09/08/99

PROJECT: 17BP.2.R.15

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.15	1	

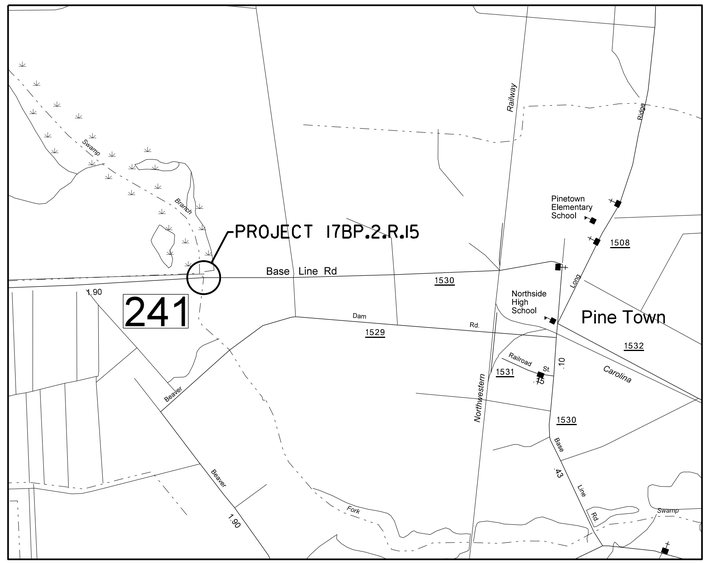
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BEAUFORT COUNTY

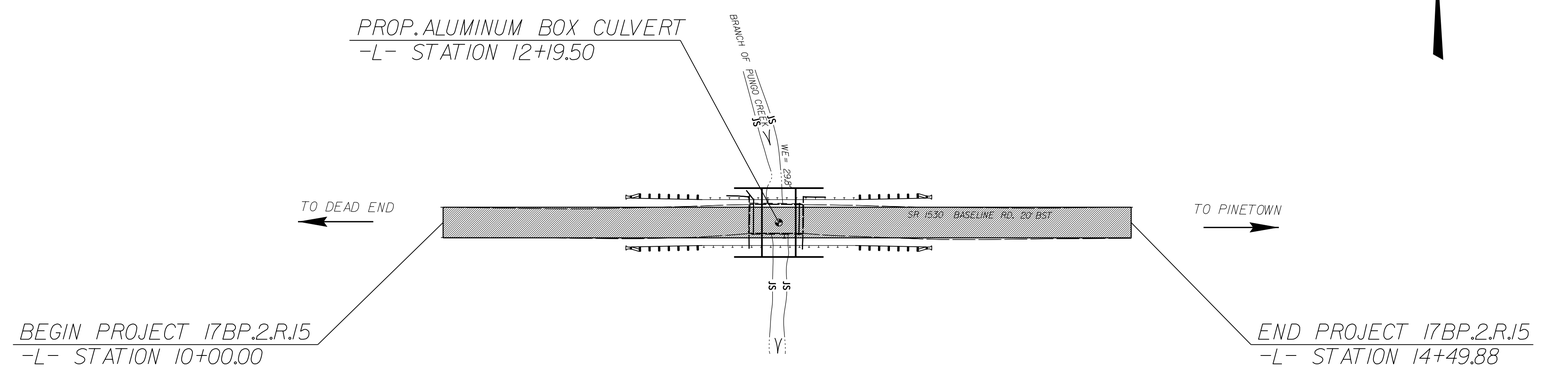
LOCATION: BRIDGE #241 OVER FORK SWAMP ON SR 1530

TYPE OF WORK: REMOVE EXISTING BRIDGE AND REPLACE WITH ALUMINUM BOX CULVERT, PAVING, GRADING AND DRAINAGE



Vicinity Map
See Sheet 1-A For Index of Sheets

NC GRID
NAD 83/NSRS 2007



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.2.R.15 = 0.053 MILES
LENGTH STRUCTURE PROJECT 17BP.2.R.15 = 0.004 MILES
TOTAL LENGTH PROJECT 17BP.2.R.15 = 0.057 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
FEBRUARY 2013

DWAYNE ALLIGOOD
PROJECT ENGINEER

LANG JONES
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
Dwayne H. Alligood P.E.
SIGNATURE: 02/07/2013

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD
Dwayne H. Alligood P.E.
SIGNATURE: 02/07/2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2	TYPICAL SECTIONS
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL, GUARDRAIL AND DRAINAGE QUANTITES
4	PLAN AND PROFILE SHEET
4A	RIGHT-OF-WAY PLAN
UC1-UC4	UTILITY CONSTRUCTION PLANS
TMP1-TMP2	TRAFFIC MANAGEMENT PLANS
EC1-EC3	EROSION CONTROL SHEETS
X1A	CROSS-SECTION SUMMARY
X1-X2	CROSS-SECTIONS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

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.

GRADING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE 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.

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.

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:

ALL EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATE.

UTILITY OWNERS ON THIS PROJECT ARE AS FOLLOWS:
BEAUFORT CO. WATER DEPT. (WATER) CONTACT:ERICK JENNINGS 252-402-6547
TRI COUNTY TELECOM (PHONE/CATV) CONTACT: CECIL WALKER, JR. 252-964-8000
TIDELAND EMC (ELECTRICAL) CONTACT: MICHAEL MARSLEMDER 252-943-3066

RIGHT-OF-WAY MARKERS:

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

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 - Method 'A'
DIVISION 8 - INCIDENTALS	
876.02	Guide for Rip Rap at Pipe Outlets

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	1B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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
- 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 — 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 — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- 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 R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A 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
- 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 — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- 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 — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- 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
- 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:

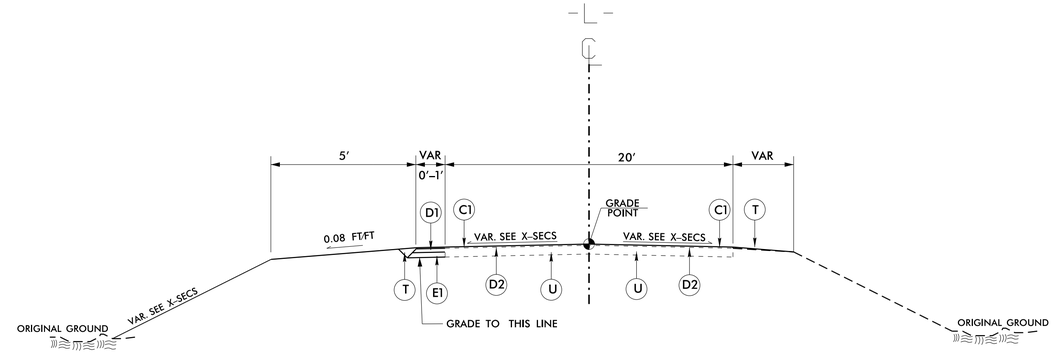
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According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

PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	2
ROADWAY DESIGN ENGINEER THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY DWAYNE H. ALLIGOOD 16710 02/07/13	PAVEMENT DESIGN ENGINEER THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY DWAYNE H. ALLIGOOD 16710 02/07/13

NOTE: REVISED END VIEW BOX CULVERT TO INCLUDE HEADWALL AND DIMENSIONS.

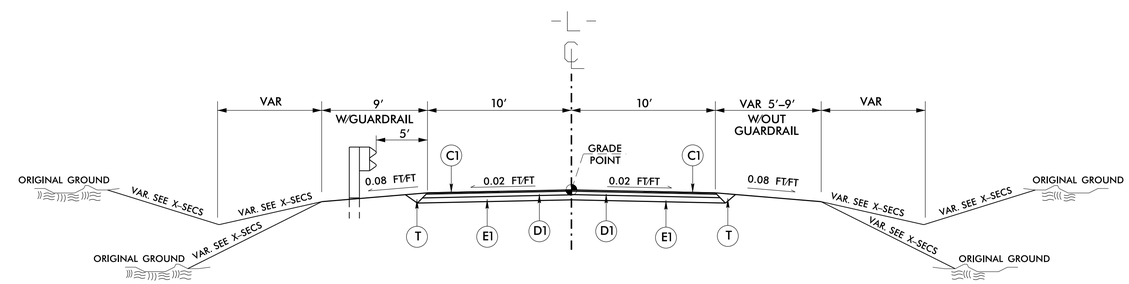
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VARIABLE DEPTH WEDGING ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
J	APPROX. 12" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	FILTER FABRIC
Y	#57 WASHED STONE

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



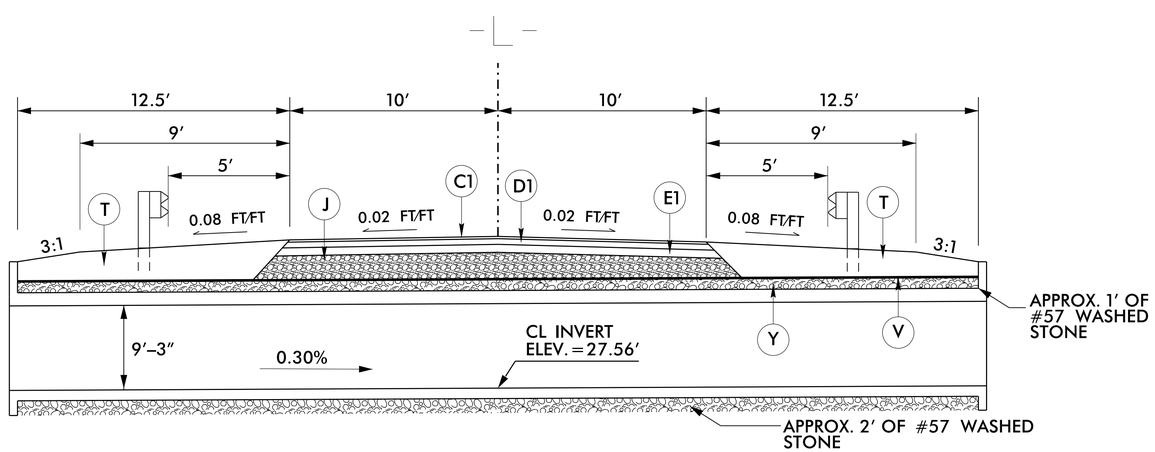
TYPICAL SECTION #1 (NTS)

-L- 10+00.00 - 11+00.00
-L- 13+50.00 - 14+49.88



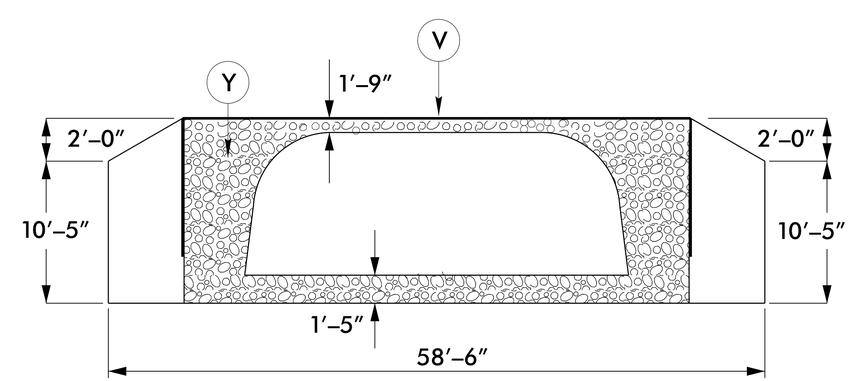
TYPICAL SECTION #2 (NTS)

-L- 11+00.00 - 12+08.46
-L- 12+30.54 - 13+50.00



TYPICAL BOX CULVERT SECTION #3 (NTS)

-L- STATION 12+08.46 - 12+30.54



END VIEW BOX CULVERT(NTS)

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

SECT	QUANTITY	UNIT	ITEM DESCRIPTION
800	1	LS	MOBILIZATION
801	1	LS	CONSTRUCTION SURVEYING
SP	1	LS	GRADING
SP	100	CY	UNDERCUT EXCAVATION
520	45	TON	AGGREGATE BASE COURSE
610	190	TON	ASPHALT CONCRETE BASE COURSE,TYPE B25.0B
610	125	TON	ASPHALT CONCRETE INTERMEDIATE COURSE,TYPE I19.0B
610	100	TON	ASPHALT CONCRETE SURFACE COURSE,TYPE SF9.5A
620	25	TON	ASPHALT BINDER FOR PLANT MIX,GRADE PG64-22
862	200	LF	STEEL BEAM GUARDRAIL
876	200	SY	GEOTEXTILE FOR DRAINAGE
SP	4	EA	GUARDRAIL ANCHOR UNITS,TYPE 350
1605	150	LF	TEMPORARY SILT FENCE
1610	10	TON	STONE FOR EROSION CONTROL,CLASS B
1610	10	TON	SEDIMENT CONTROL STONE
1615	0.5	ACRE	TEMPORARY MULCHING
1620	20	LB	SEED FOR TEMPORARY SEEDING
1620	0.1	TON	FERTILIZER FOR TEMPORARY SEEDING
1630	30	CY	SILT EXCAVATION
1631	1400	SY	MATTING FOR EROSION CONTROL
SP	350	LF	WATTLE
SP	10	LB	POLYACRYLAMIDE (PAM)
1632	100	LF	1/4" HARDWARE CLOTH
1660	1	ACRE	SEEDING AND MULCHING
1661	50	LB	SEED FOR REPAIR SEEDING
1661	0.2	TON	FERTILIZER FOR REPAIR SEEDING
SP	10	SY	TURBIDITY CURTAIN
SP	3	EA	RESPONSE FOR EROSION CONTROL
402	1	LS	REMOVAL OF EXISTING STRUCTURE AT -L- STATION 12+19.50
SP	1	LS	1 @ 9'-3" X 22'-1" CORRUGATED ALUMINUM BOX CULVERT WITH HEADWALLS AT -L- STATION 12+19.50
SP	1	LS	RELOCATE EXISTING 6" WATER MAIN

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CHECKED BY: VT	DATE: 11-05-12

PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	3A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC.

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	ALUMINUM BOX CULVERT
SIZE																				1 @ 22'-1" X 9'-3" ABC
THICKNESS OR GAUGE																				
-L- 12+19.50	CL	1			27.63	27.49	0.3%													45'-0"
TOTALS																				45'-0"

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	STRUCTURE EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- 10+00.00 - 14+49.88	315	1408	0	953	638	1408
UNDERCUT (CONTINGENCY)	0	0	100	120	120	100
SUB TOTAL	315	1408	100	1073	758	1508
SAY	320	1410	100	1080	760	1510

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

LINE	STATION - STATION	LOCATION	REMOVAL (SY)
-L-	11+00.00 - 11+99.65	CL	220
-L-	12+35.73 - 13+50.00	CL	258
TOTAL			478
SAY			480

NOTE:

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, UNCLASSIFIED STRUCTURE EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TYPE 350	ANCHORS	ANCHORS	ANCHORS	ANCHORS	ANCHORS	ANCHORS	ANCHORS	ANCHORS	IMPACT ATTENUATOR TYPE 350 NO.	PERMITTED G	PERMITTED NG				REMARKS
-L-	11+19.50	13+19.50	LT	100			13+19.50	11+19.50	5	9	50	50	1	1	2															
-L-	11+19.50	13+19.50	RT	100			11+19.50	13+19.50	5	9	50	50	1	1	2															
	TOTAL			200											4															

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PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD 02/07/2013	NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD 02/07/2013

NC GRID
NAD 83/NSRS 2007

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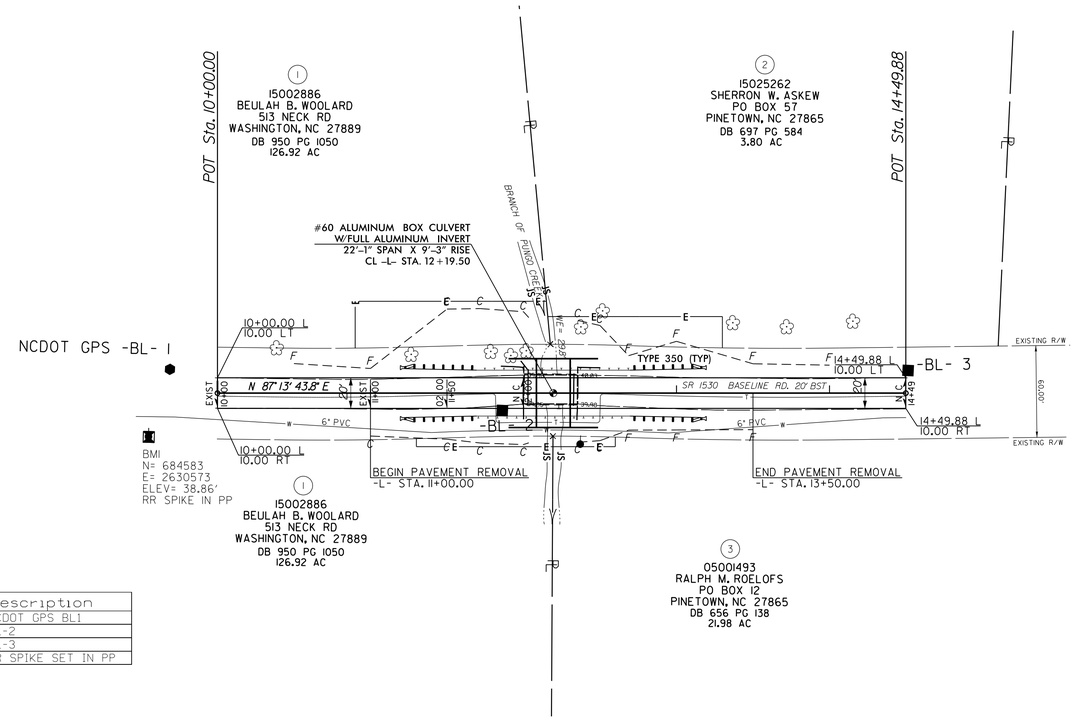
PLANS



Point	North	East	Elevation	Description
BL1	684627.36	2630585.09	39.68	NCDOT GPS BL1
BL2	684610.96	2630803.33	39.02	BL-2
BL3	684649.91	2631066.95	43.35	BL-3
BMI	684582.57	2630573.38	38.86	RR SPIKE SET IN PP

DATUM DESCRIPTION

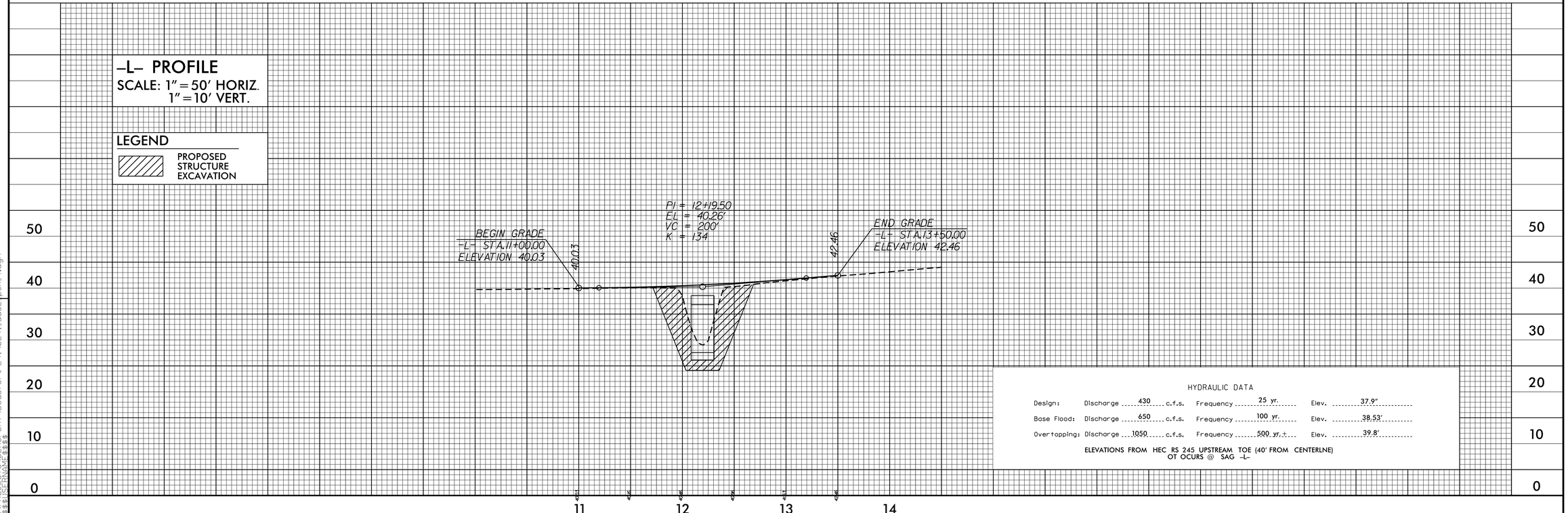
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 684627.358(ft) EASTING: 2630585.086(ft)
ELEVATION: 39.681(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999896220
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -EL- STATION 10+00.00 IS
S 66°13'50.8" E 34.74'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

-L- PROFILE

SCALE: 1" = 50' HORIZ.
1" = 10' VERT.

LEGEND

PROPOSED STRUCTURE EXCAVATION



HYDRAULIC DATA

Design:	Discharge	430 c.f.s.	Frequency	25 yr.	Elev.	37.9'
Base Flood:	Discharge	650 c.f.s.	Frequency	100 yr.	Elev.	38.53'
Overtopping:	Discharge	1050 c.f.s.	Frequency	500 yr. +	Elev.	39.8'

ELEVATIONS FROM HEC RS 245 UPSTREAM TOE (40' FROM CENTERLNE)
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REVISIONS

8/17/99

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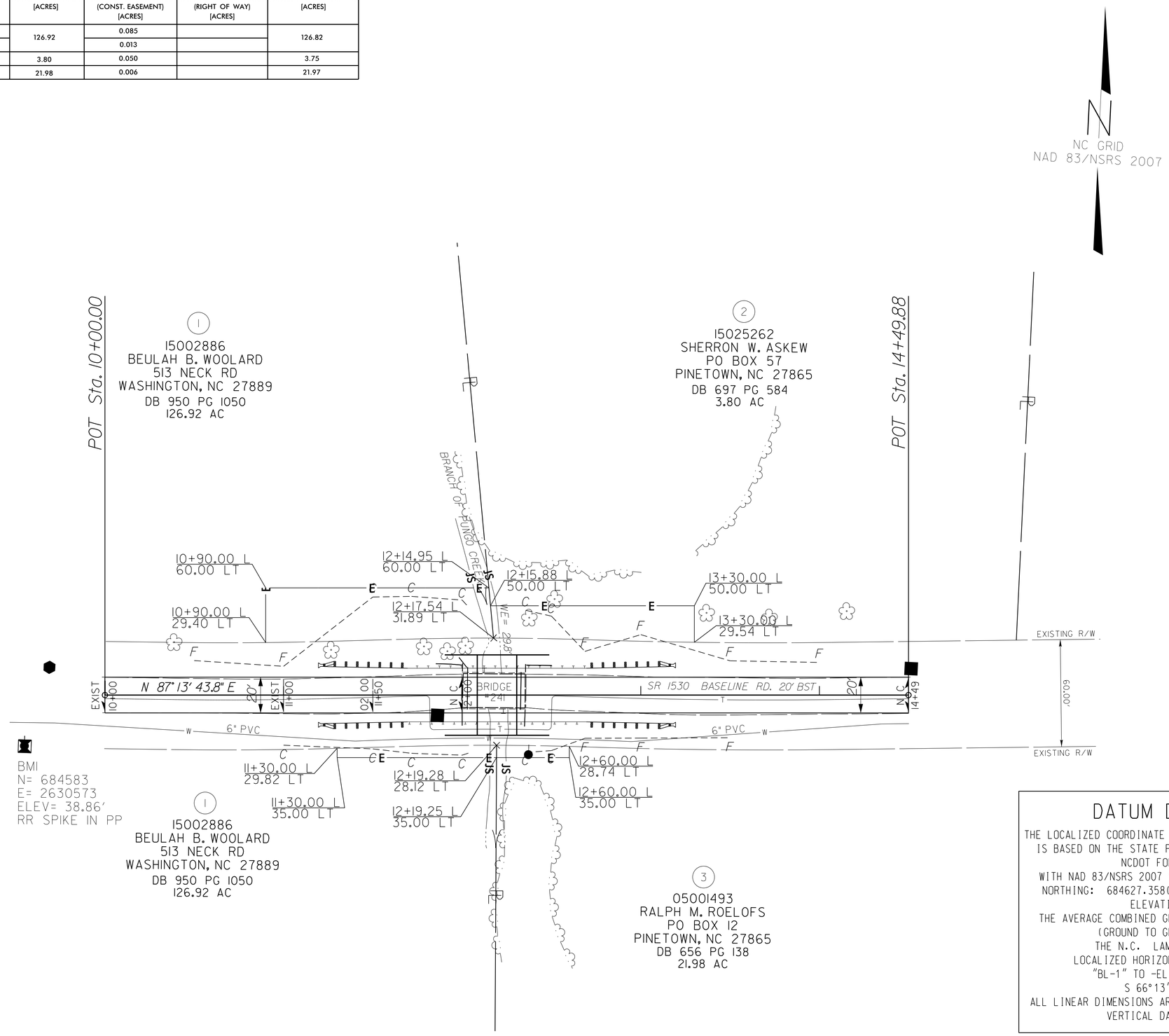
PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	4A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD 02/07/2013	NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD 02/07/2013

RIGHT OF WAY AREA SUMMARY

PARCEL NO.	PROPERTY OWNER NAME	LOCATION	TOTAL PARCEL AREA [ACRES]	AREA TO BE DEDICATED (CONST. EASEMENT) [ACRES]	AREA TO BE PURCHASED (RIGHT OF WAY) [ACRES]	PARCEL AREA REMAINING [ACRES]
1	BEULAH B. WOOLARD	LT	126.92	0.085		126.82
		RT		0.013		
2	SHERRON W. ASKEW	LT	3.80	0.050		3.75
3	RALPH M. ROELOFS	RT	21.98	0.006		21.97



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 684627.358(ft) EASTING: 2630585.086(ft)
ELEVATION: 39.681(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999896220
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -EL- STATION 10+00.00 IS
S 66°13'50.8" E 34.74'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

REVISIONS

8/17/99

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PROJECT: 17BP.2.R.15

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.15	UC1	

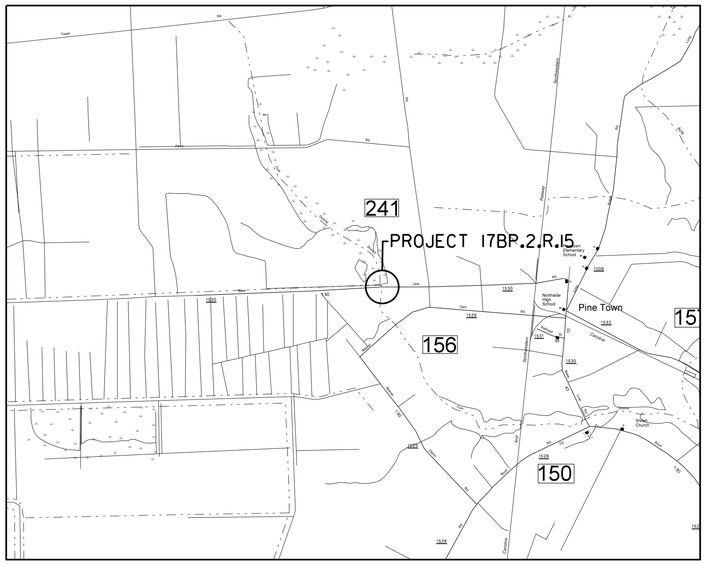
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

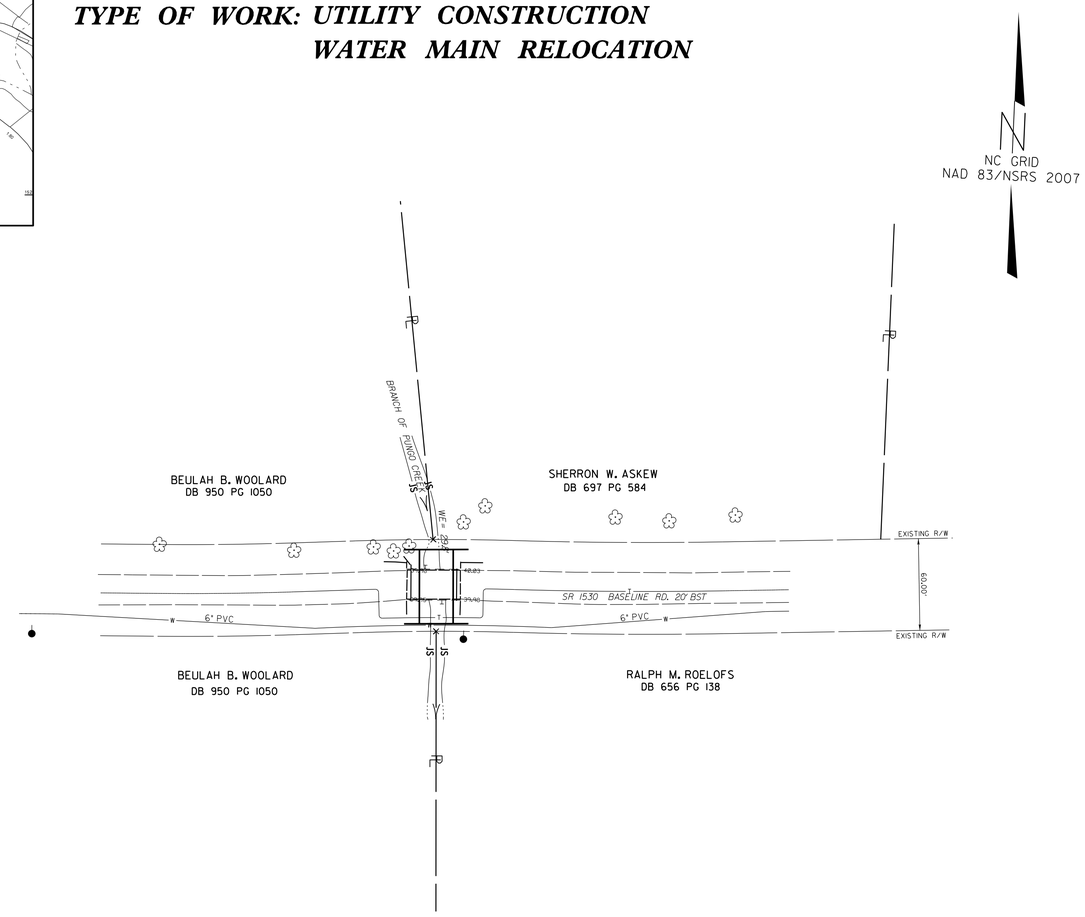
BEAUFORT COUNTY

LOCATION: ***BRIDGE #241 OVER FORK SWAMP ON SR 1530***

TYPE OF WORK: ***UTILITY CONSTRUCTION***
WATER MAIN RELOCATION



Vicinity Map



CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.2.R.15 = 0.053 MILES
LENGTH STRUCTURE PROJECT 17BP.2.R.15 = 0.004 MILES
TOTAL LENGTH PROJECT 17BP.2.R.15 = 0.057 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
FEBRUARY, 2013

DWAYNE ALLIGOOD
PROJECT ENGINEER

LANG JONES
PROJECT DESIGN ENGINEER

UTILITIES ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD

01/28/2013

Dwayne H. Alligood P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	UC2

UTILITIES ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD

01/28/2013

UTILITY CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

WATER MAIN	QUANTITY	UNIT	ITEM DESCRIPTION
	40	LF	6" DI PIPE
	377	LF	8" HDPE PIPE DR9 (AWWA C906)
	2	EA	6" GATE VALVE AND VALVE BOX
	2	EA	DI PIPE TO HDPE TRANSITION
	2	EA	CONCRETE THRUST COLLAR
	100	LF	TEMPORARY SILT FENCE
	0.2	ACRES	SEEDING AND MULCHING

REVISIONS

8/17/99

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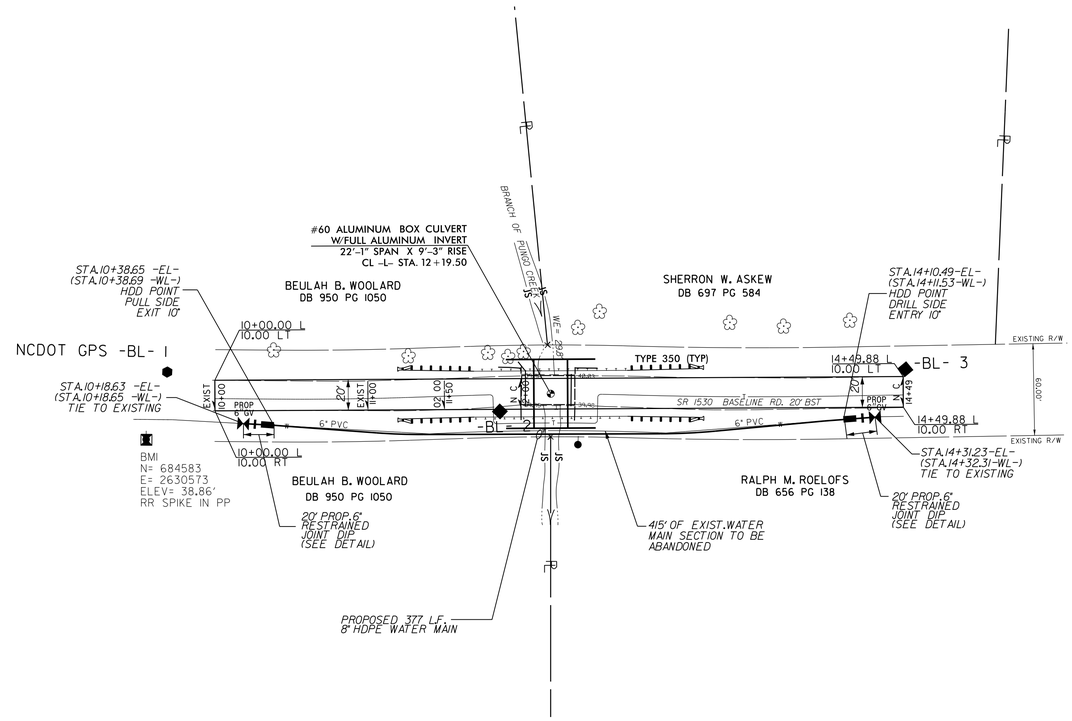
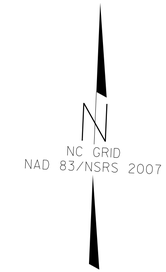
PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	U-3

UTILITY ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLGOOD

01/28/2013





LEGEND:

Gate Valve ..... GV

HDPE to DIP Transition .....

Thrust Collar .....

50 25 0 50 100

PLANS

NOTES:

WATER MAIN

1. 8" HDPE WATER MAIN TO CONFORM TO THE FOLLOWING: AWWA C906, PRESSURE CLASS 200, DR9, DUCTILE IRON PIPE SIZE (DIPS) DIMENSIONS, AND MATERIAL DESIGNATION PE 3408 AND NSF APPROVED FOR POTABLE WATER.

2. THE PROPOSED WATER MAIN RELOCATION DOES NOT IMPACT ANY ENVIRONMENTALLY SENSITIVE AREAS.

3. LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR AND MAINTAIN 18" MINIMUM VERTICAL SEPARATION.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
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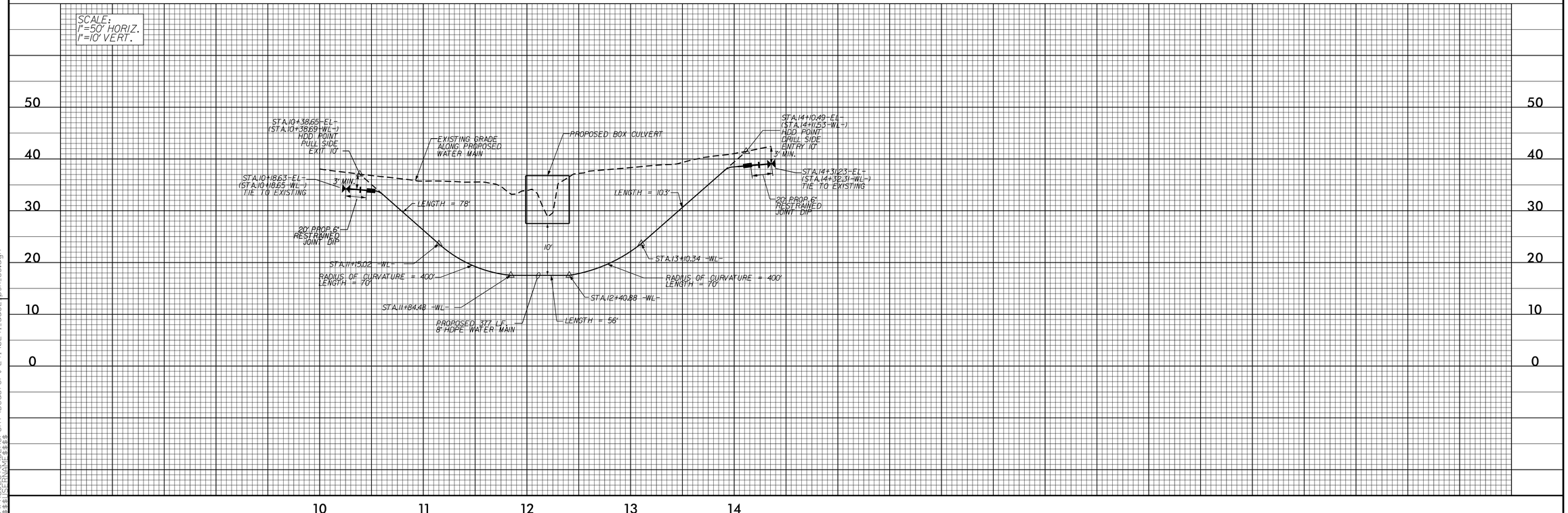
S 66°13'50.8" E 34.74'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

PROFILE ALONG PROPOSED WATER MAIN -WL-



REVISIONS

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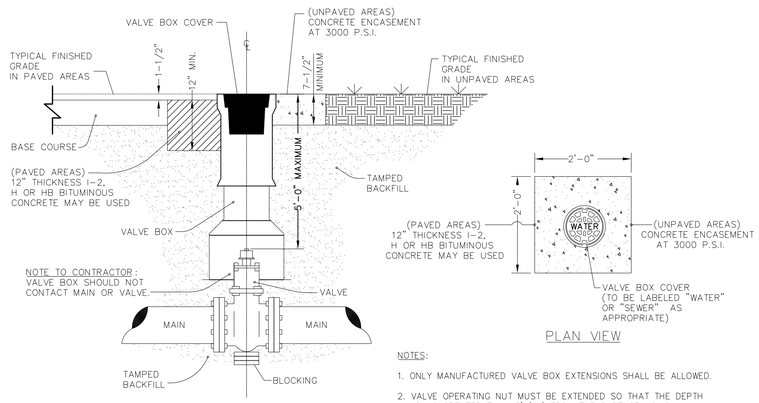
PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.J5	UC4

UTILITIES ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER WAYNE H. ALLIGOOD

01/28/2013

UTILITY CONSTRUCTION DETAIL SHEET

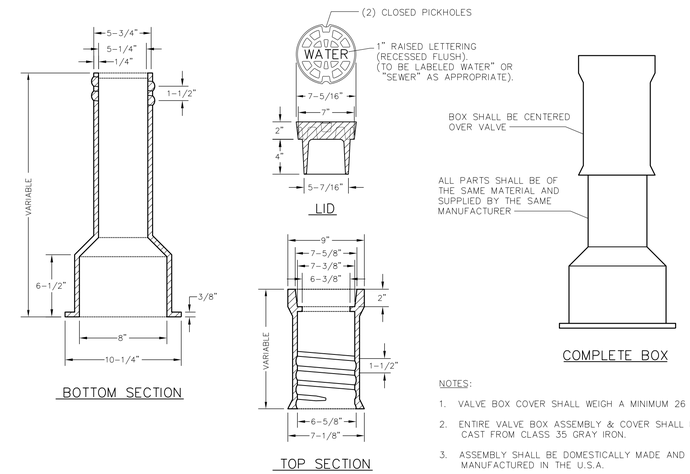


NOTES:

1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 5' (ft.) FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
3. PRECAST CONCRETE ENCASEMENT IS ALLOWED OUTSIDE OF PAVED AREAS.

TYPICAL VALVE BOX

NTS



NOTES:

1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs.
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

TYPICAL VALVE BOX

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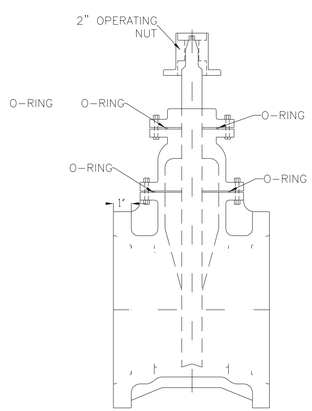

TYPICAL RESILIENT MECHANCIAL JOINT GATE VALVE DETAIL

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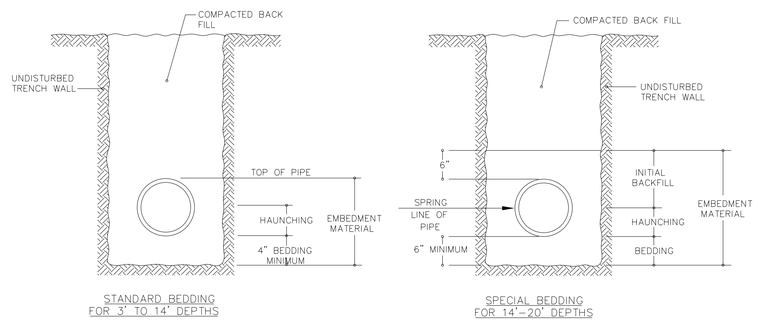

NOTES:

1. EMBEDMENT MATERIAL MUST BE CLASS I (NO. 67 OR NO. 78M WASHED STONE IS TYPICALLY USED).
2. EMBEDMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY FOR CLASS I MATERIAL.
3. STANDARD BEDDING SHALL BE UTILIZED FOR ALL CASES WHERE TRENCH BOTTOMS ARE UNSTABLE DUE TO SOIL TYPE, OR MOISTURE CONDITIONS.

TYPICAL BEDDING FOR FLEXIBLE & SEMI-RIGID PIPE

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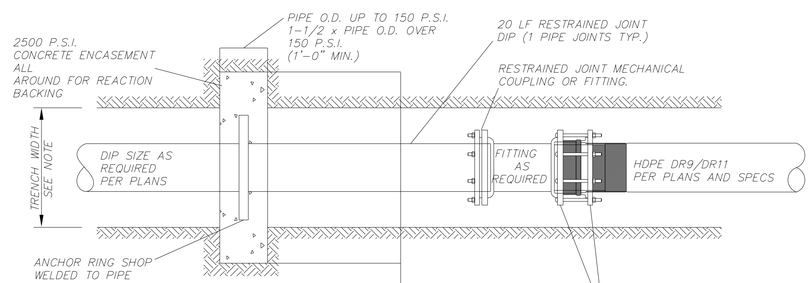

ANCHOR RING DIMENSIONS		
NOMINAL PIPE SIZE	O.D. OF RINGS	THICKNESS
4" – 12"	PIPE O.D. + 6"	1/2"
16" – 24"	PIPE O.D. + 7"	3/4"
30" & 36"	PIPE O.D. + 8"	1"

TYPICAL DIP TO HDPE TRANSITION DETAIL WITH THRUST COLLAR

NTS

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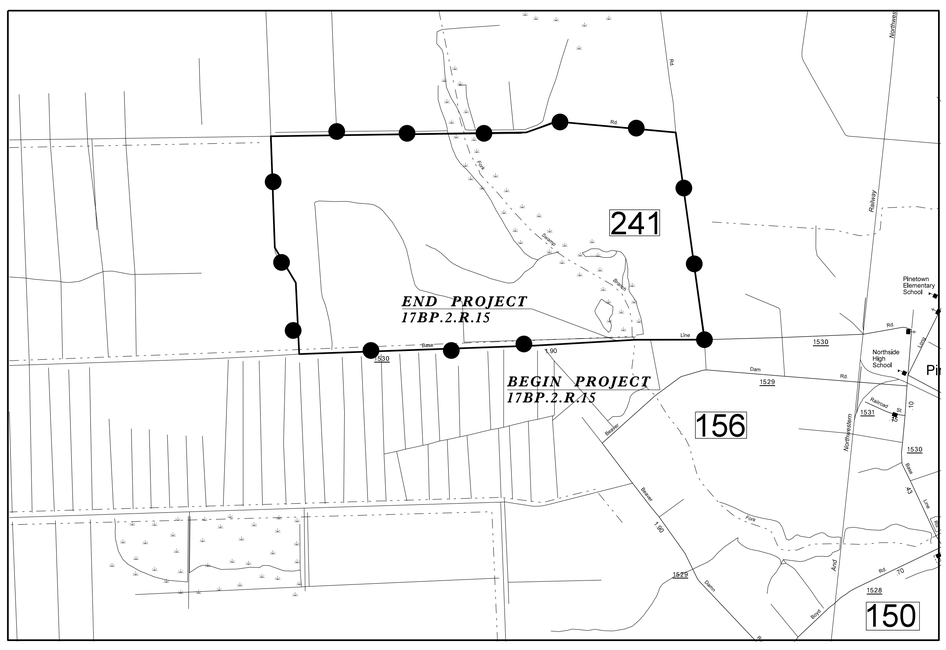
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BEAUFORT COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP & INDEX OF SHEETS; LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS & LEGEND
TMP-2	PROJECT NOTES, DETOUR AND PLANS.

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUM

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. DIVISION TWO DDC
P.O. BOX 1587
GREENVILLE, NC 27835
PHONE 252-439-2800

DWAYNE ALLIGOOD — TRAFFIC CONTROL PROJECT ENGINEER
LANG JONES — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
LANG JONES — TRAFFIC CONTROL DESIGN ENGINEER

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

APPROVED: Dwayne H. Alligood
DATE: 02/07/2013

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 16710 ENGINEER DWAYNE H. ALLIGOOD

SHEET NO.
TMP-1

17BP.2.R.15

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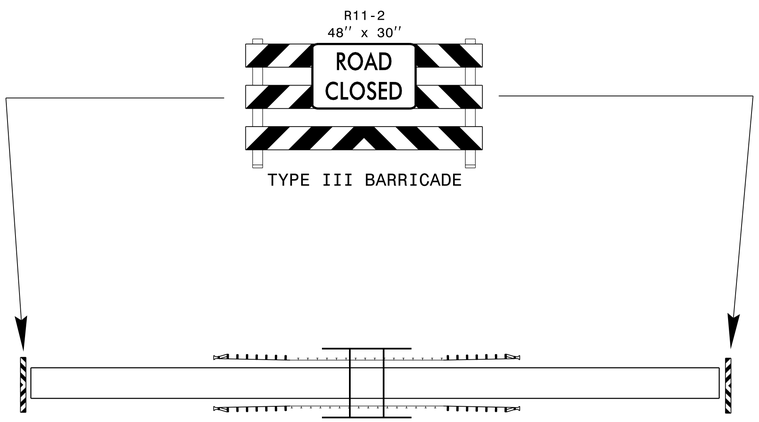
PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	TMP-2

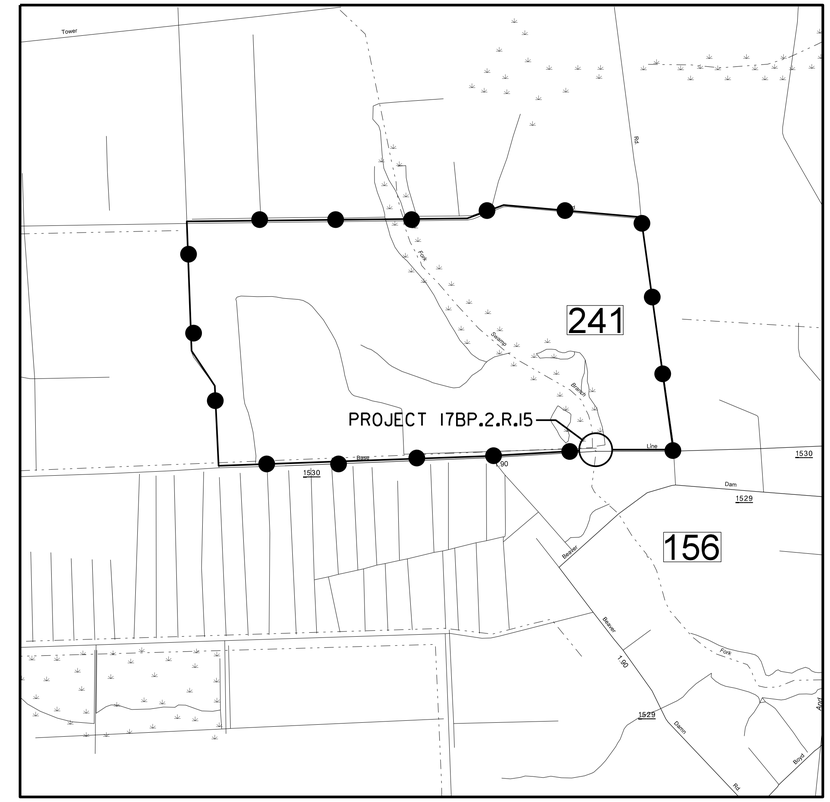
GENERAL NOTES

IMPLEMENT TRAFFIC CONTROL IN ACCORDANCE WITH THE ROADWAY STANDARD DRAWINGS LISTED ON TMP-1.

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

STATE FORCES WILL INSTALL AND MAINTAIN THE PROJECT DETOUR AND THE TYPE III BARRICADES AT THE PROJECT LIMITS.
STATE FORCES WILL INSTALL PAINT AND MARKERS ON THE FINISHED PROJECT.
CALL JIM EVANS AT 252-830-3493 FOR COORDINATION.

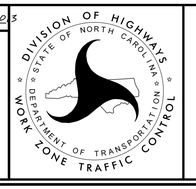




DETOUR ROUTE

APPROVED: Dwayne H. Allgood DATE: 02/07/2013

SEAL



PROJECT NOTES, DETOUR AND PLANS

REVISIONS

8/17/99

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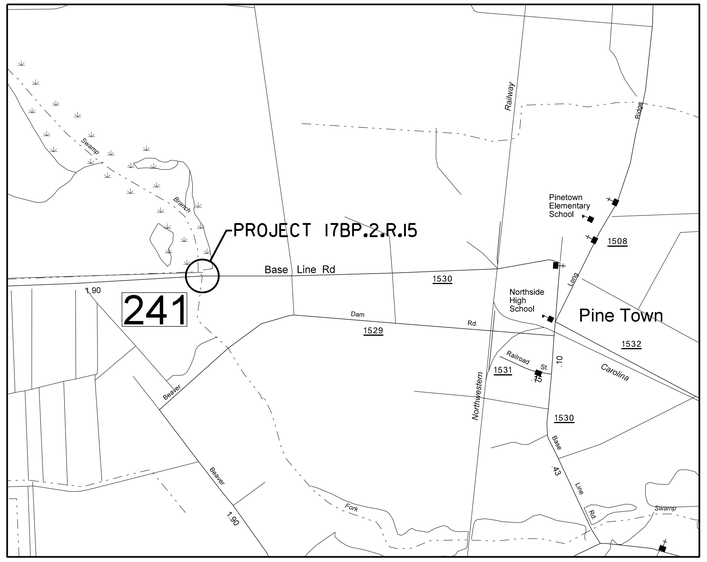
PROJECT: 17BP.2.R.15

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.15	EC-1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

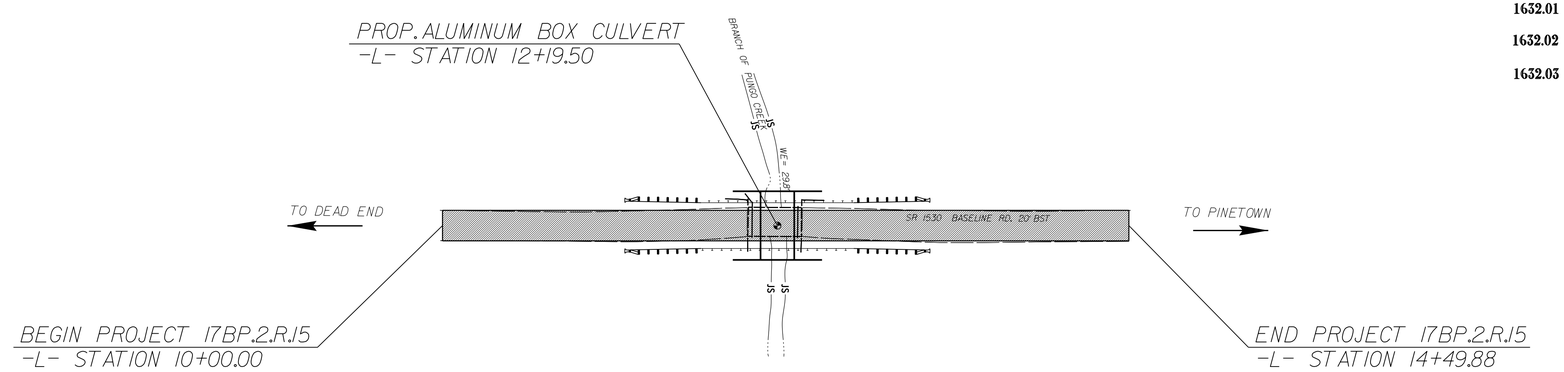


Vicinity Map

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
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	SW CFW
	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

15 0 30

PLANS

DIVISION TWO DDC UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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.

2012 STANDARD SPECIFICATIONS

Prepared in the Office of:

DIVISION 2 DDC

PO Box 1587
Greenville, NC 27835

Lang Jones, DDC Engineer
Level IIIA
Certification #274

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 revison 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		

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PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	EC2

SOIL STABILIZATION TIMEFRAMES

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

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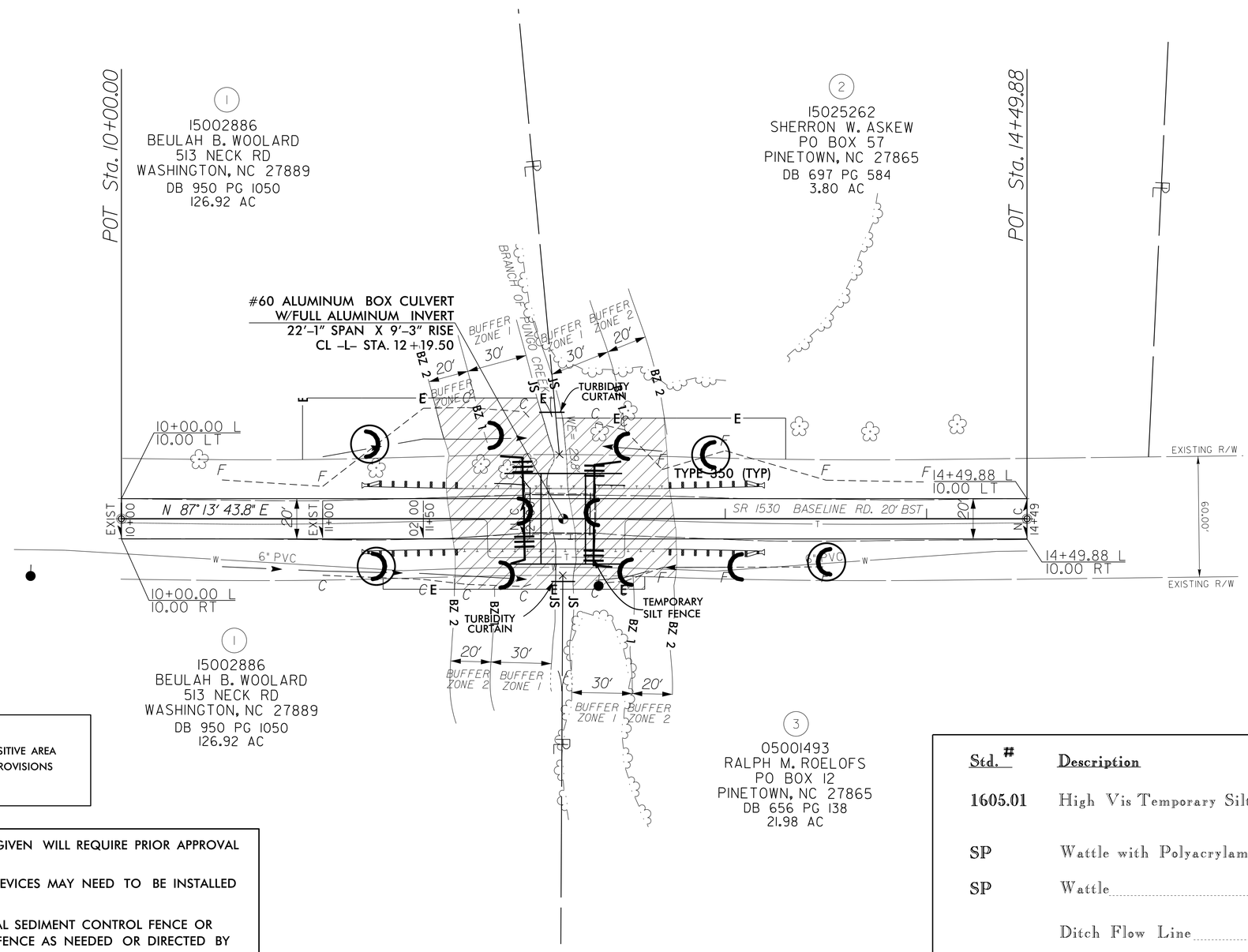
PLANS

NC GRID
NAD 83/NSRS 2007



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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.

CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE AS NEEDED OR DIRECTED BY THE ENGINEER.

Std. #	Description	Symbol
1605.01	High Vis Temporary Silt Fence	
SP	Wattle with Polyacrylamide	
SP	Wattle	
	Ditch Flow Line	

REVISIONS

8/17/99

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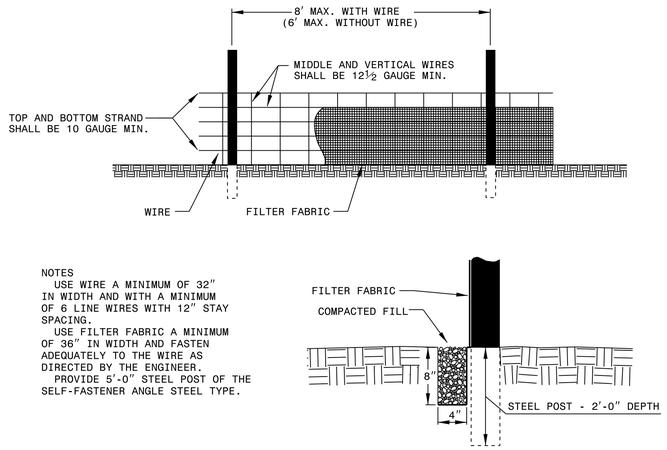
PROJECT REFERENCE NO.	SHEET NO.
17BP.2.R.15	EC-3

8/17/99

REVISIONS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY SILT FENCE



NOTES
USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
USE FILTER FABRIC A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

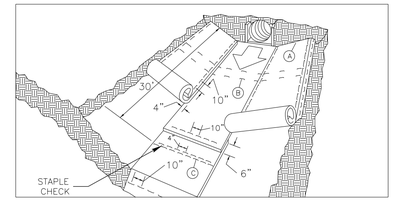
SHEET 1 OF 1
1605.01

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

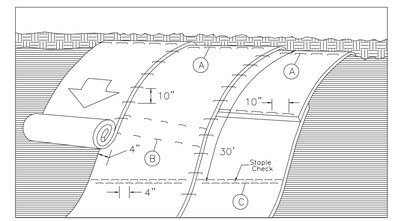
ENGLISH STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1
1605.01

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

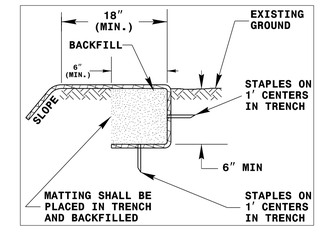


DIAGRAM (A)

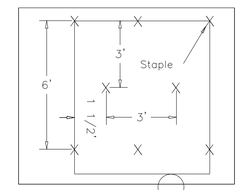


DIAGRAM (B)

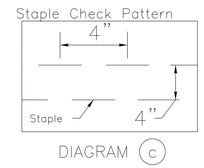


DIAGRAM (C)

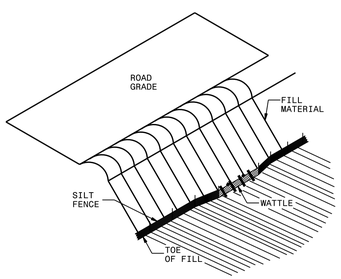
NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

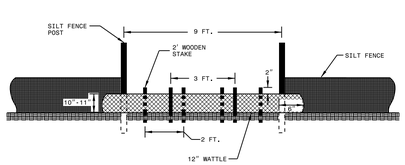
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

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

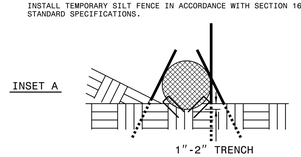
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

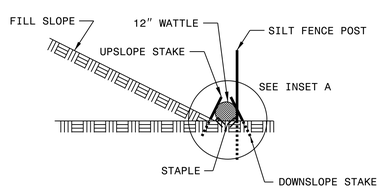
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

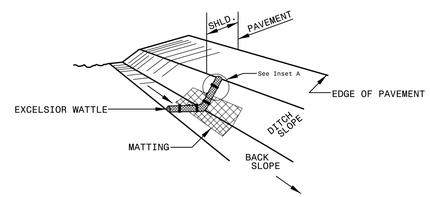




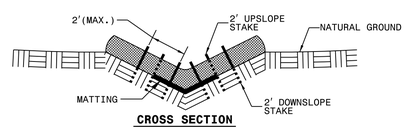
SIDE VIEW

NOT TO SCALE

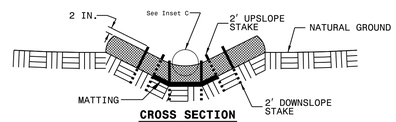
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

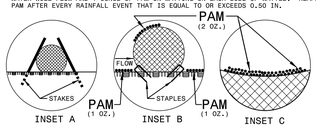
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

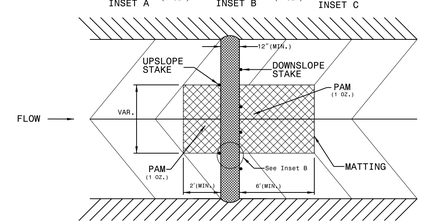
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.





TOP VIEW

NOT TO SCALE

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

CROSS-SECTION SUMMARY

IN CUBIC YARDS

LOCATION (-L-)	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT	STRUCTURE EXCAVATION
10+50.00	0	0	0	0
11+00.00	3	0	13	0
11+50.00	75	0	72	0
11+71.66	76	0	65	0
12+00.00	101	0	119	326
12+03.46	9	0	26	72
12+19.50	18	0	223	240
12+35.54	7	0	175	301
12+50.00	10	0	43	310
12+68.70	8	0	22	159
13+00.00	5	0	13	0
13+50.00	1	0	14	0
14+00.00	2	0	10	0

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

NOTE:
APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, UNCLASSIFIED STRUCTURE EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

Rev 3/6/01
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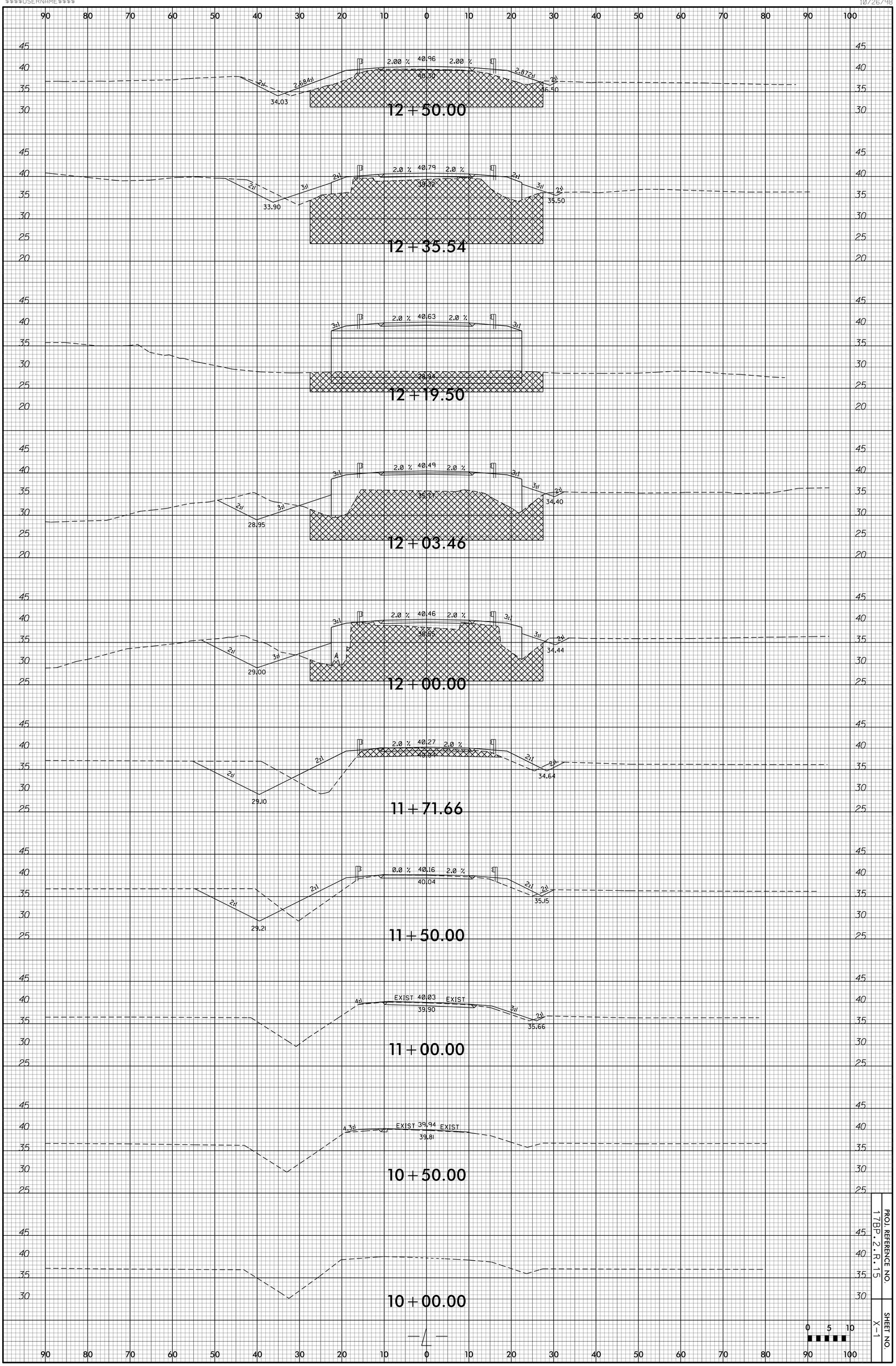
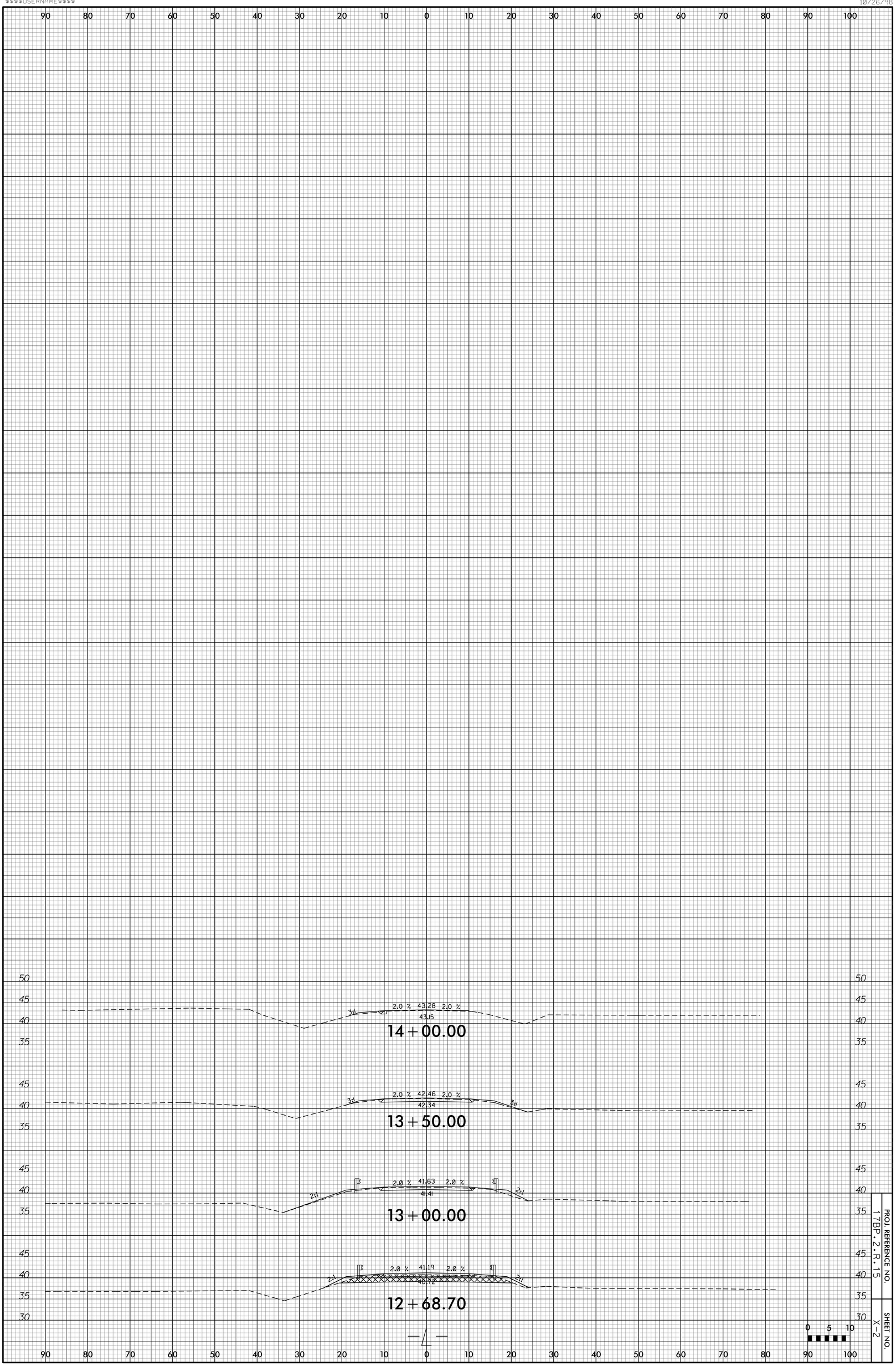


PROJ. REFERENCE NO.
17BP.2.R.15

SHEET NO.
X-1



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