

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5205I	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45335.1.9	HSIP-1115(19)	PE	
45335.2.FD9	HSIP-1115(19)	RW	
45335.3.FD9	HSIP-1115(19)	CONST.	

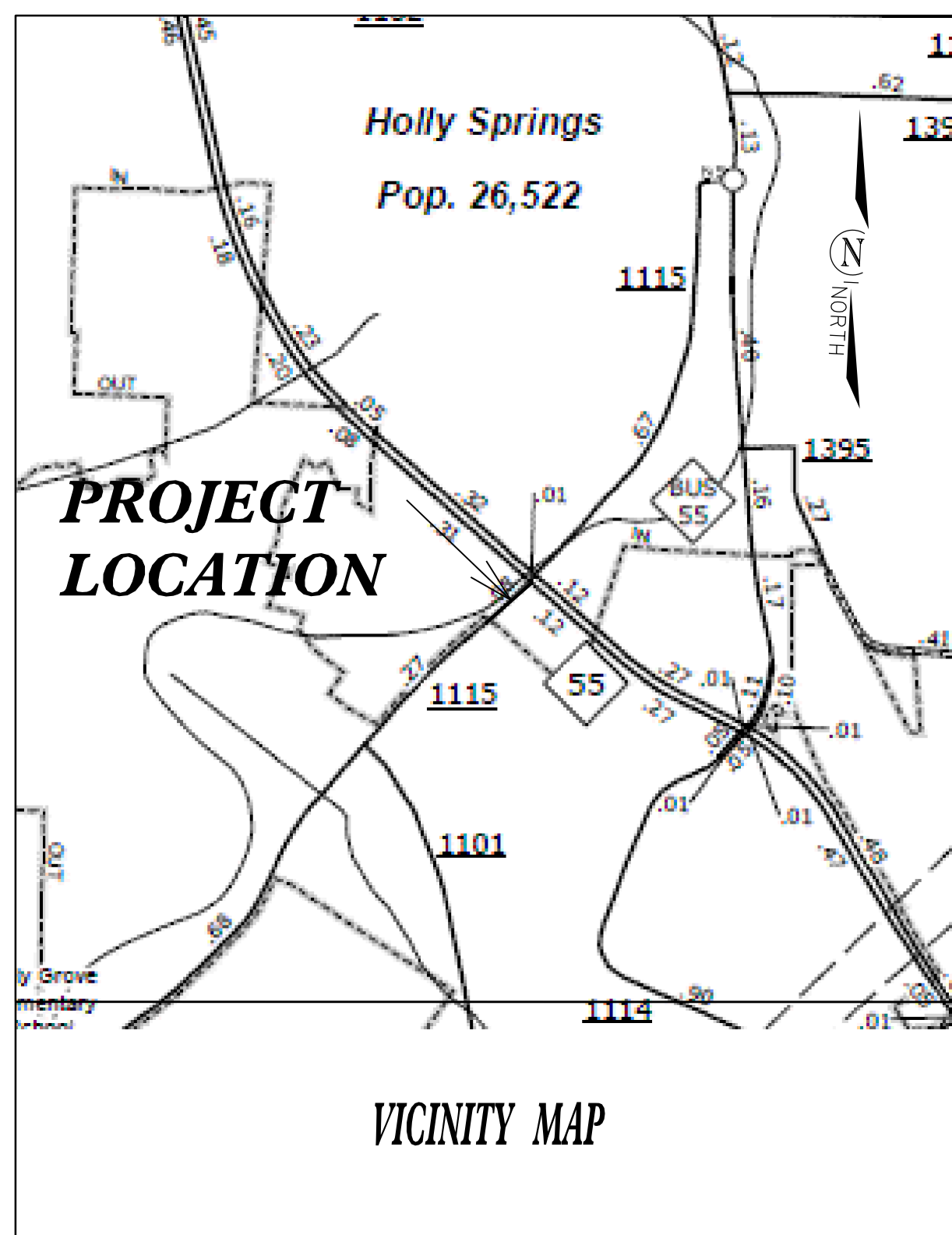
STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: SR 1115 (AVENT FERRY RD) AT VILLAGE WALK DRIVE

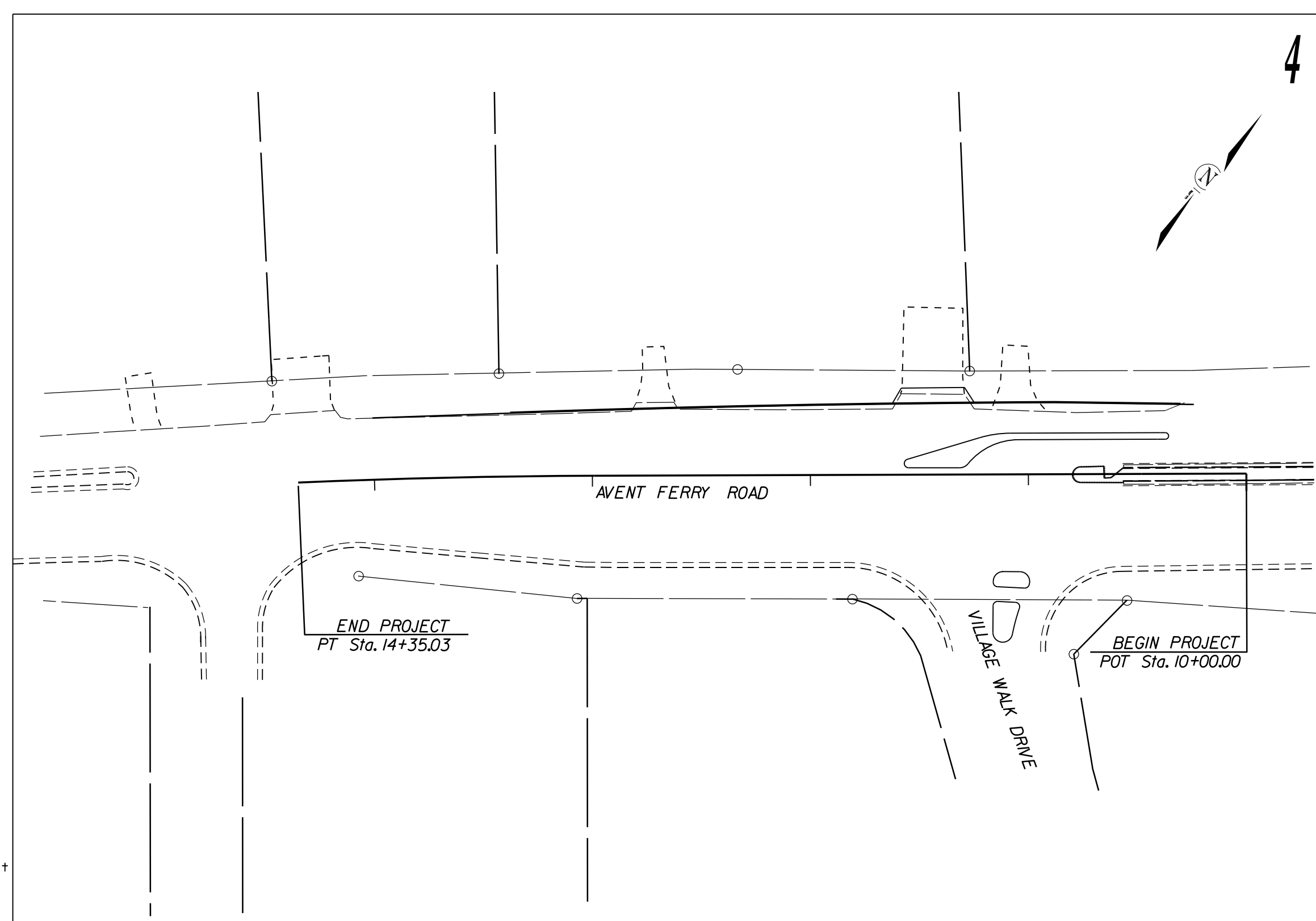
TYPE OF WORK: PAVEMENT WIDENING, PAVEMENT MARKING, TRAFFIC SIGNALS AND CONCRETE ISLANDS



SHEET NUMBER	SHEET
1	TITLE SHEET
1C	SURVEY CONTROL SHEET
2	PAVEMENT TYPICAL
2A	CONCRETE ISLAND DETAIL SHEET
4	PLAN SHEET
TMP-1	TRAFFIC MANAGEMENT PLAN
PM-1	PAVEMENT MARKING PLAN
EC-1	EROSION CONTROL
SIG-1 THRU SIG-4	SIGNAL PLANS
X-0	XSC SUMMARY
XSC-1, XSC-2	CROSS-SECTIONS

2012 ROADWAY ENGLISH STANDARD DRAWINGS
 The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

852.01 CONCRETE ISLANDS



GENERAL NOTES: 2012 SPECIFICATIONS EFFECTIVE 01-17-2012 REVISED 07-30-2012

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVE ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE UNIT CONTRACT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, CENTURY LINK, TIME WARNER CABLE PSNC ENERGY, TOWN OF HOLLY SPRINGS

CONTRACT: DE00106 PROJECT: W-5205I

GRAPHIC SCALES

DESIGN DATA

V = 35 MPH

PROJECT LENGTH

Length Roadway Project W-5205I = 0.08 Miles

Prepared in the Office of:
DIVISION OF HIGHWAYS
 2612 N. Duke St., Durham, NC 27704

2012 STANDARD SPECIFICATIONS

BEN UPSHAW, P.E.
PROJECT ENGINEER

CHRIS HOFFMAN
PROJECT DESIGN ENGINEER

LETTING DATE: _____

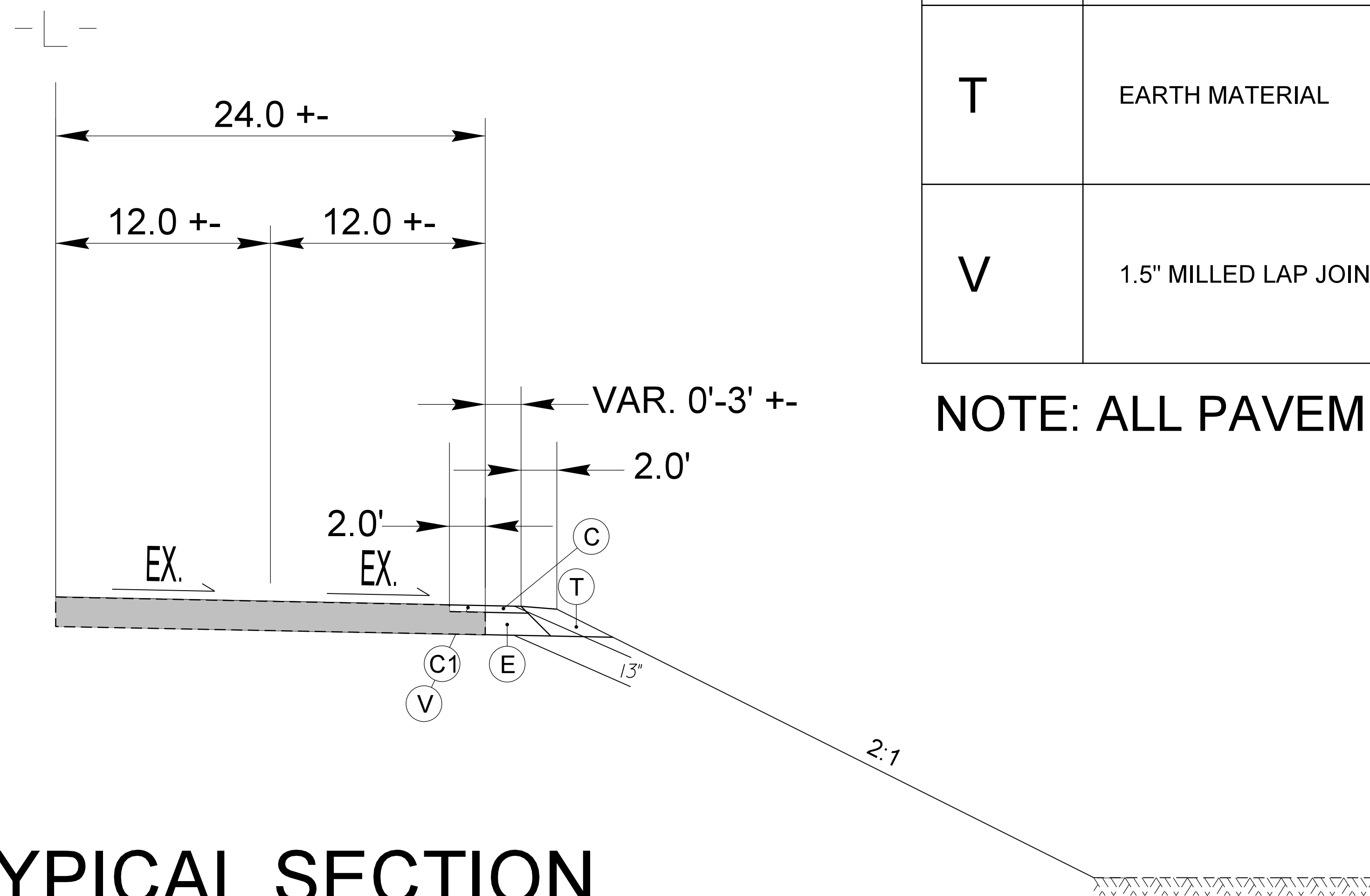
DocuSigned by:
 Ben Upshaw
 SIGNATURE

11/17/2014 P.E.

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

FIFTH DIVISION
 J. R. HOPKINS, P.E.
 DIVISION ENGINEER

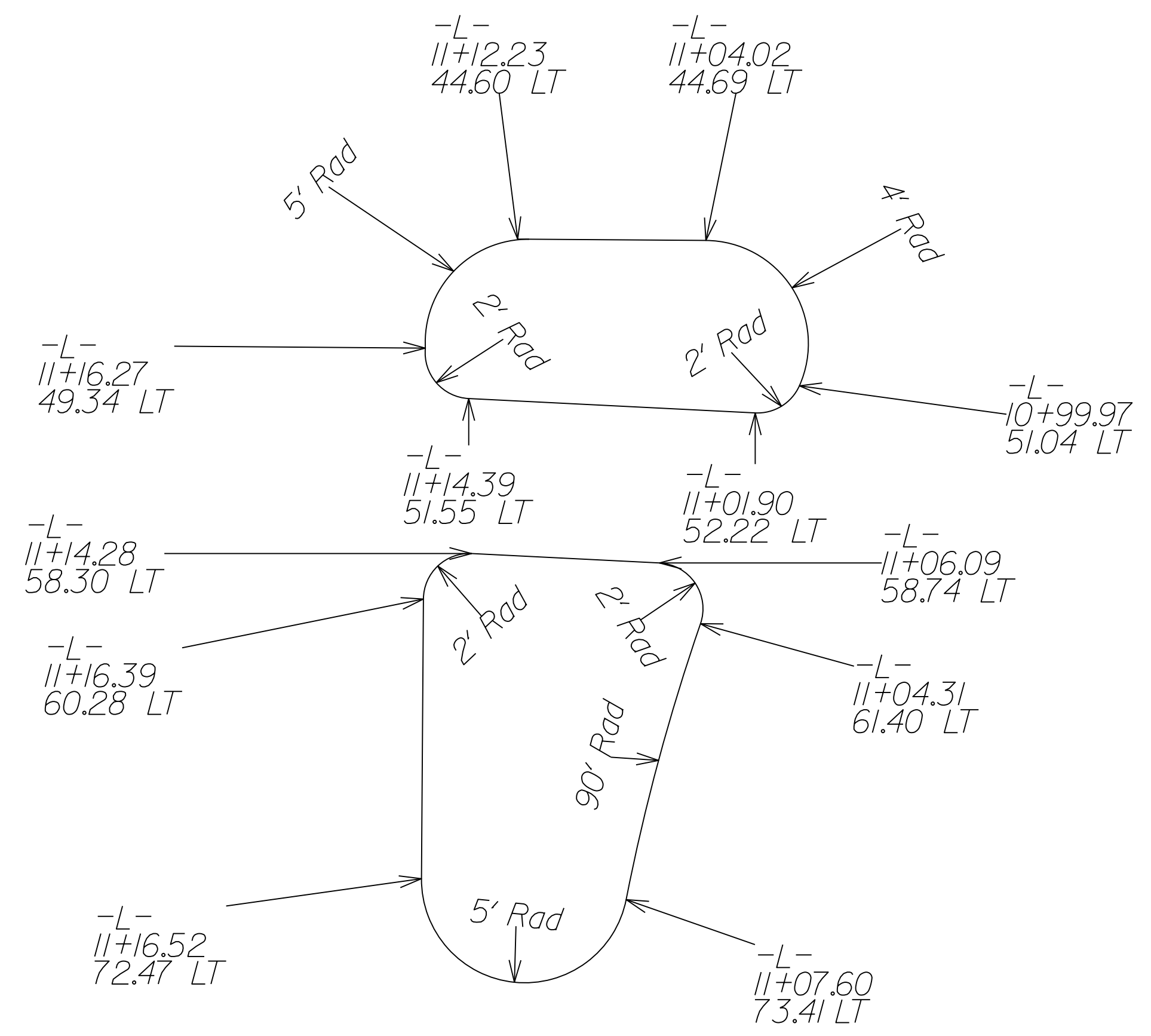
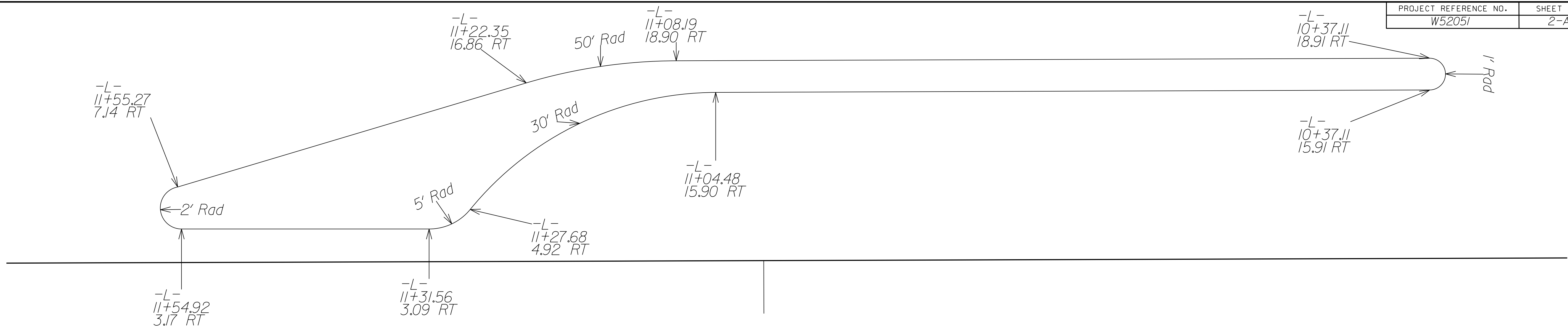
C	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
E	PROP. APPROX. 10" ASPHALT CONCRETE BASE COURSE TYPE B25.0, AT AN AVERAGE RATE OF 570 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
T	EARTH MATERIAL
V	1.5" MILLED LAP JOINT



NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1

TYPICAL SECTION -L- STA. 10+25 TO 13+75

<p>DIVISION FIVE DESIGN</p> <p>11/17/2014</p> <p>DocuSigned by: <i>Ben Upshaw</i> SIGNATURE P.E.</p>	<p>Avent Ferry at Village Walk Typical Section</p> <p>DIVISION 05 WAKE COUNTY</p> <table border="1"> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISIONS	INIT.	DATE										<p>SCALE: 10' = 1" DATE: 16 OCT 2014</p> <p>PREPARED BY: CAH REVIEWED BY: BJU</p>
	REVISIONS	INIT.	DATE											
<p>N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT</p>														



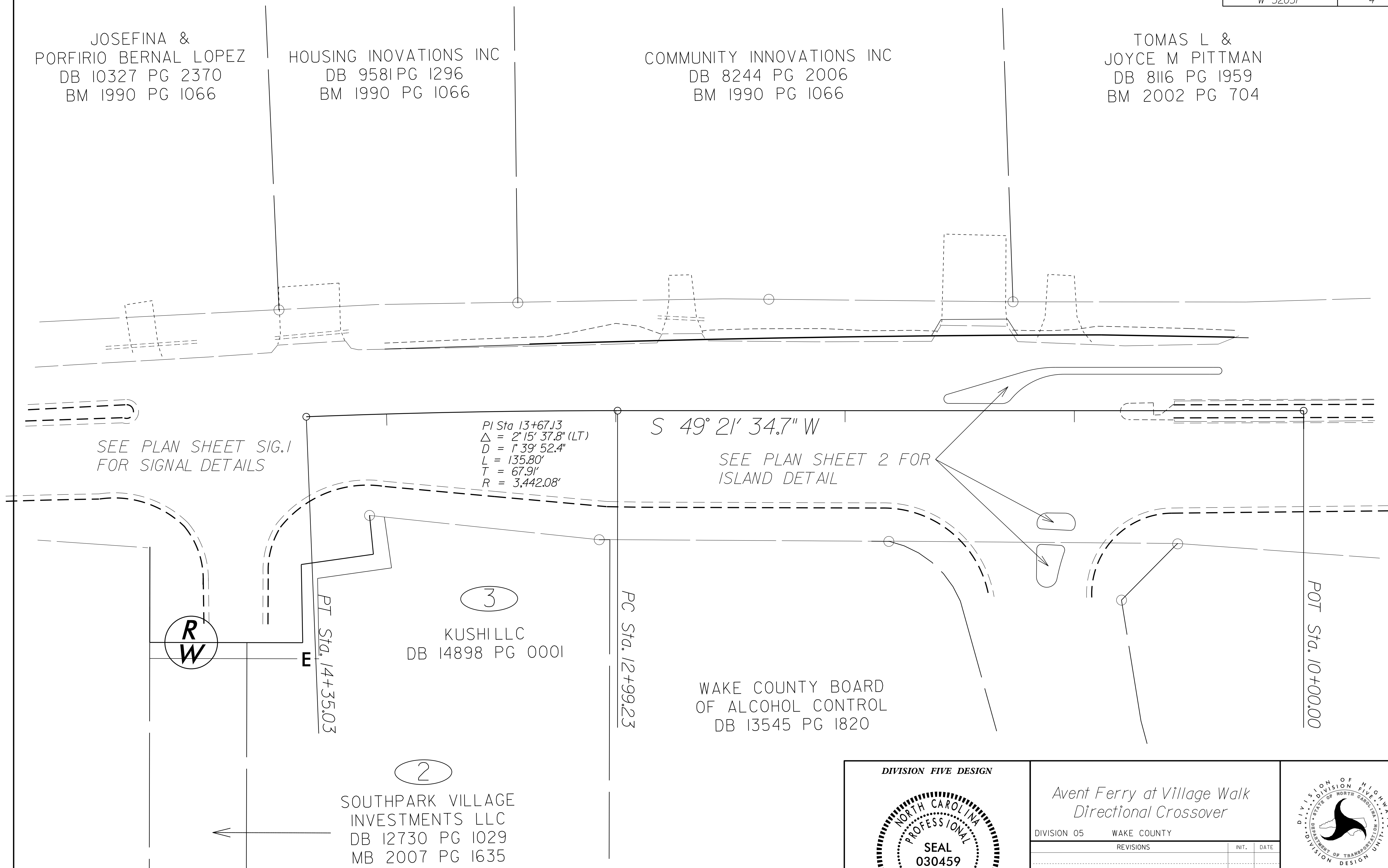
<p>Avent Ferry at Village Walk Directional Crossover Detail Sheet</p>		
<p>DIVISION 05 WAKE COUNTY</p>		
REVISIONS	INIT.	DATE
<p>SCALE: 10' = 1" DATE: 18 SEP 2014</p>		<p>PREPARED BY: CAH REVIEWED BY: BJU</p>
<p>N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT</p>		<p>REVIEWED BY:</p>

JOSEFINA &
PORFIRIO BERNAL LOPEZ
DB 10327 PG 2370
BM 1990 PG 1066

HOUSING INOVATIONS INC
DB 9581 PG 1296
BM 1990 PG 1066

COMMUNITY INNOVATIONS INC
DB 8244 PG 2006
BM 1990 PG 1066

TOMAS L &
JOYCE M PITTMAN
DB 8116 PG 1959
BM 2002 PG 704



SEE PLAN SHEET SIG.1
FOR SIGNAL DETAILS

PI Sta. 13+67.13
Δ = 2°15'37.8" (LT)
D = 1°39'52.4"
L = 135.80'
T = 67.91'
R = 3,442.08'

S 49° 21' 34.7" W

SEE PLAN SHEET 2 FOR
ISLAND DETAIL

R
W

PT Sta. 14+35.03

3
KUSHILLC
DB 14898 PG 0001

PC Sta. 12+99.23

WAKE COUNTY BOARD
OF ALCOHOL CONTROL
DB 13545 PG 1820

POT Sta. 10+00.00

2
SOUTHPARK VILLAGE
INVESTMENTS LLC
DB 12730 PG 1029
MB 2007 PG 1635

DIVISION FIVE DESIGN

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Ben Upshaw
SIGNATURE

11/17/2014 P.E.

Avent Ferry at Village Walk
Directional Crossover

DIVISION 05 WAKE COUNTY

REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

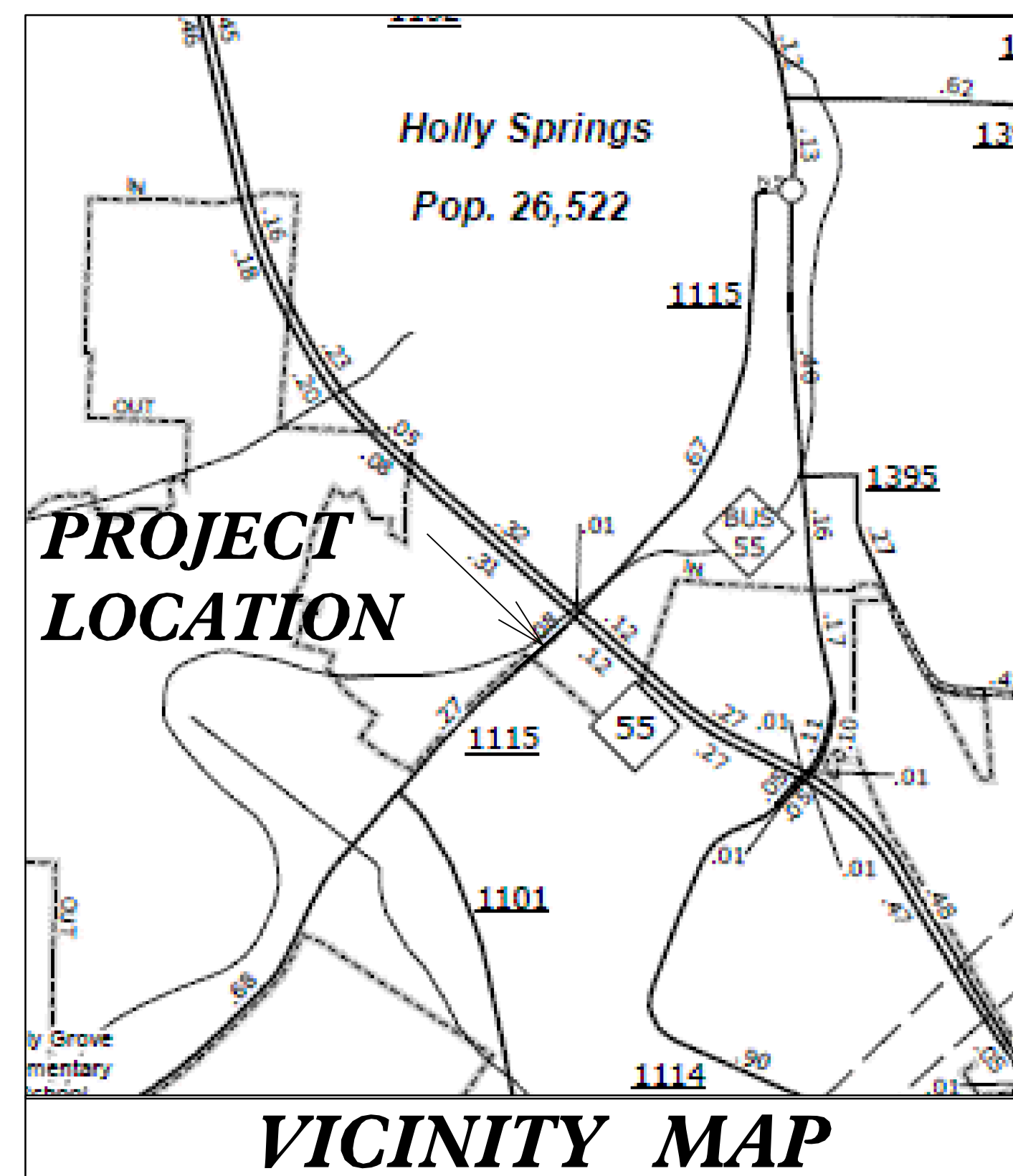
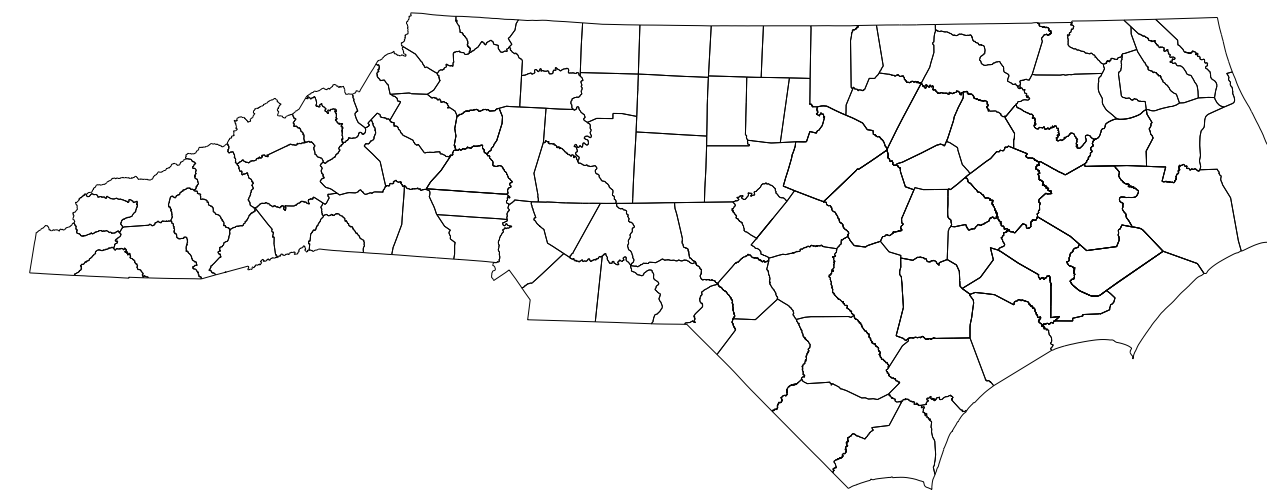
SCALE: 40' = 1" DATE: 18 Sep 2014

PREPARED BY: CAH
REVIEWED BY: BJU
REVIEWED BY:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WAKE COUNTY

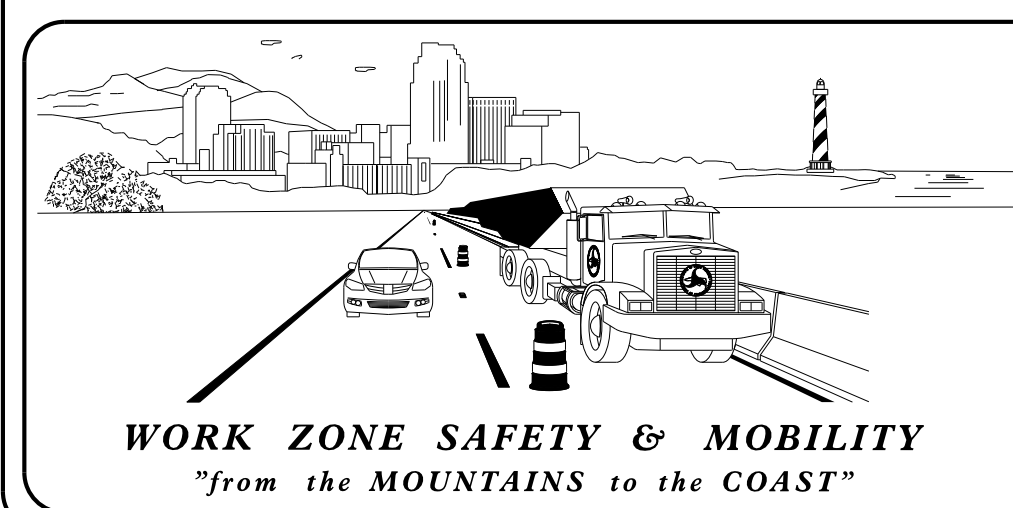


INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND

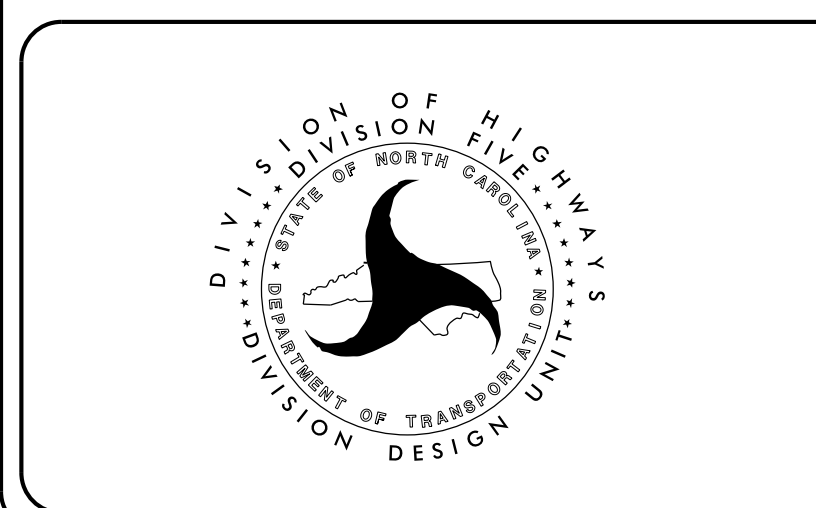
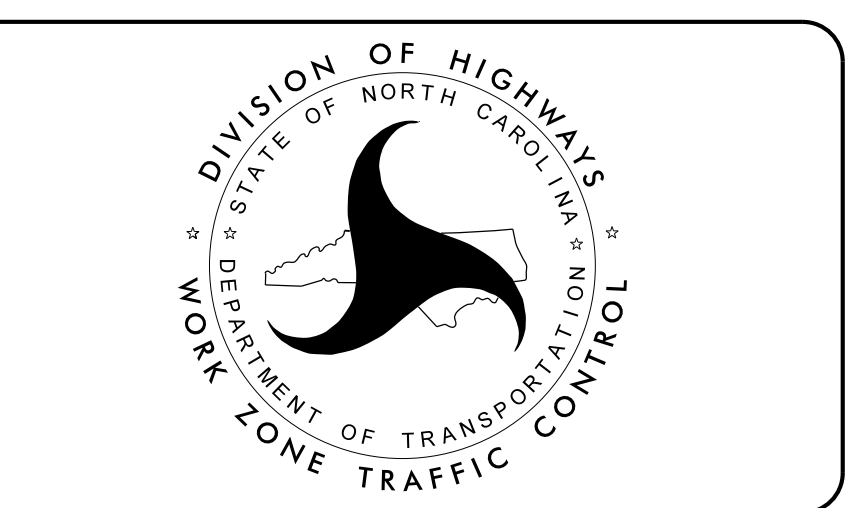
SHEET NO.
TMP-1

05-NOV-2014 11:45 R:\Roadway\Proj\W5205\TC_TMP_1.dgn canoffman AT DSCAD27139



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)
PHONE: (919) 773-2800 FAX: (919) 771-2745

_____ STATE TRAFFIC MANAGEMENT ENGINEER
_____ TRAFFIC CONTROL PROJECT ENGINEER
_____ TRAFFIC CONTROL PROJECT DESIGN ENGINEER
_____ TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: Ben Upshaw
DATE: 11/17/2014

SEAL

TIP PROJECT: W-5205I

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES

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
SR 1115 (AVENT FERRY RD)	Monday thru Friday, 6AM - 9AM and 4PM - 7PM

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) 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.
- C) 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.
- D) 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.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

- F) 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.
- G) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

GENERAL NOTES CONT.

PROJ. REFERENCE NO.	SHEET NO.
W-5205I	IMP-1A

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

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

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

- I) 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.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- K) 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.
- L) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- M) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING

- 1) TRAFFIC SIGNAL MUST BE INSTALLED AND FUNCTIONING PRIOR TO ISLAND IMPROVEMENTS
- 2) ONCE ISLANDS ARE CONSTRUCTED, CONES MUST BE USED TO DELINEATE ISLANDS UNTIL FINAL PAVEMENT MARKINGS ARE IN PLACE.

LEGEND

GENERAL

- ← DIRECTION OF TRAFFIC FLOW
- ↔ DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

■ WORK AREA

▨ REMOVAL

□ USER DEFINED (IF NEEDED)

□ USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING ● PROPOSED ● TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- ▨ BARRICADE (TYPE III)
- ▲ CONE
- DRUM ● SKINNY DRUM ● TUBULAR MARKER
- ~ TEMPORARY CRASH CUSHION
- ⚡ FLASHING ARROW BOARD
- FLAGGER
- ☑ LAW ENFORCEMENT
- ☑ TRUCK MOUNTED ATTENUATOR (TMA)
- ◀ CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

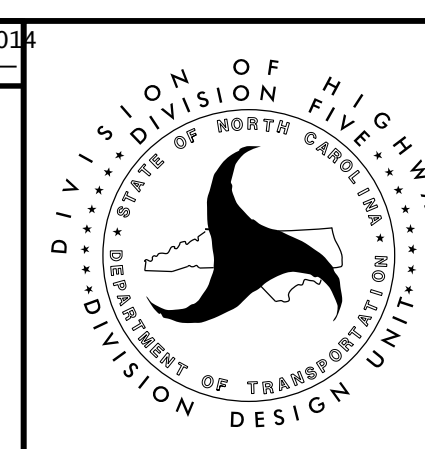
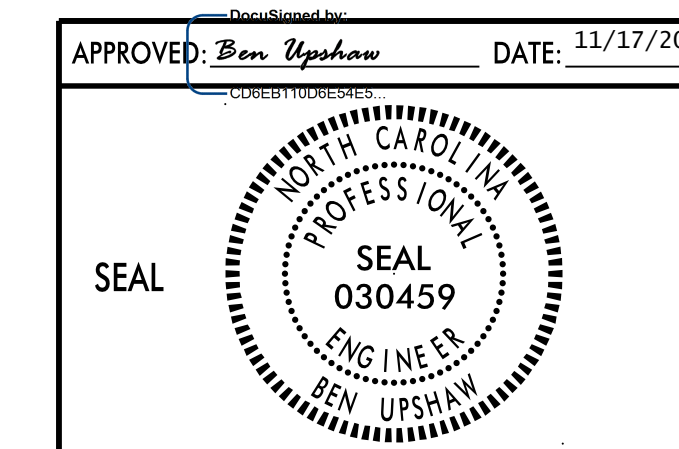
- ⊠ PORTABLE SIGN
- ⊠ STATIONARY SIGN
- ⊠ STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

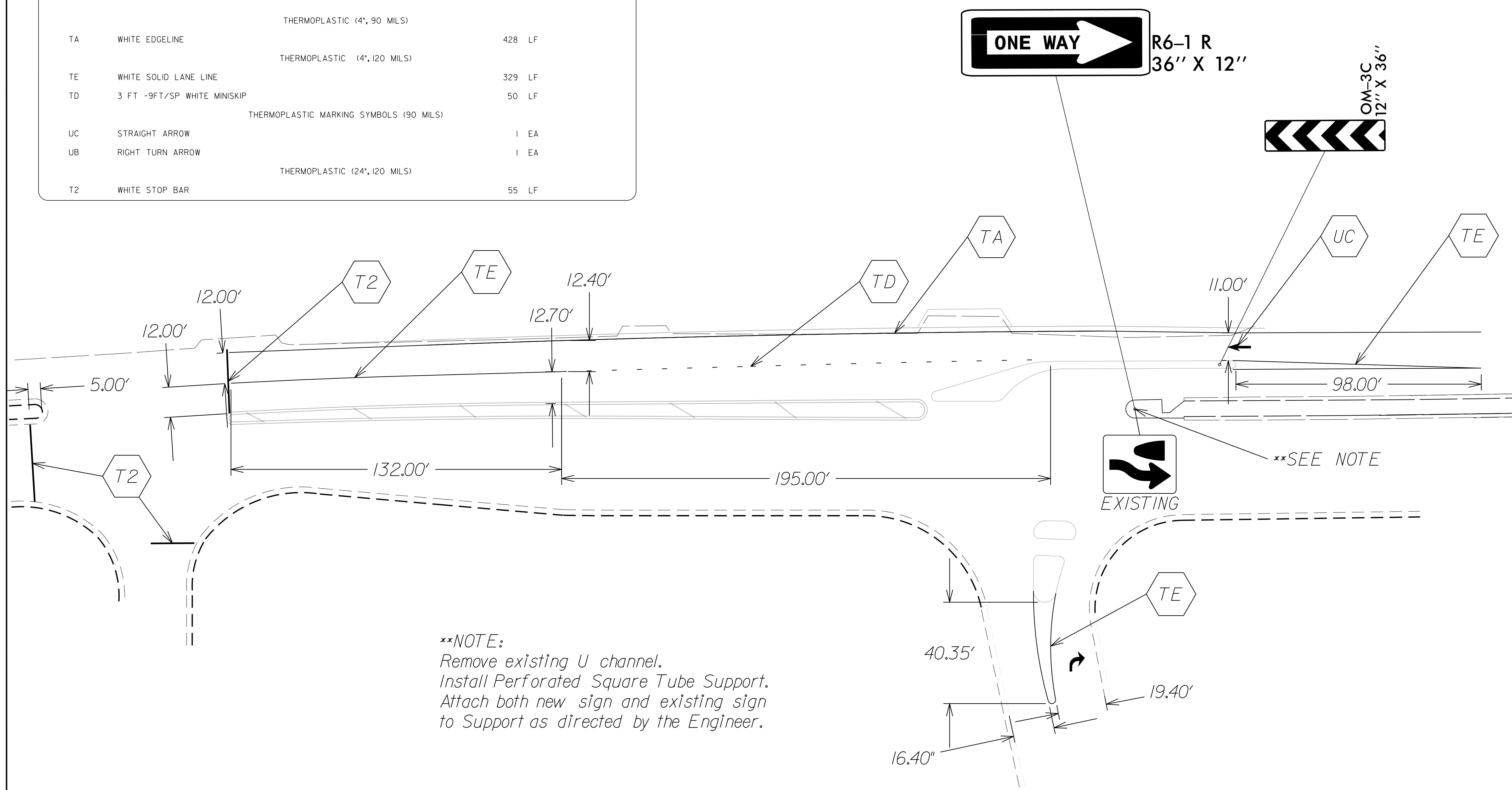
- ↑↔ PAVEMENT MARKING SYMBOLS



ROADWAY STANDARD
DRAWINGS, GENERAL NOTES,
PHASING AND LEGEND

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM	QUANTITY
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 MILS)	428 LF
TE	WHITE SOLID LANE LINE	THERMOPLASTIC (4", 120 MILS)	329 LF
TD	3 FT -9FT/SP WHITE MINISKIP	THERMOPLASTIC MARKING SYMBOLS (90 MILS)	50 LF
UC	STRAIGHT ARROW		1 EA
UB	RIGHT TURN ARROW		1 EA
T2	WHITE STOP BAR	THERMOPLASTIC (24", 120 MILS)	55 LF



****NOTE:**
 Remove existing U channel.
 Install Perforated Square Tube Support.
 Attach both new sign and existing sign
 to Support as directed by the Engineer.

DIVISION FIVE DESIGN

DocuSigned by:
 Ben Upshaw
 SIGNATURE

Avent Ferry at Village Walk
 Pavement Marking Plan

DIVISION 05 WAKE COUNTY

REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION
 DIVISION of HIGHWAYS
 DIVISION FIVE DESIGN UNIT

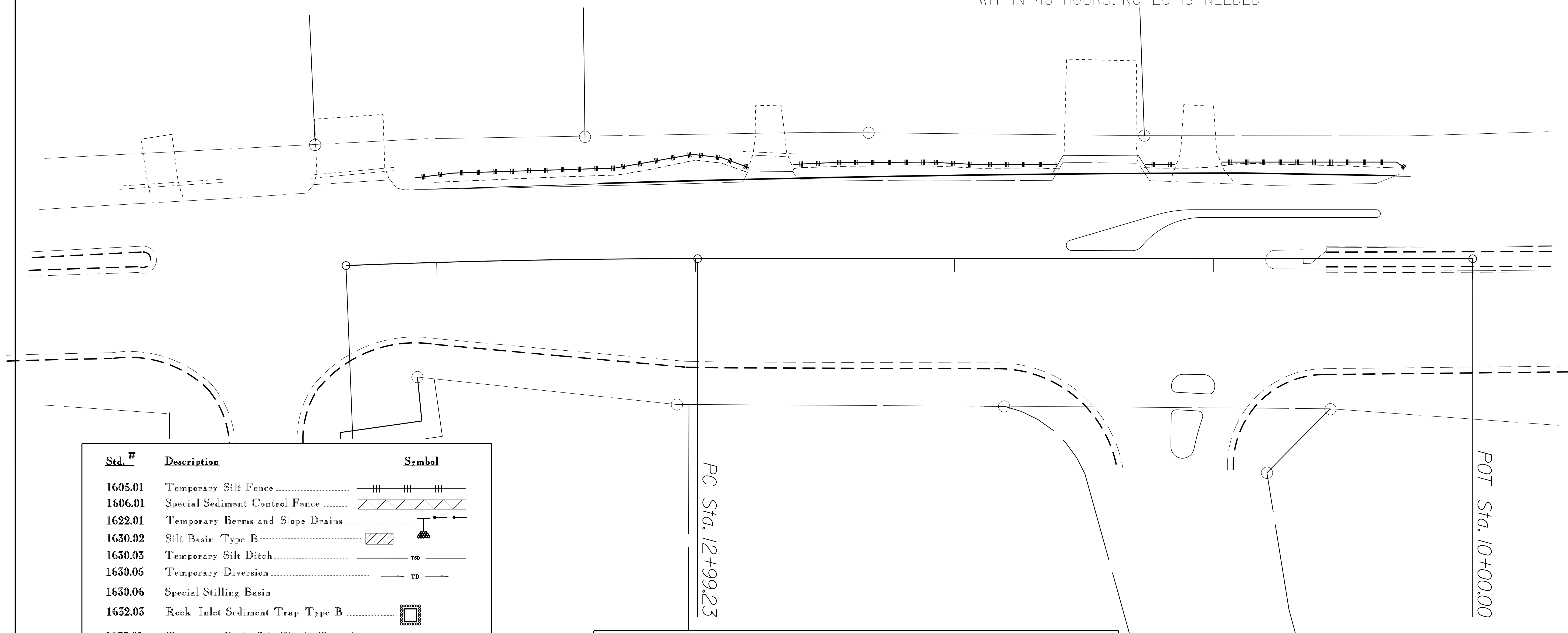
SCALE: 40' = 1" DATE: 17 NOV 2014

PREPARED BY: CAH
 REVIEWED BY: BJU

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

NOTE:
IF THE SHOULDERS ARE SEEDED AND MULCHED WITHIN 48 HOURS, NO EC IS NEEDED



Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▤ ▤ ▤ ▤ ▤
1622.01	Temporary Berms and Slope Drains	— TSD —
1630.02	Silt Basin Type B	▨
1630.03	Temporary Silt Ditch	— TSD —
1630.05	Temporary Diversion	— TD —
1630.06	Special Stilling Basin	▭
1632.03	Rock Inlet Sediment Trap Type B	▣
1633.01	Temporary Rock Silt Check Type-A	▤ ▤ ▤
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▤ ▤ ▤
1633.02	Temporary Rock Silt Check Type-B	▤ ▤ ▤
	Wattle	⤴
	Wattle with Polyacrylamide (PAM)	⤴
1634.02	Temporary Rock Sediment Dam Type-B	▭
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⤴

2012 STANDARD DRAWINGS

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

Avent Ferry at Village Walk
EC Plan

DIVISION 05 WAKE COUNTY

REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT

SCALE: 40' = 1" DATE: 15 Oct 2014

PREPARED BY: CAH
REVIEWED BY: BJU
REVIEWED BY:

PHASING DIAGRAM

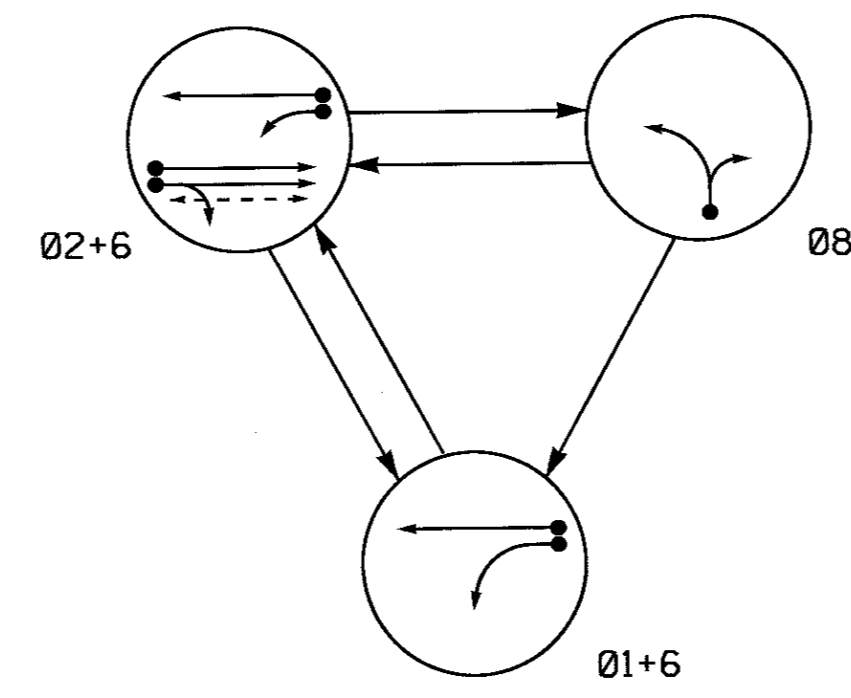


TABLE OF OPERATION

SIGNAL FACE	PHASE			
	01+6	02+6	08	FLASH
11	←	←	←	←
21, 22	R	G	R	Y
61, 62	G	G	R	Y
81, 82	R	R	G	R
P21, P22	DW	W	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

⚡ = Flashing Yellow Arrow

OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
2A, 2B	6X6	70	3	Y	2	Y	Y	-	-	-	-	Y
6A	6X6	70	4	Y	6	Y	Y	-	-	-	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	5	-	Y
S58	6X6	+100	4	Y	-	-	-	-	-	-	Y	Y
S59	6X6	+100	3	Y	-	-	-	-	-	-	Y	Y
S60	6X6	+100	3	Y	-	-	-	-	-	-	Y	Y

3 Phase Fully Actuated (Holly Springs NC 55 Bypass CLS)

NOTES

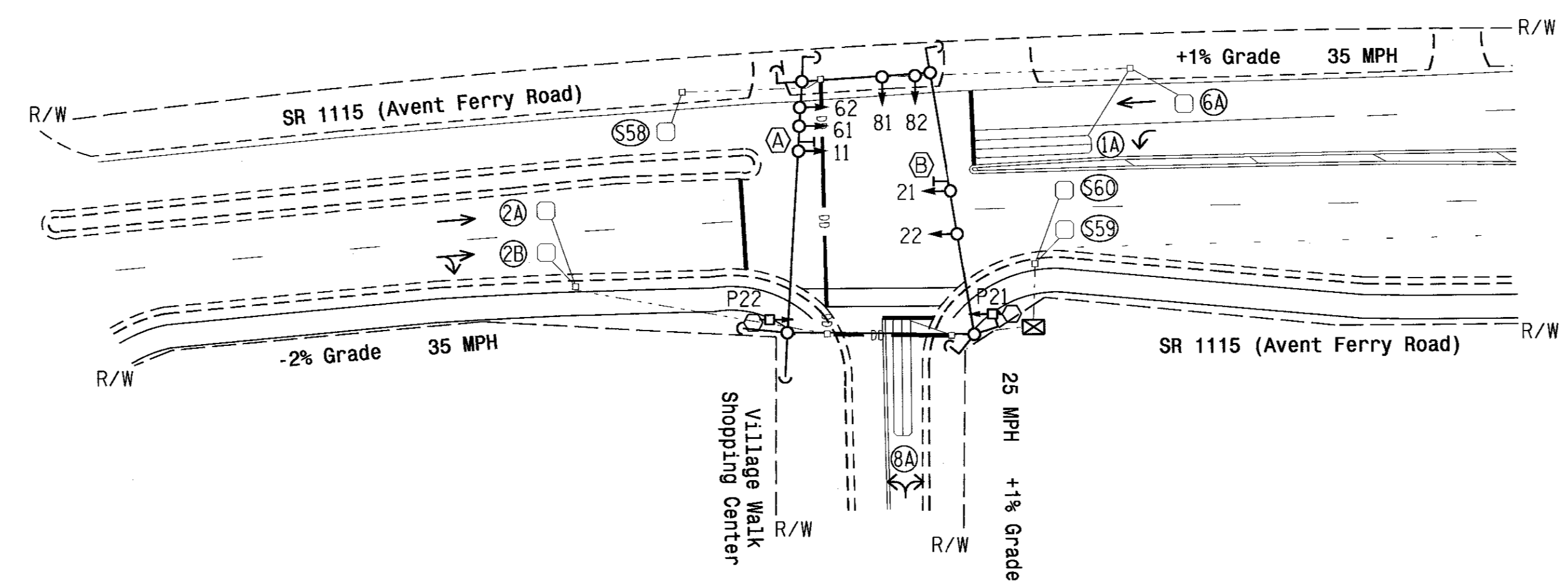
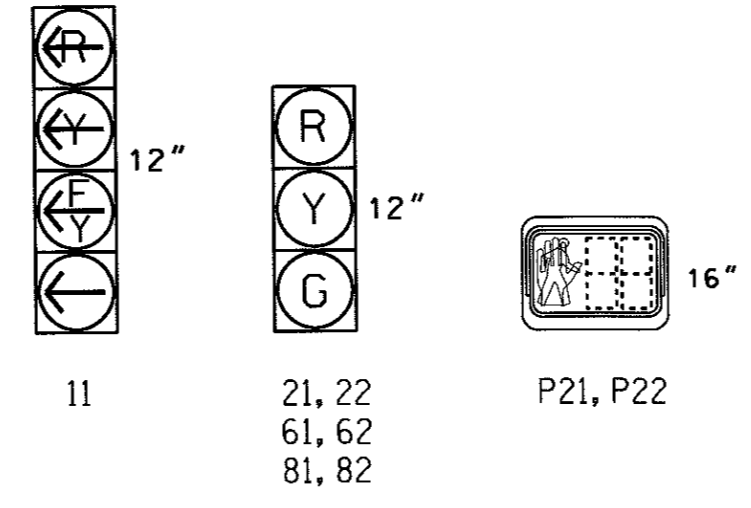
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "Walk" and flashing "DON'T WALK with no Pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- Closed loop system data: Controller Asset #: 1863.

PHASING DIAGRAM DETECTION LEGEND

- ←● DETECTED MOVEMENT
- ← UNDETECTED MOVEMENT (OVERLAP)
- ←--- UNSIGNALIZED MOVEMENT
- ←--- PEDESTRIAN MOVEMENT

SIGNAL FACE I.D.

All Heads L.E.D.

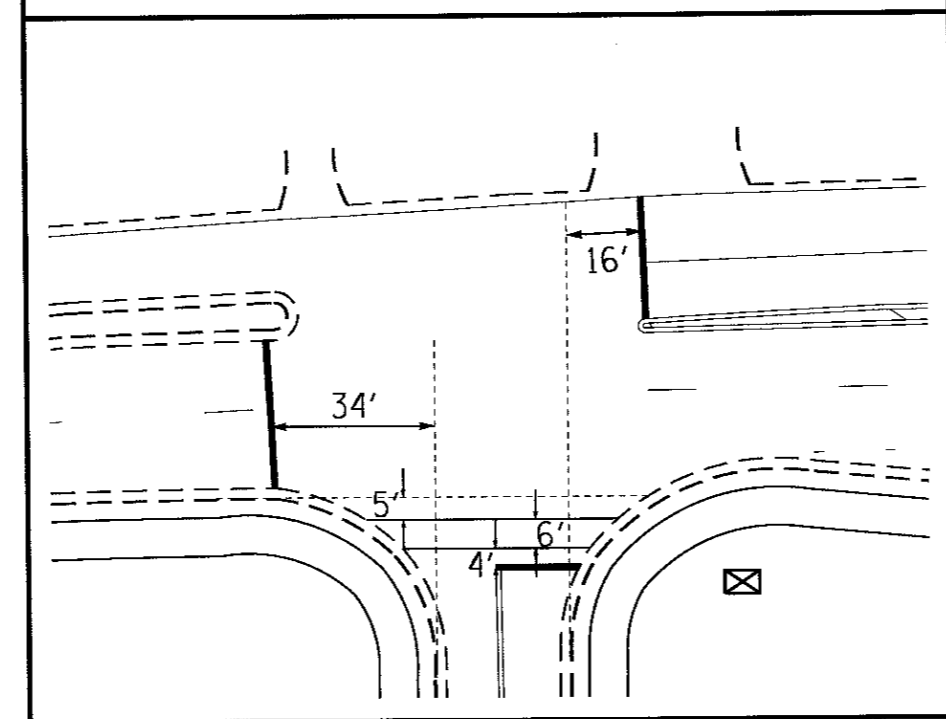


OASIS 2070L TIMING CHART

FEATURE	PHASE			
	1	2	6	8
Min Green 1 *	7	10	10	7
Extension 1 *	2.0	3.0	3.0	2.0
Max Green 1 *	15	60	60	20
Yellow Clearance	3.0	4.0	4.0	3.0
Red Clearance	2.3	1.5	1.5	2.3
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	7	-	-
Don't Walk 1	-	12	-	-
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	-	MIN RECALL	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	YELLOW	-
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

PROPOSED STOP BAR AND CROSSWALK LOCATIONS



LEGEND

- | PROPOSED | EXISTING |
|--|---------------------------------------|
| ○ → Traffic Signal Head | ● → Traffic Signal Head |
| ○ → Modified Signal Head | N/A |
| ⊥ Sign | ⊥ Sign |
| ⊥ Pedestrian Signal Head With Push Button & Sign | ⊥ Pedestrian Signal Head |
| ⊥ Signal Pole with Guy | ⊥ Signal Pole with Guy |
| ⊥ Signal Pole with Sidewalk Guy | ⊥ Signal Pole with Sidewalk Guy |
| ⊠ Inductive Loop Detector | ⊠ Inductive Loop Detector |
| ⊠ Controller & Cabinet | ⊠ Controller & Cabinet |
| ⊠ Junction Box | ⊠ Junction Box |
| --- 2-in Underground Conduit | --- 2-in Underground Conduit |
| N/A Right of Way | --- Right of Way |
| → Directional Arrow | → Directional Arrow |
| ○ Signal Pedestal | ● Signal Pedestal |
| --- Directional Drill | N/A |
| ⊠ Left Arrow "ONLY" Sign (R3-5L) | ⊠ Left Arrow "ONLY" Sign (R3-5L) |
| ⊠ No U-Turn/No Left Turn Sign (R3-18) | ⊠ No U-Turn/No Left Turn Sign (R3-18) |

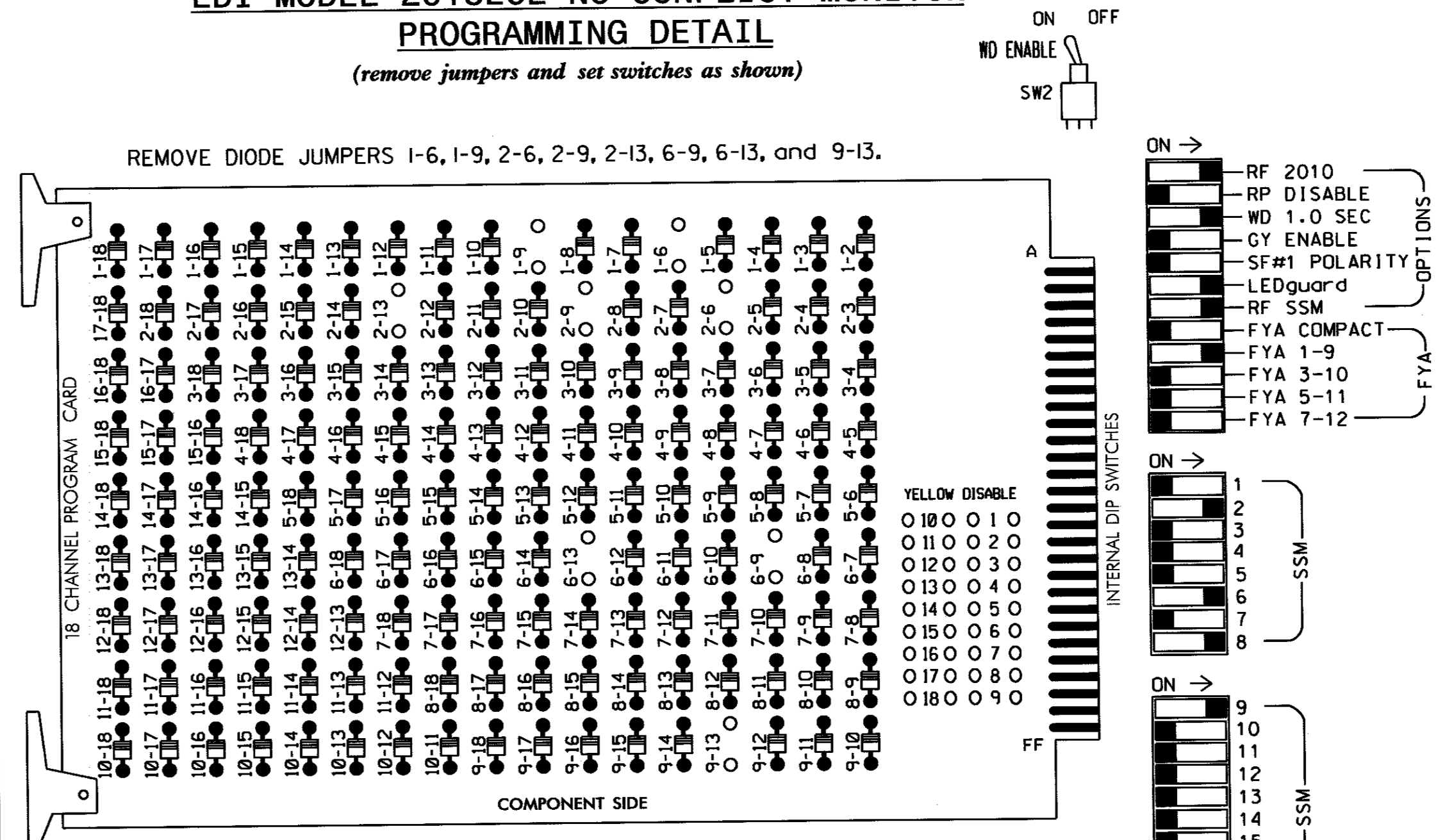
New Installation - Temporary Design

	<p>SR 1115 (Avent Ferry Road) at Village Walk Shopping Center</p>	
	<p>Division 5 Wake County Holly Springs</p>	<p>PLANNED BY: L. Blount</p>
<p>750 N. Greenfield Pkwy, Corner, NC 27528</p>	<p>REVIEWED BY:</p>	<p>DATE: 8/14/13</p>
<p>SCALE: 1" = 40'</p>	<p>REVISIONS:</p>	<p>INIT. DATE</p>
<p>SIGNATURE: [Signature]</p>	<p>DATE: 8/14/13</p>	<p>SIG. INVENTORY NO. 05-18631</p>

14-AUG-2013 09:38 S:\P\55504\T\S\S\Signal\Signal Design\Central\Reg\on\iv 5405-18631\0518631-01.dwg 2013xxxx.dgn

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phase 2 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
- The cabinet and controller are part of the Holly Springs NC 55 Bypass Closed Loop System.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 W/ AUX
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S3,S8,S11,AUX S1
 PHASES USED.....1,2,2PED,6,8
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....NOT USED
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6		
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18		
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE		
SIGNAL HEAD NO.	11	21,22	P21, P22	NU	NU	NU	NU	61,62	NU	NU	81,82	NU	11	NU	NU	NU	NU	NU		
RED		128							134		107									
YELLOW	*	129							135		108									
GREEN		130							136		109									
RED ARROW																		A121		
YELLOW ARROW																			A122	
FLASHING YELLOW ARROW																			A123	
GREEN ARROW	127																			
Hand icon																			113	
Person icon																				115

NU = Not Used

* Denotes install load resistor. See load resistor installation detail this sheet.

* See pictorial of head wiring in detail below.

INPUT FILE POSITION LAYOUT

(front view)

FILE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	∅ 1 1A	∅ 2 2A,2B	∅ 3 NOT USED	∅ 4 NOT USED	∅ 5 NOT USED	∅ 6 NOT USED	∅ 7 NOT USED	∅ 8 NOT USED	∅ 9 NOT USED	∅ 10 NOT USED	∅ 11 NOT USED	∅ 12 NOT USED	∅ 13 NOT USED	∅ 14 NOT USED
L	∅ 1 NOT USED	∅ 2 NOT USED	∅ 3 NOT USED	∅ 4 NOT USED	∅ 5 NOT USED	∅ 6 NOT USED	∅ 7 NOT USED	∅ 8 NOT USED	∅ 9 NOT USED	∅ 10 NOT USED	∅ 11 NOT USED	∅ 12 NOT USED	∅ 13 NOT USED	∅ 14 NOT USED
U	∅ 1 NOT USED	∅ 6 6A	∅ 7 NOT USED	∅ 8 NOT USED	∅ 9 NOT USED	∅ 10 NOT USED	∅ 11 NOT USED	∅ 12 NOT USED	∅ 13 NOT USED	∅ 14 NOT USED	∅ 15 NOT USED	∅ 16 NOT USED	∅ 17 NOT USED	∅ 18 NOT USED
L	∅ 1 NOT USED	∅ 6 NOT USED	∅ 7 NOT USED	∅ 8 NOT USED	∅ 9 NOT USED	∅ 10 NOT USED	∅ 11 NOT USED	∅ 12 NOT USED	∅ 13 NOT USED	∅ 14 NOT USED	∅ 15 NOT USED	∅ 16 NOT USED	∅ 17 NOT USED	∅ 18 NOT USED

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
 ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A ¹	TB2-1,2	I1U	56	18	1	1	Y	Y			15
		J4U	48	10	26	6	Y	Y			
2A,2B	TB2-5,6	I2U	39	1	2	2	Y	Y			
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			5
*S58	TB6-9,10	I9U	60	22	11	SYS					
*S59	TB6-11,12	I9L	62	24	13	SYS					
*S60	TB7-9,10	J9U	59	21	15	SYS					
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					

NOTE:
 INSTALL DC ISOLATOR IN INPUT FILE SLOT 112.

¹Add jumper from I1-W to J4-W, on rear of input file.

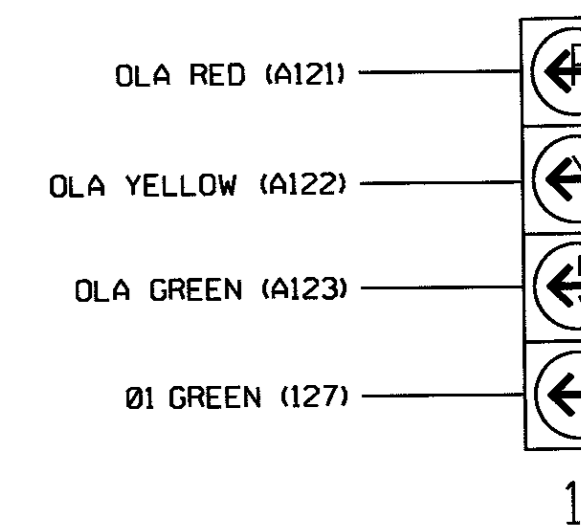
* System detector only. Remove the vehicle phase assigned to this detector in the default programming.

INPUT FILE POSITION LEGEND: J2L



FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



NOTE

The sequence display for signal head 11 requires special logic programming. See sheet 2 for programming instructions.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

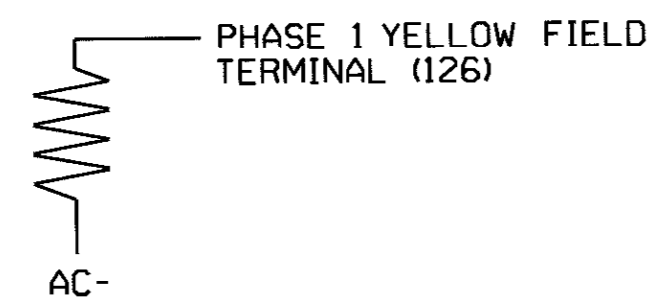
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-1863T
 DESIGNED: June 2013
 SEALED: 8/14/13
 REVISED: N/A

LOAD RESISTOR INSTALLATION DETAIL

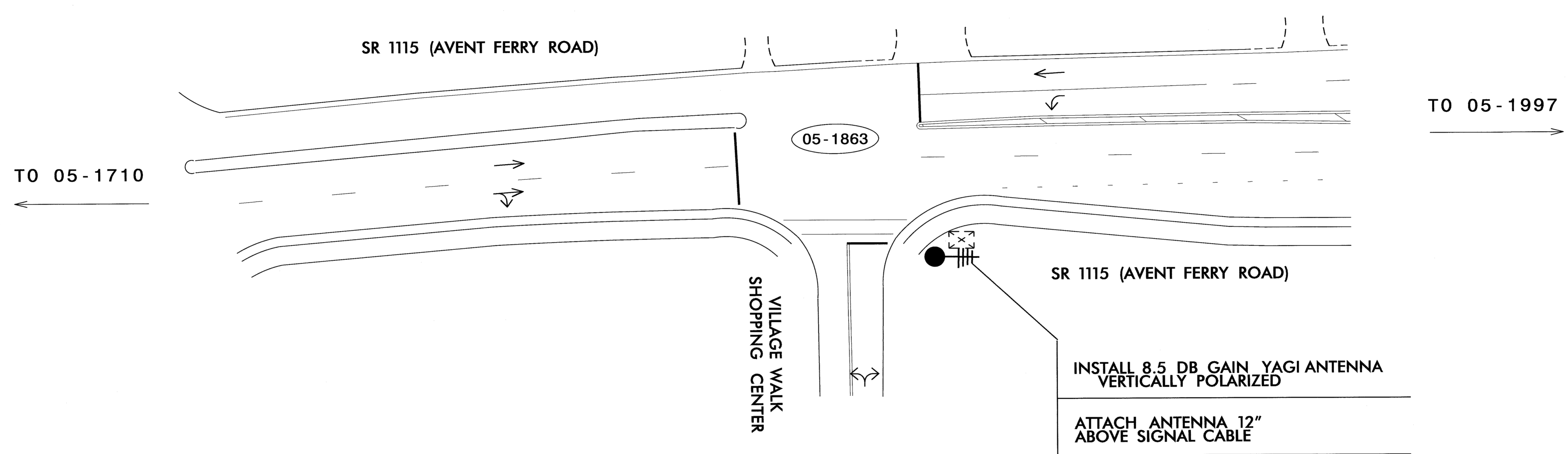
(install resistor as shown below)

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



New Installation - Temporary Design - Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared in the Office of: 750 N. Greenfield Pkwy, Corner, NC 27529	SR 1115 (Avent Ferry Road) at Village Walk Shopping Center	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER JOHN T. ROWE, JR. SEAL 008453
	Division 5 Wake County Holly Springs PLAN DATE: August 2013 REVIEWED BY: JTK PREPARED BY: S. Armstrong REVIEWED BY:	
REVISIONS: _____ INIT. DATE _____		SIGNATURE: _____ DATE: 8-19-13 SIG. INVENTORY NO. 05-1863T



- NOTES FOR WIRELESS COMMUNICATIONS:**
- INSTALL COAXIAL CABLE:
 - ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - ON METAL POLES WITH MAST ARMS, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL A 1/2" HOLE UP THROUGH THE BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
 - ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
 - BETWEEN THE POINT OF EXITING THE RISER, METAL POLE OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".
 - IF AN EXISTING 2" SPARE RIGID GALVANIZED STEEL RISER IS AVAILABLE, INSTALL THE COAXIAL CABLE IN THE SPARE RISER.
 - INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
 - MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
 - INSTALL WIRELESS SERIAL RADIO MODEM WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET.
(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL ARE NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
 - REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS."

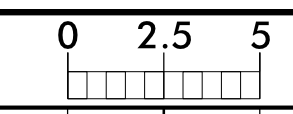
LEGEND

	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	OMNI ANTENNA
	EXISTING CONTROLLER AND CABINET
	EXISTING MASTER CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING WOOD POLE
	NEW METAL POLE
	SIGNAL POLE
	EXISTING METAL POLE
	NEW OVERSIZED JUNCTION BOX
	EXISTING OVERSIZED JUNCTION BOX
	EXISTING CONDUIT
	EXISTING COMMUNICATIONS CABLE

TMP - I

	WIRELESS COMMUNICATION PLANS		
	DIVISION 05 WAKE COUNTY HOLLY SPRINGS		
PLAN DATE: AUGUST 2013 PREPARED BY: B.A. STOCHKO	REVIEWED BY: I.N. AVERY REVIEWED BY: G.A. FULLER		SIGNATURE: <i>Gregory A. Fuller</i> DATE: 8/7/13
750 N. Greenfield Pkwy, Garner, NC 27529 SCALE: 0 30 1" = 30'	REVISIONS:	INIT. DATE	
			SIG. INVENTORY NO.

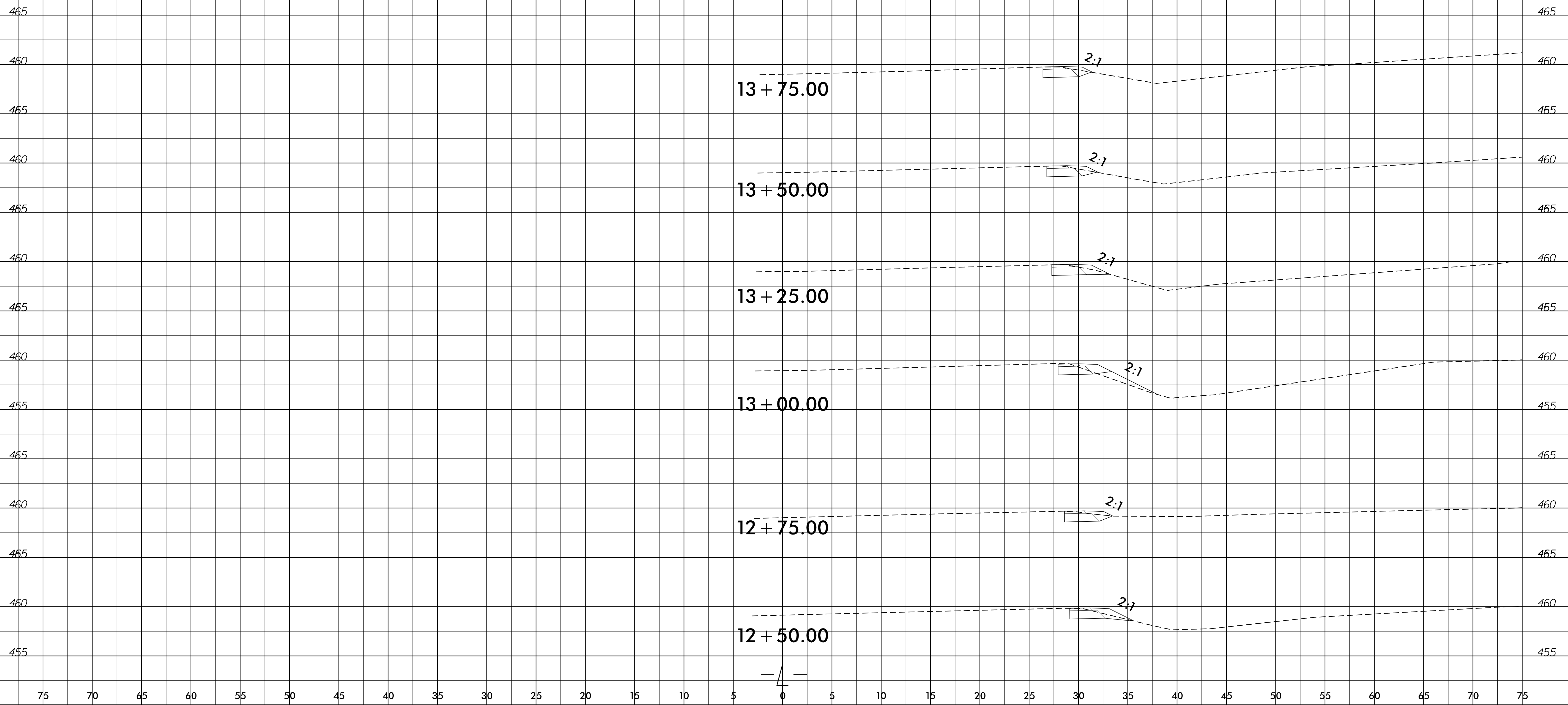
8/23/99



PROJ. REFERENCE NO.
W-52051

SHEET NO.
X-2

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75



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