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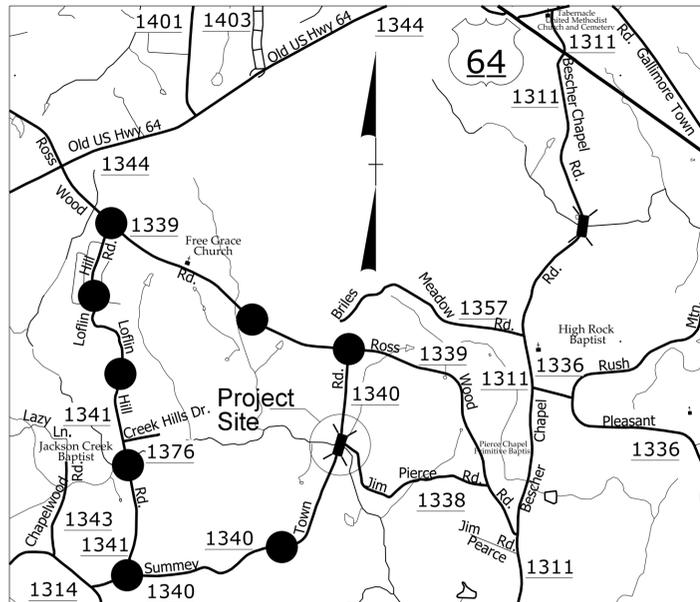
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TIP PROJECT: 17BP.8.R.75

CONTRACT: DH00213

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheet 1C-1 For Survey Control Sheet



VICINITY MAP

● DETOUR ROUTE

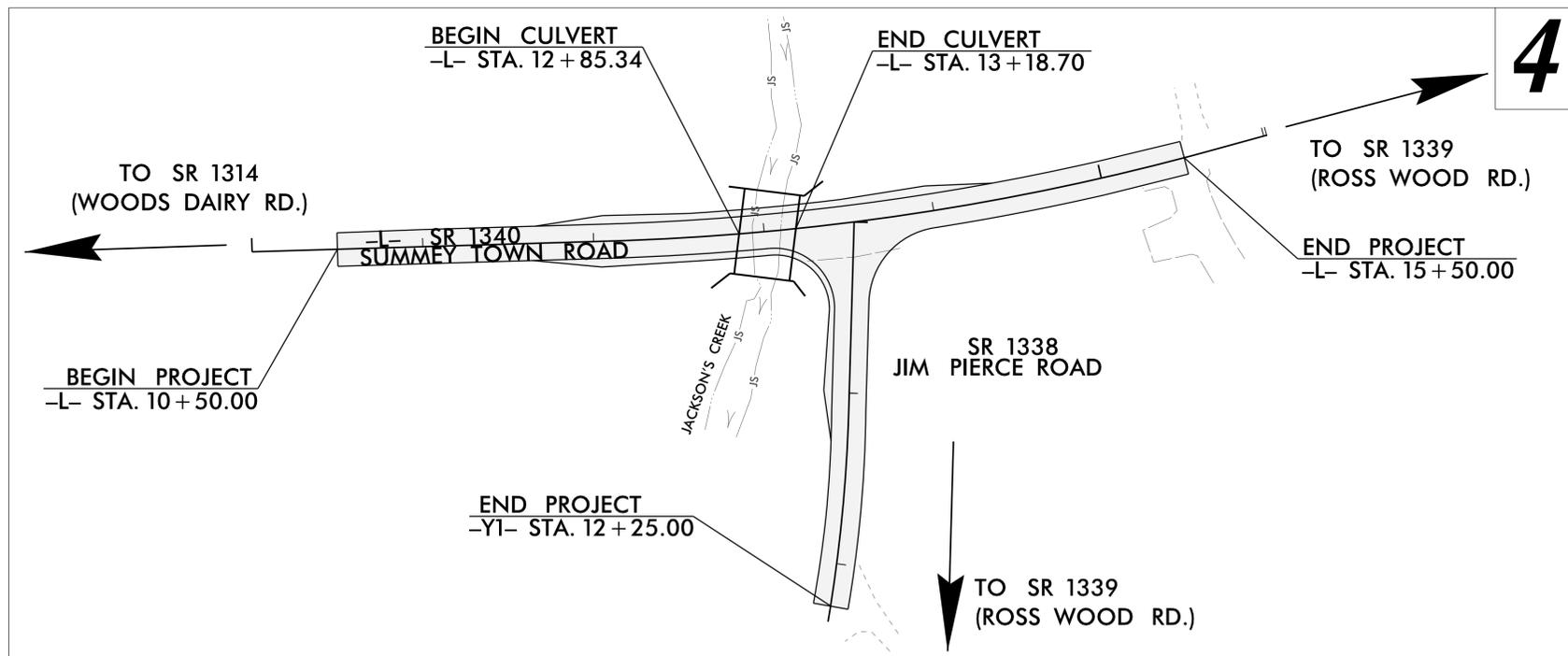
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750045 ON SR 1340 (SUMMEY TOWN RD)
OVER JACKSON'S CREEK.**

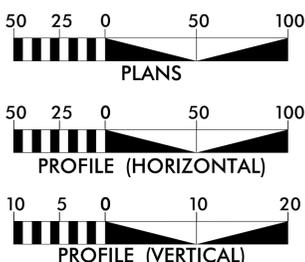
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.8.R.75	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.8.R.75	NA	PE	
17BP.8.R.75	NA	RW	
17BP.8.R.75	NA	CONST	
Prepared in the Office of:		 NC FIRM LICENSE No: C-0890 915 Jones Franklin Road Raleigh, NC 27606 (919) 859-2243 (919) 859-6258 (FAX)	
Prepared in the Office of:		 NC FIRM LICENSE No: P-0671 101 Schaub Drive, Suite 100 Raleigh, NC 27606 (919) 851-6606 (919) 851-6645 (FAX)	



**RELEASE FOR
CONSTRUCTION
DATE: 08/29/16**

GRAPHIC SCALES



DESIGN DATA

ADT 2011 = 140
T = 6 % *
V = 55 MPH
* TTST = 3% DUAL 3%
FUNC CLASS =
LOCAL RURAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT = 0.087 MILES
LENGTH STRUCTURES PROJECT = 0.008 MILES
TOTAL LENGTH PROJECT = 0.095 MILES

NCDOT CONTACT: TIM WELCH, PE
NCDOT HWY DIV 8



Prepared in the Office of:
504 Meadowland Drive
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitde.net

RIGHT OF WAY DATE:
NOVEMBER 2014

TRACY N. PARROTT, PE
PROJECT ENGINEER

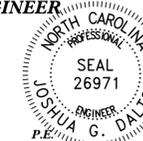
LETTING DATE:
SEPTEMBER 2016

BRANDON W. JOHNSON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

8/30/2016

DocuSigned by:
Joshua G Dalton
1089AD8C14994C3
SIGNATURE:



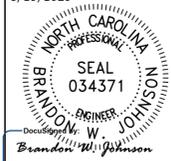
ROADWAY DESIGN ENGINEER

8/29/2016

DocuSigned by:
Brandon W. Johnson
1A35628E0C39845E
SIGNATURE:



8/17/99

PROJECT REFERENCE NO. <i>17BP.8.R.75</i>	SHEET NO. <i>1A</i>
ROADWAY DESIGN ENGINEER 8/29/2016	
	
Prepared in the Office of: 	
NC FIRM LICENSE No. P-0339 504 Meadowlands Drive Springboro, OH 45776 (937) 732-5883 • (937) 732-6616 (FAX)	

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1	SURVEY CONTROL SHEET
2A-1 THRU 2A-2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3B-1	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND PARCEL INDEX
4	PLAN SHEET AND PROFILE SHEET
TMP-1 THRU TMP-4	TRAFFIC CONTROL PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
UC-1 THRU UC-4	UTILITIES PLANS
X-1 THRU X-8	CROSS-SECTIONS
C-1 THRU C-2	STRUCTURE PLANS

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

GRADE LINE:
GRADING AND SURFACING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND/OR STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND/OR STD. NO. 560.02

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

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE DAVIDSON WATER INC., RANDOLPH TELEPHONE MEM. CORP. AND RANDOLPH EMC. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

EFF. 01-17-2012
REV. 10-30-2012

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:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

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Davidson
lessa@summit.com

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

*S.U.E. = *Subsurface Utility Engineering*

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙ EIP
Property Corner	-----
Property Monument	⊠ ECM
Parcel/Sequence Number	Ⓜ 123
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	⊠
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- WLB ---
Proposed Wetland Boundary	--- WLB ---
Existing Endangered Animal Boundary	--- EAB ---
Existing Endangered Plant Boundary	--- EPB ---
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	Ⓢ
Well	⊙ W
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠
Building	⊠
School	⊠
Church	⊠
Dam	⊠

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	⊠
Jurisdictional Stream	--- JS ---
Buffer Zone 1	--- BZ 1 ---
Buffer Zone 2	--- BZ 2 ---
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Wetland	⊠
Proposed Lateral, Tail, Head Ditch	⊠
False Sump	⊠

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	Ⓜ CSX TRANSPORTATION MILEPOST 35
Switch	⊠ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	Ⓜ RW
Proposed Right of Way Line with Iron Pin and Cap Marker	Ⓜ RW ⊠
Proposed Right of Way Line with Concrete or Granite RW Marker	Ⓜ RW ⊠
Proposed Control of Access Line with Concrete CA Marker	Ⓜ CA ⊠
Existing Control of Access	Ⓜ CA ⊠
Proposed Control of Access	Ⓜ CA ⊠
Existing Easement Line	--- E ---
Proposed Temporary Construction Easement	--- E ---
Proposed Temporary Drainage Easement	--- TDE ---
Proposed Permanent Drainage Easement	--- PDE ---
Proposed Permanent Drainage / Utility Easement	--- DUE ---
Proposed Permanent Utility Easement	--- PUE ---
Proposed Temporary Utility Easement	--- TUE ---
Proposed Aerial Utility Easement	--- AUE ---
Proposed Permanent Easement with Iron Pin and Cap Marker	Ⓜ ⊠

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	Ⓜ CR
Existing Metal Guardrail	⊠
Proposed Guardrail	⊠
Existing Cable Guiderail	⊠
Proposed Cable Guiderail	⊠
Equality Symbol	⊠
Pavement Removal	⊠
VEGETATION:	
Single Tree	⊠
Single Shrub	⊠
Hedge	⊠
Woods Line	⊠

Orchard	⊠
Vineyard	⊠ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	⊠ CONC
Bridge Wing Wall, Head Wall and End Wall	⊠ CONC WW ⊠
MINOR:	
Head and End Wall	⊠ CONC HW ⊠
Pipe Culvert	⊠
Footbridge	⊠
Drainage Box: Catch Basin, DI or JB	⊠ CB
Paved Ditch Gutter	⊠
Storm Sewer Manhole	Ⓜ S
Storm Sewer	--- S ---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	Ⓜ P
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	Ⓜ PH
H-Frame Pole	●
Recorded U/G Power Line	--- P ---
Designated U/G Power Line (S.U.E.*)	--- P ---

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	Ⓜ T
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	Ⓜ PH
Recorded U/G Telephone Cable	--- T ---
Designated U/G Telephone Cable (S.U.E.*)	--- T ---
Recorded U/G Telephone Conduit	--- TC ---
Designated U/G Telephone Conduit (S.U.E.*)	--- TC ---
Recorded U/G Fiber Optics Cable	--- T FO ---
Designated U/G Fiber Optics Cable (S.U.E.*)	--- T FO ---

WATER:

Water Manhole	Ⓜ W
Water Meter	Ⓜ
Water Valve	⊠
Water Hydrant	⊠
Recorded U/G Water Line	--- W ---
Designated U/G Water Line (S.U.E.*)	--- W ---
Above Ground Water Line	--- A/G Water ---

TV:

TV Satellite Dish	⊠
TV Pedestal	⊠
TV Tower	⊠
U/G TV Cable Hand Hole	Ⓜ PH
Recorded U/G TV Cable	--- TV ---
Designated U/G TV Cable (S.U.E.*)	--- TV ---
Recorded U/G Fiber Optic Cable	--- TV FO ---
Designated U/G Fiber Optic Cable (S.U.E.*)	--- TV FO ---

GAS:

Gas Valve	◇
Gas Meter	Ⓜ
Recorded U/G Gas Line	--- G ---
Designated U/G Gas Line (S.U.E.*)	--- G ---
Above Ground Gas Line	--- A/G Gas ---

SANITARY SEWER:

Sanitary Sewer Manhole	Ⓜ SS
Sanitary Sewer Cleanout	Ⓜ
U/G Sanitary Sewer Line	--- SS ---
Above Ground Sanitary Sewer	--- A/G Sanitary Sewer ---
Recorded SS Forced Main Line	--- FSS ---
Designated SS Forced Main Line (S.U.E.*)	--- FSS ---

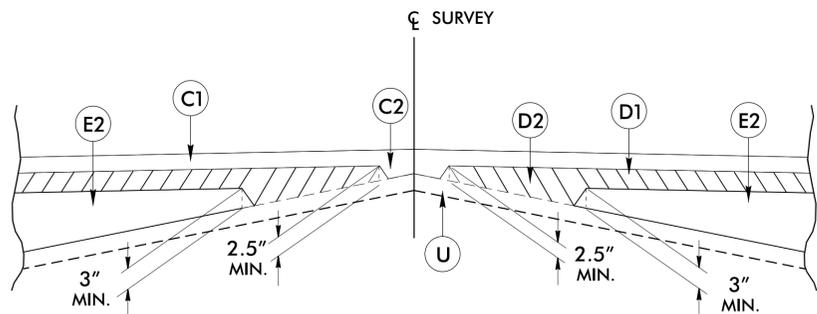
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊠
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	--- 7U/TL ---
U/G Tank; Water, Gas, Oil	⊠
Underground Storage Tank, Approx. Loc.	⊠ UST
A/G Tank; Water, Gas, Oil	⊠
Geoenvironmental Boring	⊠
U/G Test Hole (S.U.E.*)	⊠
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

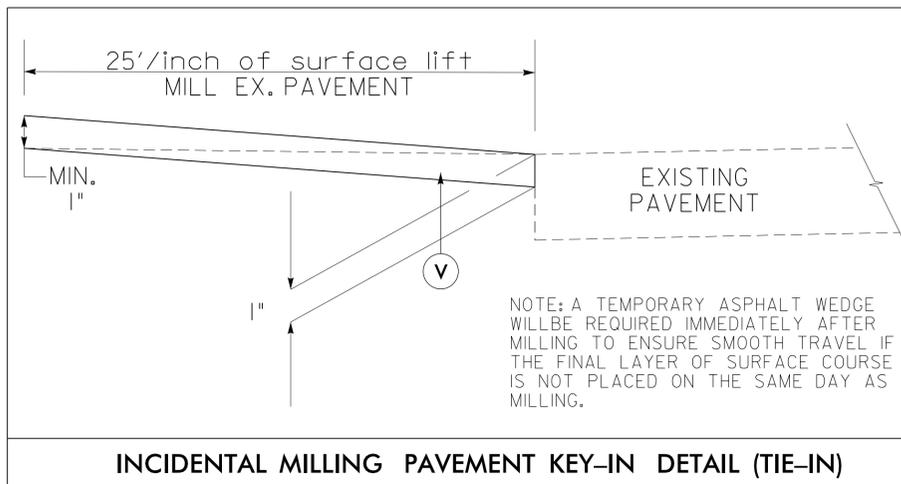
6/2/2016

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
V	MILLING BITUMINOUS PAVEMENT.
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



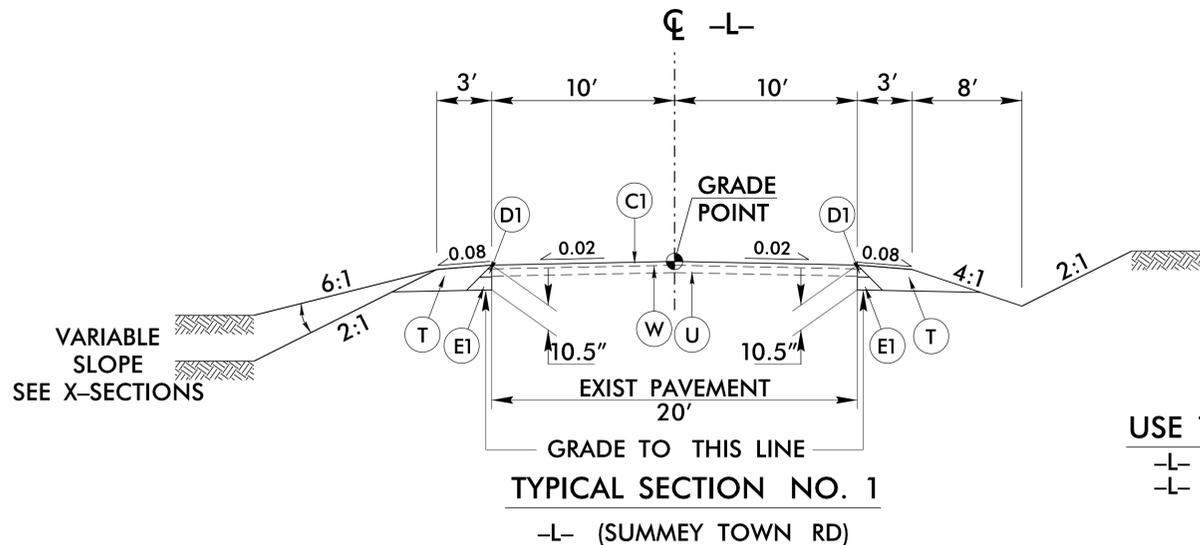
Detail Showing Method of Wedging



INCIDENTAL MILLING PAVEMENT KEY-IN DETAIL (TIE-IN)

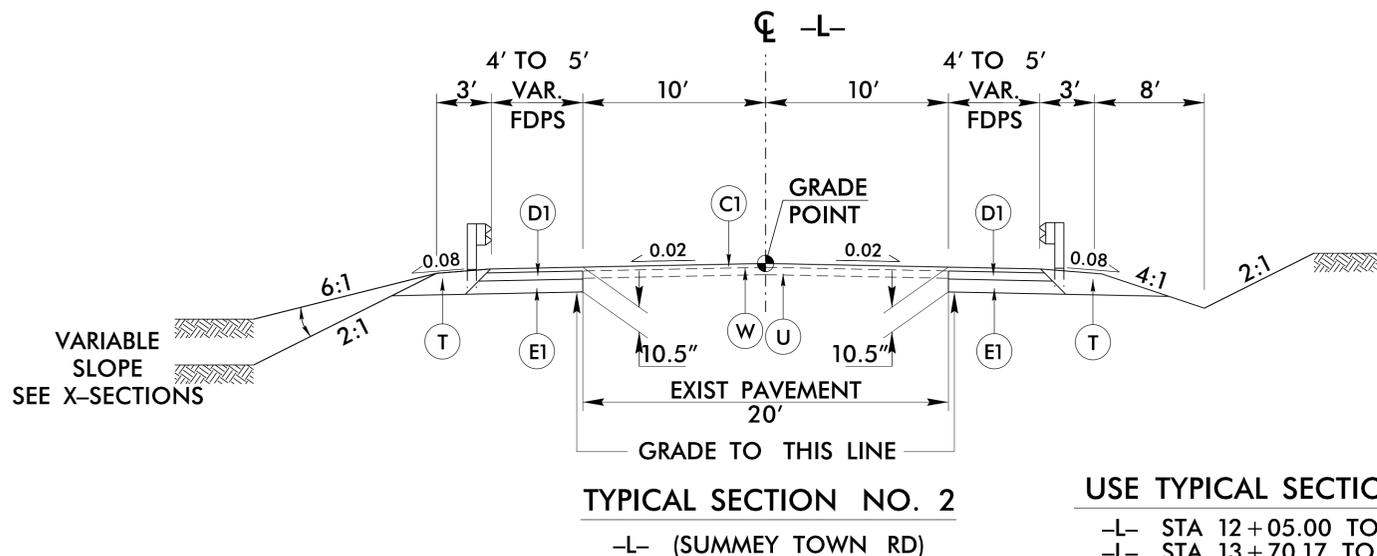
PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 8/29/2016	PAVEMENT DESIGN ENGINEER
Prepared in the Office of: 	

NOTE: PLACE FDPS TO FACE OF GUARDRAIL AS SHOWN ON PLANS



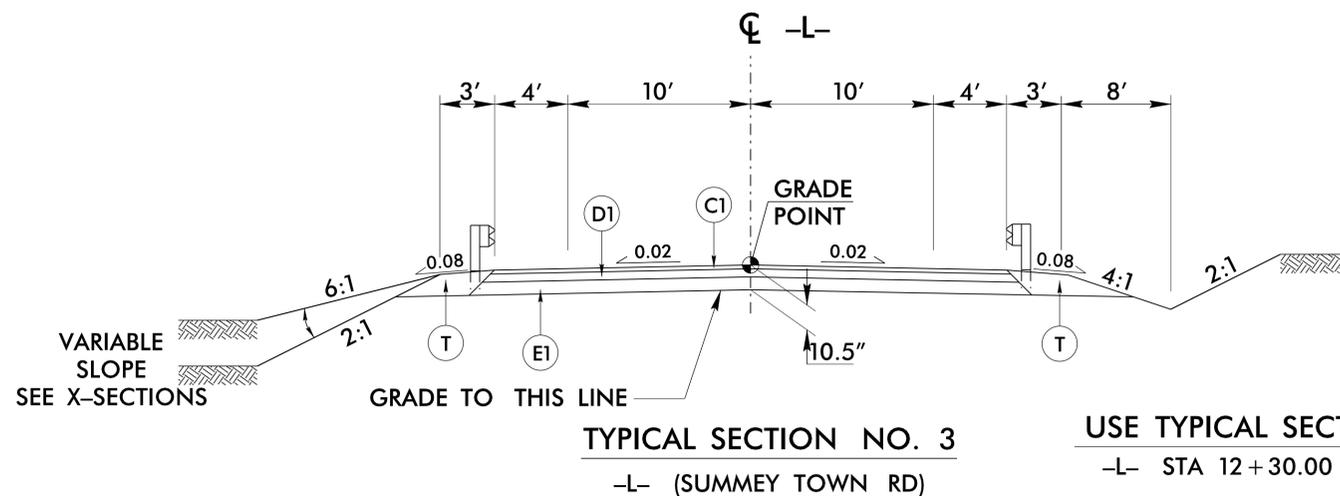
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-L- STA 10+50.00 TO STA 12+05.00
-L- STA 13+95.17 TO STA 15+50.00



USE TYPICAL SECTION NO. 2

-L- STA 12+05.00 TO STA 12+30.00
-L- STA 13+70.17 TO STA 13+95.17



USE TYPICAL SECTION NO. 3

-L- STA 12+30.00 TO STA 13+70.17

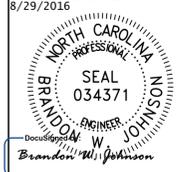
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less than 1/2 inch

6/2/09

PAVEMENT SCHEDULE	
C1	2" SF9.5A
C2	VAR. SF9.5A
D1	3" I19.0B
D2	VAR. I19.0B
E1	5.5" B25.0B
E2	VAR. B25.0B
T	EARTH MATERIAL
U	EX. PAVEMENT
W	WEDGING

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

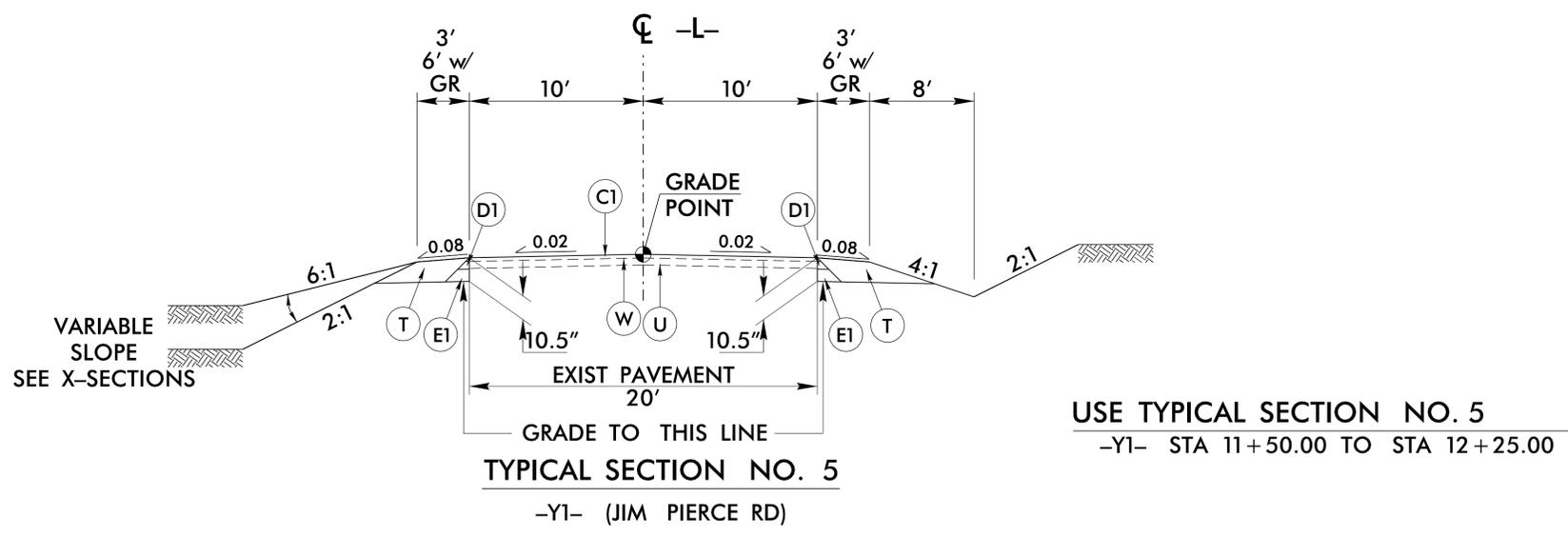
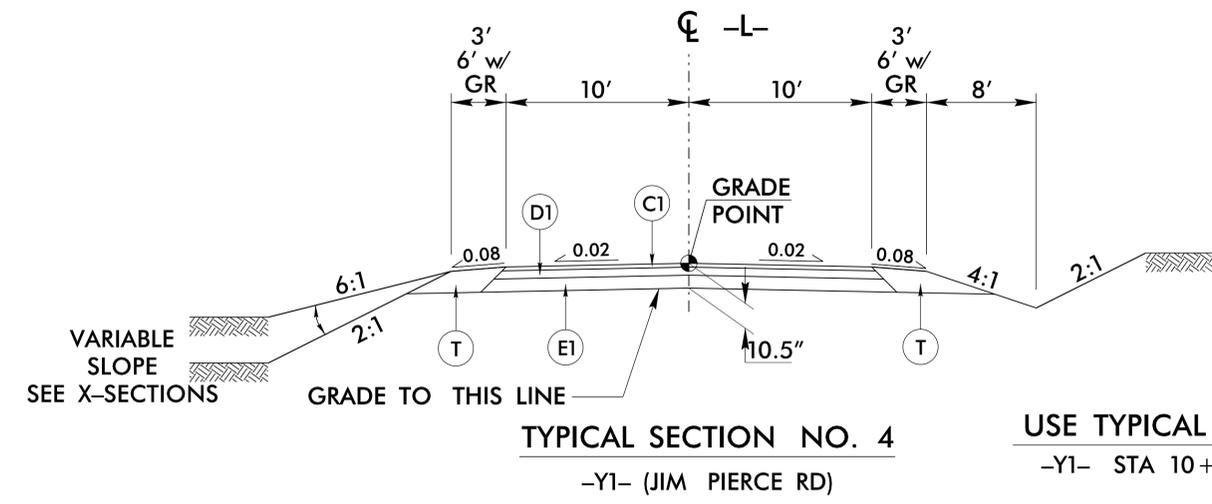
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ROADWAY DESIGN ENGINEER 8/29/2016	PAVEMENT DESIGN ENGINEER



 Prepared in the Office of: 

NC FIRM LICENSE No. P-0339
 404 Meadowsides Drive
 Raleigh, NC 27608
 (919) 732-5865 - (919) 732-6616 (FAX)

NOTE: PLACE FDPS TO FACE OF GUARDRAIL AS SHOWN ON PLANS

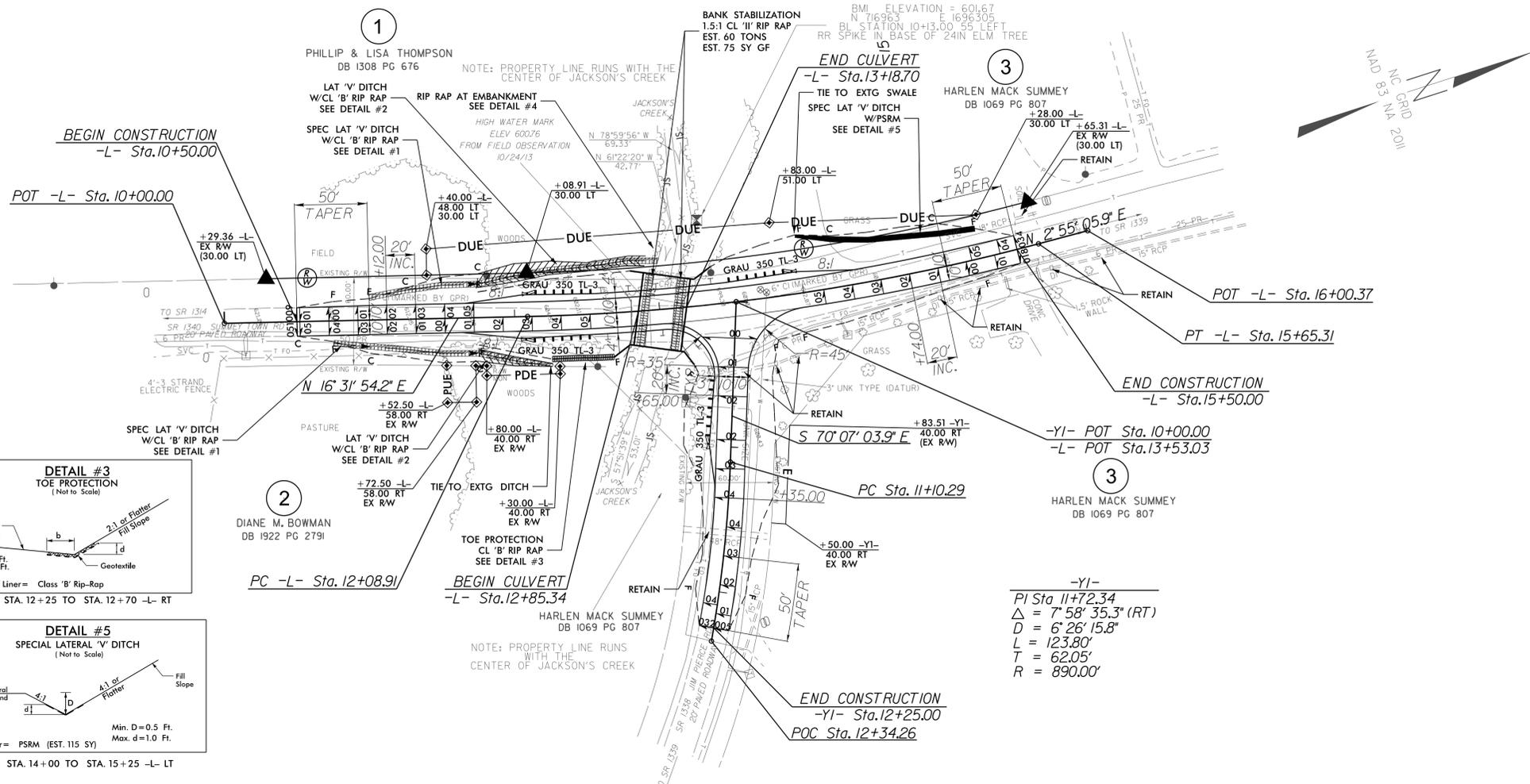
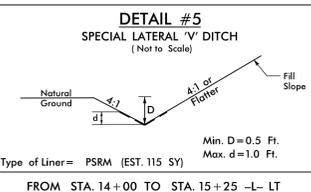
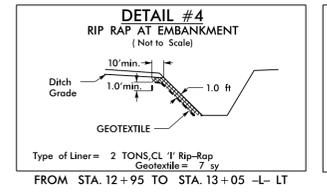
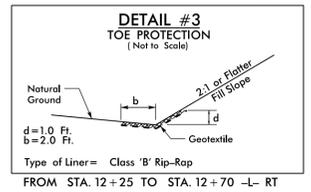
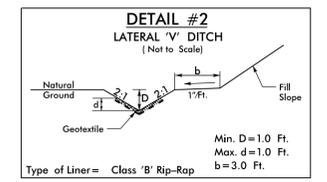
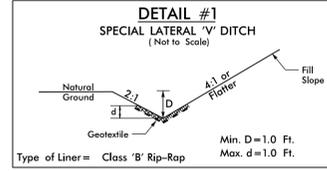


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 jessica@summiteng.com

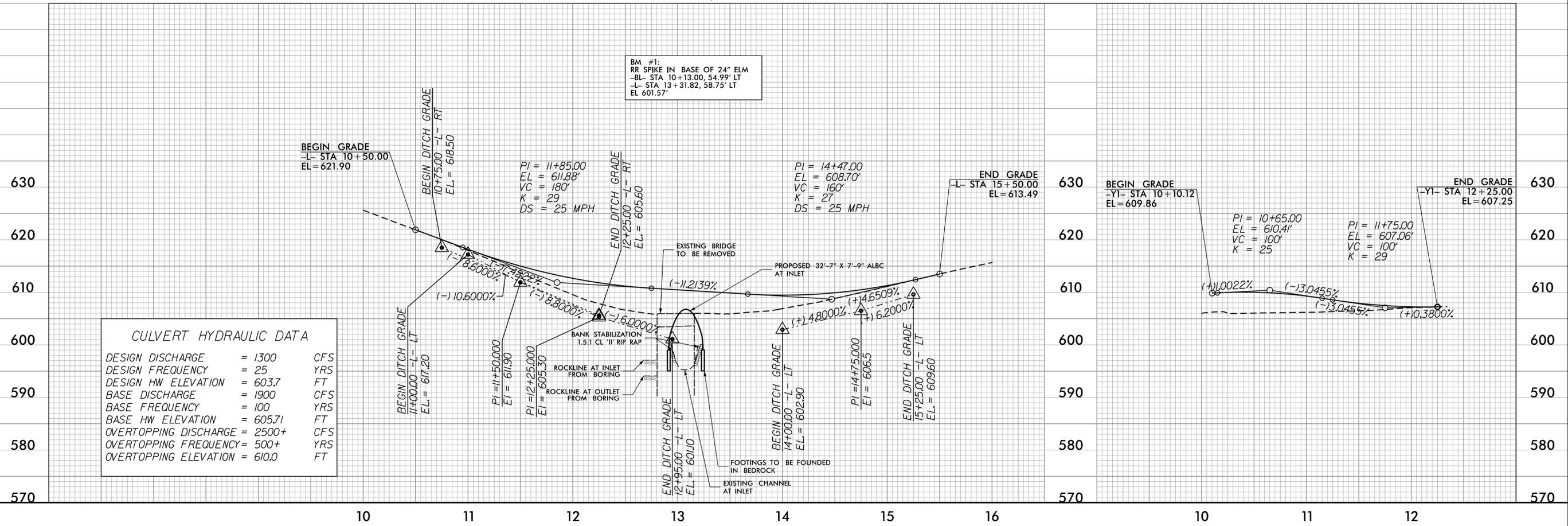
8/17/99

PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 8/29/2016	HYDRAULICS ENGINEER 8/30/2016
Prepared in the Office of: 	
Prepared in the Office of: 	

-L-
 PI Sta 13+87.95
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 $D = 3^{\circ} 49' 11.0"$
 $L = 356.40'$
 $T = 179.04'$
 $SE = 05$
 $DS = 50 MPH$



REVISIONS

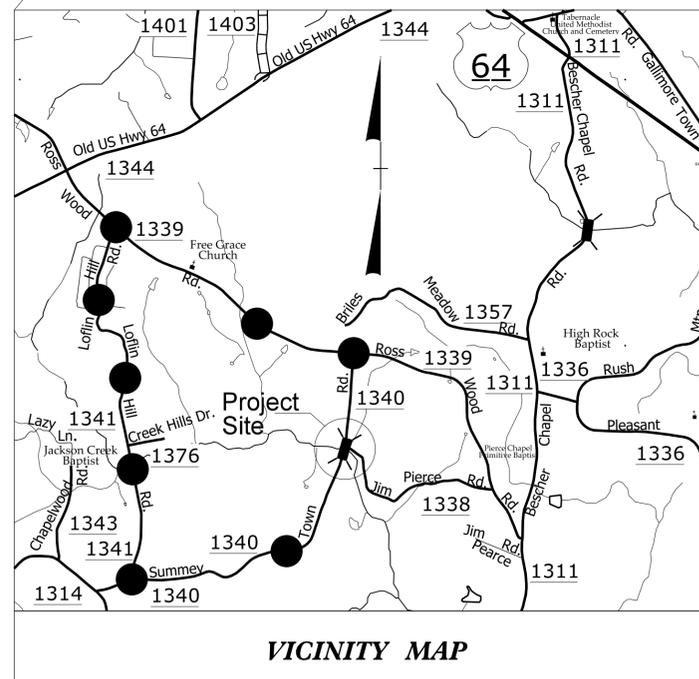
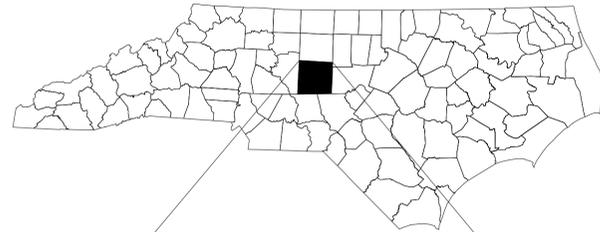


28-AUG-2016 15:53
 0315-101-051-053
 JESSICA.DAVIS@SUMMITENR.COM

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY
(BRIDGE NO. 750045)



● DETOUR ROUTE

RELEASE FOR
CONSTRUCTION
DATE: 08/29/16

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND LOCAL NOTES)
TMP-2	PHASE 1 DETAIL DRAWING
TMP-3	DETOUR
TMP-4	SIGN DESIGN

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
1101.03	TEMPORARY ROAD CLOSURES

LEGEND

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- BARRICADE (TYPE III)
- STATIONARY SIGN



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

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
T.N. PARROTT, P.E. TRAFFIC CONTROL PROJECT ENGINEER
B.W. JOHNSON, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
J.A. CROUSE, P.E. TRAFFIC CONTROL DESIGN ENGINEER



Prepared in the Office of:
SUMMIT
DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

DocuSigned by:
Brandon W. Johnson
APPROVED: _____
DATE: 8/29/2016

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
BRANDON W. JOHNSON
SEAL 034371

29-AUG-2016 15:28
750045_TC_TMP_1.dgn
jessica.puszynski

SHEET NO.
TMP-1

17BP.8.R.75

TIP PROJECT:

MANAGEMENT STRATEGIES

BRIDGE #045 ON SR 1340 (SUMMEY TOWN RD.) REPLACEMENT TO BE PERFORMED UNDER ROAD CLOSURE WITH AN INTERMEDIATE CONTRACT TIME.

LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION.

PHASING

INTERMEDIATE CONTRACT TIME: 150 DAYS

PROVIDE ENGINEER A THIRTY (30) DAY WRITTEN NOTICE PRIOR TO ROAD CLOSURE.

STEP 1:

IMPLEMENT OFF-SITE DETOUR AND ROAD CLOSURE FOR SR 1340 AT BRIDGE #045 AS SHOWN ON SHEET TMP-2 AND TMP-3 AND IN ACCORDANCE WITH THE GENERAL NOTES. COVER ALL ADVANCE WARNING SIGNS AND DETOUR SIGNS PRIOR TO ROAD CLOSURE.

STEP 2:

WITH SR 1340 CLOSED TO TRAFFIC PERFORM ALL BRIDGE REPLACEMENT OPERATIONS. PRIOR TO OPENING THE ROADWAY TO TRAFFIC, PLACE FINAL PAVEMENT MARKINGS.

STEP 3:

UPON COMPLETION OF BRIDGE WORK REMOVE THE ROAD CLOSURE AND DETOUR SIGNS AND OPEN SR 1340 TO TRAFFIC.

LOCAL NOTES

NOTIFY RANDOLPH COUNTY SCHOOLS AT (336) 318-6100 AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

NOTIFY RANDOLPH COUNTY EMERGENCY SERVICES AT (336) 318-6911 AT LEAST ONE MONTH PRIOR TO ROAD CLOSURE.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSION 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.

TRAFFIC PATTERN ALTERATIONS

1. NOTIFY THE ENGINEER ONE MONTH PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

2. PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TMP SHEETS.
3. PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TMP SHEETS. COVER OR REMOVE SIGNS WHEN DETOUR IS NOT IN OPERATION.
4. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

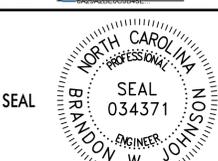
PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

MAINTAIN ACCESS TO EXISTING DRIVEWAYS FOR BUSINESSES AND HOMEOWNERS.

PAVEMENT MARKINGS AND MARKERS

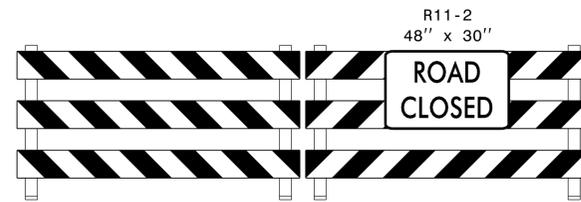
1. INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE, AS SHOWN IN THE PAVEMENT MARKING PLAN.
2. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

29-AUG-2016 15:28
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jessica.puszynski

DocuSigned by: Brandon W. Johnson APPROVED: _____ DATE: 8/29/2016			TRANSPORTATION OPERATIONS PLAN
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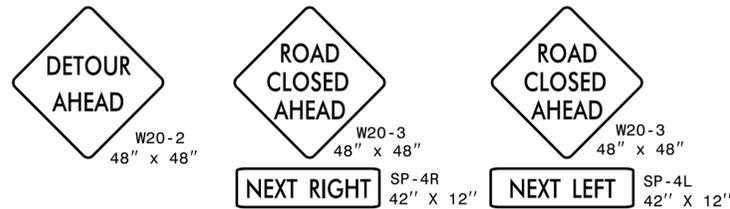


(A) (B) (C)

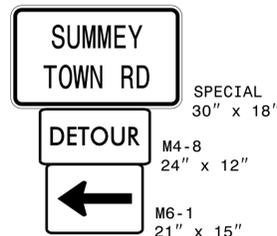


TYPE III BARRICADE(S)

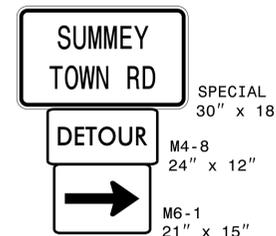
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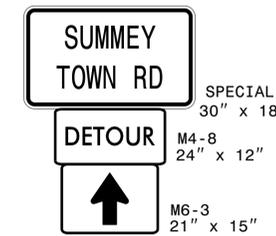
(E) (F) (G)



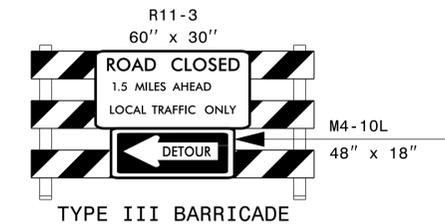
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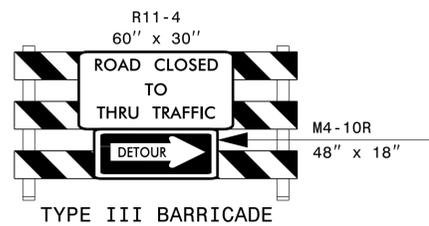
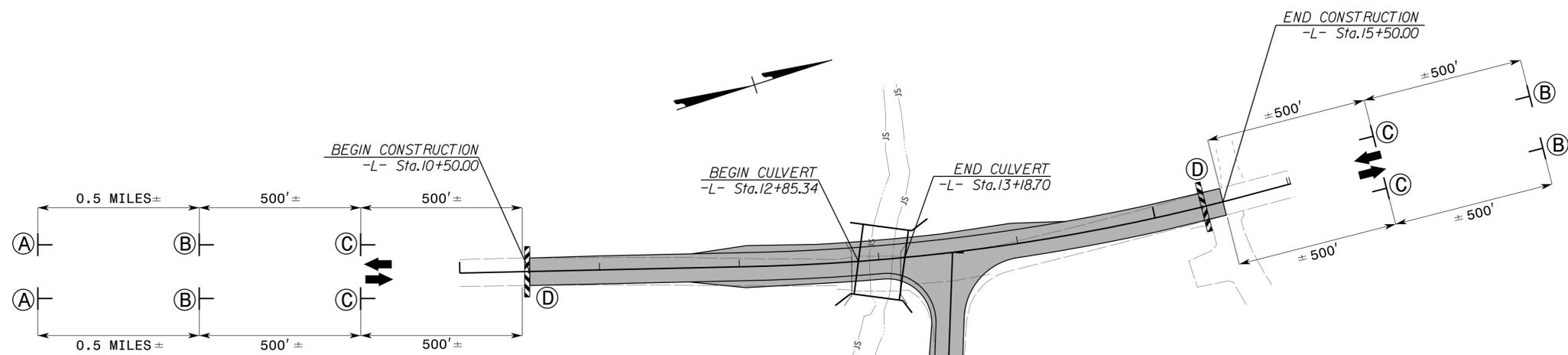
(I)



(J)



(K)



(L)



(M)

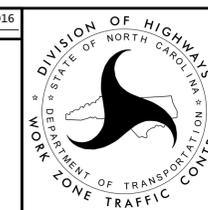


(N)

DocuSigned by:
Brandon W. Johnson
DATE: 8/29/2016

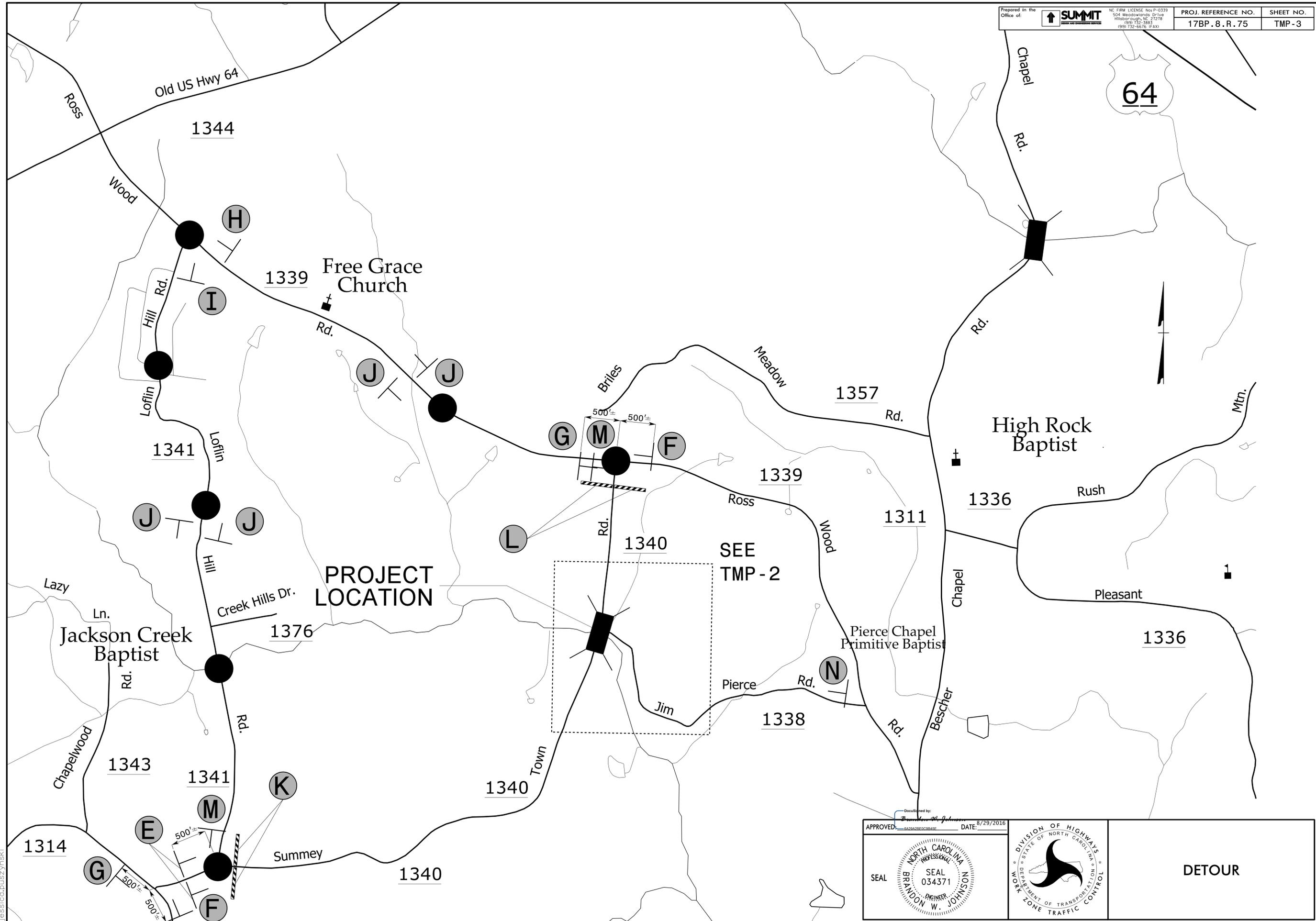
APPROVED: _____ DATE: 8/29/2016

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
BRANDON W. JOHNSON
034371

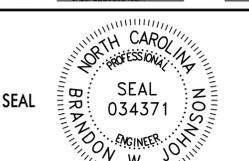


PHASE 1 DETAIL DRAWING

29-AUG-2016 15:28
750045_TC_TMP_2.dgn
jessica.puszynski



29-AUG-2016 15:28
 750045_TC_TMP_3.dgn
 jessica.puszynski

APPROVED:  DATE: 8/29/2016 SEAL BRANDON W. JOHNSON PROFESSIONAL ENGINEER NORTH CAROLINA NO. 034371	 DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	DETOUR
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

LOCATION: BRIDGE NO. 750045 ON SR 1340 (SUMMEY TOWN ROAD)
OVER JACKSON'S CREEK.

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE.

TIP NO. 17BP.8.R.75	SHEET NO. PMP-1
APPROVED: <i>Brandon W. Johnson</i>	
DATE: 8/29/2016	
SEAL	
	

TIP PROJECT: 17BP.8.R.75

CONTRACT: DH00213

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY
PI	PAINT (4", 2 COATS) YELLOW DOUBLE CENTER	2628 LF
PA	PAINT (4", 2 COATS) WHITE EDGE LINE	2814 LF
P2	PAINT (24", 2 COATS) WHITE STOPBAR	44 LF
P8	PAINT (4", 2 COATS) WHITE 2'-6"/MINI-SKIP	46 LF

GENERAL NOTES

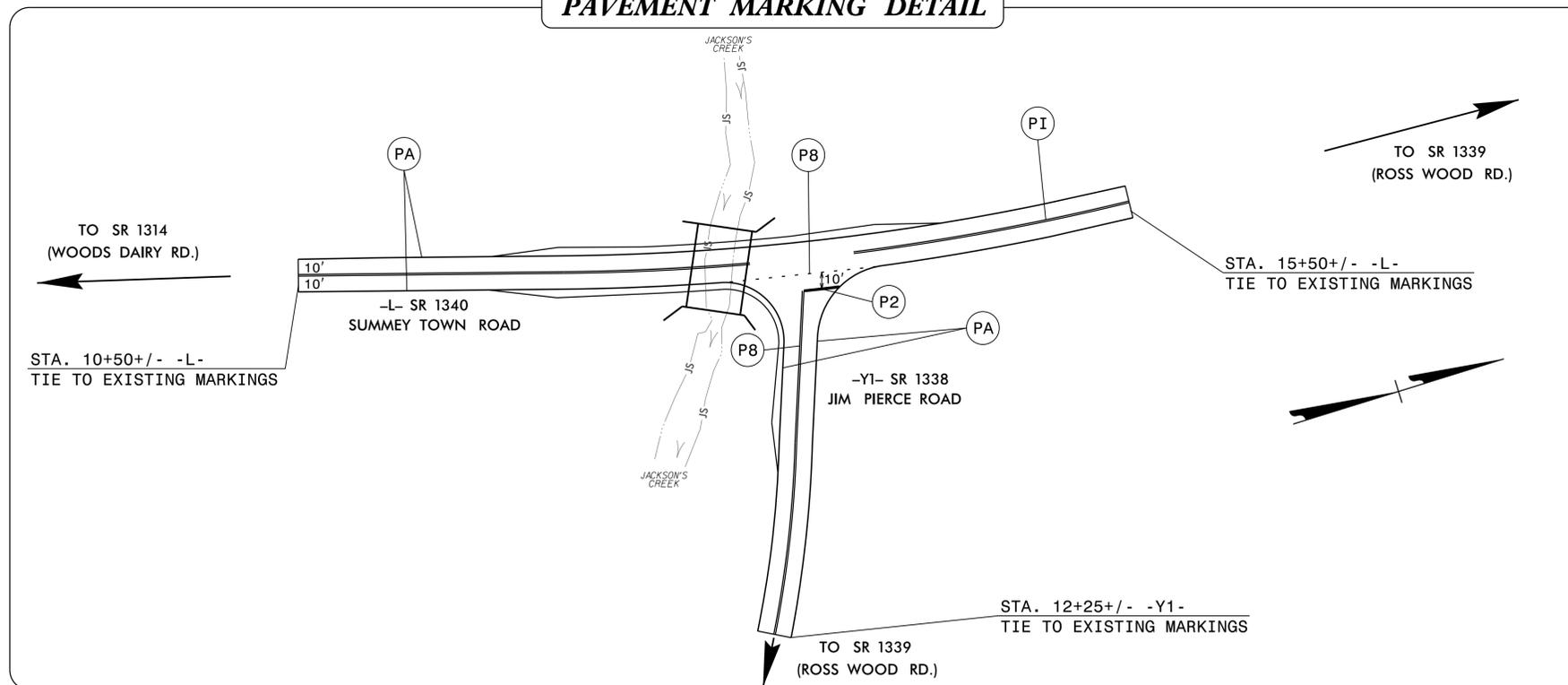
THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

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

ROAD NAME	MARKING	MARKER
SUMMEY TOWN ROAD	PAINT	NONE

- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PAVEMENT MARKING DETAIL



Prepared in the Office of:



NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



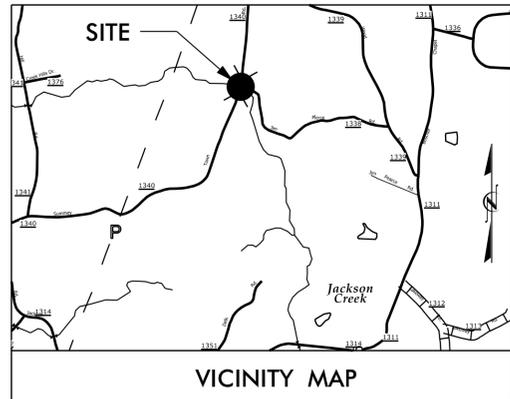
TRACY N. PARROTT, PE PROJECT ENGINEER

BRANDON W. JOHNSON, PE PROJECT DESIGN ENGINEER

INDEX

PMP-1 PAVEMENT MARKING PLAN TITLE, SCHEDULE, QUANTITIES AND PAVEMENT MARKING DETAIL.

TIP PROJECT: 17BP.8.R.75



BRIAN N. ELAM, PE
LEVEL III NAME

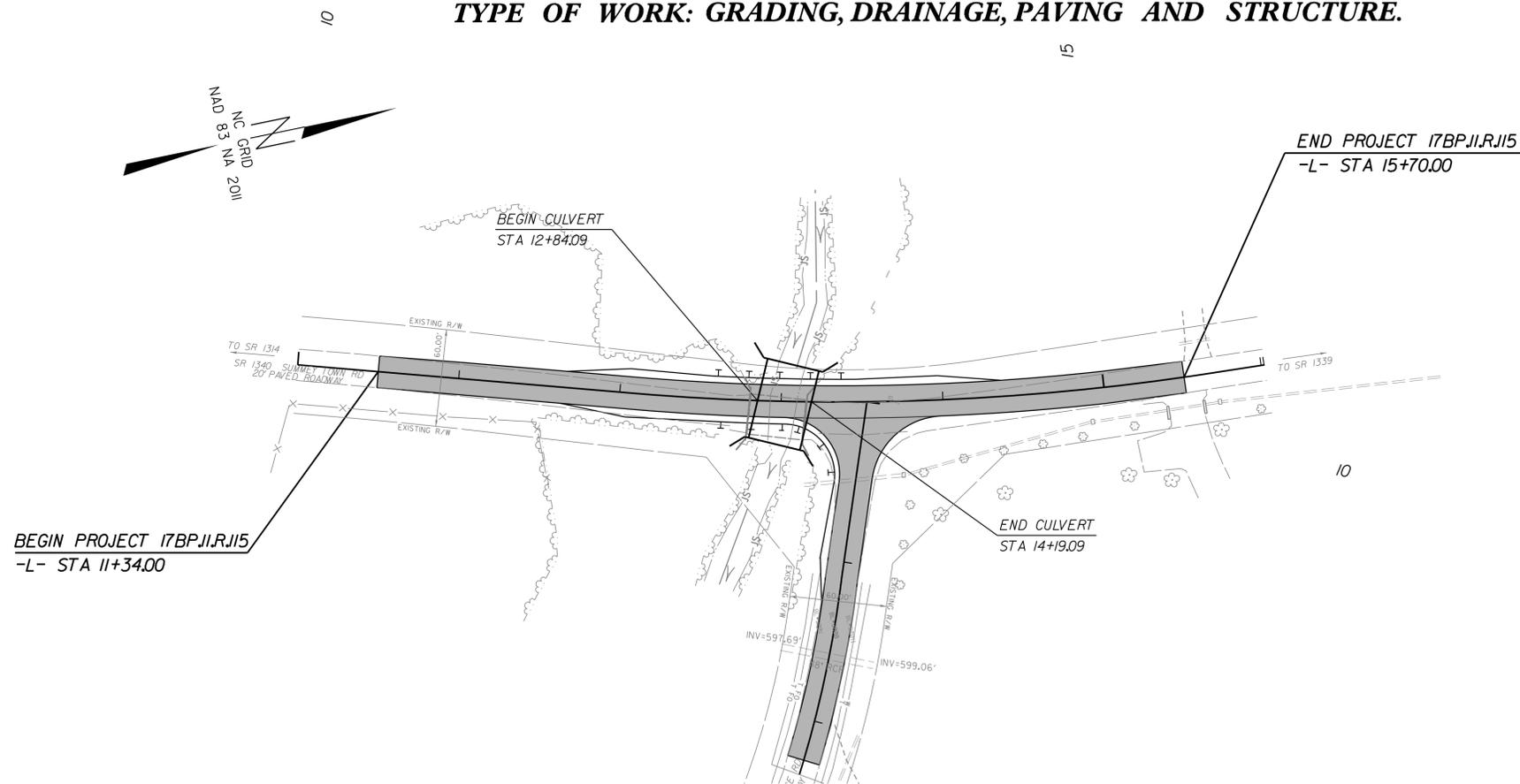
3195
LEVEL III CERTIFICATION NO.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750045 ON SR 1340 (SUMMEY TOWN RD)
OVER JACKSON'S CREEK.**
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.8.R.75	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▲▲▲
1622.01	Temporary Berms and Slope Drains	▲
1630.02	Silt Basin 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/Coir Fiber Wattle	▨
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	▨
1634.01	Temporary Rock Sediment Dam Type-A	▭
1634.02	Temporary Rock Sediment Dam Type-B	▭
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊓
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊓
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

**THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.**

GRAPHIC SCALE



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.

Prepared in the Office of:



2012 STANDARD SPECIFICATIONS

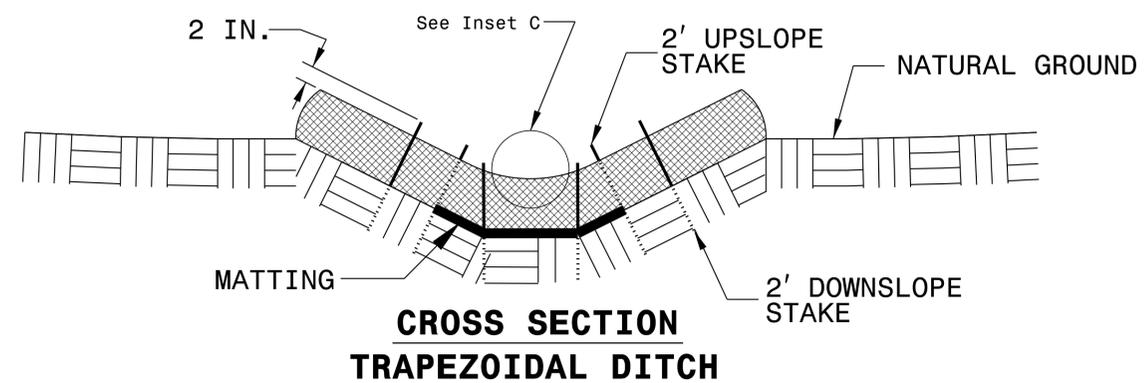
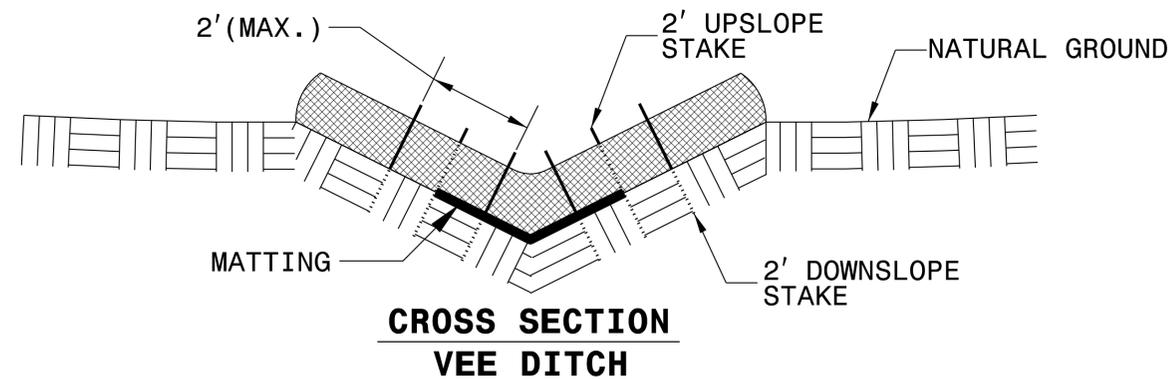
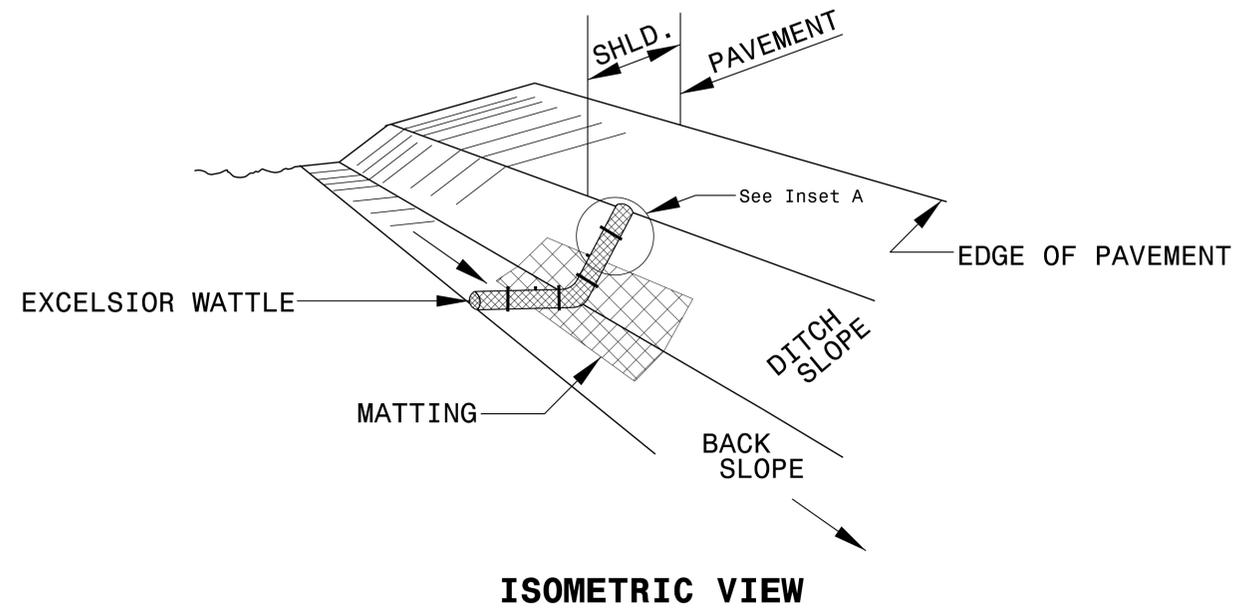
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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		

PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

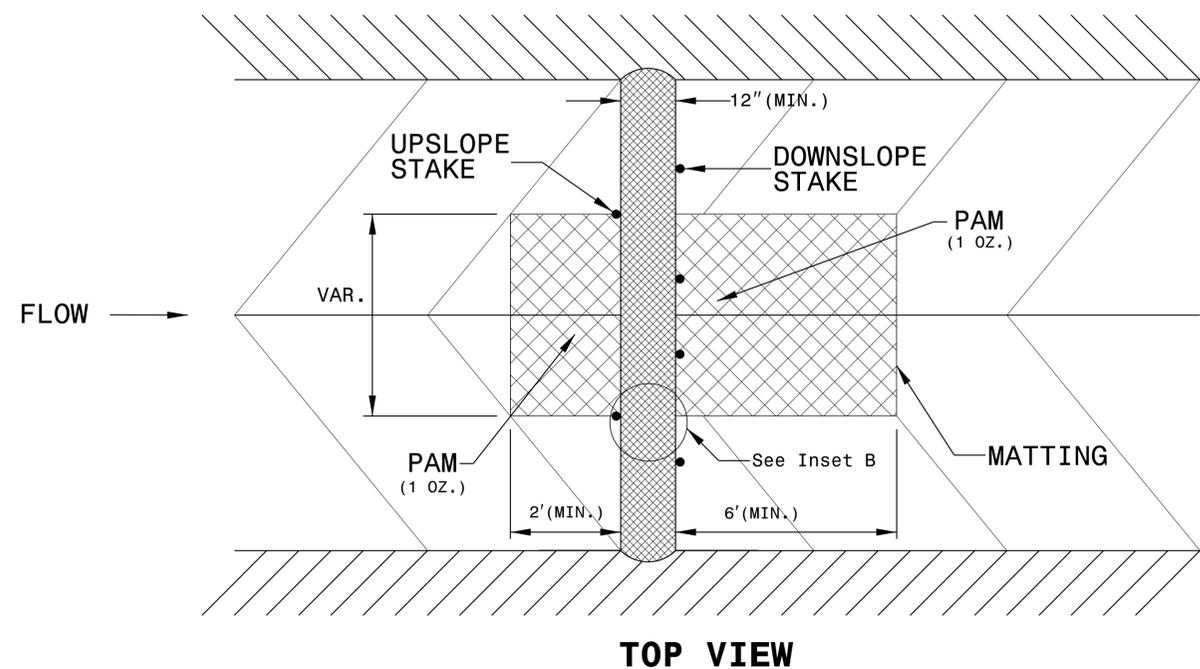
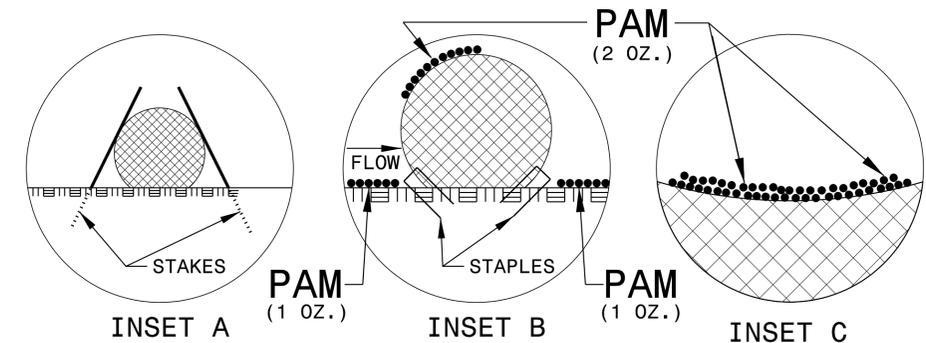
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

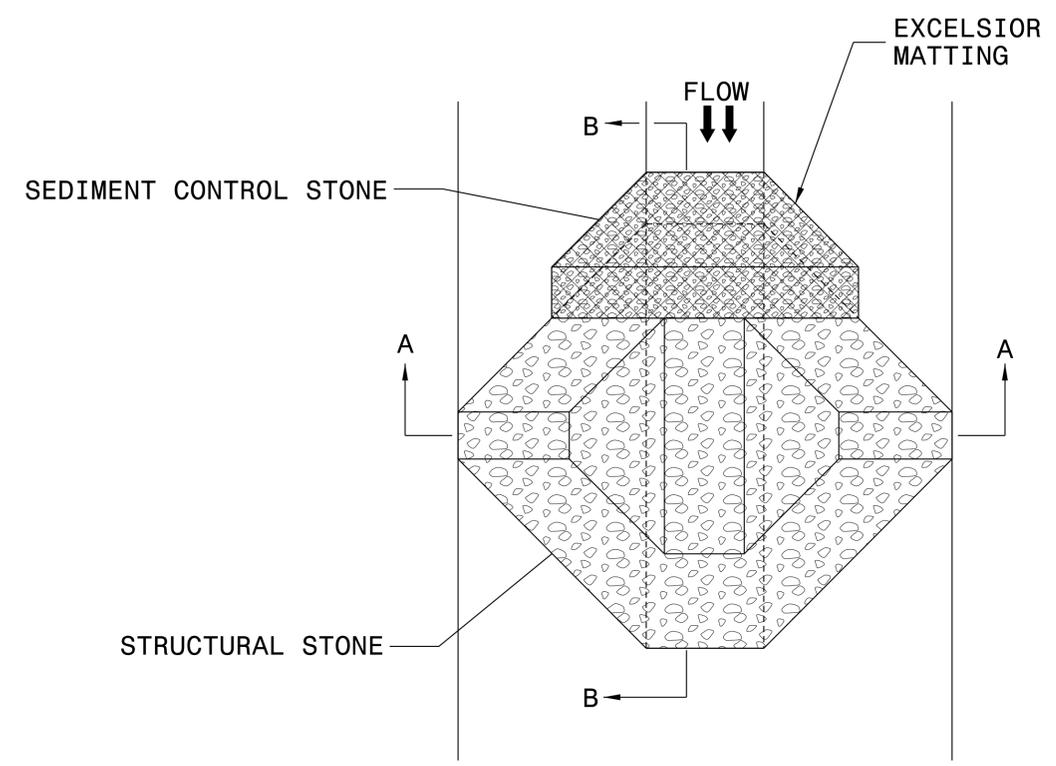
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN

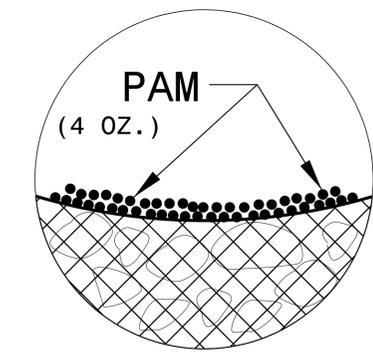
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

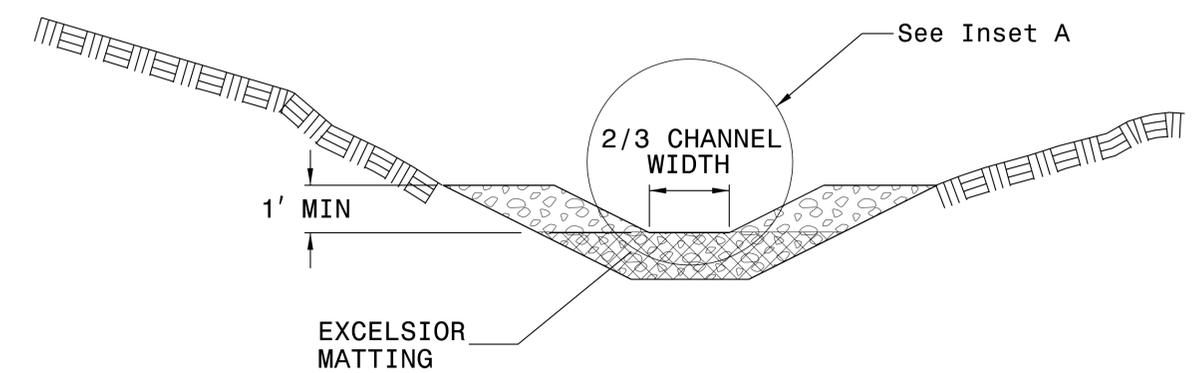
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

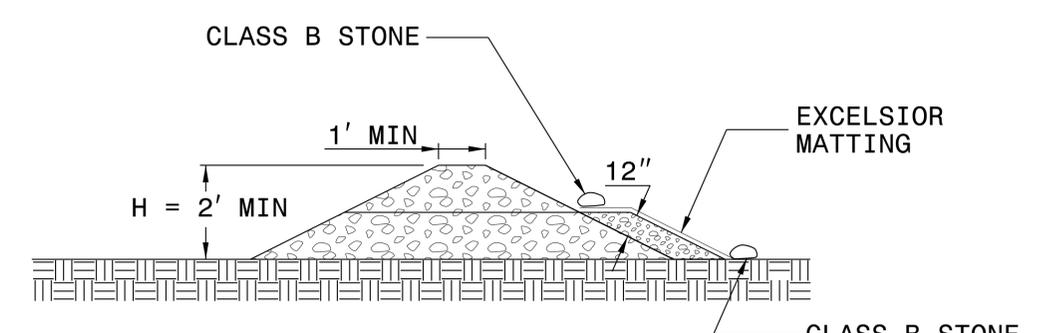
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>17BP.B.R.75</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

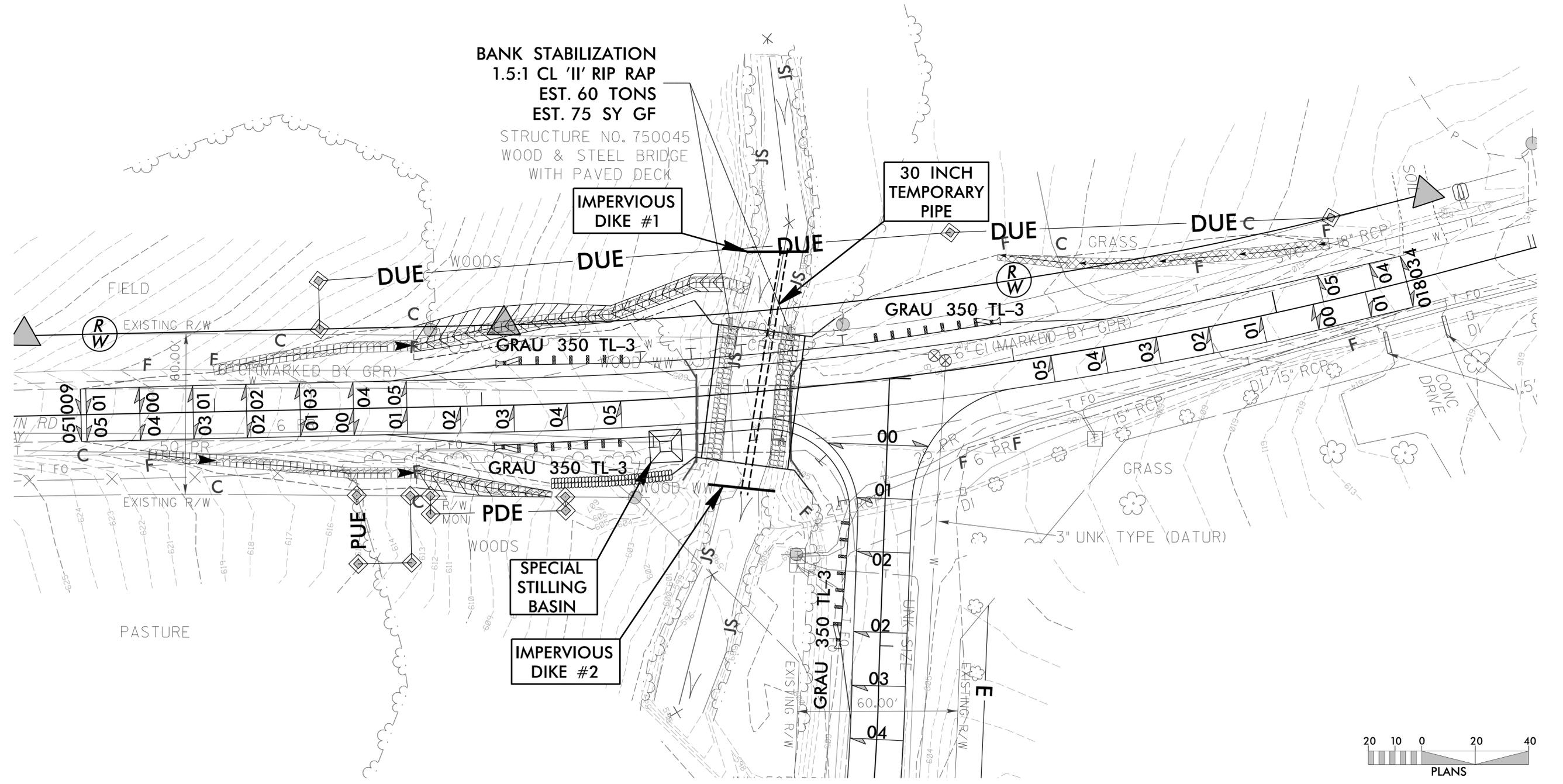
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.

PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 13+02 -L-

PHASE I

1. INSTALL IMPERVIOUS DIKE #1, TEMPORARY 30" PIPE, IMPERVIOUS DIKE #2 AND SPECIAL STILLING BASIN(S).
2. DEWATER CONSTRUCTION AREA UTILIZING SPECIAL STILLING BASIN(S).
3. CONSTRUCT FOOTINGS, CL 'II' BANK STABILIZATION AND UTILITY RELOCATIONS.
4. REMOVE IMPERVIOUS DIKES, TEMPORARY 30" PIPE AND SPECIAL STILLING BASINS.
5. INSTALL 32'-7"X7'-9" BOTTOMLESS ALUMINUM BOX CULVERT.

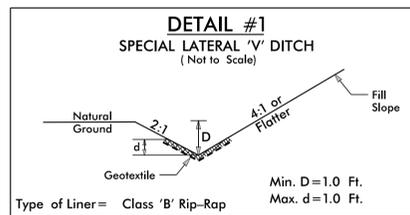
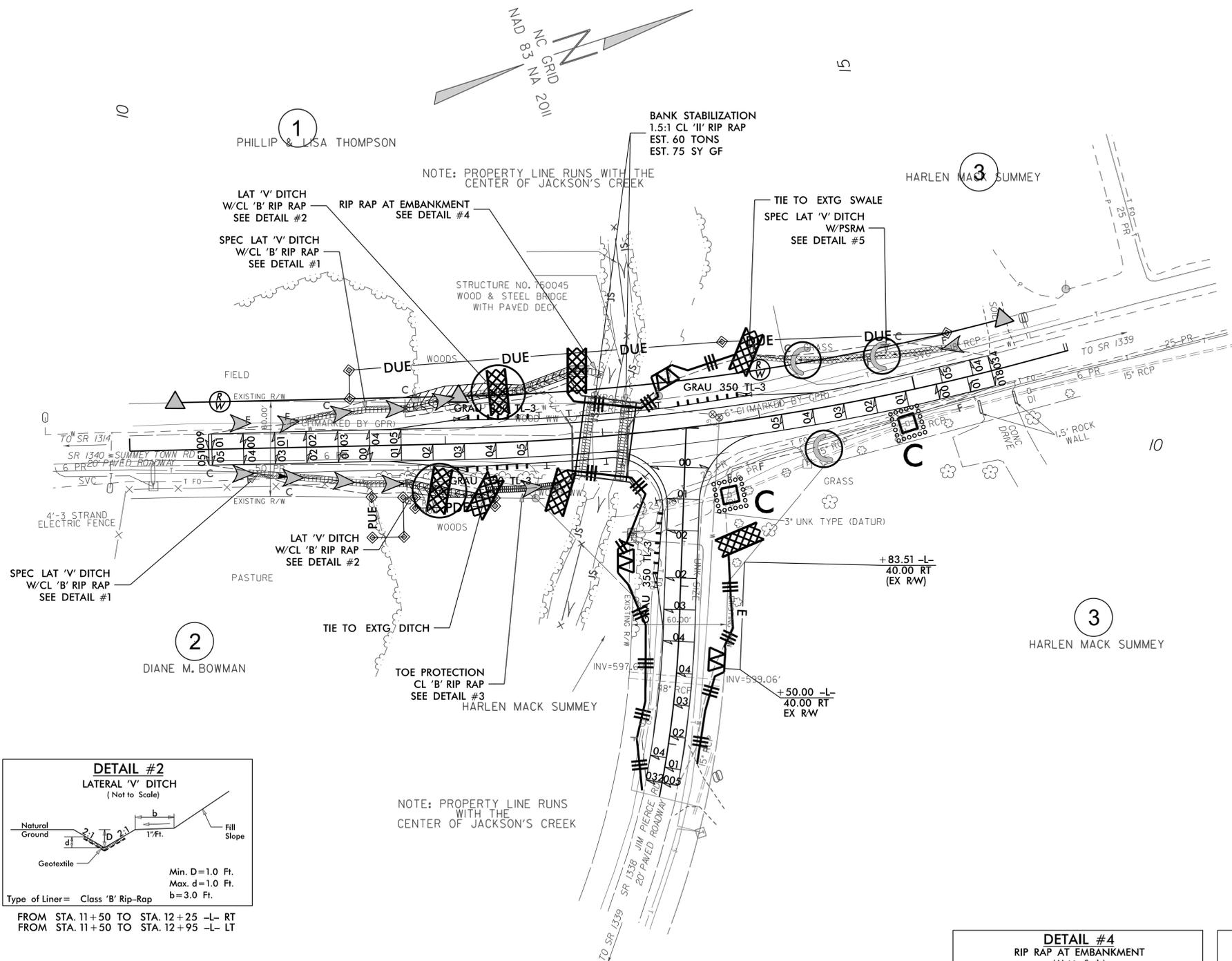


NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

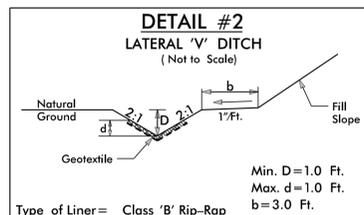
ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

EROSION CONTROL PLAN

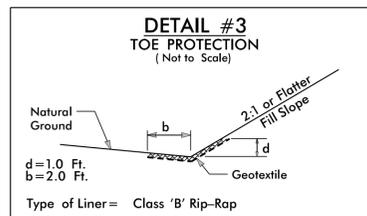
PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. EC-06/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



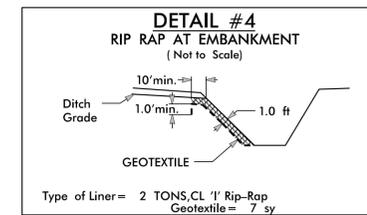
FROM STA. 10+75 TO STA. 11+50 -L- RT
FROM STA. 11+00 TO STA. 11+50 -L- LT



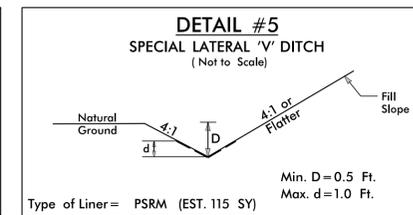
FROM STA. 11+50 TO STA. 12+25 -L- RT
FROM STA. 11+50 TO STA. 12+95 -L- LT



FROM STA. 12+25 TO STA. 12+70 -L- RT



FROM STA. 12+95 TO STA. 13+05 -L- LT



FROM STA. 14+00 TO STA. 15+25 -L- LT

See Sheet UC-2 For Conventional Symbols

T.I.P. NO.	SHEET NO.
17BP.8.R.75	UC-1

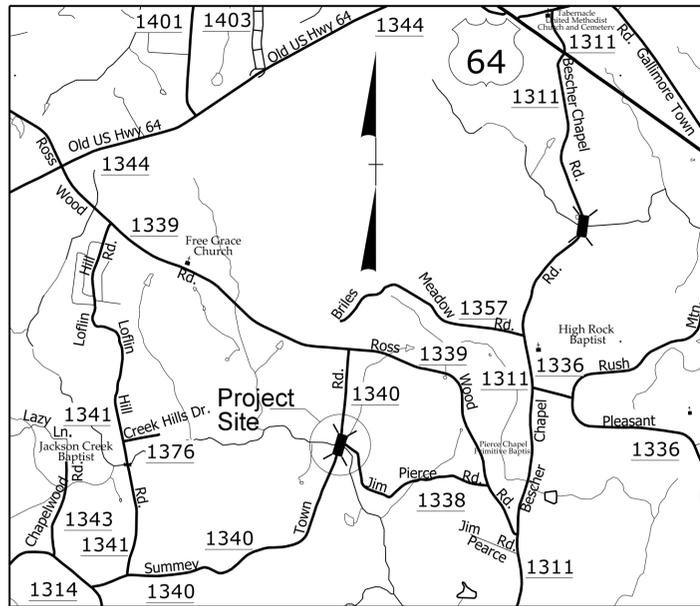
TIP PROJECT: 17BP.8.R.75

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

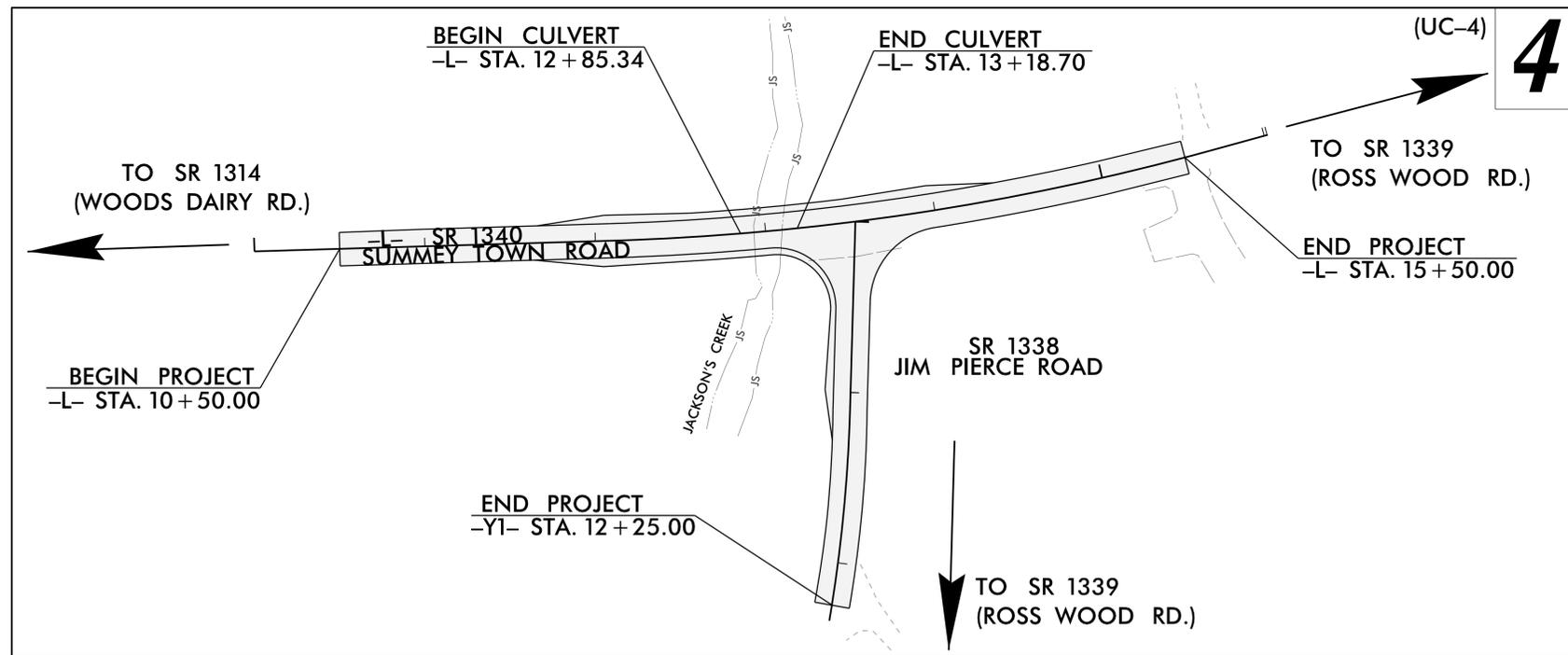
UTILITY CONSTRUCTION PLANS RANDOLPH COUNTY

**LOCATION: BRIDGE NO. 750045 ON SR 1340 (SUMMEY TOWN RD)
OVER JACKSON'S CREEK**

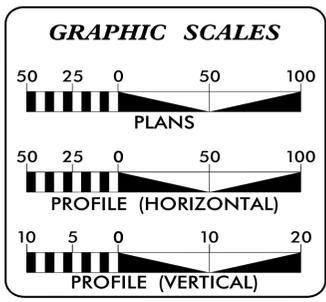
TYPE OF WORK: UTILITY CONSTRUCTION (WATER)



VICINITY MAP



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3B	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET & PROFILE SHEET

WATER AND SEWER OWNERS ON PROJECT

(1) WATER- DAVIDSON WATER, INC.

SEAL

8/18/2016

DocuSigned by:
Tracy Neal Parrott
FCB7838999EC451...

Prepared in the Office of:

504 Meadowland Drive
Hillsborough, NC 27278-8551
Voice: (919) 732-3883
Fax: (919) 732-6776
www.summitde.net

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

TRACY N. PARROTT, PE
PROJECT ENGINEER

BRANDON W. JOHNSON, PE
PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE
PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown)
 Designated Utility Line (Type as Shown)

5/14/99
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REV: 2/1/2012

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.

2. THE EXISTING UTILITIES BELONG TO DAVIDSON WATER, INC.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINE FROM -L- STATION 11+13.47 (APPROX. TIE-IN) TO -L-STATION 15+41.39 (APPROX. TIE-IN) SHALL BE RJDIP (RESTRAINED JOINT DUCTION IRON PIPE) IN ACCORDANCE WITH SECTION 1034 OF THE 2012 STANDARD SPECIFICATIONS.

2. RETAIN EXISTING 6" WATER MAIN UNTIL RELOCATION IS COMPLETE.

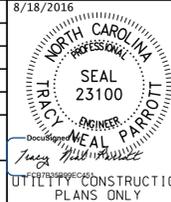
3. TEST AND STERILIZE NEW MAIN IN ACCORDANCE WITH 2012 STANDARD SPECIFICATION SECTION 1510, APPLICABLE SPECIAL PROVISIONS, AND ALL NCDENR DIVISION OF WATER RESOURCES- PUBLIC WATER SUPPLY SECTION REQUIREMENTS.

4. PRIOR TO MAKING PERMANENT TIE-INS, FACILITATE PIGGING, FILLING FLUSHING, TESTING, DISENFECTION AND BLOW-OFF OF THE PROPOSED WATER MAIN BY INSTALLED A 6" X 2" TAPPING SADDLE AND VALVE ON THE SECTION OF EXISTING 6" PVC PIPE THAT WILL BE REMOVED WHEN NEW 6" RJDIP IS TIED IN ON THE SOUTH SIDE OF THE BRIDGE. PIPE FROM TAPPING VALVE TO END OF PROPOSED 6" WATER MAIN WITH 2" SOLVENT WIELD SCHEDULE 40 PVC PIPE. PROVIDE RESTRAINED 6" CAP TAPPED FOR 2" CONNECTION. PROVIDE TEMPORARY 2" BLOW-OFF ON OPPOSITE END(S) OF PROPOSED MAIN WITH LIKE MATERIALS INCLUDING 2" ISOLATION VALVE. ALL 2" SCHEDULE 40 PIPING AND FITTINGS USED SHALL BE PRESSURE RATED FOR A MINIMUM OPERATING PRESSURE OF 200 PSI.

5. AFTER PIGGING THE PROPOSED 6" WATER MAIN, FLUSH AT A MINIMUM OF 2.5 FPS VELOCITY AND PRESSURE TEST PROPOSED 6" WATER MAIN AT 200 PSI FOR 3 HOURS AS PER OWNERS SPECIFICATIONS.

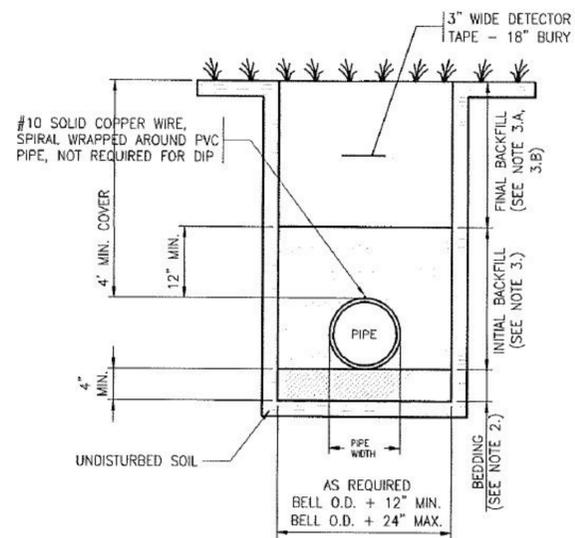
6. USE APPROPRIATE FITTINGS TO TRANSITION AND CONNECT PIPE MATERIAL AND TO TIE TO EXISTING WATER LINE.

7. COORDINATE WITH DAVIDSON WATER, INC. REPRESENTATIVES FOR WATER MAIN SHUTDOWN AND INTERRUPTION OF SERVICE. PROVIDE SUFFICIENT NOTICE FOR PUBLIC NOTIFICATON OF SERVICE INTERRUPTION.

PROJECT REFERENCE NO. 17BP.8.R.75	SHEET NO. UC-3
DESIGNED BY: SWM	8/18/2016
DRAWN BY: SWM	
CHECKED BY: BWJ	
APPROVED BY: TNP	
REVISED:	
	
504 Meadowlands Drive Raleigh, NC 27618 (919) 752-3883 (919) 752-4676 (FAX)	

UTILITY CONSTRUCTION

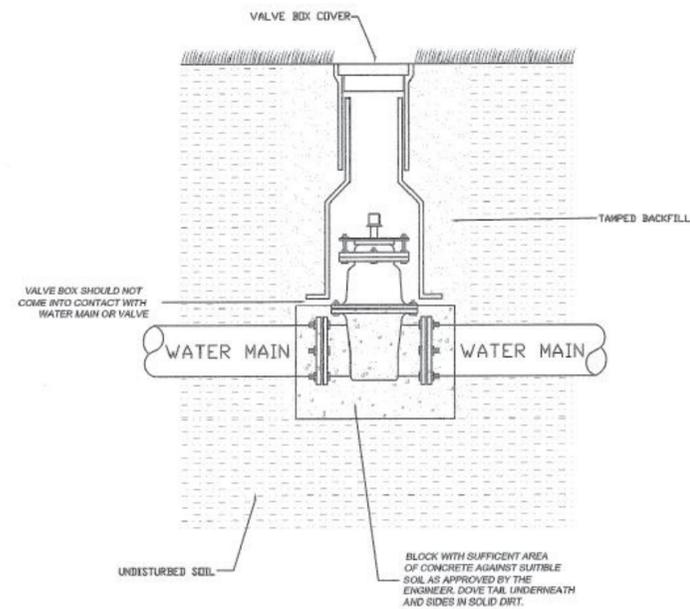
PROJECT REFERENCE NO.	SHEET NO.
17BP.8.R.75	UC-3A
DESIGNED BY: SWM	8/18/2016
DRAWN BY: SWM	
CHECKED BY: BWJ	
APPROVED BY: TNP	
REVISED:	
504 Meadows Drive Raleigh, NC 27616 (919) 752-3883 (919) 752-4616 (FAX)	
UTILITY CONSTRUCTION PLANS ONLY	



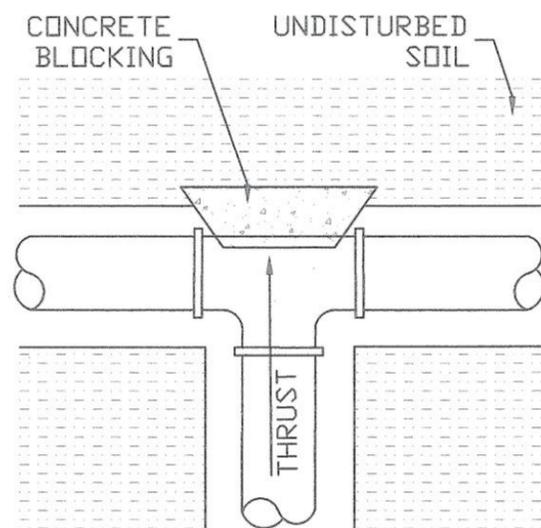
**WATER MAIN TRENCH DETAIL
TYPE 3 LAYING CONDITIONS**
NTS

NOTES:

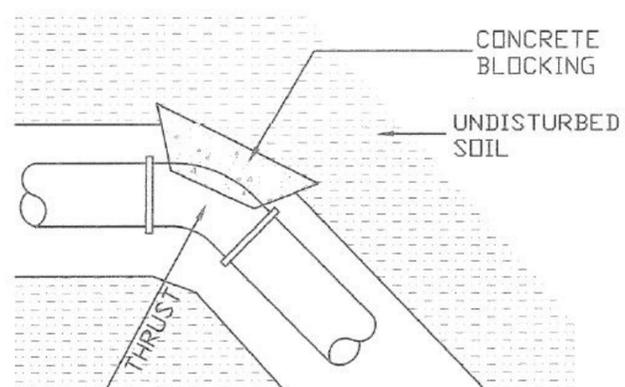
- LAYING CONDITIONS AS PER AWWA C600 AND C605 STANDARDS.
- BEDDING MATERIAL SHALL BE 4" MINIMUM THICKNESS, LOOSE SOIL (DEFINED AS NATIVE SOIL EXCAVATED FROM THE TRENCH), FREE FROM ROCKS AND SHALL PROVIDE UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE. COMPACT TO 95% MAXIMUM DENSITY.
- INITIAL BACKFILL SHALL BE LIGHTLY CONSOLIDATED IN MAXIMUM 6" LOOSE LIFTS, COMPACTED TO 95% OF MAXIMUM DENSITY.
 - A: UNDER AREAS TO BE SEEDED OR SODDED, COMPACT SUCCEEDING LAYERS OF FINAL BACKFILL IN 12" LOOSE LIFTS TO 85% MAXIMUM DENSITY.
 - B: UNDER STRUCTURES, PAVEMENTS AND ROAD SHOULDERS, COMPACT SUCCEEDING LAYERS OF FINAL BACKFILL IN 6" LOOSE LIFTS TO 95% MAXIMUM DENSITY EXCEPT COMPACT TOP 12" OF SUBGRADE TO 98% MAXIMUM DENSITY.
- PROVIDE #10 SOLID COPPER WIRE IN SUFFICIENT LENGTH TO BE SPIRAL WRAPPED AROUND EACH SEPARATE RUN OF ALL BURIED PVC PIPING. AT VALVE BOXES, BRING WIRE TO WITHIN 6 IN. OF TOP OF BOX AND INSERT INTO BOX THROUGH DRILLED HOLE. NOT REQUIRED FOR DUCTILE IRON PIPE.
- INSTALL 3' WIDE DETECTOR TAPE AT 18" DEPTH. TAPE SHALL HAVE MIDDLE FOIL LAYER.



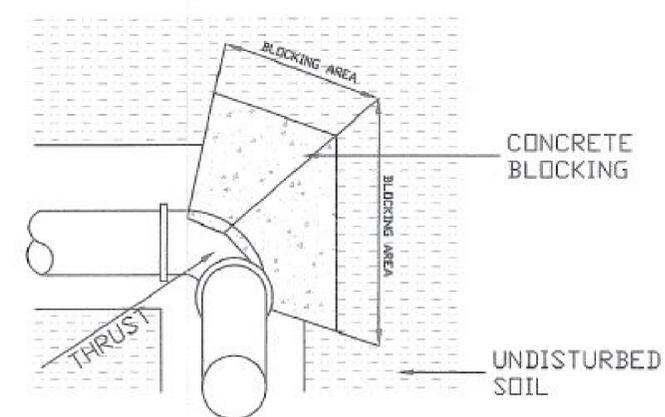
3 TYPICAL IN LINE WATER VALVE INSTALLATION
SD1 NOT TO SCALE



TYPICAL TEE BLOCKING



TYPICAL 45° BEND BLOCKING



SQ. FT. BEARING AREA FOR CONCRETE BLOCKING					
FITTING	4"	6"	8"	12"	16"
90° BEND	3	5	7	10	16
D.E. OR TEE	2	3	5	8	11
45° OR LESS	1	2	4	6	8

EXCAVATE AS NEARLY VERTICAL AS POSSIBLE

INSTALLATION SPECIFICATIONS

1. Work to be performed shall consist of furnishing and installing complete and ready for service all water main and appurtenances in accordance with the contract plans and specifications. Prior to commencing work, the Contractor will provide 2 working days notice to Davidson Water Inc., NCDOT, and all other appropriate utility companies.
2. Trench excavation in rock shall be a minimum of 2 feet wider than the nominal pipe diameter. Excavation shall be 6" below the proposed invert of the PVC pipe and backfilled(cushioned) with clean soil or sand.
3. Backfill along sides and immediately over pipe by hand. Backfill material around pipe shall be free of rocks and other debris. Trench backfill under existing or proposed paving and road shoulders shall be compacted to a density of 95 percent of maximum dry density.
4. Encasement pipe shall be installed by dry boring and jacking. Casing diameter, length, and wall thickness shall be as shown on plans. Materials and workmanship in the existing or proposed NCDOT right of way shall conform to NCDOT standards and specifications. The contractor making the bored crossing shall notify NCDOT prior to the start of work with enough notice for NCDOT to provide inspectors.
5. Water mains shall be laid at least 10 feet laterally from existing or proposed sanitary sewers. Water mains shall have a minimum of 18" vertical separation over sewer mains. Where this separation is not possible or the water main is laid under the sewer main, both the water and sewer pipe shall be ductile iron pipe. Center pipe spans at point of intersection in order to have 10 feet from water line joint to point of intersection.
6. Minimum cover for water mains shall be 36 inches. Maximum cover shall be 48 inches. Minimum trench width shall be pipe diameter plus 18 inches. (SEE TRENCH SECTION AND LINESETTER TYPICAL)
7. All pipe shall be thoroughly cleaned of all earth material and rubbish before being placed in the trench. Bell holes will be dug at each joint. Pipe shall be placed on firm, smooth foundation to prevent subsequent settlement.
8. Concrete thrust blocking shall be constructed at all bends, tees, reducers, and dead ends and where conditions warrant. All fittings and accessories to be wrapped with polyethylene film prior to placing blocking. (SEE BLOCKING TYPICALS)
9. Hydrants shall be set plumb as indicated on the drawings with the pumper connection 18 inches above grade. The back of the hydrant, opposite the pipe connection, shall be firmly blocked against the vertical face of the trench with poured-in-place concrete to prevent the hydrant from blowing off the line. In fill areas or soils that are not solid hydrants shall be rodded or restrained by mega-lug using Ductile Iron pipe not PVC. Clean crushed stone or gravel shall be placed around the base of each hydrant above the supporting foundation and to within 12 inches of the ground line. Stone or gravel shall extend at least 10 inches away from the hydrant barrel in all directions. Hydrants shall be opened and flushed prior to pressure testing of the lines. SEE HYDRANT INSTALLATION TYPICAL)
10. Valve box assembly shall be set plumb, true and to grade. (SEE VALVE INSTALLATION TYPICAL)
11. All water mains shall be pressure tested with a test pressure at the high point of the main twice the working pressure or 200 PSI, whichever is greater. Test pressure shall be maintained for a minimum of 3 hours. Make up water shall not exceed the following amounts in gallons per 1000 feet of main: 4" line - 1.11, 6" line - 1.65, and 8" line 2.22.
12. All water mains shall be flushed and disinfected prior to being put in service. Flushing shall be accomplished with sufficient water velocity (Minimum of 2.5 fps) to thoroughly clean the main. The mains shall be disinfected using a chlorine equal to or greater than 50 milligrams per liter (50 ppm). The chlorine solution shall remain in the mains for a minimum of 24 hours. Bacteriological test samples shall be taken by Davidson Water Inc. for evaluation and line disinfectant approval. After disinfection is complete, the new lines shall be flushed sufficiently so that the chlorine concentration level in the new lines do not exceed existing line concentration.

PROJECT REFERENCE NO.	SHEET NO.
17BP.8.R.75	UC-3B
DESIGNED BY: SWM	8/18/2016
DRAWN BY: SWM	
CHECKED BY: BWJ	
APPROVED BY: TNP	
REVISED:	
	
504 Meadows Drive Raleigh, NC 27616 (919) 752-3883 (919) 752-4816 FAX	
	
UTILITY CONSTRUCTION PLANS ONLY	

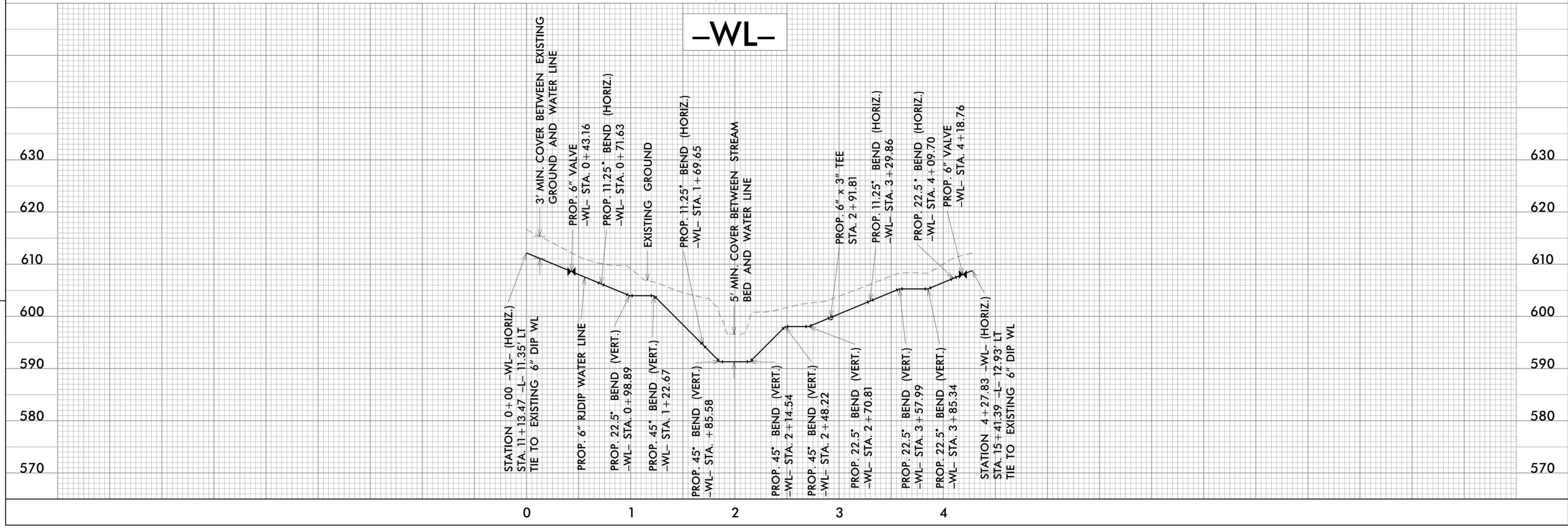
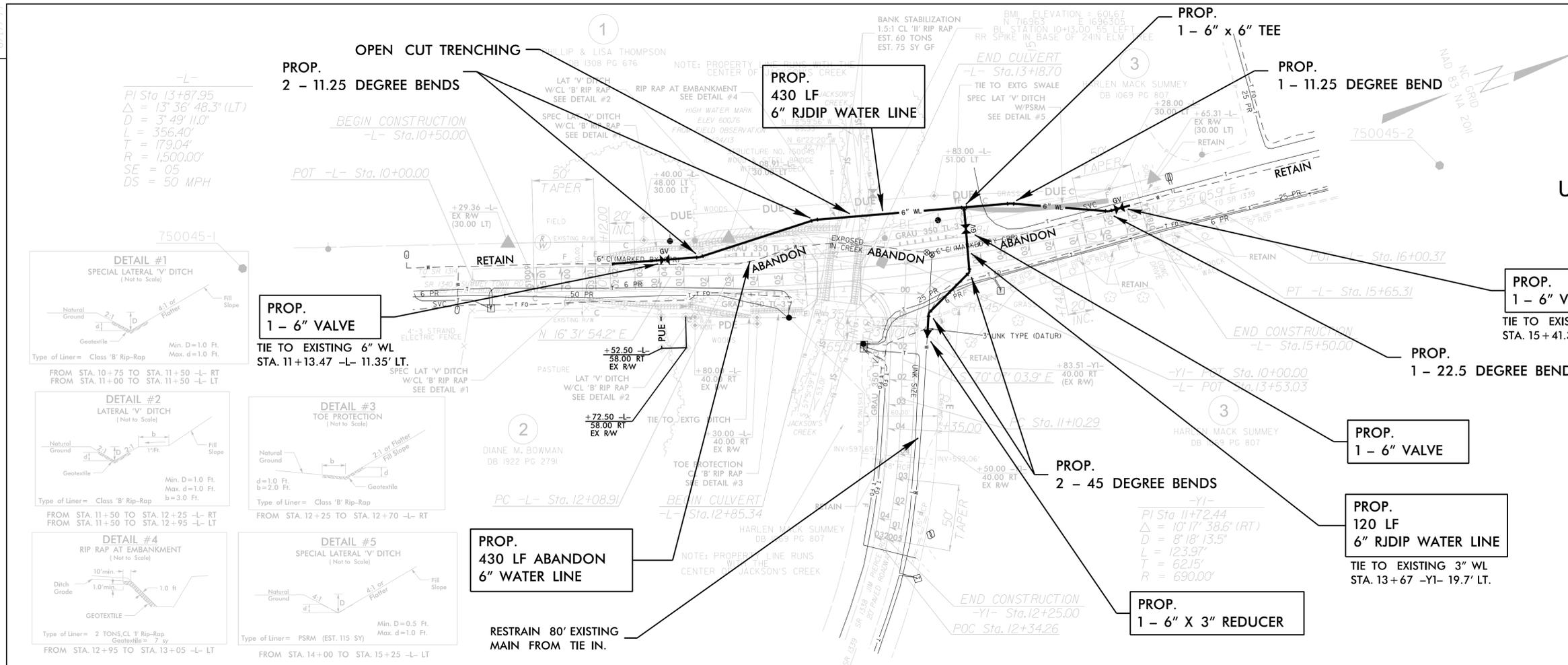
UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
17BP.8.R.75	UC-4
DESIGNED BY: SWM	8/18/2016
DRAWN BY:	
CHECKED BY: BWJ	
APPROVED BY: TNP	
REVISED:	
	
504 Meadowslands Drive Hillsborough, NC 27278 (919) 321-7883 (919) 732-6616 (FAX)	

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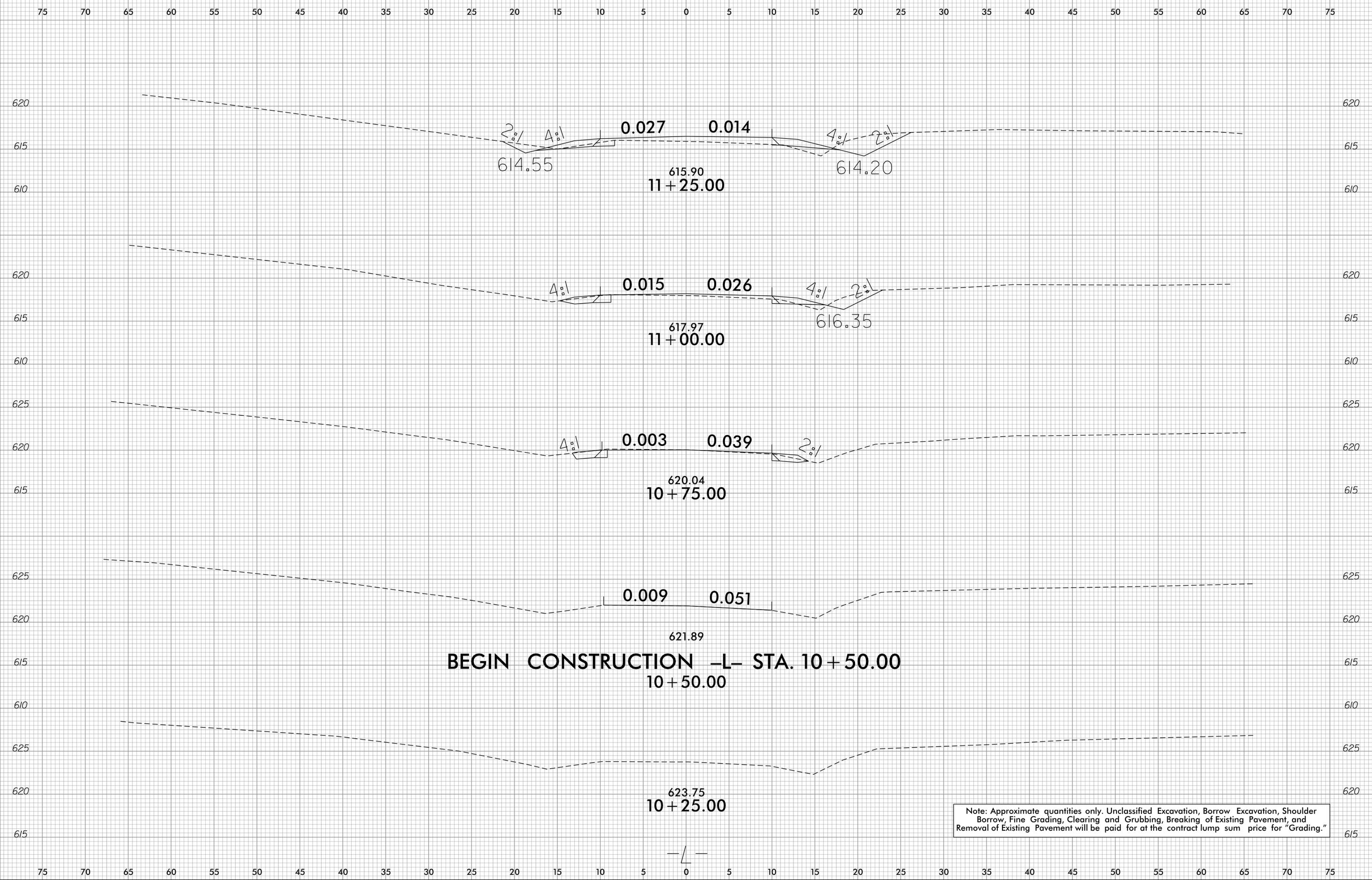

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



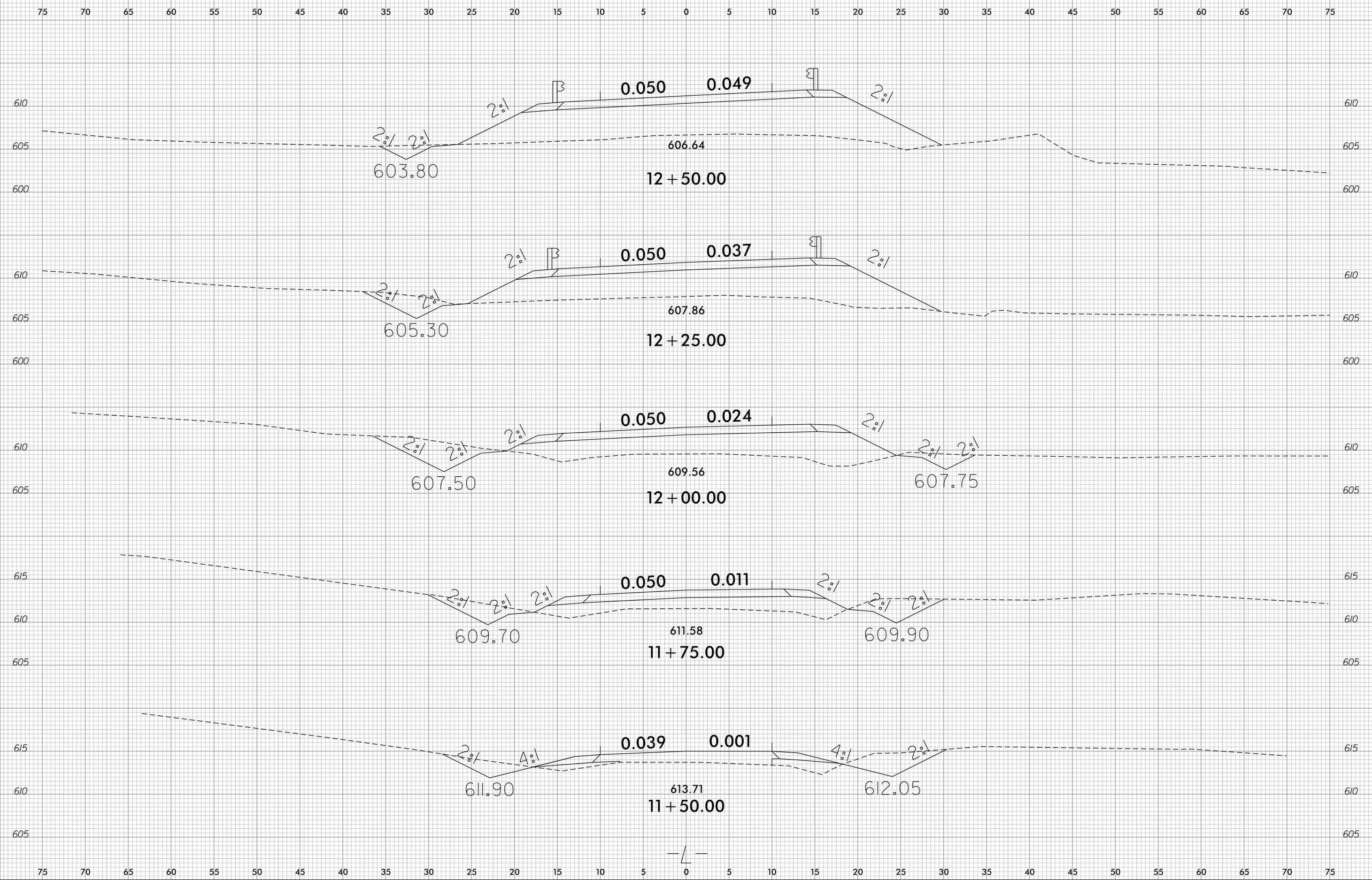
REVISIONS

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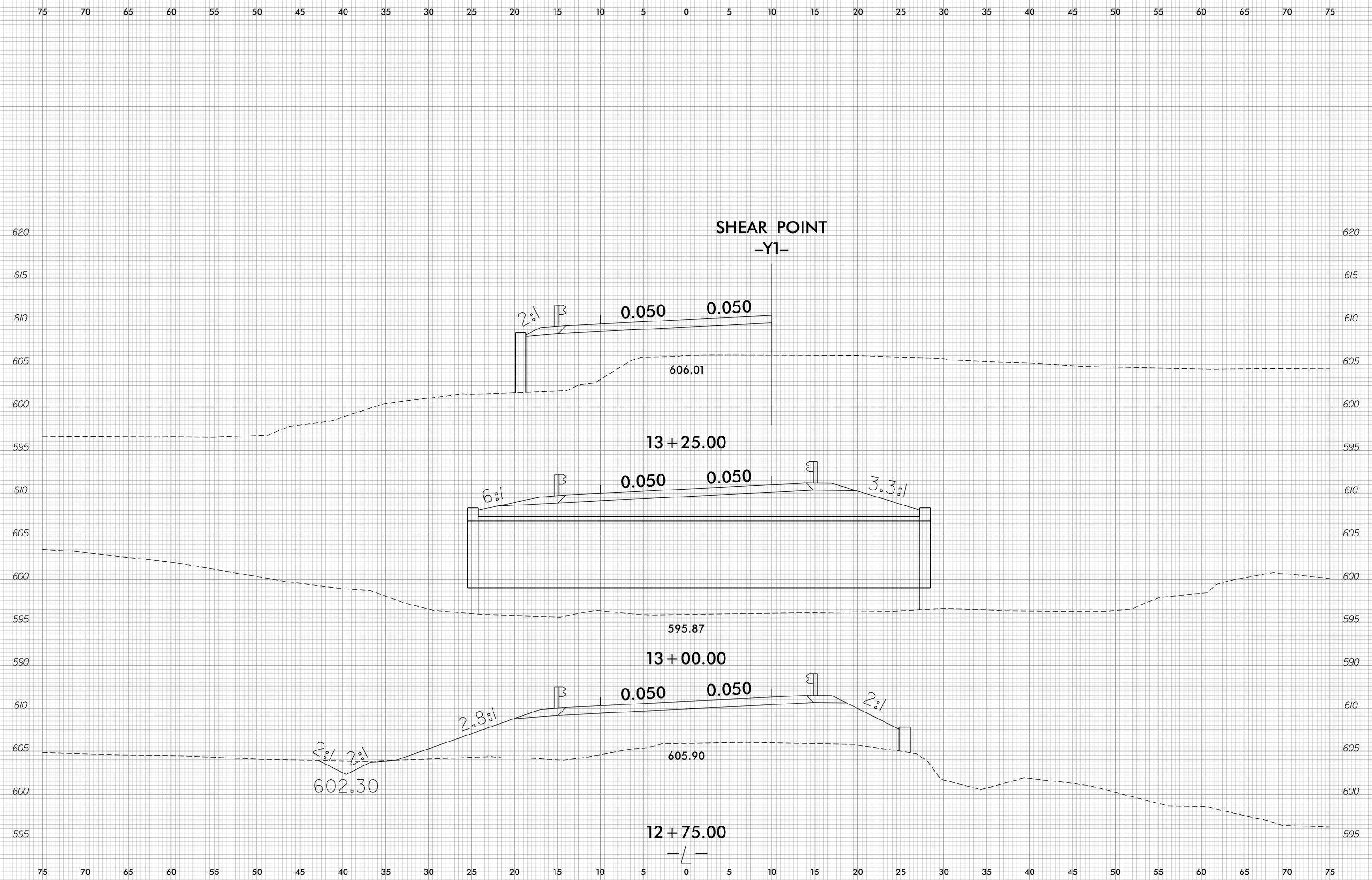


Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

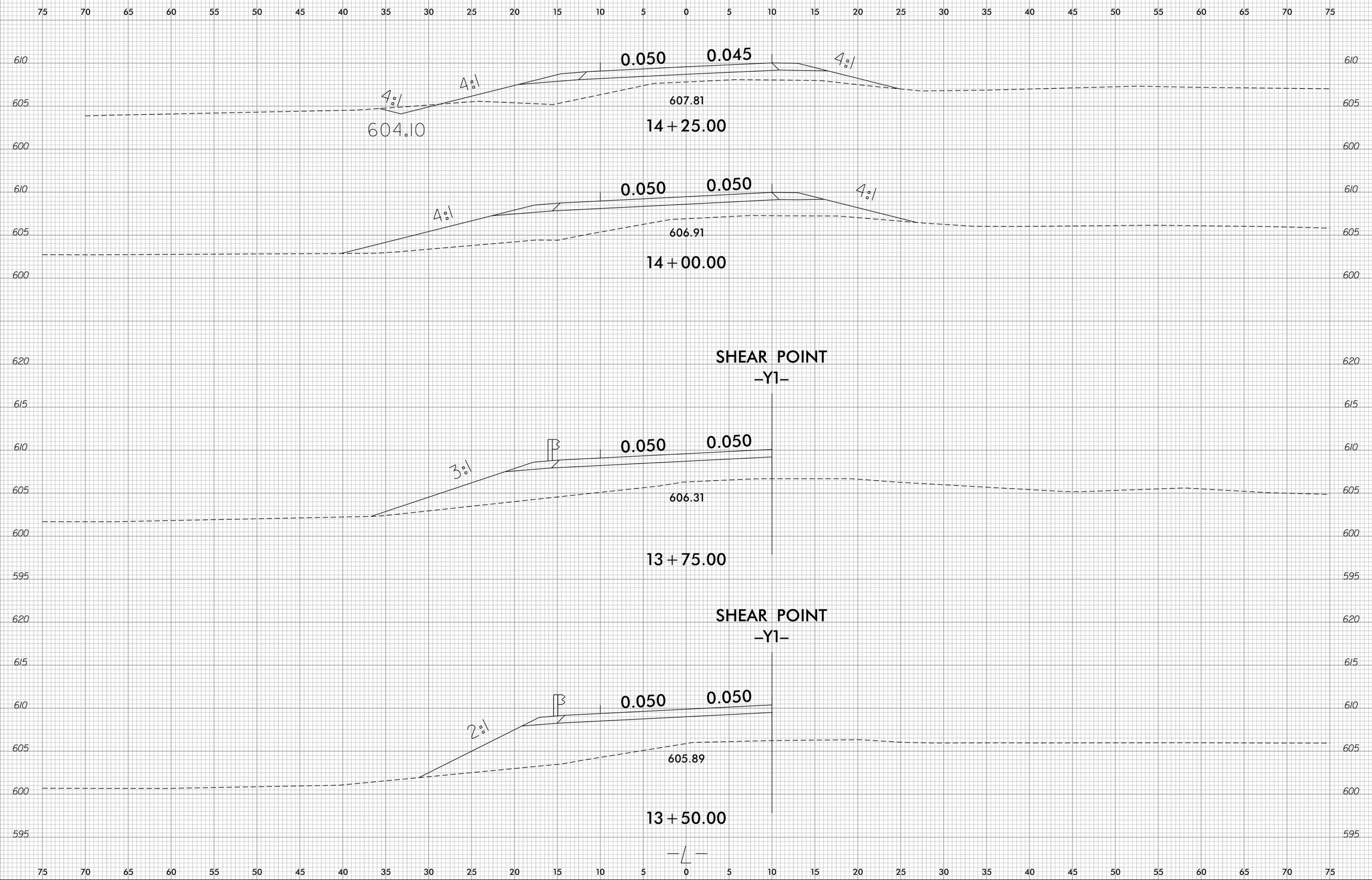
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 jessica@summit.com



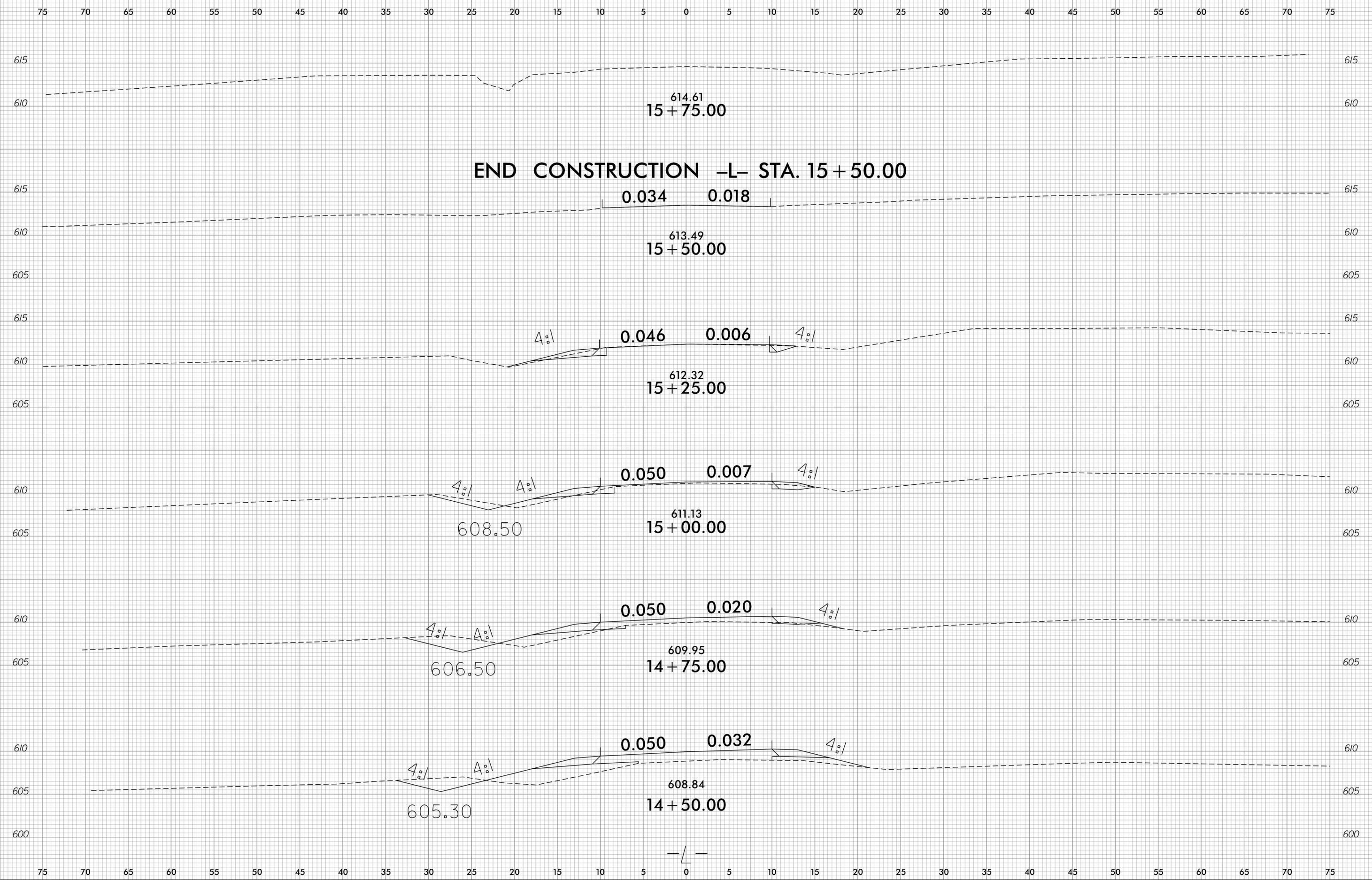
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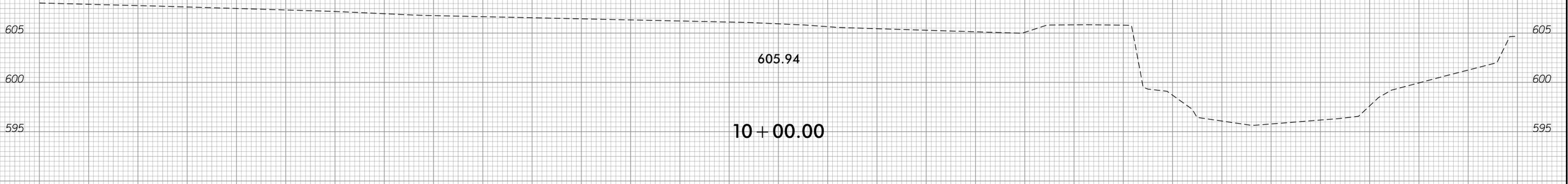
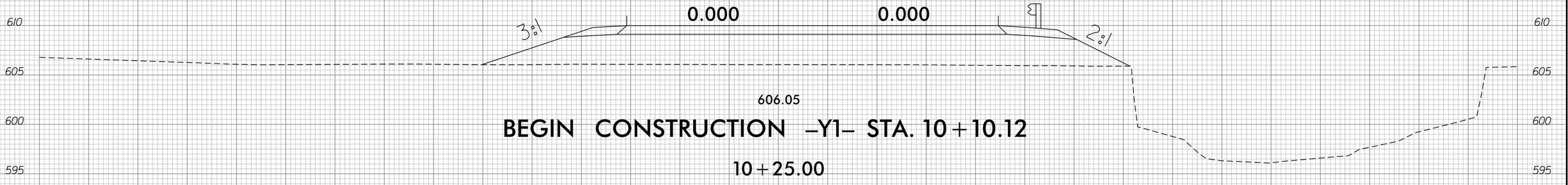
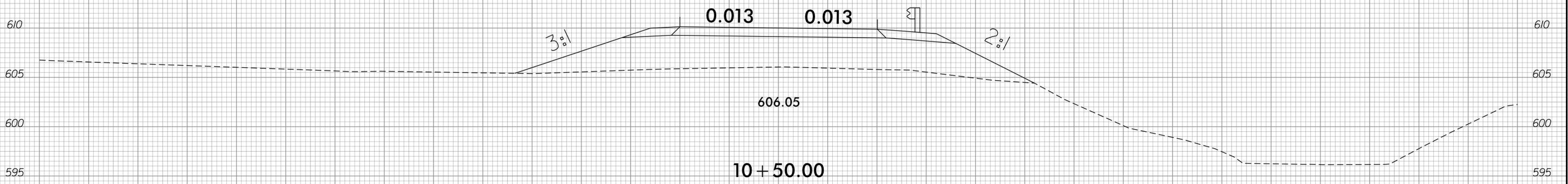
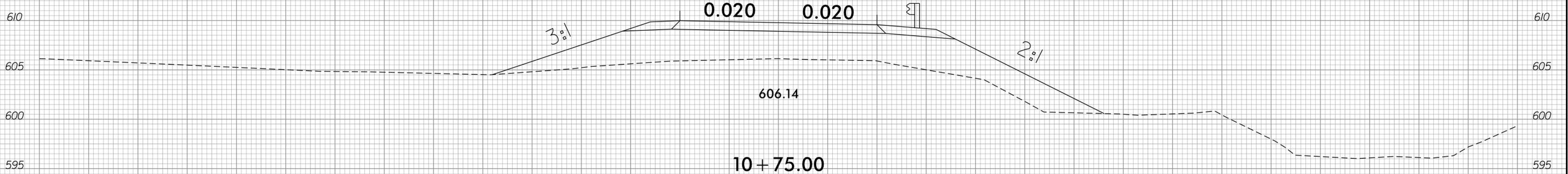


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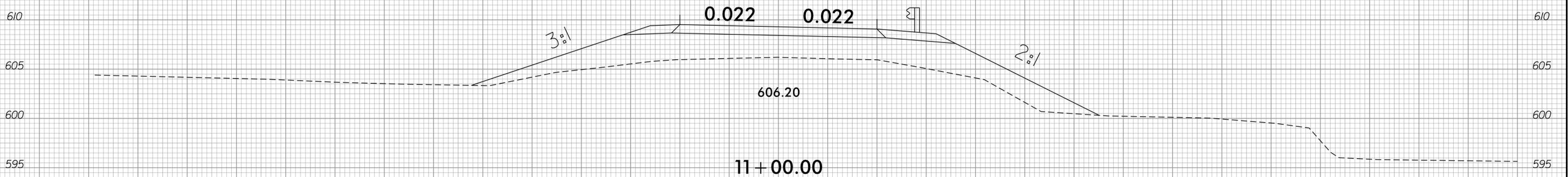
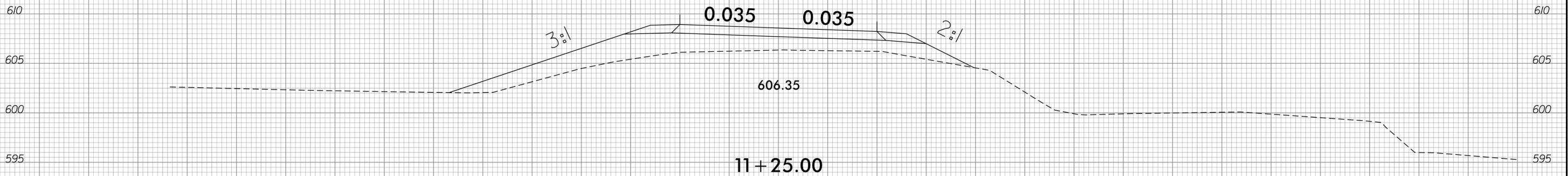
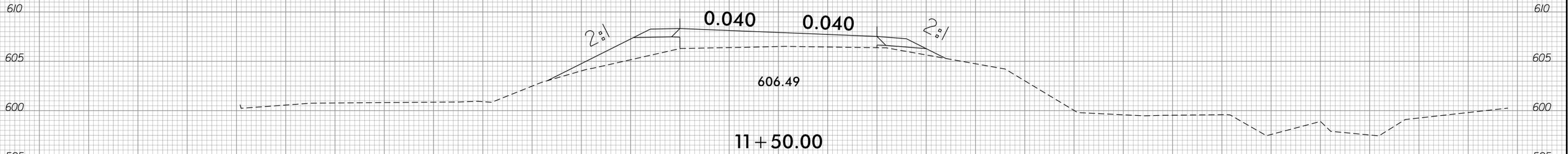
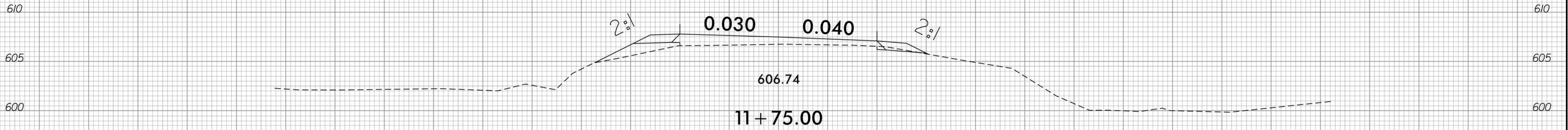
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-Y/-

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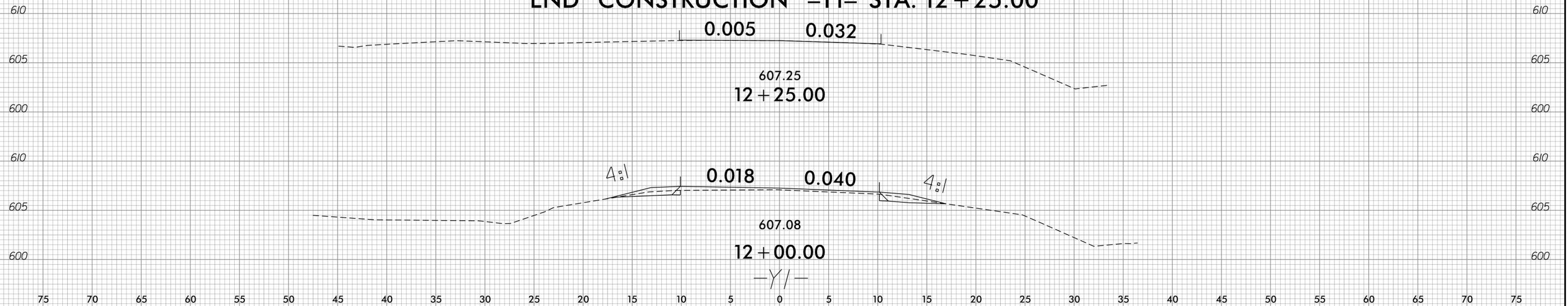


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28-AUG-2016 15:53
045 Paul W. Yildon
jessica.puszumski

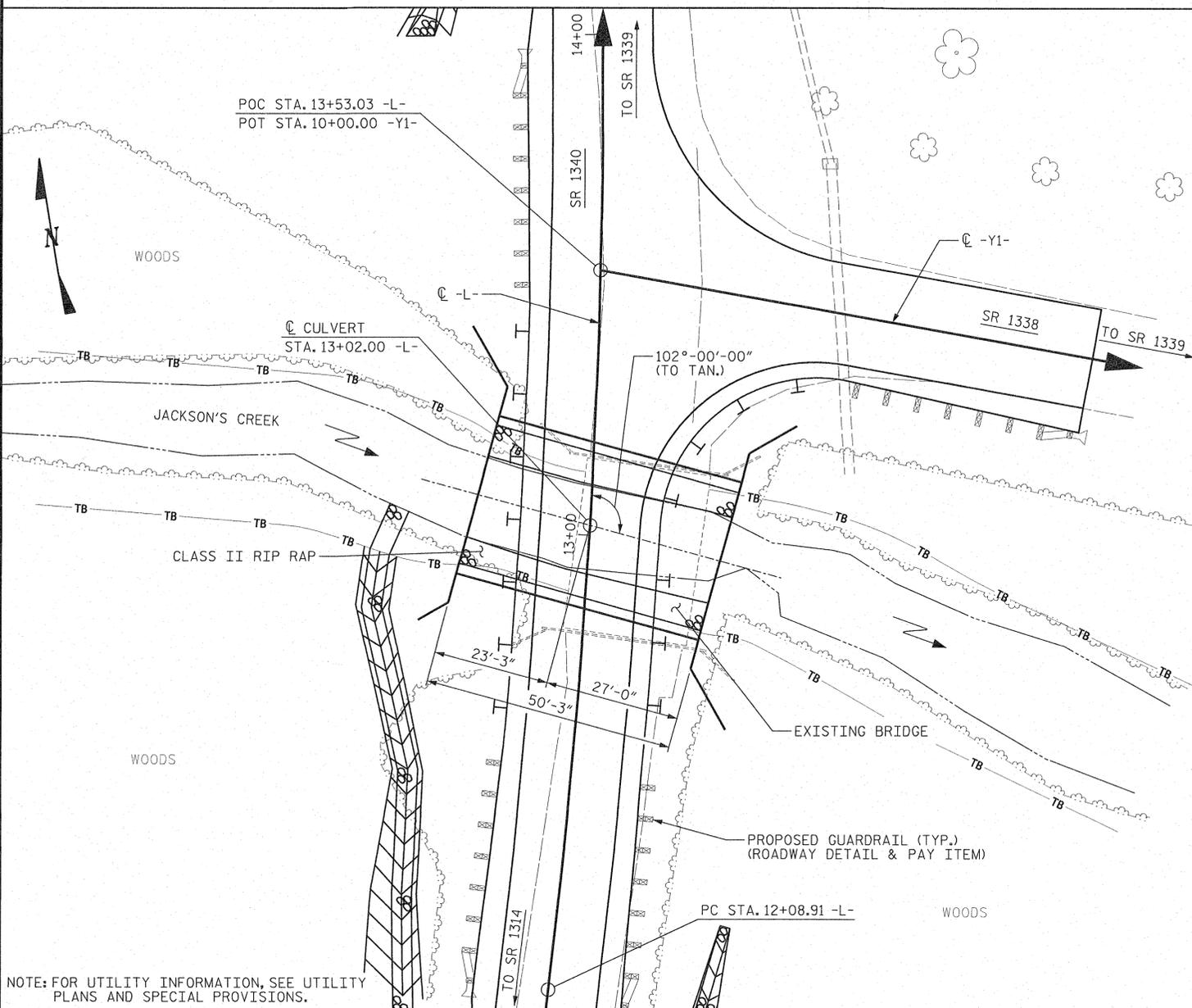
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END CONSTRUCTION -Y1- STA. 12 + 25.00



29-AUG-2016 15:53
045 Pduvali Yildon
jessica.puszumski

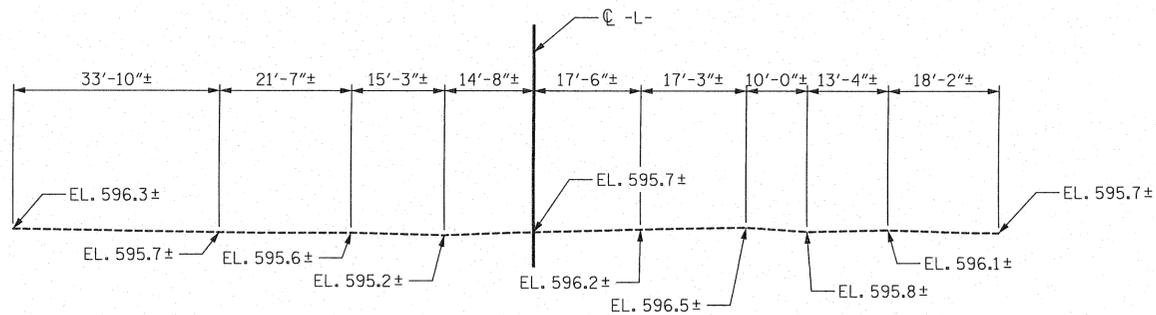
BENCH MARK: RR SPIKE IN BASE OF 24" ELM TREE, 55' LT OF STA. 10+13.00 -BL-, EL. 601.67



NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

GRADE POINT ELEVATION @ 13+02.00 -L- = 610.46
 BED ELEVATION @ 13+02.00 -L- = 595.7
 ROADWAY SLOPES = 2:1



PROFILE ALONG CULVERT

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- CULVERT IS TO BE DESIGNED FOR A MINIMUM FILL DEPTH OF 2'-6" AND A MAXIMUM FILL DEPTH OF 4'-3".
- THE ANTICIPATED BEARING ELEVATION IS 593.0 TO 595.0
- EXTEND FOUNDATION EXCAVATIONS AT LEAST 1 FOOT INTO NON-SCOURABLE ROCK. NON-SCOURABLE ROCK IS DEFINED AS THE SURFACE OF CRYSTALLINE ROCK OR WEATHERED ROCK HAVING SPT BLOW COUNTS OF 50 BLOWS WITH 3 INCHES OF PENETRATION OR LESS.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- FOR ALUMINUM BOX CULVERT AND CULVERT BACKFILL SEE SPECIAL PROVISIONS.
- THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS FOR REVIEW AND APPROVAL THAT MEET REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.
- UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL, AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- THE EXISTING STRUCTURE CONSISTING OF ONE SPAN AT 35'-10", WITH ASPHALT WEARING SURFACE ON TIMBER DECK AND STEEL I-BEAMS WITH A CLEAR ROADWAY WIDTH OF 25'-0" ON TIMBER CAPS, POSTS AND SILLS LOCATED AT THE PROPOSED CULVERT SITE SHALL BE REMOVED.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
- THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE."
- GUARD RAIL POST LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. ADJUST GUARDRAIL LOCATION AS REQUIRED TO AVOID PROPOSED WING WALLS AND ANCHOR UNITS.
- SEE SECTION 414 OF THE STANDARD SPECIFICATIONS FOR CULVERT EXCAVATION AND BACKFILLING.

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ALUMINUM BOX CULVERT	LUMP SUM
FOUNDATION EXCAVATION	LUMP SUM
CLASS A CONCRETE	46.5 C.Y.
CULVERT BACKFILL	536 TONS

HYDROGRAPHIC DATA

DESIGN DISCHARGE = 1300 CFS
 FREQUENCY OF DESIGN FLOOD = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 603.7 FT.
 DRAINAGE AREA = 4.3 SQ. MI.
 BASE DISCHARGE (Q100) = 1900 CFS
 BASE HIGH WATER ELEVATION = 605.71 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 2500+ CFS
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
 OVERTOPPING FLOOD ELEVATION = 610.0 FT.

-L- PROFILE DATA

PVI STA. 11+85.00 -L-
 PVI EL. = 611.88
 VC = 180.00
 g1 = -7.4222%
 g2 = -1.2139%

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. 17BP.8.R.75
RANDOLPH COUNTY
 STATION: 13+02.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 45

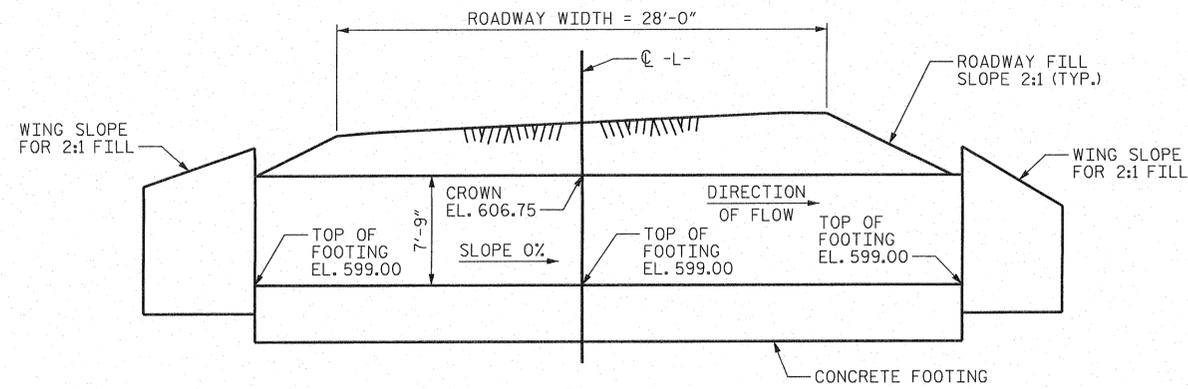
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
SINGLE 32'-7" X 7'-9" ALUMINUM BOX CULVERT



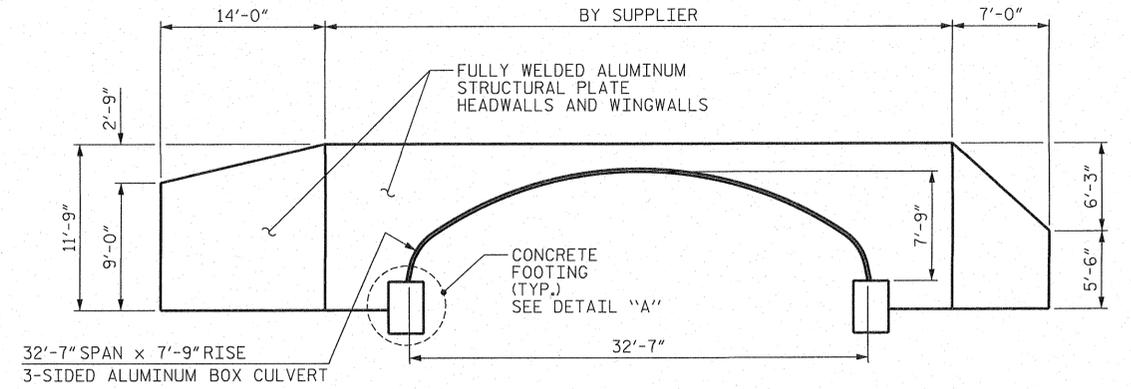
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DRAWN BY: J.S. ISRAELNAIM DATE: 10/14
 CHECKED BY: P.A. de PAOLI DATE: 11/14
 DESIGN ENGINEER OF RECORD: P.A. de PAOLI DATE: 12/14

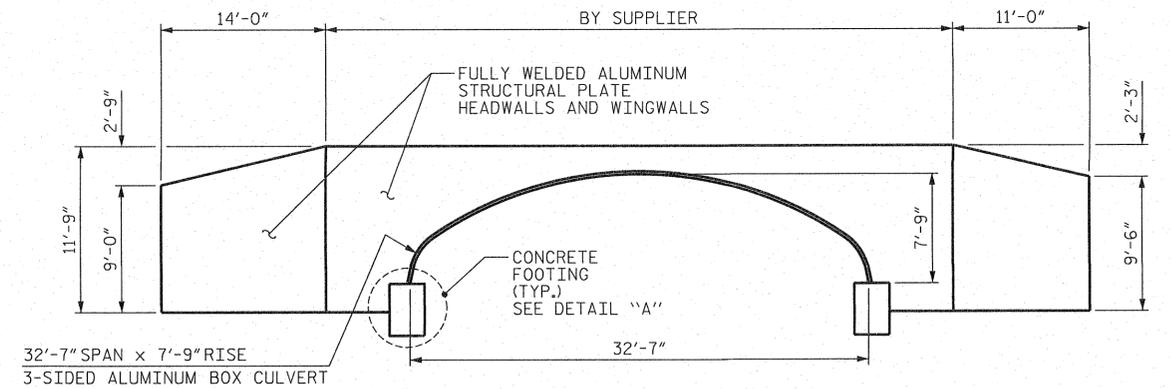
MI ENGINEERING 1011 SCHAUB DRIVE, SUITE 100 RALEIGH, NC 27606 (919) 851-6606 FIRM PE NUMBER: P-0671	REVISIONS						SHEET NO. C-1 TOTAL SHEETS
	NO.	BY:	DATE:	NO.	BY:	DATE:	
	1			3			
	2			4			



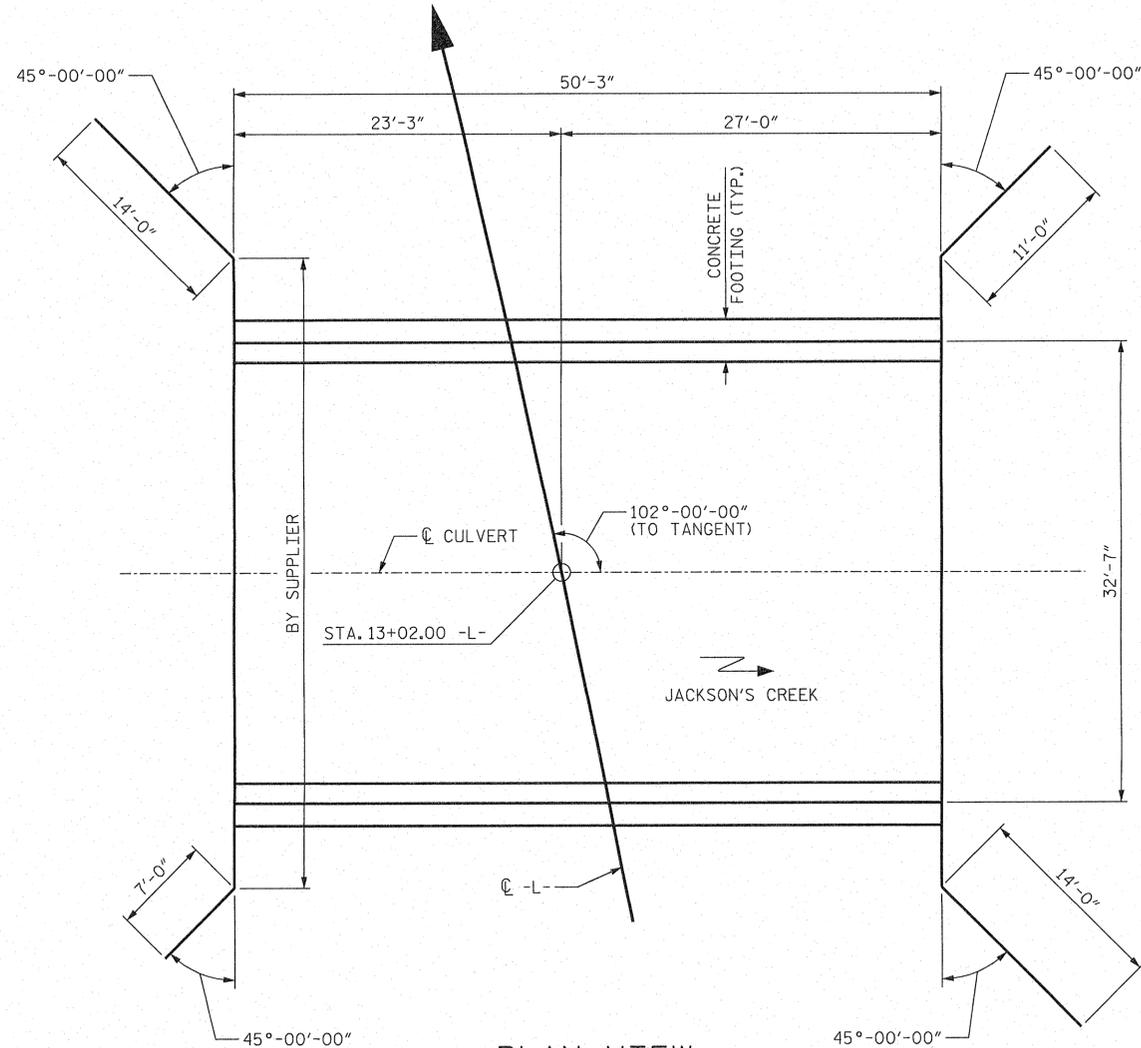
CULVERT SECTION NORMAL TO ROADWAY



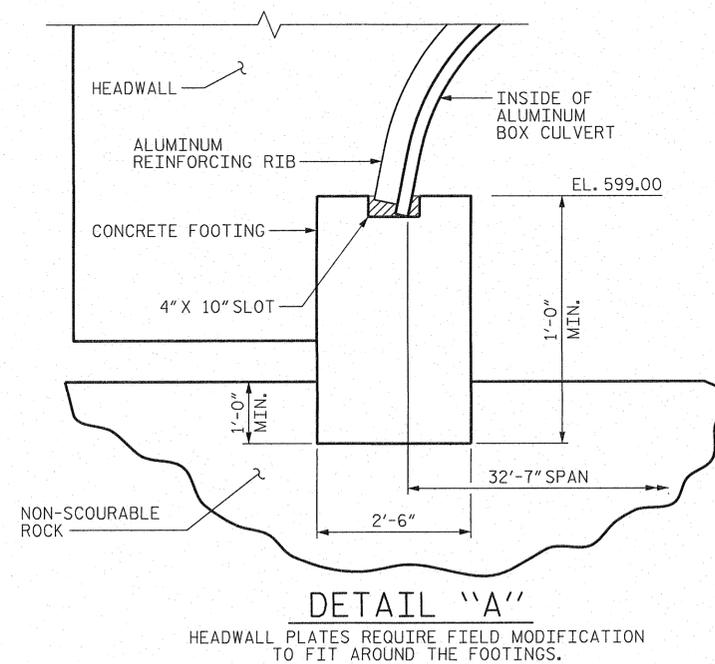
END ELEVATION - INLET END



END ELEVATION - OUTLET END



PLAN VIEW



DETAIL "A"
HEADWALL PLATES REQUIRE FIELD MODIFICATION TO FIT AROUND THE FOOTINGS.

PROJECT NO. 17BP.8.R.75
 RANDOLPH COUNTY
 STATION: 13+02.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SINGLE 32'-7" X 7'-9"
 ALUMINUM BOX CULVERT



MI ENGINEERING
 1011 SCHAUB DRIVE, SUITE 100
 RALEIGH, NC 27606
 (919) 851-6606
 FIRM PE NUMBER : P-0671

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2	
1			3			TOTAL SHEETS	
2			4				

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 DRAWN BY : J.S. ISRAELNAIM DATE : 10/14
 CHECKED BY : P.A. de PAOLI DATE : 11/14
 DESIGN ENGINEER OF RECORD : P.A. de PAOLI DATE : 12/14

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER. DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS. WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0". EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED. WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB. METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN