

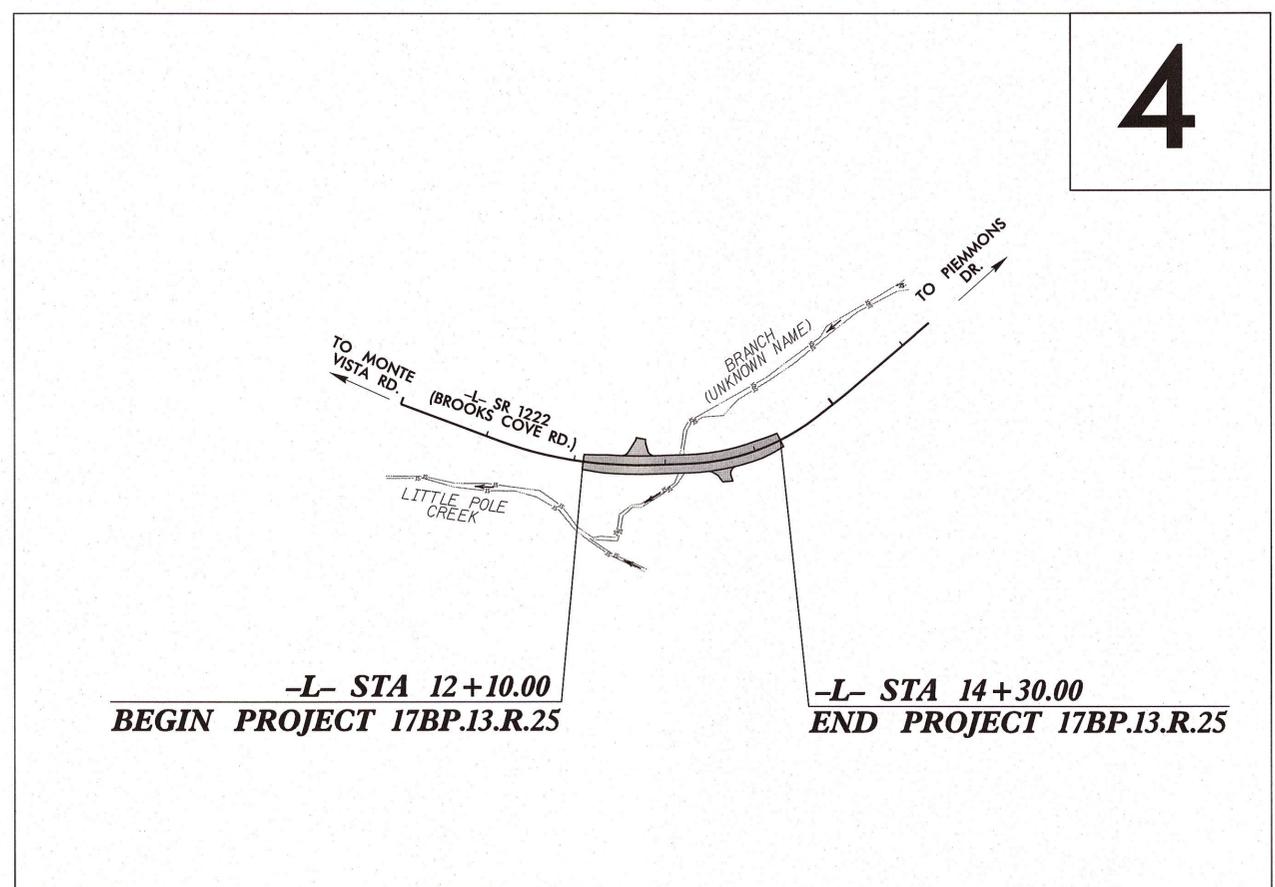
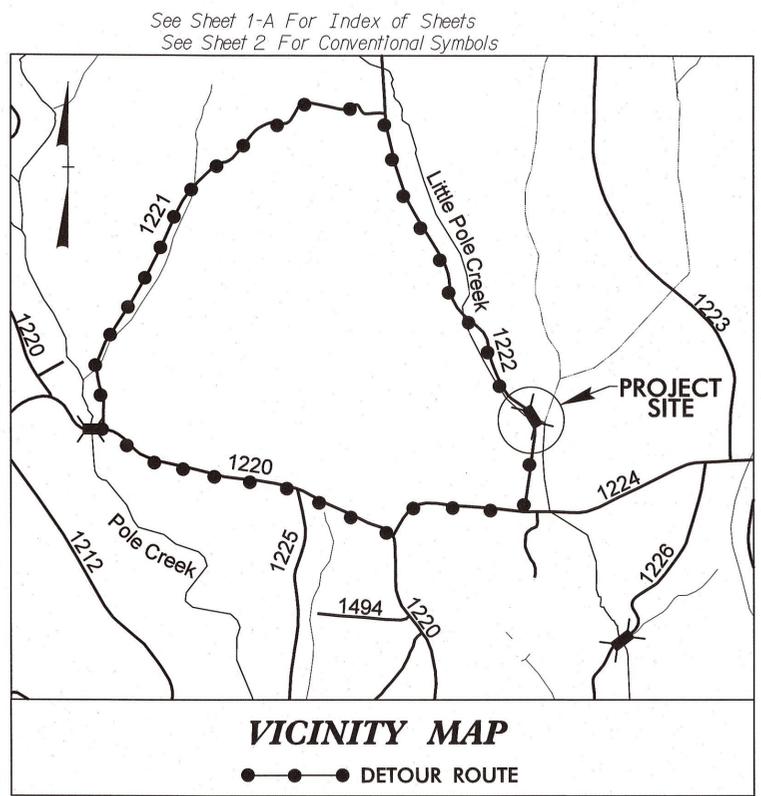
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.25	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		PE	
		RW, UTIL	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

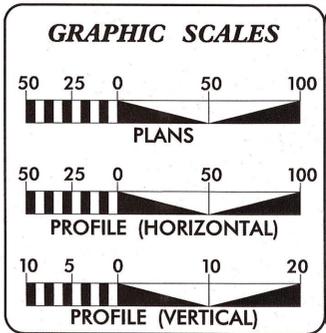
LOCATION: BRIDGE NO. 100291 OVER UNNAMED BRANCH OF LITTLE POLE CREEK ON SR 1222

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



TIP PROJECT:

CONTRACT:



DESIGN DATA
RURAL LOCAL
ADT 2010 = 590
DHV = %
D = %
T = 0 % *
V = 40 MPH
SUB-REGIONAL TIER
** DESIGN EXCEPTION REQUIRED FOR SUPER

PROJECT LENGTH
LENGTH OF ROADWAY PROJECT 17BP.13.R.25 = 0.042 MILES

PARSONS
RALEIGH, NORTH CAROLINA

Prepared for the North Carolina Department of Transportation in the office of:
5540 Centerview Drive
Suite 217
Raleigh, NC 27606
License No. 1-0246
Bus: 919-854-3445
Fax: 919-851-2103

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
LETTING DATE:
NCDOT CONTACT: TROY S. WILSON

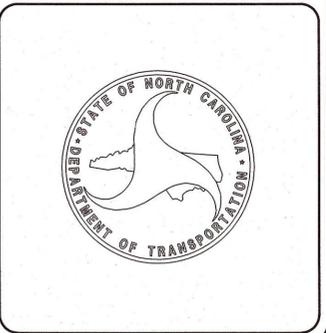
TIMOTHY D. GOINS, PE
PROJECT ENGINEER

J. MATTHEW PICKENS, PE
PROJECT DESIGN ENGINEER

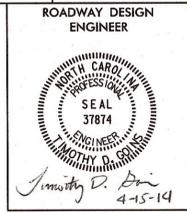
HYDRAULICS ENGINEER

SIGNATURE: [Signature] 12-31-13 P.E.
ROADWAY ENGINEER

SIGNATURE: [Signature] 12-31-13 P.E.



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INDEX OF SHEETS

SHEET NUMBER SHEET

- 1 TITLE SHEET
- 1-A INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
- 2 CONVENTIONAL SYMBOLS
- 3 SUMMARY OF DRAINAGE QUANTITIES, EARTHWORK SUMMARY, REMOVAL OF EXISTING ASPHALT PAVEMENT.
- 4 PLAN/PROFILE SHEET
- 5 DRAINAGE DETAILS SHEET
- TMP-1 THRU TMP-2 TRANSPORTATION MANAGEMENT PLANS
- PMP-1 PAVEMENT MARKING PLAN
- EC-1 THRU EC-6 EROSION CONTROL PLANS
- SGN-1 SIGNING PLAN
- UC-1 THRU UC-4 UTILITY CONSTRUCTION PLAN
- UD-1 UTILITY BY OTHERS PLAN
- X-0 CROSS-SECTION SUMMARY SHEET
- X-1 THRU X-3 CROSS-SECTIONS
- S-1 THRU S-2 STRUCTURE PLANS

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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
876.02	Guide for Rip Rap at Pipe Outlets

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

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 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 560.01

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

- Duke/Progress Energy - Power
- AT&T - Telephone
- City of Asheville - Water

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	----- 
Property Corner	----- 
Property Monument	----- 
Parcel/Sequence Number	----- 
Existing Fence Line	----- 
Proposed Woven Wire Fence	----- 
Proposed Chain Link Fence	----- 
Proposed Barbed Wire Fence	----- 
Existing Wetland Boundary	----- 
Proposed Wetland Boundary	----- 
Existing Endangered Animal Boundary	----- 
Existing Endangered Plant Boundary	----- 
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	----- 
Small Mine	----- 
Foundation	----- 
Area Outline	----- 
Cemetery	----- 
Building	----- 
School	----- 
Church	----- 
Dam	----- 

HYDROLOGY:

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

RAILROADS:

Standard Gauge	----- 
RR Signal Milepost	----- 
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	----- 
Proposed Right of Way Line with Iron Pin and Cap Marker	----- 
Proposed Right of Way Line with Concrete or Granite RW Marker	----- 
Proposed Control of Access Line with Concrete CA Marker	----- 
Existing Control of Access	----- 
Proposed Control of Access	----- 
Existing Easement Line	----- 
Proposed Temporary Construction Easement	----- 
Proposed Temporary Drainage Easement	----- 
Proposed Permanent Drainage Easement	----- 
Proposed Permanent Drainage / Utility Easement	----- 
Proposed Permanent Utility Easement	----- 
Proposed Temporary Utility Easement	----- 
Proposed Aerial Utility Easement	----- 

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- 
Proposed Slope Stakes Fill	----- 
Proposed Curb Ramp	----- 
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	----- 

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

Existing Telephone Pole	----- 
Proposed Telephone Pole	----- 
Telephone Manhole	----- 
Telephone Booth	----- 
Telephone Pedestal	----- 
Telephone Cell Tower	----- 
U/G Telephone Cable Hand Hole	----- 
Recorded U/G Telephone Cable	----- 
Designated U/G Telephone Cable (S.U.E.*)	----- 
Recorded U/G Telephone Conduit	----- 
Designated U/G Telephone Conduit (S.U.E.*)	----- 
Recorded U/G Fiber Optics Cable	----- 
Designated U/G Fiber Optics Cable (S.U.E.*)	----- 

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
BUNCOMBE COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS 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
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1110.01	BARRICADES

PROJECT PHASING

PHASE 1

STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.04, SHEET 1 OF 1, CONTRACTOR TO INSTALL ALL ADVANCE WARNING SIGNS FOR DETOUR, KEEPING SIGNS COVERED (SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEETS 1 OF 9 AND 2 OF 9).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 2.

STEP 2: CLOSE SR 1222 (BROOKS COVE RD) TO TRAFFIC, UNCOVER ALL ADVANCE WARNING SIGNS FOR ROAD CLOSURE AND SHIFT TRAFFIC TO TEMPORARY DETOUR.

STEP 3: DISMANTLE AND REMOVE EXISTING BRIDGE NO. 291 OVER UNNAMED BRANCH OF LITTLE POLE CREEK.

STEP 4: COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE, APPROACH ROADWAY WIDENING AND PAVING (SEE ROADWAY PLANS).

STEP 5: CONTRACTOR TO PLACE FINAL PAVEMENT MARKINGS (PAINT) ON SR 1222 (BROOKS COVE RD).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 6.

STEP 6: USING ROADWAY STANDARD DRAWINGS NO. 1101.04, SHEET 1 OF 1, REMOVE ALL ADVANCE WARNING SIGNS FOR ROAD CLOSURE, ALL TRAFFIC CONTROL DEVICES AND OPEN SR 1222 (BROOKS COVE RD) TO TRAFFIC.

PROJECT NOTES

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. MODIFICATIONS 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 CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

CONTRACTOR WILL PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS, UNLESS OTHERWISE NOTED.

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

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

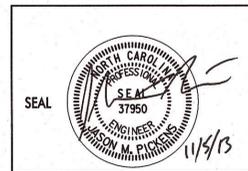
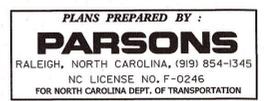
TRAFFIC CONTROL DEVICES

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

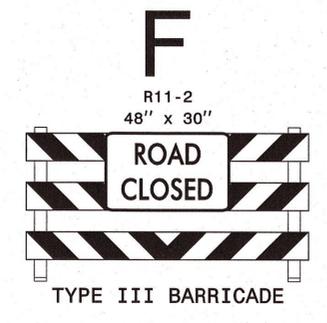
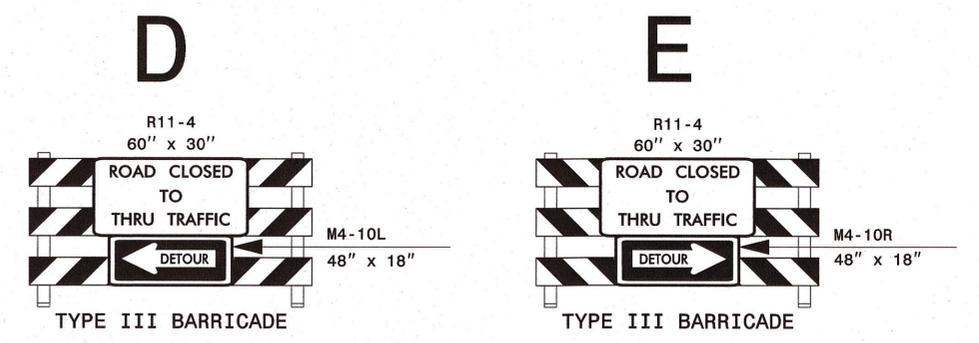
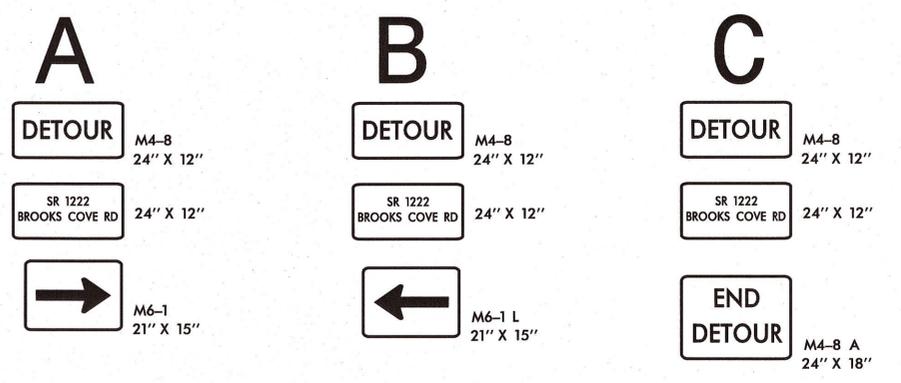
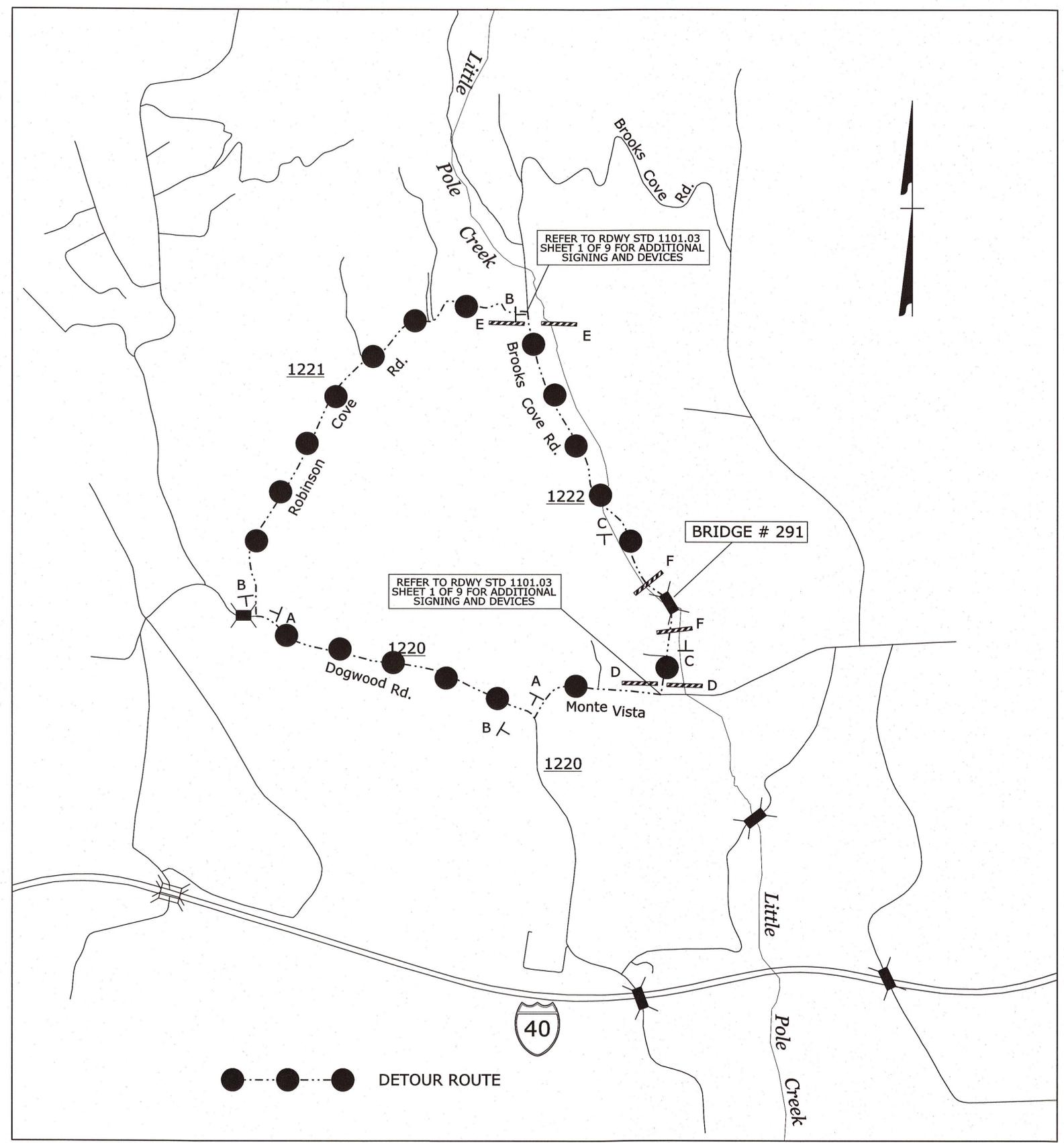
LOCAL NOTES

1. CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS WITHIN THE PROJECT LIMITS AT ALL TIMES.

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\$\$\$\$USERNAME\$\$\$\$



EDWARD S. ROBBINS, PE **TRAFFIC CONTROL PROJECT ENGINEER**
J. MATTHEW PICKENS, PE **TRAFFIC CONTROL ENGINEER**



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 \$\$\$USERNAME\$\$\$

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

SEAL

11/5/13

SR 1222 BROOKS COVE RD.
 OFF-SITE DETOUR

SCALE: NONE	REVISIONS
DATE: 10/2012	
DWG. BY: JMP	
DESIGN BY: JMP	
REVIEWED BY: ESR	

CAD FILE: BUNC_291_Rdy_tmp2.dgn

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
BUNCOMBE COUNTY**



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 - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES

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.

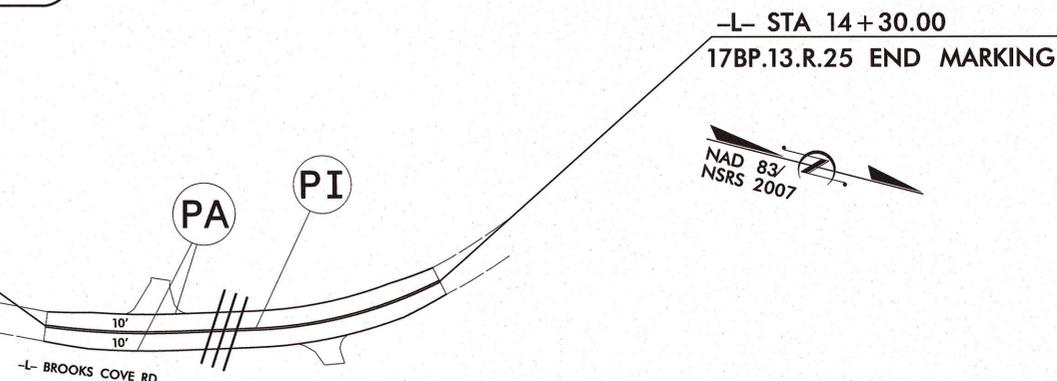
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
SR 1222 (BROOKS COVE RD)	PAINT
- B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
- C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- D) REFER TO TRAFFIC CONTROL PLAN FOR PROJECT NOTES CONCERNING PAVEMENT MARKINGS, MARKERS AND DELINEATION.

**PAVEMENT MARKING
SCHEDULE**

SYMBOL	DESCRIPTION
	FINAL PAVEMENT MARKINGS
	PAINT (4")
PA	WHITE EDGELINE (2X)
PI	YELLOW DOUBLE CENTER (2X)

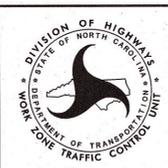
-L- STA 12+10.00
17BP.13.R.25 BEGIN MARKING



PLANS REVIEWED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT

SIGNING & DELINEATION STANDARDS ENGINEER

SIGNING & DELINEATION PROJECT DESIGN ENGINEER



PLANS PREPARED BY:

EDWARD S. ROBBINS, P.E. PROJECT MANAGER

J. MATTHEW PICKENS, P.E. PROJECT ENGINEER

PLANS PREPARED BY :

PARSONS

FOR
DIVISION OF HIGHWAYS

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>17BP.13.R.25</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.

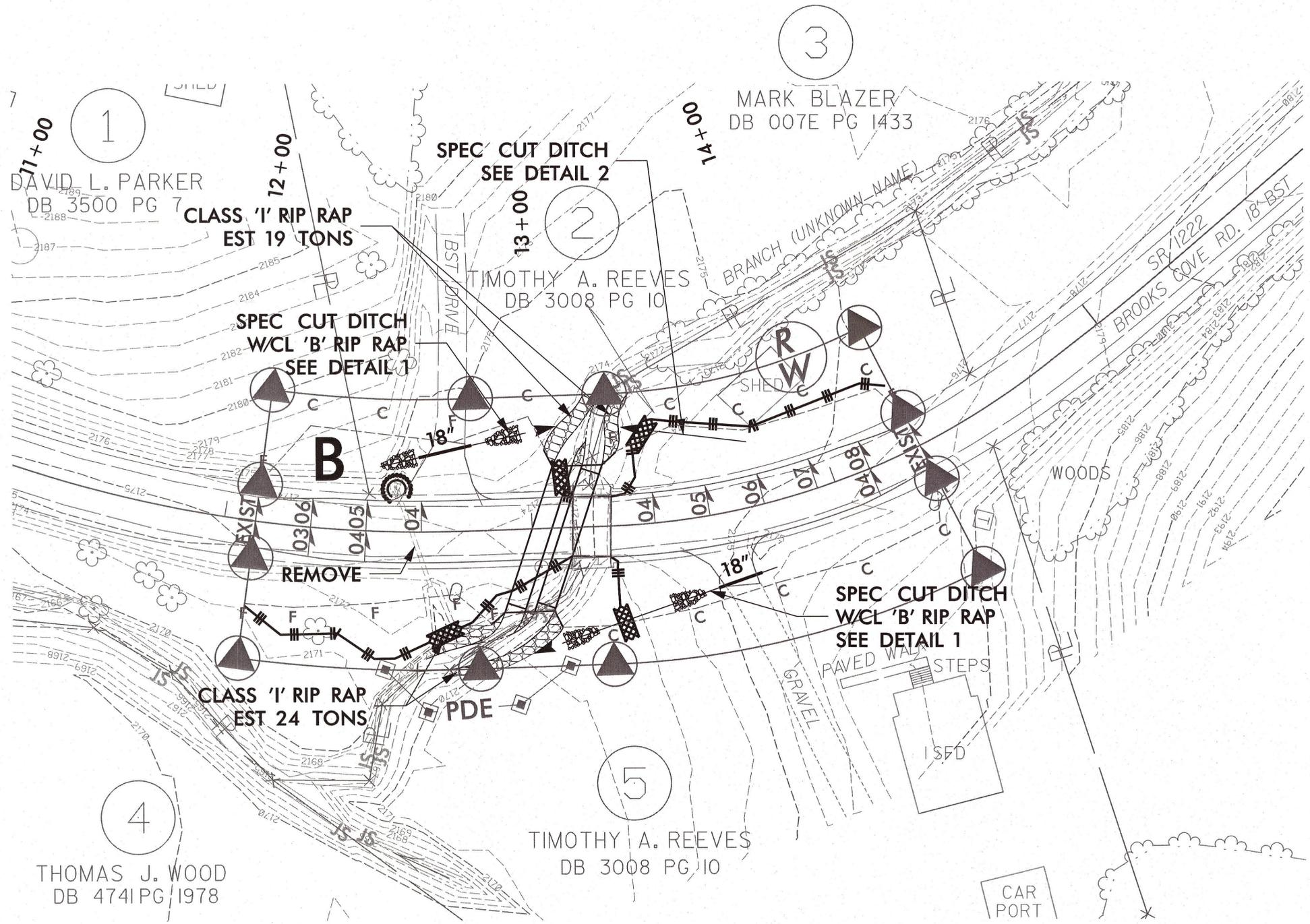
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

EROSION CONTROL PLAN

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

PROJECT REFERENCE NO. 17BP.13.R.25	SHEET NO. EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



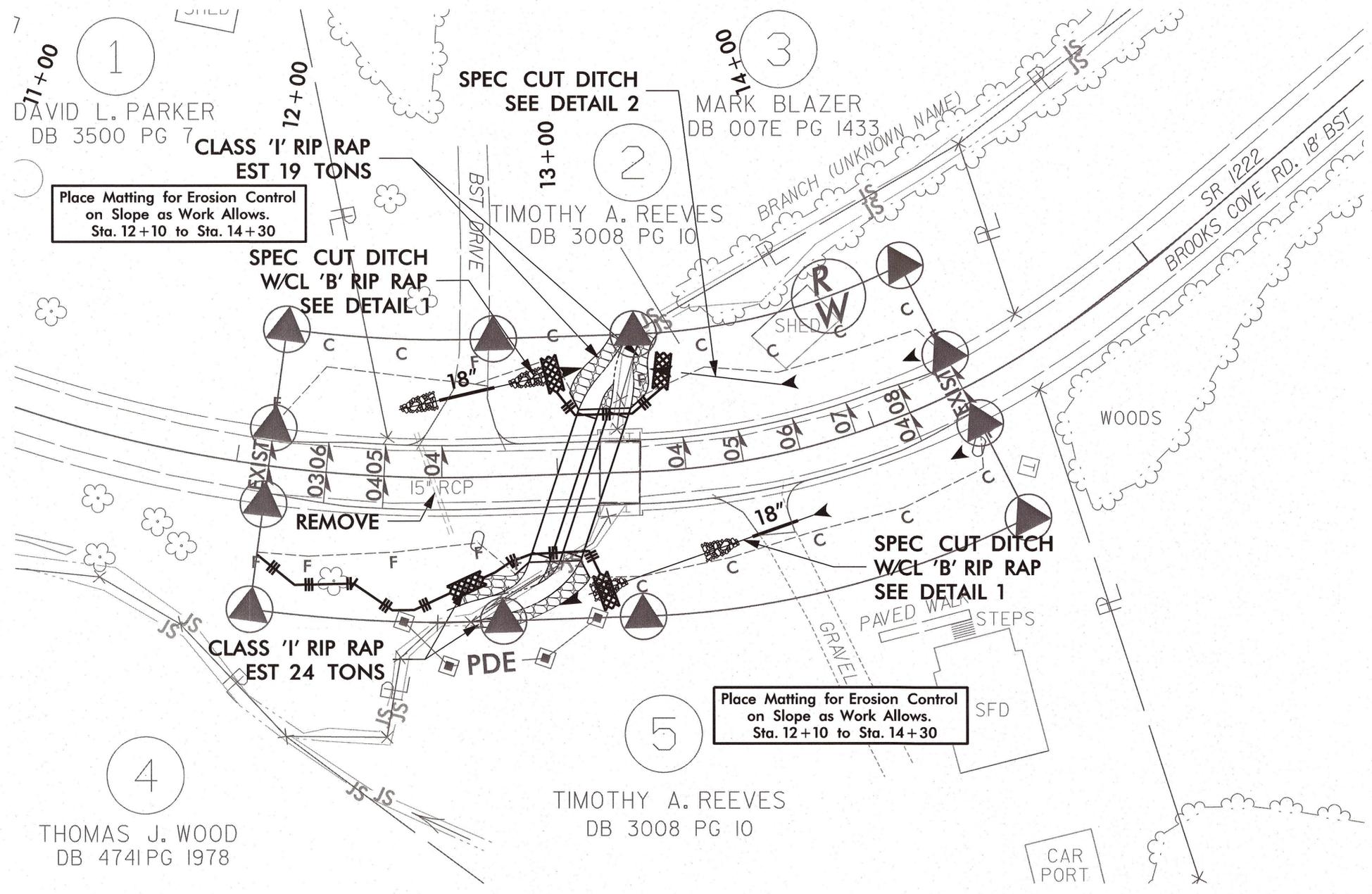
NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

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

EROSION CONTROL PLAN

FINAL GRADE
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

PROJECT REFERENCE NO. 17BP13.R.25	SHEET NO. EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



1
DAVID L. PARKER
DB 3500 PG 7

3
MARK BLAZER
DB 007E PG 1433

2
TIMOTHY A. REEVES
DB 3008 PG 10

Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 12+10 to Sta. 14+30

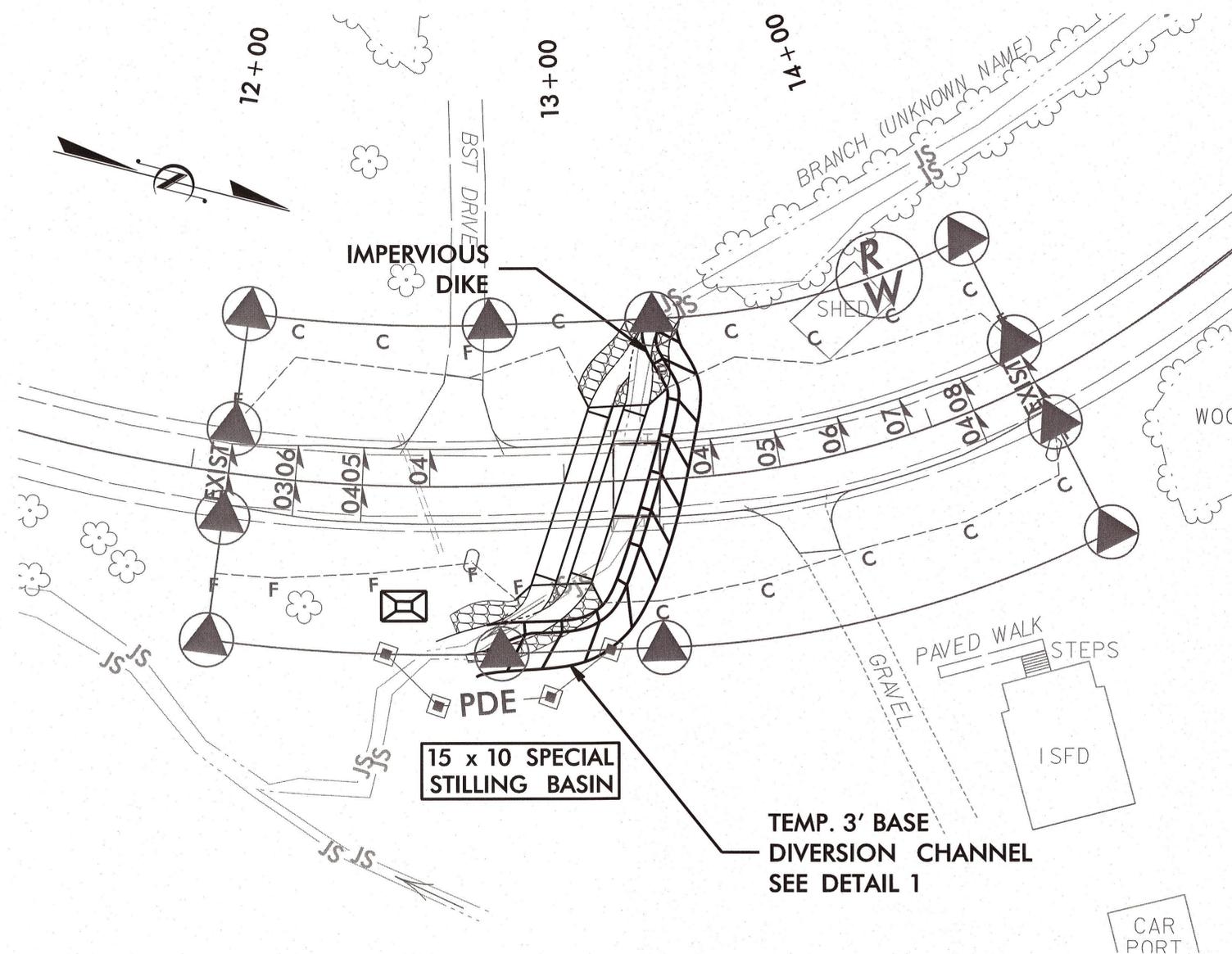
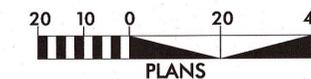
Place Matting for Erosion Control
on Slope as Work Allows.
Sta. 12+10 to Sta. 14+30

4
THOMAS J. WOOD
DB 4741 PG 1978

5
TIMOTHY A. REEVES
DB 3008 PG 10

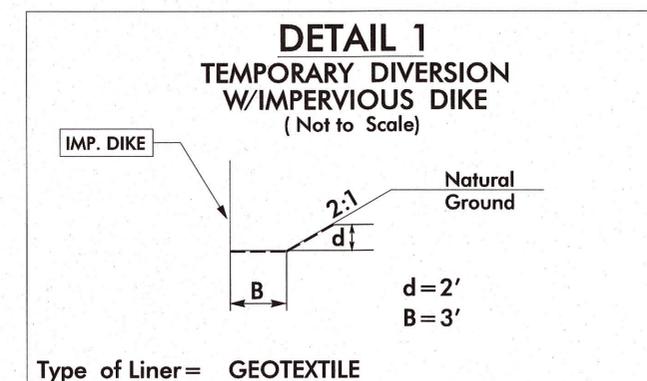
PROJECT REFERENCE NO. 17BP.13.R.25	SHEET NO. EC-06
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT INSTALLATION PHASING



CONSTRUCTION SEQUENCE:

- 1) INSTALL SPECIAL STILLING BASIN
- 2) REMOVE EXISTING BRIDGE
- 3) CONSTRUCT TEMPORARY IMPERVIOUS DIKE AND TEMPORARY DIVERSION CHANNEL TO DIVERT STREAM FLOW NORTH OF PROPOSED CULVERT
- 4) DEWATER CONSTRUCTION AREA AND TREAT EFFLUENT WATER USING A SPECIAL STILLING BASIN
- 5) INSTALL 2@73" x 55" ALUMINIZED CSPA, HEADWALL, ENDWALL, AND WINGWALLS
- 6) REMOVE SPECIAL STILLING BASIN AND IMPERVIOUS DIKE
- 7) CONSTRUCT AND STABILIZED INLET AND OUTLET CHANNELS
- 8) RECONSTRUCT ROAD



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO. 17BP.13.R.25
SHEET NO. SGN-1



SIGNING PLAN
BUNCOMBE COUNTY

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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4025000000	CONTRACTOR FURNISHED TYPE E SIGN	17	S.F.
4072000000	SUPPORTS, 3 LB STEEL U-CHANNEL	30	L.F.
4102000000	SIGN ERECTION, TYPE E	2	EA.
4155000000	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6	EA.

GENERAL NOTES

- SIGNS FURNISHED BY THE CONTRACTOR.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY THE CONTRACTOR.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

PAY ITEM NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
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"E" SIGNS

401 QUANTITY REQ'D 1



ONE "U" POST PER SIGN

402 QUANTITY REQ'D 1

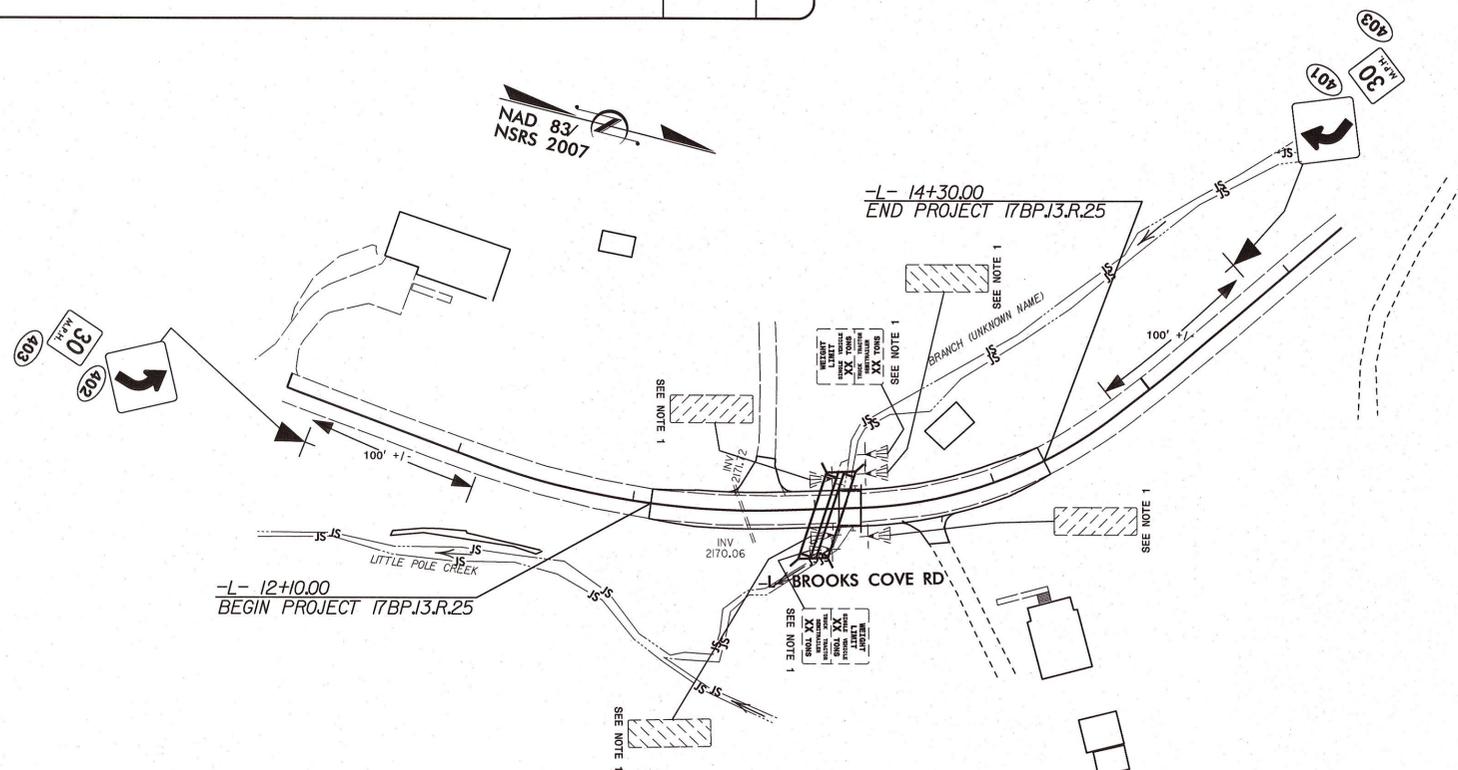


ONE "U" POST PER SIGN

403 QUANTITY REQ'D 2



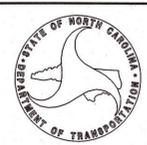
MOUNTED BELOW 401 & 402



PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

SIGNING & DELINEATION REGIONAL ENGINEER

SIGNING & DELINEATION PROJECT DESIGN ENGINEER



PLANS PREPARED BY:

EDWARD S. ROBBINS, P.E. PROJECT MANAGER
J. MATTHEW PICKENS, P.E. PROJECT ENGINEER

PLANS PREPARED BY:

PARSONS
FOR
DIVISION OF HIGHWAYS

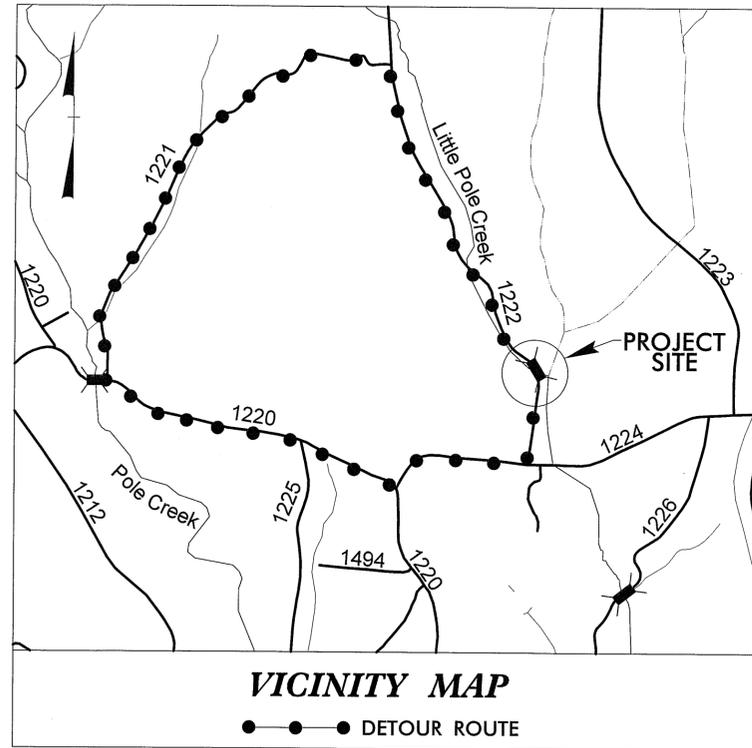
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
BUNCOMBE COUNTY**

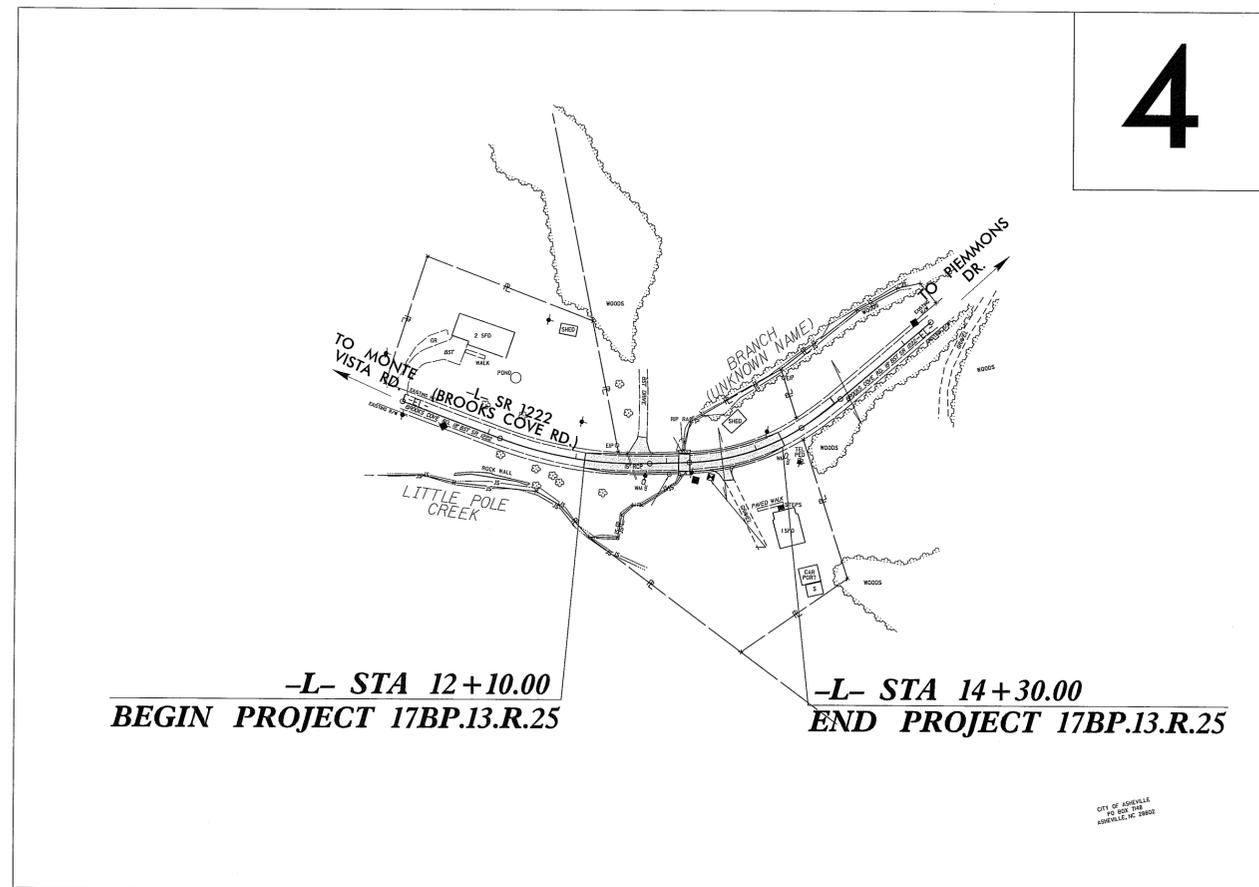
LOCATION: BRIDGE NO. 100291 OVER UNNAMED BRANCH OF LITTLE
POLE CREEK ON SR 1222

TYPE OF WORK: WATERLINE RELOCATION

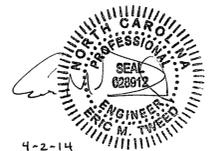
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.13.R.25	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
		PE	
		RW, UTIL	



100% PLANS



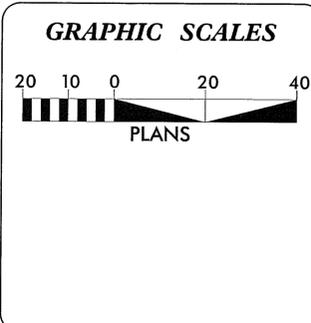
CITY OF ASHEVILLE
APR 20 2002



4-2-14

TIP PROJECT:

CONTRACT:



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SYMBOLGY LEGEND
UC-3	DETAILS
UC-4	WATER LINE PLAN & PROFILE

WET UTILITY OWNERS ON PROJECT

(1) WATER - CITY OF ASHEVILLE
Chad Pierce
PHONE 1-(828) 259-5420

PLANS PREPARED BY:

CH ENGINEERING

3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

UTILITIES PROJECT ENGINEER

Eric M. Tweed, P.E.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PREPARED FOR THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER

09/08/99
\$\$\$\$\$ SYSTEM \$\$\$\$\$\$
\$\$\$\$\$ USER NAME \$\$\$\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
	UC-2
BRIDGE NO. 100291	
UTILITY ENGINEER	

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	—————
11¼ Degree Bend	⊥
22½ Degree Bend	⊥
45 Degree Bend	⊥
90 Degree Bend	⊥
Plug	⊥
Tee	⊥
Cross	⊥
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	REH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	REM WM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	—————
Force Main Sewer Line (Sized as Shown)	—————
Manhole (Sized per Note)	•
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

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

Thrust Block	I
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	← NOTE
Pay Item Note	← PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	•
Telephone Pole	•
Joint Use Pole	•
Utility Pole	•
Utility Pole with Base	□
H-Frame Pole	•—•
Power Transmission Line Tower	⊗
Water Manhole	⊙
Power Manhole	⊙
Telephone Manhole	⊙
Sanitary Sewer Manhole	⊙
Hand Hole for Cable	⊞
Power Transformer	⊞
Telephone Pedestal	⊞
CATV Pedestal	⊞
Gas Valve	◇
Gas Meter	◇
Located Miscellaneous Utility Object	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

*Underground Power Line	—————
*Underground Telephone Cable	—————
*Underground Telephone Conduit	—————
*Underground Fiber Optics Telephone Cable	—————
*Underground TV Cable	—————
*Underground Fiber Optics TV Cable	—————
*Underground Gas Pipeline	—————
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	—————
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	—————
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	—————
Underground Unknown Utility Line	—————
SUE Test Hole	⊙
Water Meter	⊙
Water Valve	⊙
Fire Hydrant	⊙
Sanitary Sewer Cleanout	⊙

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

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

8/17/99



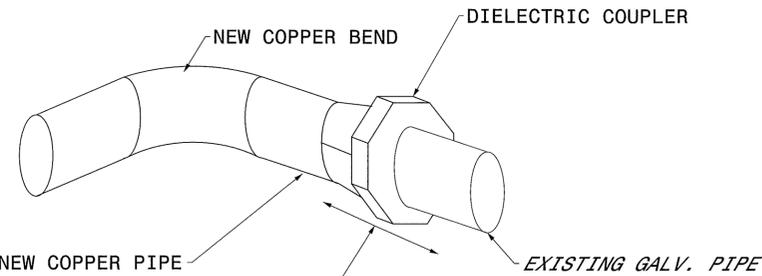
3220 GLEN ROYAL RD. RALEIGH, NC 27617
 TELE 919.788.0224 FAX 919.788.0232
 NC LICENSE #P-0189

PROJECT REFERENCE NO. 17BP.13.R.25	SHEET NO. UC-3
DESIGNED BY:	BRIDGE 100291
DRAWN BY:	SEAL 020912
CHECKED BY:	PROFESSIONAL ENGINEER
APPROVED BY:	ERIC M. WHEED
REVISED:	4-2-14
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	

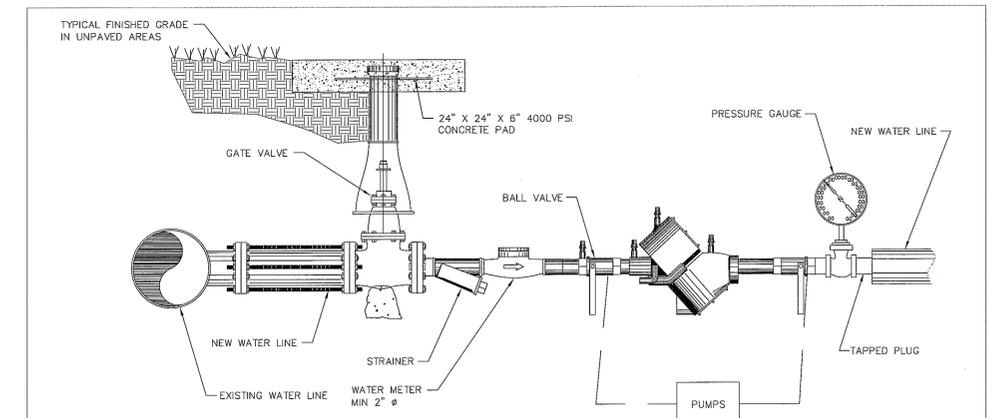
NOTES:

CONNECTIONS TO GALVANIZED PIPE SHALL BE THROUGH A DIELECTRIC COUPLER. THE NEW COPPER PIPE SHALL NOT BE DIRECTLY CONNECTED TO THE EXISTING GALVANIZED PIPE.

CONTRACTOR MAY VARY LOCATION OF CONNECTION IN ORDER TO FIND AN EXISTING PIPE END.

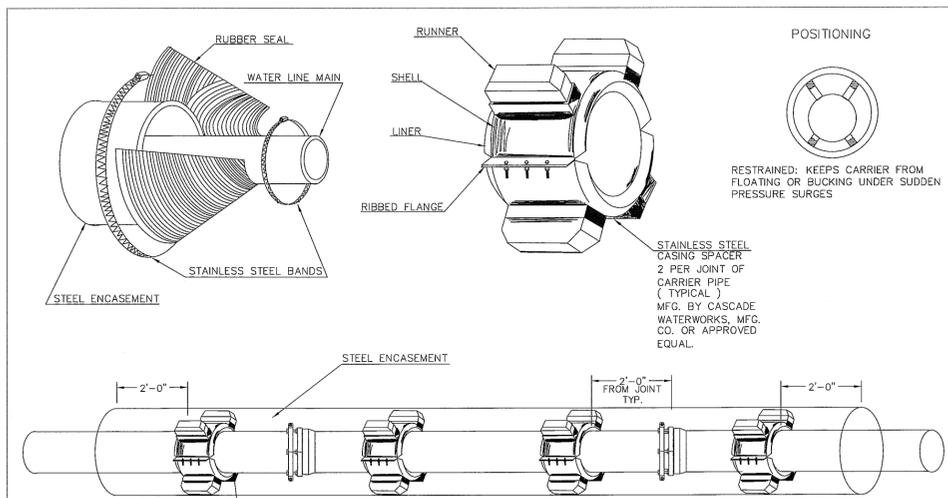


WRAP 12" OF EACH PIPE ON BOTH SIDES OF COUPLER WITH PLASTIC TO AVOID ELECTRICAL BRIDGING THROUGH SOIL. WRAP SHALL BE CONTINUOUS WITH NO TEARS.



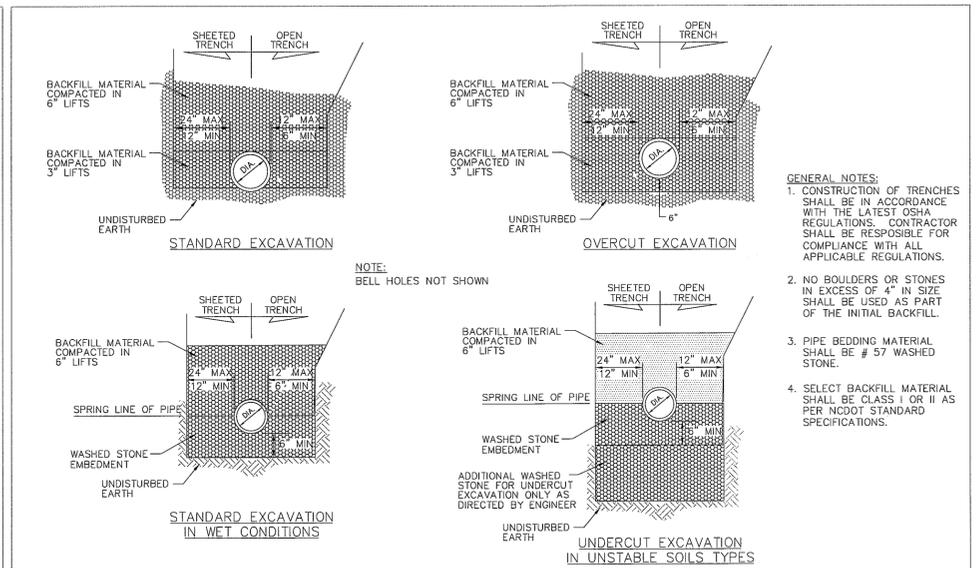
- GENERAL NOTES:**
- PRIOR TO CONNECTING TO THE EXISTING WATERLINE, THE NEW WATER LINE WILL BE PRESSURE TESTED, DISINFECTED AND A CLEAR WATER SAMPLE OBTAINED.
 - ALL WATER FOR FILLING AND FLUSHING OF NEW WATER LINE WILL BE DRAWN THROUGH THE DOUBLE CHECK VALVE ASSEMBLY.
 - THE COSTS FOR PROVIDING DOUBLE CHECK VALVE ASSEMBLY AND SLEEVE NECESSARY FOR FINAL CONNECTION WILL BE INCIDENTAL TO THE WATER LINE INSTALLATION.
 - CONTRACTOR WILL BE REQUIRED TO HAVE WATER METER TESTED TO MEET ACCURACY STANDARDS OF AWWA C700, BY THE CITY OF ASHEVILLE WATER MAINTENANCE DIVISION ANNUALLY. METER MUST BEAR A CERTIFICATION TAG AT ALL TIMES.

	NEW WATER LINE PRESSURE TEST BACKFLOW PREVENTION ASSEMBLY	REVISIONS	STD. NO.
		DATE: 6/20/09 DESCRIPTION: REVISED DETAIL FROM 6.21	W.28



- GENERAL NOTES:**
- RESTRAINED POSITIONING TO BE USED AT ALL TIMES.
 - CARRIER PIPE JOINTS SHALL BE RESTRAINED.
 - CONTRACTOR MAY USE BRICK MASONRY AND NON-SHRINK GROUT TO SEAL ENCASMENT ENDS IN LIEU OF RUBBER SEAL. A 3/4" WEEPHOLE MUST BE PROVIDED AT LOW POINT OF CASING.

	CARRIER PIPE IN STEEL ENCASUREMENT	REVISIONS	STD. NO.
		DATE: 6/20/09 DESCRIPTION: REVISED DETAIL FROM 6.08	W.26

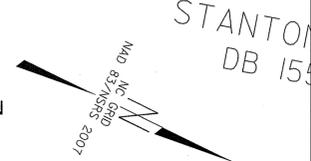
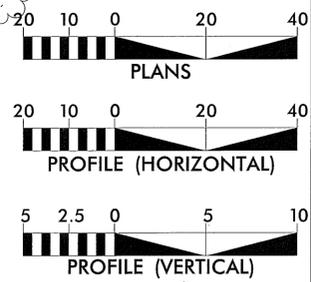
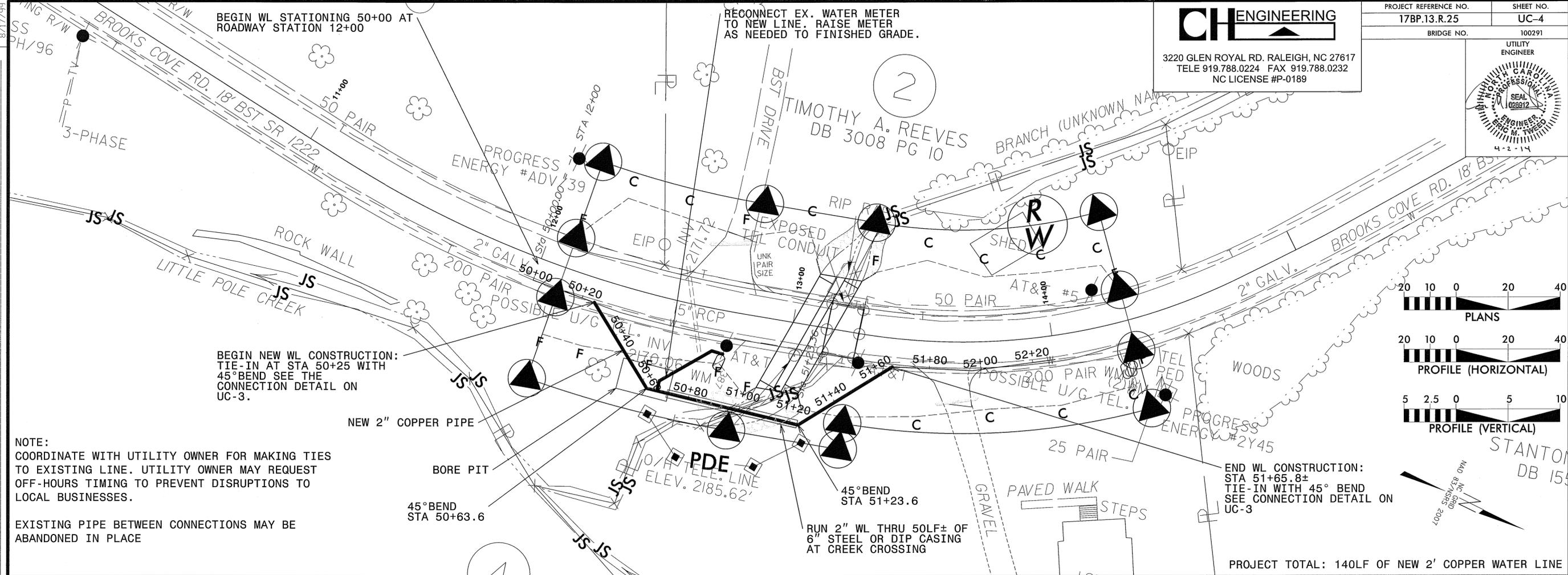


- GENERAL NOTES:**
- CONSTRUCTION OF TRENCHES SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
 - NO BOULDERS OR STONES IN EXCESS OF 4" IN SIZE SHALL BE USED AS PART OF THE INITIAL BACKFILL.
 - PIPE BEDDING MATERIAL SHALL BE # 57 WASHED STONE.
 - SELECT BACKFILL MATERIAL SHALL BE CLASS I OR II AS PER NCDOT STANDARD SPECIFICATIONS.

	TYPICAL TRENCH DETAIL	REVISIONS	STD. NO.
		DATE: 6/20/09 DESCRIPTION: REVISED DETAIL FROM 6.19	W.21

REVISIONS

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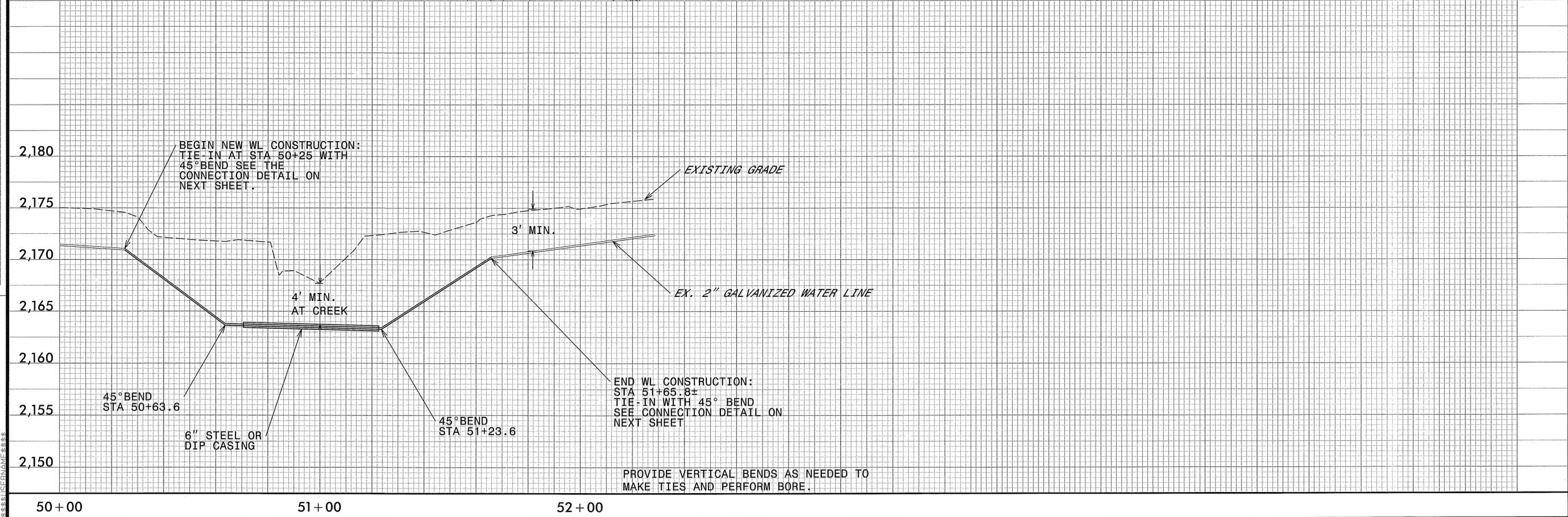


NOTE:
 COORDINATE WITH UTILITY OWNER FOR MAKING TIES TO EXISTING LINE. UTILITY OWNER MAY REQUEST OFF-HOURS TIMING TO PREVENT DISRUPTIONS TO LOCAL BUSINESSES.

EXISTING PIPE BETWEEN CONNECTIONS MAY BE ABANDONED IN PLACE

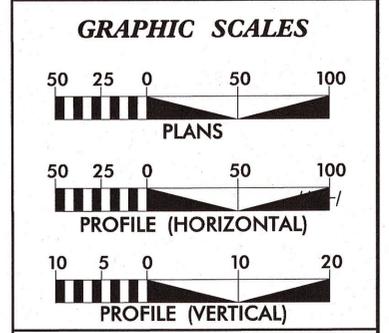
END WL CONSTRUCTION:
 STA 51+65.8±
 TIE-IN WITH 45° BEND
 SEE CONNECTION DETAIL ON UC-3

PROJECT TOTAL: 140LF OF NEW 2' COPPER WATER LINE



REVISIONS

8/17/99
 PH/96
 3-PHASE
 BROOKS COVE RD. 18' BST SR 1222
 50 PAIR
 11+00
 STA 12+00
 PROGRESS ENERGY #ADV 39
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EXISTING SPEED LIMIT=35-MPH (POSTED)
REASONABLE BRIDGE SPEED=35-MPH
DESIGN SPEED = 40-MPH
ADT = 590 (2010)

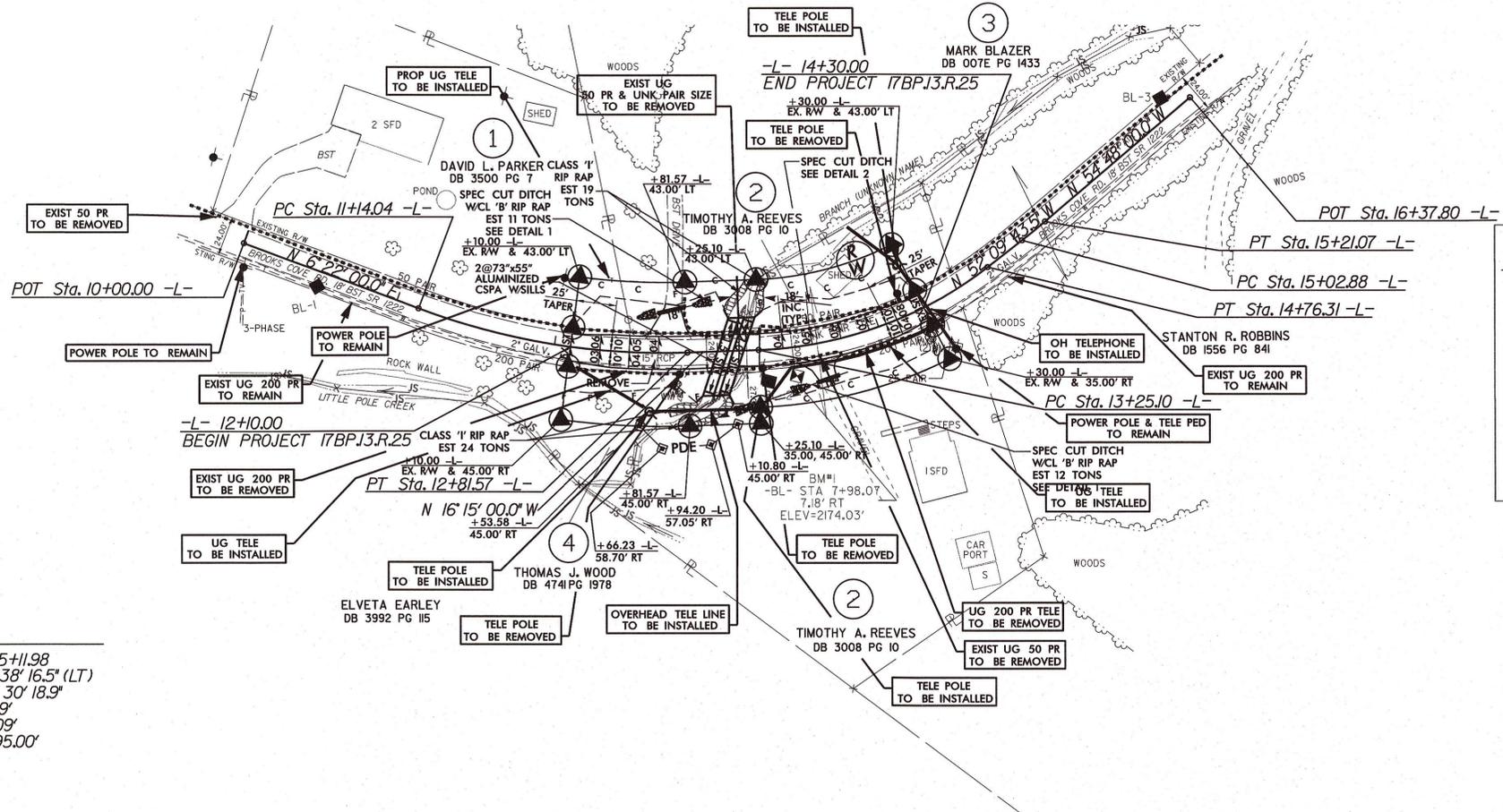
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "100291 BL-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 681283.6160(ft) EASTING: 902974.0540(ft) ELEVATION: 2173.84(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999788073

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "100291 BL-2" TO -L- STATION 12+10.00 IS S 4° 18' 35.70" E 123.49

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



-L-

PI Sta 11+98.91	PI Sta 14+03.28	PI Sta 15+11.98
$\Delta = 22^\circ 37' 00.0''$ (LT)	$\Delta = 35^\circ 54' 43.5''$ (LT)	$\Delta = 2^\circ 38' 16.5''$ (LT)
$D = 13^\circ 30' 00.0''$	$D = 23^\circ 45' 00.0''$	$D = 14^\circ 30' 18.9''$
$L = 167.53'$	$L = 151.21'$	$L = 18.19'$
$T = 84.87'$	$T = 78.18'$	$T = 9.09'$
$R = 424.41'$	$R = 241.25'$	$R = 395.00'$

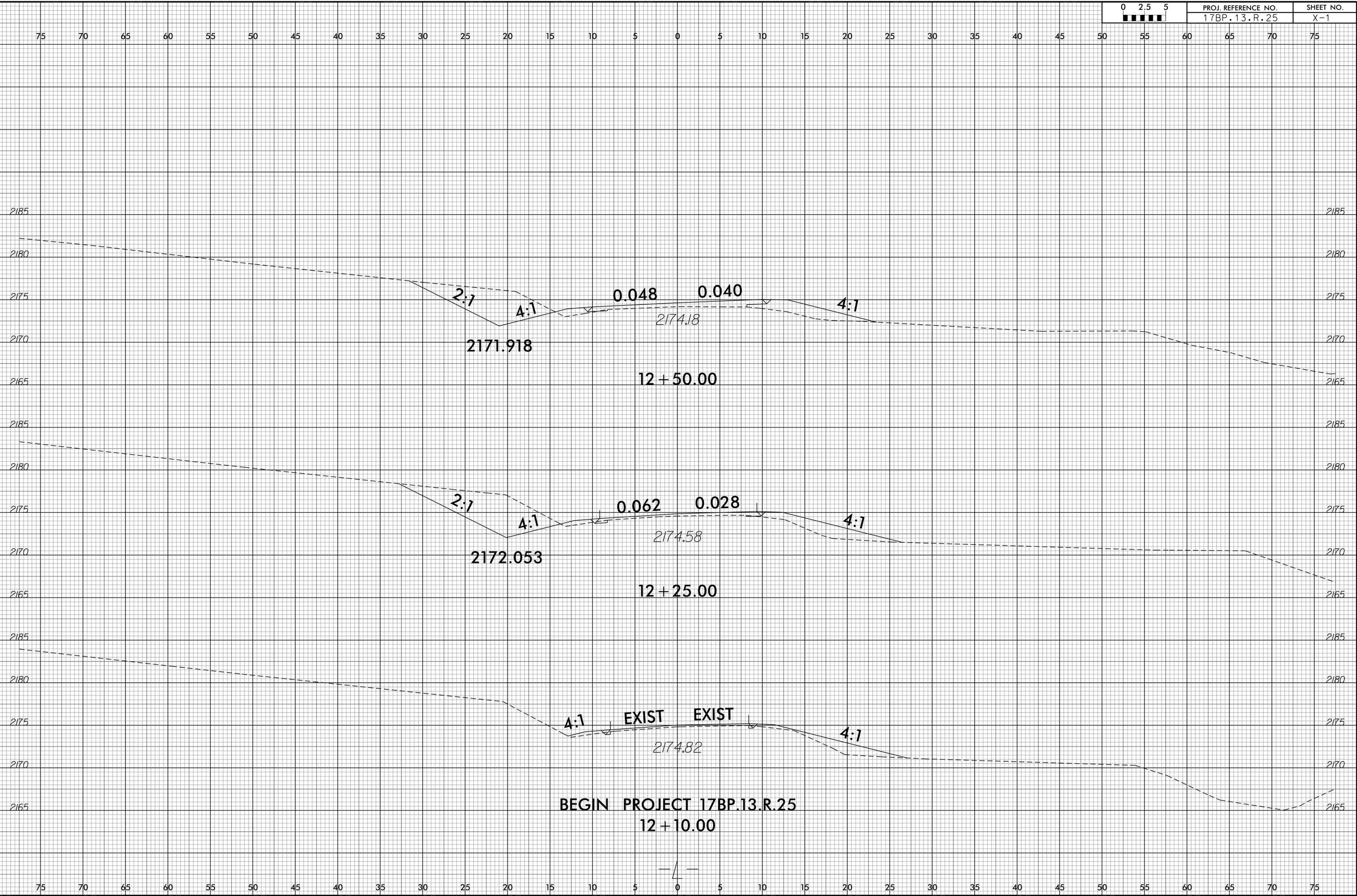
RIGHT-OF-WAY AREAS

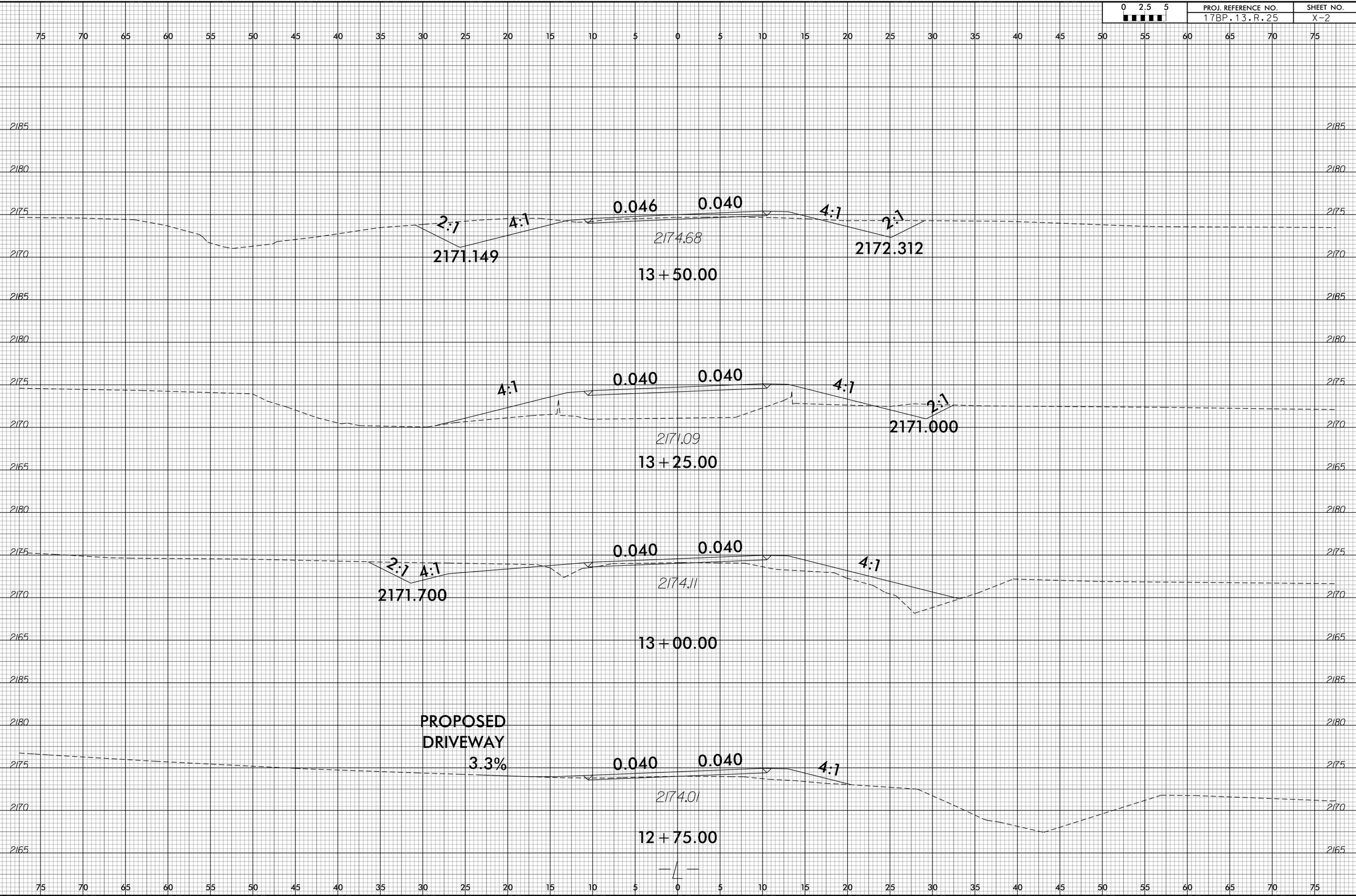
PARCEL #	PROPERTY OWNER	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONST. EASEMENT	PERMANENT DRAINAGE EASEMENT	TEMPORARY DRAINAGE EASEMENT	PERMANENT UTILITY EASEMENT
1	DAVID L. PARKER	NA	938.29 SF	NA	NA	NA	NA	NA	NA
2	TIMOTHY A. REEVES	NA	2955.64 SF	NA	NA	NA	NA	NA	NA
3	MARK BLAZER	NA	2390.84 SF	NA	NA	NA	NA	NA	NA
4	THOMAS J. WOOD	NA	3036.41 SF	NA	NA	NA	29.67 SF	NA	NA
5	TIMOTHY A. REEVES	NA	4770.41 SF	NA	NA	NA	546.66 SF	NA	NA

REVISIONS

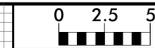
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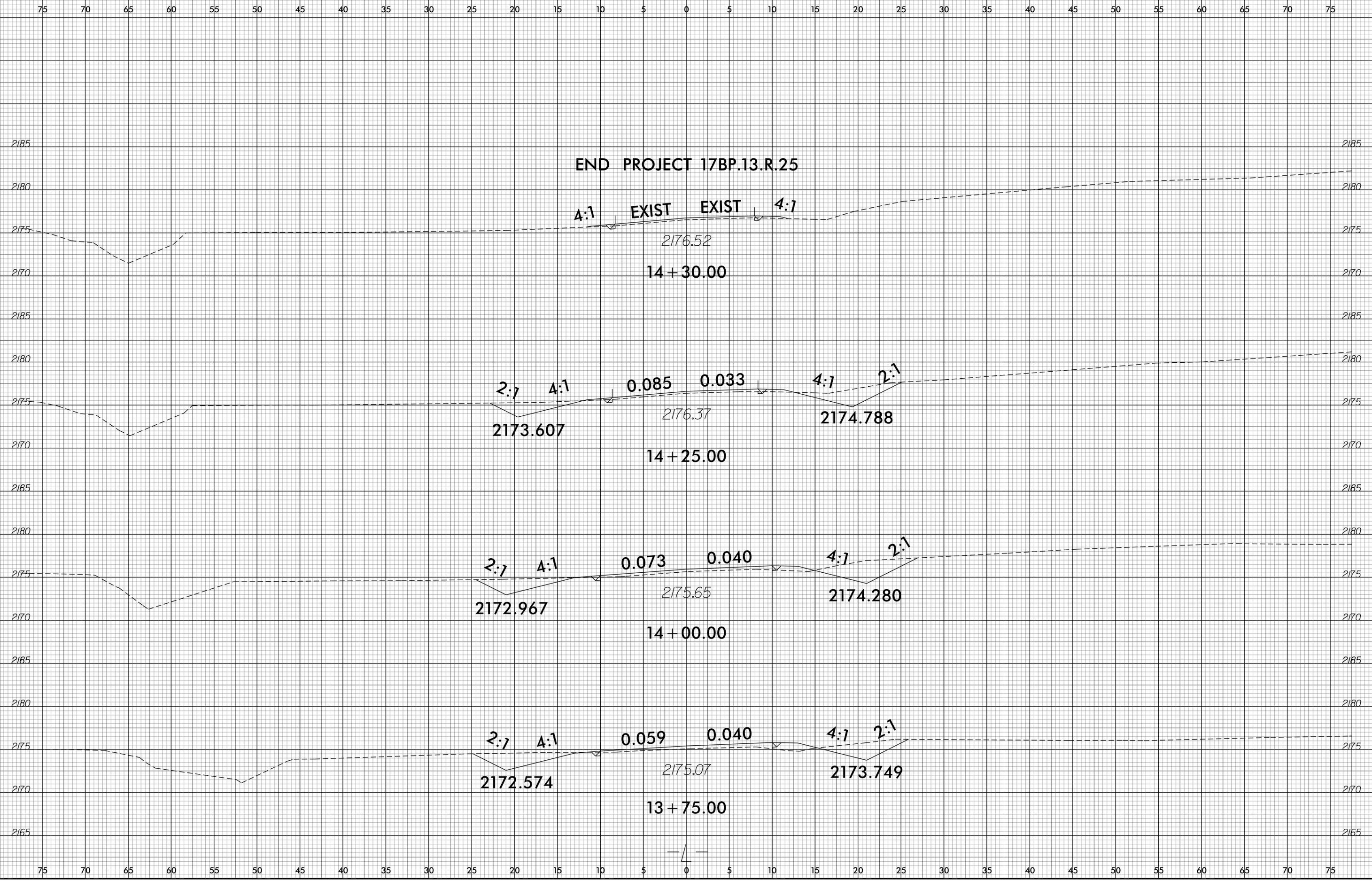




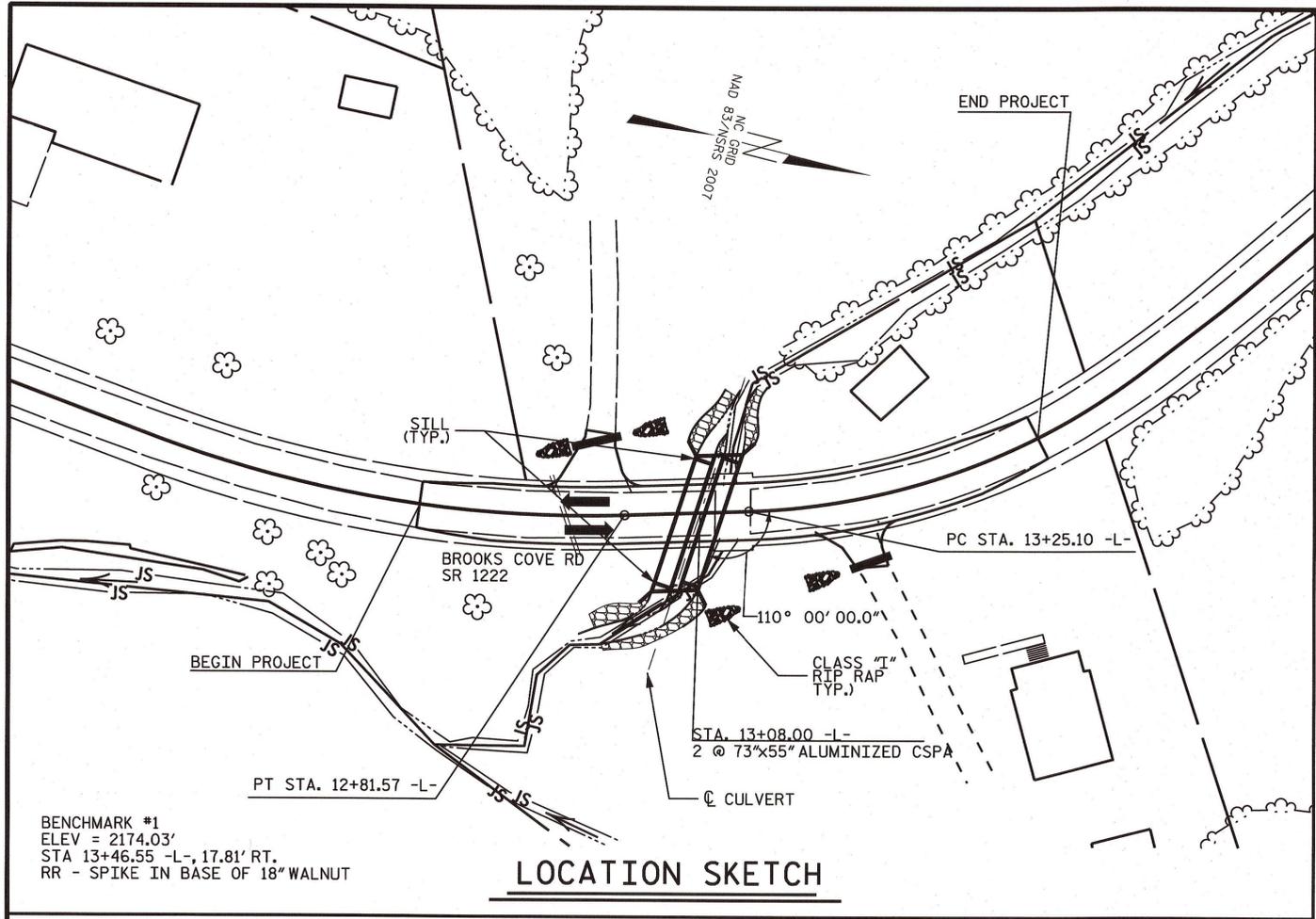
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PROJ. REFERENCE NO. 17BP.13.R.25	SHEET NO. X-3
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SUBPROGRAM



GRADE DATA
GRADE POINT ELEV. @ STATION 13+08.00 -L- ... = 2174.60

DESCRIPTION OF EXISTING BRIDGE
1 SPAN @ 12'-6"; CONSISTING OF TIMBER FLOOR ON TIMBER JOISTS; TIMBER CAPS, POSTS AND SILLS @ VARIOUS CENTERS; 19.1' CLEAR ROADWAY

HYDRAULIC DATA
DESIGN DISCHARGE = 270 CFS
FREQUENCY OF DESIGN FLOOD = 25 YRS.
DESIGN HIGH WATER ELEVATION = 2174.3
DRAINAGE AREA = 0.73 SQ. MI.
BASIC DISCHARGE (Q100) = 440 CFS
BASIC HIGH WATER ELEVATION = 2174.98

OVERTOPPING FLOOD DATA
OVERTOPPING DISCHARGE = 270 CFS
FREQUENCY OF OVERTOPPING FLOOD = 25 YRS.
OVERTOPPING FLOOD ELEVATION = 2174.3

HORIZONTAL CURVE DATA
PT Sta 11+98.91 -L- PT Sta 14+03.28 -L-
Δ = 22° 37' 00.0" (LT) Δ = 35° 54' 43.5" (LT)
D = 13° 30' 00.0" D = 23° 45' 00.0" (LT)
L = 167.53' L = 151.21'
T = 84.87' T = 78.18'
R = 424.41' R = 241.25'

(-)-1.1374% (+)-2.8762%

GRADE DATA -L-
PI = 13+25.00
EL = 2,173.72'
VC = 200.00'

NOTES

ASSUMED LIVE LOAD.....HL-93 OR ALTERNATE LOADING.

THE CONTRACTOR SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS OF RIP RAP WHICH HAS BEEN INCORPORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED ON TRUCKS ON CERTIFIED PLATFORM SCALES OR OTHER CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON PLAIN RIP RAP CLASS I (1'-6" THICK).

EXISTING BRIDGE SHALL BE REMOVED BY SAVING AND/OR NON-SHATTERING METHODS SUCH THAT DEBRIS WILL NOT FALL INTO THE WATER.

ALUMINUM HEADWALLS AND WINGWALLS TO BE DESIGNED BY A NORTH CAROLINA REGISTERED ENGINEER IN ACCORDANCE WITH APPLICABLE PORTIONS OF THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. CONSTRUCTION SHALL MEET THE APPLICABLE SECTIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

THE COST FOR ALUMINUM HEADWALLS AND WINGWALLS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE CORRUGATED STEEL PIPE ARCH CULVERTS.

NATIVE MATERIAL REMOVED FROM THE CHANNEL TO ALLOW FOR THE INSTALLATION OF THE CULVERT SHALL BE USED FOR BACKFILLING INSIDE THE CULVERT. SELECT BACKFILL AND COIR FIBER MATTING SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR "EXCAVATION AND EMBANKMENT".

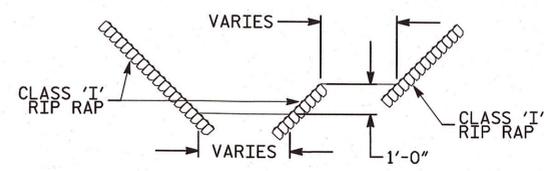
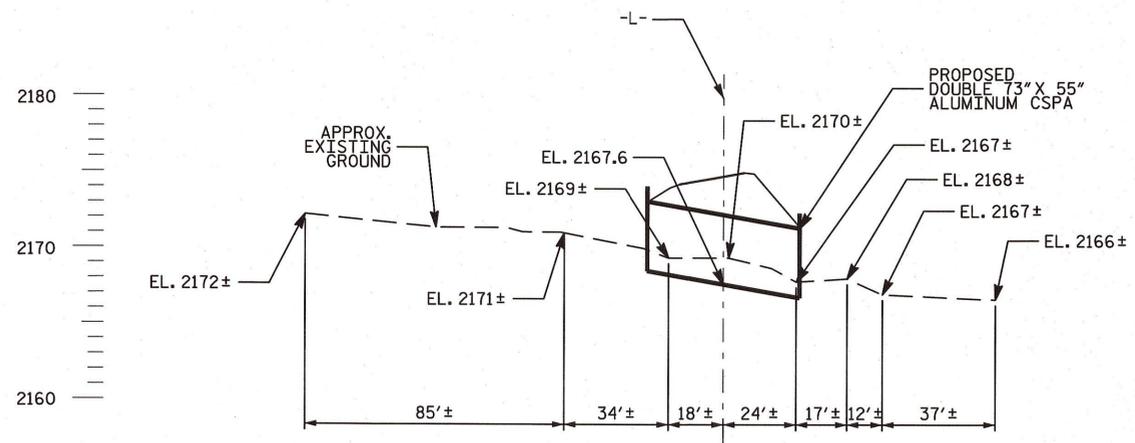
FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

EXCAVATE AT LEAST 1 FOOT BELOW BOTTOM OF CULVERT AND FOOTINGS, AND BACKFILL WITH SELECT MATERIAL, CLASS VI MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS.

ENVELOPE ALL CLASS VI SELECT MATERIAL OR OTHER OPEN GRADED STONE PLACED IN THE VICINITY OF THE CULVERT WITH TYPE I ENGINEERING FABRIC MEETING THE REQUIREMENTS OF SECTION 1056 OF THE STANDARD SPECIFICATIONS, OVERLAPPING THE FABRIC A MINIMUM OF 2 FEET.

CONTRACTOR SHALL NOTE THE MINIMUM COVER MEASURED FROM THE BOTTOM OF THE FLEXIBLE PAVEMENT IS LESS THAN 18 INCHES. CONTRACTOR SHALL FURNISH AND INSTALL 73"x 55" CORRUGATED STEEL PIPE ARCH CULVERTS WHICH SATISFY THIS MINIMUM COVER CONDITION. PAYMENT SHALL BE MADE UNDER THE PAY ITEM FOR "73" X 55" CORRUGATED STEEL PIPE ARCH CULVERTS, *** THICK."

NOTE: ANY REFERENCE TO ALUMINIZED CS PIPE IS TO BE DISREGARDED. ARCH PIPE IS TO BE CORRUGATED ALUMINUM ALLOY.



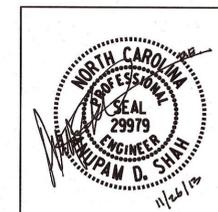
PROJECT NO. 17BP.13.R.25
BUNCOMBE COUNTY
STATION: 13+08.00 -L-
SHEET 1 OF 2 REPLACES BRIDGE NO. 291

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**DOUBLE 73" x 55" ALUMINIZED CSPA
110° SKEW**

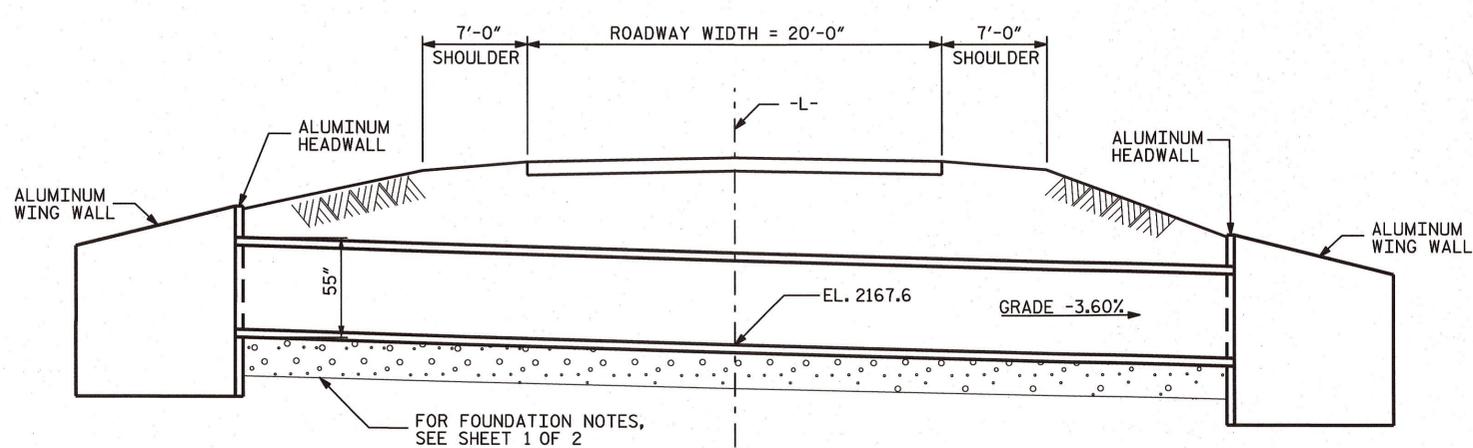
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2			4			2

PLANS PREPARED BY:
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



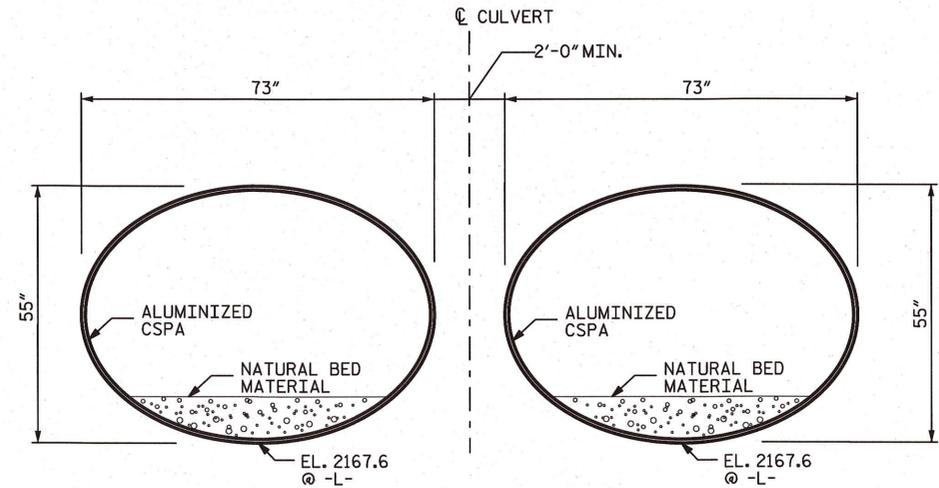
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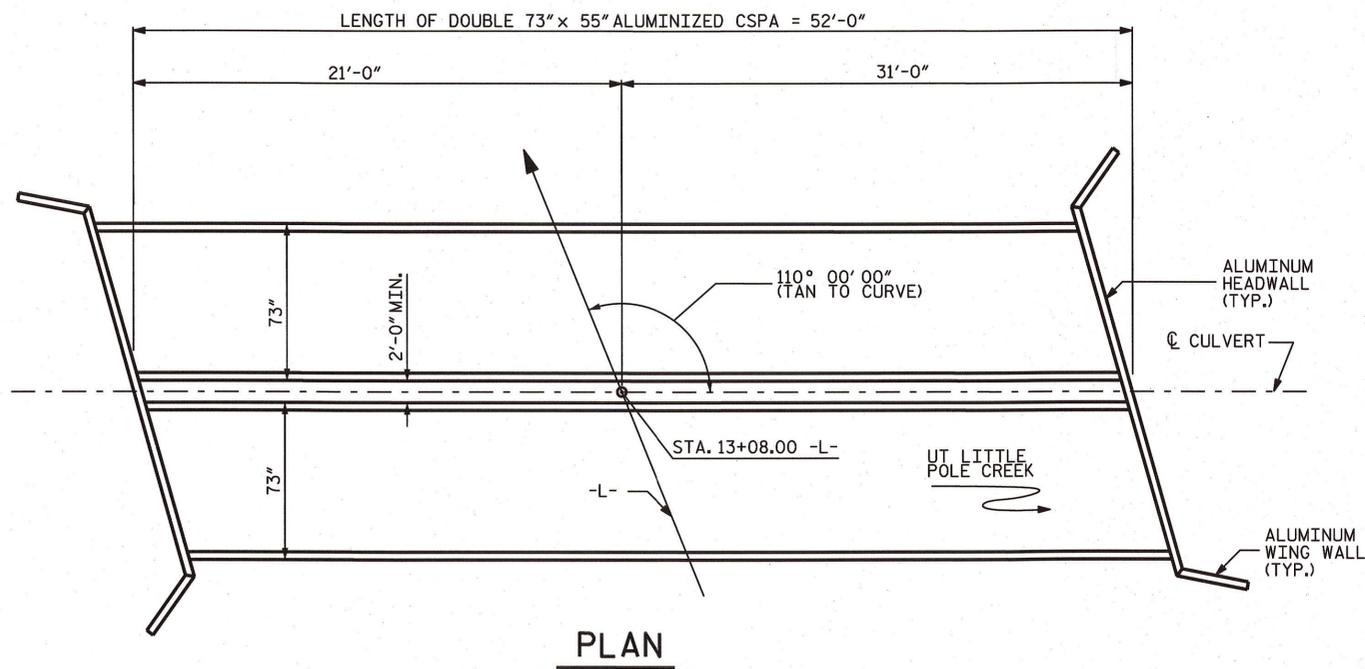


SECTION NORMAL TO ROADWAY

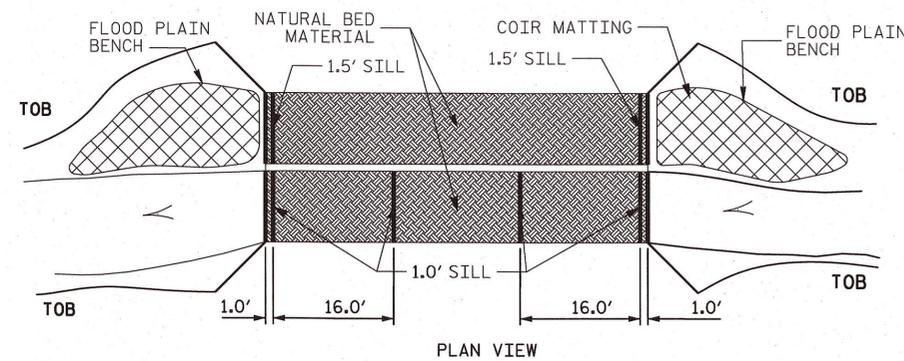
SILLS AND NATURAL BED MATERIAL NOT SHOWN FOR CLARITY



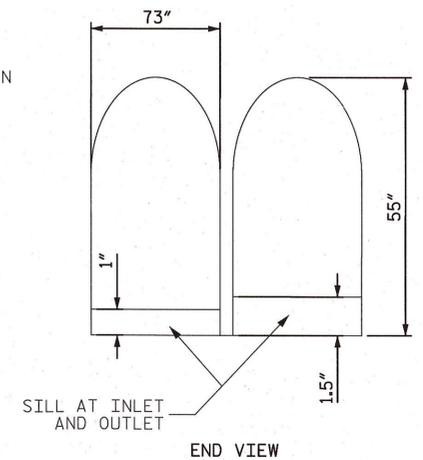
RIGHT ANGLE SECTION OF ALUMINIZED CSPA



PLAN



SILL DETAILS



NOTES:

BED MATERIAL SHALL BE EXCAVATED AND STOCKPILED DURING INSTALLATION OF THE CULVERTS AND SILLS. THE NATURAL BED MATERIALS SHALL THEN BE PLACED IN THE CULVERT TO THE SPECIFIED ELEVATION.

SILLS ARE TO BE MADE OF ALUMINIZED STEEL AND MECHANICALLY ATTACHED TO THE INVERT OF THE CULVERT.

CLASS 'B' RIP RAP MAY BE USED TO SUPPLEMENT NATURAL BED MATERIAL.

DO NOT SET ELEVATION OF HIGH SILL ABOVE BANK FULL.

PROJECT NO. 17BP.13.R.25
BUNCOMBE COUNTY
 STATION: 13+08.00 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DOUBLE 73" x 55" ALUMINIZED CSPA 110° SKEW					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-2
					TOTAL SHEETS 2

PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION



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