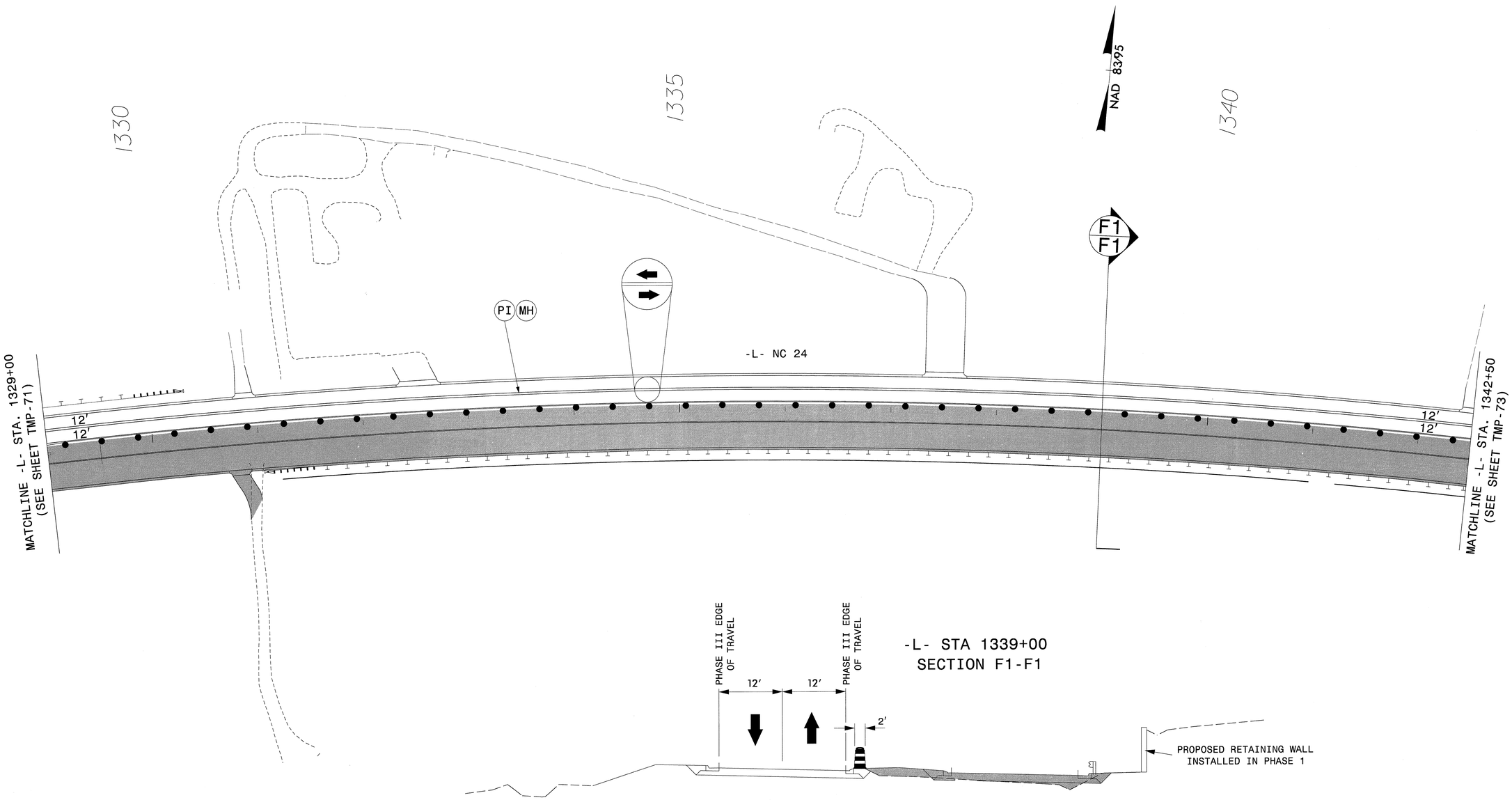

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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13833 AT RAL21JA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-73

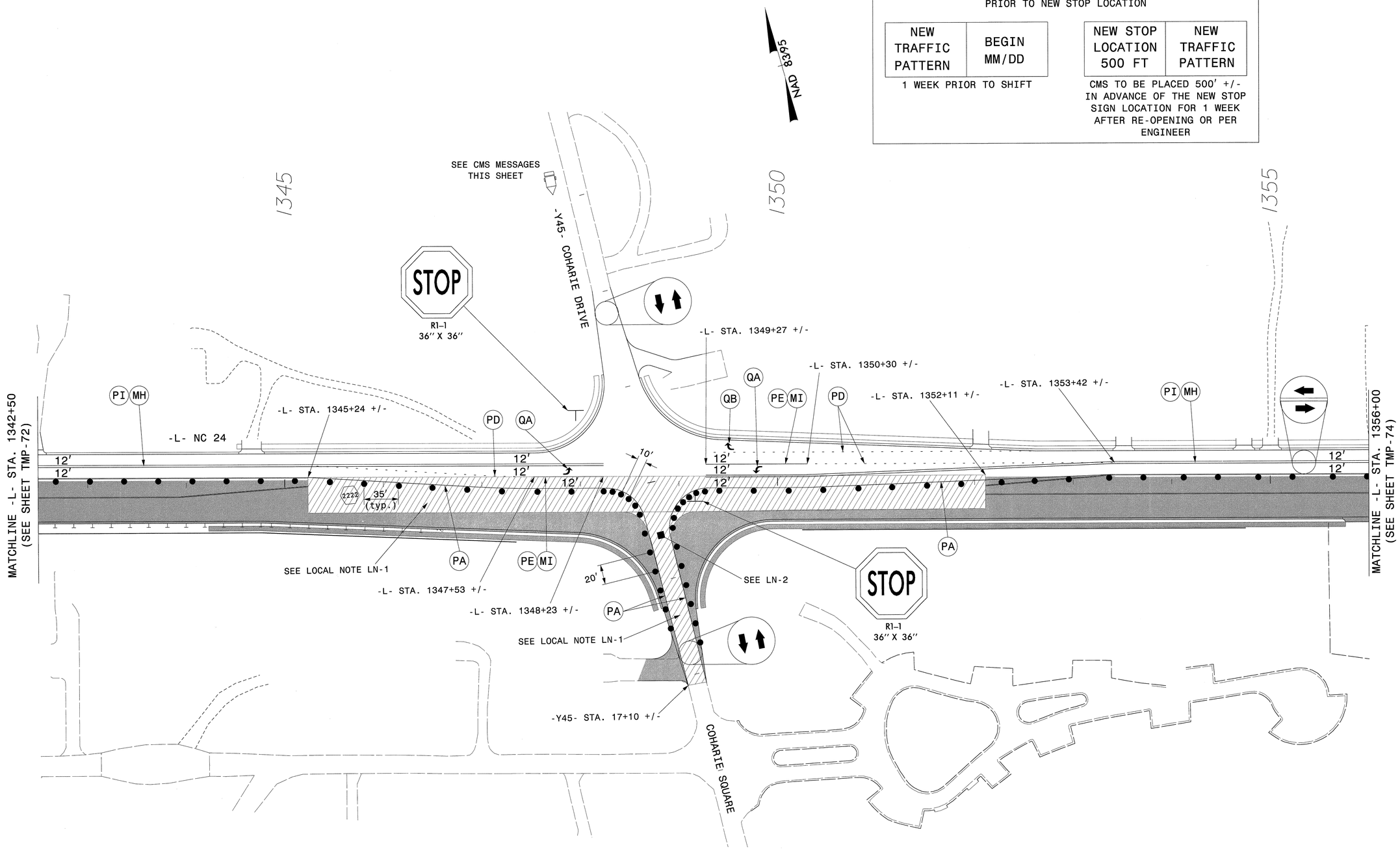
MESSAGES FOR CMS ON -Y45- TO BE PLACED 500' +/-
PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER



APPROVED: J. Todd Brooks DATE: 6/18/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE III DETAIL
-L- NC 24
& -Y45-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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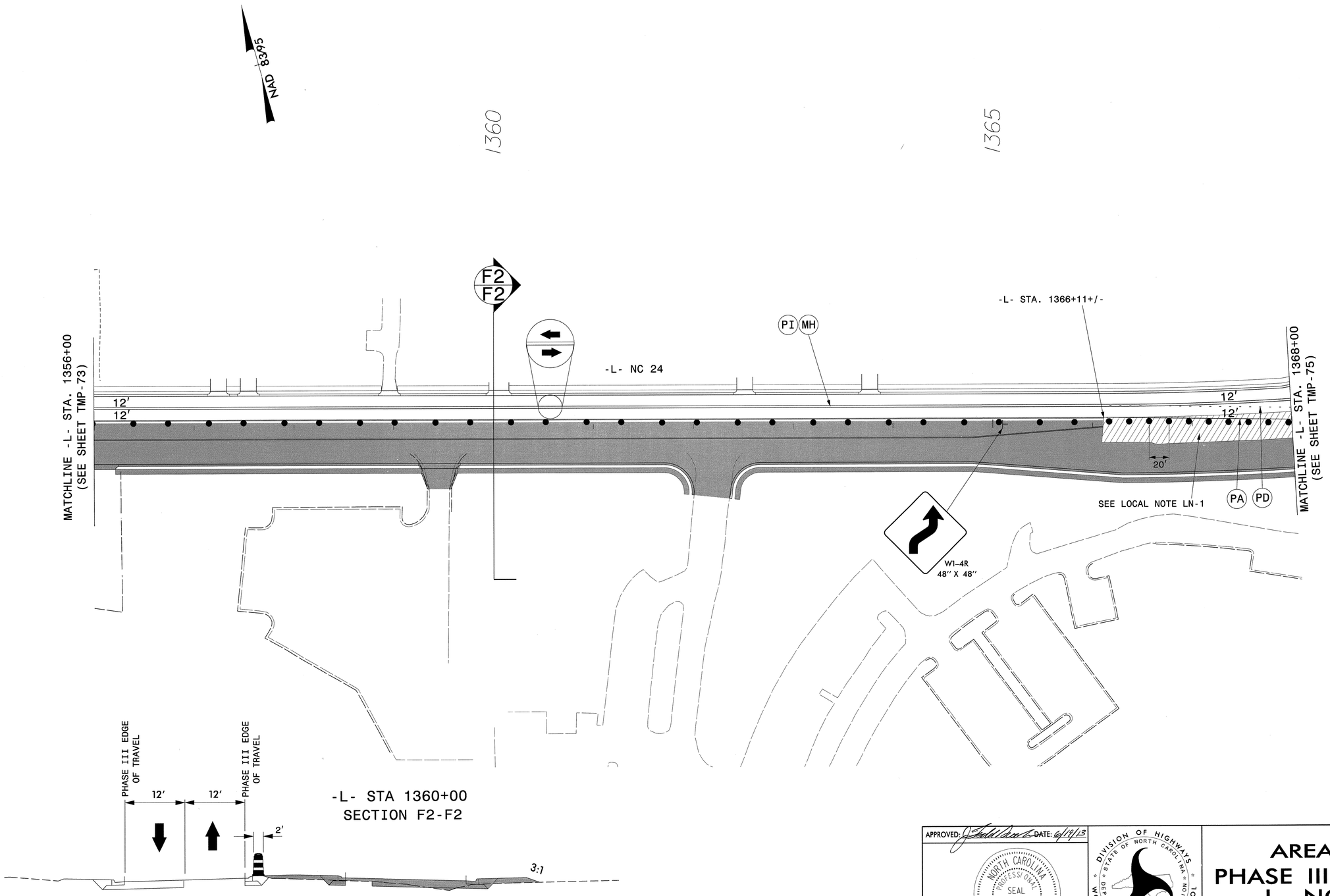
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-74



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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE III DETAIL
-L- NC 24

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(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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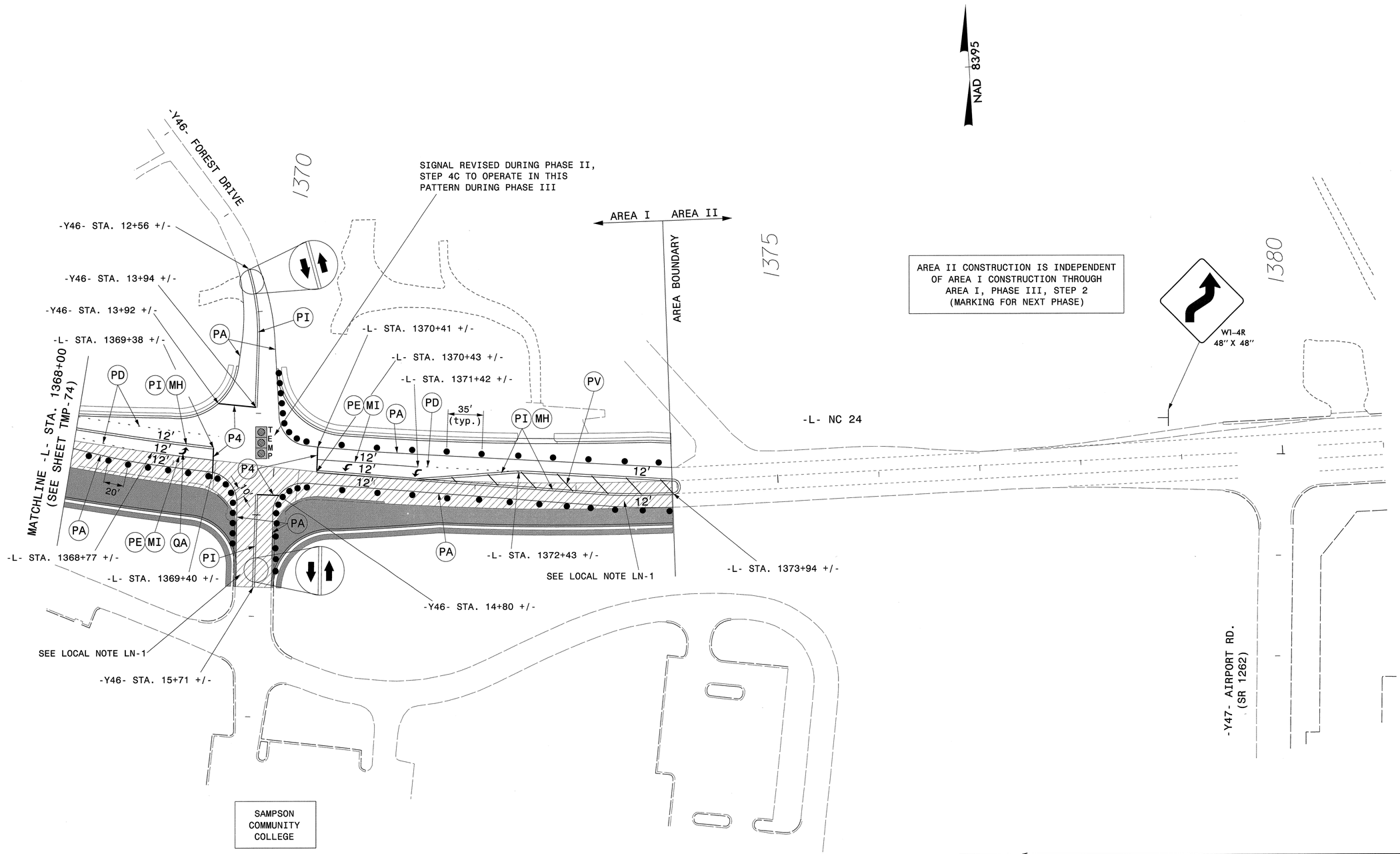
13833 AT RAL2LIA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-75



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE III DETAIL -L- NC 24, -Y46- & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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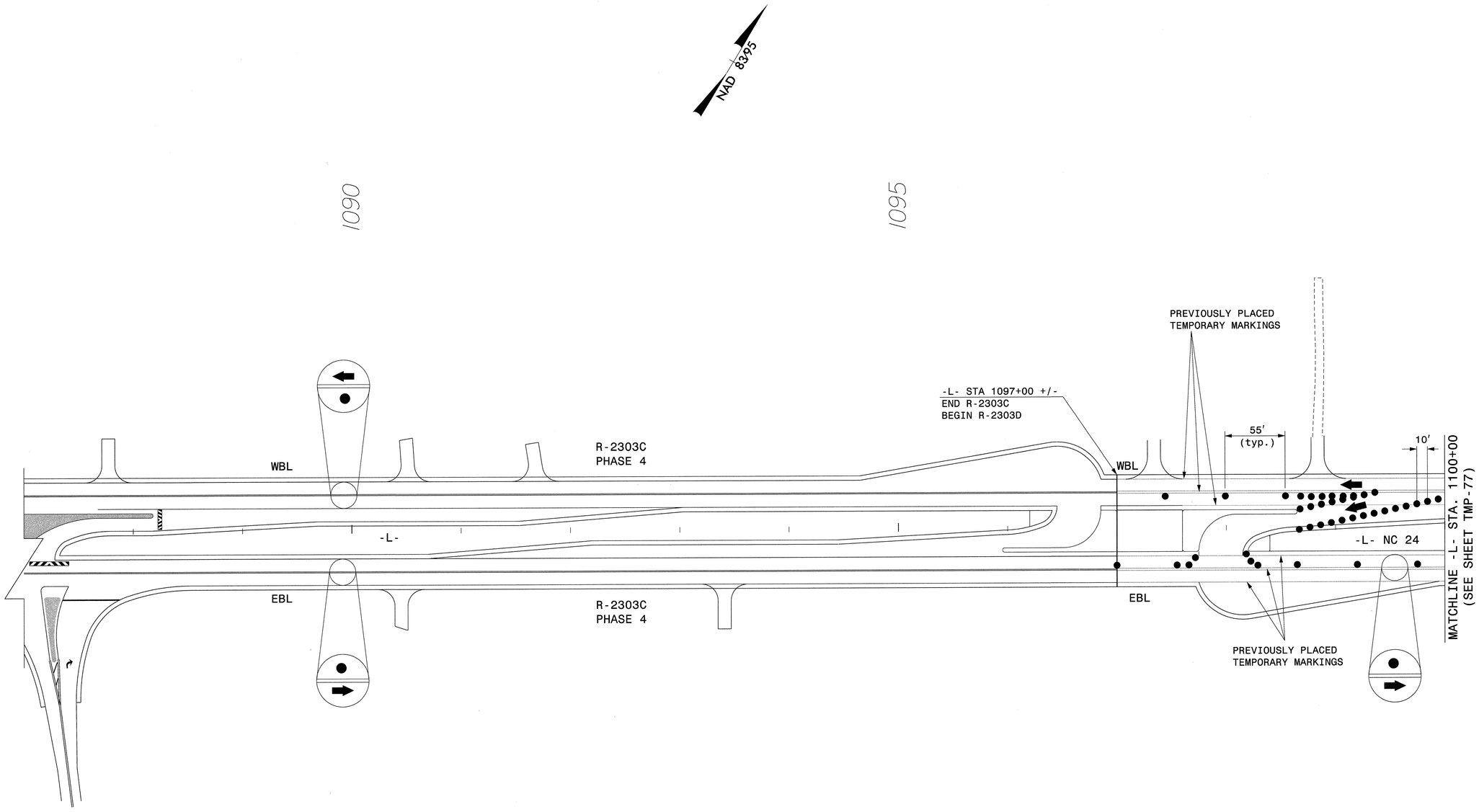
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-76



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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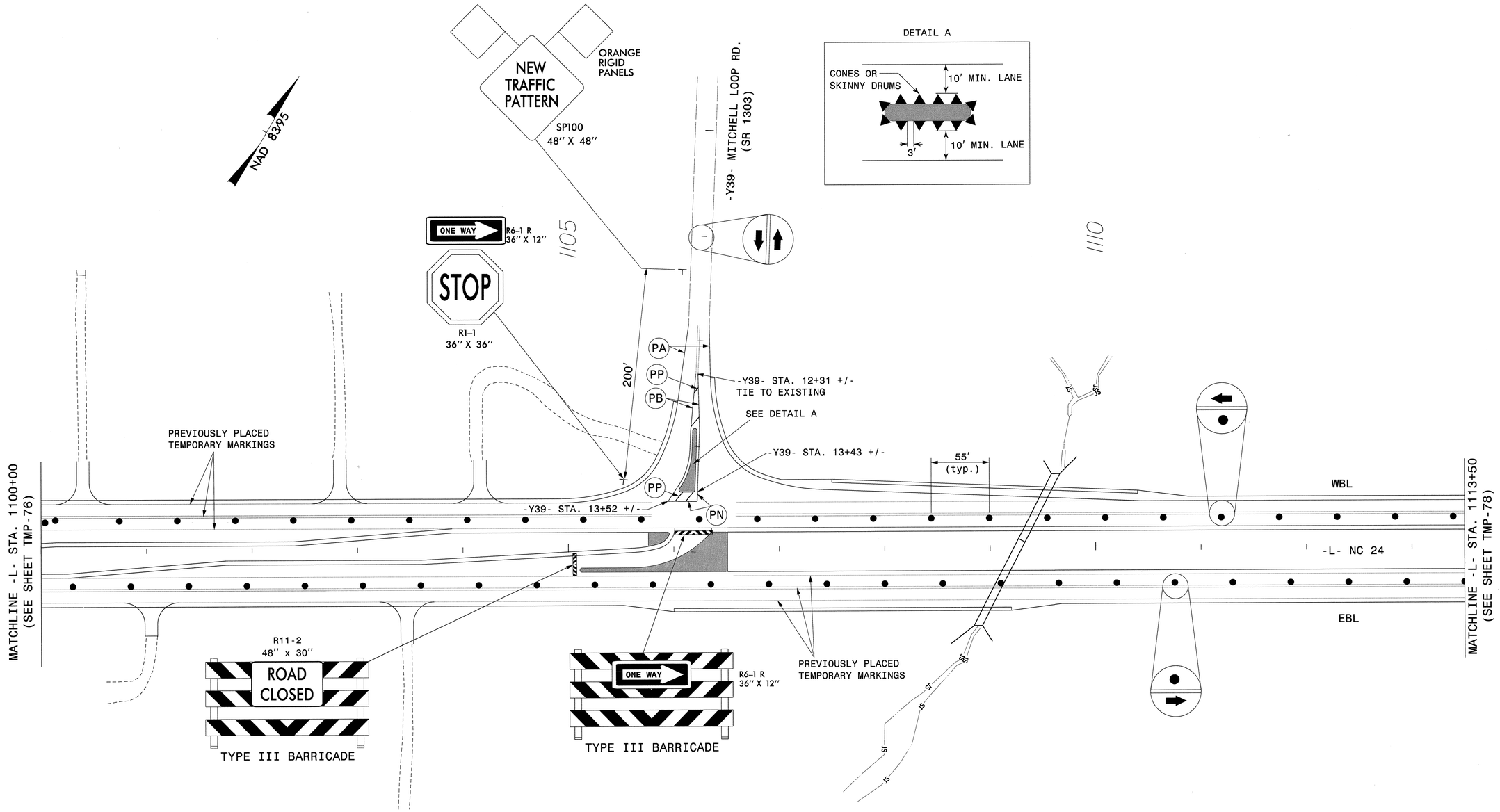
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-77



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24
& -Y39-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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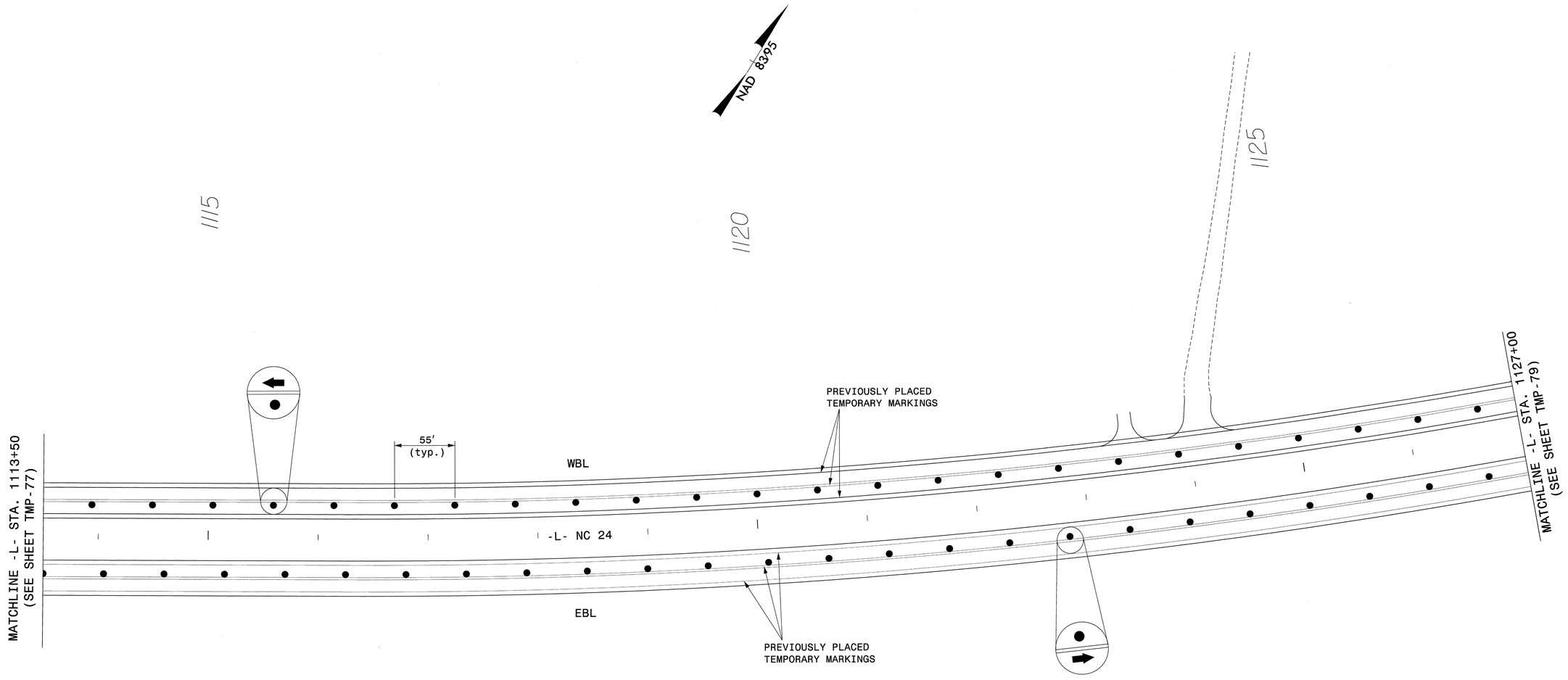
13833 AT RAL21IA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-78



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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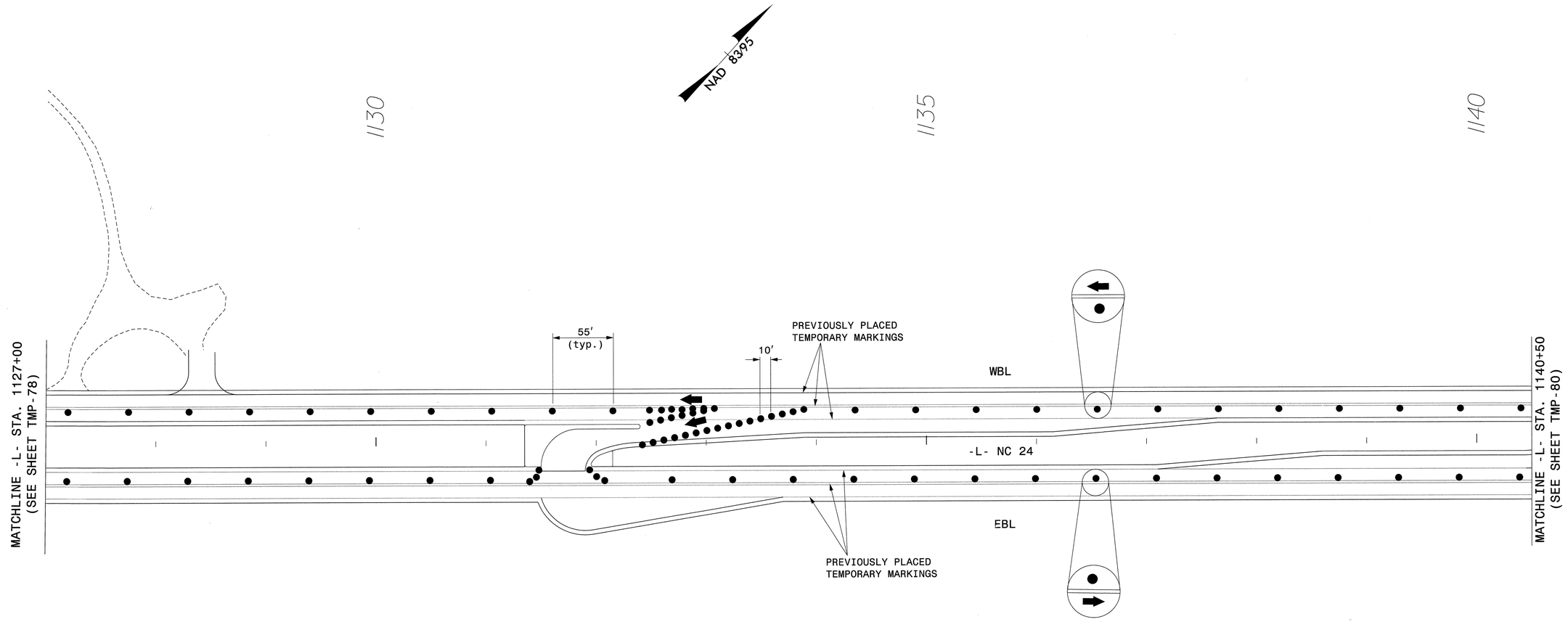
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-79



APPROVED: DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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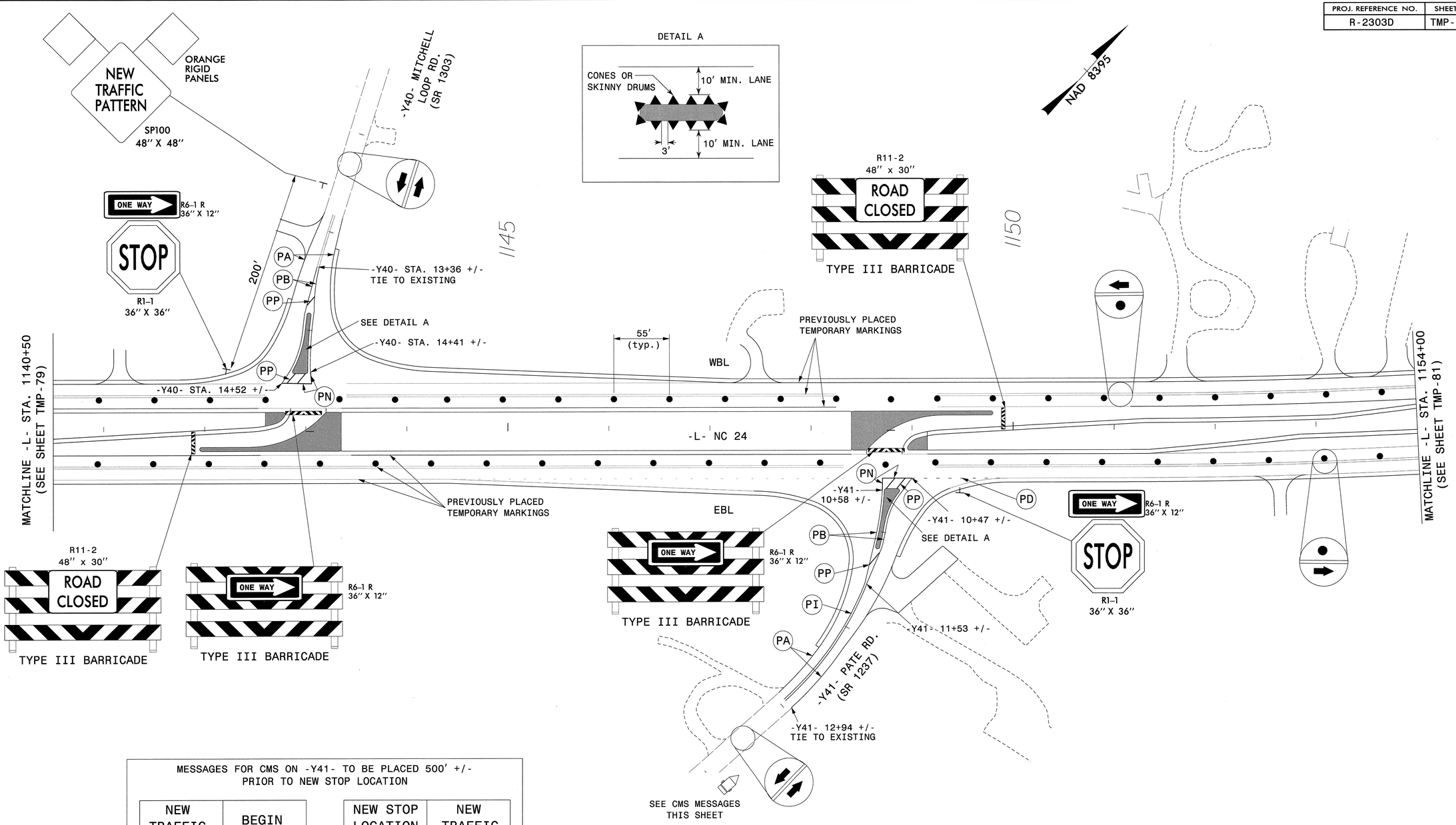
13833 AT RAL2DA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-80



MESSAGES FOR CMS ON -Y41- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24, -Y40- & -Y41-

18-JUN-2013 17:06
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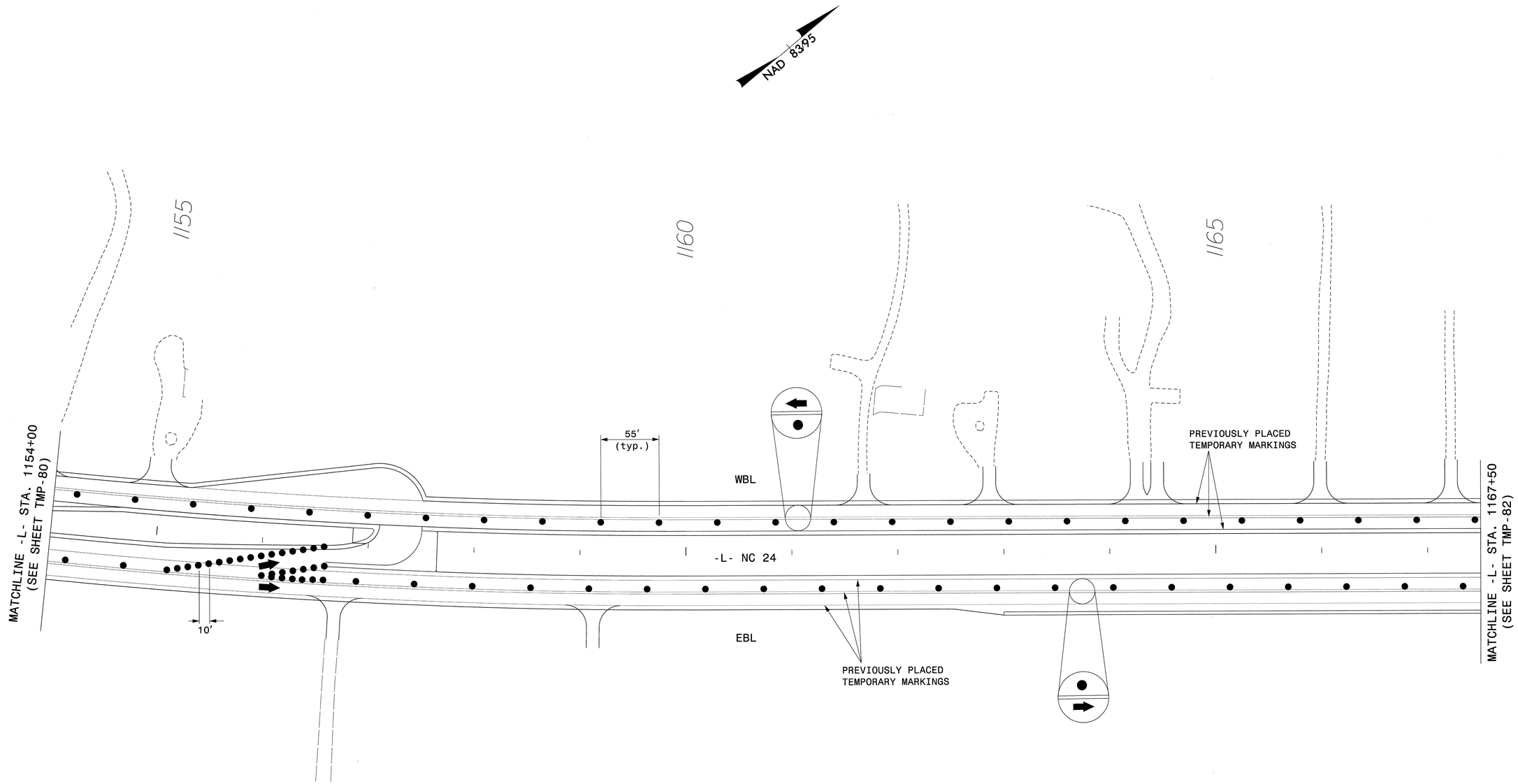
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-81



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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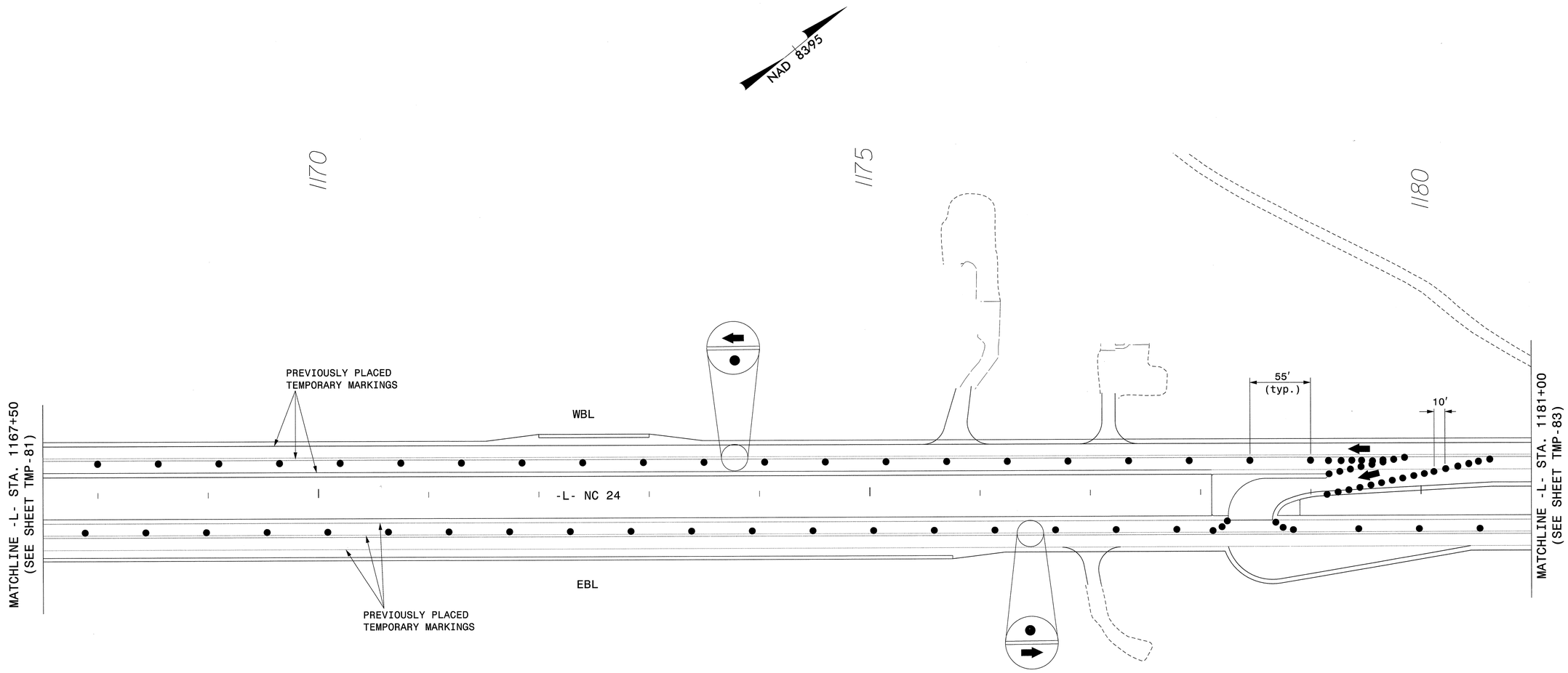
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-82



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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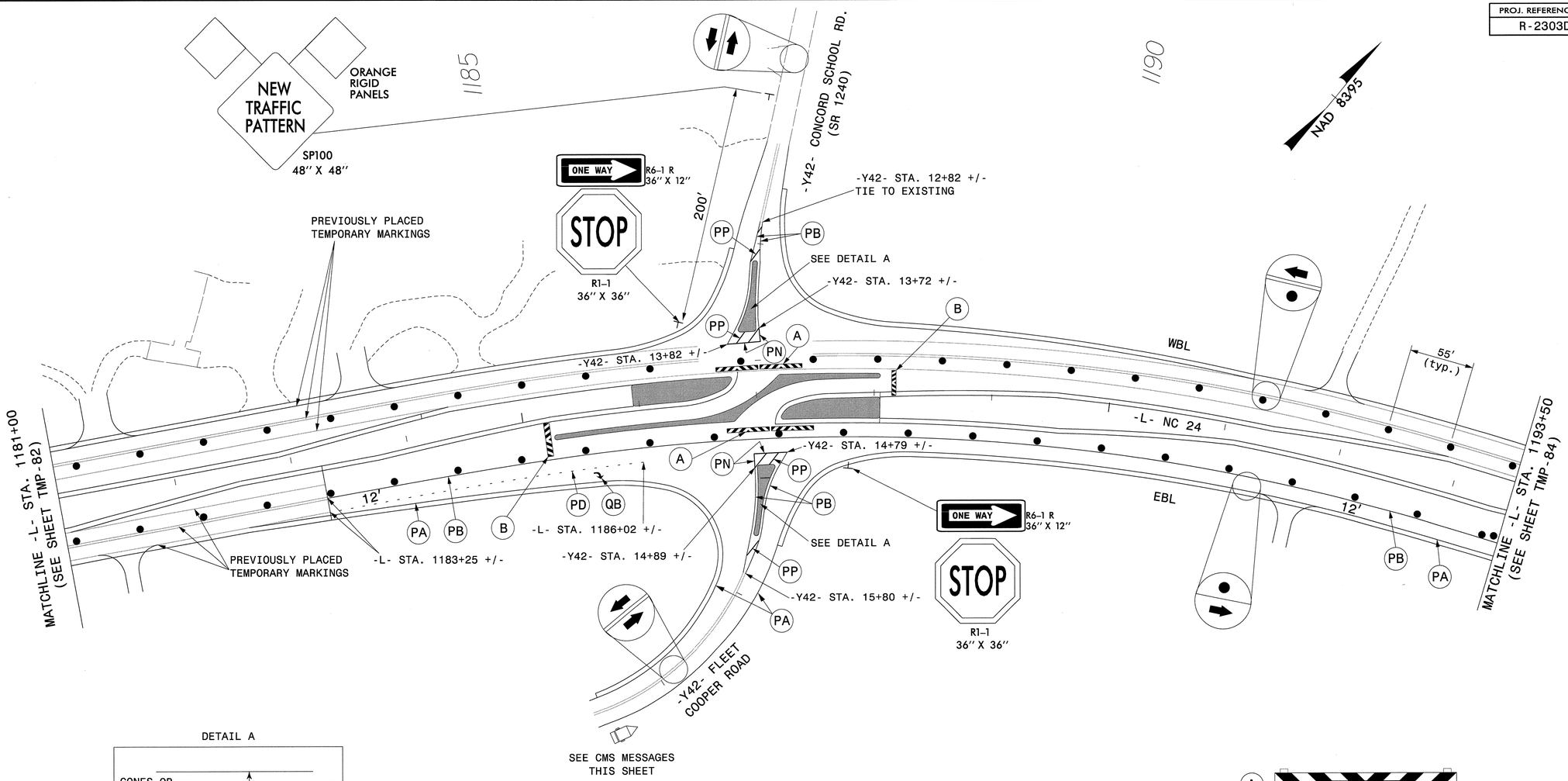
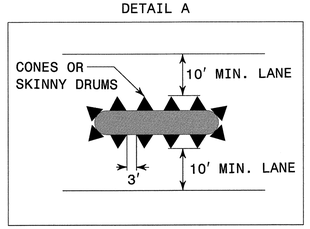
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-83



DETAIL A



MESSAGES FOR CMS ON -Y42- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

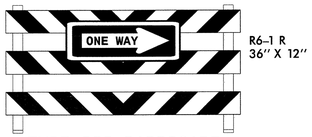
NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

A



TYPE III BARRICADE

B

R11-2
48" x 30"

TYPE III BARRICADE

APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24
& -Y42-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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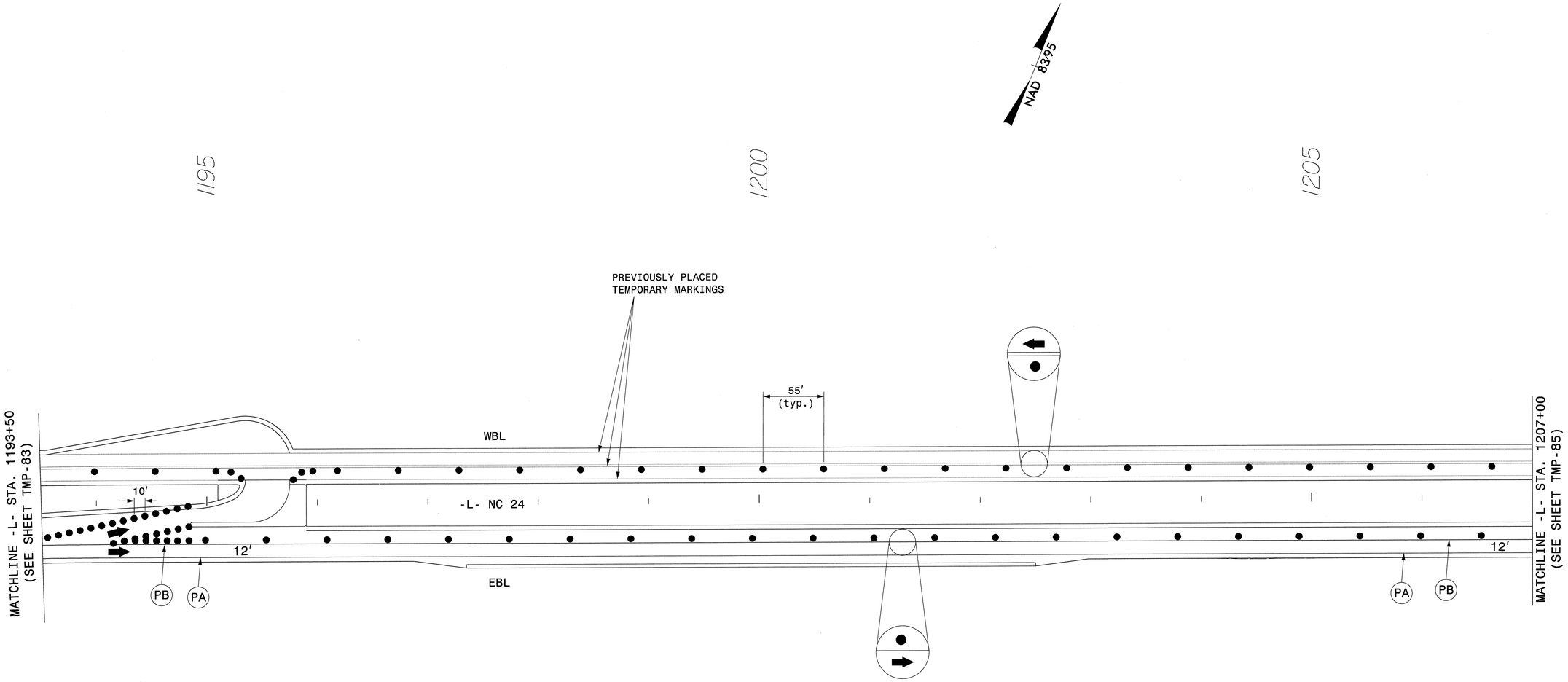
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-84



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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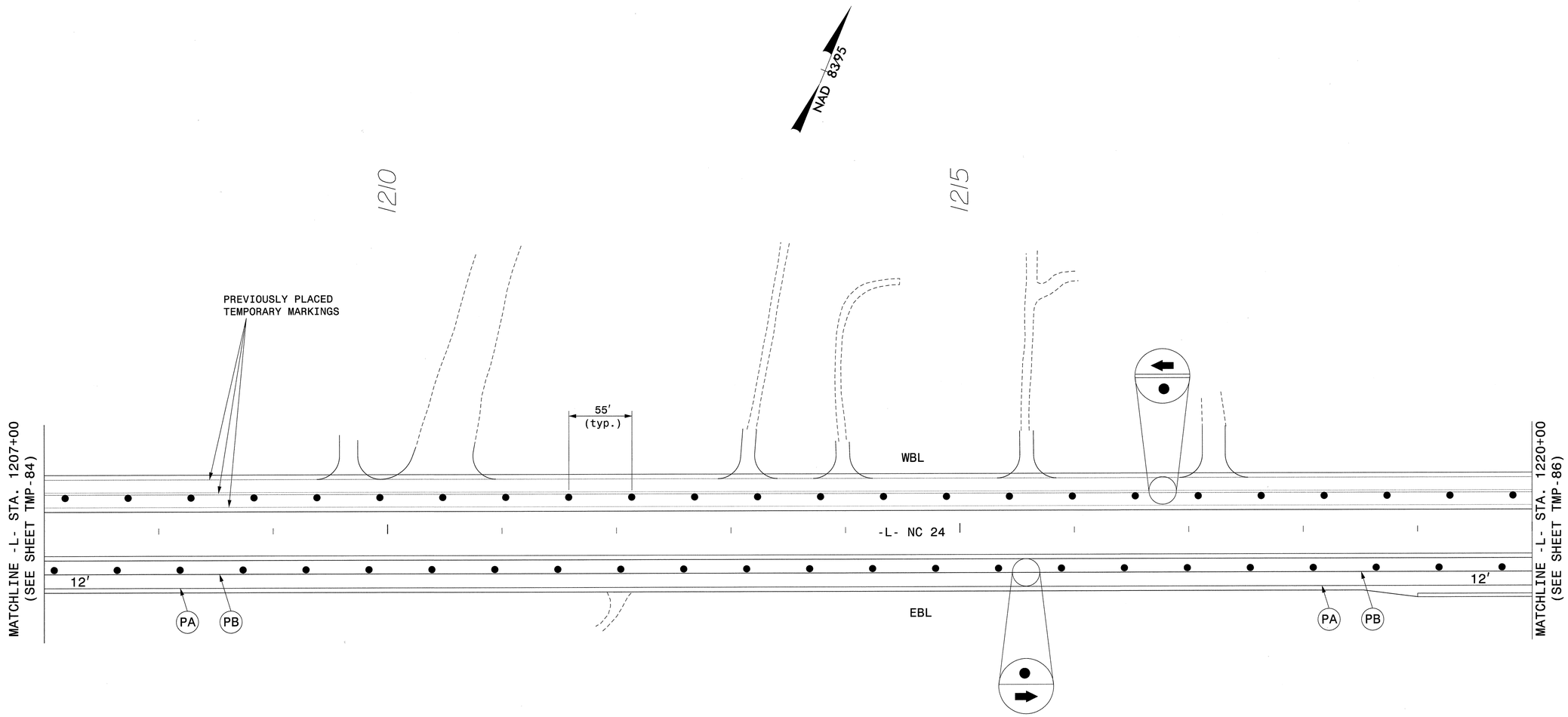
13833 AT RAL2LIA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-85



APPROVED: DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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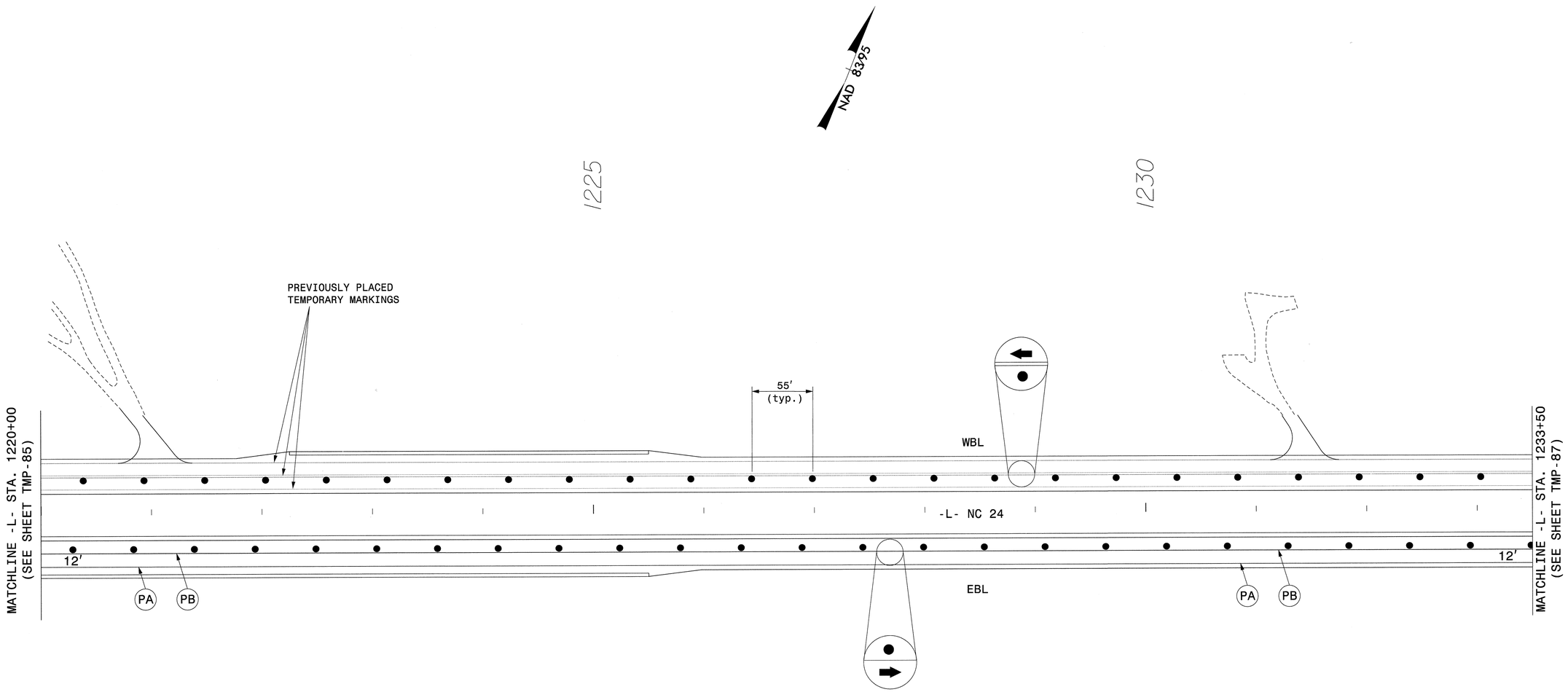
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-86



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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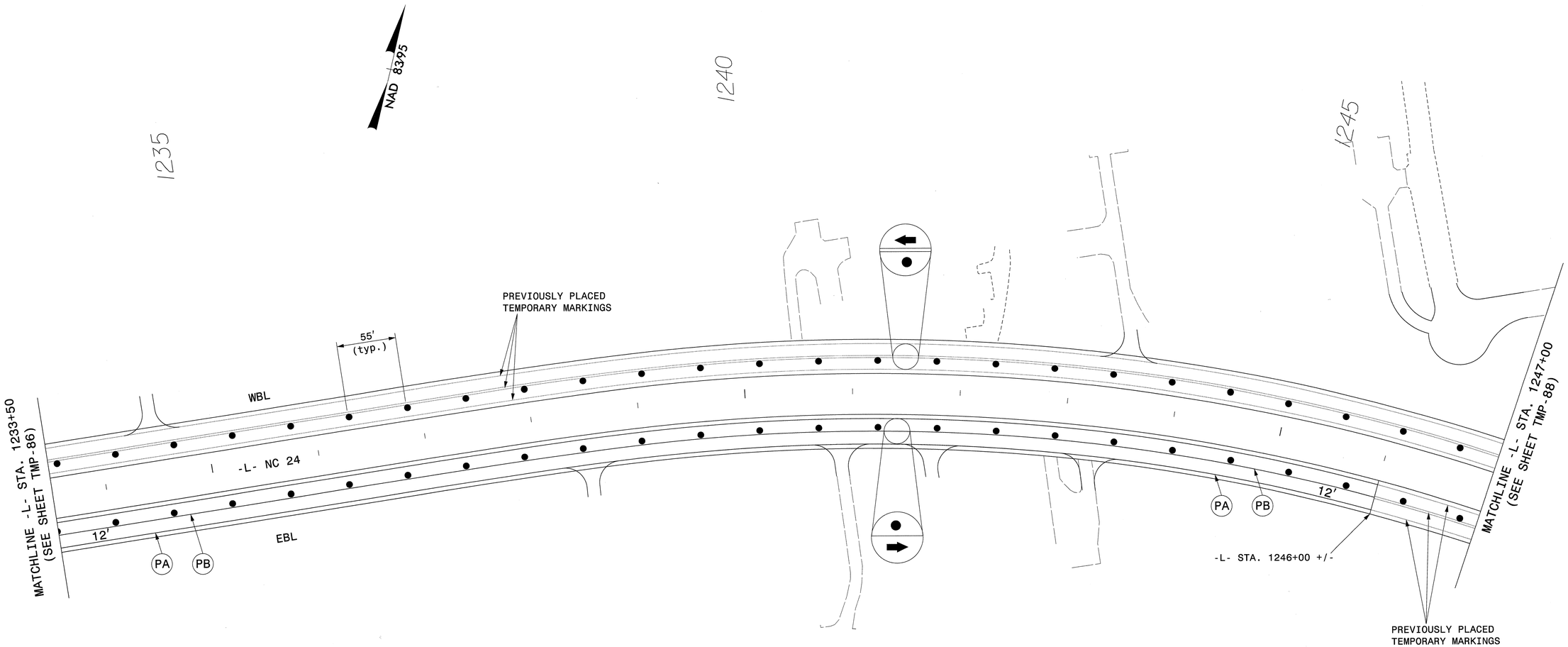
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-87



APPROVED: J. Todd Brooks DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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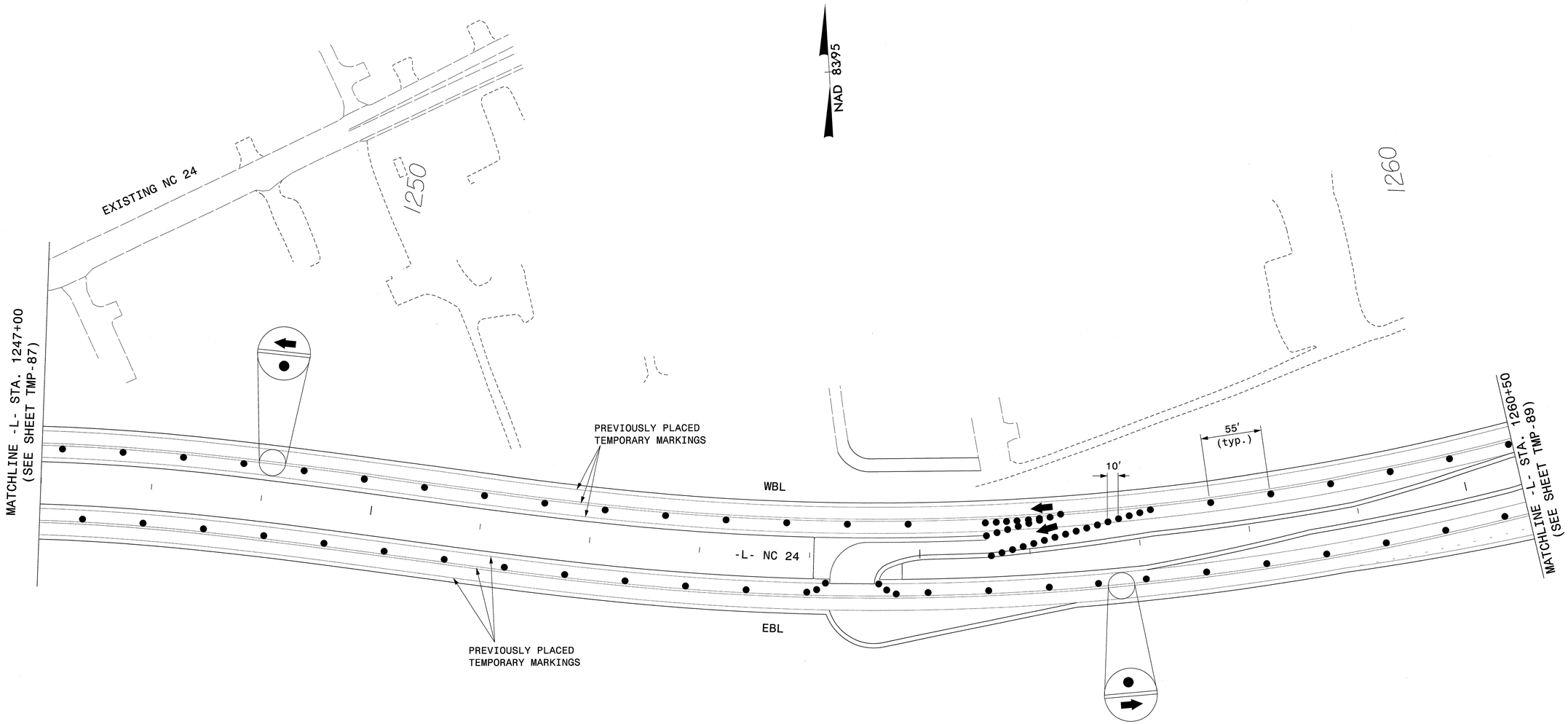
13833 AT RAL21IA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-88



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE IV DETAIL –L– & EXISTING NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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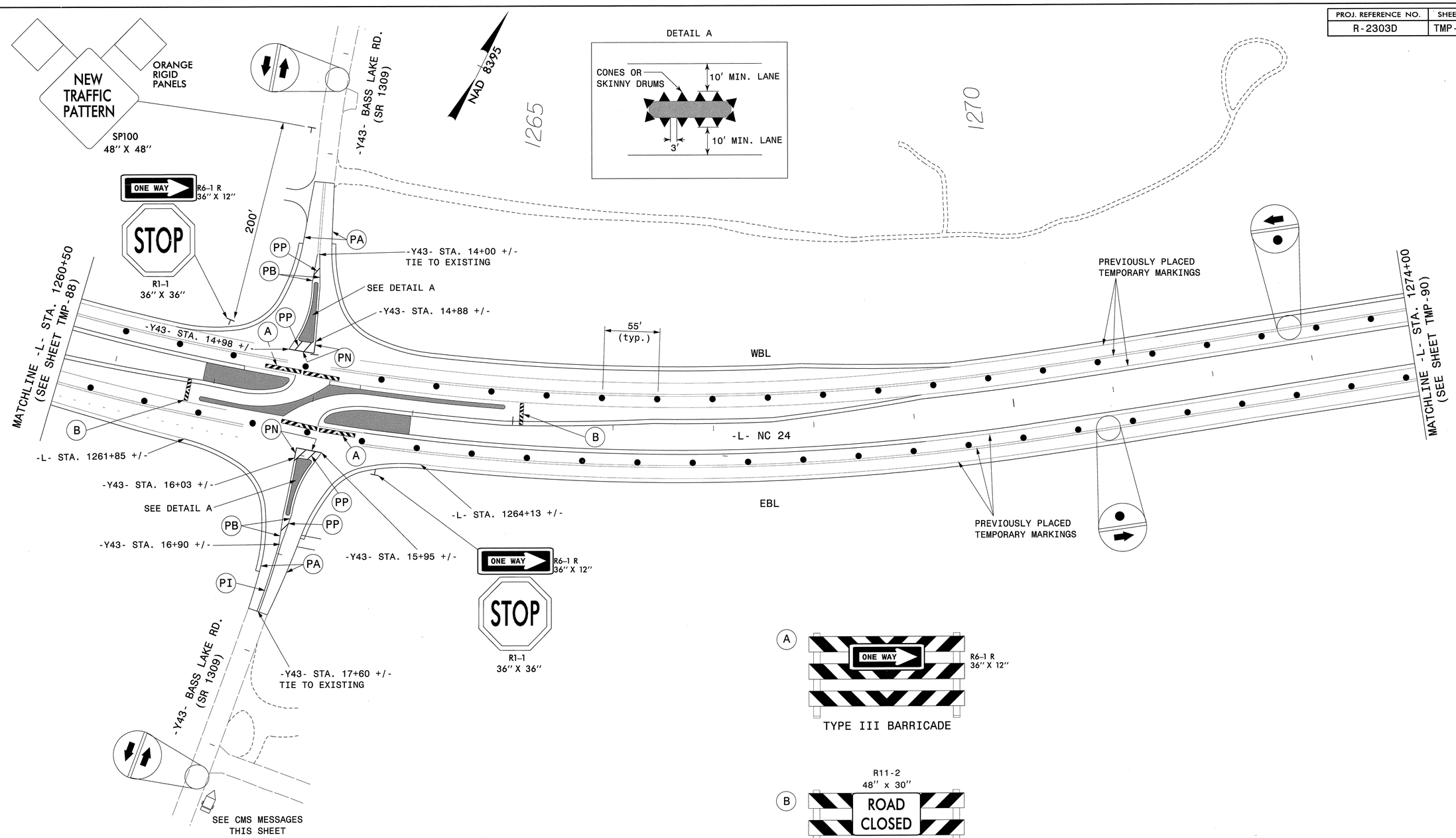
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-89



TYPE III BARRICADE

TYPE III BARRICADE

MESSAGES FOR CMS -Y43- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
–L–
& –Y43–

18-JUN-2013 17:06
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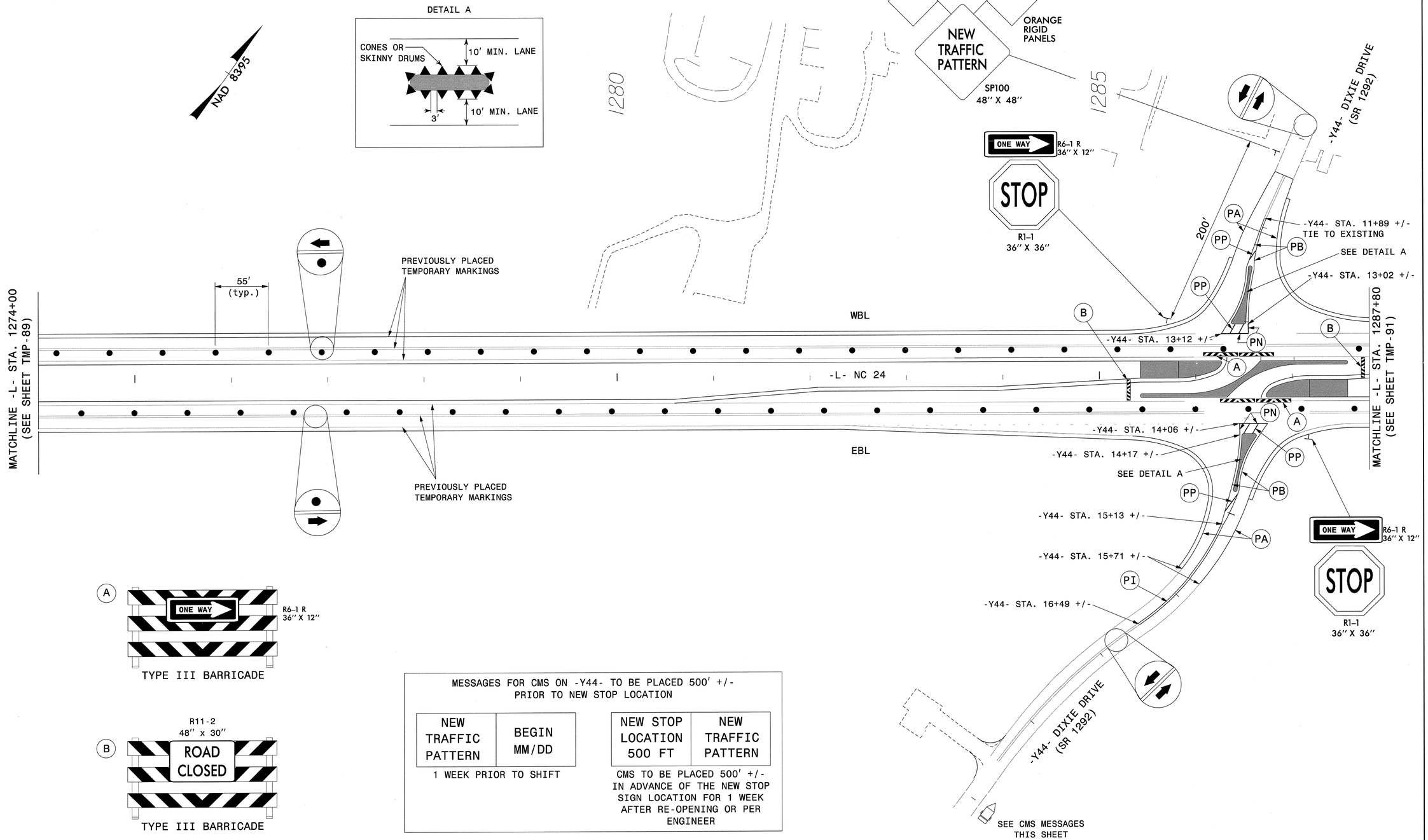
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-90



MESSAGES FOR CMS ON -Y44- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA 1 PHASE IV DETAIL -L- & -Y44-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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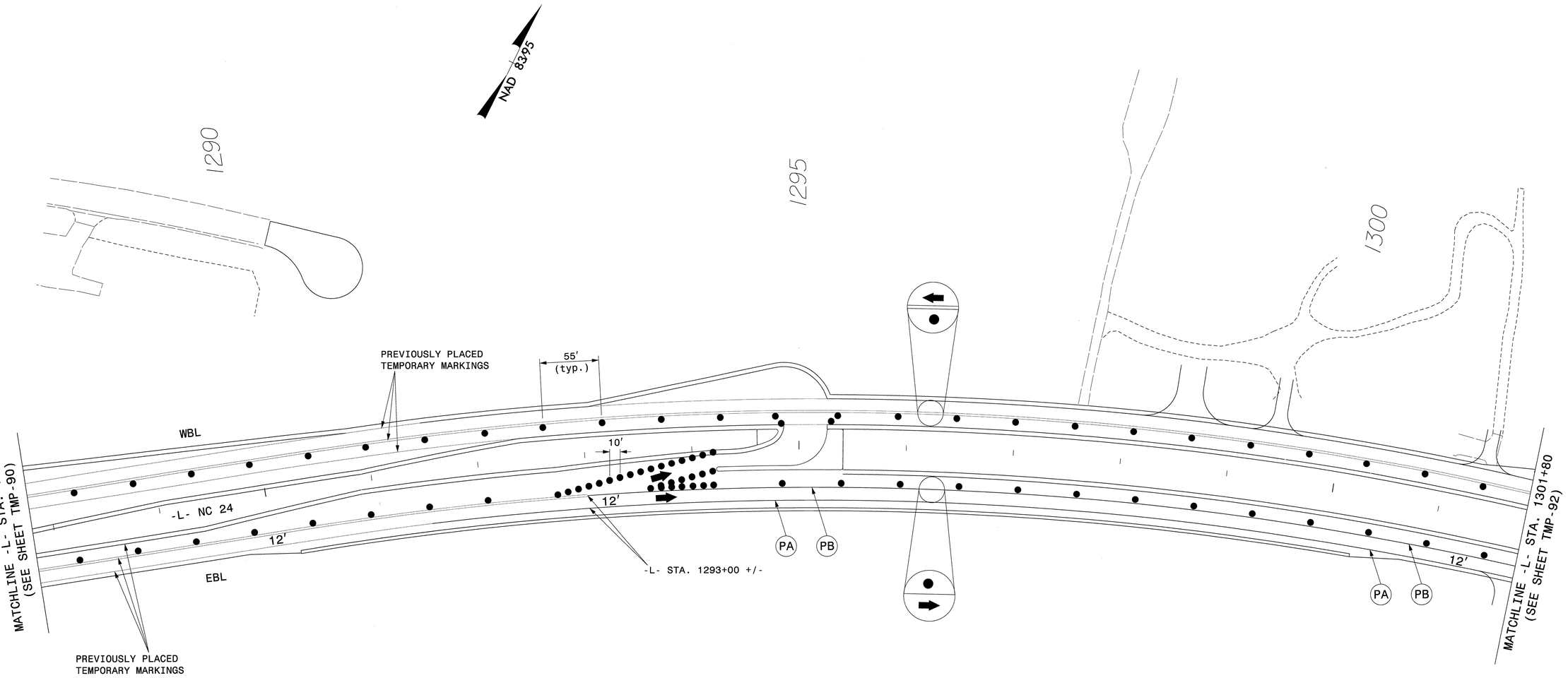
13833 AT RALZJUA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-91



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
–L–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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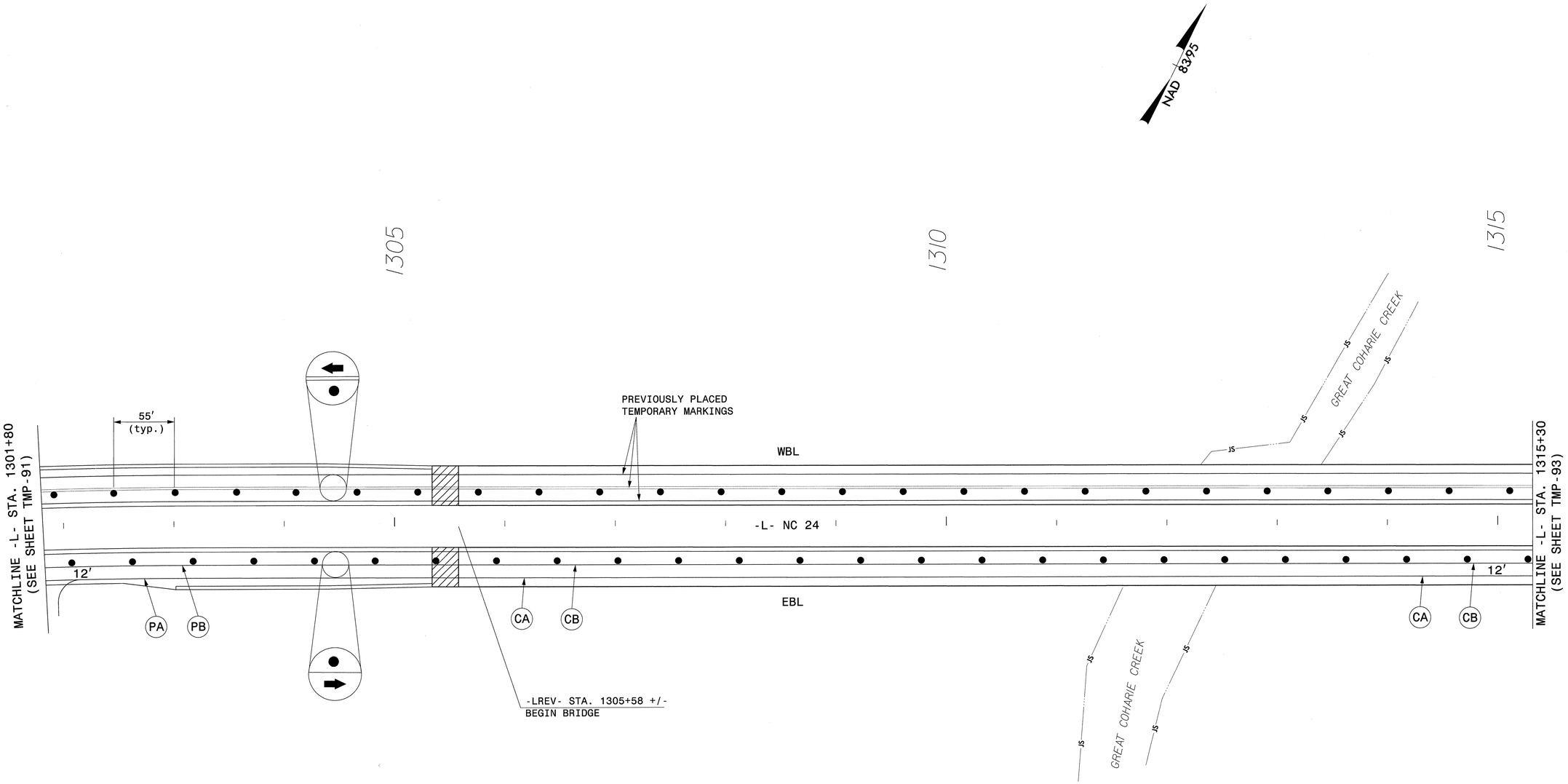
13833 AT RAL21JA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-92



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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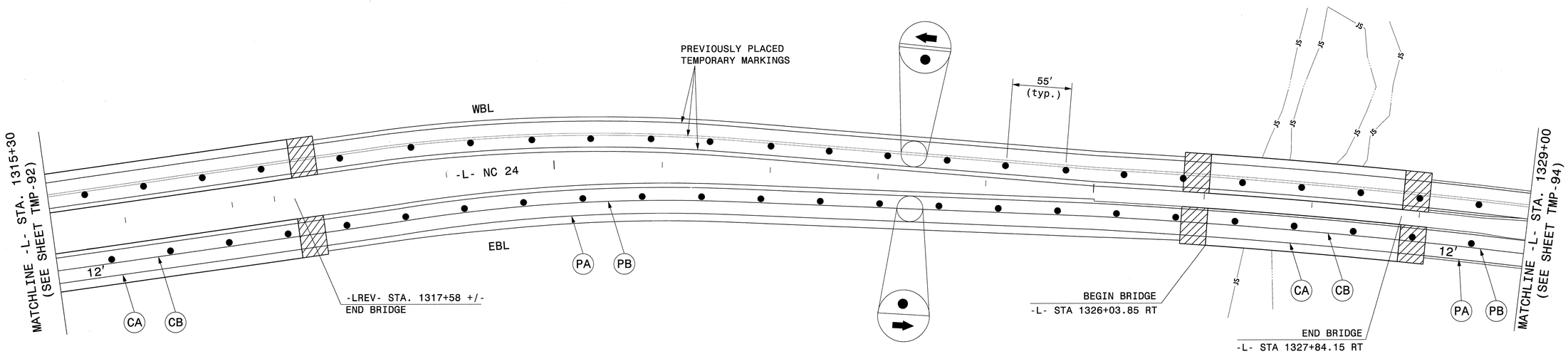
13833 AT RAL2\JA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-93



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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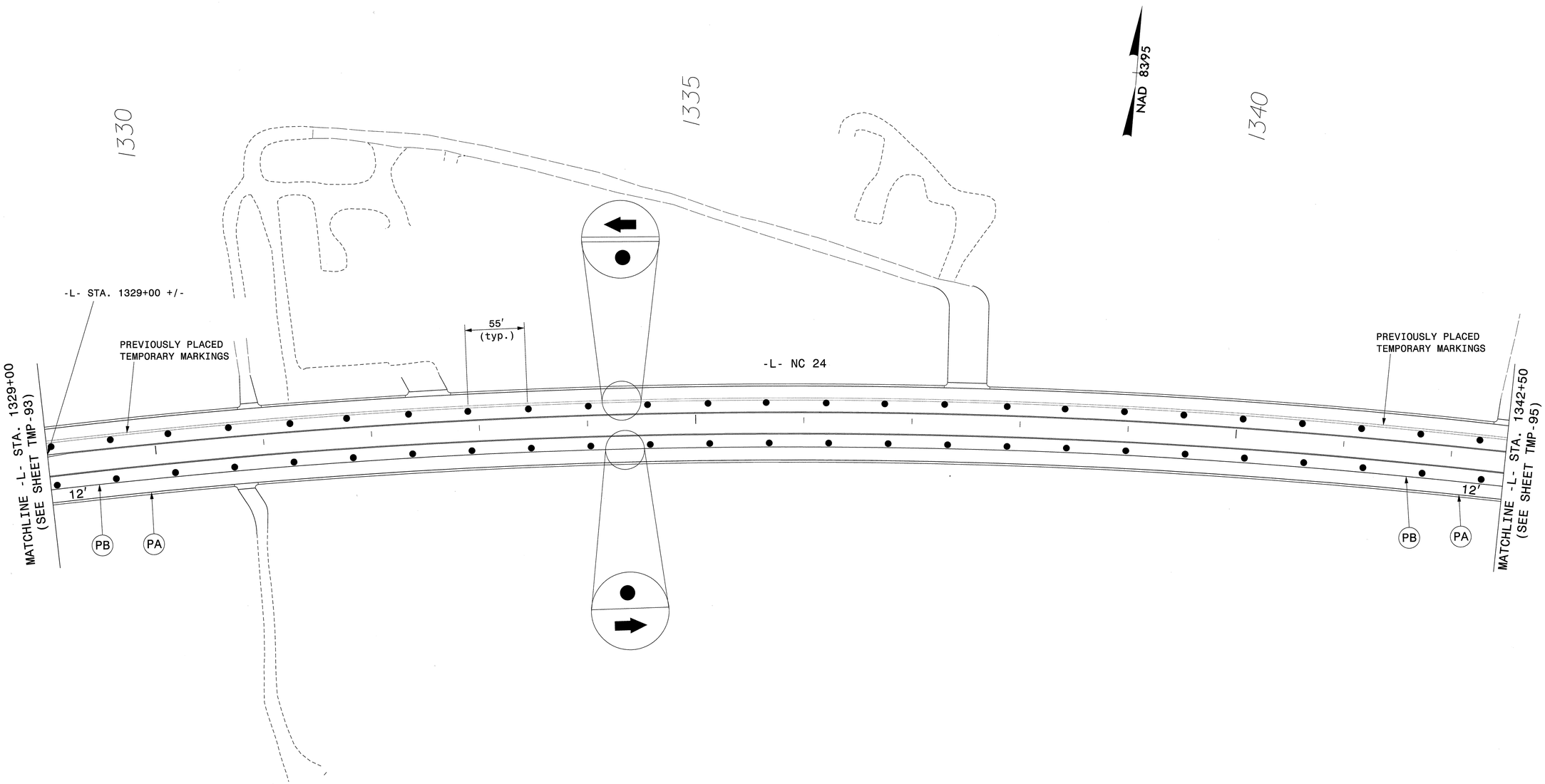
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-94



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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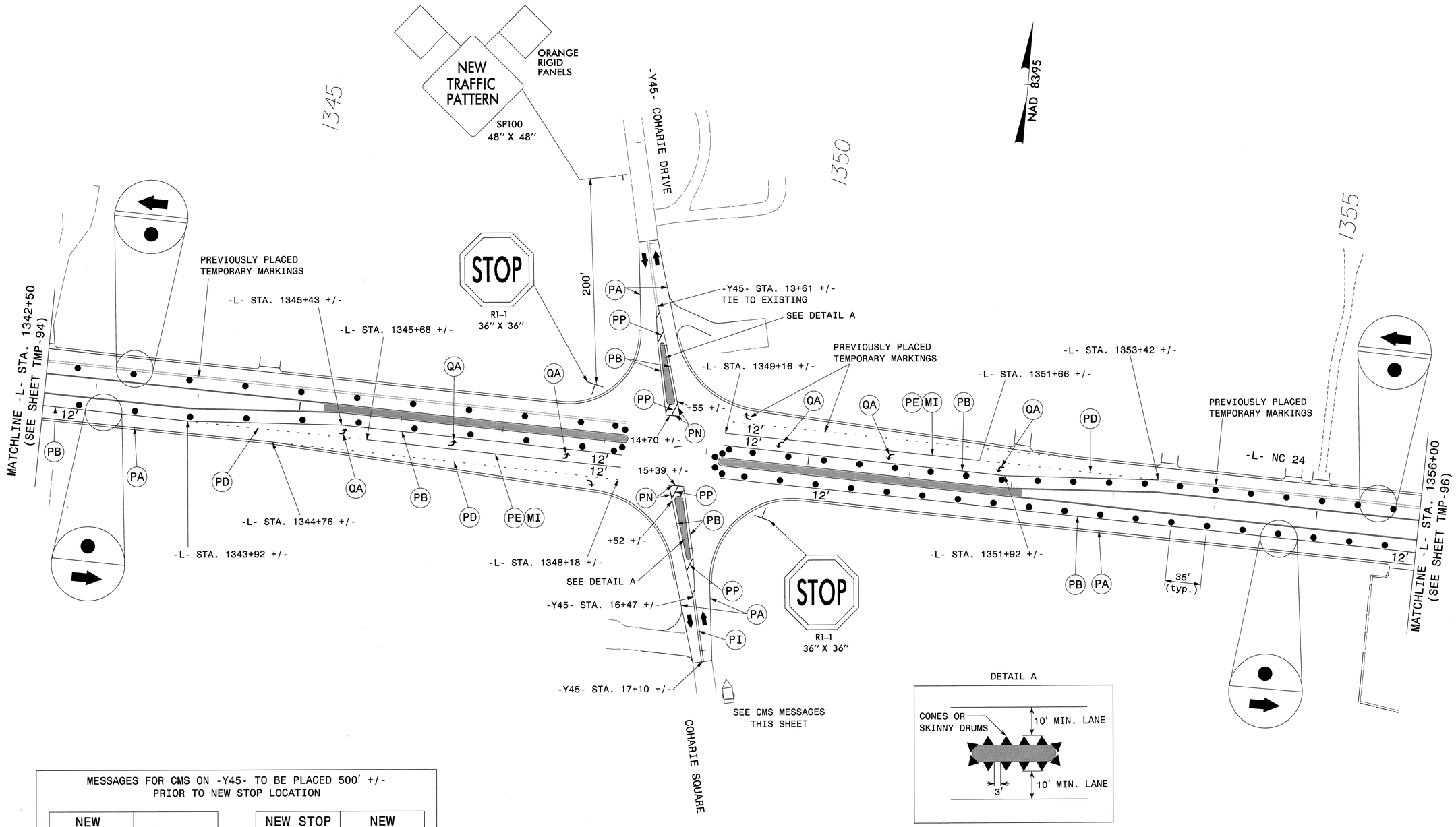
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-95



DETAIL A

MESSAGES FOR CMS ON -Y45- TO BE PLACED 500' +/- PRIOR TO NEW STOP LOCATION

NEW TRAFFIC PATTERN	BEGIN MM/DD

1 WEEK PRIOR TO SHIFT

NEW STOP LOCATION 500 FT	NEW TRAFFIC PATTERN

CMS TO BE PLACED 500' +/- IN ADVANCE OF THE NEW STOP SIGN LOCATION FOR 1 WEEK AFTER RE-OPENING OR PER ENGINEER

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE IV DETAIL -L- NC 24 & -Y45-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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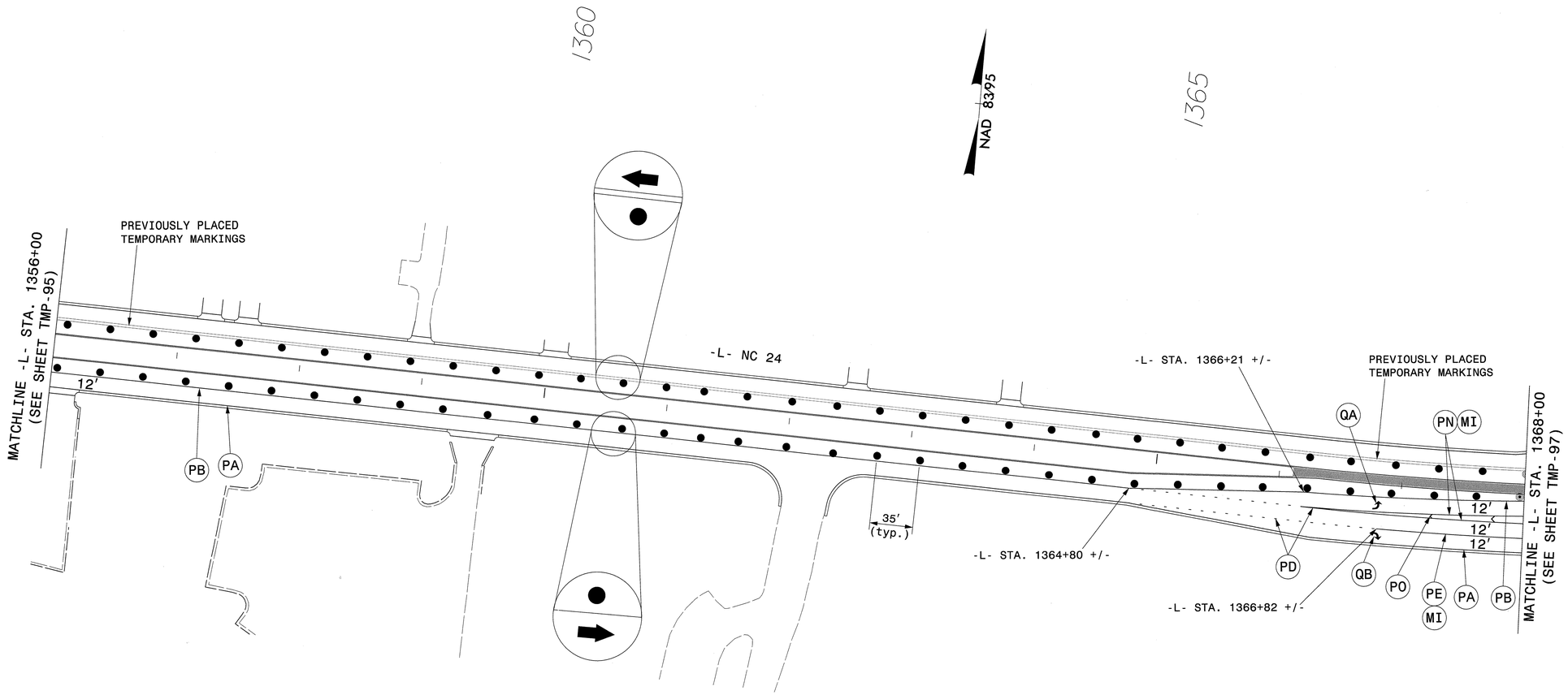
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-96



APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA 1
PHASE IV DETAIL
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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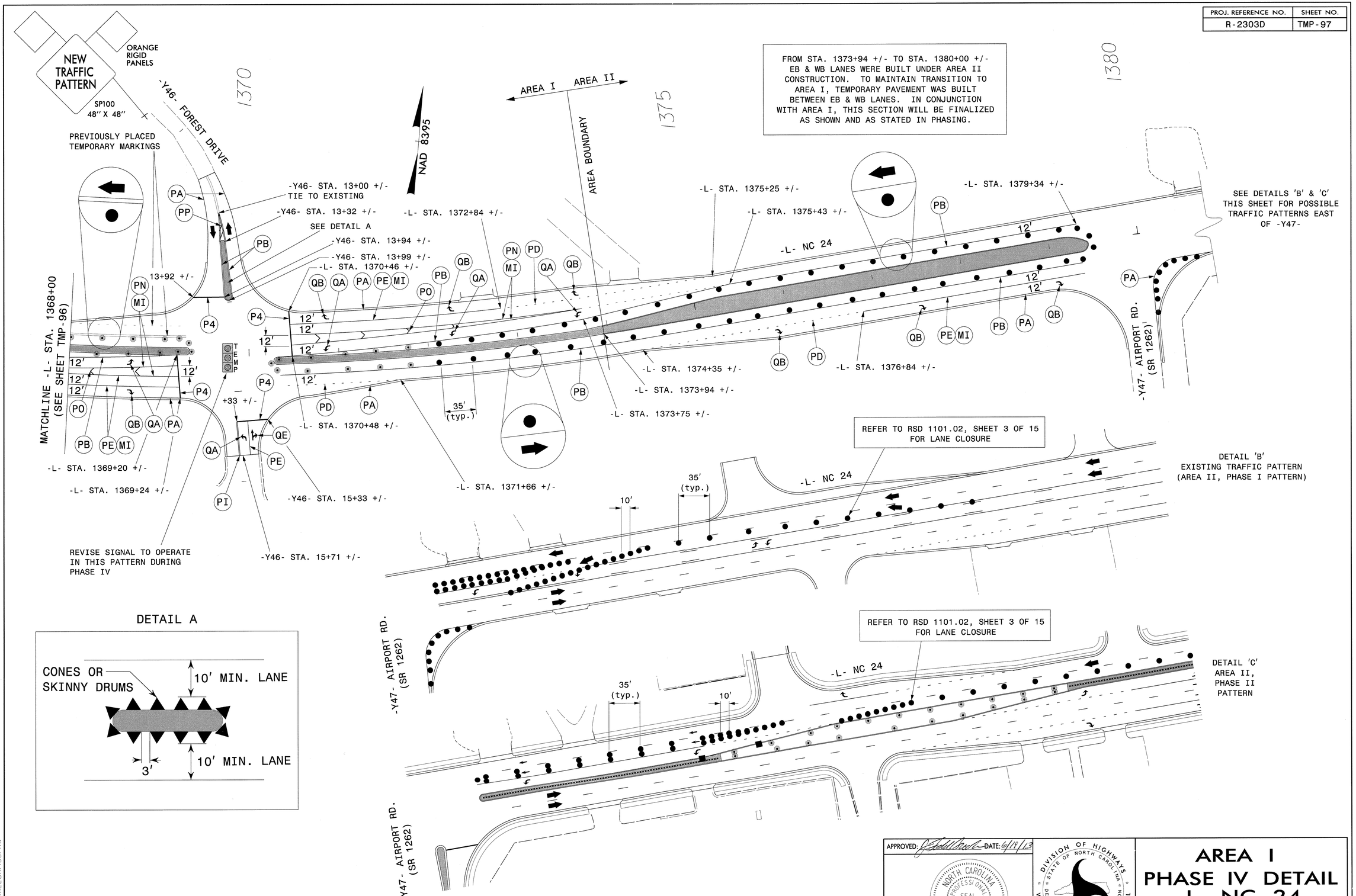
R-2303D	TMP-97



APPROVED: J. Todd Brooks DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA I PHASE IV DETAIL -L- NC 24, -Y46- & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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R-2303D	TMP-98A

AREA II – PHASING

–L– STA. 1373+94 TO –L– STA. 1446+26

PHASE I

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS AS DIRECTED BY THE ENGINEER.

SEE TMP-99 FOR OVERVIEW OF AREA II, PHASE I, STEPS 1 AND 2.

STEP 1: INSTALL TEMPORARY SIGNALS TO REVISE EXISTING TRAFFIC SIGNALS ALONG NC 24 AT THE FOLLOWING LOCATIONS TO ACCOMMODATE WIDENING / CONSTRUCTION DURING PHASE I:

- WALMART ENTRANCE (SEE TMP-127)
- RUBY TUESDAY DRIVEWAY (SEE TMP-114, TMP-122 AND TMP-129)
- SHIELDS STREET (SEE TMP-114, TMP-122 AND TMP-129)
- RAMP C/RAMP D (US 421/701 NORTH RAMPS) (SEE TMP-100 AND TMP-107)

BEGIN INSTALLATION OF NEW TEMPORARY SIGNAL AT NC 24 AND -SR1- /-Y49- PIERCE STREET. (SEE TMP-120) BAG SIGNAL HEADS UNTIL SIGNAL IS ACTIVATED IN STEP 2.

AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -Y53-FROM NC 24 TO -Y54- AS SHOWN ON TMP-104 UP TO BUT NOT INCLUDING FINAL SURFACE LAYER.

AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF -SR1- FROM NC 24 TO WESTOVER ROAD AS SHOWN ON TMP-101, TMP-105, AND TMP-106 UP TO BUT NOT INCLUDING FINAL SURFACE LAYER.

INSTALL TEMPORARY GUARDRAIL TO EXTEND TRAILING END ON NORTH SIDE OF NC 24 EAST OF RAMP A AS SHOWN ON TMP-100. AFTER GUARDRAIL IS INSTALLED, USING SUCCESSIVE OVERNIGHT LANE CLOSURES, CLOSE OUTSIDE LANE OF EASTBOUND NC 24 USING RSD 1101.02 SHEETS 3 AND 7 OF 15. WORK BEHIND GUARDRAIL AND LANE CLOSURE TO BORE AND JACK PROPOSED 48-IN TRENCHLESS PIPE BENEATH NC 24 JUST EAST OF RAMP A/RAMP B INTERSECTION AS SHOWN ON TMP-100. ONCE PIPE ACROSS NC 24 HAS BEEN INSTALLED, BACKFILL BORING AND RECEIVING PITS. BEHIND LANE CLOSURE BUILD CATCH BASIN 2917. CATCH BASIN 2917 IS TO CONNECT NEW 48-IN PIPE ACROSS NC 24 TO EXISTING 24-IN PIPE UNDER CURB AND GUTTER ON SOUTH SIDE OF NC 24 IN EXISTING DRAINAGE SYSTEM. PROPOSED 48-IN PIPE ACROSS RAMP B IS TO BE INSTALLED IN PHASE II.

BORE AND JACK PROPOSED 42-IN TRENCHLESS PIPE UNDER US 421/701 AT STA 52+74 +/-AND INSTALL DRAINAGE SYSTEM ALONG WESTOVER ROAD AS FOLLOWS (SEE TMP-100 THROUGH TMP-103):

- USING RSD 1101.03, SHEETS 1 AND 2 OF 9, CLOSE WESTOVER ROAD. DETOUR TRAFFIC ON ROUTE SHOWN ON TMP-103.
- DURING AN OVERNIGHT CLOSURE, USING RSD 1101.02, SHEETS 4 OF 15 AS NECESSARY, AND DETAILS AS SHOWN ON TMP-112, CLOSE RAMP B AND DETOUR TRAFFIC ON ROUTE AS SHOWN ON TMP-112. INSTALL PORTABLE CONCRETE BARRIER WITH TEMPORARY CRASH CUSHION ON RIGHT SIDE PAVED SHOULDER OF US 421/701 NB, FROM -RPB- STA 5+42 +/- TO -Y52- STA 53+81 +/-. (SEE TMP-101 AND TMP-102)
- PLACE SHOULDER CLOSED WARNING SIGN AND DRUMS IN ADVANCE OF P.C.B. IN ACCORDANCE WITH RSD 1101.04 PRIOR TO REOPENING RIGHT LANE OF US 421/701 SOUTHBOUND.
- WORKING BEHIND EXISTING GUARDRAIL ON EAST SIDE OF US 421/701 AND BEHIND P.C.B. ON WEST SIDE, BORE AND JACK NEW PIPE BENEATH US 421/701.
- ONCE PIPE ACROSS US 421/701 HAS BEEN INSTALLED, BACKFILL BORING AND RECEIVING PITS.
- WORKING BEHIND P.C.B. ON WEST SIDE OF US 421/701 WHILE WESTOVER ROAD IS CLOSED TO TRAFFIC, INSTALL DRAINAGE SYSTEMS AND REPLACE CURB AND GUTTER ON WESTOVER ROAD AS SHOWN ON TMP-101 AND TMP-102.
- ONCE CONSTRUCTION OF THE DRAINAGE SYSTEM ON WESTOVER ROAD HAS BEEN COMPLETED, REOPEN WESTOVER ROAD TO 2L, 2W TRAFFIC.

STEP 2: AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF -SR1- FROM NC 24 TO WESTOVER ROAD AS SHOWN ON TMP-105, TMP-106, AND TMP-110 UP TO BUT NOT INCLUDING FINAL SURFACE LAYER. USING RSD 1101.02, SHEETS 1, 3 AND 7 OF 15, TIE -SR1- INTO NC 24 AND WESTOVER ROAD AND COMPLETE INSTALLATION OF TEMPORARY SIGNAL AT NC 24 AND -SR1- /-Y49- PIERCE STREET. PLACE ALL MARKINGS, SIGNING AND DEVICES AS SHOWN ON TMP-118, TMP-120, AND TMP-121 FOR -SR1-. ACTIVATE TRAFFIC SIGNAL AT NC 24 AND -SR1-/-Y49- AND OPEN -SR1- TO TRAFFIC BETWEEN NC 24 AND WESTOVER ROAD. ONCE -SR1- IS OPEN TO TRAFFIC, CLOSE WESTOVER ROAD AT NC 24 AND CONSTRUCT CUL-DE-SAC (SEE TMP-115).

COMPLETE CONSTRUCTION OF -Y53- FROM STA 10+00 +/- TO STA 16+35 +/- AND -Y54- FROM STA 11+50 +/- TO STA 12+58 +/-, UP TO BUT NOT INCLUDING FINAL SURFACE LAYER (SEE TMP-104), USING RSD NO. 1101.02, SHEETS 1 AND 3 OF 15 AS NECESSARY. PLACE TEMPORARY MARKINGS AND SIGNS ON -Y53- AND OPEN -Y53- TO 2L, 2W TRAFFIC BETWEEN -Y54- AND NC 24 (SEE TMP-116). USING RSD NO. 1101.03, SHEET 2 OF 9, INSTALL ROAD CLOSURE SIGNING AND BARRICADES TO PERMANENTLY CLOSE THE SOUTH LEG OF -Y54- AT NC 24 AS SHOWN ON TMP-107 AND CONSTRUCT CUL-DE-SAC ON -Y54-.

USING RSD NO. 1101.02, SHEETS 3 AND 9 OF 15, CONSTRUCT WIDENING ON BOTH SIDES OF NC 24 UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT FROM STA 1442+35 +/- TO STA 1445+25.96 (SEE TMP-107). CONSTRUCT WIDENING ON ONE SIDE OF NC 24 AT A TIME.

USING RSD NO. 1101.02, SHEETS 3 AND 7 OF 15, INSTALL CURB & GUTTER ALONG THE RIGHT SIDE OF NC 24 FROM STA 1441+51 +/- TO STA 1442+23 +/- AS SHOWN ON TMP-107.

PERFORM CONSTRUCTION ON RAMPS A, B, C & D (SEE TMP-107 THROUGH TMP-111) ONE RAMP AT A TIME USING SUCCESSIVE OVERNIGHT CLOSURES AND DETOURS IN THE FOLLOWING MANNER:

- CLOSE, DETOUR AND CONSTRUCT ONLY ONE RAMP DURING A GIVEN OVERNIGHT PERIOD.
- CONSTRUCT PROPOSED DRAINAGE CROSS PIPES BENEATH RAMPS.
- FOR RAMP B, USING RSD 1101.02, SHEET 4 OF 15 TO TEMPORARILY CLOSE RIGHT LANE OF US 421/701 SOUTHBOUND, RESET P.C.B., RESET CRASH CUSHIONS, AND REMOVE SHOULDER CLOSED WARNING SIGNS ALONG US 421/701. RESET P.C.B. TO -RPB- STA 10+72 +/- TO STA 6+86 +/- AS SHOWN ON TMP-107 AND TMP-110 AND REMOVE REMAINING P.C.B. MAINTAIN P.C.B. WITH TEMPORARY CRASH CUSHION UNTIL NEW GUARDRAIL IS INSTALLED. REMOVE P.C.B. AND CRASH CUSHION ONCE NEW GUARDRAIL IS INSTALLED.
- CONSTRUCT PROPOSED WIDENING AS MUCH AS POSSIBLE UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT, REOPENING RAMP TO EXISTING TRAFFIC PATTERN BY THE END OF THE WORK PERIOD.
- WEDGE AND WIDEN RAMPS, REPLACING EXISTING MARKINGS AND REOPEN THE RAMP TO TRAFFIC TO THE EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD.
- FOLLOWING PLACEMENT OF FIRST LAYER OF SURFACE COURSE, PLACE TEMPORARY MARKINGS (PAINT) ON RAMPS AND DRUM OFF LANES AS SHOWN ON TMP-115 AND TMP-117 THROUGH TMP-119. REOPEN RAMP TO NEW TRAFFIC PATTERN. REVISE TRAFFIC SIGNAL AT RAMP C INTERSECTION WITH NC 24 TO TEMPORARY SIGNAL DESIGN 2 TO ACCOMMODATE NEW TRAFFIC PATTERN ON RAMP C.
- USE THE FOLLOWING DETOURS FOR EACH RAMP AS LISTED BELOW:

RAMP A: DETOUR RAMP A TRAFFIC TO EXIT FOR TRAM ROAD TO NC 24 WEST (SOUTHWEST BLVD) TO US 421/701 NORTH TO EXIT FOR NC 24 (SUNSET AVE). (SEE TMP-112)

RAMP B: DETOUR RAMP B TRAFFIC TO RAMP D TO US 421/701 NORTH TO US 421 NORTH (NORTH WEST BOULEVARD) TO NORTH BOULEVARD TO US 701 SOUTH (SEE TMP-112).

RAMP C: DETOUR RAMP C TO US 421 NORTH (NORTHWEST BOULEVARD) TO NORTH BOULEVARD TO US 701 SOUTH TO NC 24 (SUNSET AVE) (SEE TMP-113)

RAMP D: DETOUR RAMP D TO RAMP B TO US 421/701 SOUTH TO EXIT FOR TRAM ROAD TO NC 24 WEST (SOUTHWEST BOULEVARD) TO US 421/701 NORTH. (SEE TMP-113)

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASING
PHASE I

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-98B

AREA II – PHASING

–L– STA. 1373+94 TO –L– STA. 1446+26

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE WORK REQUIRED IN AREA II, PHASE I, STEPS 3 AND 4 WITHIN 14 CALENDAR DAYS. [SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES]

STEP 3: INSTALL PROPOSED 54-INCH PIPE AND ASSOCIATED DRAINAGE STRUCTURES ALONG THE LEFT SIDE OF NC 24 BETWEEN RAMPS A/B AND RAMPS C/D AS FOLLOWS:

A. USING RSD 1101.02, SHEETS 3 AND 7 OF 15, LAW ENFORCEMENT OFFICERS AND FLAGGERS, REVISE THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF NC 24 AT RAMPS C AND D AND REVISE PAVEMENT MARKINGS AND PLACE DEVICES ON NC 24 TO SHIFT TRAFFIC INTO TEMPORARY THREE-LANE PATTERN ON RIGHT SIDE OF NC 24 THROUGH THE US 421/701 INTERCHANGE AS SHOWN ON TMP-114 THROUGH TMP-116.

B. INSTALL WATER-FILLED BARRIER (W.F.B.) ALONG LEFT SIDE OF NC 24 BETWEEN RAMPS A AND D AS SHOWN ON TMP-115.

C. BEHIND W.F.B., CONSTRUCT PROPOSED 54-INCH RCP AND DRAINAGE STRUCTURES ON LEFT SIDE OF NC 24 UNDER THE US 421/701 BRIDGE. (SEE SECTION I-I AND TMP-115)

D. BACKFILL TRENCH, CONSTRUCT NEW C&G AND NEW GUARDRAIL, AND CONSTRUCT NEW FULL-DEPTH PAVEMENT UP TO BUT NOT INCLUDING FINAL SURFACE LAYER TO REPLACE REMOVED PAVEMENT.

E. REMOVE W.F.B. AND REPLACE IT WITH DRUMS SPACED 20 FT APART.

STEP 4: REVISE PAVEMENT MARKINGS ON NC 24 TO RESTORE THE EXISTING 5-LANE TRAFFIC PATTERN WEST OF STA 1438+00 +/- (RAMPS A/B) AND TO IMPLEMENT FINAL TRAFFIC PATTERN USING TEMPORARY MARKINGS FROM STA 1438+00 +/- EASTWARD AS FOLLOWS:

A. REVISE THE TRAFFIC SIGNAL AT INTERSECTION OF NC 24 AT RAMP C/D INTERSECTION TO FINAL PATTERN IN CONJUNCTION WITH THE MILLING AND RESURFACING AND PAVEMENT MARKING REVISIONS ON NC 24 DESCRIBED BELOW.

B. USING RSD 1101.02, SHEETS 1 AND 2 OF 15, LAW ENFORCEMENT OFFICERS AND FLAGGERS, MILL THE EXISTING NC 24 PAVEMENT FROM STA 1438+00 +/- TO STA 1446+26 +/- (SEE TMP-123). REPLACE TEMPORARY PAVEMENT MARKINGS IN AREA II, PHASE I, STEP 3 TRAFFIC PATTERN FOLLOWING MILLING.

C. USING RSD 1101.02, SHEETS 1, 2, 3 AND 7 OF 15, LAW ENFORCEMENT OFFICERS AND FLAGGERS AS NEEDED:

- REVISE PAVEMENT MARKINGS ON NC 24 WEST OF STA 1438+00 +/- (RAMPS A/B) TO RESTORE ORIGINAL 5-LANE TRAFFIC PATTERN ON NC 24 FROM STA 1423+97+/- TO STA 1438+00 +/- (SEE TMP-122 AND TMP-123).

- OVERLAY MILLED PAVEMENT AND PREVIOUSLY CONSTRUCTED WIDENING ON NC 24 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM STA 1438+00 +/- (RAMPS A/B) TO STA 1446+26 +/-. INSTALL TEMPORARY PAVEMENT MARKINGS (PAINT) IN THE FINAL PATTERN AS SHOWN ON TMP-123 IN CONJUNCTION WITH PAVING OPERATION.

D. OPEN LANES AS SHOWN ON TMP-123 FOR RAMPS A AND C AND ALL LANES ON NC 24 TO TRAFFIC.

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE ALL WORK DESCRIBED IN AREA II, PHASE I, STEP 5 THROUGH AREA II, PHASE II, STEP 2 WITHIN 180 CONSECUTIVE CALENDAR DAYS. [SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES]

STEP 5:

NC 24 (-L-) FROM STA 1373+94 +/- TO -Y47- (AIRPORT ROAD)

CONSTRUCT THE WIDENING ON NC 24 BETWEEN STA 1373+94 +/- AND -Y47- (AIRPORT ROAD) IN THE FOLLOWING SEQUENCE (SEE TMP-125):

A. AWAY FROM TRAFFIC, CONSTRUCT AS MUCH OF THE WIDENING AS POSSIBLE ON NC 24 BETWEEN STA 1373+94+/- AND -Y47-.

B. USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, WEDGE AND WIDEN EACH SIDE OF NC 24 TO COMPLETE, AT A MINIMUM, THE OUTSIDE THROUGH LANE OF TRAVEL UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER BETWEEN STA 1373+94 AND -Y47- (AIRPORT ROAD) AND TIE SMOOTHLY TO THE EXISTING ROADWAY IN A MANNER THAT THERE IS ALWAYS POSITIVE DRAINAGE OFF OF THE ROADWAY AND ALLOWS EACH TRAVEL LANE TO MAINTAIN A SMOOTH DRIVING SURFACE AS CONSTRUCTION PROGRESSES.

C. USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, INSTALL PAVEMENT MARKINGS TO ORIGINAL TRAFFIC PATTERN, AS NECESSARY DUE TO WEDGING AND WIDENING.

NC 24 (-L-) FROM -Y47- (AIRPORT ROAD) TO STA 1438+00 +/- (-RPA-/-RPB-)

USING RSD NO. 1101.02, SHEET 3 OF 15, TEMPORARILY CLOSE THE RIGHT LANE OF NC 24 AND INCREMENTALLY CONSTRUCT THE PROPOSED OUTSIDE PAVEMENT WIDENING, ASSOCIATED DRAINAGE, AND WEDGING OF EXISTING OUTSIDE LANES ON NC 24 IN DISCRETE SEGMENTS BETWEEN -Y47- (AIRPORT ROAD) AND STA 1438+00 +/- (RAMP A/RAMP B) SUBJECT TO THE FOLLOWING REQUIREMENTS (SEE TMP-124 THRU TMP-130):

- THERE SHALL BE NO MORE THAN ONE RIGHT LANE CLOSURE ON NC 24 AT ANY ONE TIME.

- CONSTRUCTION SHALL ONLY BE PERFORMED BEHIND THE RIGHT LANE CLOSURE ON ONE SIDE OF NC 24 AT A TIME.

- A RIGHT LANE CLOSURE SHALL NOT EXCEED 1500 FEET IN LENGTH, INCLUDING TAPERS.

- ALL EXISTING LANES IN THE OPPOSITE DIRECTION OF TRAVEL FROM THE RIGHT LANE CLOSURE SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES (EXCEPT AS NOTED IN STEP 5B BELOW FOR OVERNIGHT CONSTRUCTION OF DRAINAGE CROSS PIPES).

ONCE THE RIGHT LANE IS CLOSED, THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK BEFORE REOPENING THE RIGHT LANE TO TRAFFIC (SEE TMP-124):

A. PROPOSED DRAINAGE, CURB AND GUTTER, SIDEWALK, PAVEMENT WIDENING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE.

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

APPROVED: DATE: 7/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASING
PHASE I

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AREA II – PHASING

–L– STA. 1373+94 TO –L– STA. 1446+26

STEP 5 (CONTINUED):

B. CONSTRUCT PROPOSED DRAINAGE CROSS PIPES ACROSS NC 24 AS FOLLOWS:

i. FOR CONSTRUCTION ON THE SIDE OF NC 24 WHERE THE RIGHT LANE IS ALREADY CLOSED, USE RSD 1101.02, SHEET 2 OF 15 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE CENTER TWO-WAY LEFT TURN LANE.

ii. FOR CONSTRUCTION ON THE SIDE OF NC 24 OPPOSITE THE RIGHT LANE CLOSURE, USE RSD 1101.02, SHEET 3 AND 7 OF 15 TO ALTERNATELY CLOSE ONE OF THE TWO LANES IN THE OPPOSING DIRECTION.

iii. PARTIALLY CONSTRUCT IN-LINE PRECAST DRAINAGE BOXES IN LOCATIONS OF PROPOSED MEDIANS TO A TEMPORARY ELEVATION BELOW GRADE, COVER WITH A TEMPORARY TRAFFIC BEARING COVER, BACKFILL AND PATCH PAVEMENT.

iv. PATCH PAVEMENT AND RESTORE NC 24 TRAFFIC TO ITS PRIOR PATTERN (RIGHT LANE CLOSED IN ONE DIRECTION, TWO LANES IN OPPOSITE DIRECTION, PLUS CENTER TWO-WAY LEFT TURN LANE) BY THE END OF THE WORK PERIOD.

C. WEDGE LATERALLY ACROSS THE ADJACENT EXISTING LANES TO PROVIDE POSITIVE DRAINAGE ACROSS THE PAVEMENT AND SMOOTHLY TIE INTO THE EXISTING PAVEMENT. USE RSD 1101.02, SHEET 2 OF 15 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE CENTER TWO-WAY LEFT TURN LANE DURING OVERNIGHT PERIODS BETWEEN 8:00 PM AND 9:00 AM WHEN WEDGING ENCROACHES ACROSS LEFT THROUGH LANE THAT IS BEING MAINTAINED.

D. REPLACE EXISTING PAVEMENT MARKINGS CONCEALED BY THE PAVEMENT WIDENING AND WEDGING OF THE EXISTING PAVEMENT IN EXISTING MARKING LOCATIONS/ALIGNMENT.

E. REOPEN RIGHT LANE TO TRAFFIC IN ORIGINAL PATTERN AND REPEAT PROCEDURE ABOVE FOR NEXT 1500-FT SEGMENT OF NC 24.

NC 24 (-L-) FROM STA 1438+00 +/- (-RPA-/-RPB-) TO STA 1438+24 +/- AND RAMP B

USING SUCCESSIVE OVERNIGHT LANE CLOSURES, USING RSD NO. 1101.02, SHEET 3 OF 15 FOR NC 24 AND CLOSURE AND DETOUR DETAILS FOR RAMP B AS SHOWN ON TMP-112, TEMPORARILY CLOSE THE RIGHT LANE OF NC 24 AND RAMP B AND CONSTRUCT THE PROPOSED CURB AND GUTTER, PAVEMENT WIDENING, ASSOCIATED DRAINAGE, AND WEDGING OF EXISTING ON RAMP B FROM -L- TO STA 11+25+/- AND ON NC 24 (-L-) CONSTRUCT PROPOSED WIDENING AND CURB AND GUTTER FROM STA 1438+25 +/- TO STA 1439+31 +/- AND REVISE CATCH BASIN 2917 AS NECESSARY TO COMPLETE DRAINAGE SYSTEM (SEE TMP-130).

-Y-LINES AND DRIVEWAYS

IN CONJUNCTION WITH THE NC 24 RIGHT LANE CLOSURES AND OUTSIDE WIDENING OF -L-, CONSTRUCT -Y-LINES ON THE SAME SIDE OF NC 24 AND WITHIN THE LIMITS OF THE RIGHT LANE CLOSURE. USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, FLAGGERS AND LAW ENFORCEMENT (AT SIGNALIZED INTERSECTIONS), CONSTRUCT DRAINAGE AND TIE-INS TO NC 24 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FOR THE FOLLOWING -Y-LINES AND ALL DRIVEWAYS:

- -Y47- (AIRPORT ROAD) (TMP-125)
- -Y48- (OVERLAND ROAD) (TMP-126)
- -Y49 (PIERCE STREET) (TMP-128)
- -Y50- (ROYAL LANE/SHAMROCK DRIVE) (TMP-129)

PARTIALLY CONSTRUCT PRECAST DRAINAGE BOXES IN LOCATIONS OF PROPOSED -Y-LINE MEDIANS TO A TEMPORARY ELEVATION BELOW GRADE, COVER WITH A TEMPORARY TRAFFIC BEARING COVER, BACKFILL AND PATCH PAVEMENT. REPLACE PAVEMENT MARKINGS COVERED BY PAVING IN EXISTING PATTERN.

TRAFFIC SIGNALS

INSTALL THE FOLLOWING NEW TRAFFIC SIGNALS ON NC 24 AND PLACE IN FLASH MODE 2 WEEKS PRIOR TO SHIFTING NC 24 TRAFFIC TO PROPOSED FINAL PATTERN IN AREA II, PHASE I, STEP 6 BETWEEN STA 1379+09+/- AND RAMPS A AND B:

- -Y48- (OVERLAND DRIVE) (FINAL SIGNAL) (TMP-133)
- US 421 / 701 SOUTH RAMPS (FINAL SIGNAL) (TMP-137)

THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE ALL WORK IN AREA II, PHASE I, STEP 6 OVER A SINGLE WEEKEND BETWEEN 7:00 PM ON FRIDAY TO 9:00 AM ON MONDAY.

STEP 6: USING RSD 1101.02, SHEETS 1, 2, 3 AND 7 OF 15, AND LAW ENFORCEMENT AS NEEDED, REVISE TRAFFIC SIGNALS, REVISE PAVEMENT MARKINGS AND INSTALL DEVICES ON NC 24 AND INTERSECTING -Y-LINES BETWEEN STA 1373+94 +/- AND RAMPS A AND B TO SHIFT TRAFFIC INTO PHASE II TEMPORARY FOUR-LANE, MEDIAN-DIVIDED TRAFFIC PATTERN SHOWN ON TMP-132 THROUGH TMP-137 AS FOLLOWS:

A. PLACE EXISTING SIGNALS INTO FLASH MODE. BAG SIGNAL HEADS AND BEGIN REMOVAL OF EXISTING SIGNALS AT WALMART, RUBY TUESDAYS AND SHIELDS STREET. BEGIN SIGNAL REVISIONS FOR SIGNAL AT NC 24 AND -Y49-/SR1 FOR PHASE II PATTERN (SEE TMP-135).

B. INSTALL TEMPORARY PAVEMENT MARKINGS (PAINT) FROM STA 1373+94 +/- TO STA 1379+44 +/- AS SHOWN ON TMP-132.

C. INSTALL TEMPORARY PAVEMENT MARKINGS (PAINT) IN THE FINAL PATTERN FOR THE FOLLOWING:

- -L- BETWEEN STA 1380+40+/- AND RAMP A/RAMP B (INCLUDING SOLID YELLOW EDGE LINE MARKINGS OUTLINING SHAPE OF PROPOSED MEDIANS);
- -Y47- (AIRPORT ROAD) FROM STA 10+50+/- TO STA 11+46+/- (SEE TMP-132)
- -Y48- (OVERLAND ROAD) FROM STA 10+85+/- TO STA 13+48+/- (SEE TMP-133)
- -Y49 (PIERCE STREET) FROM STA 10+83+/- TO STA 11+67+/- (SEE TMP-135)
- -SR1- FROM STA 10+75+/- TO STA 11+39+/- (SEE TMP-135)
- -Y50- (ROYAL LANE/SHAMROCK DRIVE) FROM STA 10+92+/- TO STA 16+10+/- (SEE TMP-136)
- US 421/701 RAMPS A & B FROM -RPA- STA 14+60+/- TO -RPB- STA 12+50+/- (STA TMP-137)
- ALL DRIVEWAYS AS SHOWN ON THE FINAL PAVEMENT MARKING PLANS
- INSTALL SOLID YELLOW EDGE LINE MARKINGS (PAINT) TO OUTLINE THE SHAPE OF PROPOSED MEDIANS ON -Y-LINES AND DRIVEWAYS.

D. COMPLETE SIGNAL REVISIONS FOR EXISTING LOCATIONS AND RETURN TO FLASH MODE.

E. SHIFT THE NC 24 TRAFFIC TO FINAL PATTERN BETWEEN STA 1379+09+/- AND RAMPS A AND B.

F. INSTALL MODULAR LANE SEPARATORS WITHIN OUTLINE OF MEDIANS ALONG LEFT TURN LANES AS SHOWN IN THE PLANS TO PREVENT SIDE STREET LEFT-TURN AND THROUGH MOVEMENTS. PLACE SKINNY DRUMS WITHIN OUTLINES OF PROPOSED RAISED MEDIANS AS SHOWN IN THE PLANS.

G. ACTIVATE FULL OPERATION FOR ALL SIGNALS AND OPEN TO PHASE II TRAFFIC PATTERN.

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
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APPROVED: DATE: 7/17/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASING
PHASE I

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2565I AT RAL2UA480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-98D

AREA II – PHASING

–L– STA. 1373+94 TO –L– STA. 1446+26

PHASE II

STEP 1: COMPLETE REMOVAL OF SIGNAL INSTALLATIONS AT ALONG NC 24 AT WALMART, RUBY TUESDAYS AND SHIELDS STREET.

NC 24 (-L-) FROM -Y47- TO -RPA-/-RPB-

USING RSD NO. 1101.02, SHEET 3 OF 15, TEMPORARILY CLOSE THE LEFT LANE OF NC 24 AND INCREMENTALLY CONSTRUCT THE PROPOSED RAISED MEDIANS, ASSOCIATED DRAINAGE, AND WEDGING OF EXISTING INSIDE LANES ON NC 24 IN DISCRETE SEGMENTS BETWEEN -Y47- AIRPORT ROAD AND RAMP A/RAMP B SUBJECT TO THE FOLLOWING REQUIREMENTS (SEE TMP-131 AND TEMP-137):

- THERE SHALL BE NO MORE THAN ONE LEFT LANE CLOSURE ON NC 24 AT ANY ONE TIME.
- CONSTRUCTION SHALL ONLY BE PERFORMED BEHIND THE LEFT LANE CLOSURE ON ONE SIDE OF NC 24 AT A TIME.
- A LEFT LANE CLOSURE SHALL NOT EXCEED 1500 FEET IN LENGTH, INCLUDING TAPERS.
- ALL EXISTING LANES IN THE OPPOSITE DIRECTION OF TRAVEL FROM THE LEFT LANE CLOSURE SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES (EXCEPT AS NOTED IN STEP 1A BELOW FOR OVERNIGHT CONSTRUCTION OF DRAINAGE IN MEDIANS).

ONCE THE LEFT LANE IS CLOSED, THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK BEFORE REOPENING THE LEFT LANE TO TRAFFIC (SEE TMP-131):

A. COMPLETE DRAINAGE CONSTRUCTION IN MEDIANS, INCLUDING STRUCTURES PARTIALLY CONSTRUCTED BELOW GRADE IN PRIOR STEP. WHERE DRAINAGE CONSTRUCTION NECESSITATES CLOSING THE LEFT LANE OF THE TWO LANES IN THE OPPOSING DIRECTION, PERFORM SUCH WORK ONLY DURING OVERNIGHT PERIODS BETWEEN 8:00 PM AND 9:00 AM. USE RSD 1101.02, SHEET 3 AND 7 OF 15 TO ALTERNATELY CLOSE ONE OF THE TWO LANES IN THE OPPOSING DIRECTION.

B. CONSTRUCT PROPOSED MEDIAN CURB AND GUTTER, AND MONOLITHIC MEDIANS ON SIDE OF -L- ADJACENT TO CLOSED LEFT LANE.

C. WEDGE LATERALLY ACROSS THE ADJACENT EXISTING LANES TO PROVIDE POSITIVE DRAINAGE ACROSS THE PAVEMENT AND SMOOTHLY TIE INTO THE EXISTING PAVEMENT. USE RSD 1101.02, SHEET 7 OF 15 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE OUTSIDE (RIGHT) LANE DURING OVERNIGHT PERIODS BETWEEN 8:00 PM AND 9:00 AM WHEN WEDGING ENCROACHES ACROSS LEFT THROUGH LANE THAT IS BEING MAINTAINED.

D. REPLACE EXISTING PHASE II PAVEMENT MARKINGS CONCEALED BY THE PAVEMENT WIDENING AND WEDGING.

E. REOPEN LEFT LANE TO TRAFFIC IN ORIGINAL PHASE II PATTERN AND REPEAT PROCEDURE ABOVE FOR NEXT 1500-FT SEGMENT OF NC 24.

-Y-LINES AND DRIVEWAYS

USING RSD NO. 1101.02, SHEETS 1 AND 2 OF 15, FLAGGERS AND LAW ENFORCEMENT (AT SIGNALIZED INTERSECTIONS), COMPLETE DRAINAGE CONSTRUCTION AND CONSTRUCT MONOLITHIC ISLANDS FOR THE FOLLOWING -Y-LINES AND DRIVEWAYS:

- -Y47- (AIRPORT ROAD) (TMP-132)
- -Y48- (OVERLAND ROAD) (TMP-133)
- -Y49- (PIERCE STREET) / -SR1- (TMP-135)
- -Y50- (ROYAL LANE/SHAMROCK DRIVE) (TMP-136)
- DRIVEWAYS (TMP-134, TMP-136)

STEP 2: PLACE FINAL LAYER OF SURFACE COURSE AND TEMPORARY PAVEMENT MARKINGS (PAINT) AND TEMPORARY MARKERS IN THE PROPOSED FINAL PATTERN (SEE PAVEMENT MARKING PLANS) BETWEEN -Y47- (AIRPORT ROAD) AND EAST END OF PROJECT AS FOLLOWS:

A. USING RSD 1101.02, SHEETS 3 AND 7 OF 15, LAW ENFORCEMENT AND FLAGGERS, PLACE TRAFFIC ON OUTSIDE LANES AND INSTALL FINAL SURFACE LAYER AND TEMPORARY PAVEMENT MARKINGS PAINT FOR INSIDE LANES.

B. USING RSD 1101.02, SHEETS 3 AND 4 OF 15, LAW ENFORCEMENT AND FLAGGERS, SHIFT TRAFFIC TO INSIDE LANES AND INSTALL FINAL SURFACE LAYER AND TEMPORARY PAVEMENT MARKINGS (PAINT) FOR OUTSIDE LANE.

C. USING RSD 1101.02, SHEETS 1 AND 2 OF 15, PLACE FINAL SURFACE LAYER AND TEMPORARY PAVEMENT MARKINGS (PAINT) IN PROPOSED FINAL PATTERN ON ALL -Y-LINES FROM -Y47- (AIRPORT ROAD) TO EAST END OF THE PROJECT.

D. USING THE SAME OVERNIGHT RAMP CLOSURES AND DETOURS USED IN PHASE I, PLACE FINAL LAYER AND TEMPORARY MARKINGS (PAINT) IN PROPOSED FINAL PATTERN ON RAMPS A, B, C AND D (ONE RAMP CLOSURE AT A TIME).

STEP 3: COORDINATE WITH AREA I CONSTRUCTION TO COMPLETE MEDIAN ISLAND WORK AND INSTALLATION OF FINAL SURFACE LAYER IN AREA II BETWEEN STA 1373+94+/- TO -Y47- (AIRPORT ROAD) (SEE TMP-97).

- THE TRAFFIC SHIFT AT THE END OF AREA I, PHASE III, STEP 2 SHALL INCLUDE REMARKING AND ADDING APPROPRIATE DEVICES ON THE SECTION OF AREA TWO BETWEEN STA 1373+94+/- AND -Y47- (AIRPORT ROAD) TO DIRECT TRAFFIC TO THE OUTSIDE LANES AS SHOWN ON TMP-97.
- ALL OF THE TRAFFIC CONTROL STEPS FOR AREA I, PHASE IV SHALL INCLUDE THE CONSTRUCTION OF THE MEDIAN ISLAND (TMP-97), INSTALLATION OF THE FINAL SURFACE LAYER, AND ALL REMAINING WORK NECESSARY TO COMPLETE CONSTRUCTION BETWEEN 1373+94+/- AND -Y47- (AIRPORT ROAD).

STEP 4: ALL FINAL PAVEMENT MARKINGS FOR AREA II WILL BE INSTALLED AT THE COMPLETION OF ALL OTHER WORK FOR BOTH AREA I AND AREA II. COMPLETE THE FINAL PAVEMENT MARKINGS AS INSTRUCTED IN AREA I, PHASE IV, STEP 5 (SEE TMP-3C).

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASING
PHASE II

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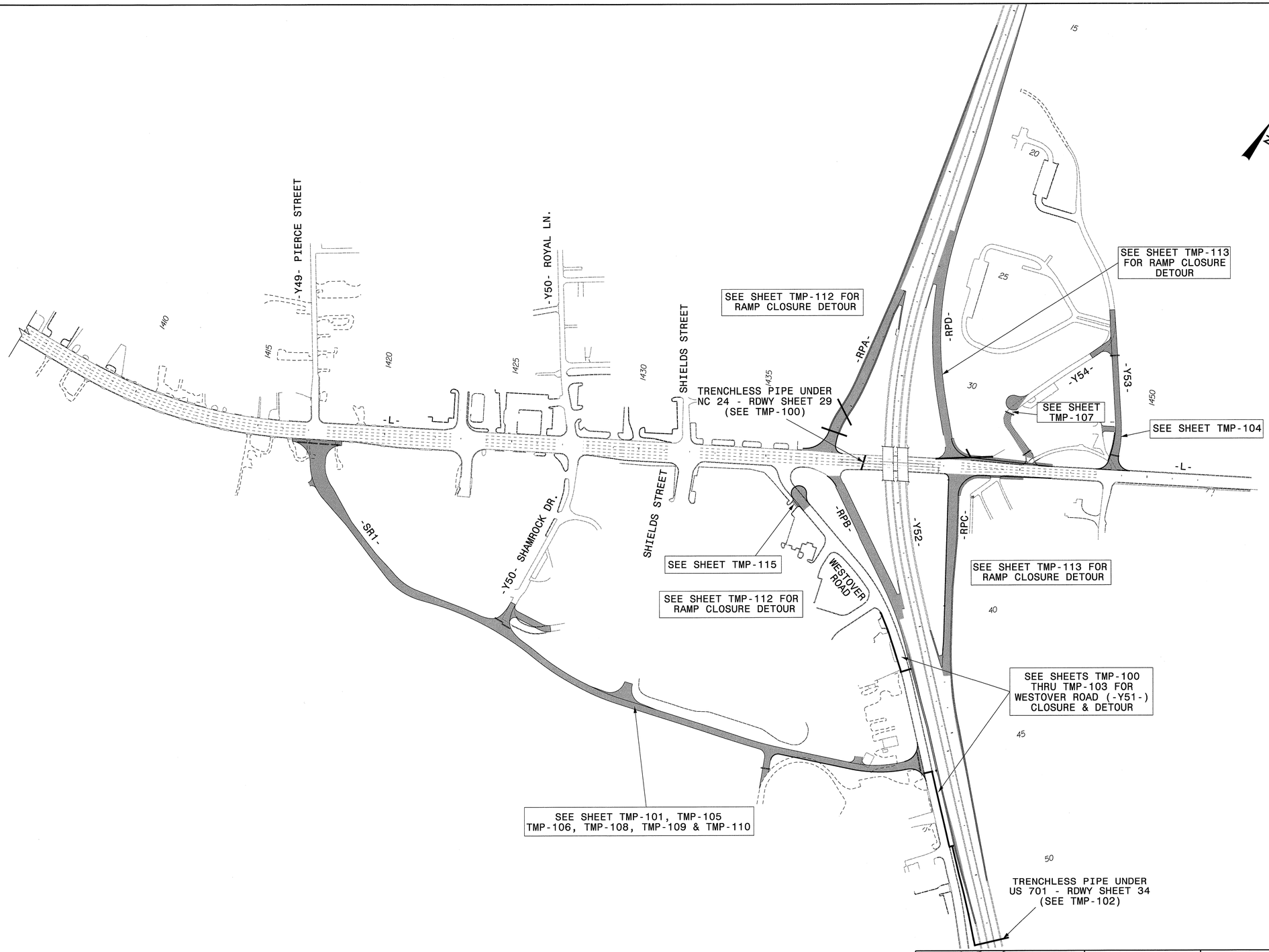
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-99



APPROVED: J. Todd Brooks DATE: 6/19/13

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AREA II
PHASE I, STEPS 1 & 2
OVERVIEW
NC 24 (-L-), -RPA-, -RPB-, -RPC-, -RPD-, -Y50-, -Y51-, -Y52-, -Y53-, -Y54- & -SR1-

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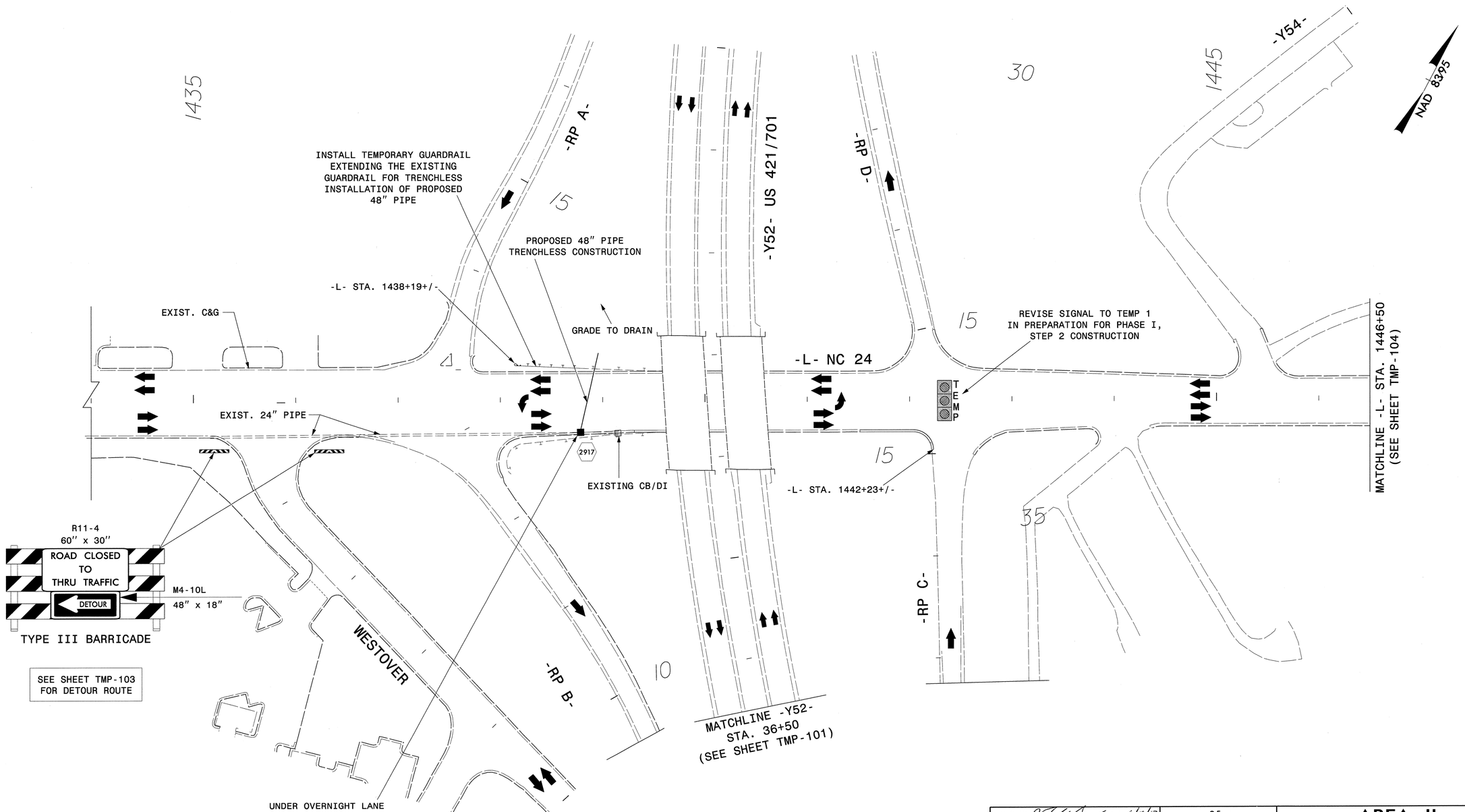

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AREA II PHASE I DETAIL STEP 1 EXISTING NC24, –L–, –Y52–, –RPA–, –RPB–, –RPC–, –RPD–, & WESTOVER ROAD

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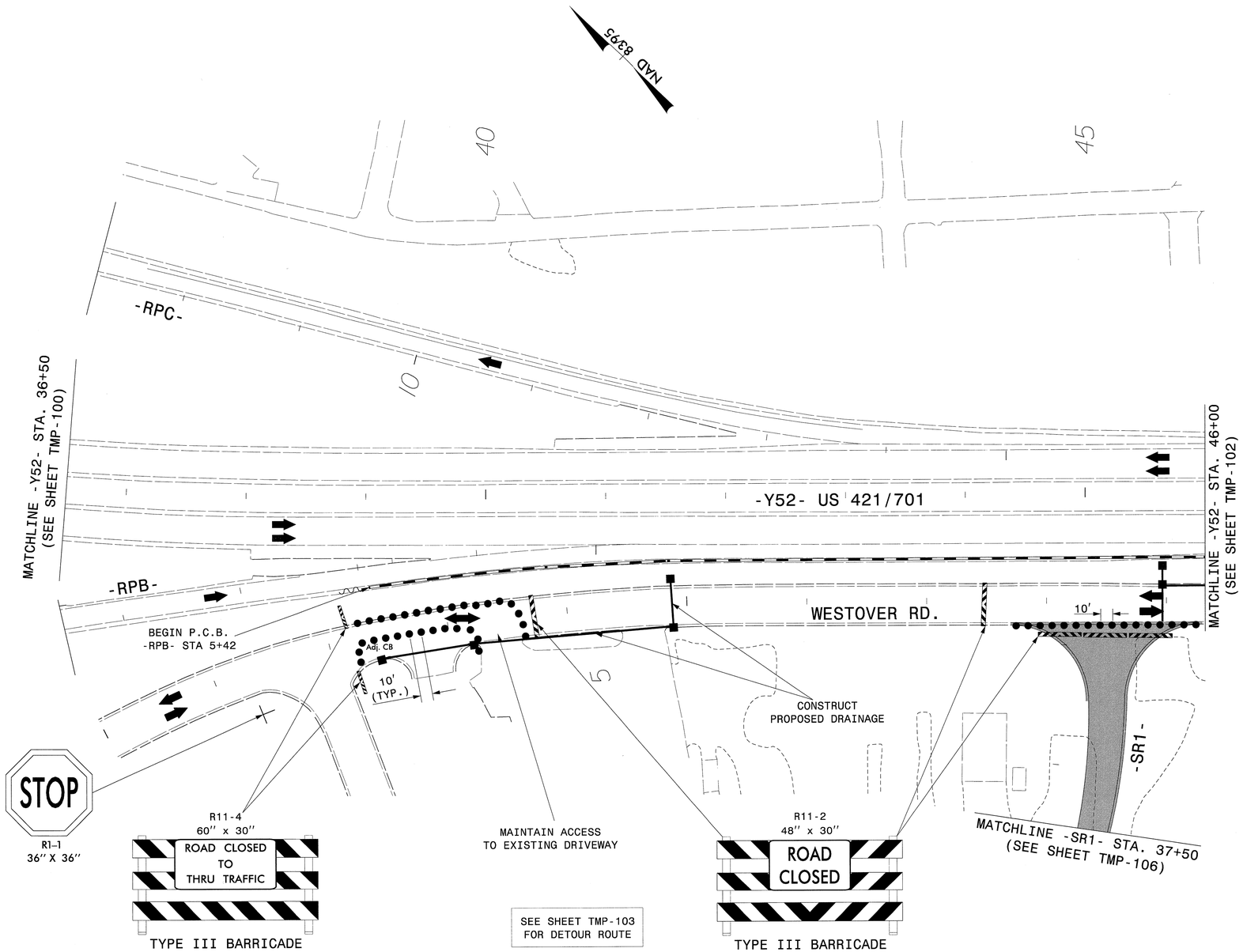

SEE SHEET TMP-103
FOR DETOUR ROUTE

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

AREA II
PHASE I DETAIL
STEP 1
-Y52-, -RPB-, -RPC-, & WESTOVER ROAD

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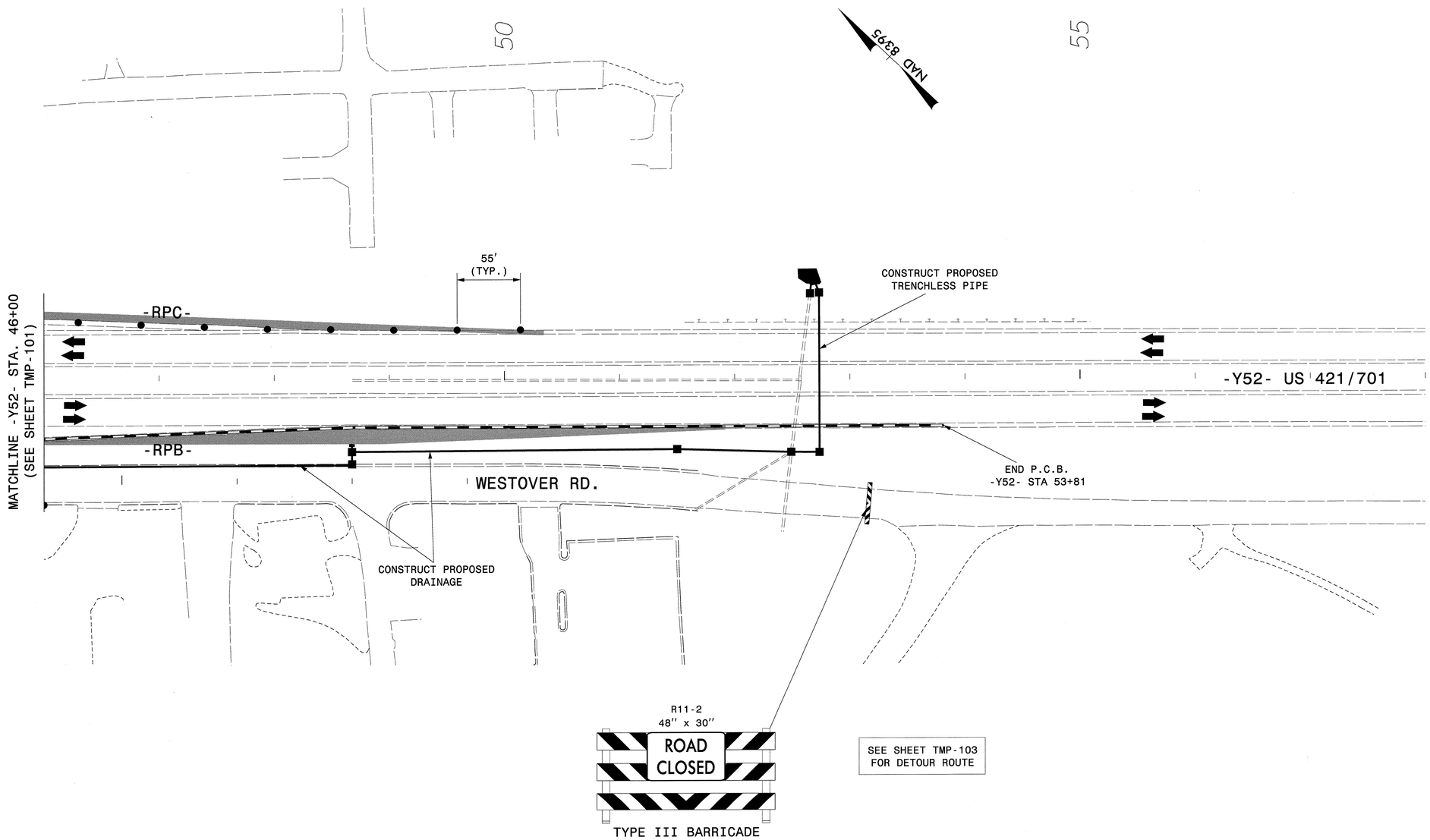

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AREA II
PHASE I DETAIL
STEP 1
–Y52–, –RPB–, –RPC–, & WESTOVER ROAD

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R-2303D	TMP-103

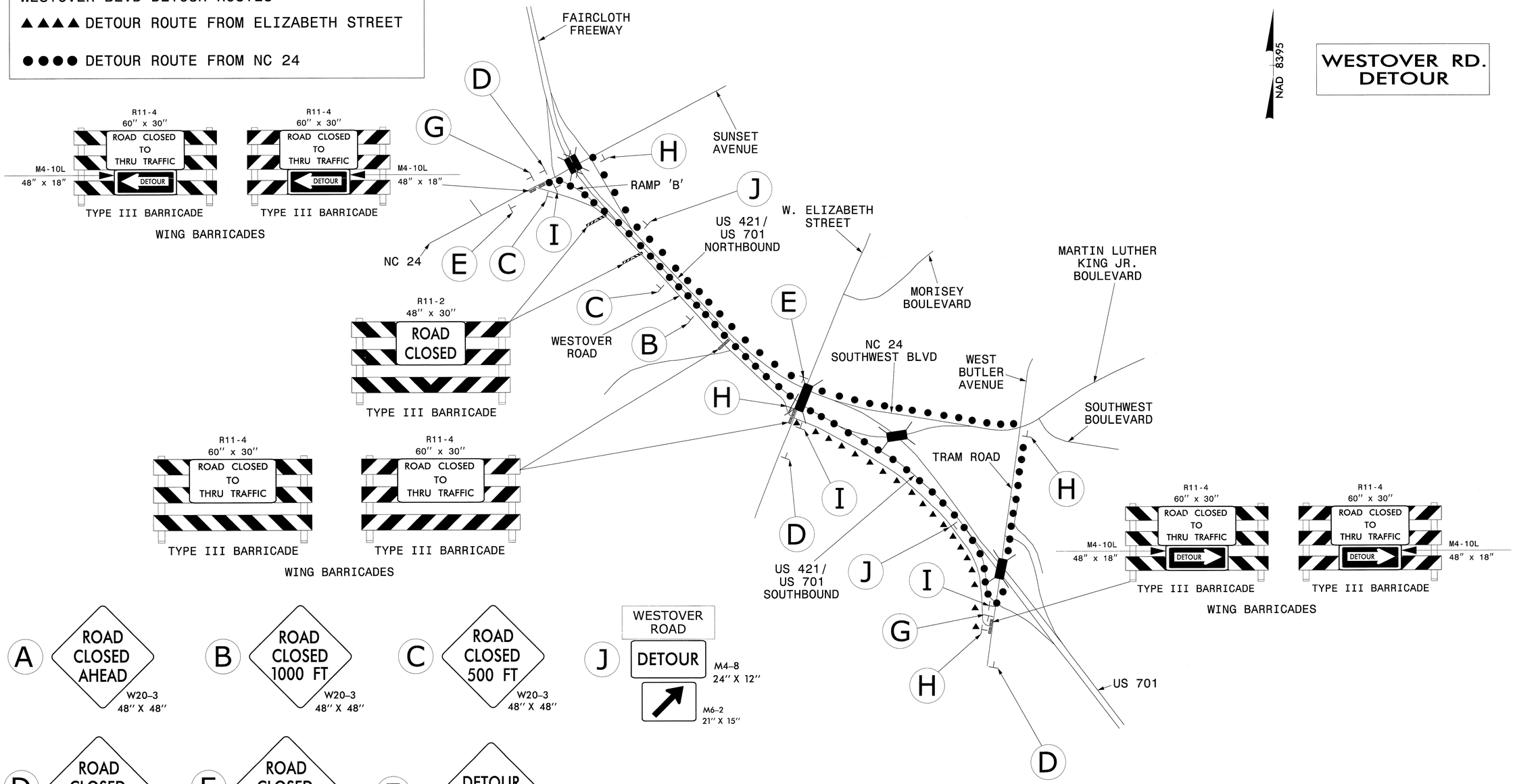
WESTOVER BLVD DETOUR ROUTES

▲▲▲▲ DETOUR ROUTE FROM ELIZABETH STREET

●●●● DETOUR ROUTE FROM NC 24

NAD 83/95

WESTOVER RD. DETOUR



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WESTOVER ROAD DETOUR

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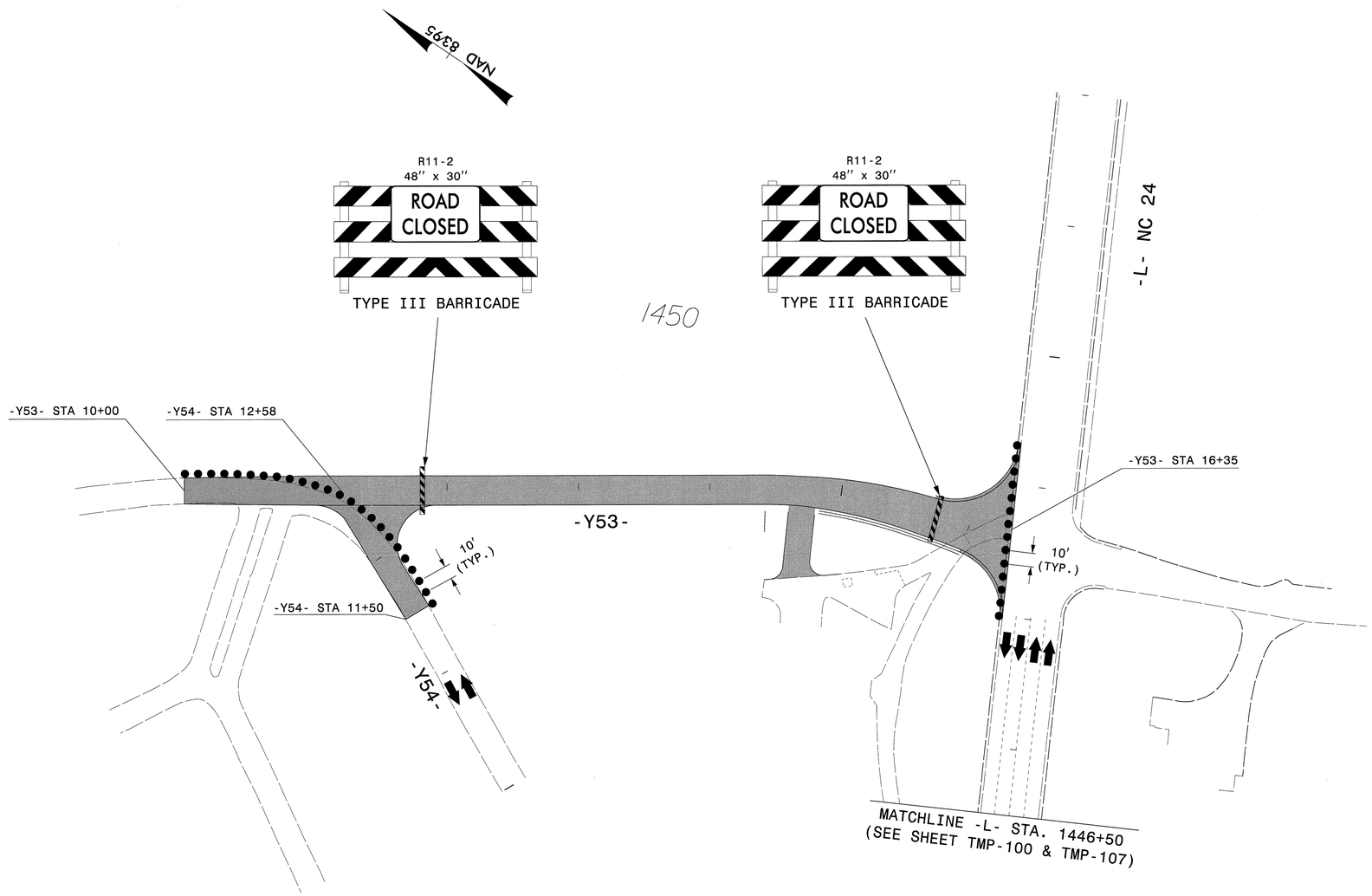

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AREA II
PHASE I DETAIL
STEPS 1 & 2
EXISTING NC24,
-L-, -Y53- & -Y54-

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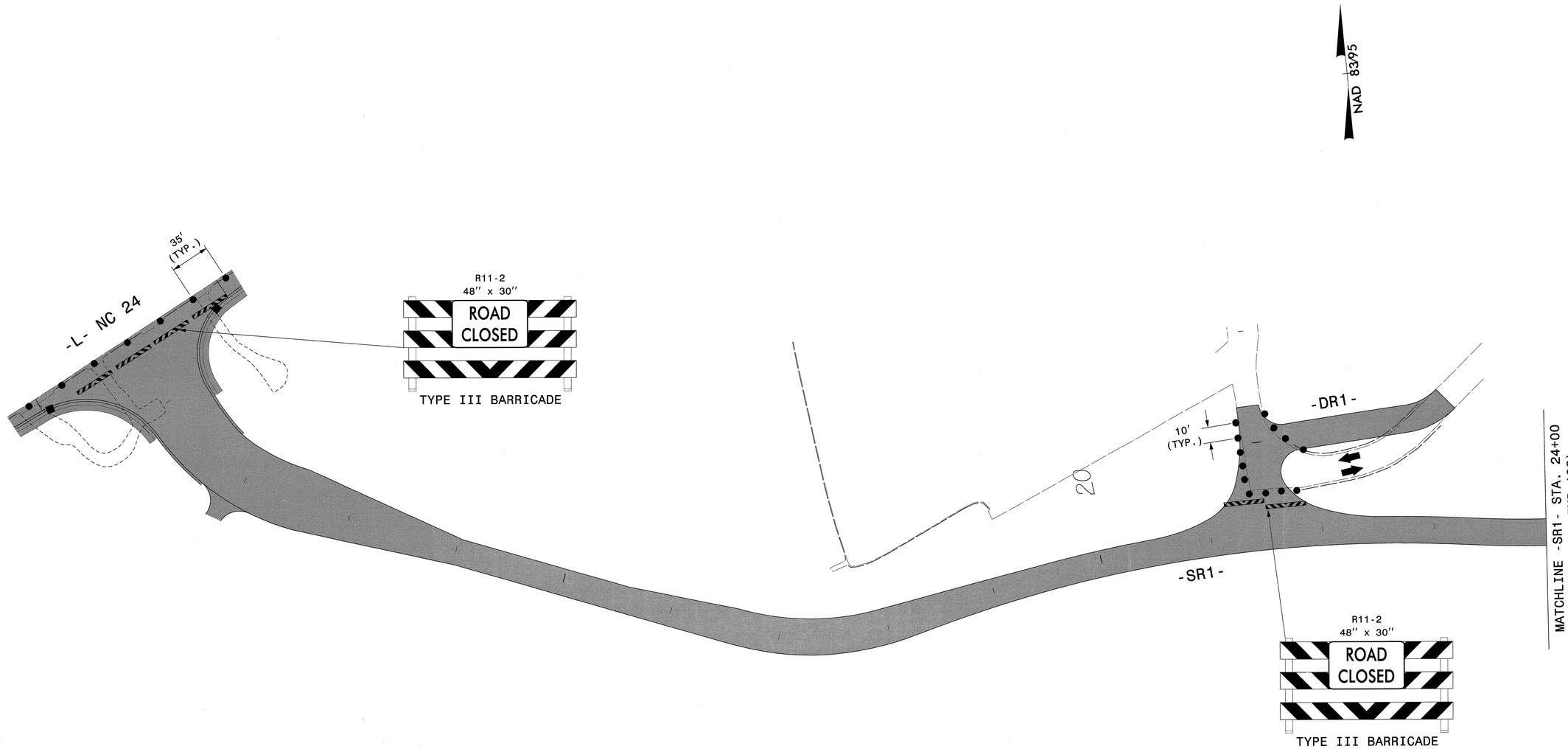

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AREA II
PHASE I DETAIL
STEPS 1 & 2
–SR1–

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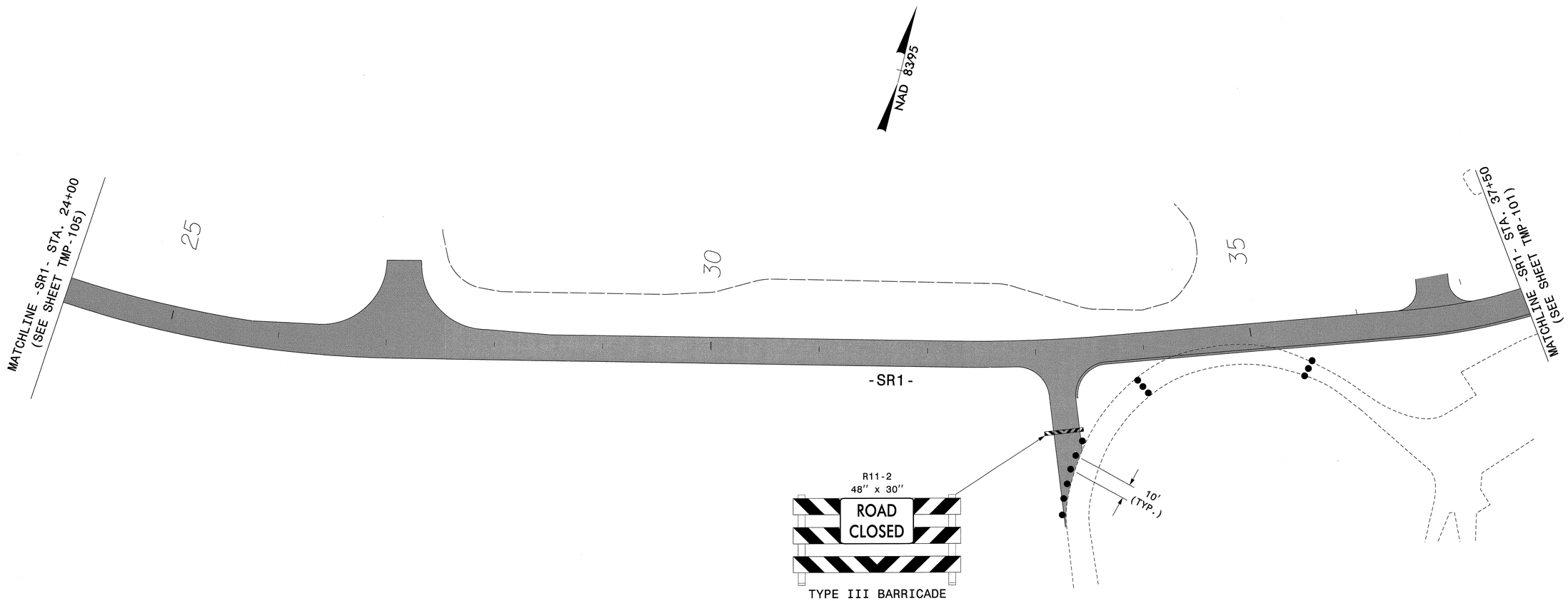

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AREA II
PHASE I DETAIL
STEPS 1 & 2
-SR1-

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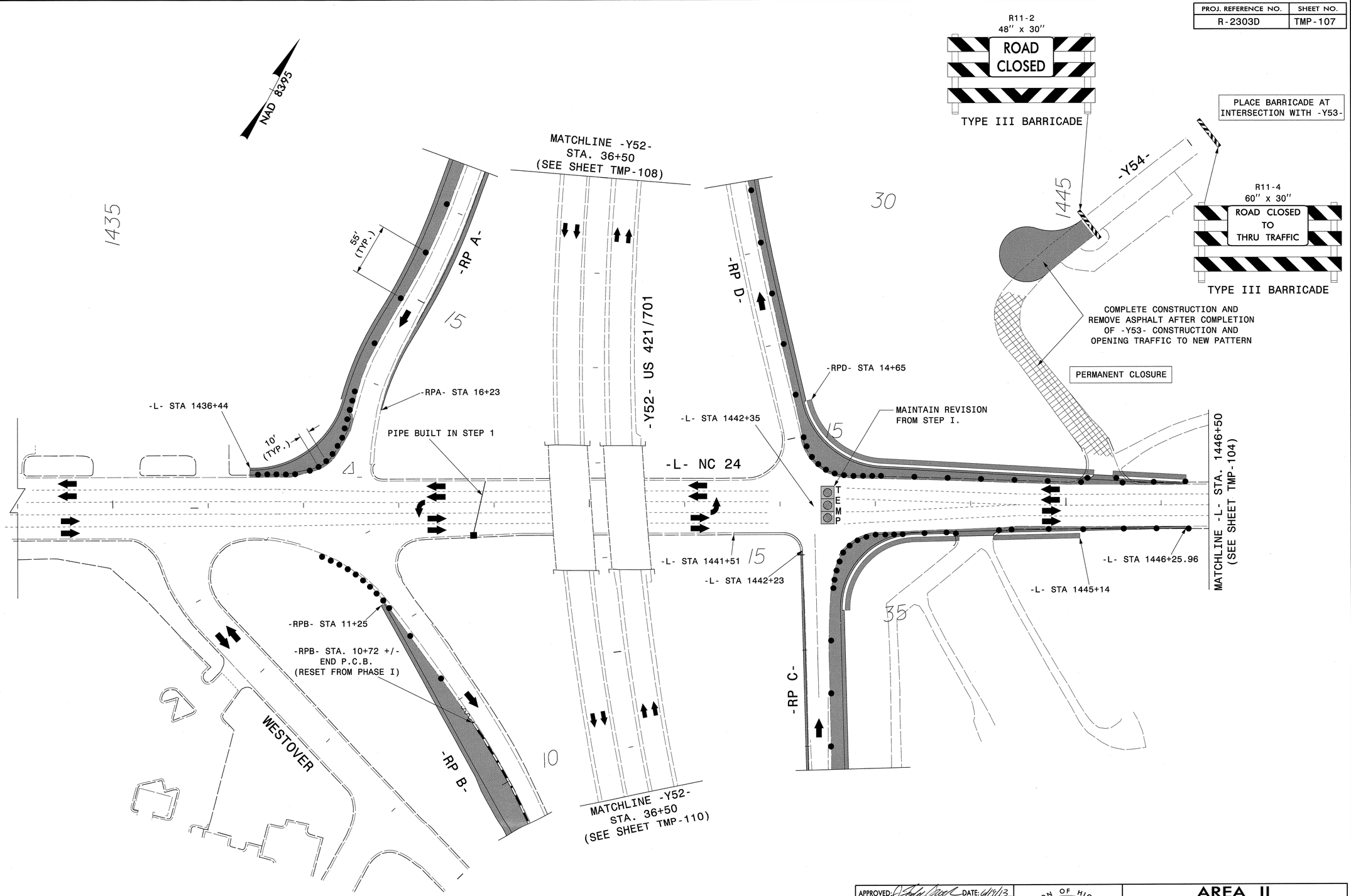

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AREA II PHASE I DETAIL STEP 2 EXISTING NC24, -L-, -Y52-, -Y53-, -RPA-, -RPB-, -RPC-, -RPD-, & WESTOVER ROAD

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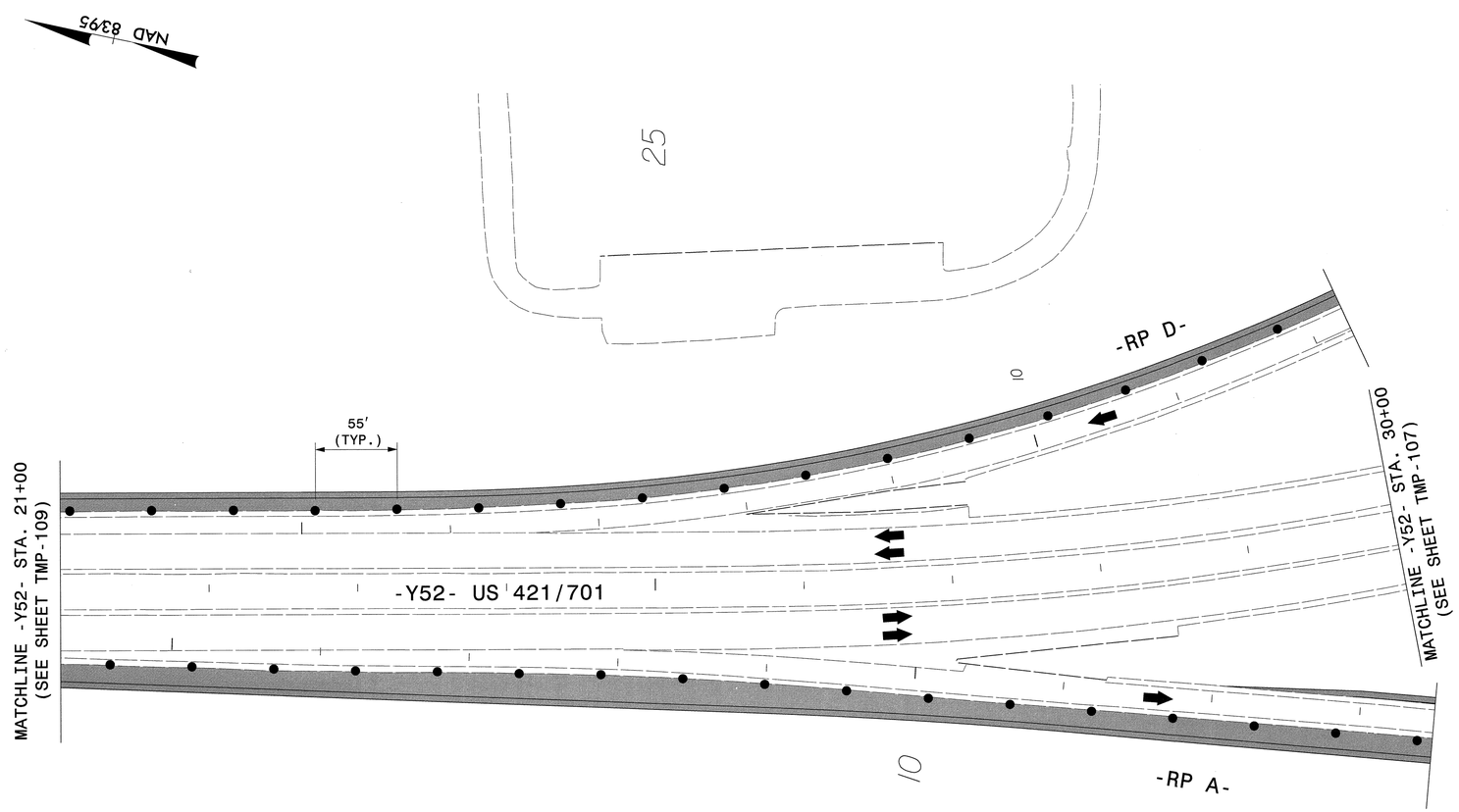

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APPROVED: J. Todd Brooks DATE: 6/19/13

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AREA II
PHASE I DETAIL
STEP 2
–Y52–, –RPA– & –RPD–

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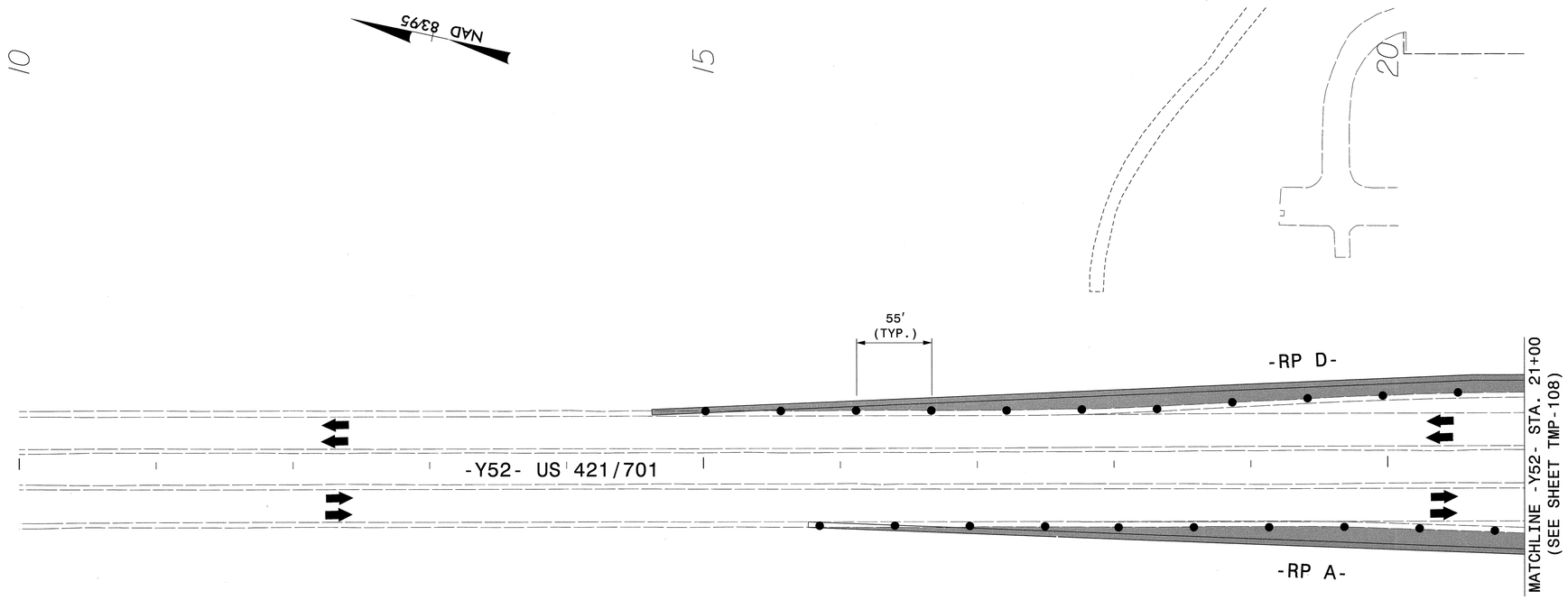

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AREA II
PHASE I DETAIL
STEP 2
–Y52–, –RPA– & –RPD–

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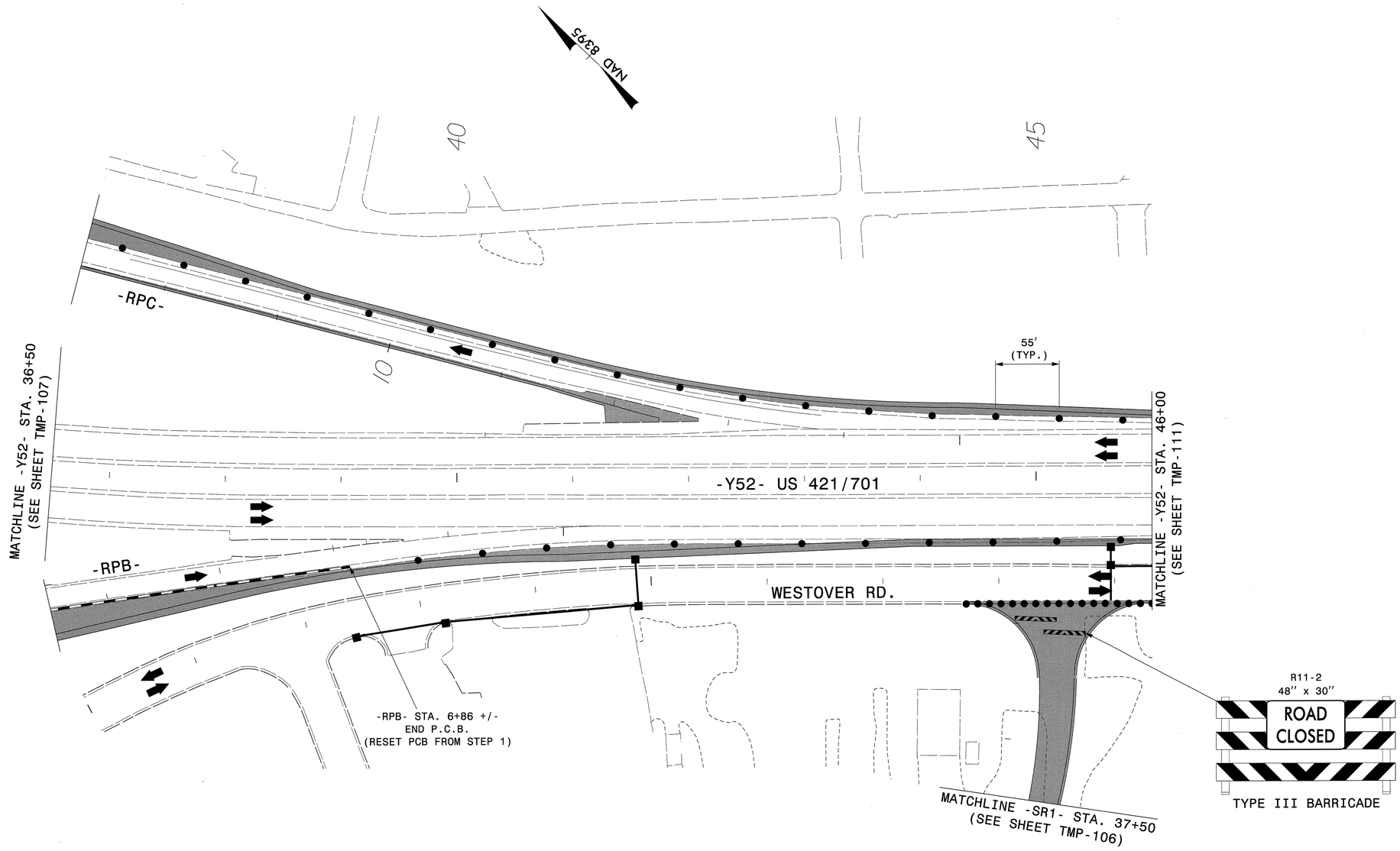

APPROVED: J. Todd Brooks DATE: 4/19/13

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 2 –Y52–, –RPB–, –RPC–, –SR1– & WESTOVER ROAD

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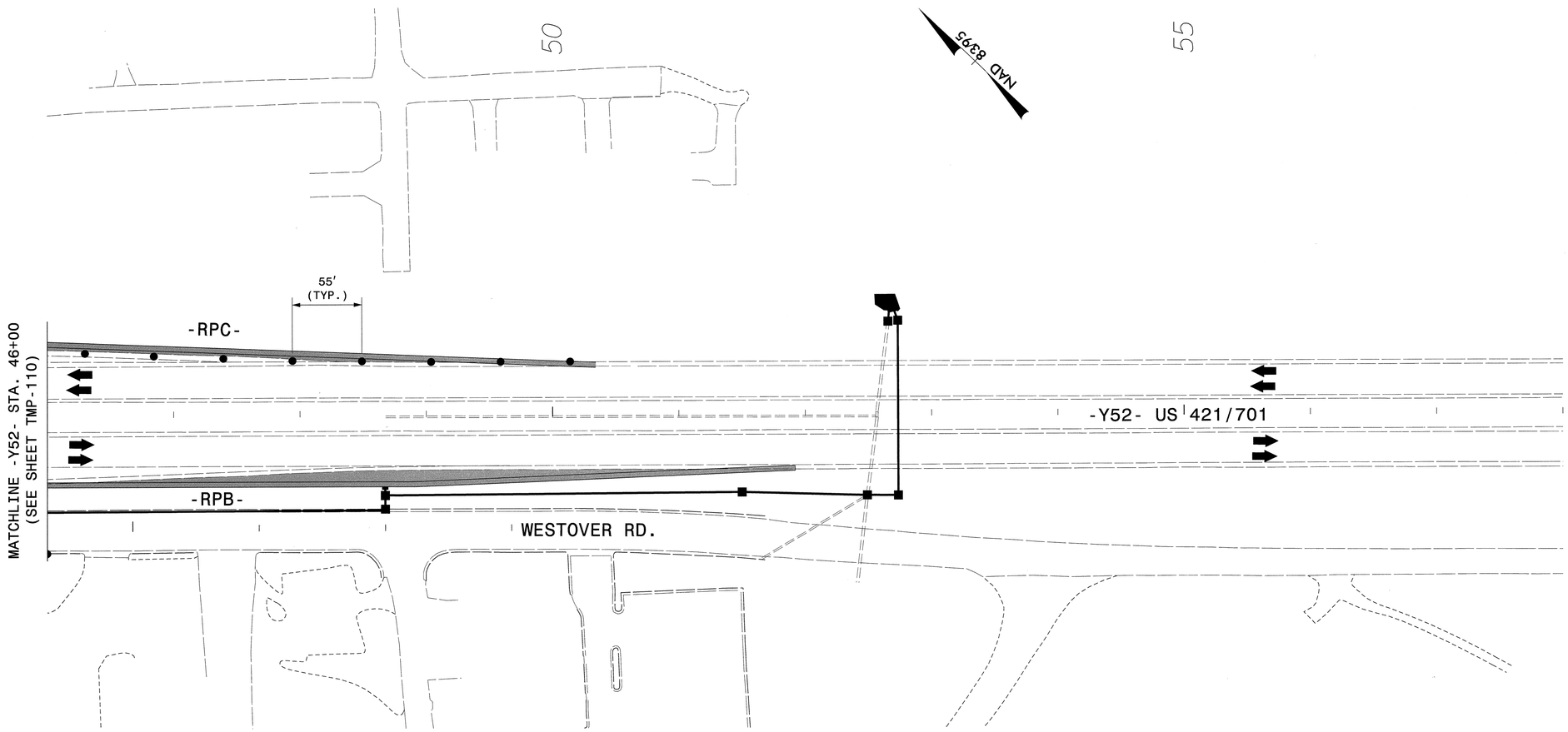

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AREA II PHASE I DETAIL STEP 2 –Y52–, –RPB–, –RPC–, & WESTOVER ROAD

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R-2303D	TMP-112

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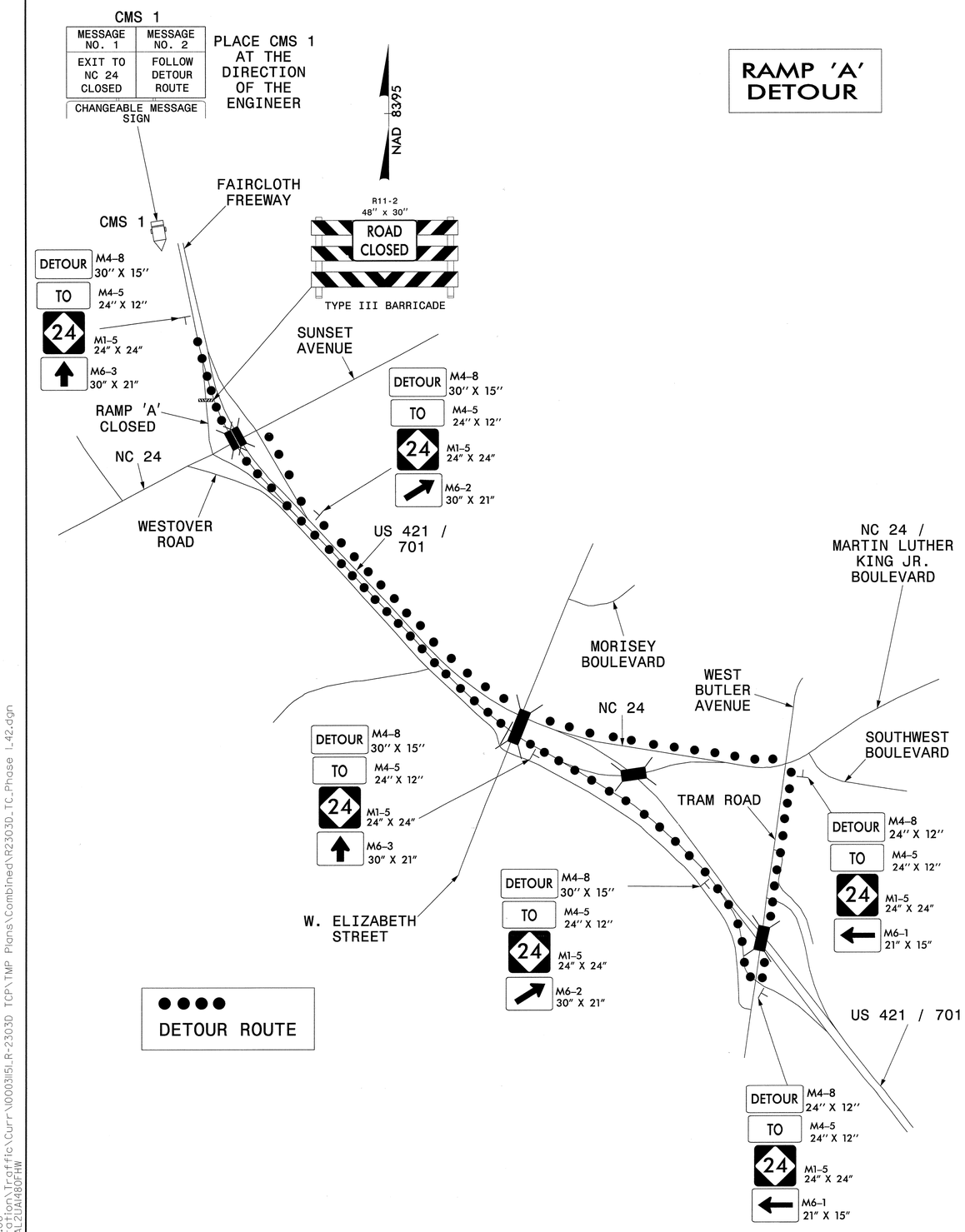
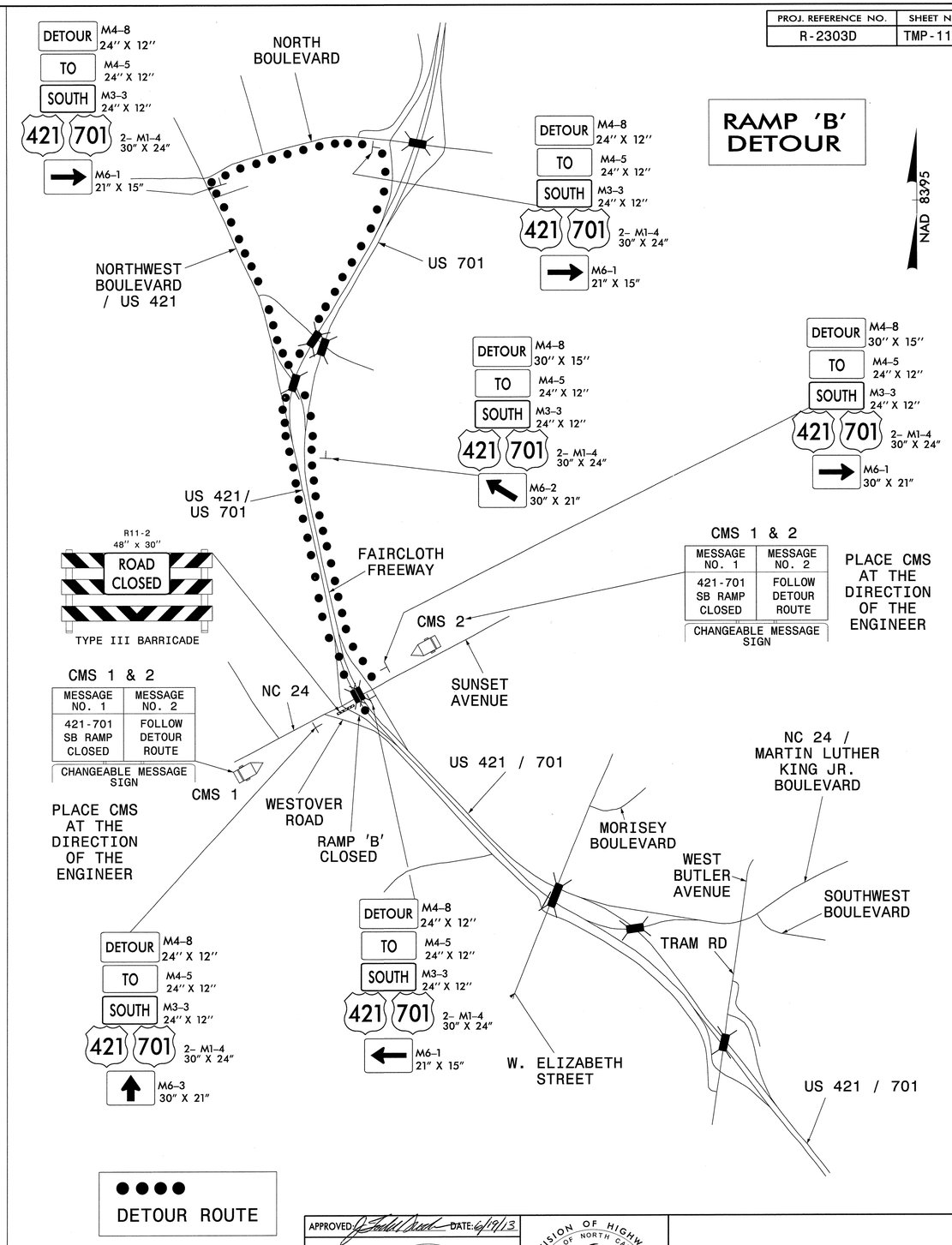


RAMP 'B' DETOUR



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RAMP A & RAMP B DETOURS

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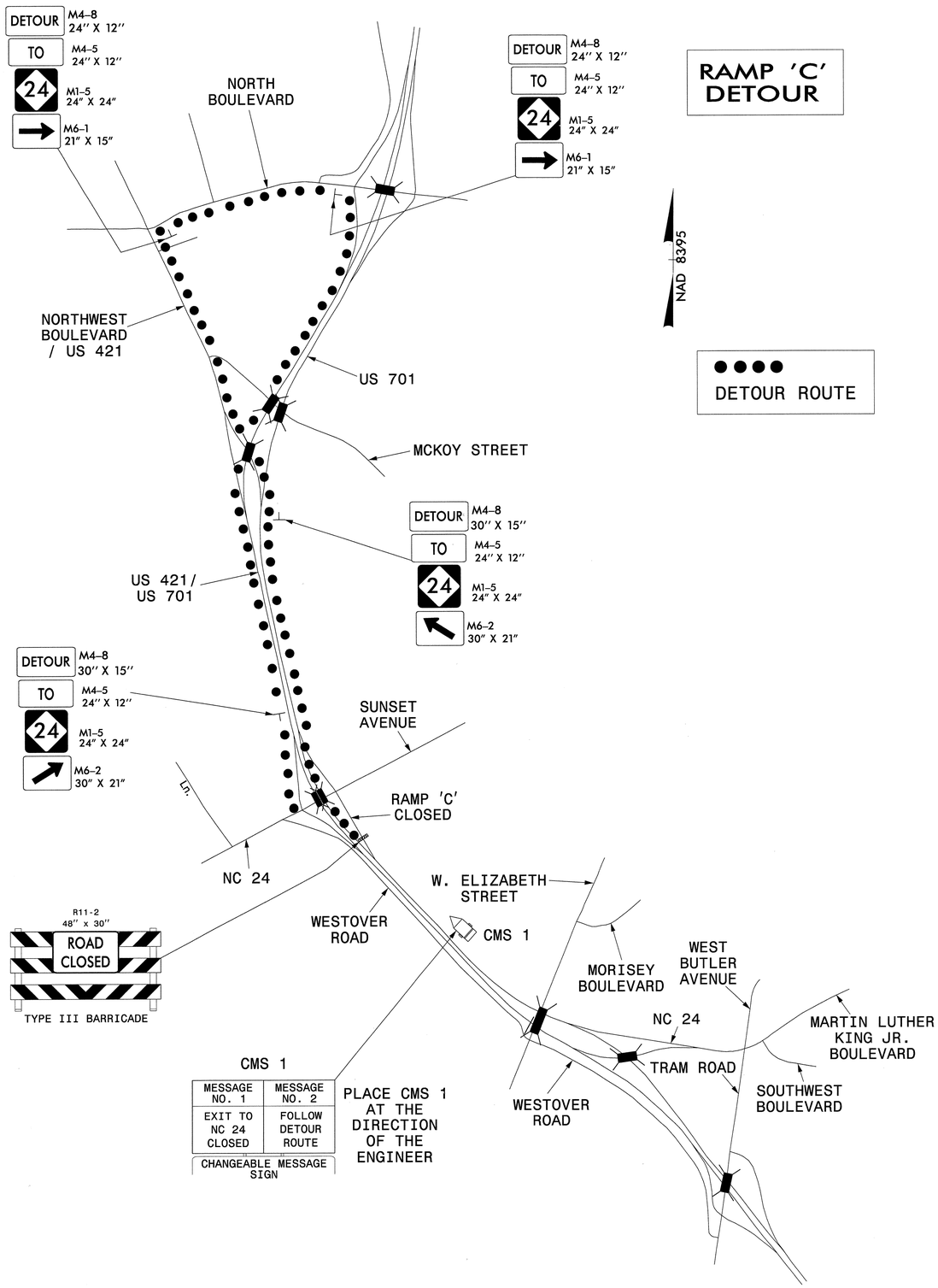
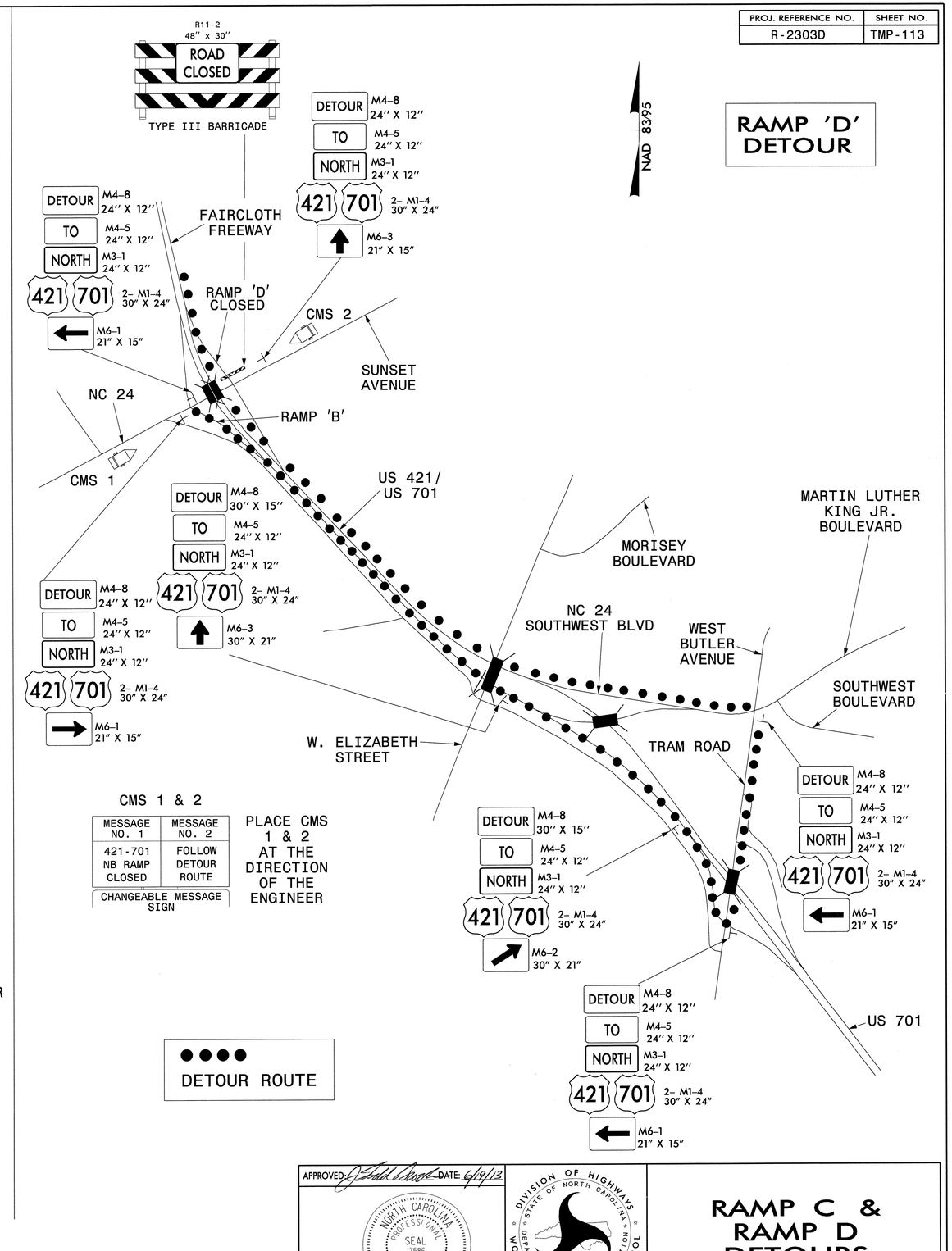
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-113





APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

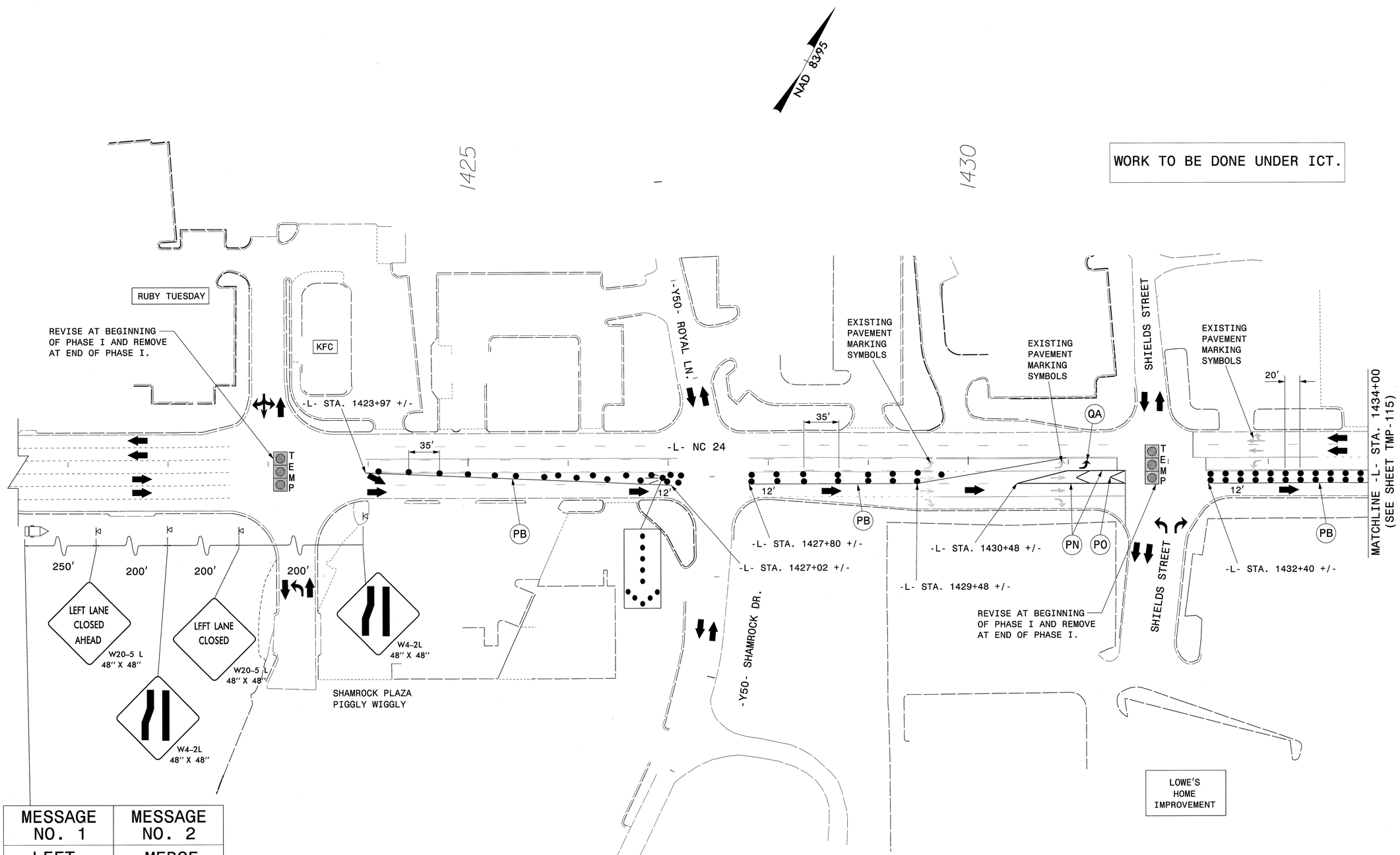
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

RAMP C & RAMP D DETOURS

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
O:\Transportation\Traffic\Curr\10003115L_R-2303D TCP\TMP Plans\Combined\R2303D_TC_Phase 1_43.dgn
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-114



MESSAGE NO. 1	MESSAGE NO. 2
LEFT LANE CLOSED	MERGE RIGHT

CHANGEABLE MESSAGE SIGN

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 3 EXISTING NC24, -L-, -Y50-, & SHIELDS STREET

ATKINS
1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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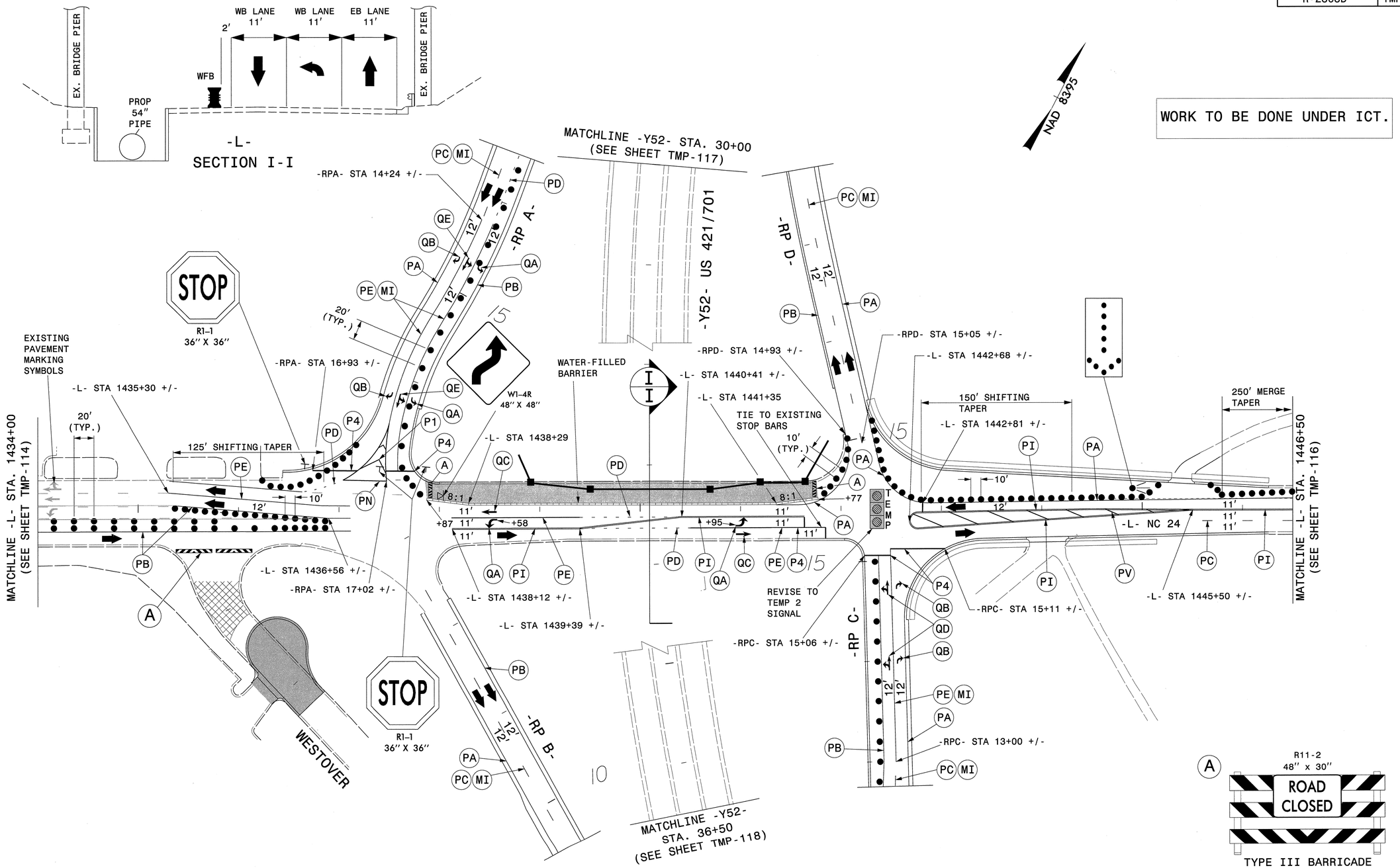
13833 AT RAL2UA1480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-115



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 3 EXISTING NC24, –L–, –Y52–, –RPA–, –RPB–, –RPC–, –RPD–, & WESTOVER ROAD

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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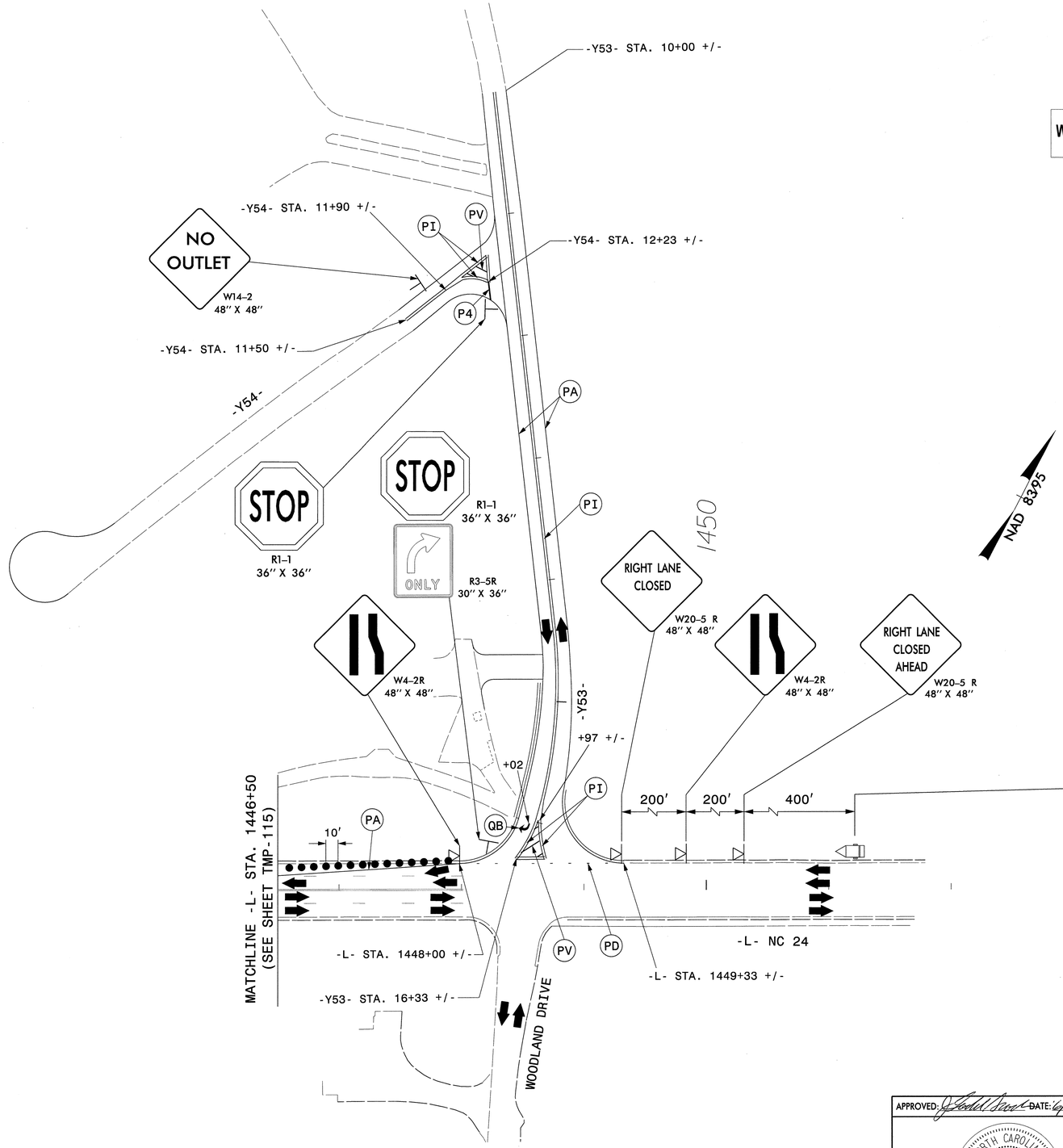
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-116

WORK TO BE DONE UNDER ICT.



MESSAGE NO. 1	MESSAGE NO. 2
RIGHT LANE CLOSED	MERGE LEFT

CHANGEABLE MESSAGE SIGN

APPROVED: DATE: 6/19/13

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RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

AREA II
PHASE I DETAIL
STEP 3
-L-, EXISTING NC24, -Y53-, -Y54- WOODLAND DRIVE

20-JUN-2013 09:31
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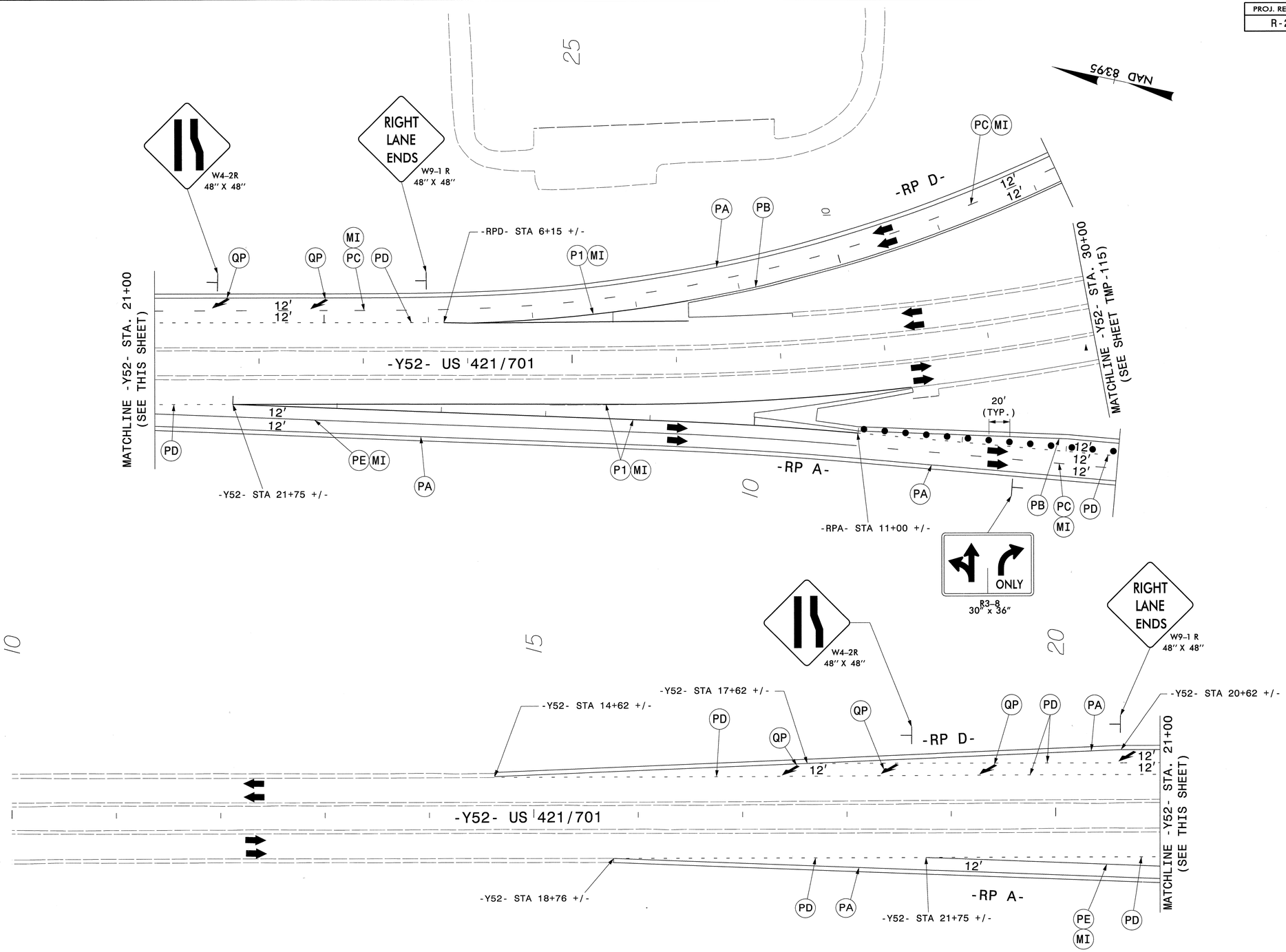
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-117



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 3 –Y52–, –RPA– & –RPD–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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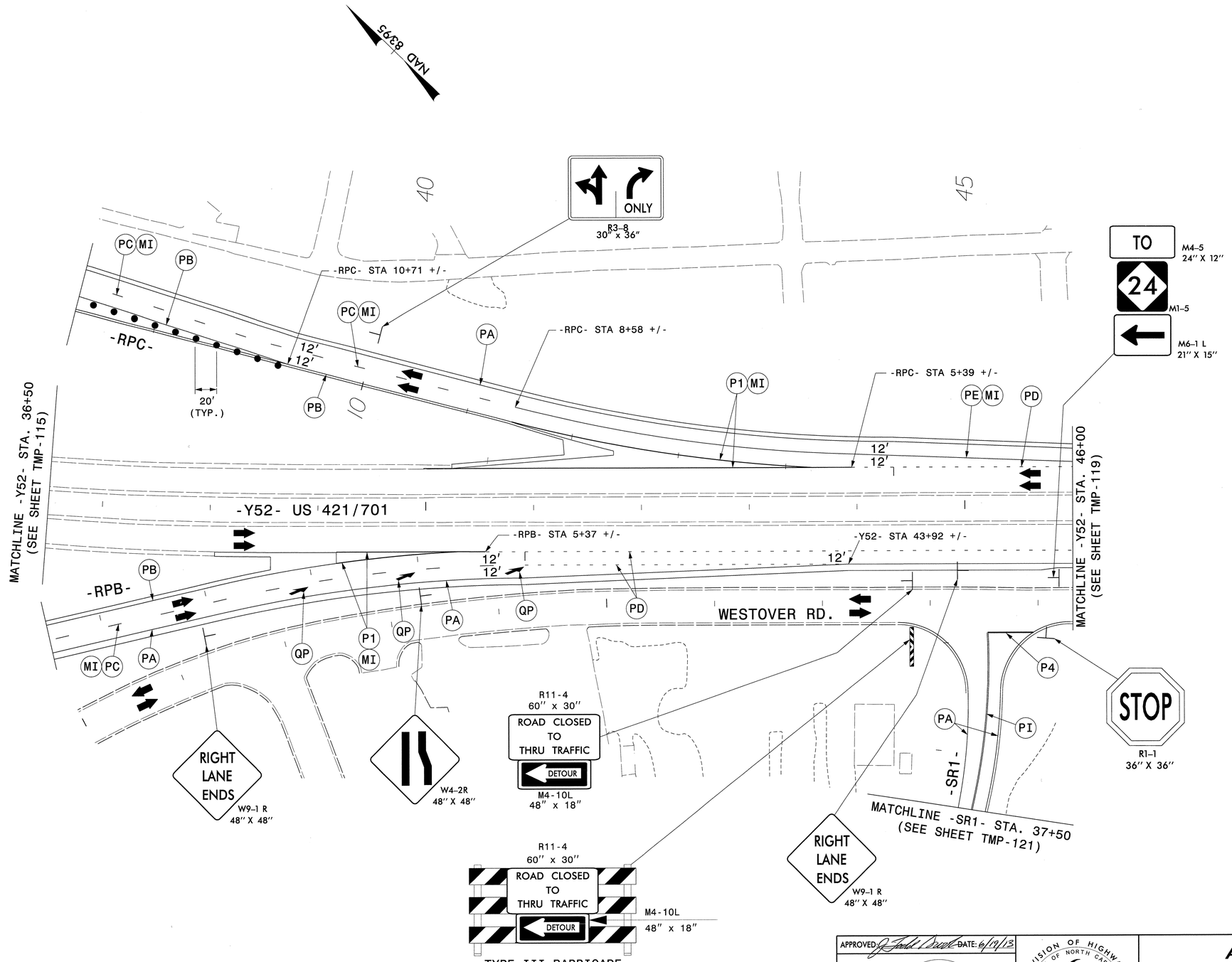
R-2303D	TMP-118



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 3 –Y52–, –RPB–, –RPC–, –SR1– & WESTOVER ROAD

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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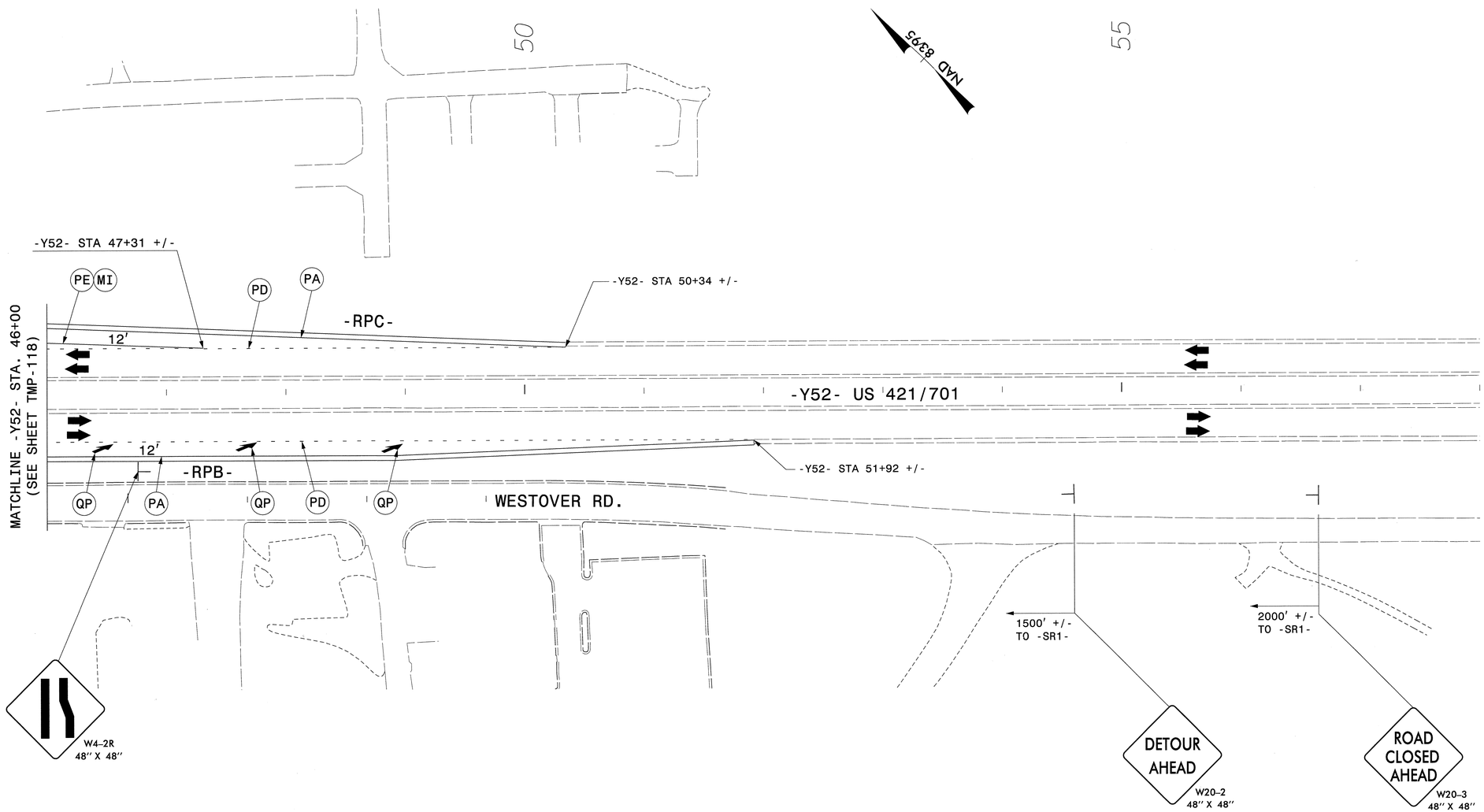
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-119



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA II
PHASE I DETAIL
STEP 3
–Y52–, –RPB–, –RPC–, & WESTOVER ROAD

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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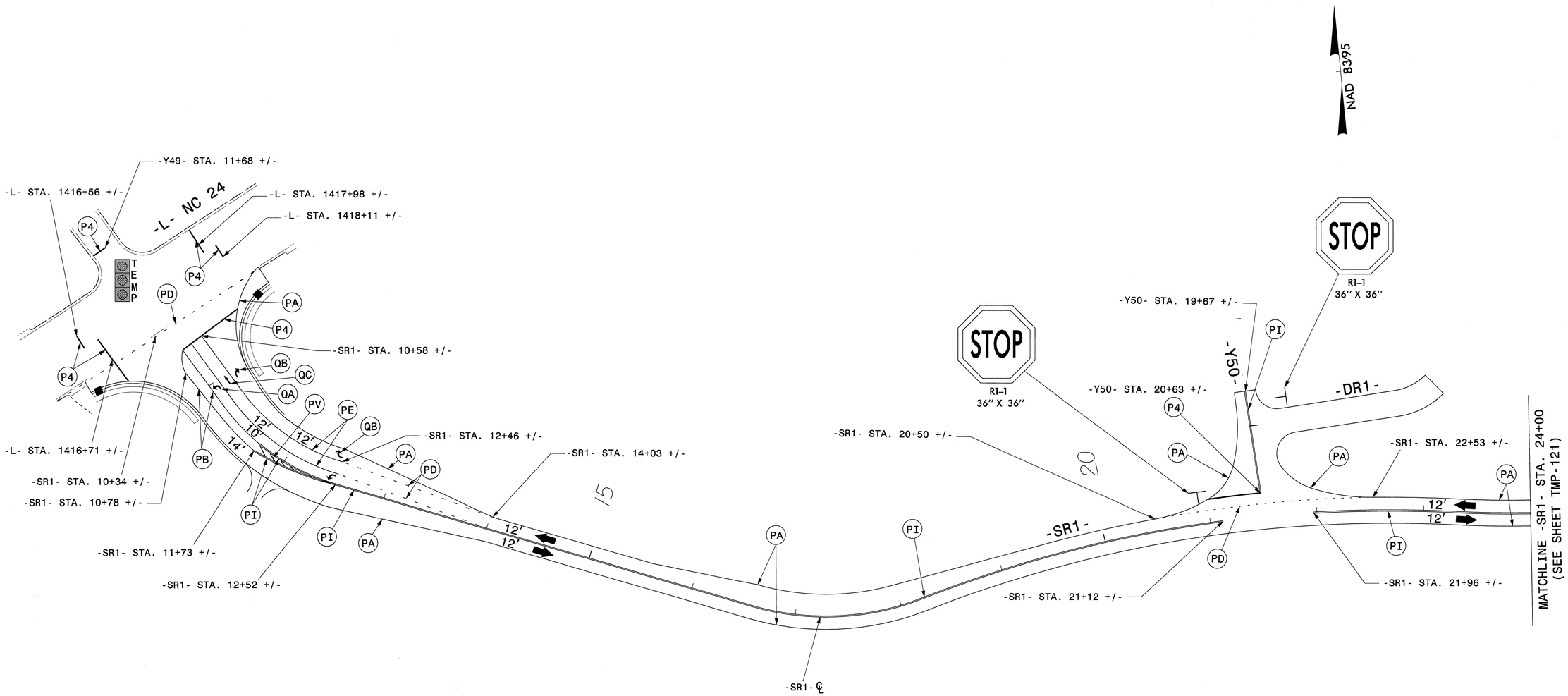
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-120



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 3 EXISTING NC24, -L-, -Y50-, & -SR1-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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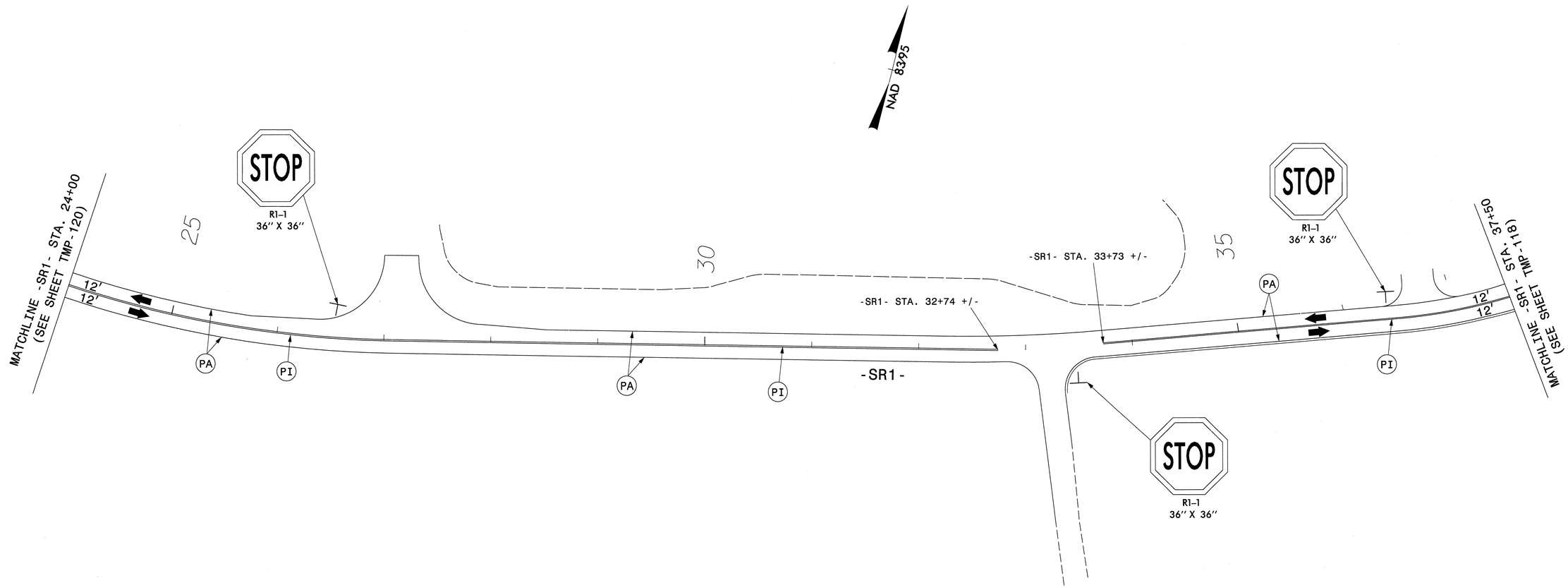
25651 AT RAL2UAI480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-121



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASE I DETAIL
STEP 3
-SR1-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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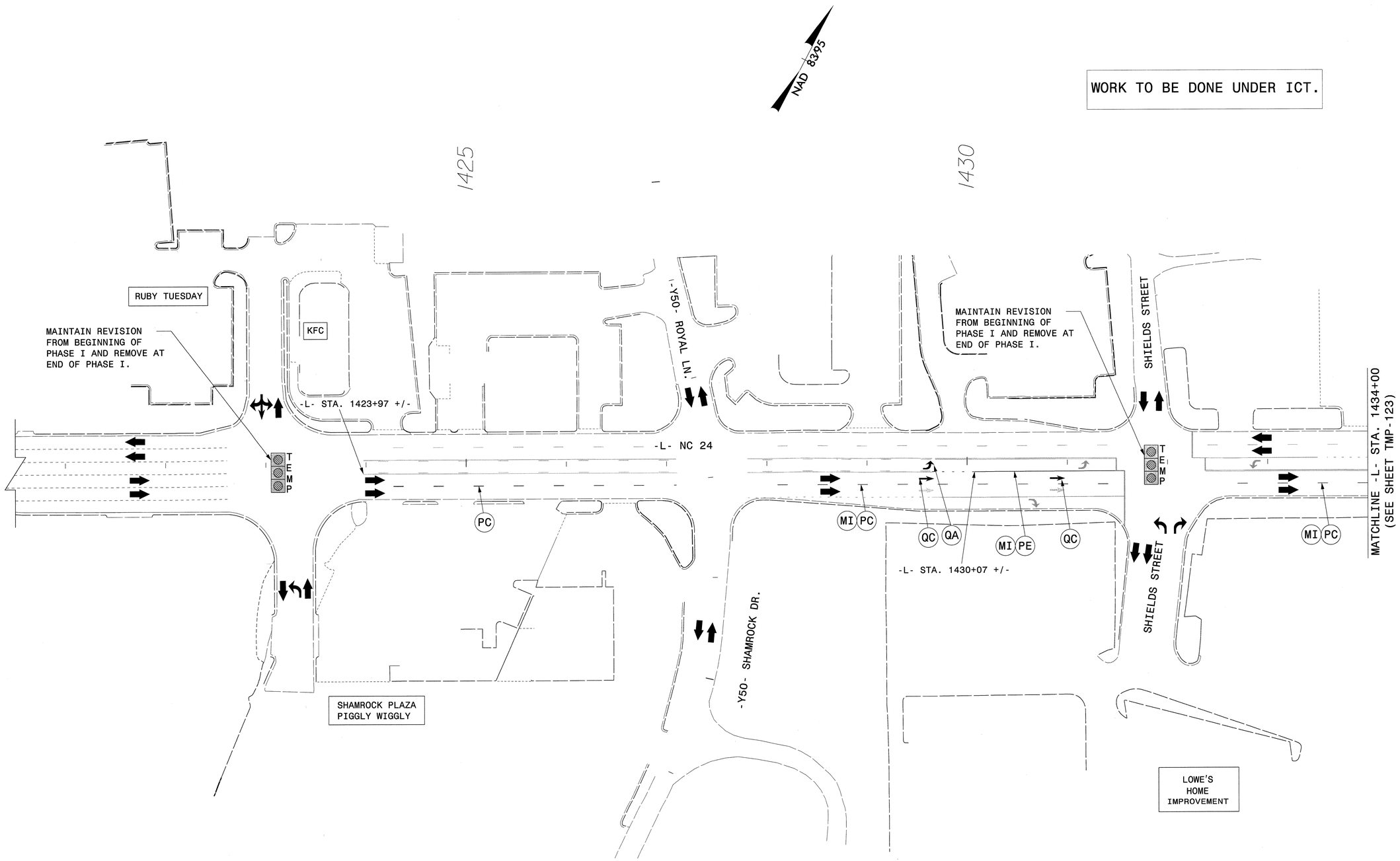
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-122

WORK TO BE DONE UNDER ICT.



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 4 EXISTING NC24, -L-, -Y50-, & SHIELDS STREET

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:06
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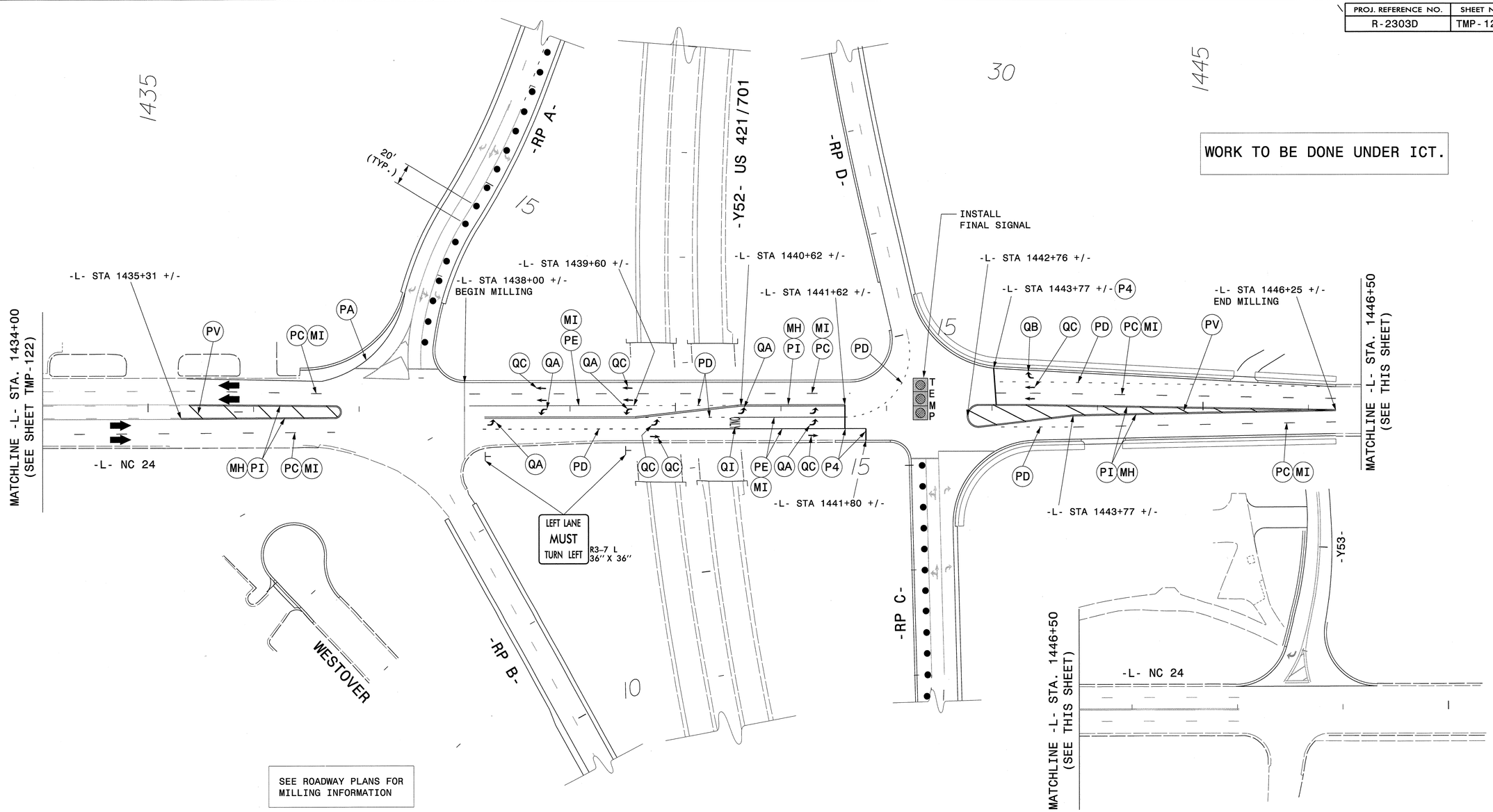
13833 AT RAL2UAI480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-123



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 4 EXISTING NC24, –L–, –Y52–, –RPA–, –RPB–, –RPC–, –RPD–, & WESTOVER ROAD

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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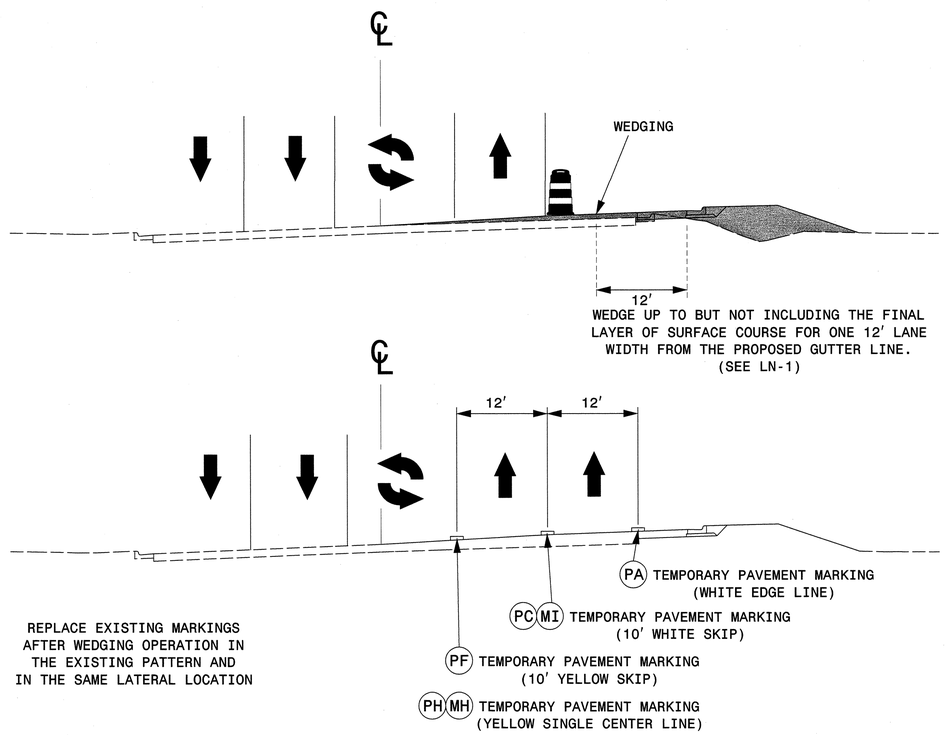
25651 AT RAL2LIA480FFR

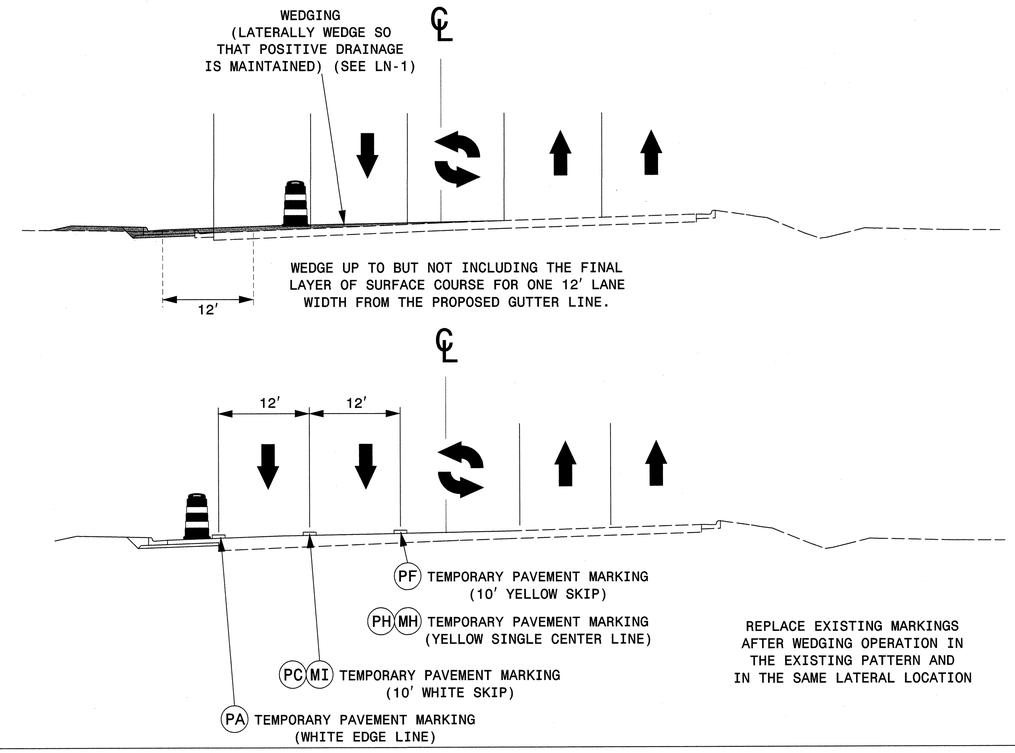
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-124

NC 24 (-L-) FROM -Y47- TO -RPA-/-RPB-

RIGHT SIDE



LEFT SIDE



NC 24 (-L-) FROM -Y47- TO -RPA-/-RPB-

USING RSD NO. 1101.02, SHEET 3, TEMPORARILY CLOSE THE RIGHT LANE OF NC 24 AND INCREMENTALLY CONSTRUCT THE PROPOSED OUTSIDE PAVEMENT WIDENING, ASSOCIATED DRAINAGE, AND WEDGING OF EXISTING OUTSIDE LANES ON NC 24 IN DISCRETE SEGMENTS BETWEEN -Y47- (AIRPORT ROAD) AND RAMP A/RAMP B SUBJECT TO THE FOLLOWING REQUIREMENTS (SEE TMP-125 THRU TMP-130):

- THERE SHALL BE NO MORE THAN ONE RIGHT LANE CLOSURE ON NC 24 AT ANY ONE TIME.
- CONSTRUCTION SHALL ONLY BE PERFORMED BEHIND THE RIGHT LANE CLOSURE ON ONE SIDE OF NC 24 AT A TIME.
- A RIGHT LANE CLOSURE SHALL NOT EXCEED 1500 FEET IN LENGTH, INCLUDING TAPERS.
- ALL EXISTING LANES IN THE OPPOSITE DIRECTION OF TRAVEL FROM THE RIGHT LANE CLOSURE SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES (EXCEPT AS NOTED IN STEP 5B BELOW FOR OVERNIGHT CONSTRUCTION OF DRAINAGE CROSS PIPES).

ONCE THE RIGHT LANE IS CLOSED, THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK BEFORE REOPENING THE RIGHT LANE TO TRAFFIC (SEE TMP-124):

A. PROPOSED DRAINAGE, CURB AND GUTTER, SIDEWALK, PAVEMENT WIDENING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE.

B. CONSTRUCT PROPOSED DRAINAGE CROSS PIPES ACROSS NC 24 AS FOLLOWS:

i. FOR CONSTRUCTION ON THE SIDE OF NC 24 WHERE THE RIGHT LANE IS ALREADY CLOSED, USE RSD 1101.02, SHEET 2 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE CENTER TWO-WAY LEFT TURN LANE.

ii. FOR CONSTRUCTION ON THE SIDE OF NC 24 OPPOSITE THE RIGHT LANE CLOSURE, USE RSD 1101.02, SHEET 3 AND 7 TO ALTERNATELY CLOSE ONE OF THE TWO LANES IN THE OPPOSING DIRECTION.

iii. PARTIALLY CONSTRUCT IN-LINE PRECAST DRAINAGE BOXES IN LOCATIONS OF PROPOSED MEDIANS TO A TEMPORARY ELEVATION BELOW GRADE, COVER WITH A TEMPORARY TRAFFIC BEARING COVER, BACKFILL AND PATCH PAVEMENT.

iv. PATCH PAVEMENT AND RESTORE NC 24 TRAFFIC TO ITS PRIOR PATTERN (RIGHT LANE CLOSED IN ONE DIRECTION, TWO LANES IN OPPOSITE DIRECTION, PLUS CENTER TWO-WAY LEFT TURN LANE) BY THE END OF THE WORK PERIOD.

C. WEDGE LATERALLY ACROSS THE ADJACENT EXISTING LANES TO PROVIDE POSITIVE DRAINAGE ACROSS THE PAVEMENT AND SMOOTHLY TIE INTO THE EXISTING PAVEMENT. USE RSD 1101.02, SHEET 2 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE CENTER TWO-WAY LEFT TURN LANE DURING OVERNIGHT PERIODS BETWEEN 8:00 PM AND 9:00 AM WHEN WEDGING ENCROACHES ACROSS LEFT THROUGH LANE THAT IS BEING MAINTAINED.

D. REPLACE EXISTING PAVEMENT MARKINGS CONCEALED BY THE PAVEMENT WIDENING AND WEDGING OF THE EXISTING PAVEMENT IN EXISTING MARKING LOCATIONS/ALIGNMENT.

E. REOPEN RIGHT LANE TO TRAFFIC IN ORIGINAL PATTERN AND REPEAT PROCEDURE ABOVE FOR NEXT 1500-FT SEGMENT OF NC 24.

APPROVED: DATE: 7/17/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASE I DETAIL
STEP 5

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

17-JUL-2013 13:53
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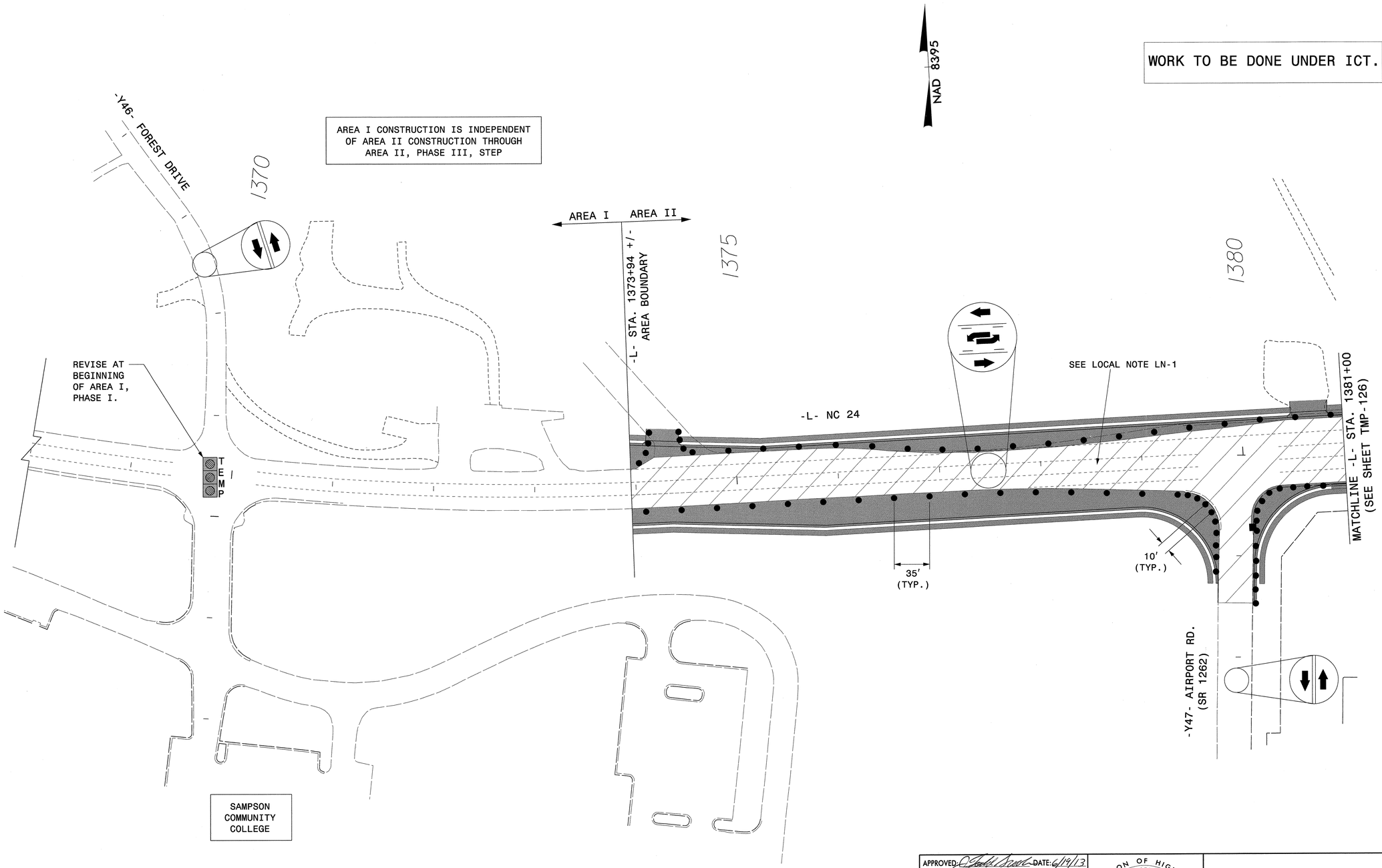
2565I AT RAL2UA480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-125

WORK TO BE DONE UNDER ICT.



APPROVED: DATE: 6/14/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL -L- NC 24 & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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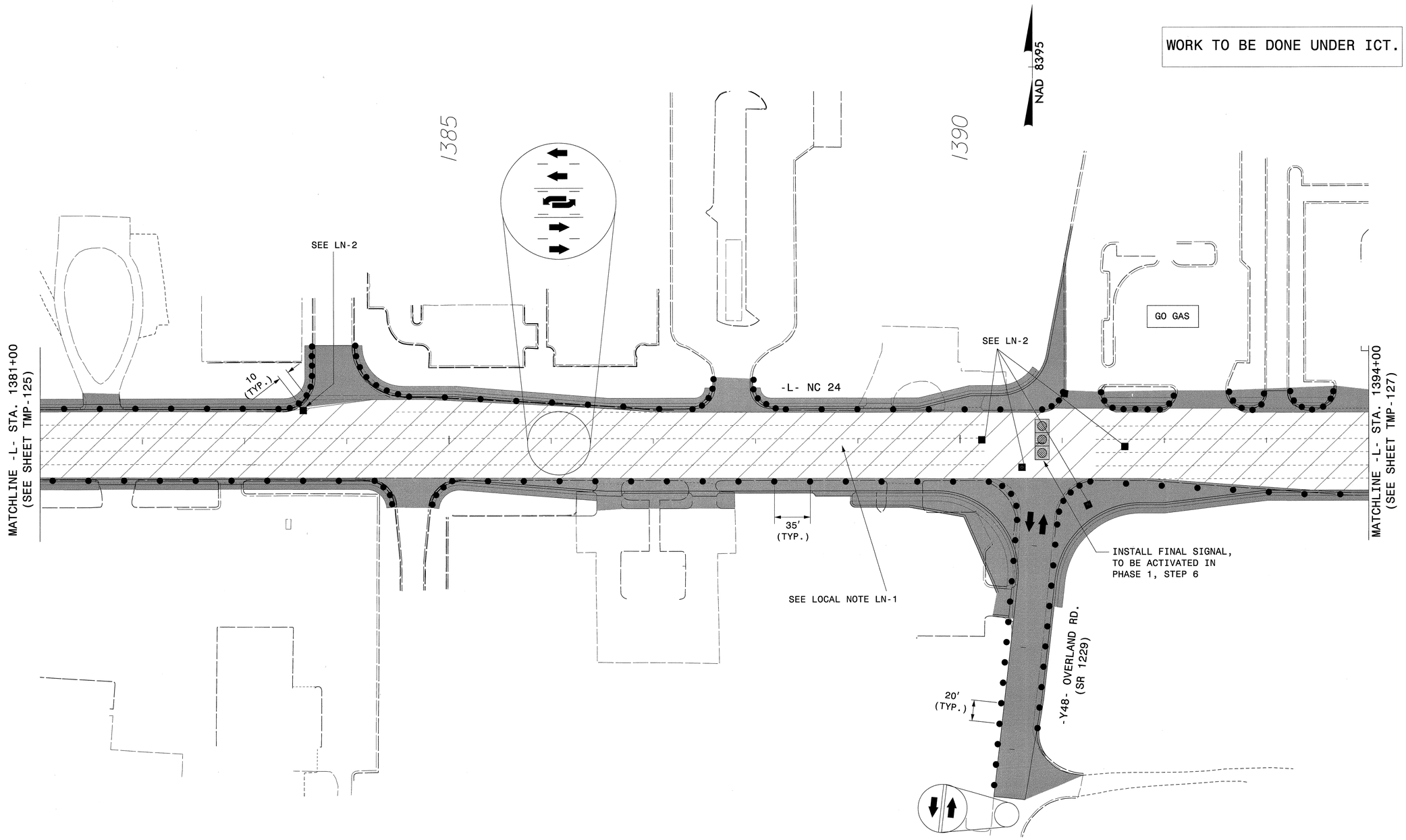
2565\ AT RAL2UA1480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-126

WORK TO BE DONE UNDER ICT.



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL -L- NC 24 & -Y48- STEP 5

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:07
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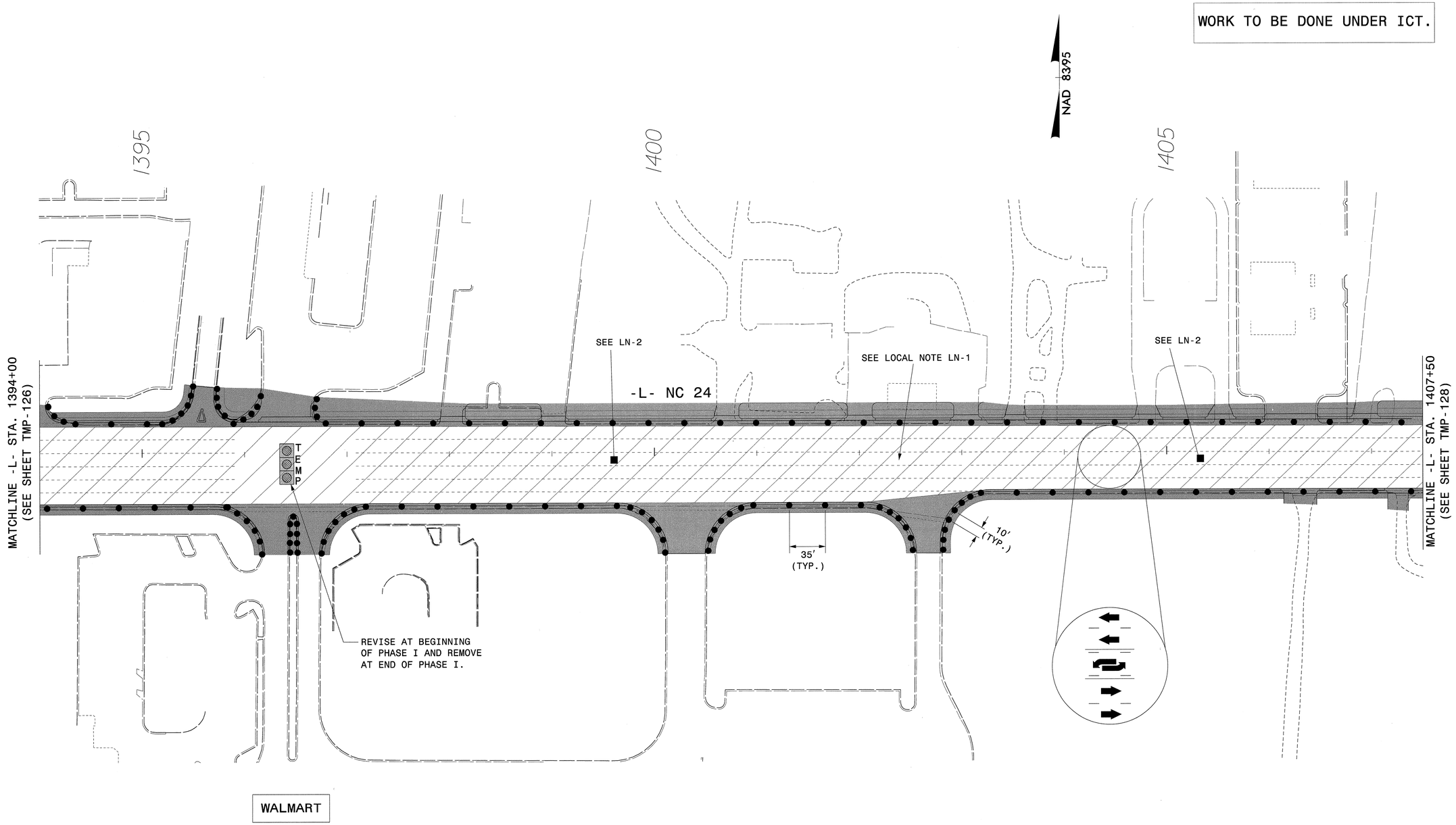
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-127

WORK TO BE DONE UNDER ICT.



APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA II
PHASE I DETAIL
STEP 5
-L- NC 24

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:07
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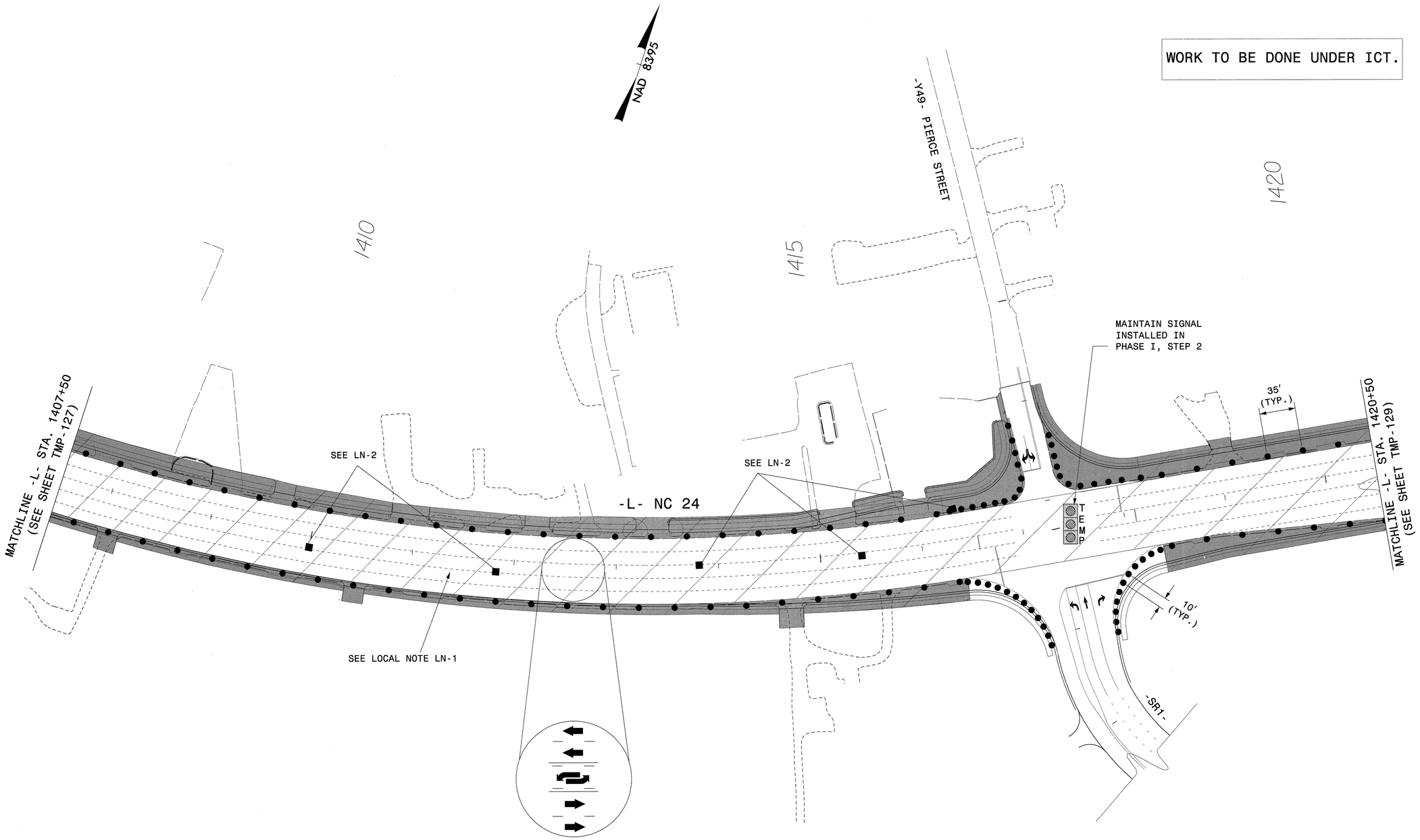
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-128

WORK TO BE DONE UNDER ICT.



APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 5 –L–, –Y49– & –SR1–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

18-JUN-2013 17:07
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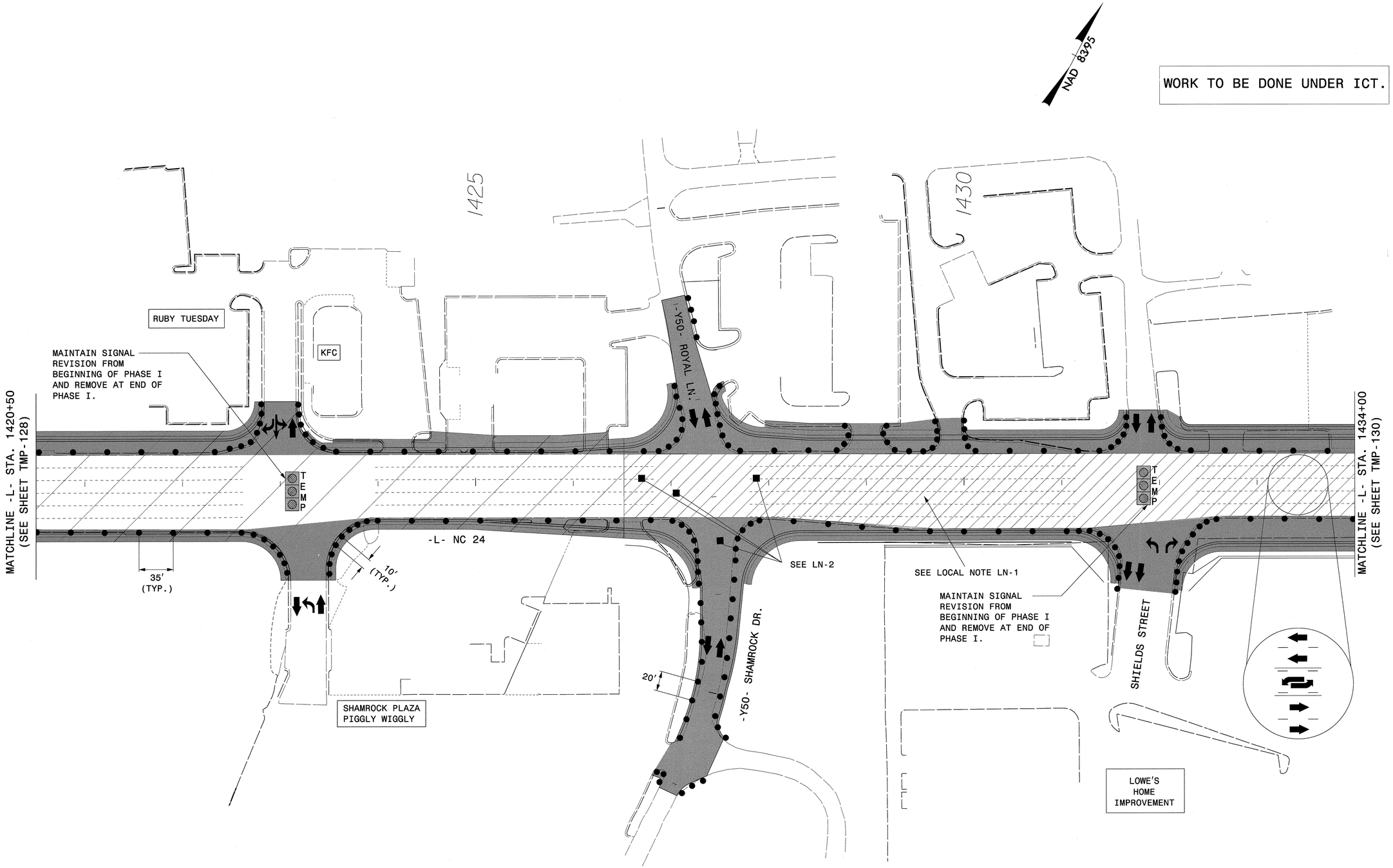
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-129

WORK TO BE DONE UNDER ICT.



APPROVED: DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

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AREA II PHASE I DETAIL STEP 5 –L–, –Y50– & SHIELD STREET

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

20-JUN-2013 09:31
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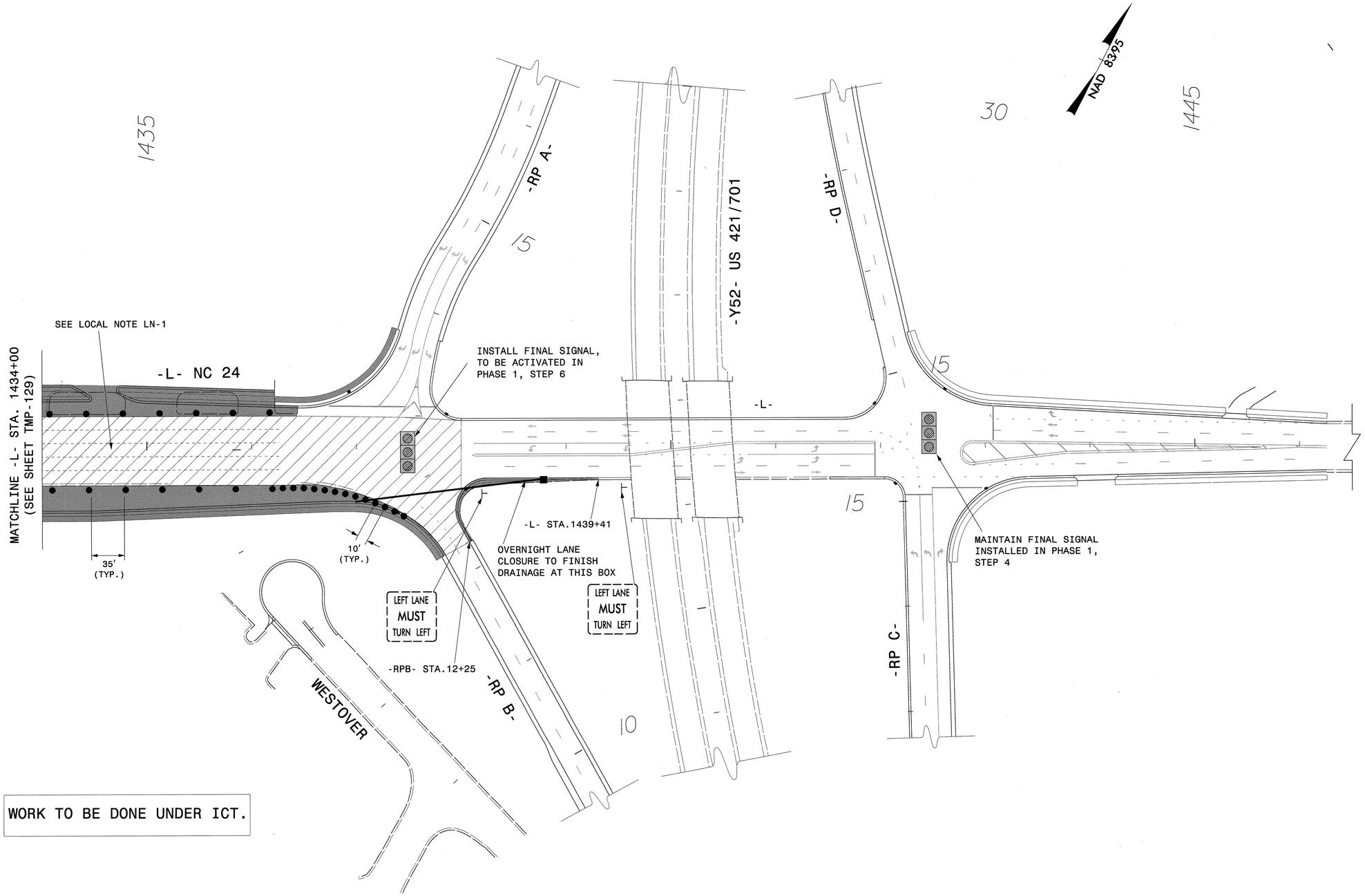
25651 AT RAL2UA1480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-130



WORK TO BE DONE UNDER ICT.

APPROVED: DATE: 6/18/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE I DETAIL STEP 5 –L–, –Y52– –RPA–, –RPB–, –RPC– & –RPD–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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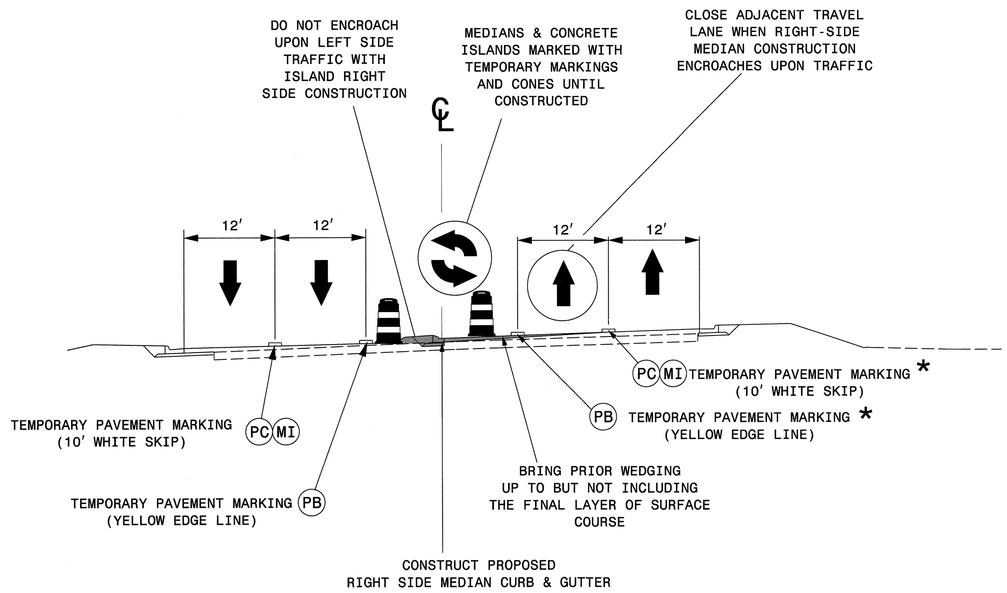
25651 AT RAL2UA480FFR

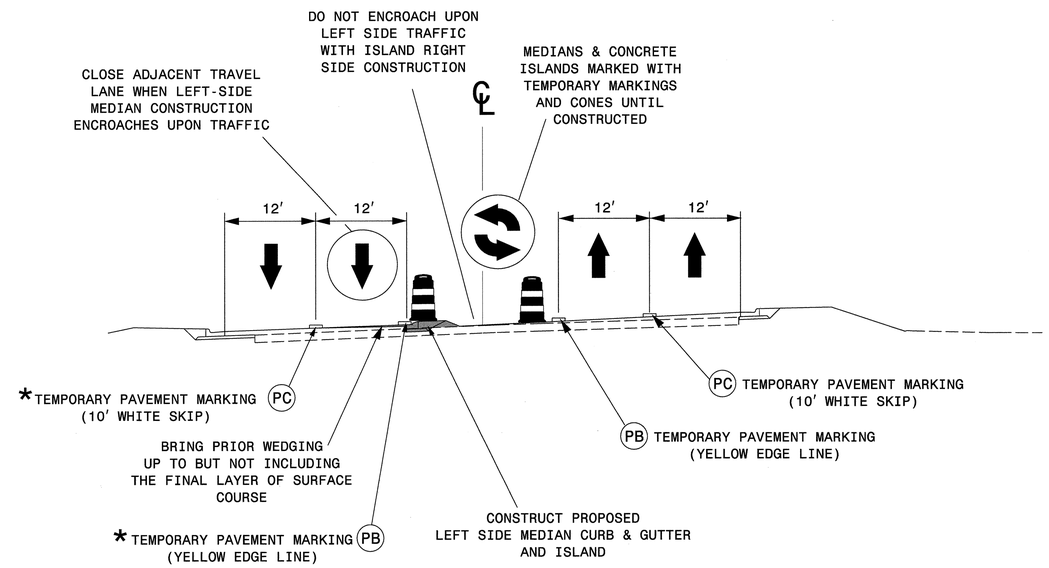
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-131

NC 24 (-L-) FROM -Y47- TO -RPA-/-RPB-

RIGHT SIDE MEDIAN



LEFT SIDE MEDIAN



REPLACE EXISTING MARKINGS * AFTER WEDGING OPERATION IN THE EXISTING PATTERN AND IN THE SAME LATERAL LOCATION

NC 24 (-L-) FROM -Y47- TO -RPA-/-RPB-

USING RSD NO. 1101.02, SHEET 3, TEMPORARILY CLOSE THE LEFT LANE OF NC 24 AND INCREMENTALLY CONSTRUCT THE PROPOSED RAISED MEDIANS, ASSOCIATED DRAINAGE, AND WEDGING OF EXISTING INSIDE LANES ON NC 24 IN DISCRETE SEGMENTS BETWEEN -Y47- AIRPORT ROAD AND RAMP A/RAMP B SUBJECT TO THE FOLLOWING REQUIREMENTS (SEE TMP-132 THRU TMP-137):

- THERE SHALL BE NO MORE THAN ONE LEFT LANE CLOSURE ON NC 24 AT ANY ONE TIME.
- CONSTRUCTION SHALL ONLY BE PERFORMED BEHIND THE LEFT LANE CLOSURE ON ONE SIDE OF NC 24 AT A TIME.
- A LEFT LANE CLOSURE SHALL NOT EXCEED 1500 FEET IN LENGTH, INCLUDING TAPERS.
- ALL EXISTING LANES IN THE OPPOSITE DIRECTION OF TRAVEL FROM THE LEFT LANE CLOSURE SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES (EXCEPT AS NOTED IN STEP 1A BELOW FOR OVERNIGHT CONSTRUCTION OF DRAINAGE IN MEDIANS).

ONCE THE LEFT LANE IS CLOSED, THE CONTRACTOR SHALL WORK IN A CONTINUOUS MANNER TO COMPLETE THE FOLLOWING WORK BEFORE REOPENING THE LEFT LANE TO TRAFFIC (SEE TMP-131):

A. COMPLETE DRAINAGE CONSTRUCTION IN MEDIANS, INCLUDING STRUCTURES PARTIALLY CONSTRUCTED BELOW GRADE IN PRIOR STEP. WHERE DRAINAGE CONSTRUCTION NECESSITATES CLOSING THE LEFT LANE OF THE TWO LANES IN THE OPPOSING DIRECTION, PERFORM SUCH WORK ONLY DURING OVERNIGHT PERIODS BETWEEN 8:00 P.M. AND 9:00 A.M. USE RSD 1101.02, SHEET 3 AND 7 TO ALTERNATELY CLOSE ONE OF THE TWO LANES IN THE OPPOSING DIRECTION.

B. CONSTRUCT PROPOSED MEDIAN CURB AND GUTTER, AND MONOLITHIC MEDIANS ON SIDE OF -L- ADJACENT TO CLOSED LEFT LANE.

C. WEDGE LATERALLY ACROSS THE ADJACENT EXISTING LANES TO PROVIDE POSITIVE DRAINAGE AGROSS THE PAVEMENT AND SMOOTHLY TIE INTO THE EXISTING PAVEMENT. USE RSD 1101.02, SHEET 7 TO DIVERT THE SINGLE LANE OF NC 24 TRAFFIC INTO THE OUTSIDE (RIGHT) LANE DURING OVERNIGHT PERIODS BETWEEN 8:00 PM AND 9:00 AM WHEN WEDGING ENCROACHES ACROSS LEFT THROUGH LANE THAT IS BEING MAINTAINED.

D. REPLACE EXISTING PHASE II PAVEMENT MARKINGS CONCEALED BY THE PAVEMENT WIDENING AND WEDGING.

E. REOPEN LEFT LANE TO TRAFFIC IN ORIGINAL PHASE II PATTERN AND REPEAT PROCEDURE ABOVE FOR NEXT 1500-FT SEGMENT OF NC 24.

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASE II DETAIL
STEP 1

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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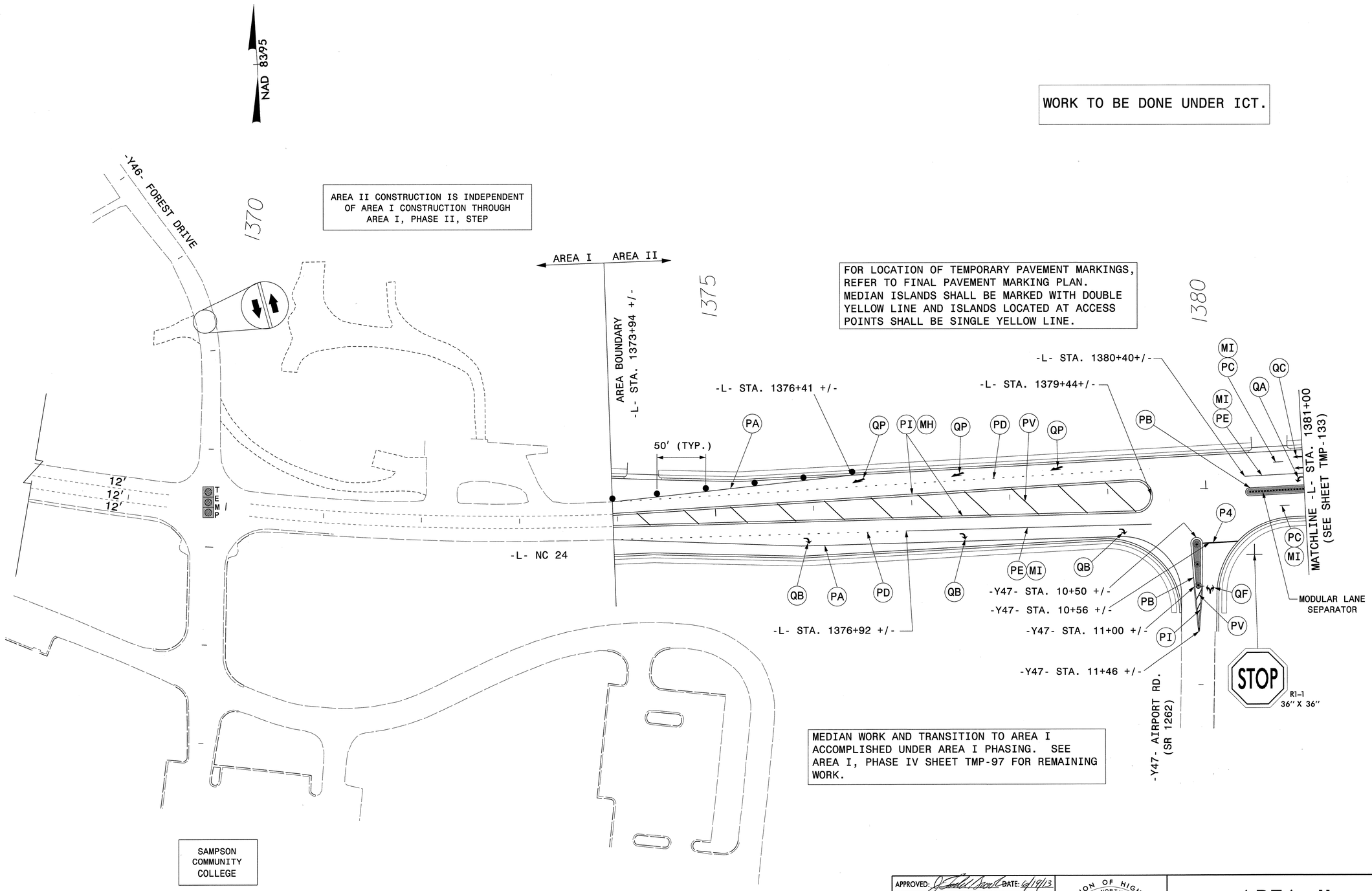
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-132

WORK TO BE DONE UNDER ICT.



MEDIAN WORK AND TRANSITION TO AREA I ACCOMPLISHED UNDER AREA I PHASING. SEE AREA I, PHASE IV SHEET TMP-97 FOR REMAINING WORK.

APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE II DETAIL STEP 1 -L- & -Y47-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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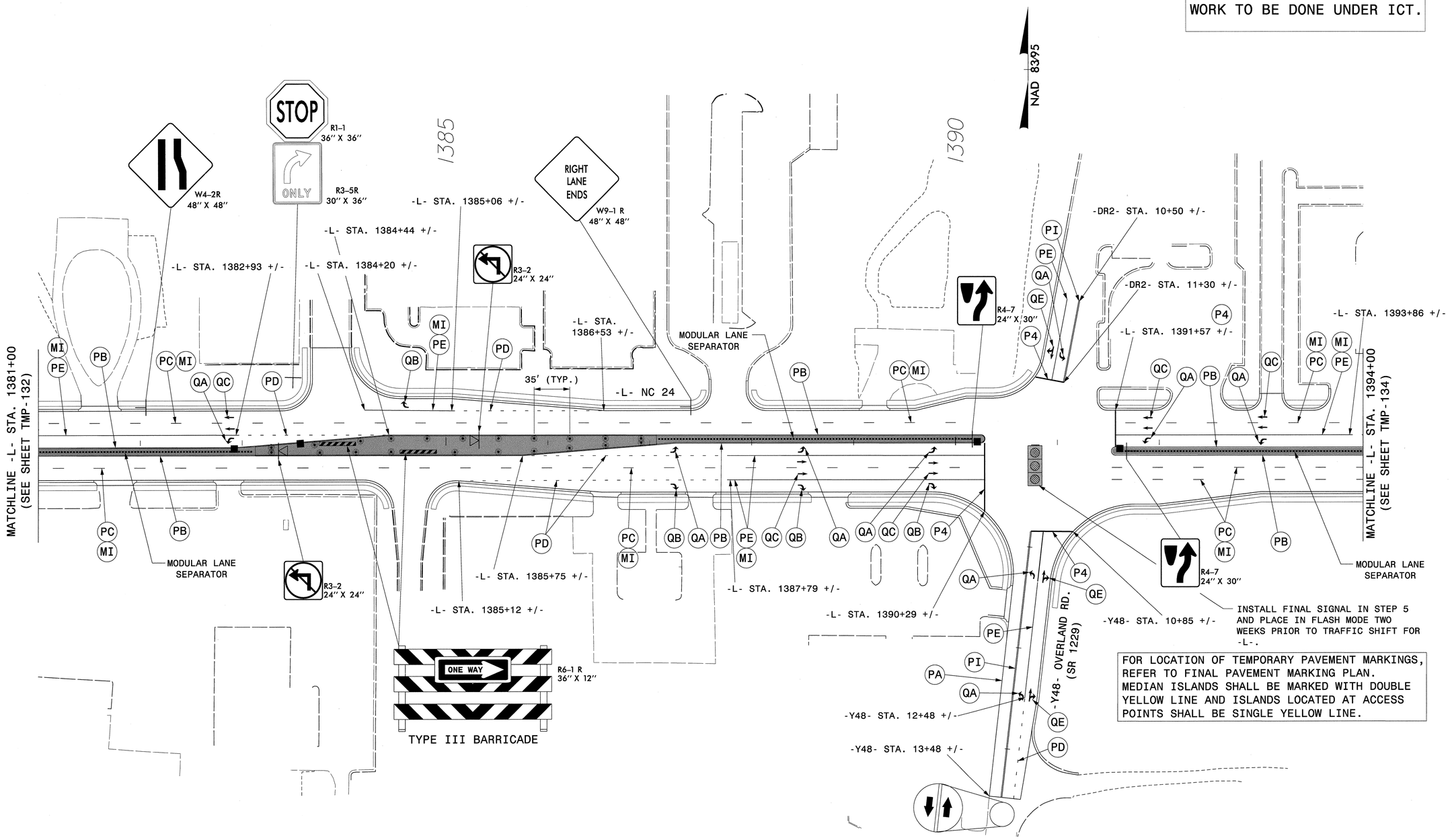
2565\ AT RAL2UA480FFR

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-133

WORK TO BE DONE UNDER ICT.



FOR LOCATION OF TEMPORARY PAVEMENT MARKINGS, REFER TO FINAL PAVEMENT MARKING PLAN. MEDIAN ISLANDS SHALL BE MARKED WITH DOUBLE YELLOW LINE AND ISLANDS LOCATED AT ACCESS POINTS SHALL BE SINGLE YELLOW LINE.

APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE II DETAIL STEP 1 -L- & -Y48-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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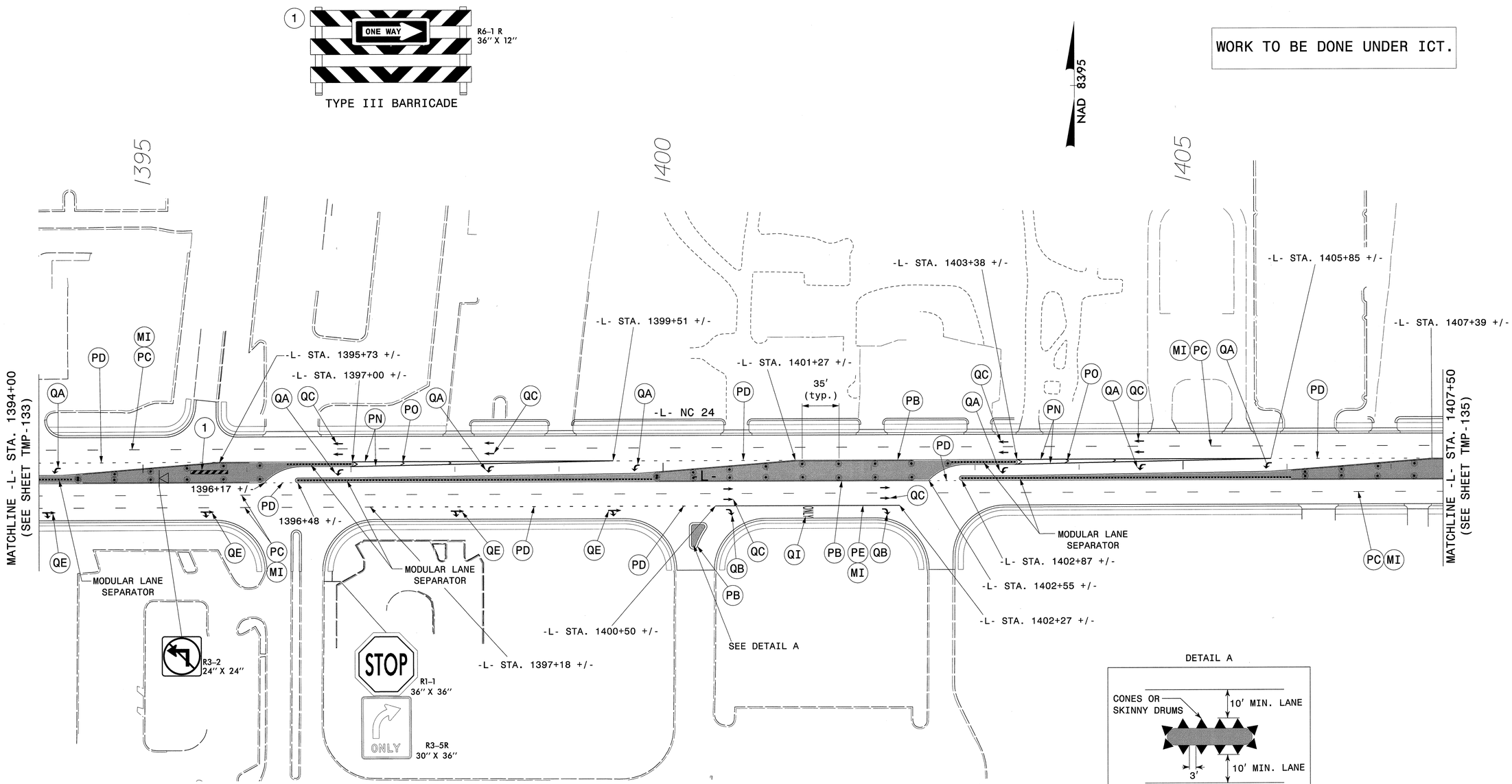
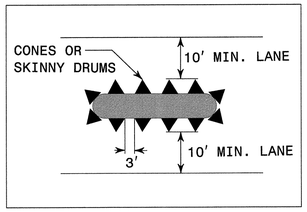
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-134



WORK TO BE DONE UNDER ICT.

DETAIL A



FOR LOCATION OF TEMPORARY PAVEMENT MARKINGS, REFER TO FINAL PAVEMENT MARKING PLAN. MEDIAN ISLANDS SHALL BE MARKED WITH DOUBLE YELLOW LINE AND ISLANDS LOCATED AT ACCESS POINTS SHALL BE SINGLE YELLOW LINE.

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II
PHASE II DETAIL
STEP 1
-L-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

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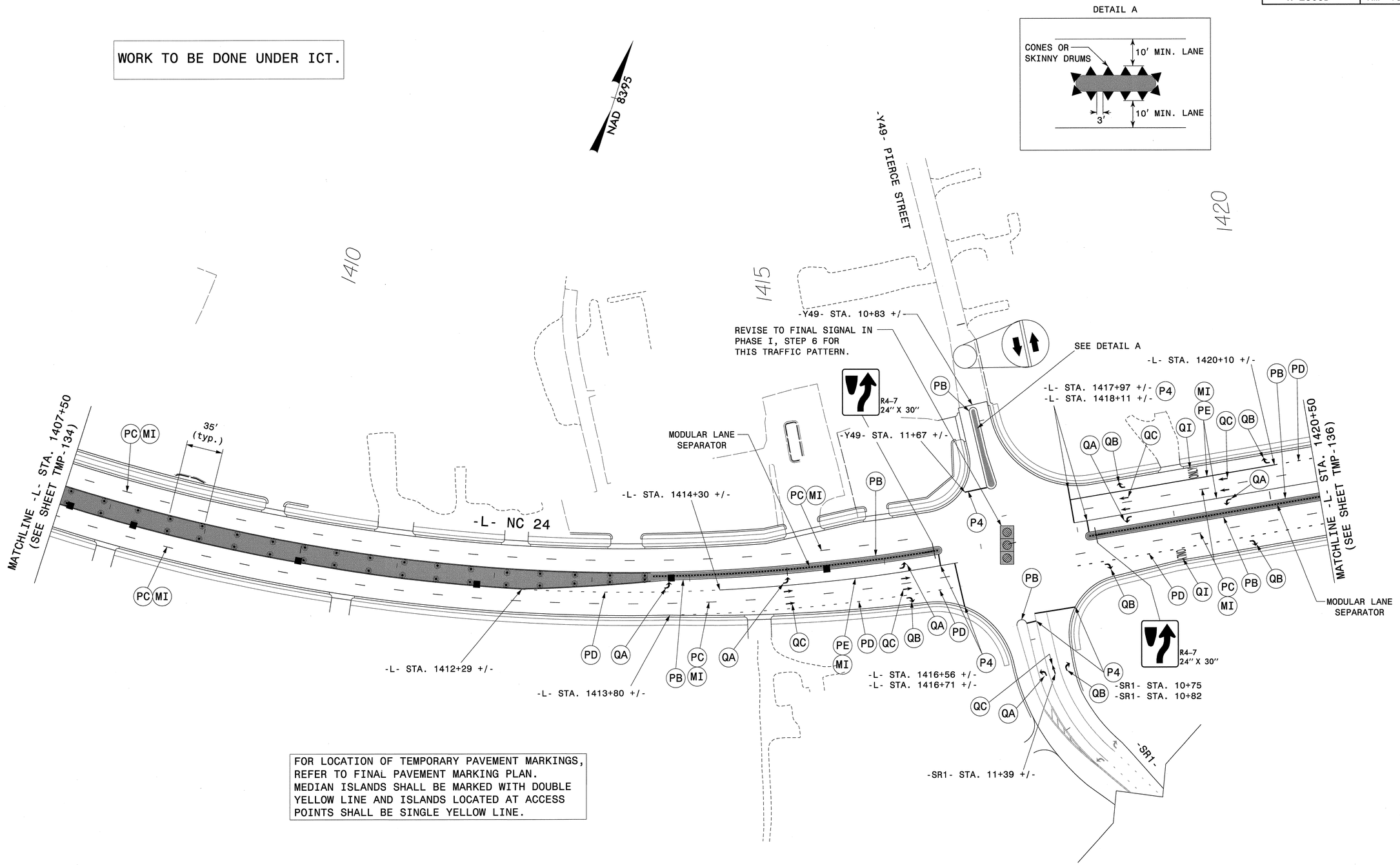
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-135

WORK TO BE DONE UNDER ICT.



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APPROVED: DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE II DETAIL STEP 1 –L–, –Y49– & –SR1–

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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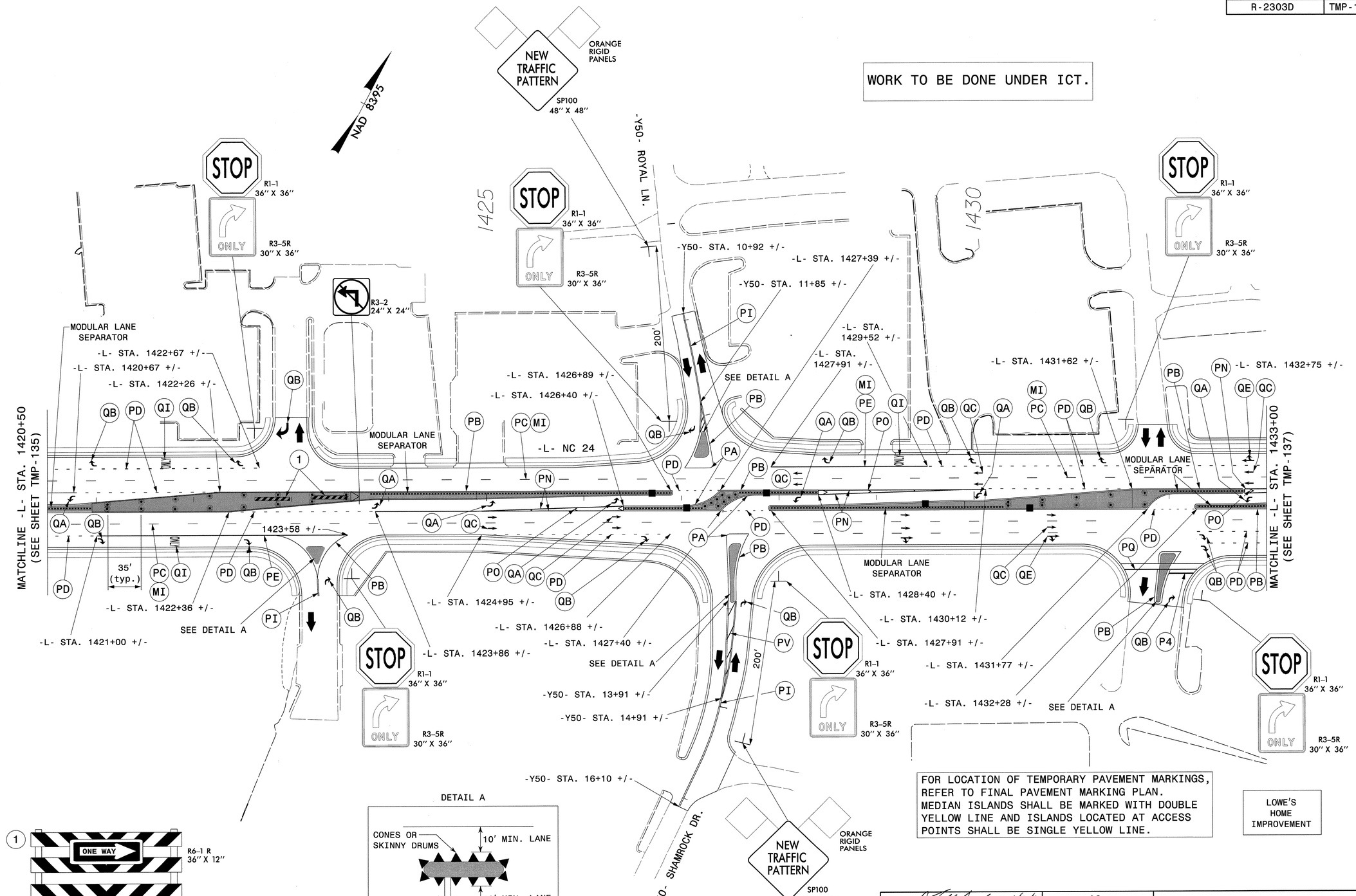
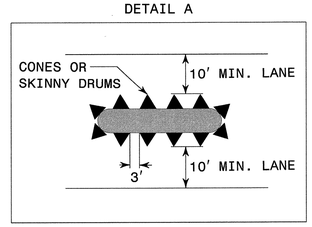
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-136

WORK TO BE DONE UNDER ICT.



TYPE III BARRICADE

DETAIL A



FOR LOCATION OF TEMPORARY PAVEMENT MARKINGS, REFER TO FINAL PAVEMENT MARKING PLAN. MEDIAN ISLANDS SHALL BE MARKED WITH DOUBLE YELLOW LINE AND ISLANDS LOCATED AT ACCESS POINTS SHALL BE SINGLE YELLOW LINE.

LOWE'S HOME IMPROVEMENT

APPROVED: J. Todd Brooks DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE II DETAIL STEP 1 -L- & -Y50-

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310 RALEIGH, NORTH CAROLINA 27609 (919) 876-6888 NCBEES #F-0326

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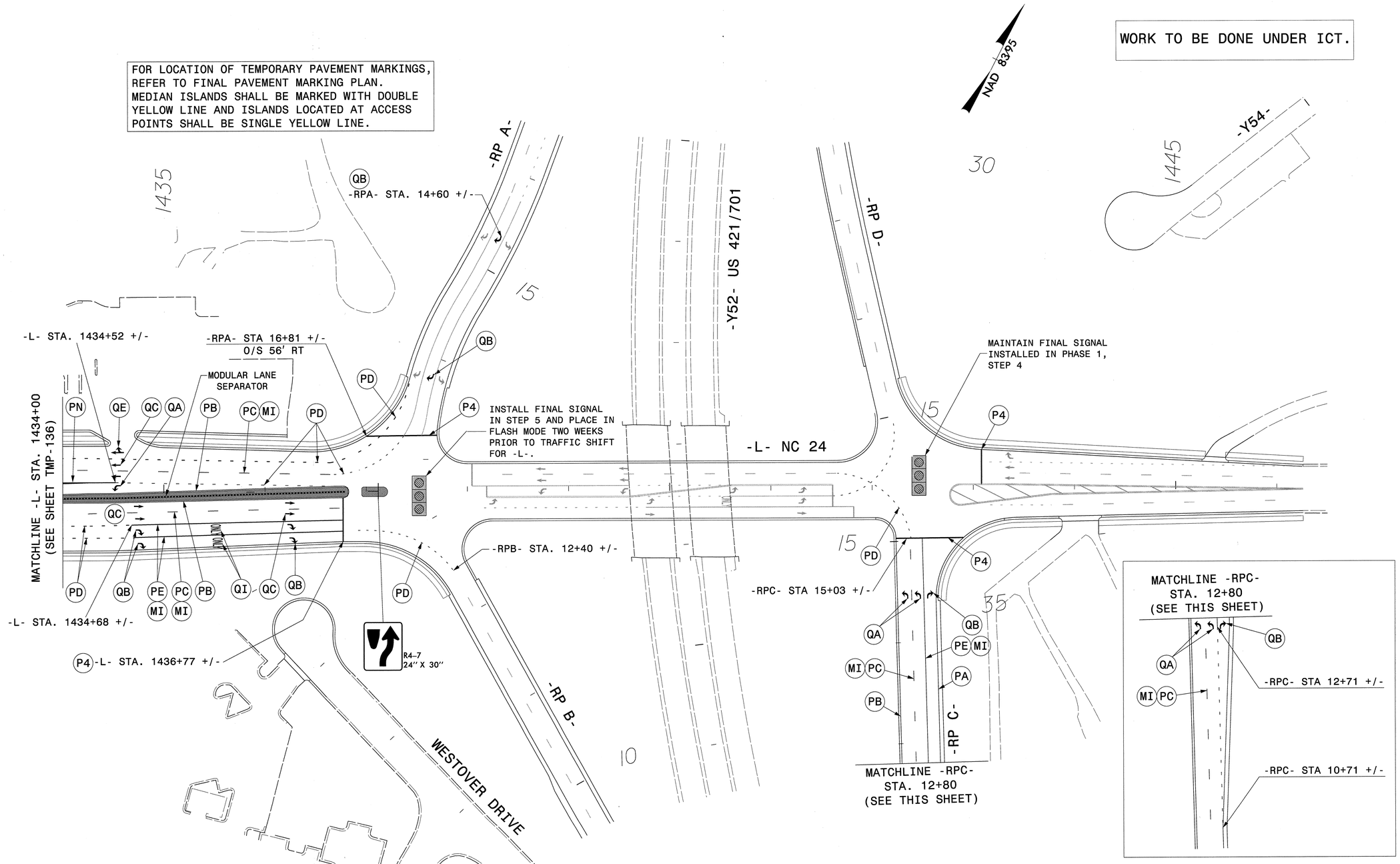
13833 AT RAL2UA480FHW

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	TMP-137

WORK TO BE DONE UNDER ICT.

FOR LOCATION OF TEMPORARY PAVEMENT MARKINGS, REFER TO FINAL PAVEMENT MARKING PLAN. MEDIAN ISLANDS SHALL BE MARKED WITH DOUBLE YELLOW LINE AND ISLANDS LOCATED AT ACCESS POINTS SHALL BE SINGLE YELLOW LINE.



APPROVED: [signature] DATE: 6/19/13

NORTH CAROLINA PROFESSIONAL SEAL 17586 ENGINEER J. TODD BROOKS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

AREA II PHASE II DETAIL STEP 1 –L–, –Y52– –RPA–, –RPB–, –RPC– & –RPD–

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