

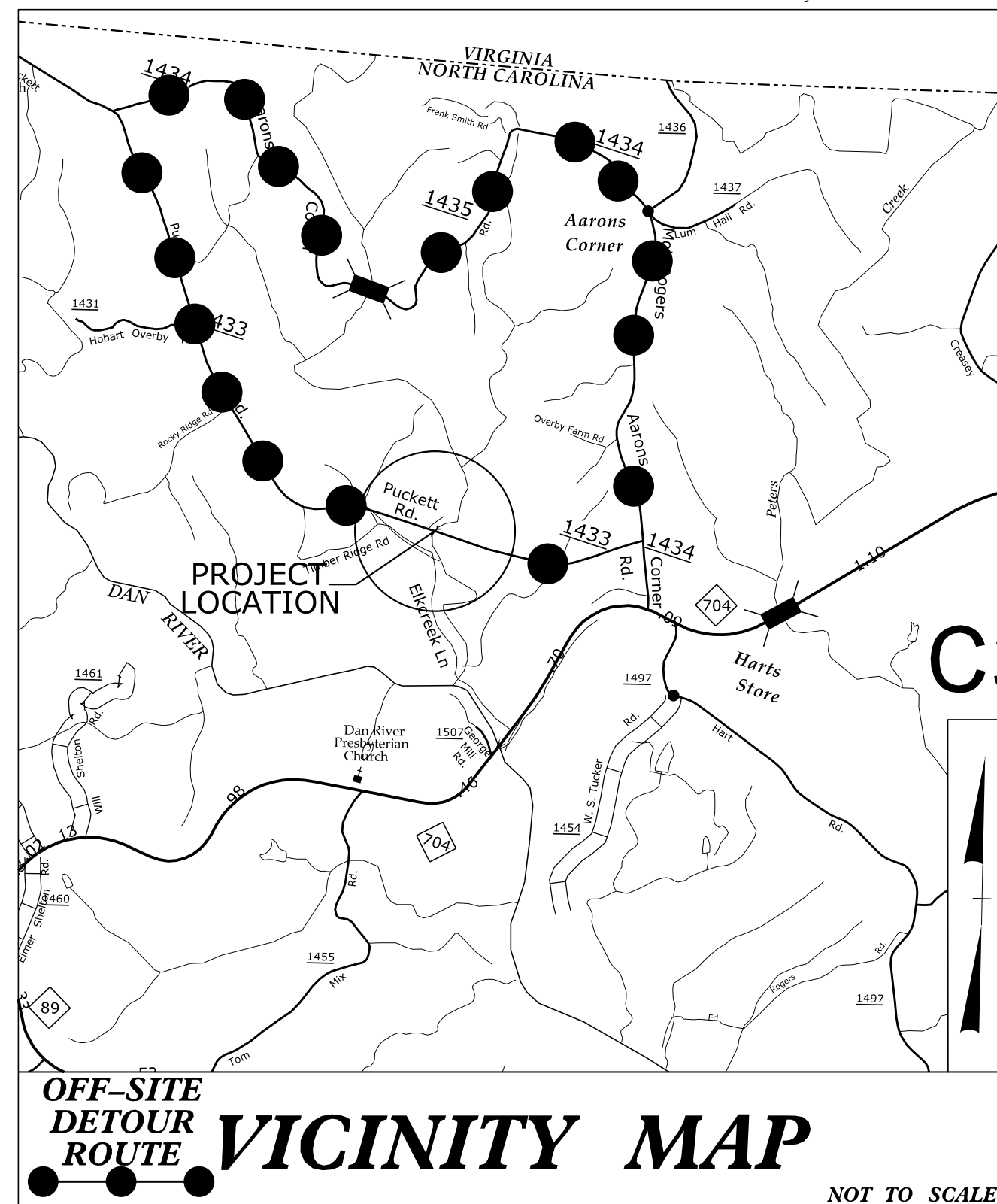
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with their signature on that page.**

**This file or an individual page
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09_2018/19

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



RFC PLANS

PROJECT: 17BP.9.C.6

CONTRACT: DI00191

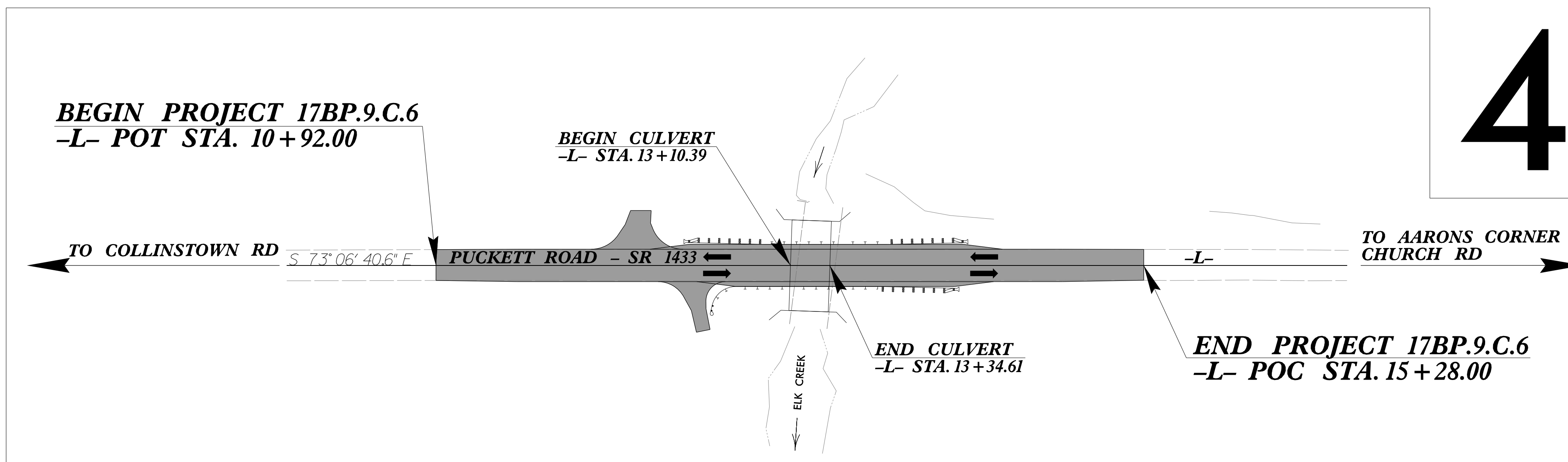
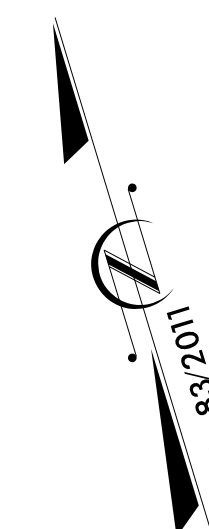
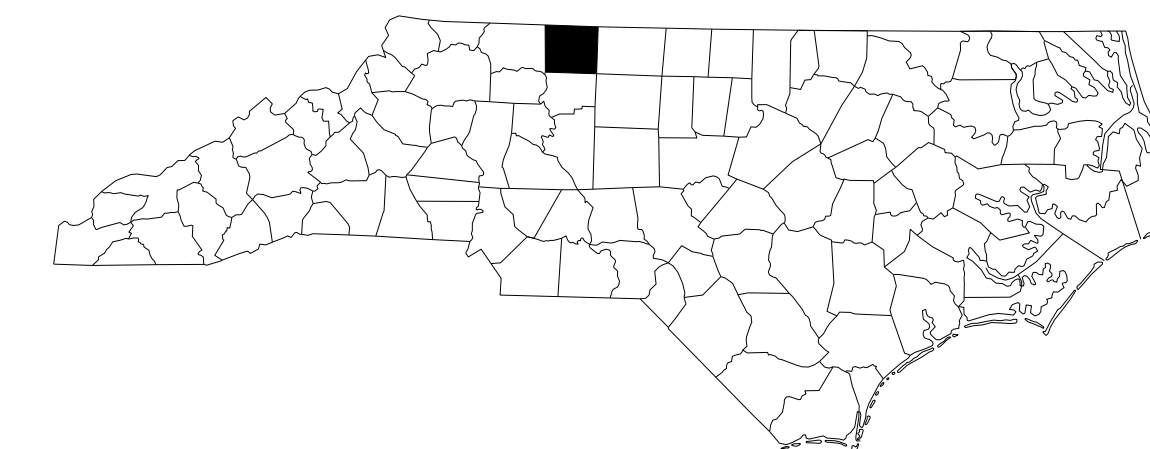
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STOKES COUNTY

LOCATION: CULVERT 128 OVER ELK CREEK ON
SR1433 (PUCKETT RD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.6	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.9.C.6	N/A	PE	
17BP.9.C.6	N/A	RW & UTIL.	
17BP.9.C.6	N/A	CON.	

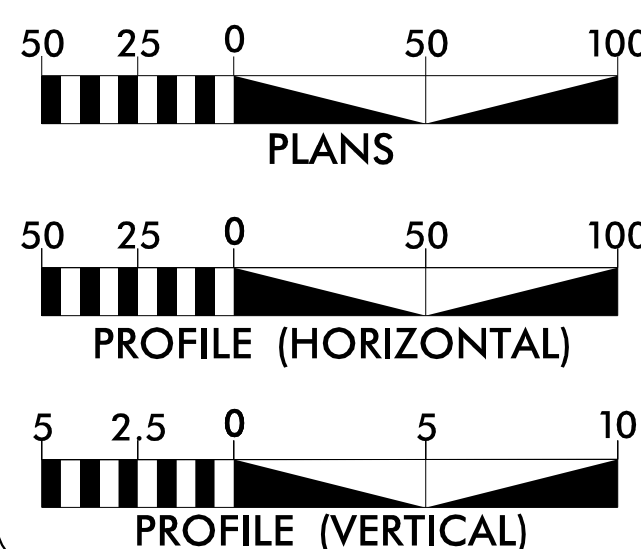


4

DESIGN EXCEPTION REQUIRED FOR VERTICAL CURVE K.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 400
V = 55 MPH

FUNC CLASS =
RURAL LOCAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT 17BP.9.C.6 = 0.078 MI
LENGTH OF STRUCTURE TIP PROJECT 17BP.9.C.6 = 0.005 MI
TOTAL LENGTH OF PROJECT 17BP.9.C.6 = 0.083 MI



PREPARED IN THE OFFICE OF:
STANTEC CONSULTING
801 Jones Franklin Road (Suite 300) Raleigh, NC 27606
Tel. (919) 851-6866 | Fax. (919) 851-7024 | www.stantec.com
License No. P-0672

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 15, 2017

LETTING DATE:
FEBRUARY 28, 2018

MIKE LINDGREN, PE
PROJECT ENGINEER

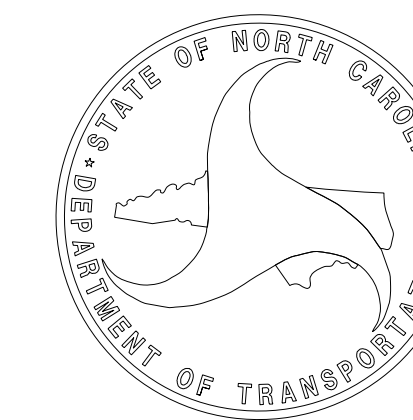
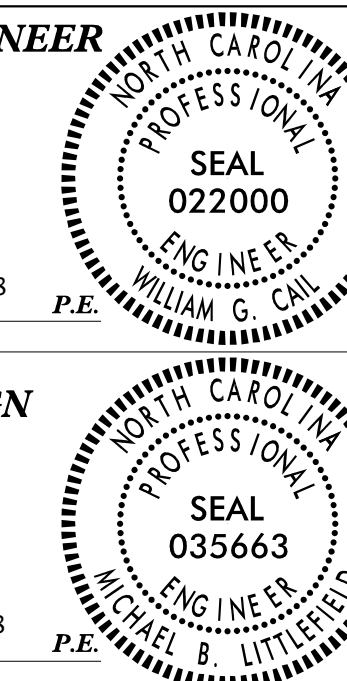
MICHAEL LITTLEFIELD, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

Designed by: William G. Cail 1/22/2018
SIGNATURE: P.E.

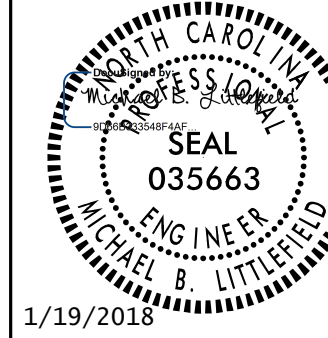
ROADWAY DESIGN ENGINEER

Designed by: Michael B. Littlefield 1/19/2018
SIGNATURE: P.E.



1/19/2018
J:\171001798\transportation\design\Roadway\Proj\17BP9C6_rdy_tsh_1A_2B.dgn
istarnes

8/17/99

PROJECT REFERENCE NO. <i>17BP.9.C.6</i>	SHEET NO. <i>1-A</i>
ROADWAY DESIGN ENGINEER	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SHEET NUMBER	INDEX OF SHEETS	SHEET
1		TITLE SHEET
1A		INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B		CONVENTIONAL SYMBOLS
1C-1		SURVEY CONTROL SHEET
2A-1		PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1		EARTHWORK SUMMARIES
4		PLAN AND PROFILE SHEET
EC-01 THRU EC-05		EROSION CONTROL PLANS
RF-1		REFORESTATION PLANS
UD-1 THRU UD-2		UTILITIES BY OTHERS PLANS
X-A		CROSS-SECTION INDEX SHEET
X-1A		CROSS SECTION EARTHWORK SUMMARY SHEET
X-1 THRU X-4		CROSS-SECTIONS

STD.NO.	TITLE
2018 ROADWAY ENGLISH STANDARD DRAWINGS	
EFF. 01-16-2018	
REV.	
The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:	
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED 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 III.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 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

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.

SUBSURFACE PLANS:
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE POWER - SURRY YADKIN EMC,
TELEPHONE - CENTURYLINK
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

04/06/15

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-
Existing Historic Property Boundary	-HPB-
Known Contamination Area: Soil	☠ ☠
Potential Contamination Area: Soil	☒ ☒
Known Contamination Area: Water	☠ ☠
Potential Contamination Area: Water	☒ ☒
Contaminated Site: Known or Potential	-----

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
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	○ 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 C/A Marker	▲ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
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	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Pedestal	□
Telephone Cell Tower	□
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	○ W
Water Meter	○
Water Valve	⊗
Water Hydrant	○
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

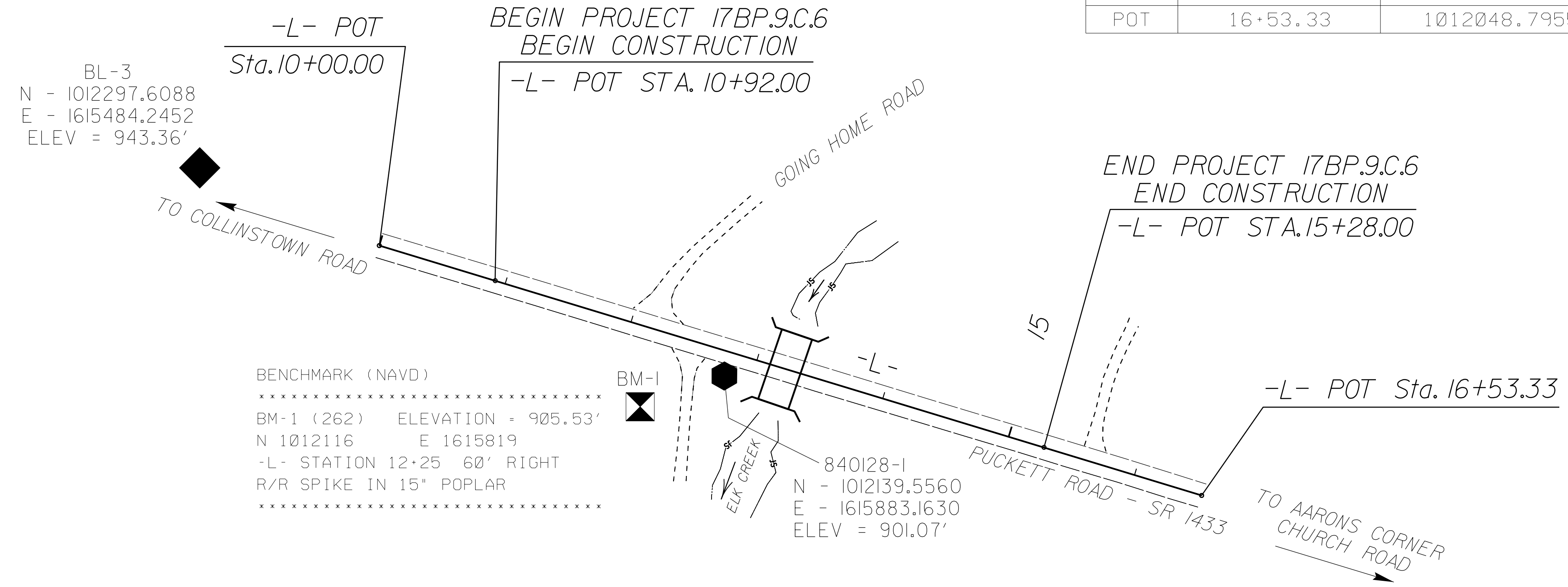
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

MISCELLANEOUS:

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

SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.6	1C
Division 9 - DDC	



TYPE	STATION	NORTH	EAST
POT	10+00.00	1012238.5955	1615620.8446
POT	16+53.33	1012048.7955	1616245.9925

BENCHMARK (NAVD)

 BM-1 (262) ELEVATION = 905.53'
 N 1012116 E 1615819
 -L- STATION 12+25 60' RIGHT
 R/R SPIKE IN 15" POPLAR

ROW MARKER CONCRETE OR GRANITE

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+97.00	29.81'	1012152.8385	1615800.6875
L	12+47.00	52.00'	1012117.0813	1615842.0849
L	12+85.00	56.00'	1012102.2143	1615877.2840
L	12+85.00	29.80'	1012127.2819	1615884.8947

PERMANENT DRAINAGE EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+53.00	63.00'	1012075.7613	1615940.3176
L	13+73.00	29.79'	1012101.7253	1615969.1020

DRAINAGE AND UTILITY EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+94.32	-30.00'	1012211.0280	1615815.5575
L	13+45.00	-81.00'	1012244.9261	1615878.8095
L	14+28.00	-103.00'	1012212.8133	1616060.3082
L	14+28.00	-47.00'	1012158.7270	1616043.8872
L	14+57.00	-30.22'	1012134.7432	1616066.9104

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "840128-1" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 1012139.556(ft) EASTING: 1615883.163(ft) ELEVATION: 901.072(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000081373 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "840128-1" TO -L- STATION 10+00.00 IS N 69 18' 57" W 280.39'

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

BL	POINT	DESC.	NORTH	EAST	ELEVATION	-L- STATION	OFFSET
3		BL-3	1012297.6088	1615484.2452	943.36	OUTSIDE PROJECT LIMITS	
1		840128-1	1012139.5560	1615883.1630	901.07	12+79.78	18.56 RT
2		840128-2	1011936.2270	1616557.5840	926.93	OUTSIDE PROJECT LIMITS	

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

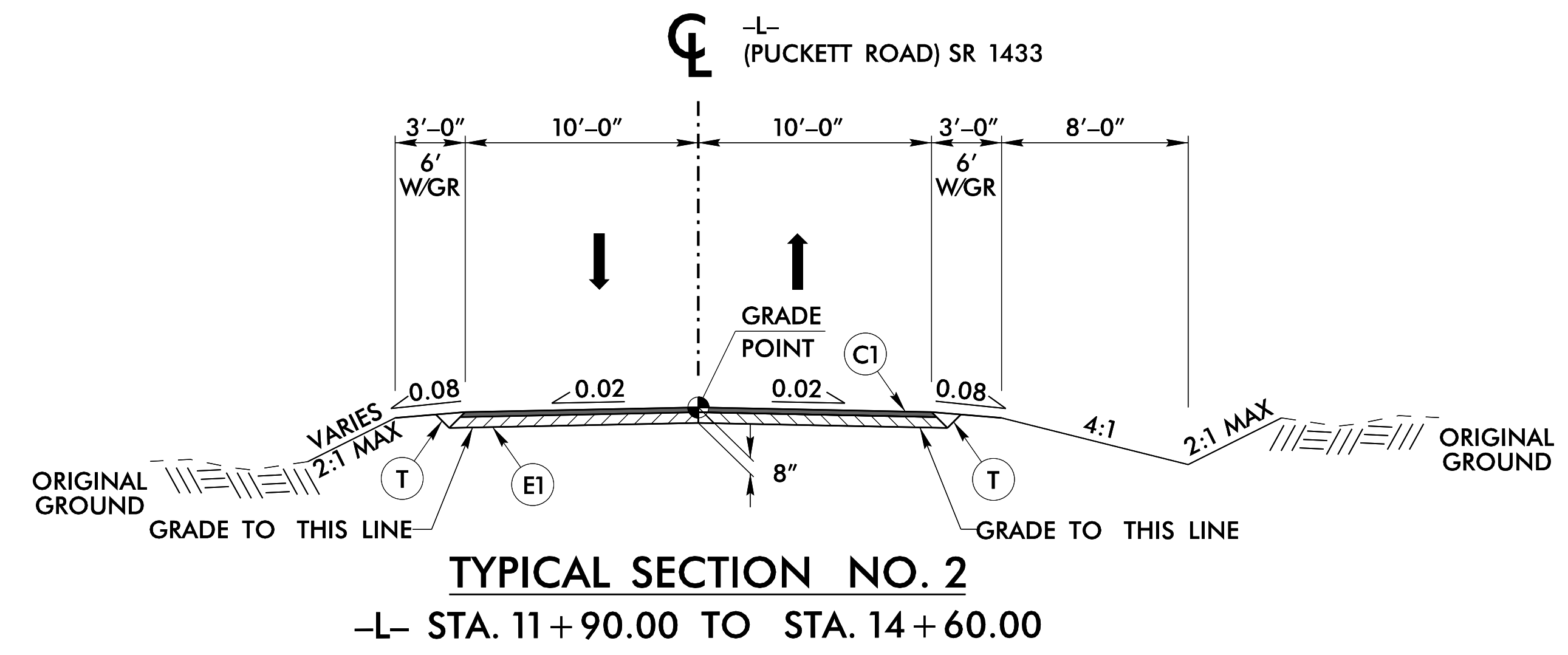
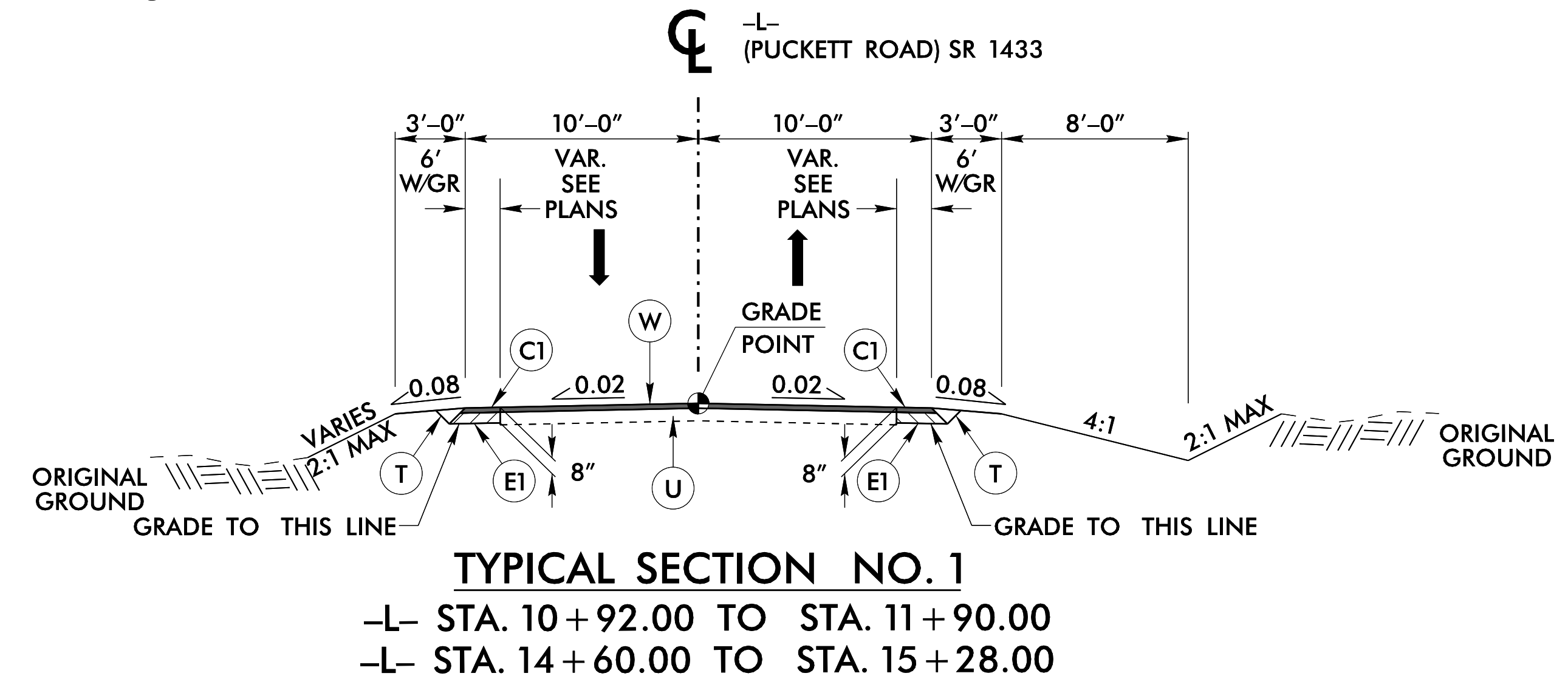
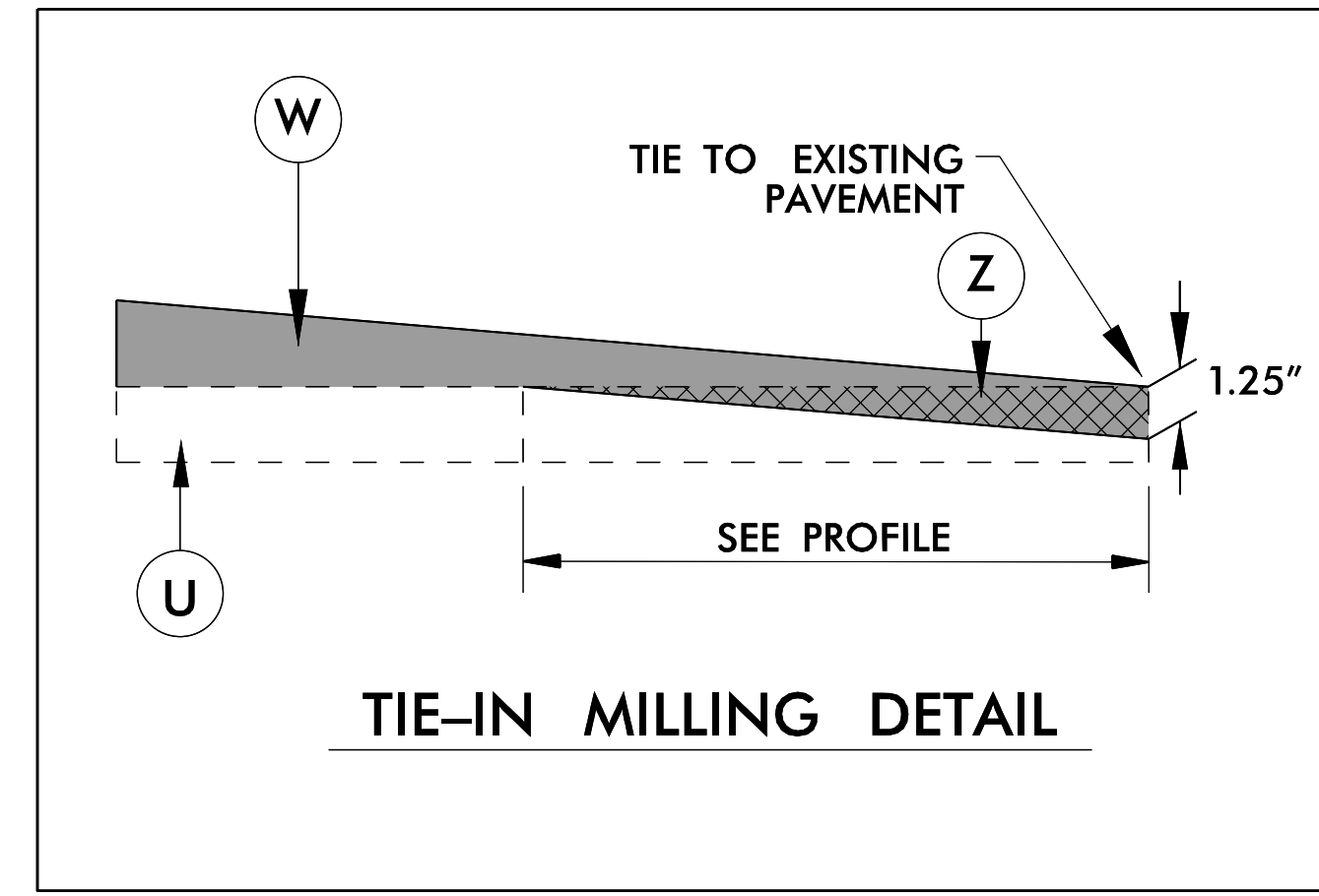
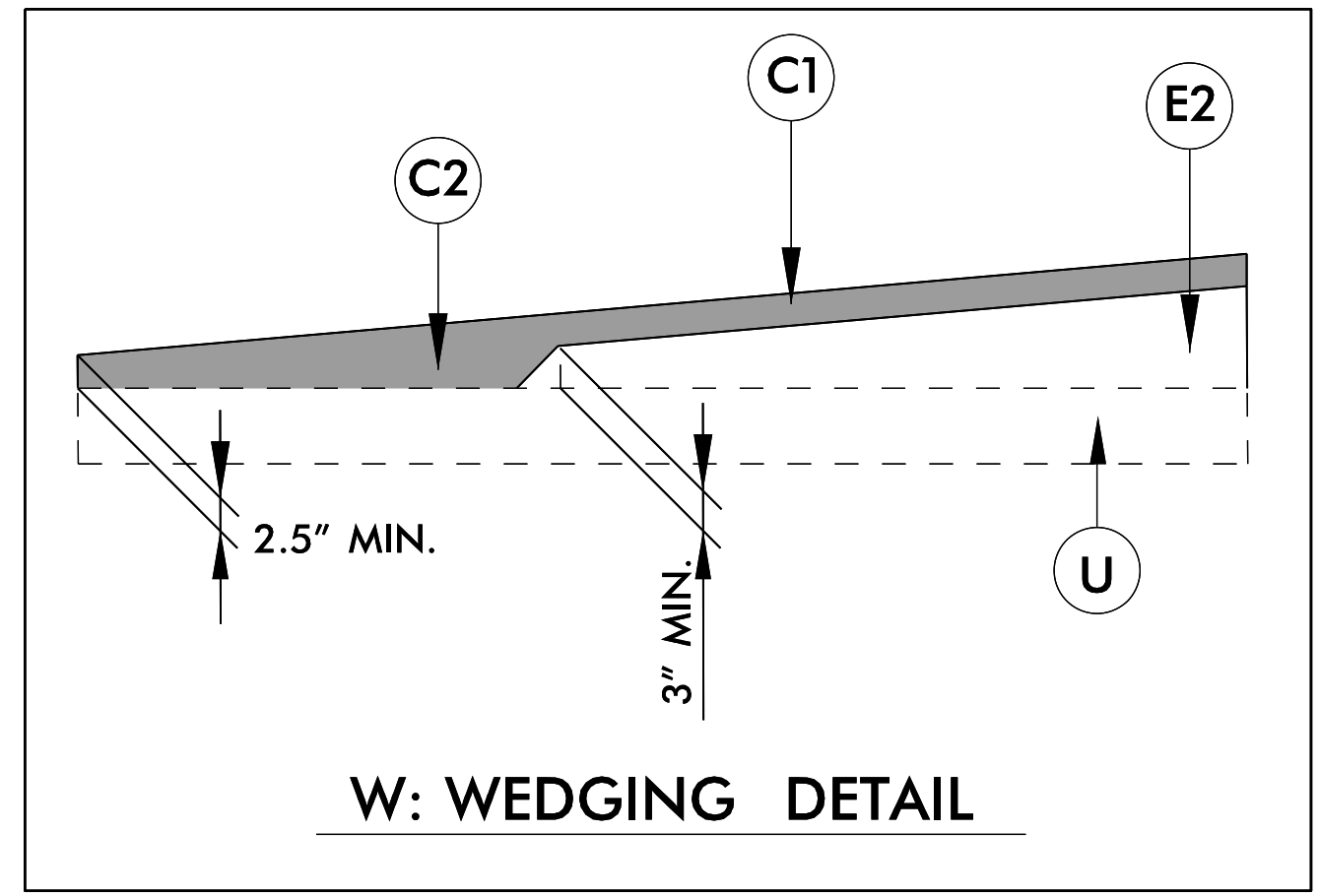
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6/2/2018

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. PER 1" DEPTH IN EACH OF TWO LAYERS NOT LESS THAN 1.0" OR GREATER THAN 1.5"
C2	PROP. VAR. 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 LESS THAN 1.0" OR GREATER THAN 1.5".
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5"
E2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE 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 3.0" OR GREATER THAN 5.5".
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING. SEE DETAIL THIS SHEET
Z	MILLING 0" TO 1.25"

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE. SEE PLANS FOR VARIABLE PAVED SHOULDER WIDTHS.



PROJECT REFERENCE NO. 17BP.9.C.6	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER MICHAEL B. LITTLEFIELD SEAL 035663 1/19/2018	PAVEMENT DESIGN ENGINEER MATHEW W. JONES SEAL 035654 1/19/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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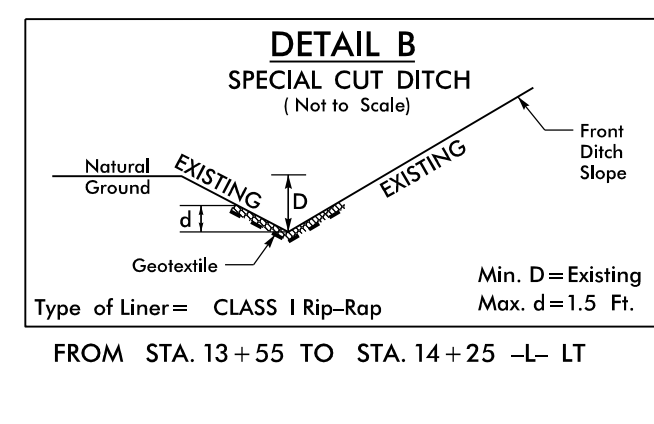
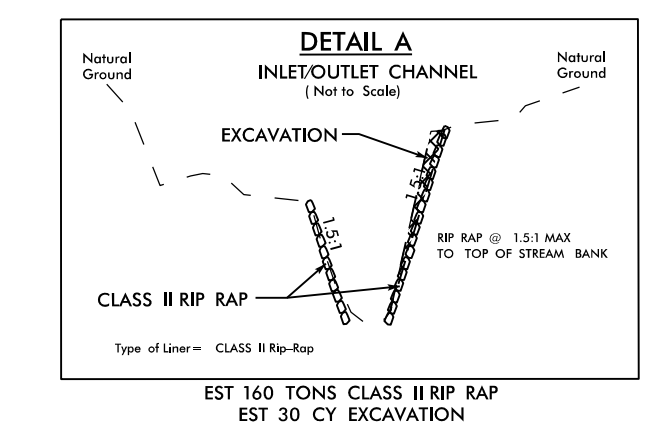
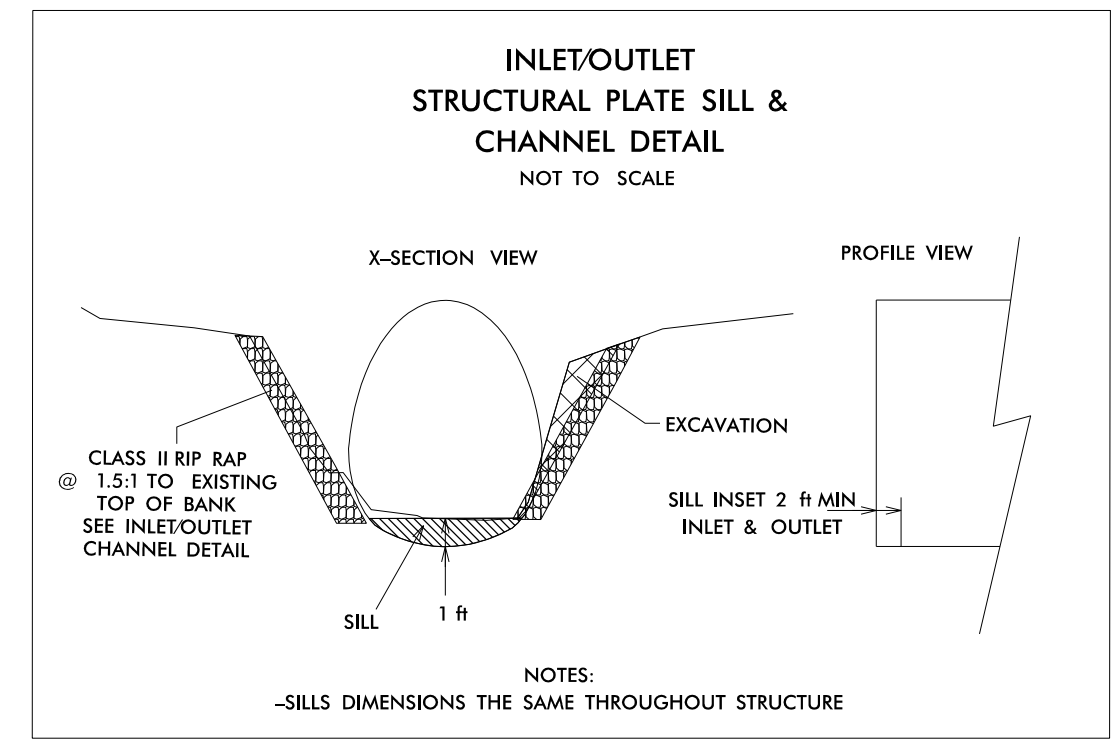
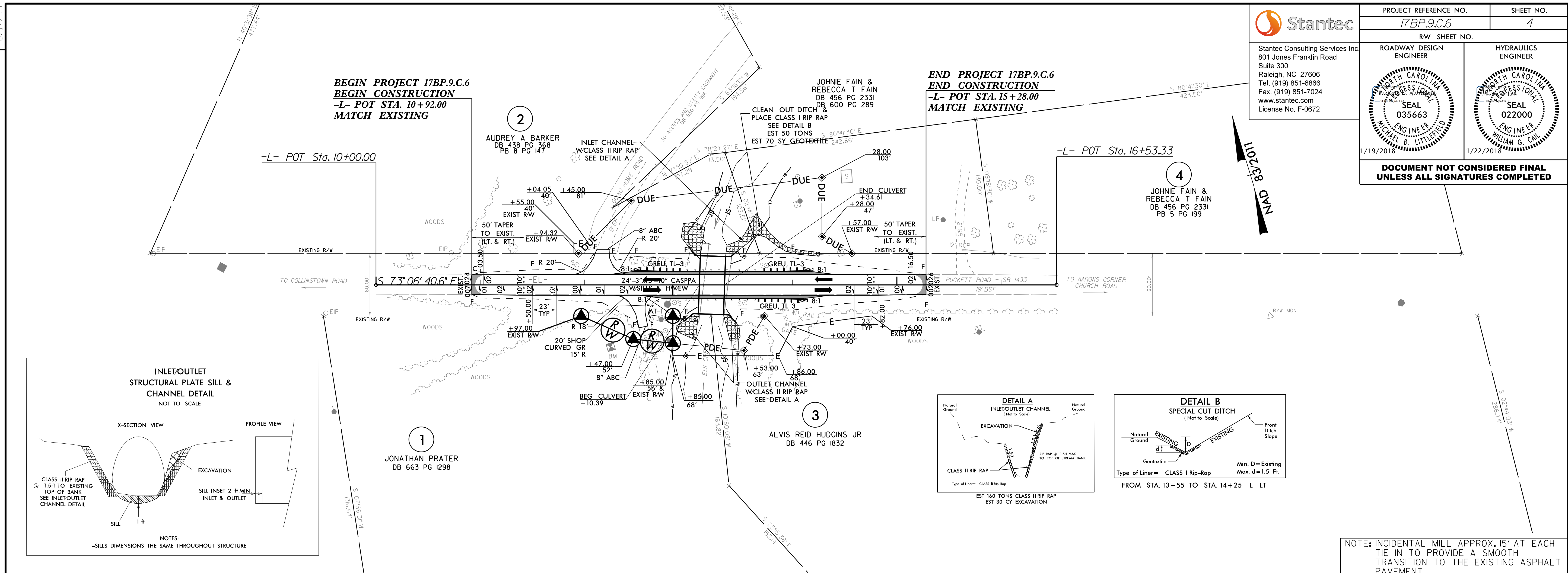
Stantec
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 Raleigh, NC 27606
 Tel. (919) 851-6866
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

PROJECT REFERENCE NO. 17BP.9.C.6	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

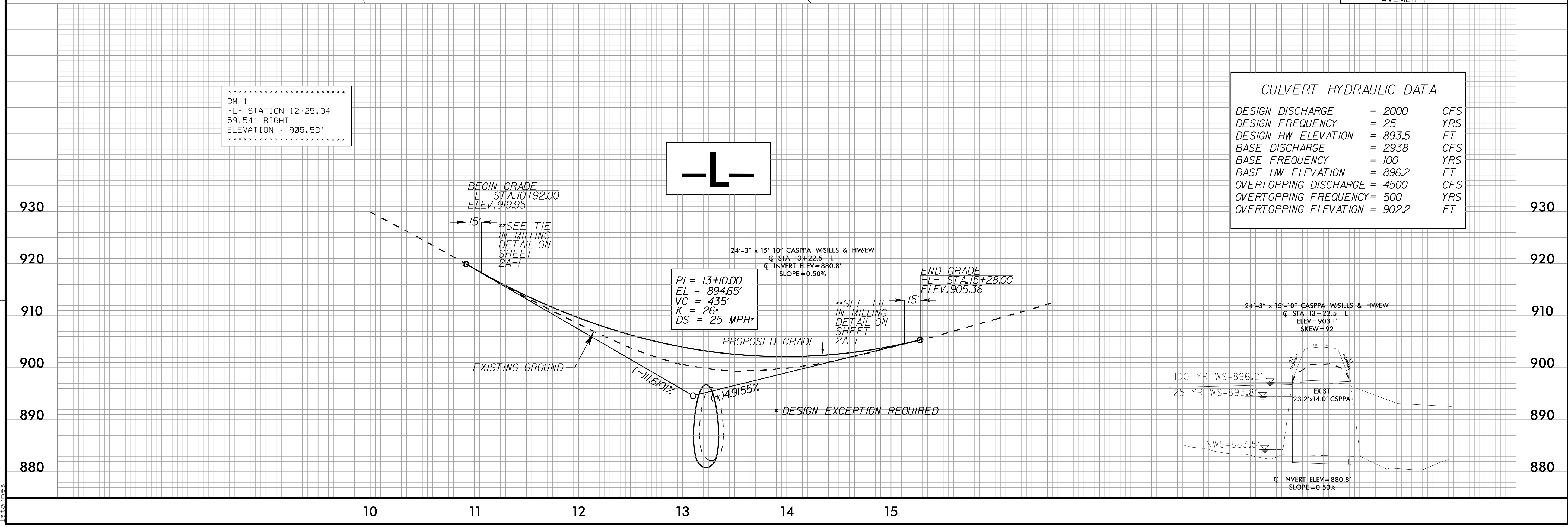
SEAL 035663
 MICHAEL B. LITTLEFIELD
 ENGINEER
 1/19/2018

SEAL 022000
 WILLIAM G. CAL
 ENGINEER
 1/22/2018

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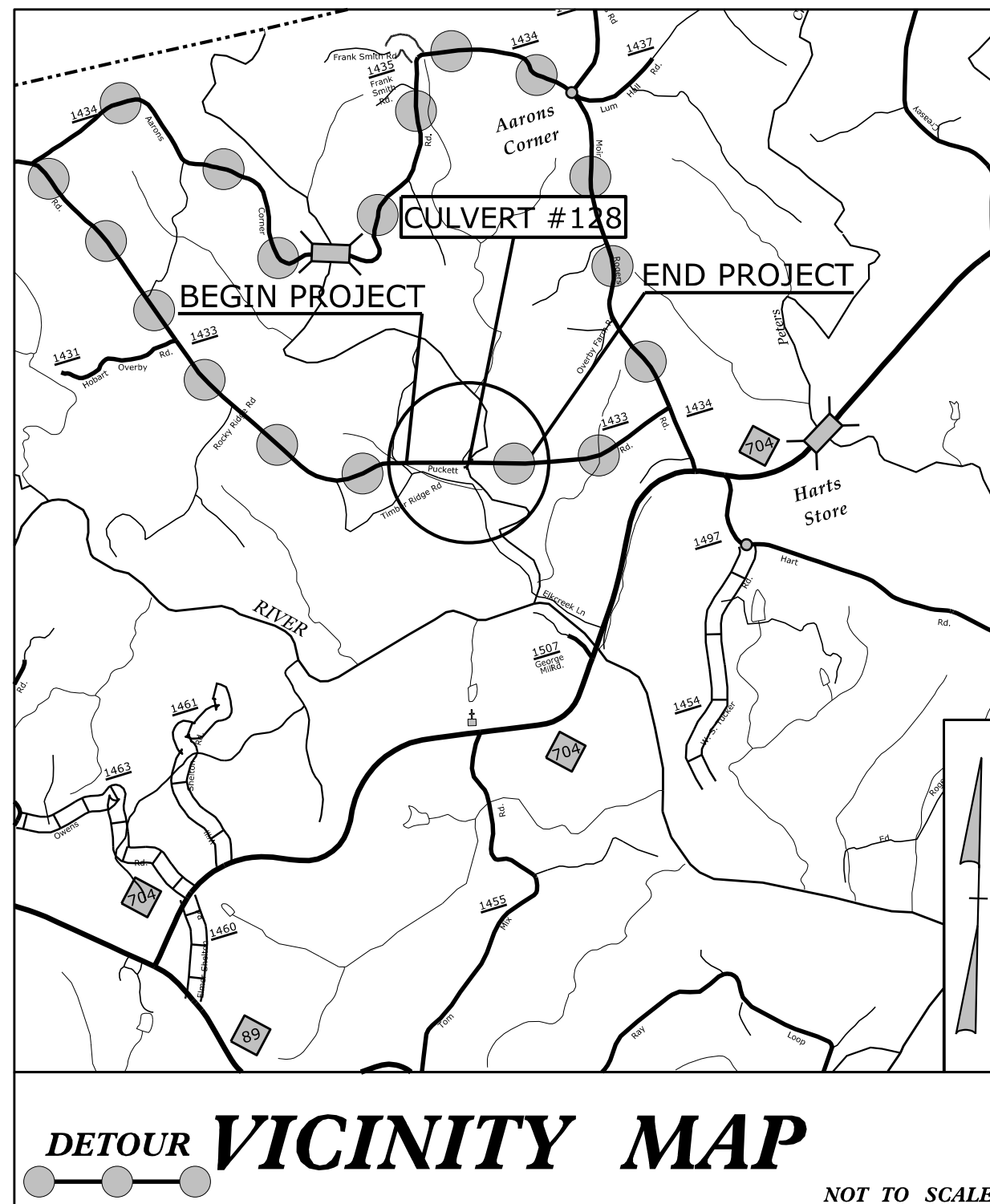
NOTE: INCIDENTAL MILL APPROX. 15' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.



REVISIONS

1/16/2018
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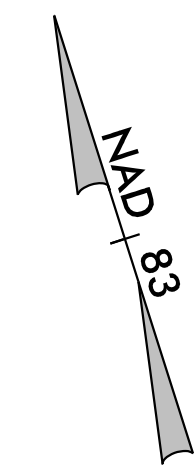
TIP PROJECT: 17BP.9.C.6



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
STOKES COUNTY

**LOCATION: CULVERT 128 OVER ELK CREEK ON
SRI433 (PUCKETT RD)**

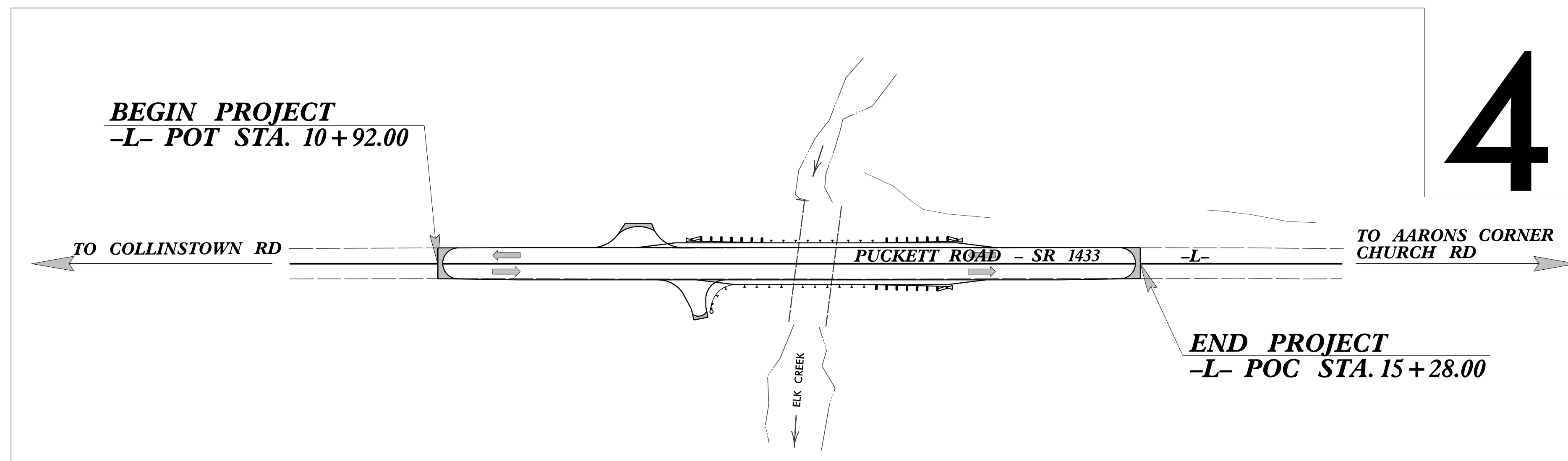
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.6	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.9.C.6	N/A	PE	
17BP.9.C.6	N/A	RW & UTIL.	
17BP.9.C.6	N/A	CON.	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	--- TD ---
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	▲▲▲▲▲▲▲▲▲▲
1622.01	Temporary Berms and Slope Drains	--- B ---
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	▭

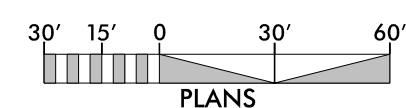


THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

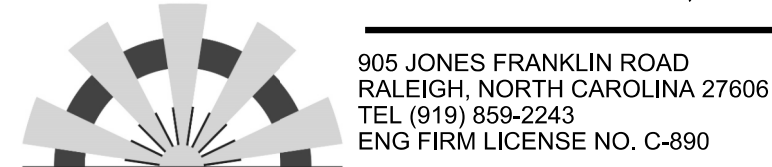
ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER RESOURCES.

Prepared in the Office of:
SUNGATE DESIGN GROUP, P.A.



Designed by:

WILLIAM T. PERRY, EI #3899
NAME LEVEL III CERTIFICATION NO.

Reviewed in the Office of:
ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Reviewed by:

NOELLE RING, CPESC

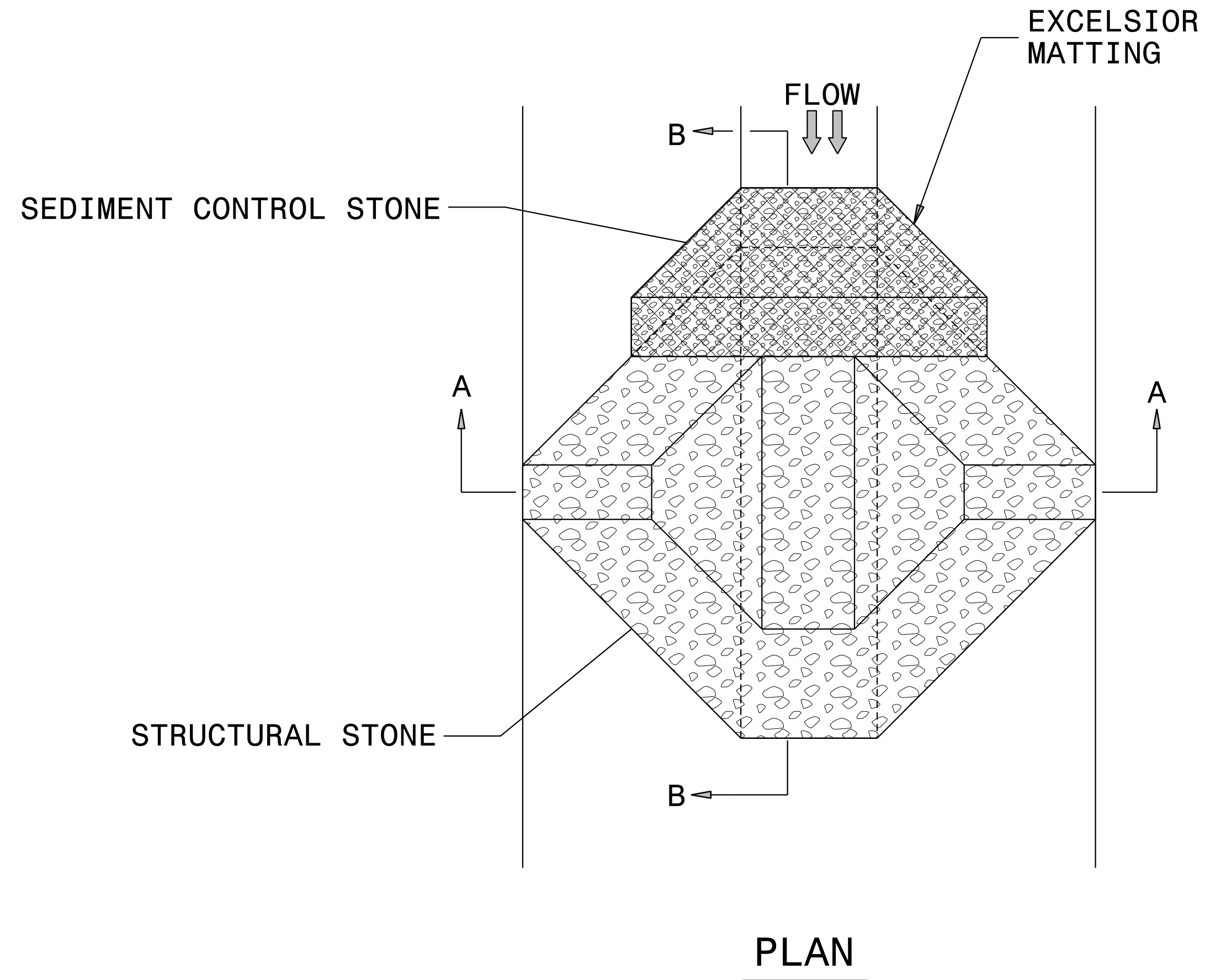
Roadway Standard Drawings

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.9.C.6	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



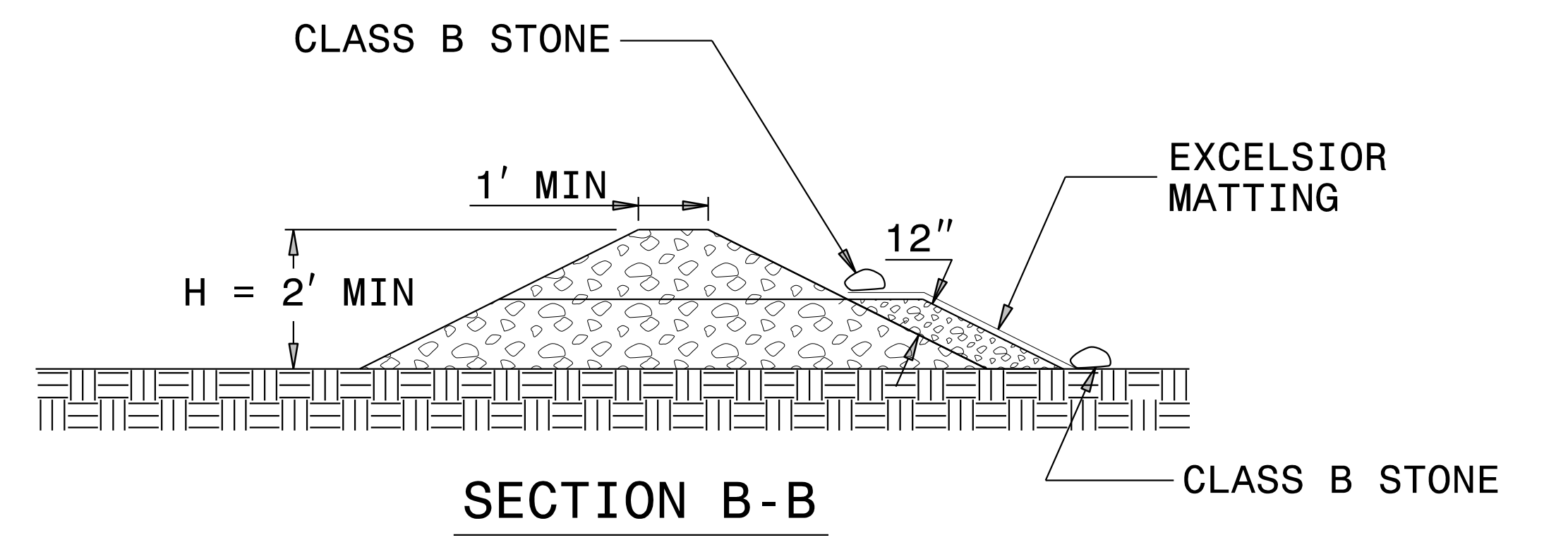
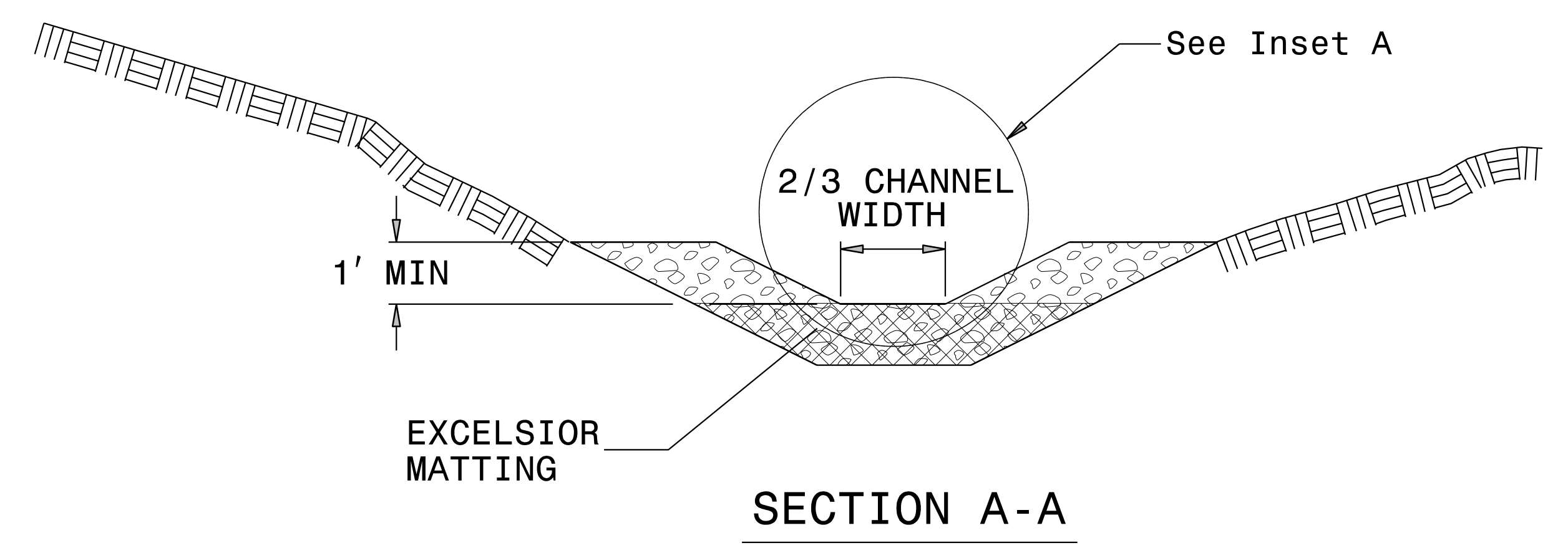
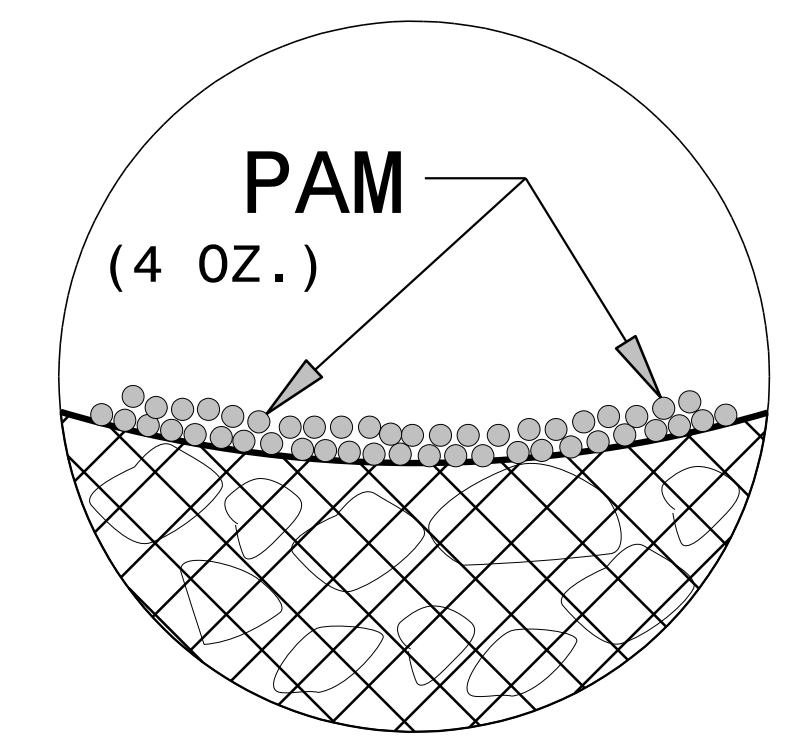
NOTES:

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.

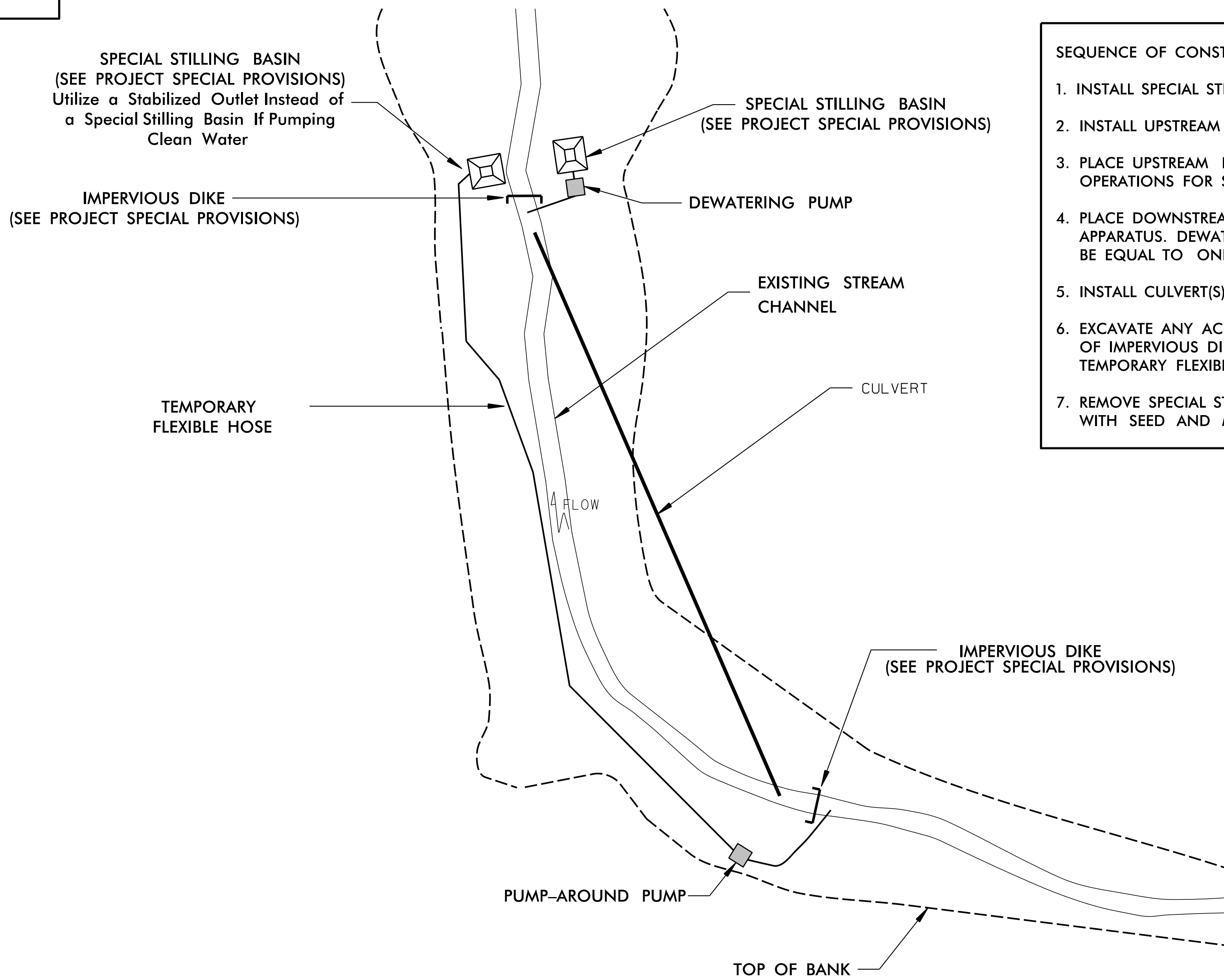


NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.6	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP-AROUND OPERATION

- NOTES:**
- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
 - 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
 - 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
 - 4) Pumps and hoses shall be of sufficient size to dewater the work area.



- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA**
1. INSTALL SPECIAL STILLING BASIN(S).
 2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
 5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
 6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
 7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>17BP.9.C.6</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

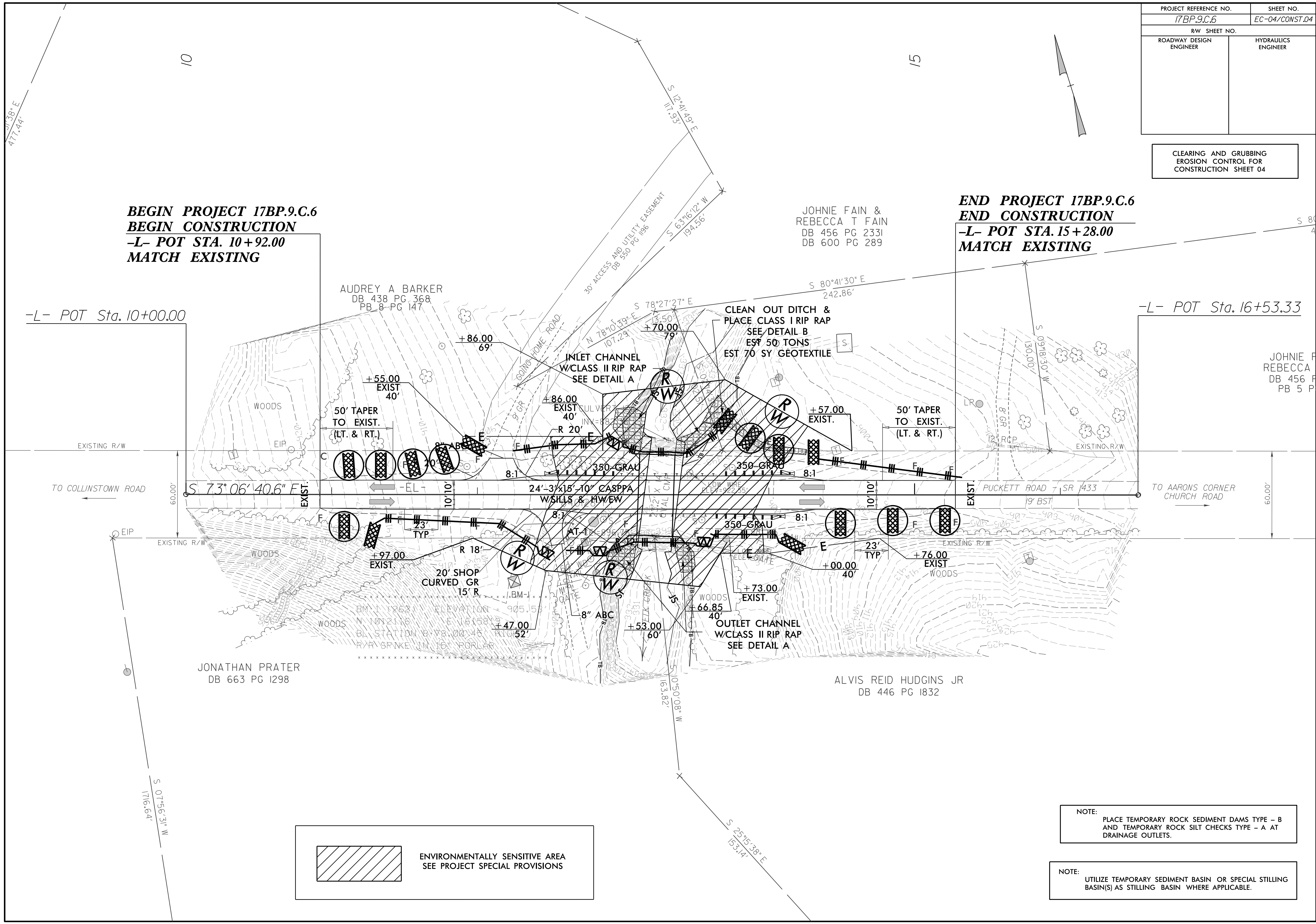
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.	SHEET NO.
17BP.9.C.6	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

**BEGIN PROJECT 17BP.9.C.6
BEGIN CONSTRUCTION
-L- POT STA. 10+92.00
MATCH EXISTING**

**END PROJECT 17BP.9.C.6
END CONSTRUCTION
-L- POT STA. 15+28.00
MATCH EXISTING**

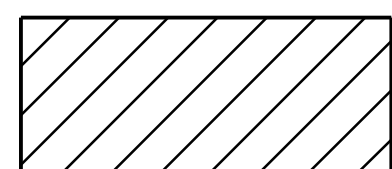


-L- POT Sta. 10+00.00

-L- POT Sta. 16+53.33

TO COLLINSTOWN ROAD

TO AARONS CORNER CHURCH ROAD

 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

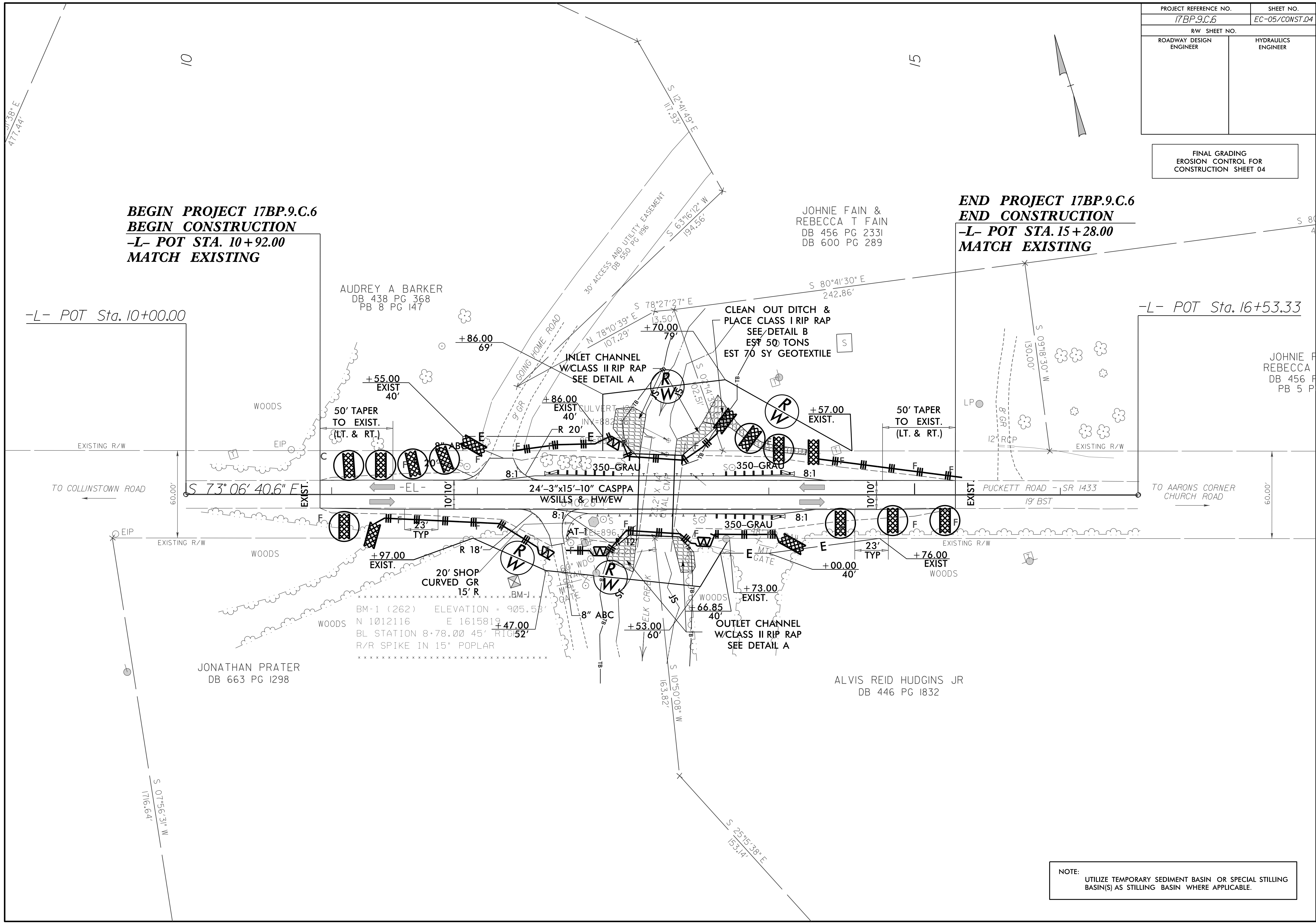
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING
BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

PROJECT REFERENCE NO. <i>17BP.9.C.6</i>	SHEET NO. <i>EC-05/CONST.04</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FINAL GRADING
EROSION CONTROL FOR
CONSTRUCTION SHEET 04

BEGIN PROJECT 17BP.9.C.6
BEGIN CONSTRUCTION
-L- POT STA. 10+92.00
MATCH EXISTING

END PROJECT 17BP.9.C.6
END CONSTRUCTION
-L- POT STA. 15+28.00
MATCH EXISTING



NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

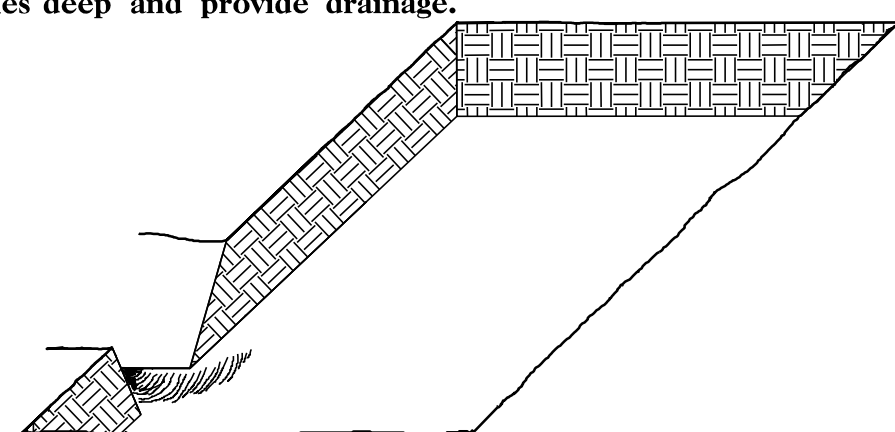
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	173P.9.C.6	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

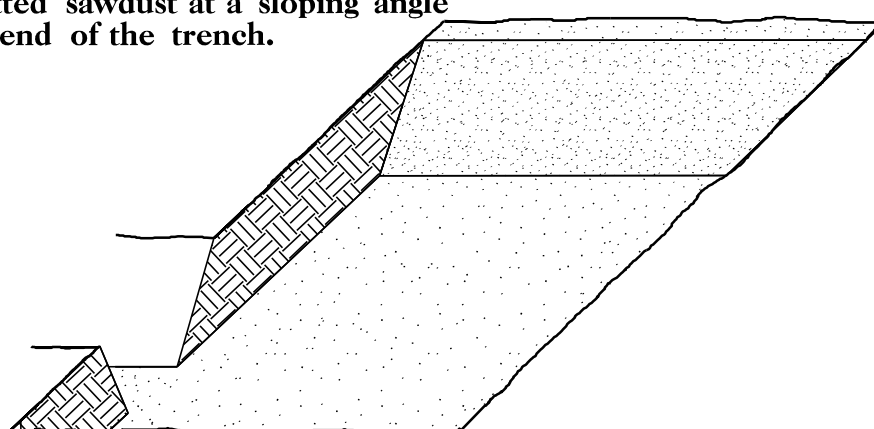
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

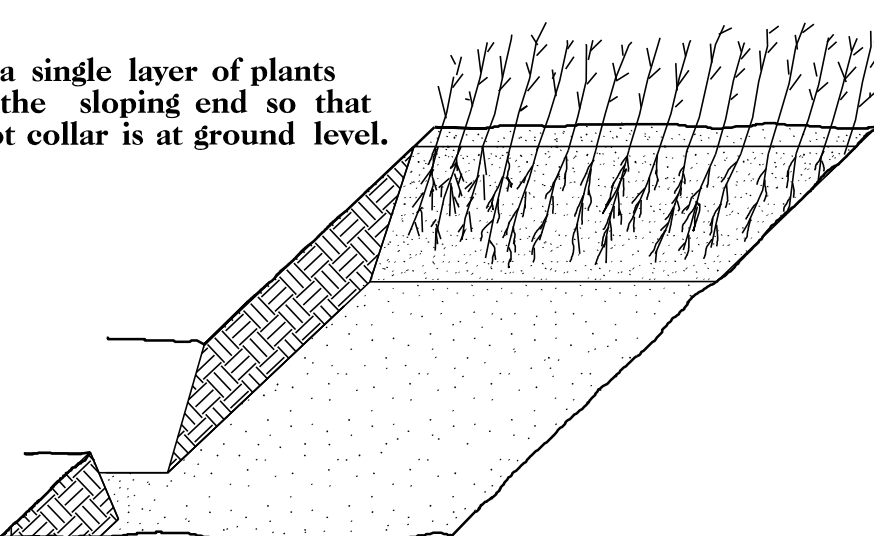
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



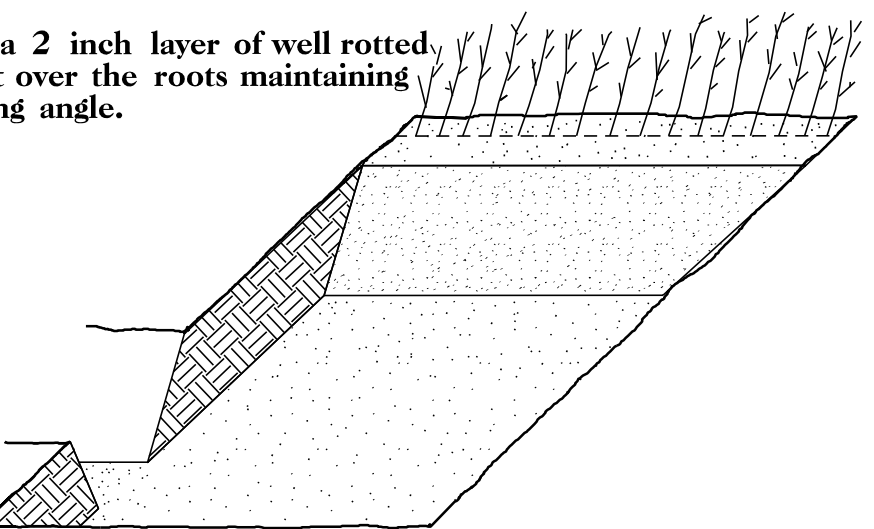
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

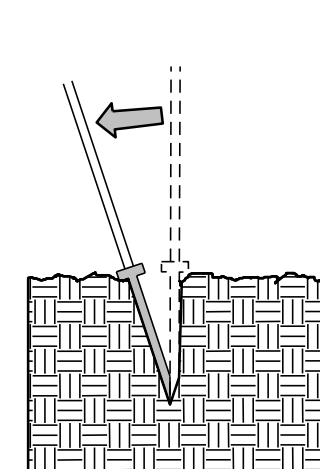


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

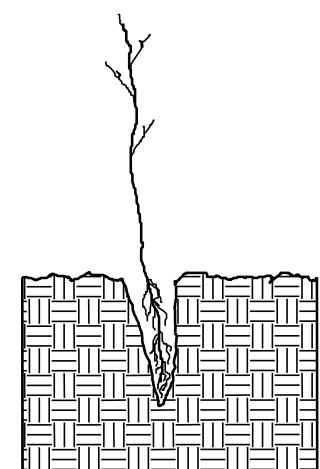


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

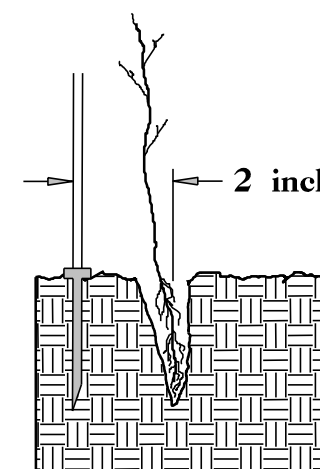
DOUBLE PLANTING METHOD USING THE K3C PLANTING BAR



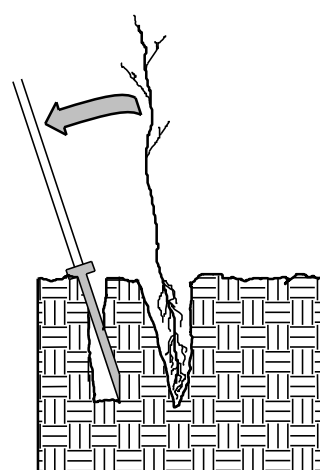
1. Insert planting bar as shown and pull handle toward planter.



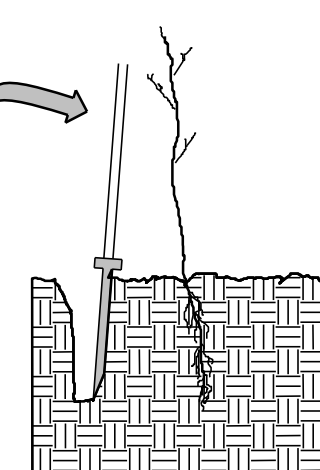
2. Remove planting bar and place seedling at correct depth.



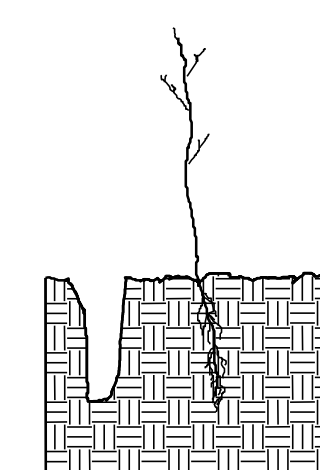
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



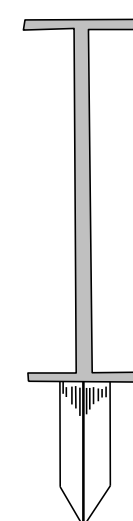
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



K3C PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in 3R
25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in 3R
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in 3R
25% BETULA NIGRA	RIVER BIRCH	12 in - 18 in 3R

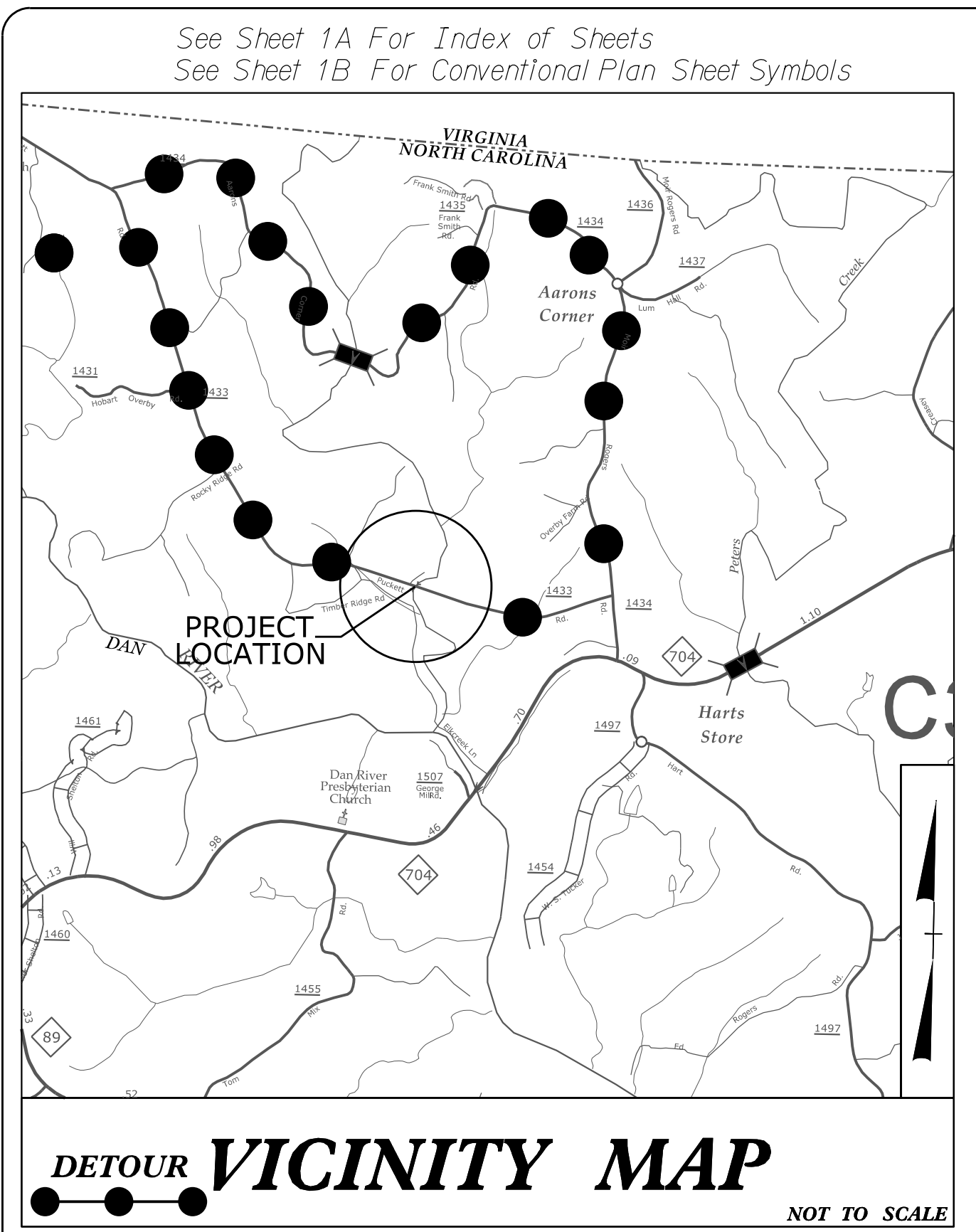
REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

TIP PROJECT: 17BP.9.C.6

CONTRACT: DI00191



100% PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

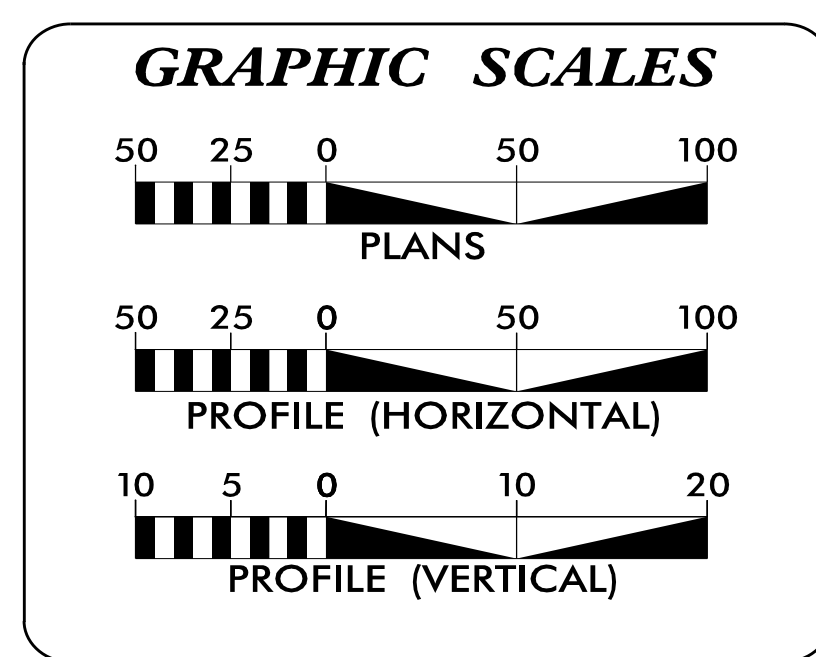
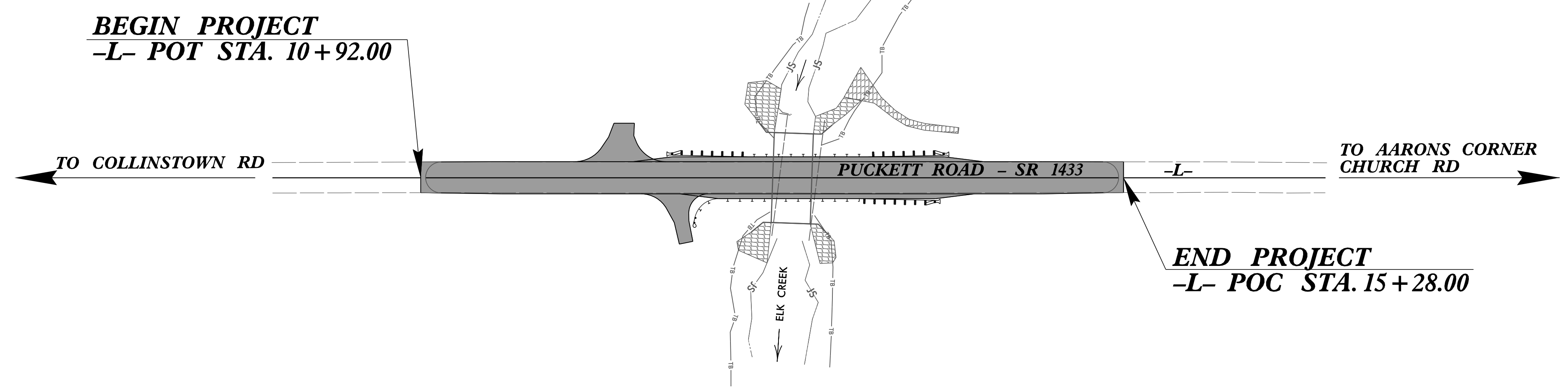
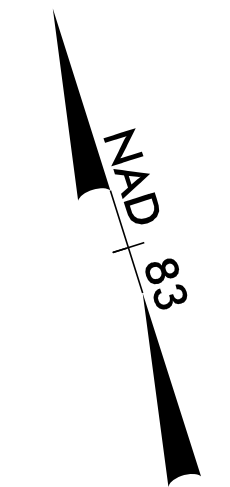
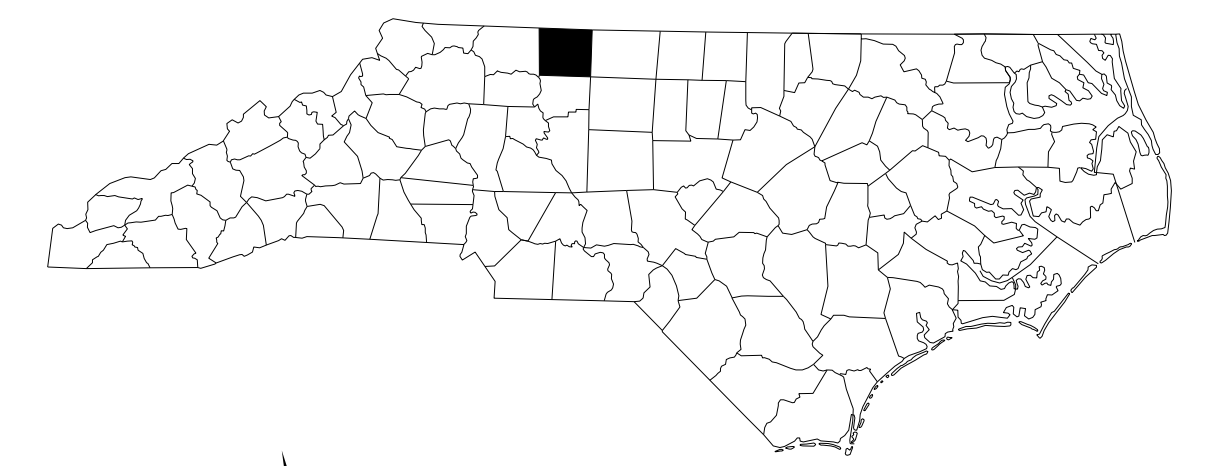
**UTILITIES BY OTHERS PLANS
STOKES COUNTY**

**LOCATION: CULVERT 128 OVER ELK CREEK ON
SR1433 (PUCKETT RD)**

TYPE OF WORK: POWER AND TELEPHONE RELOCATION

T.I.P. NO.	SHEET NO.
17BP.9.C.6	UO-1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET IS DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

(A) POWER - SURRY-YADKIN EMC
(B) TELEPHONE - CENTURYLINK

PREPARED IN THE OFFICE OF:

1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

John D. Schriener, PLS UTILITY PROJECT MANAGER
John D. Schriener, PLS PROJECT UTILITY COORDINATOR

**DIVISION OF HIGHWAYS
DIVISION 9**

375 Silas Creek Parkway
Winston Salem, 27127

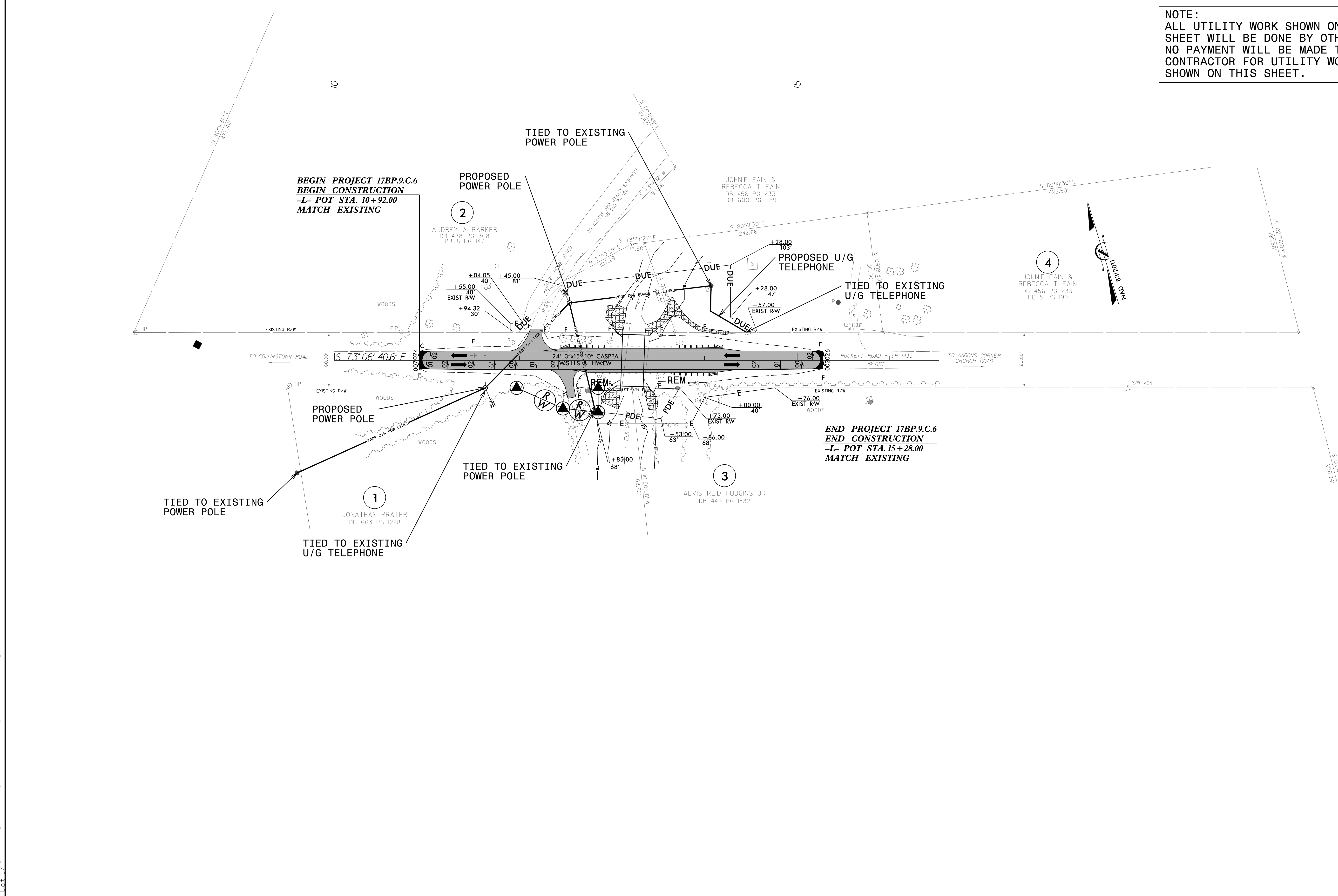
Matthew W. Jones, PE Division Bridge Prog. Manager
R. David Trantham Division Utility Engineer

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$ DGN \$\$\$\$\$\$ USERNAME \$\$\$\$\$\$

UTILITIES BY OTHERS

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

5/14/99



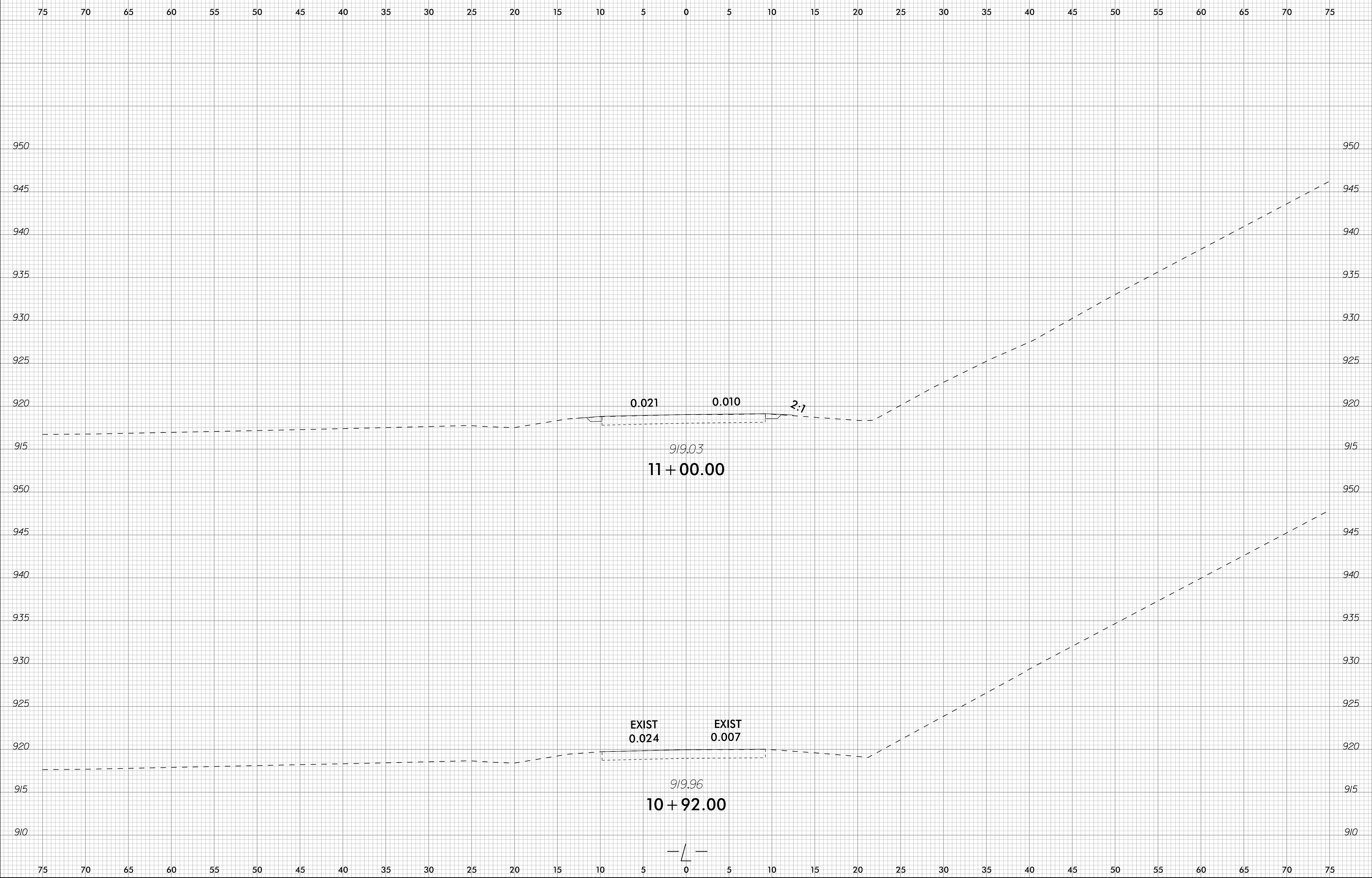
PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.9	X-A
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CROSS SECTION INDEX

<u>ROADWAY</u>	<u>STATION</u>	<u>TO</u>	<u>STATION</u>	<u>SHEET NO.</u>
CROSS SECTION INDEX				X-A
CROSS SECTION SUMMARY				X-1A
-L- PUCKETT ROAD	10 + 92.00		15 + 28.00	X-1 TO X-4

8/23/99

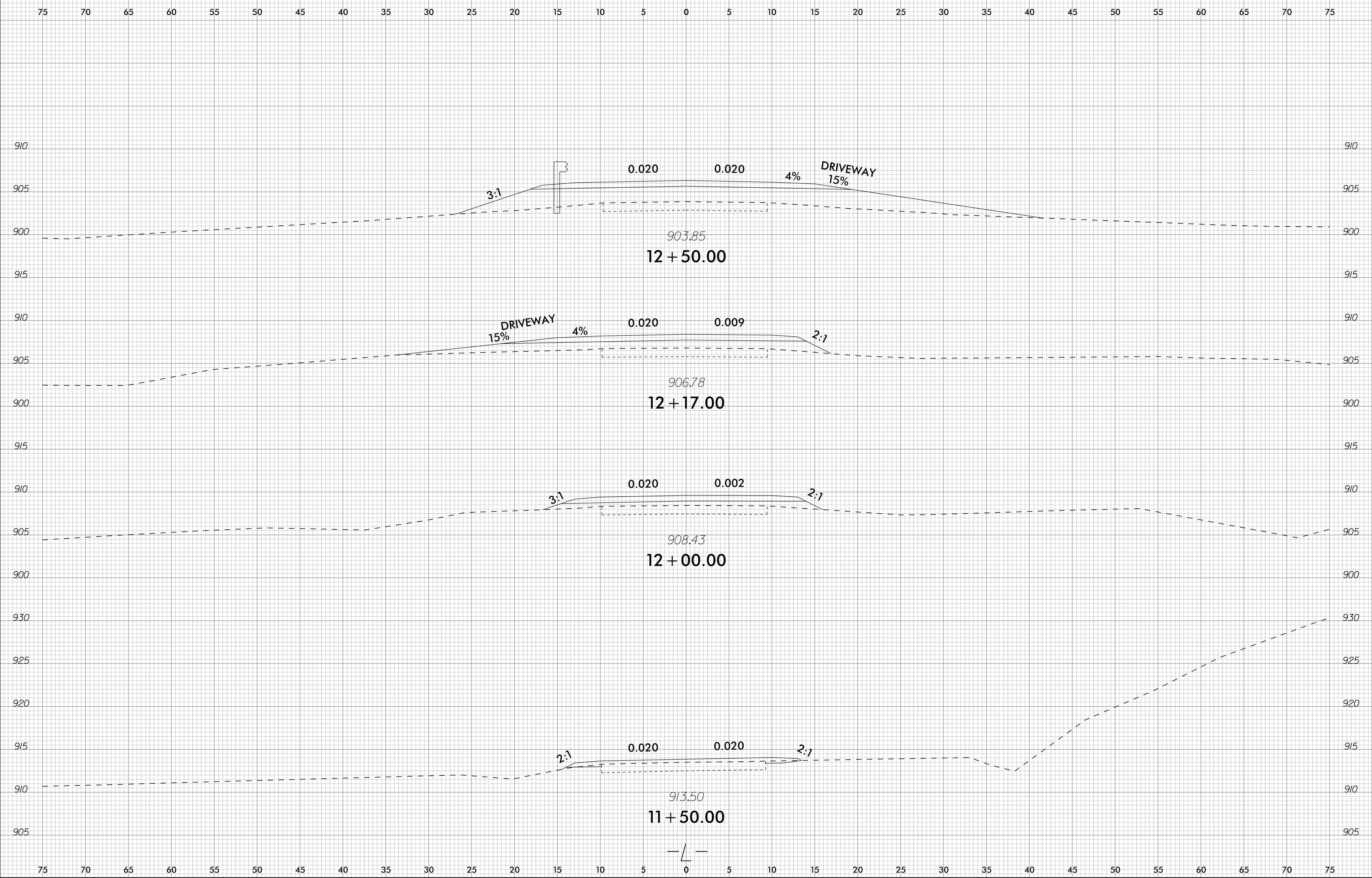
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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8/23/99

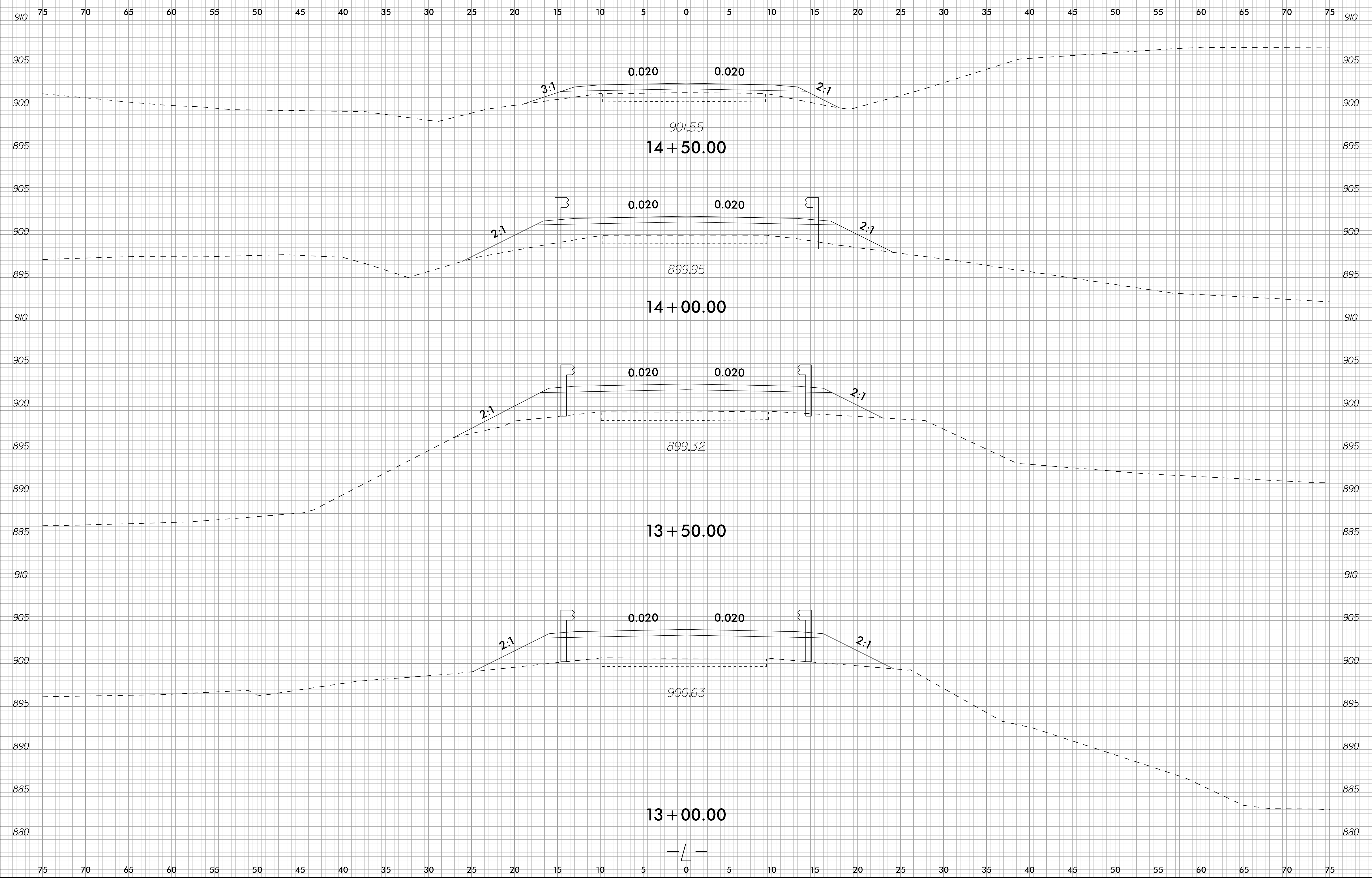
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8/23/99

8/23/99

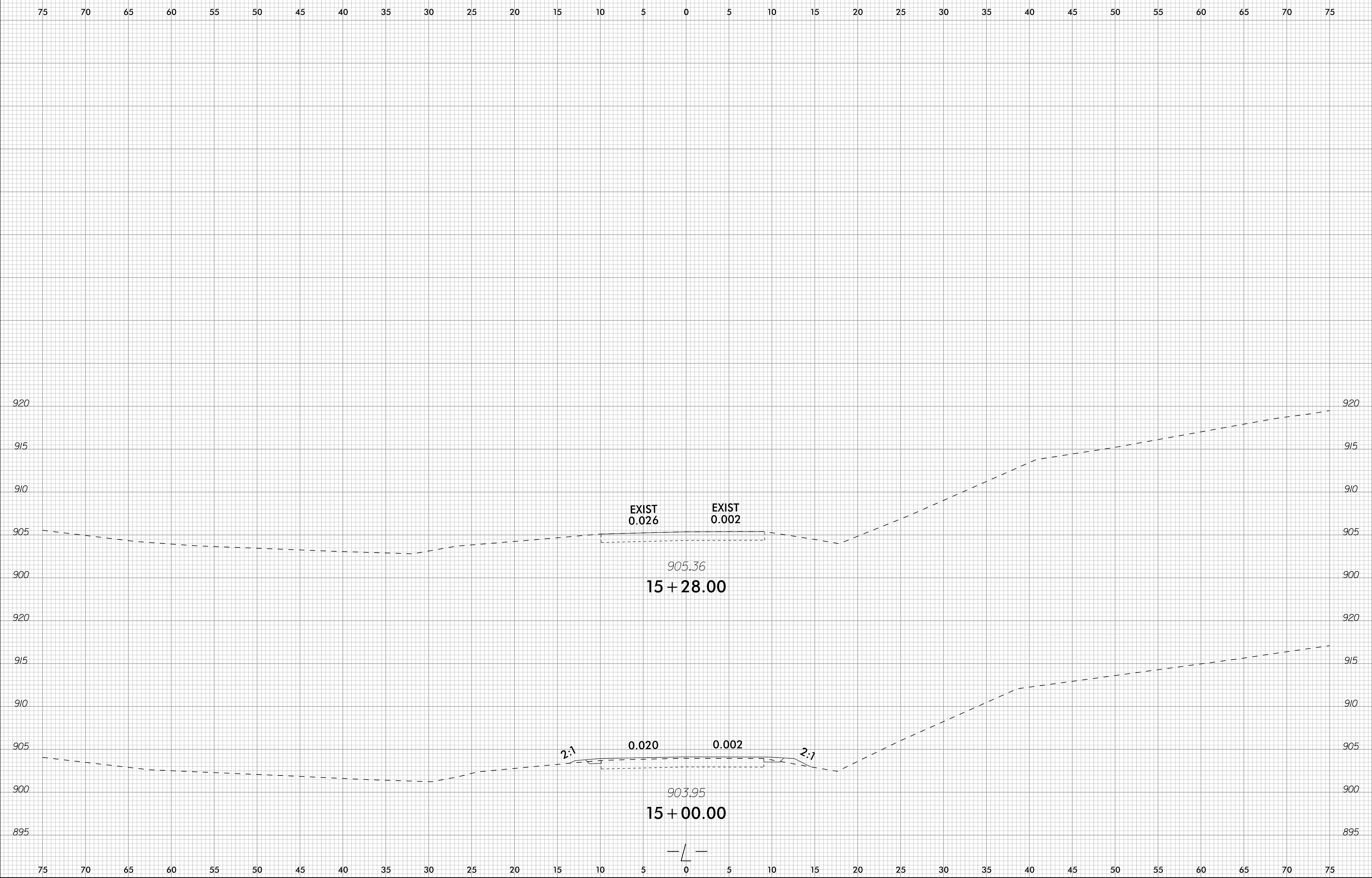
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8/23/99

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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