

09/08/13

See Sheet I-A For Index of Sheets
See Sheet I-B For Symbology Sheet
See Sheet I-C For Survey Control

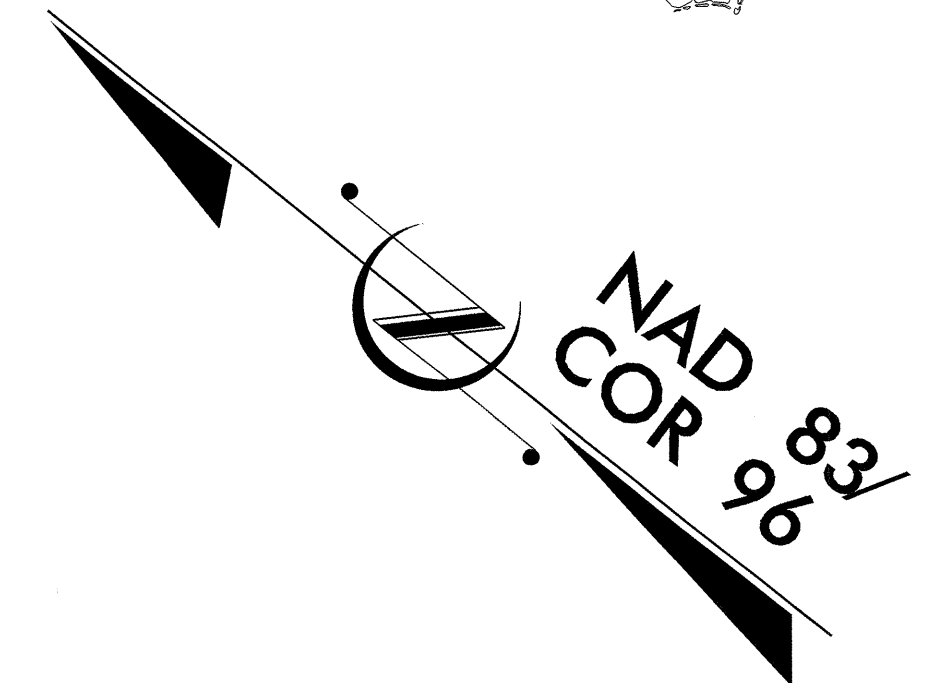
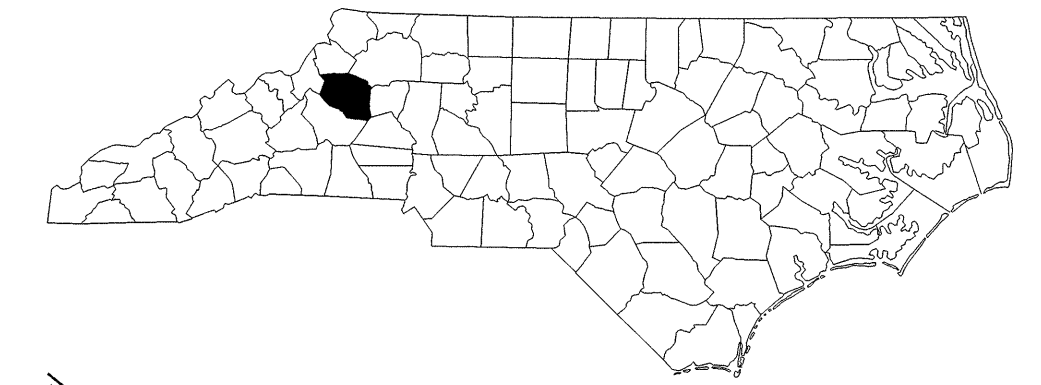
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CALDWELL COUNTY

LOCATION: BRIDGE NO. 6 OVER LITTLE GUNPOWDER CREEK
ON US 321A

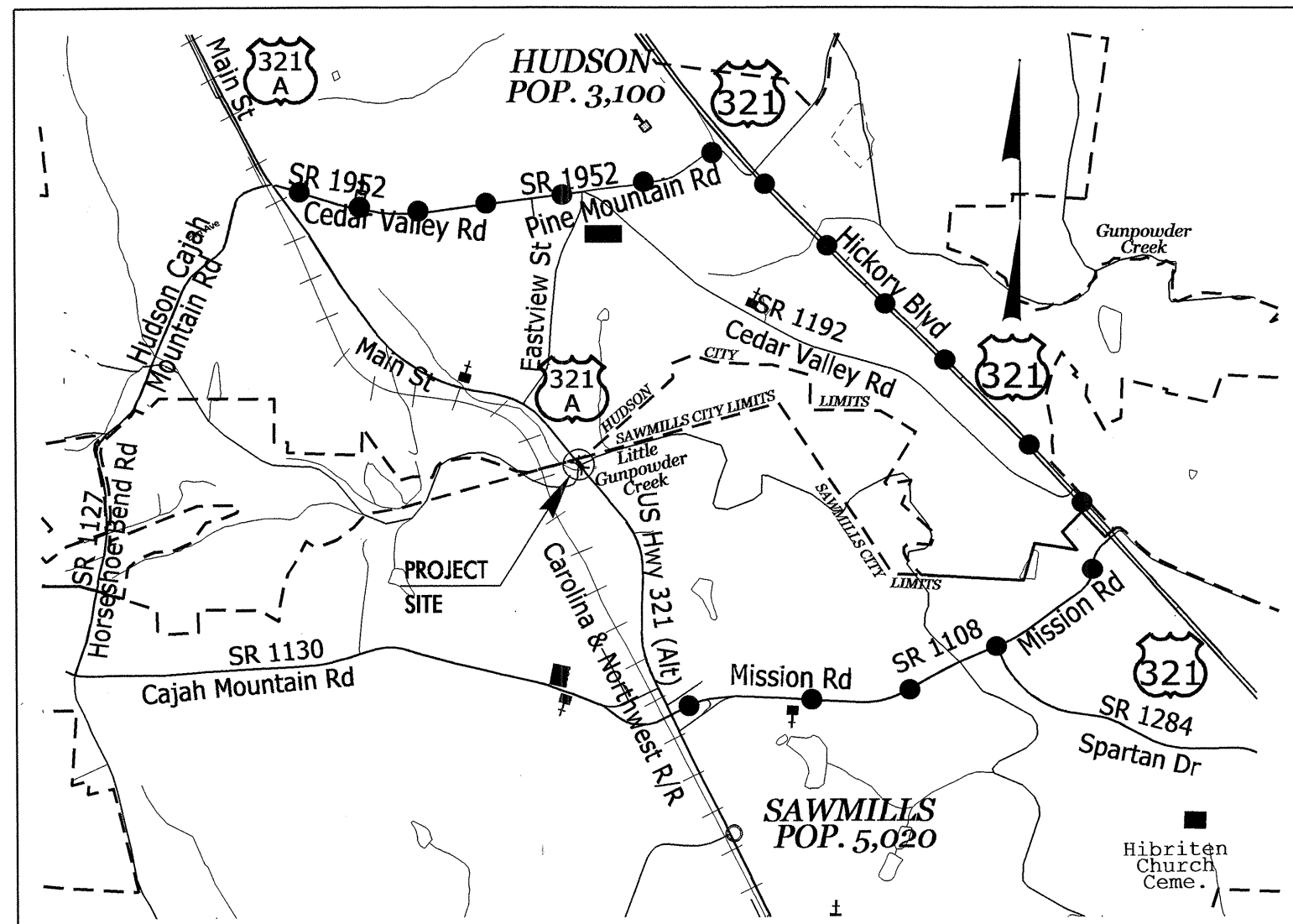
TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5138	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42299.1.1	BRSTP-321A(3)	P.E.	
42299.2.1	BRSTP-321A(3)	RW, UTIL	
42299.3.FRI	BRSTP-321A(3)	CONST.	



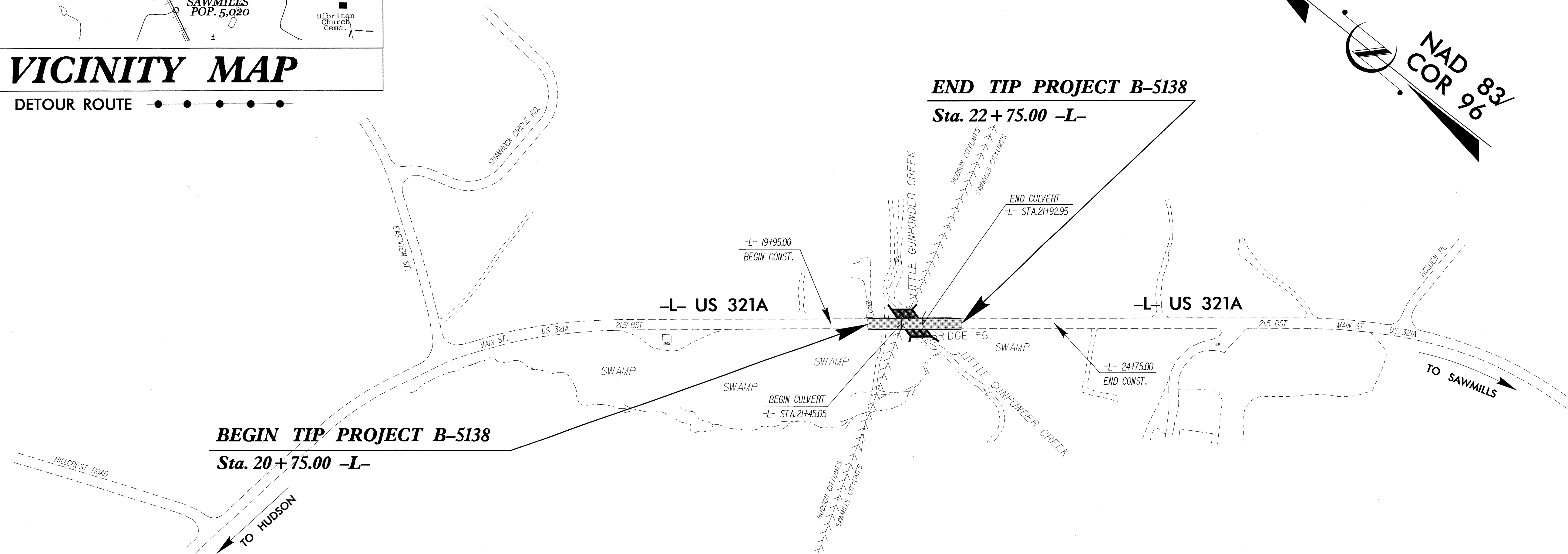
TIP PROJECT: B-5138

CONTRACT: C203301

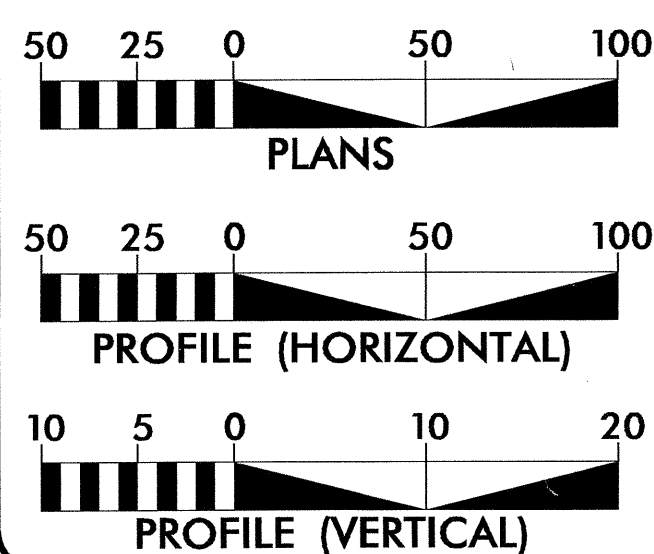


VICINITY MAP

DETOUR ROUTE



GRAPHIC SCALES



DESIGN DATA

ADT 2014 = 6,870 VPD
ADT 2035 = 8,000 VPD
K = 11 %
D = 55 %
T = 6 % *
V = 50 MPH
*(TTST = 2% + DUAL = 4%)
FUNC CLASS =
RURAL COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5138 = 0.029 MILE
LENGTH STRUCTURE TIP PROJECT B-5138 = 0.009 MILE
TOTAL LENGTH OF PROJECT B-5138 = 0.038 MILE

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 13, 2012

LETTING DATE:
JANUARY 21, 2014

JASON MOORE, PE
PROJECT ENGINEER

NYA K. BOAYUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

10.25.13

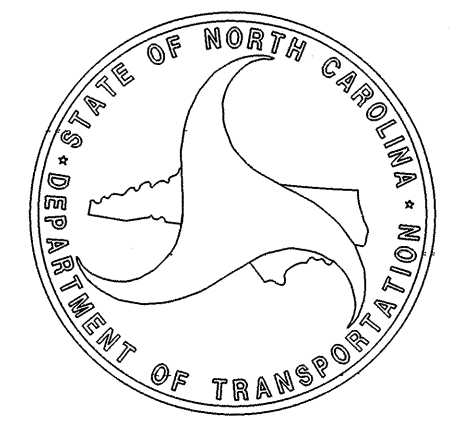
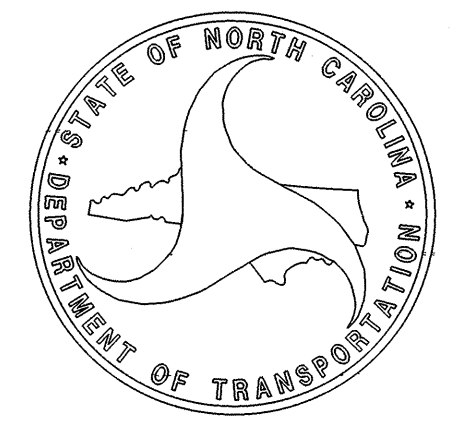
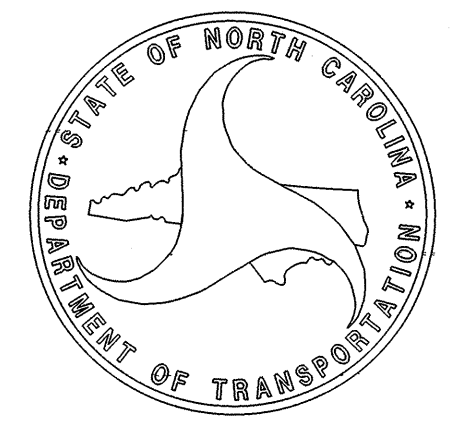
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ROADWAY DESIGN ENGINEER

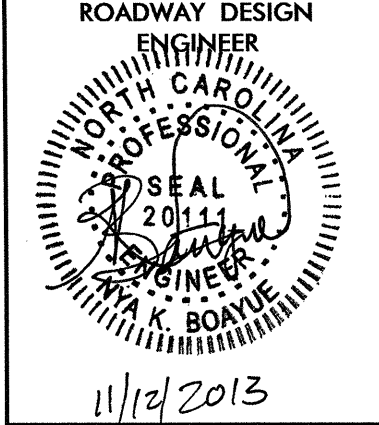
10/25/13

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P.E.



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



8/17/99

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3	SUMMARY OF QUANTITIES
3-A	PAVEMENT REMOVAL SUMMARY, SUMMARY OF AND EARTH WORK, SUMMARY OF DRAINAGE & GUARDRAIL SUMMARY
4	PLAN AND PROFILE
TMP-1 THRU TMP-2	TRAFFIC MANAGEMENT PLANS
PM-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-6	EROSION CONTROL PLANS
UC-1 THRU UC-4	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITY BY OTHERS PLANS
X-1 THRU X-7	CROSS-SECTIONS
C-1 THRU C-9	CULVERT PLANS

2012 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-17-2012
REV. 10-30-2012

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	
200.03	Method of Clearing - Method III
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 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels

GENERAL NOTES:

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

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.

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

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

UNDERDRAINS:
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

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

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 CITY OF LENOIR (WATER AND SEWER), DUKE ENERGY, CHARTER COMMUNICATION, AT&T, CENTURYLINK AND PIEDMONT NATURAL GAS.

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

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	⊠ ECM
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-

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	⊙
Proposed Right of Way Line with Iron Pin and Cap Marker	⊙
Proposed Right of Way Line with Concrete or Granite Marker	⊙
Existing Control of Access	⊙
Proposed Control of Access	⊙
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 Wheel Chair Ramp	⊙ WCR
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	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	⊙
Storm Sewer	-S-

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	-P-
Designated U/G Power Line (S.U.E.*)	-P-

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

TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊙
U/G TV Cable Hand Hole	⊙
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-

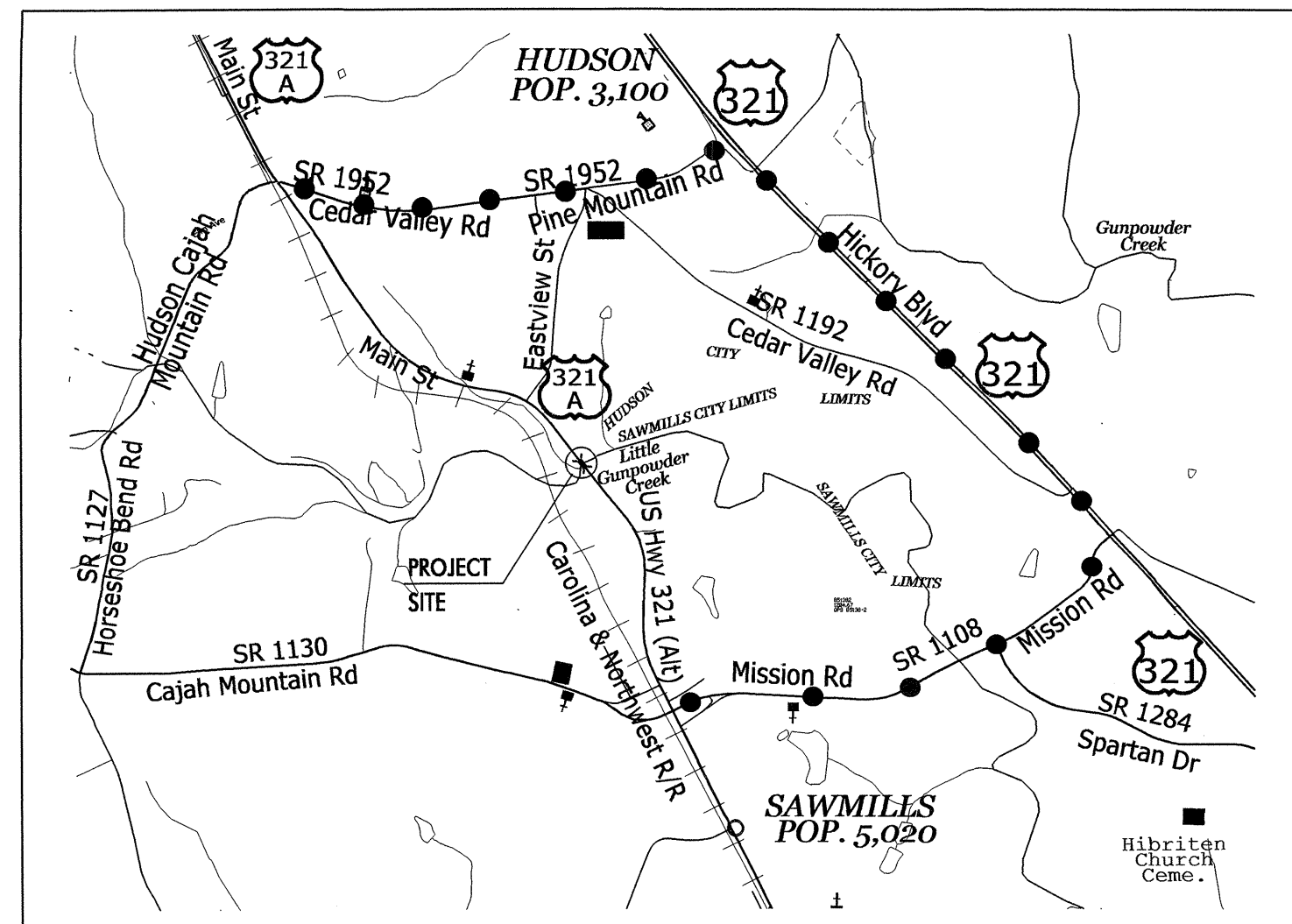
SANITARY SEWER:

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	⊠
Utility Unknown U/G Line	-ZUL-
U/G Tank; Water, Gas, Oil	⊠
AG Tank; Water, Gas, Oil	⊠
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-5138

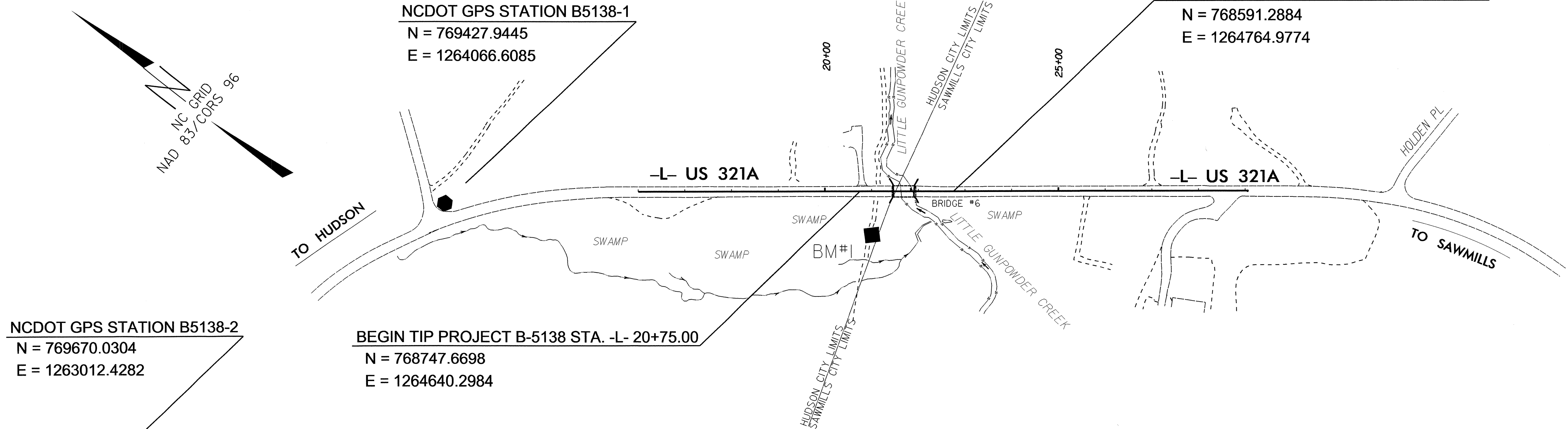


VICINITY MAP

DETOUR ROUTE ●●●●●●●●●●

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL51381	GPS B5138-1	769427.9445	1264066.6085	1167.85	OUTSIDE PROJECT LIMITS	
BL3	BL-3	768939.4790	1264451.5061	1160.93	18+07.33	28.05 RT
BL4	BL-4	768490.5195	1264865.4315	1152.69	24+16.41	15.73 LT
BL5	BL-5	768175.5162	1265128.9962	1177.26	28+27.02	25.44 LT

 BM1 ELEVATION = 1145.54
 N 768670. E 1264583.
 L STATION 21+00.00 93' RIGHT
 8" SPIKE IN ROOT OF 10" SYCAMORE TREE



NCDOT GPS STATION B5138-2
 N = 769670.0304
 E = 1263012.4282

BEGIN TIP PROJECT B-5138 STA. -L- 20+75.00
 N = 768747.6698
 E = 1264640.2984

NCDOT GPS STATION B5138-1
 N = 769427.9445
 E = 1264066.6085

END TIP PROJECT B-5138 STA. -L- 22+75.00
 N = 768591.2884
 E = 1264764.9774

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5138-1"

WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
 NORTHING: 769427.9445(±) EASTING: 1264066.6085(±)
 ELEVATION: 1167.85(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998734860
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5138-1" TO -L- STATION 20+75 IS
 S 40°08'30" E 889.88

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

- NOTES:**
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B5138_LS_CONTROL.TXT
 - SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 - INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET B-5138

L			
TYPE	STATION	NORTH	EAST
POT	16+00.00	769119.0758	1264344.1860
POT	29+05.01	768098.6763	1265157.7244

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	20+50.00	40.00	768742.2817	1264593.4373
L	20+50.00	20.00	768754.7496	1264609.0754
L	20+55.00	-20.00	768775.7759	1264643.4687
L	20+55.00	-30.00	768782.0098	1264651.2878
L	20+85.00	-30.00	768758.5526	1264669.9896
L	21+00.00	-50.00	768759.2919	1264694.9787
L	21+00.00	60.00	768690.7185	1264608.9689
L	21+00.00	-50.00	768759.2919	1264694.9787
L	22+50.00	-50.00	768642.0058	1264788.4879
L	22+75.00	60.00	768553.8847	1264718.0629
L	23+25.00	-40.00	768577.1288	1264827.4234
L	23+25.00	-20.00	768564.6609	1264811.7853
L	23+25.00	20.00	768539.7251	1264780.5090
L	23+25.00	40.00	768527.2572	1264764.8708

DATUM DESCRIPTION

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WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
 NORTHING: 769427.9445(ft) EASTING: 1264066.6085(ft)
 ELEVATION: 1167.85(ft)

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THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5138-1" TO -L- STATION 20+75 IS
 S 40°08'30" E 889.88

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

NOTES:

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[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B5138_LS_CONTROL.TXT
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- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

FINAL TABLES
 NOTE: DRAWING NOT TO SCALE

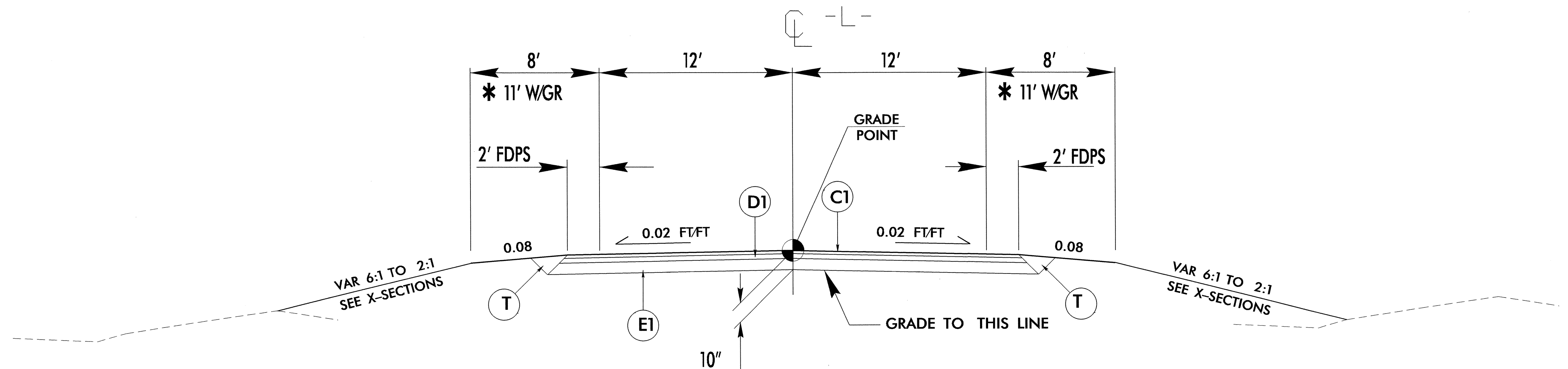
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8/2/09

PROJECT REFERENCE NO. B-5138	SHEET NO. 2
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

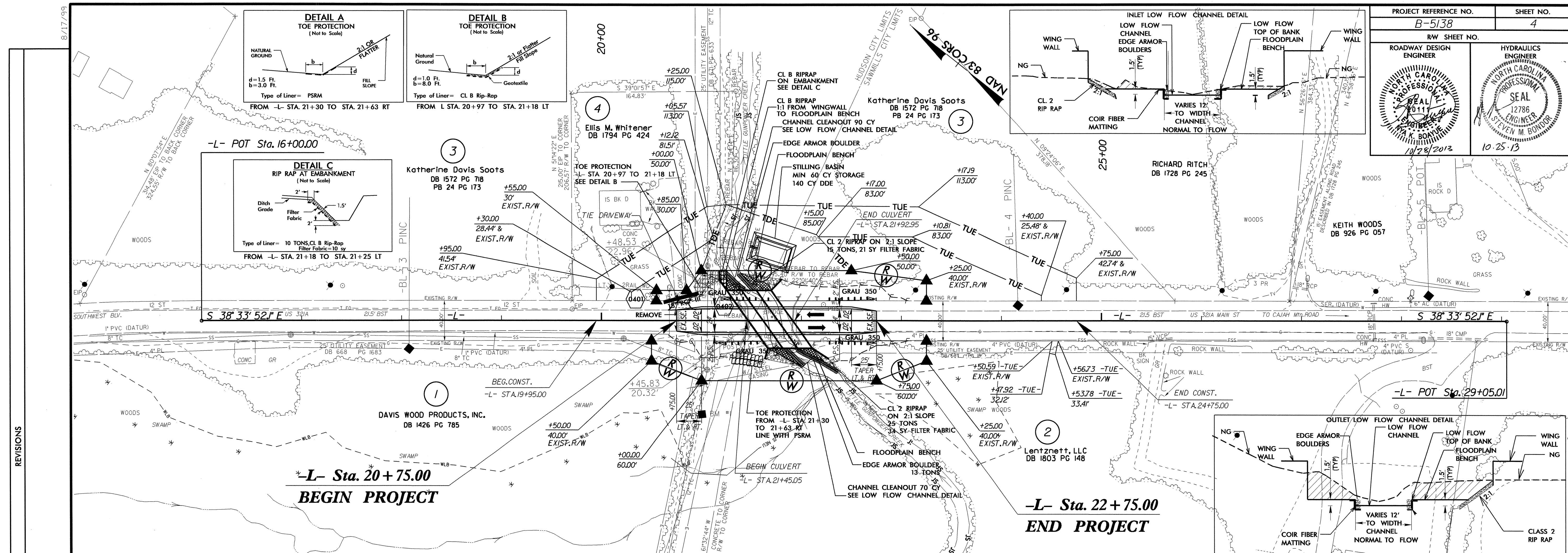


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 20+75.00 TO 22+75.00

* NOTE: SHOULDER CONSTRUCTION FOR GUARDRAIL PLACEMENT
-L- STA. 21+20.00 TO 22+75.00 (LT)
-L- STA. 21+15.00 TO 22+75.00

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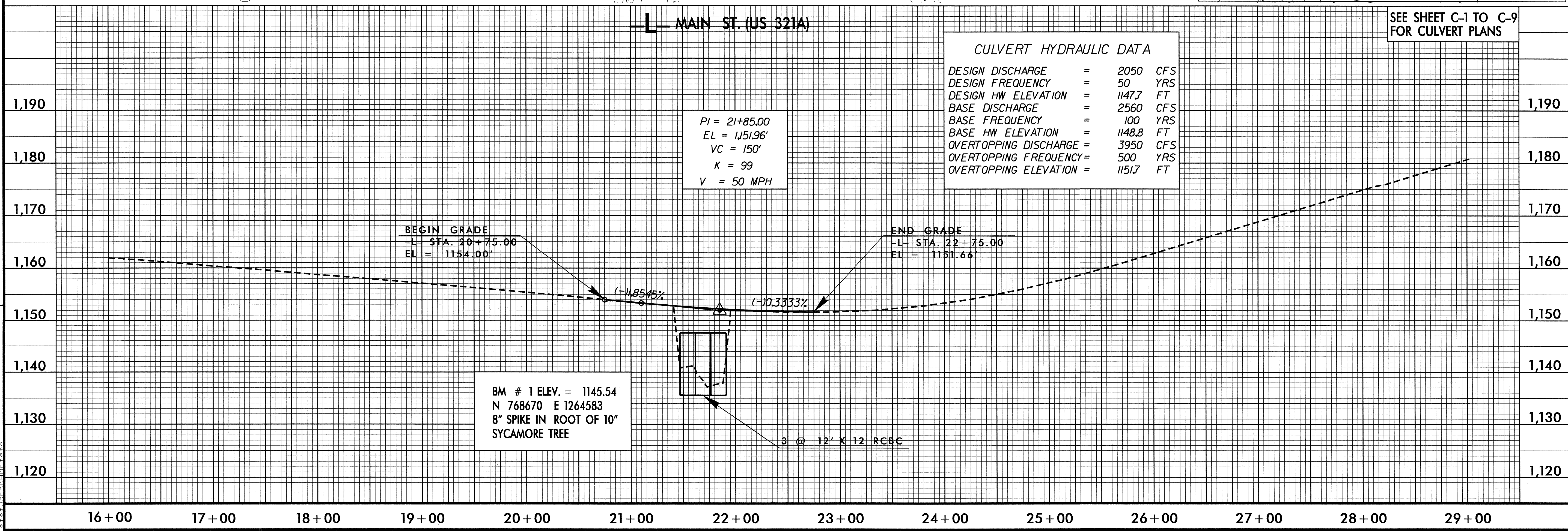
REVISIONS

-L- MAIN ST. (US 321A)

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	2050	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	1147.7	FT
BASE DISCHARGE	=	2560	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1148.8	FT
OVERTOPPING DISCHARGE	=	3950	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	1151.7	FT

SEE SHEET C-1 TO C-9 FOR CULVERT PLANS



PI = 21+85.00
EL = 1,151.96'
VC = 150'
K = 99
V = 50 MPH

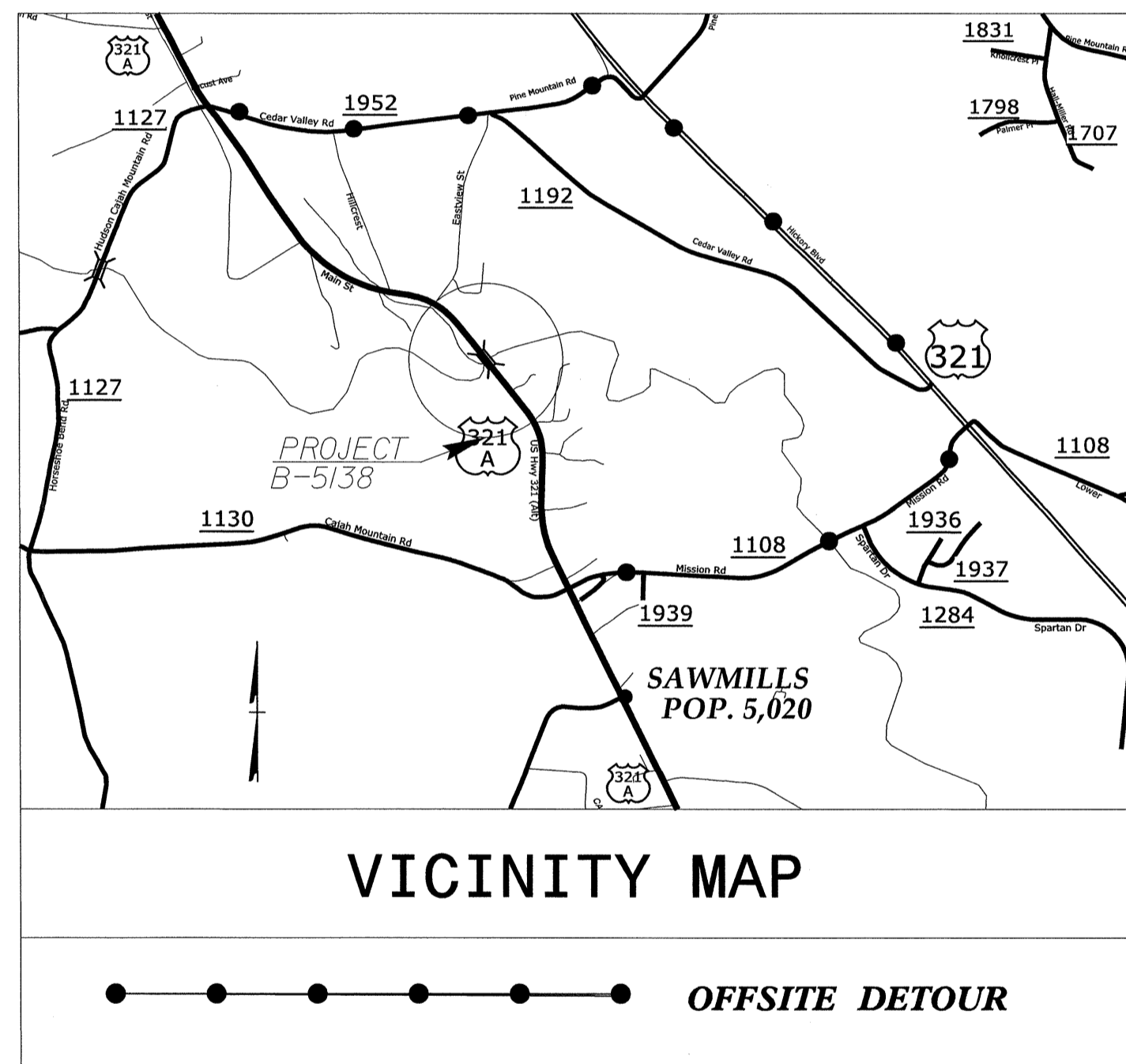
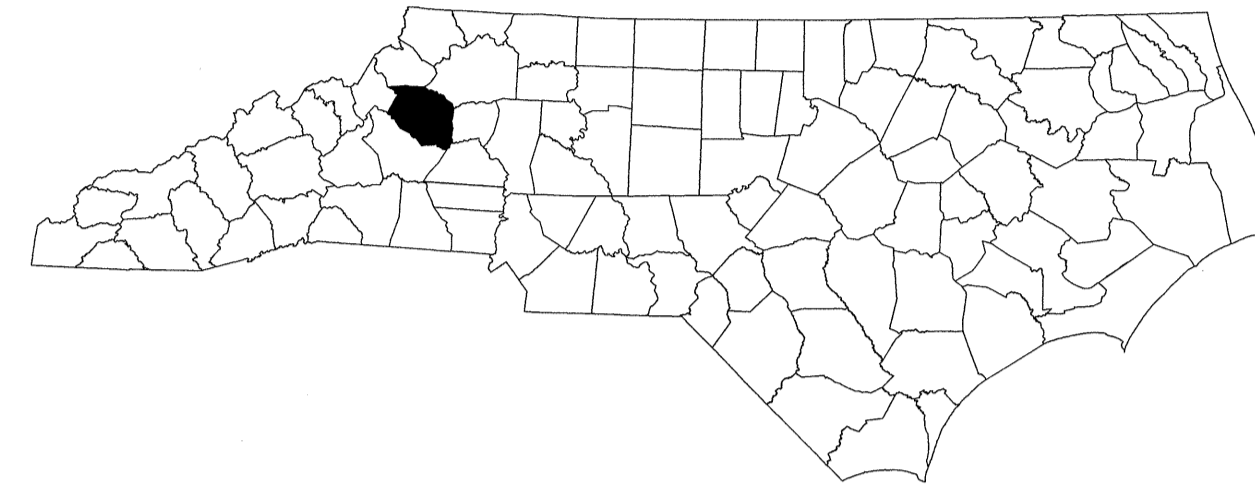
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N 768670 E 1264583
8" SPIKE IN ROOT OF 10" SYCAMORE TREE

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CALDWELL COUNTY



LOCATION: BRIDGE NO. 6 OVER LITTLE GUNPOWDER CREEK

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET; INDEX OF SHEETS; APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1A	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND PHASING)
TMP-2	TEMPORARY TRAFFIC CONTROL DETAIL

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1180.01	SKINNY - DRUM
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

NORTH ARROW

TRAFFIC CONTROL DEVICES

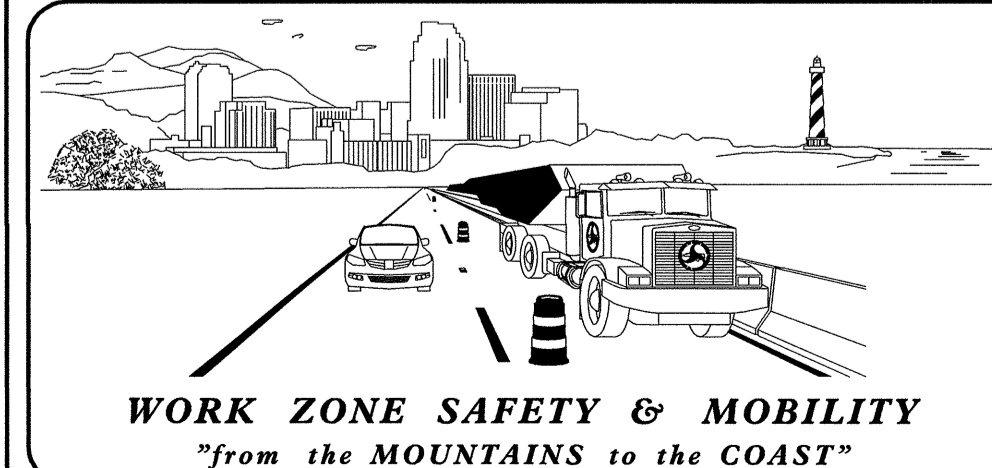
BARRICADE (TYPE III)

CONE

DRUM SKINNY DRUM TUBULAR MARKER

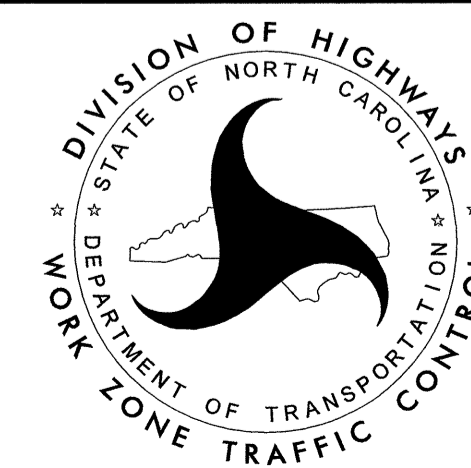
TEMPORARY SIGNING

STATIONARY SIGN



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
G. L. GETTIER, P.E. TRAFFIC CONTROL PROJECT ENGINEER
J. W. WOOLARD, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
D. D. KLEIN TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: _____
DATE: 10/14/13

SEAL

10/14/2013 P:\TIP\Projects-B\B5138-TrafficControl\TCP\B-5138-TC-TMP-01.dgn User:Jwoolard

B-5138
TIP PROJECT:

GENERAL NOTES

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

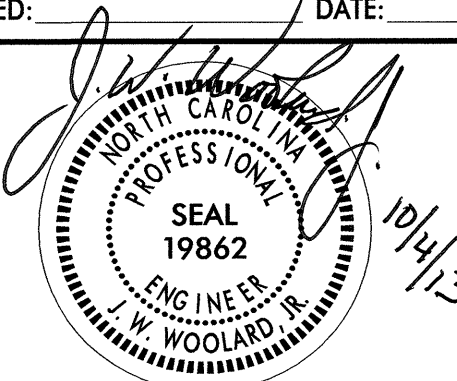
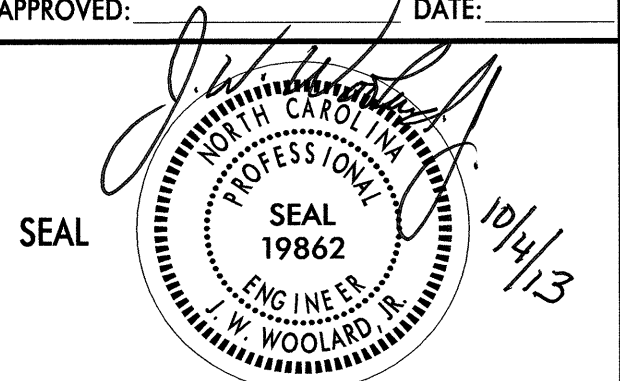
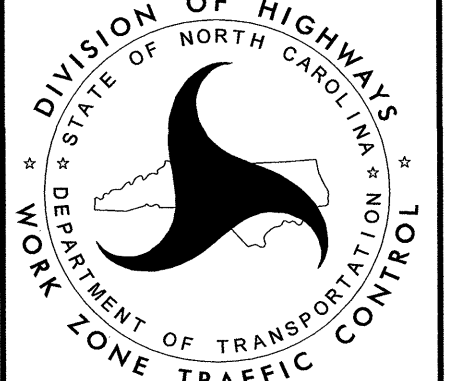
- G) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

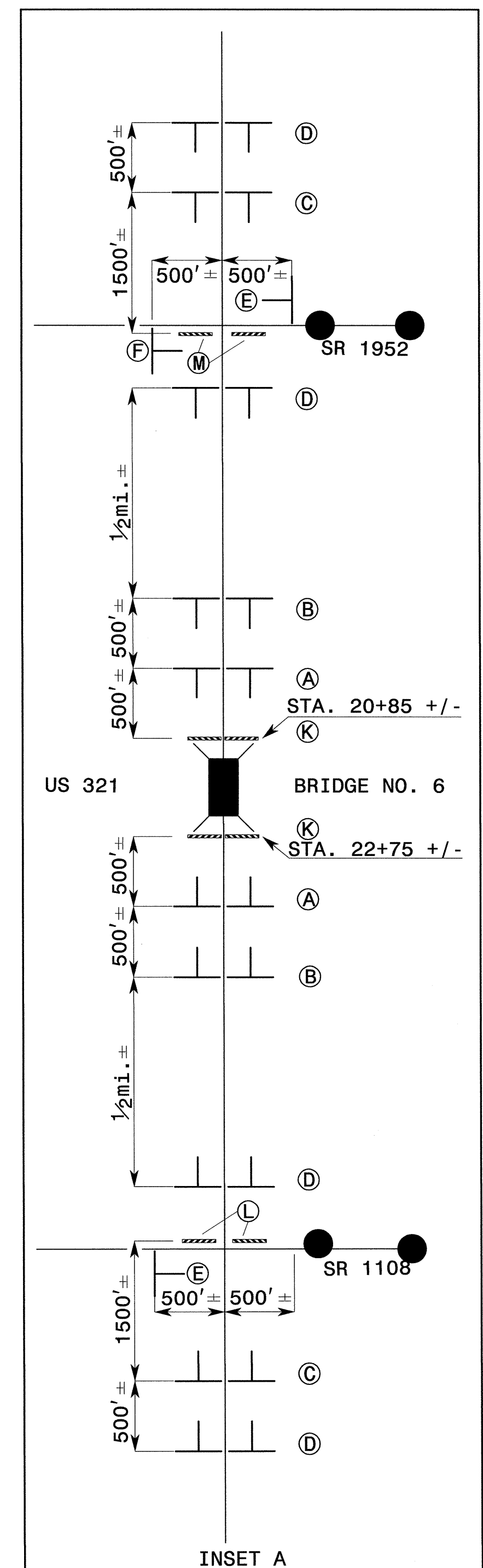
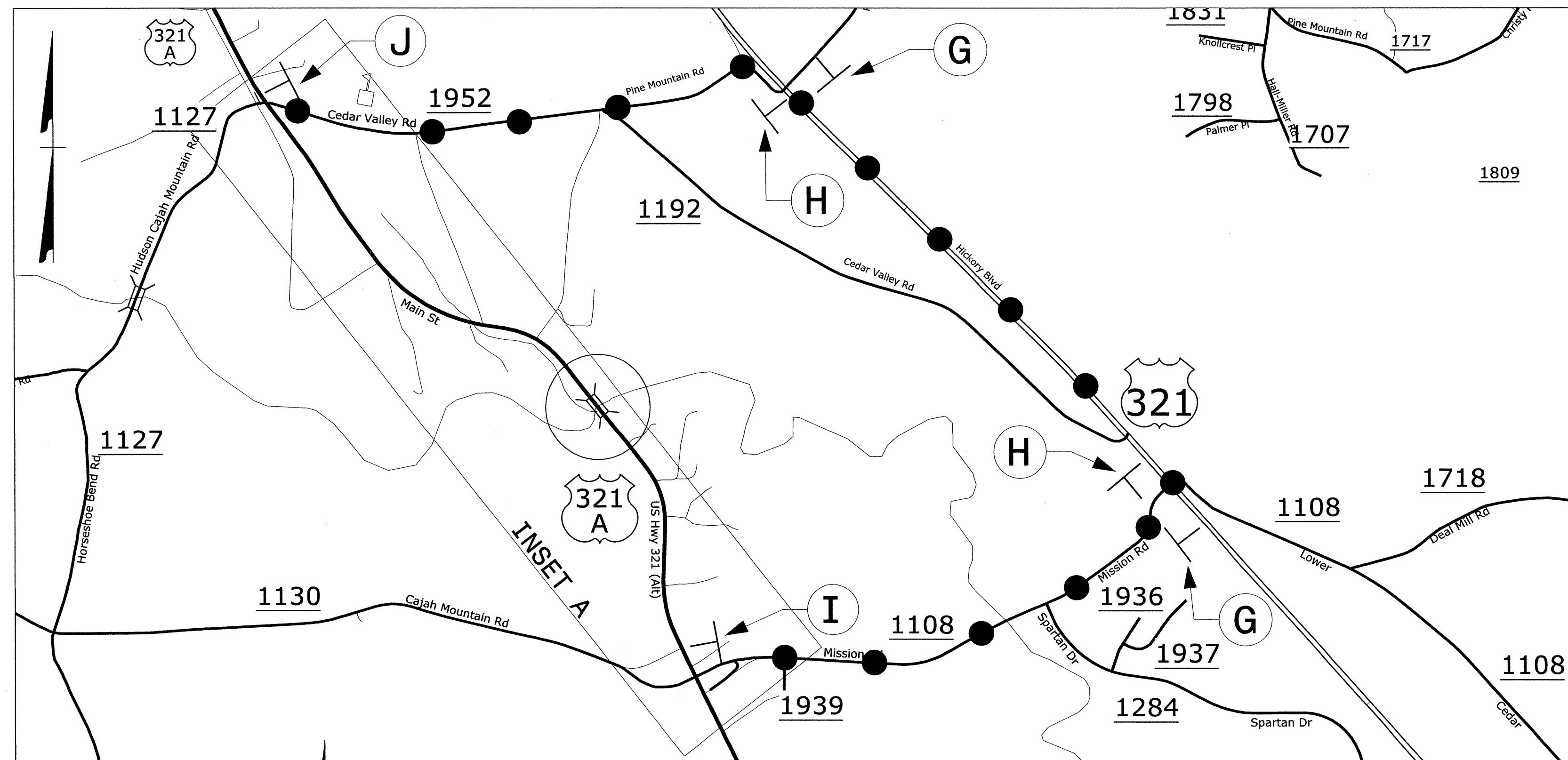
PHASING

- STEP 1) INSTALL ALL OFFSITE DETOUR SIGNS AS SHOWN ON TMP-02 AND ROAD CLOSURE SIGNING AS SHOWN ON TMP-02 NO MORE THAN 3 DAYS PRIOR TO ROAD CLOSURE. IF ROAD IS NOT CLOSED WITHIN THE SAME WORKING PERIOD AS SIGN INSTALLATION, COVER ALL SIGNING.
- STEP 2) UNCOVER SIGNING IF NEEDED. THEN USING TMP-02 DETOUR TRAFFIC OFFSITE AND CLOSE -L- (US 321A). BEHIND ROAD CLOSURE, CONSTRUCT -L-, INCLUDING NEW STRUCTURE, UP TO BUT NOT INCLUDING THE FINAL LIFT OF SURFACE COURSE.
- STEP 3) PLACE THE FINAL LIFT OF SURFACE COURSE, PAVEMENT MARKINGS, AND MARKERS (SEE PAVEMENT MARKING PLAN).
- STEP 4) REMOVE ALL TRAFFIC CONTROL DEVICES, ROAD CLOSURE SIGNING, AND OPEN -L- TO TRAFFIC. REMOVE ALL OFFSITE DETOUR SIGNING.

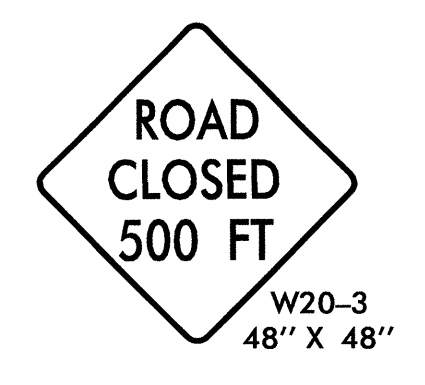
MANAGEMENT STRATEGIES

TRAFFIC WILL BE MAINTAINED OFFSITE DURING CONSTRUCTION.
TRAFFIC WILL FOLLOW SR 1952, US 321, AND SR 1108.

APPROVED:  DATE: 10/1/13		
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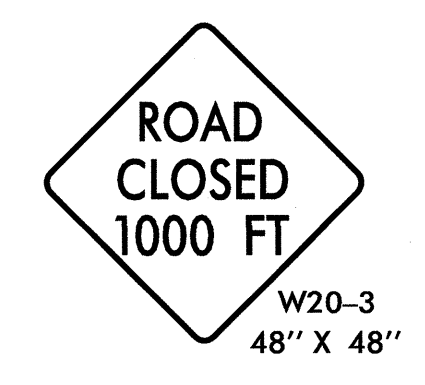
REFER TO ROADWAY STANDARD
DRAWING 1101.03, SHEET 1 OF 9
FOR APPLICABLE NOTES.



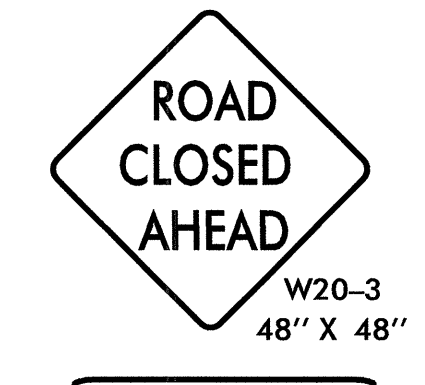
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(D)



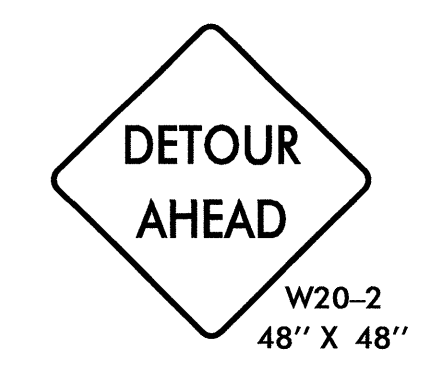
(B)



(E)



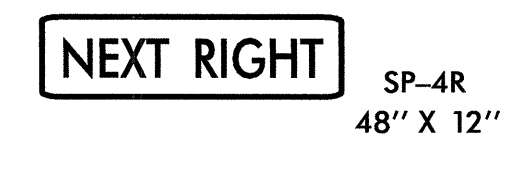
(F)



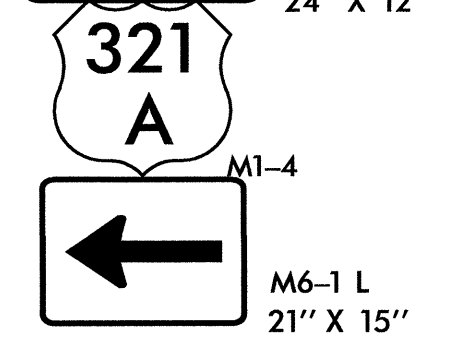
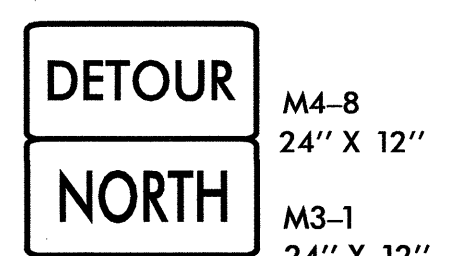
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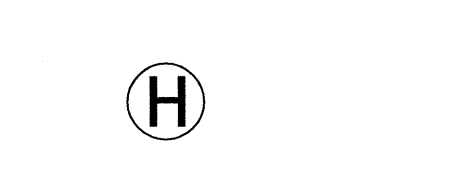
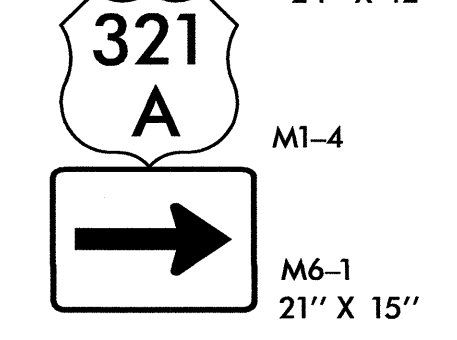
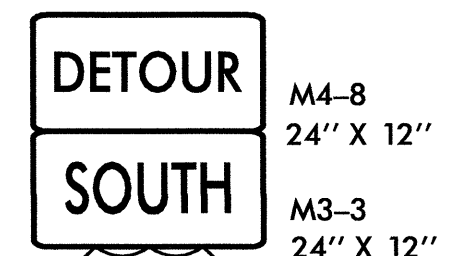
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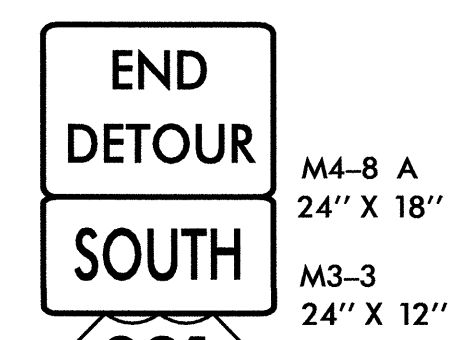
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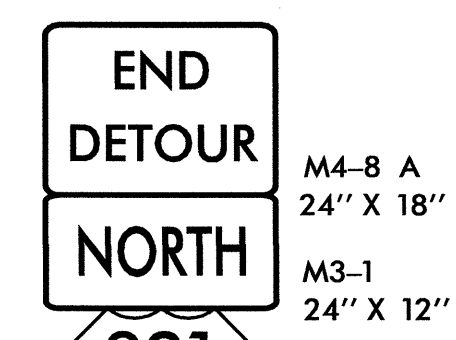
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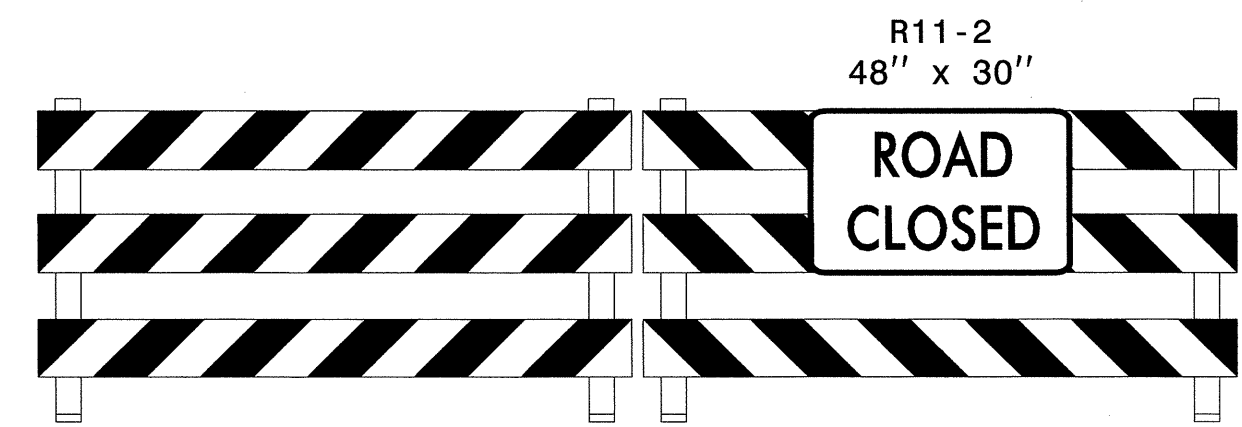
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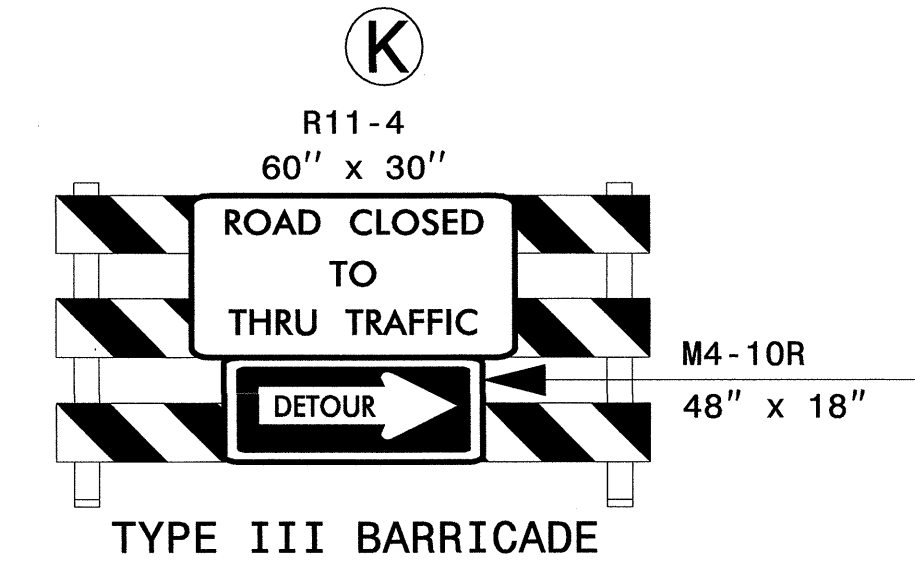
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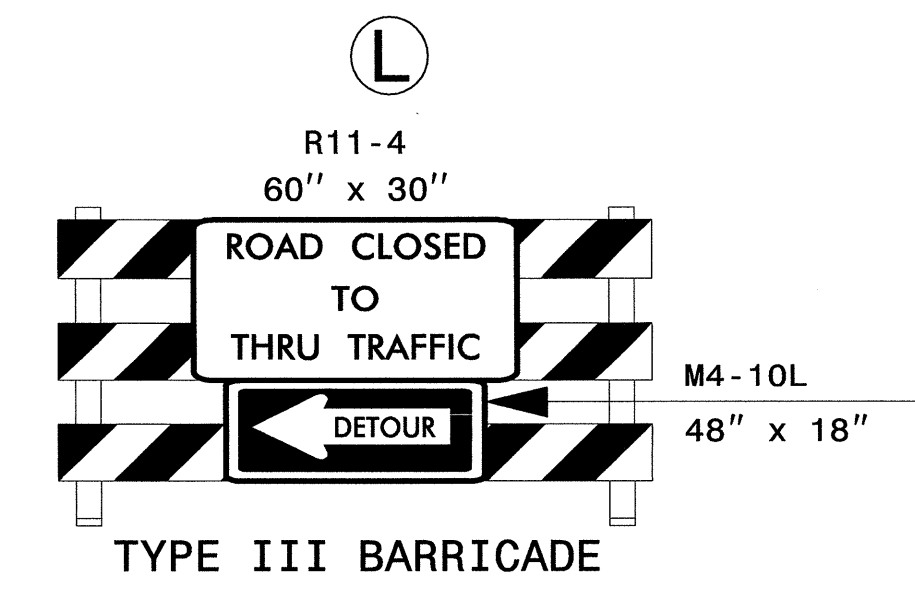
(J)



TYPE III BARRICADE (S)



TYPE III BARRICADE



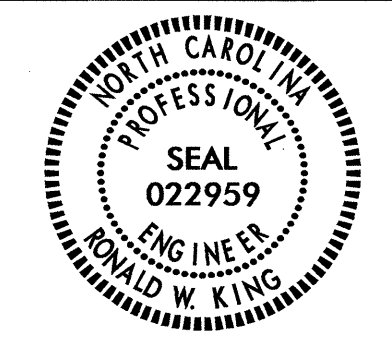
TYPE III BARRICADE

APPROVED: _____ DATE: _____

OFFSITE DETOUR

I:\4\2013\Projects-B\5138\TrafficControl\CPA\B-5138_TC_TMP_02.dgn
 User: jwoolard

TIP NO.	SHEET NO.
B-5138	PMP-1
APPROVED: <i>[Signature]</i>	
DATE: 10/21/13	
SEAL	



**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
CALDWELL COUNTY**

**LOCATION: BRIDGE NO.6 OVER LITTLE GUNPOWDER CREEK
AND APPROACHES ON US 321A**

T.I.P.: B-5138

CONTRACT: C203301

ROADWAY STANDARD DRAWING

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

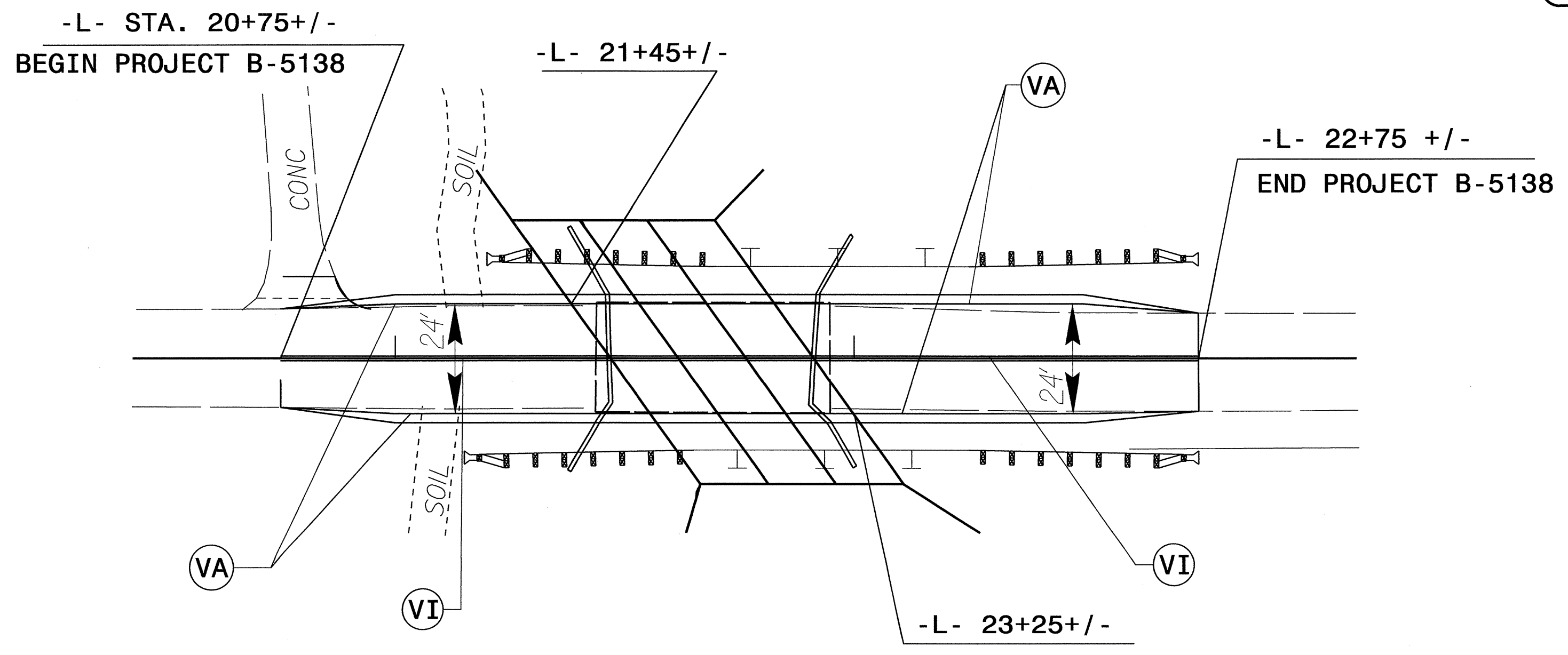
STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
US 321A	POLYUREA W/ HIGHLY REFLECTIVE ELEMENTS	SNOWPLOWABLE
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

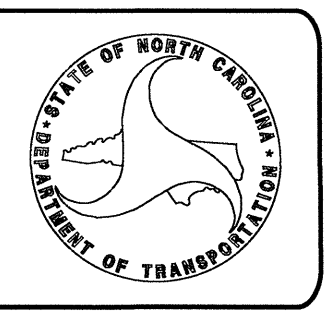


PAVEMENT MARKING SCHEDULE

FINAL PAVEMENT MARKINGS	
SYMBOL	DESCRIPTION
	POLYUREA (4")
VA	WHITE EDGELINE
VI	YELLOW DOUBLE CENTER
PAVEMENT MARKERS	
ME	SNOWPLOWABLE

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

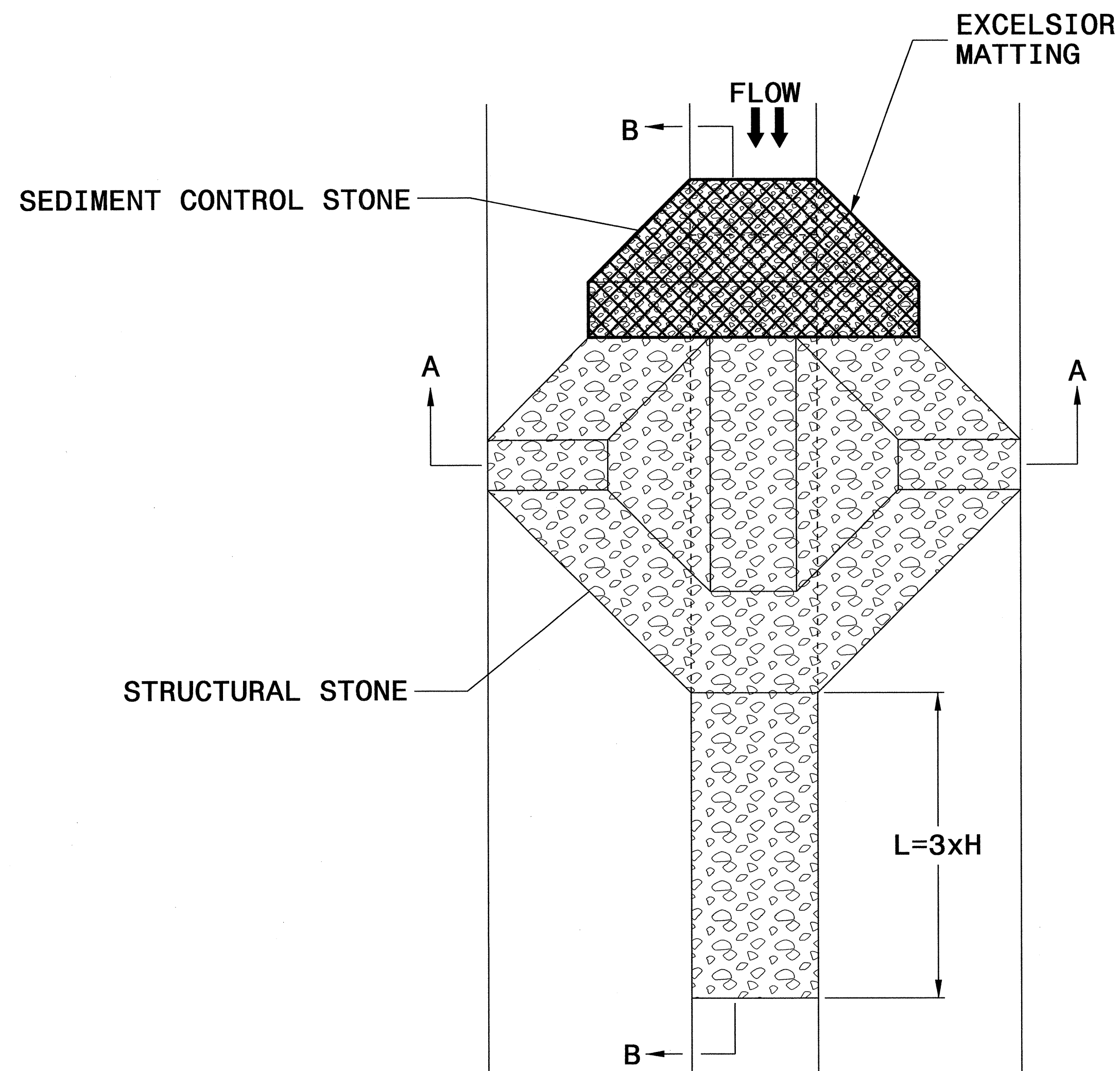
KELVIN JORDAN SIGNING & DELINEATION REGIONAL ENGINEER
J. NAVARRETE SIGNING & DELINEATION PROJECT DESIGN ENGINEER



02-OCT-2013 14:3 P:\TIP\Projects-B\B5138\Traffic\Signing\CADD\Signing Layout\Plans\B-5138_Sgn_BPMP.dgn jnavarrete HI 1E273503

PROJECT REFERENCE NO. B-5138	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



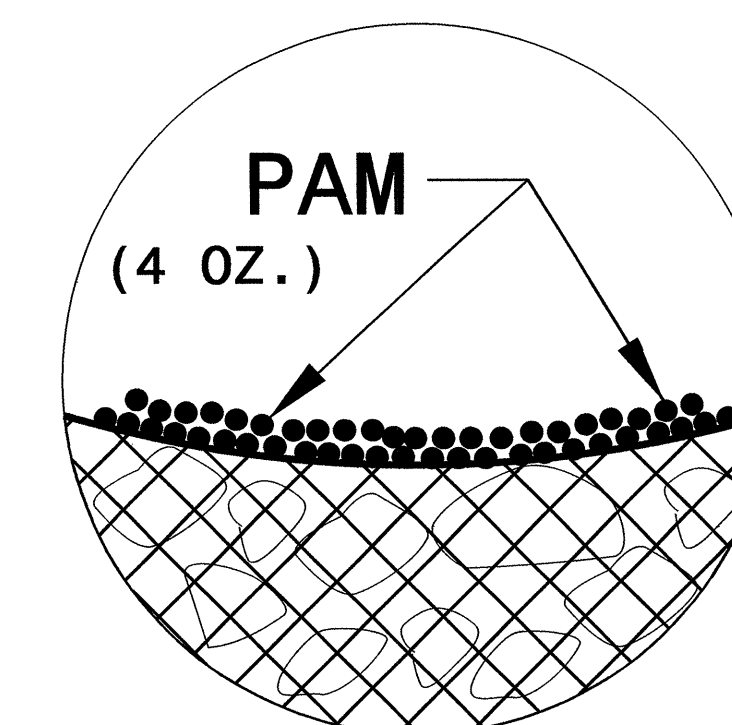
PLAN

NOTES

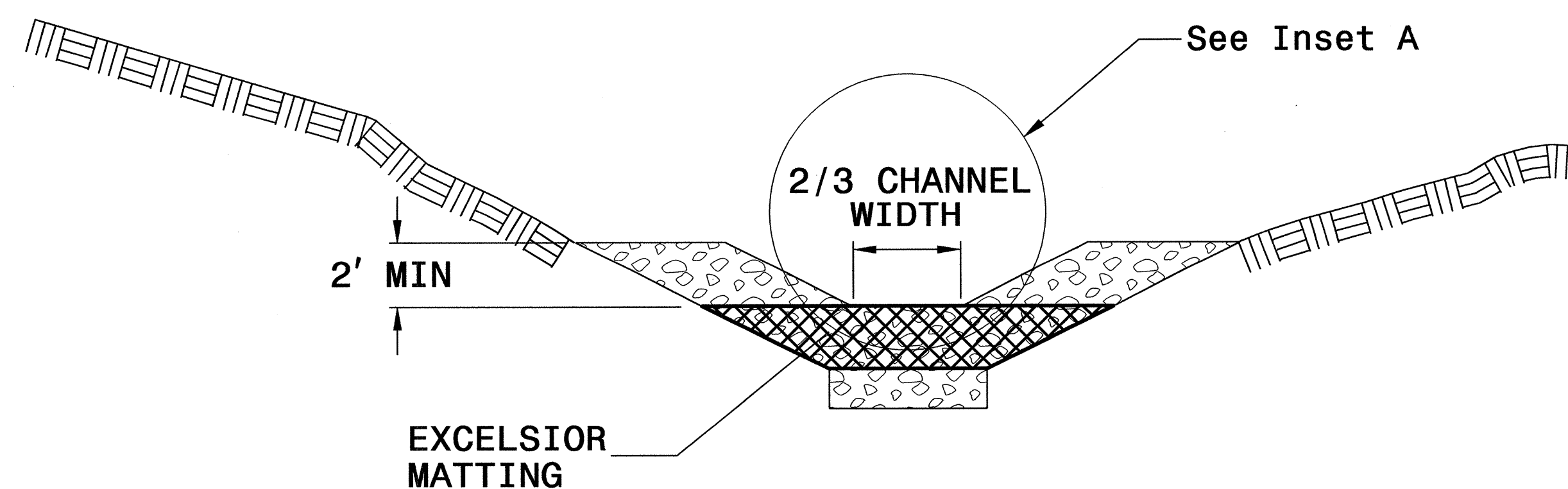
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

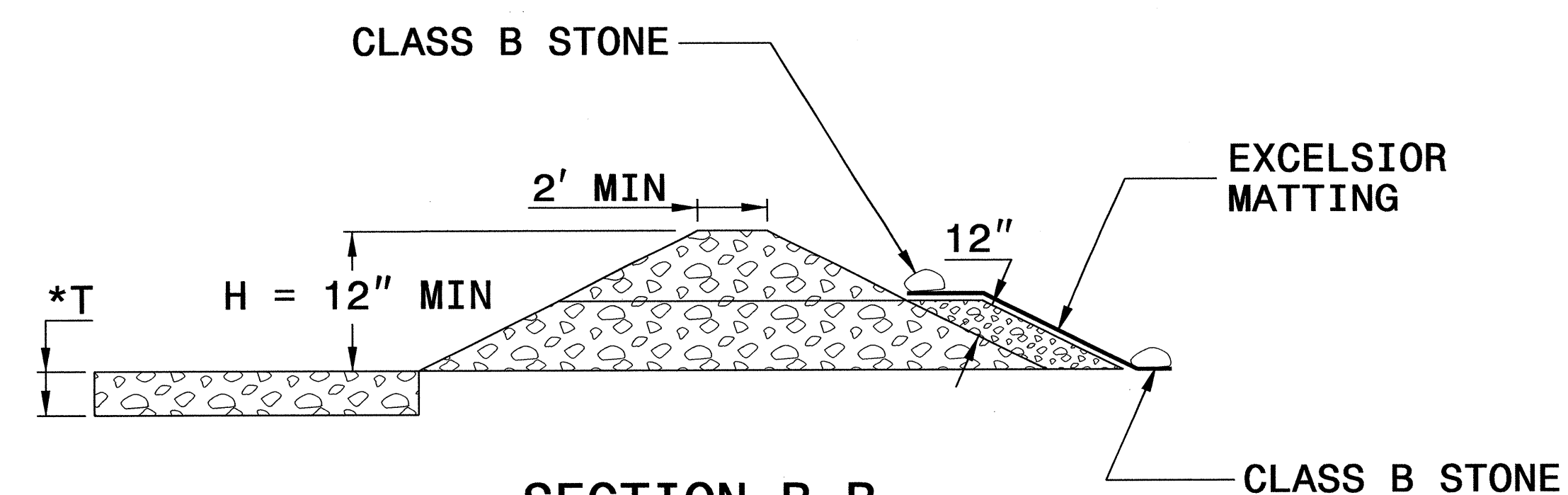
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

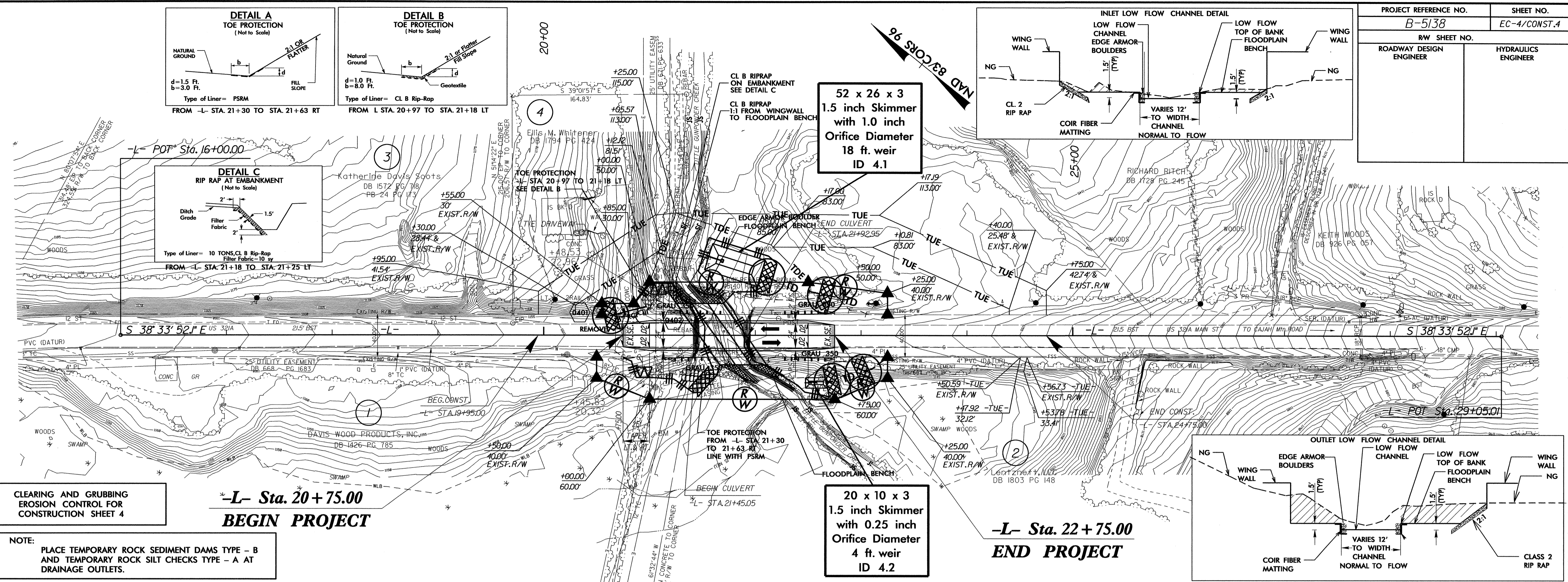
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-5138</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.
B-5138	EC-4/CONST.4
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

-L- Sta. 20+75.00
BEGIN PROJECT

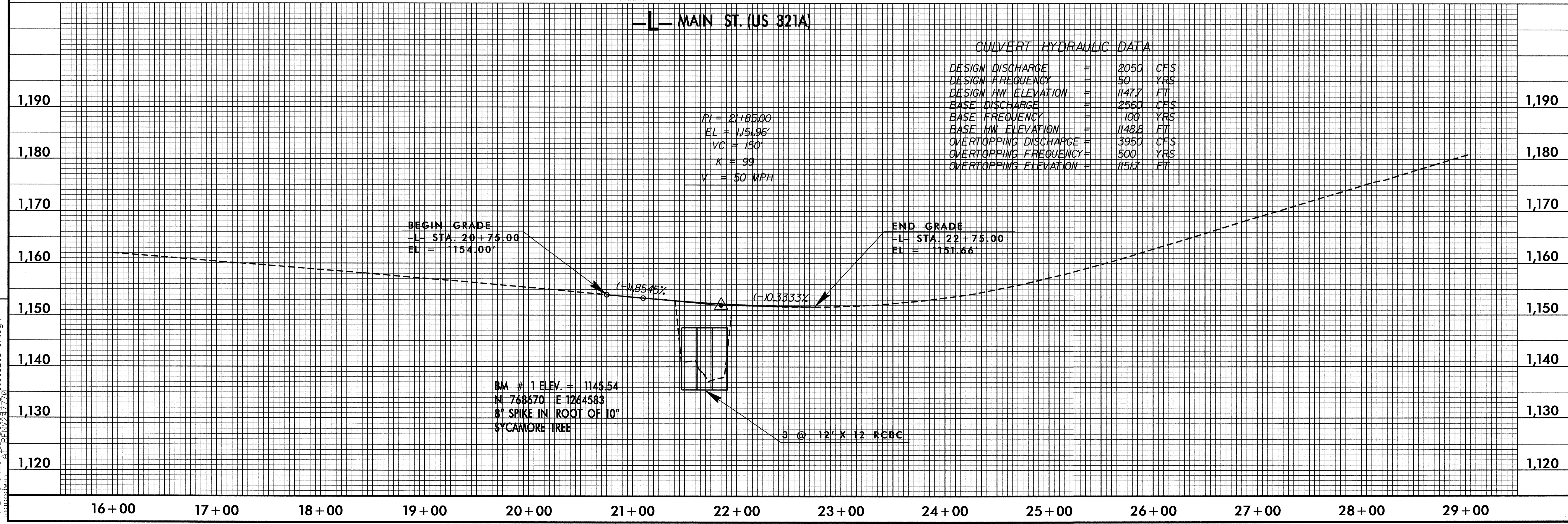
-L- Sta. 22+75.00
END PROJECT

-L- MAIN ST. (US 321A)

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	2050	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	1147.7	FT
BASE DISCHARGE	=	2560	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1148.8	FT
OVERTOPPING DISCHARGE	=	3950	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	1151.7	FT

PI = 21+85.00
EL = 1151.96'
VC = 150'
K = 99
V = 50 MPH



25-OCT-2013 14:27 D:\Projects\B-5138-EC.PSH.dgn
R:\Environment\B-5138-EC.PSH.dgn

REVISIONS

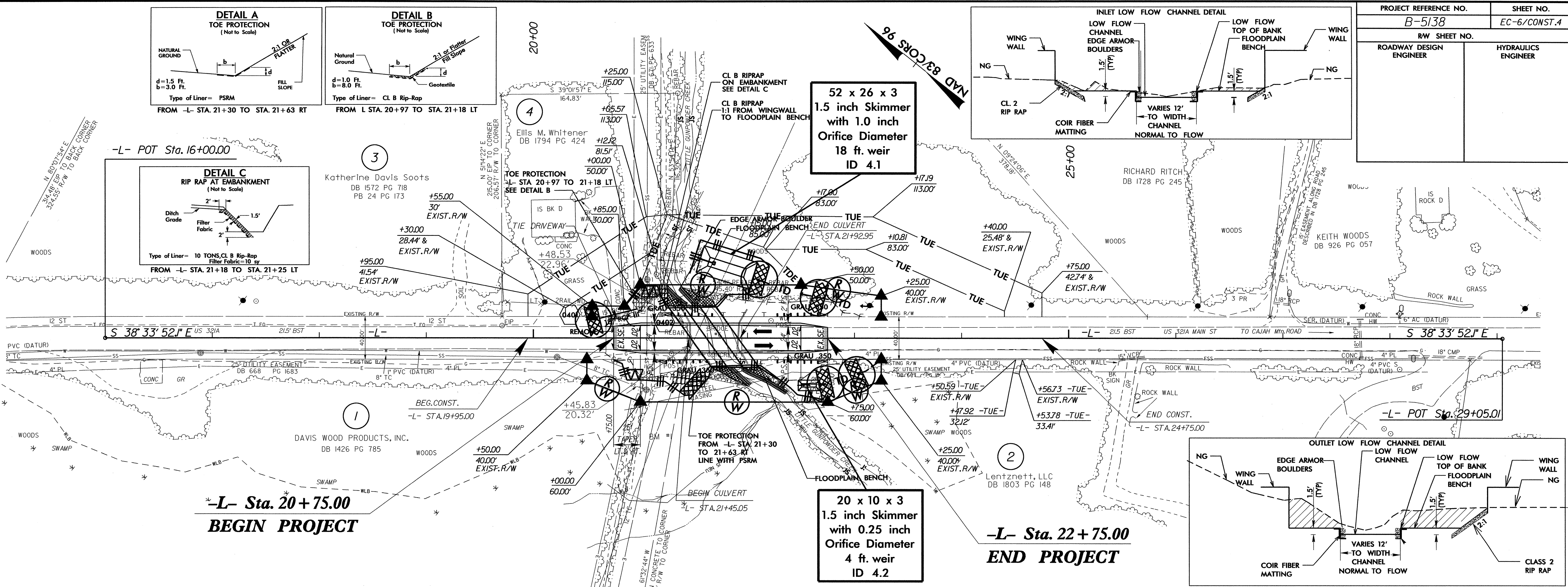
PROJECT REFERENCE NO. B-5138	SHEET NO. EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 26+69 -L-

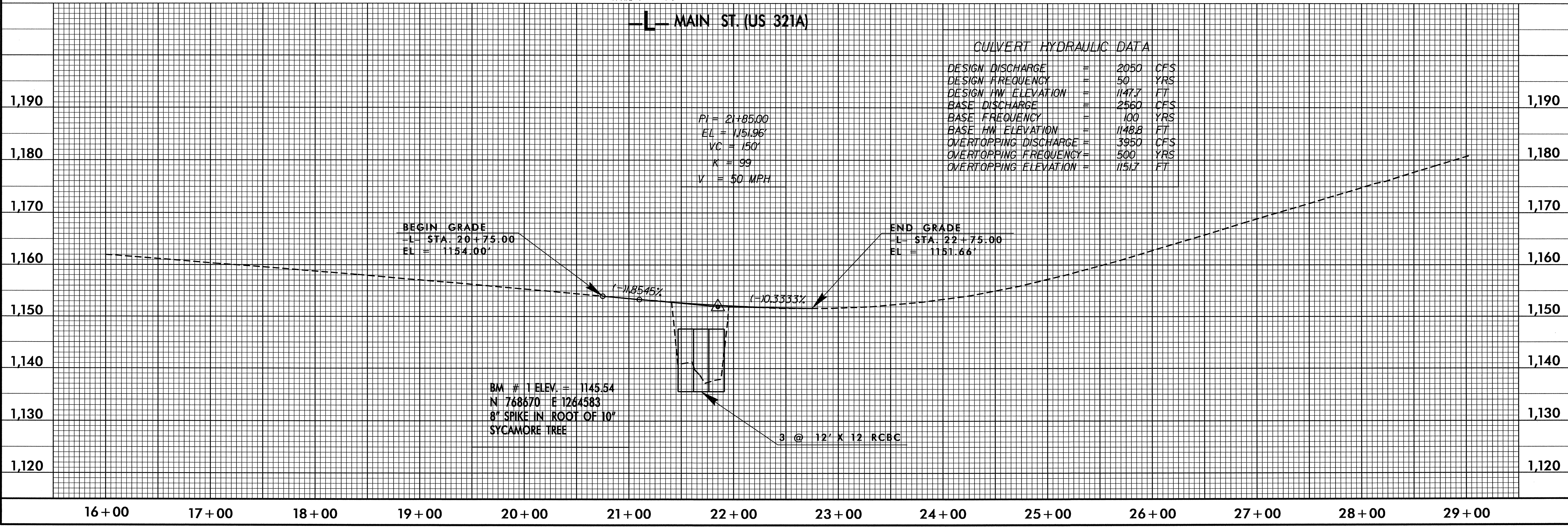
PHASE I	PHASE II	PHASE III
<ol style="list-style-type: none"> UTILIZE SKIMMER BASIN 4.1 AS STILLING BASIN AS NEEDED THROUGHOUT CULVERT CONSTRUCTION. REMOVE EXISTING BRIDGE. CONSTRUCT IMPERVIOUS DIKE A AND TEMPORARY CHANNEL CHANGE WITH LINER (6 FT. BASE, 2 FT. DEEP, 2:1 SIDE SLOPES), DIVERTING FLOW. CONSTRUCT BARRELS 1 AND 2, AND PORTION OF OUTLET CHANNEL IMPROVEMENTS. REMOVE IMPERVIOUS DIKE A AND TEMPORARY CHANNEL CHANGE. 	<ol style="list-style-type: none"> CONSTRUCT IMPERVIOUS DIKES B AND C, DIVERTING FLOW THROUGH BARREL 2. CONSTRUCT BARREL 3. REMOVE IMPERVIOUS DIKES B AND C. 	<ol style="list-style-type: none"> COMPLETE OUTLET CHANNEL IMPROVEMENTS, AND CONSTRUCT INLET CHANNEL IMPROVEMENTS. COMPLETE ROADWAY.

8/17/99

PROJECT REFERENCE NO. B-5138	SHEET NO. EC-6/CONST.4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	



REVISIONS



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	2050	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	1147.7	FT
BASE DISCHARGE	=	2560	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1148.8	FT
OVERTOPPING DISCHARGE	=	3950	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	1151.7	FT

$P_i = 21+85.00$
 $EL = 1151.96'$
 $VC = 150'$
 $K = 99$
 $V = 50$ MPH

BM # 1 ELEV. = 1145.54
 N 768670 E 1244583
 8" SPIKE IN ROOT OF 10"
 SYCAMORE TREE

25-OCT-2003 14:19
 R:\Environmental\B-5138_EC.PSH.dgn
 AL:RAN/2/7/04

09/08/99

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

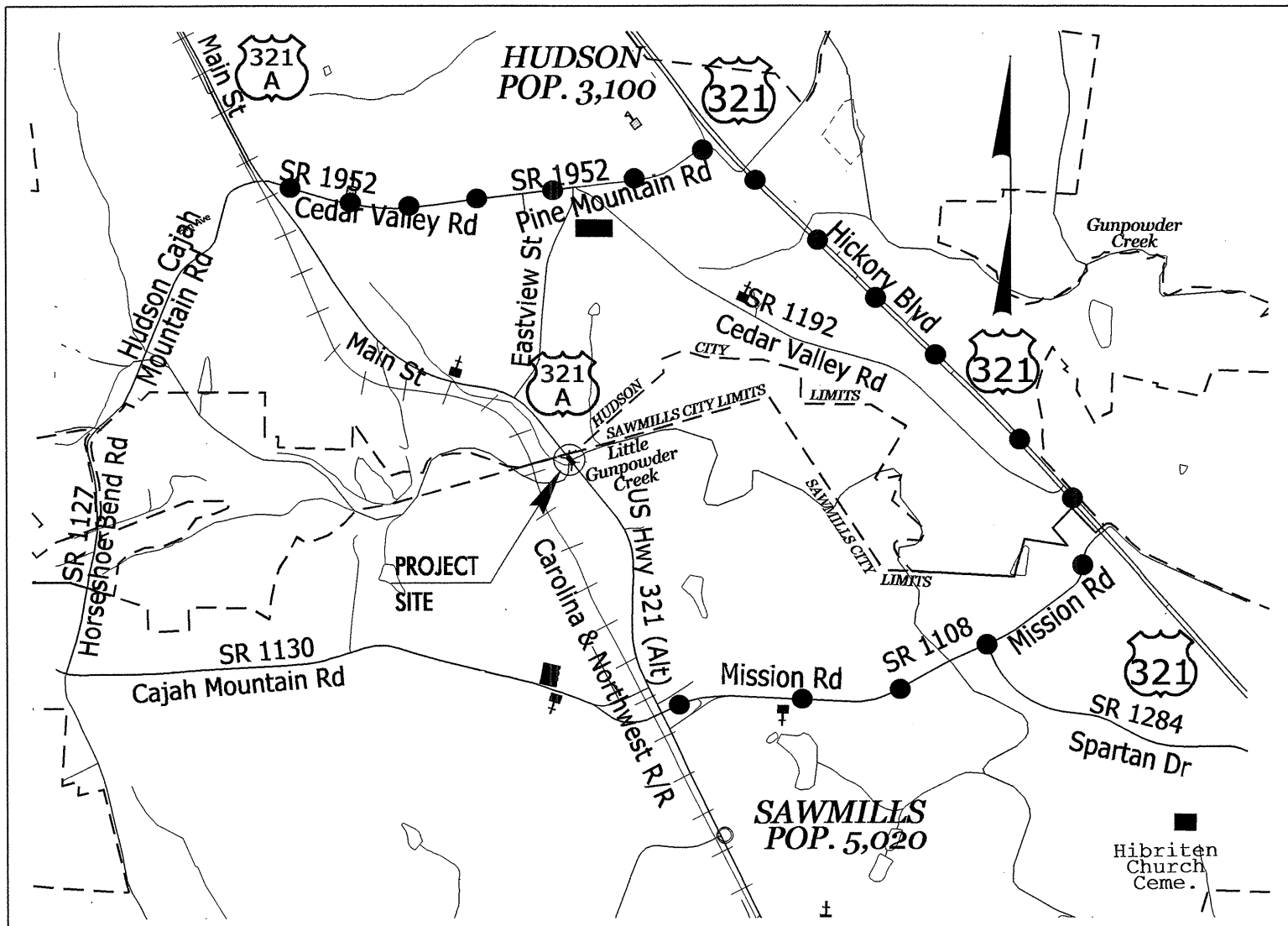
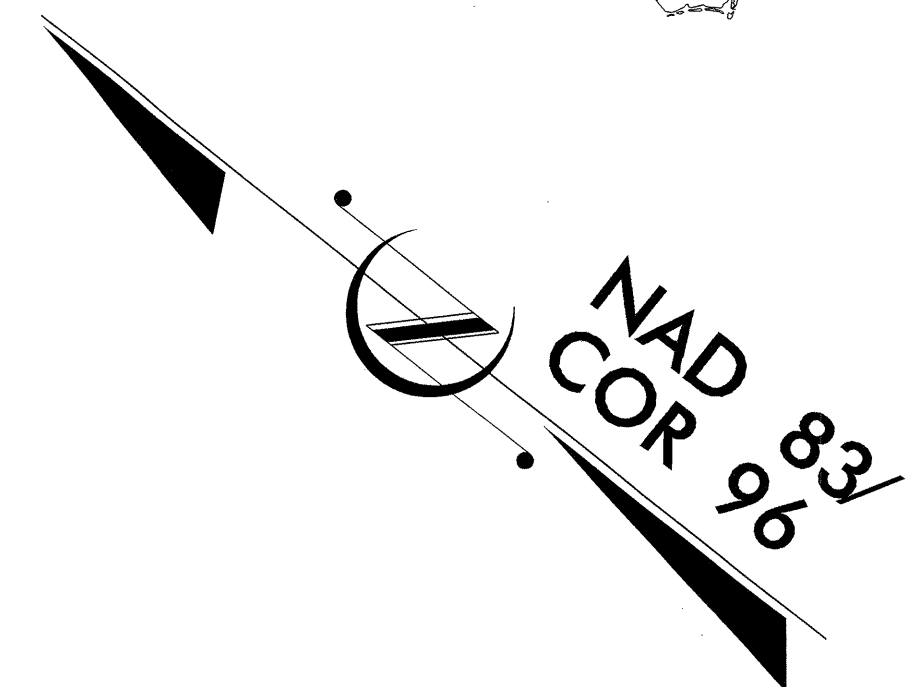
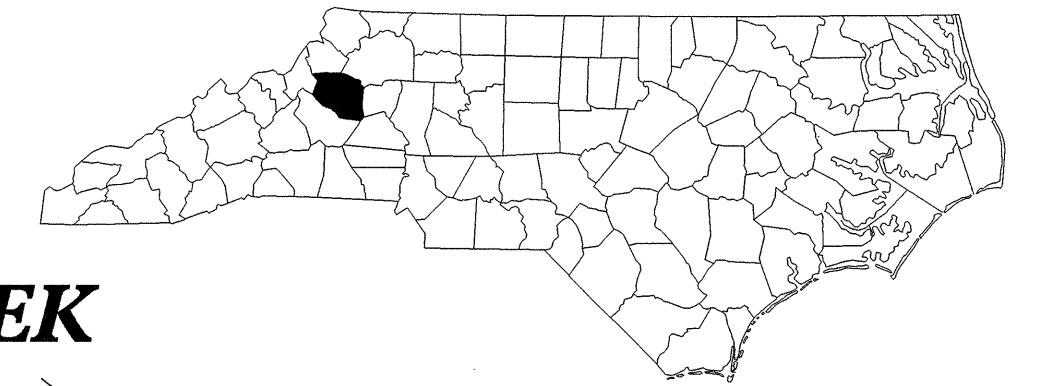
T.I.P. NO.	SHEET NO.
B-5138	UC-1

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
 CALDWELL COUNTY**

**LOCATION: BRIDGE NO. 6 OVER LITTLE GUNPOWDER CREEK
 AND APPROACHES ON US 321A**

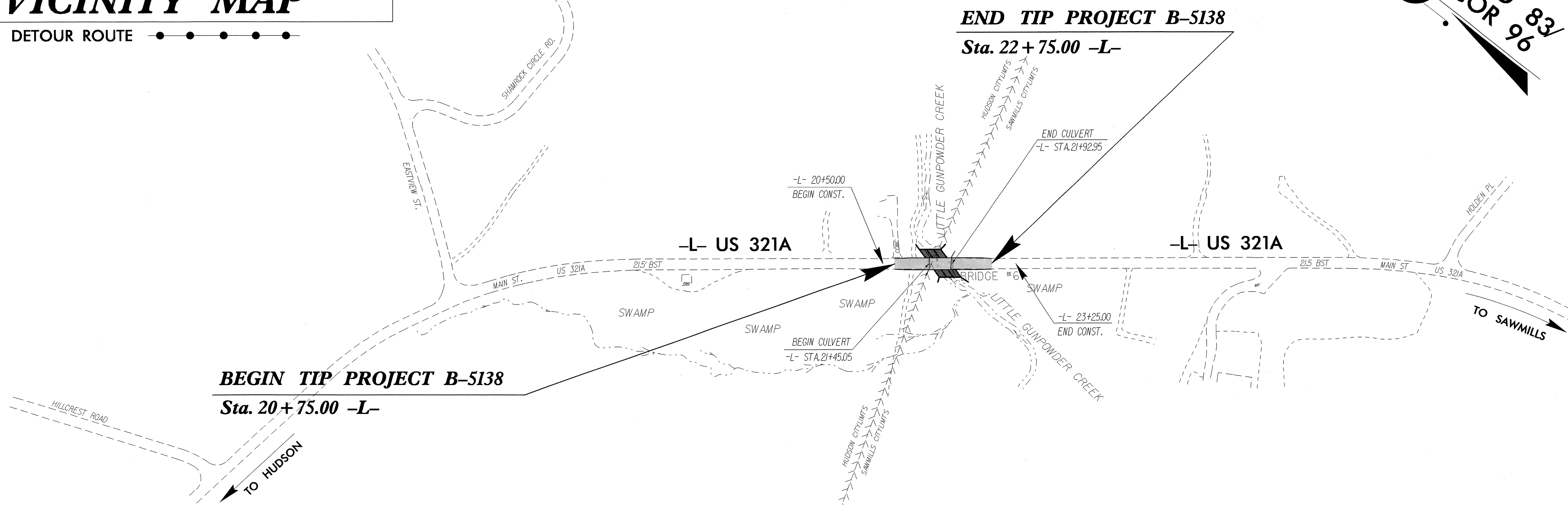
TYPE OF WORK: SEWER



VICINITY MAP

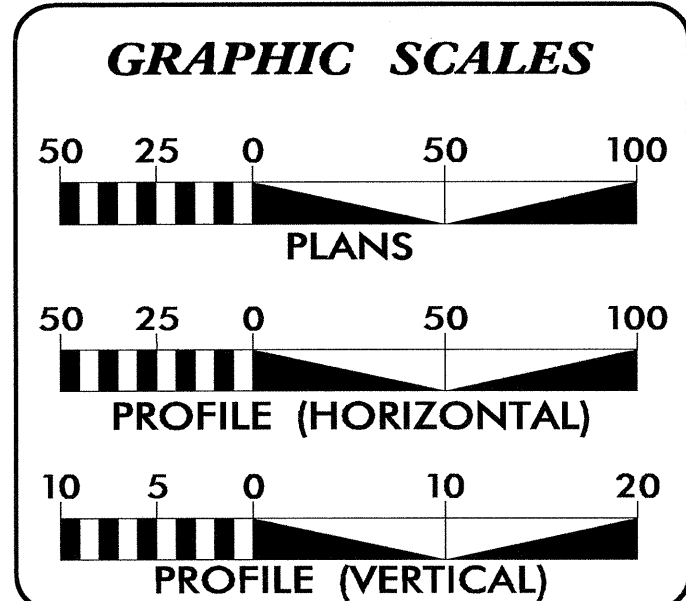
DETOUR ROUTE ●●●●●

TIP PROJECT: B-5138



**BEGIN TIP PROJECT B-5138
 Sta. 20+75.00 -L-**

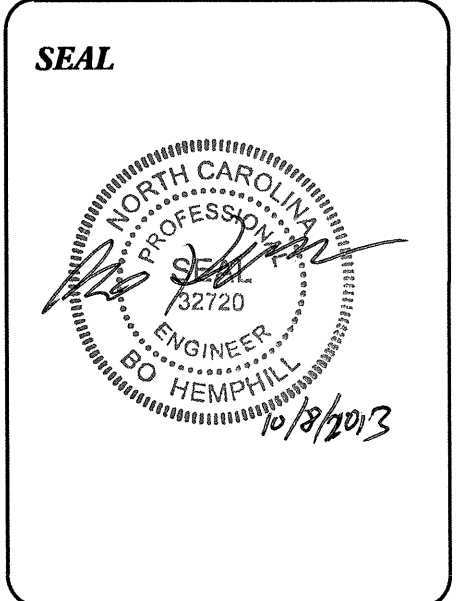
**END TIP PROJECT B-5138
 Sta. 22+75.00 -L-**



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITIES SYMBOLOGY
UC-3	NOTES
UC-4	UTILITY CONSTRUCTION PLAN SHEET

WATER AND SEWER OWNERS ON PROJECT

(1) Sewer - City of Lenoir



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

1591 MAIL SERVICES CENTER
 RALEIGH NC 27699-1591
 PHONE (919) 767-6690
 FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Bo Hemphill, P.E. UTILITIES PROJECT DESIGNER

08-OCT-2013 11:20 R:\HITILES\Engineering\UC\Proj\b5138_ut_title_ucl.psh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

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

PROPOSED SEWER SYMBOLS

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

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

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

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

EXISTING UTILITIES SYMBOLS

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


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

5/14/99
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 REV: 2/11/2012

5/14/99

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UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-5138	UC-3
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING UTILITIES BELONG TO THE CITY OF LENOIR .
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

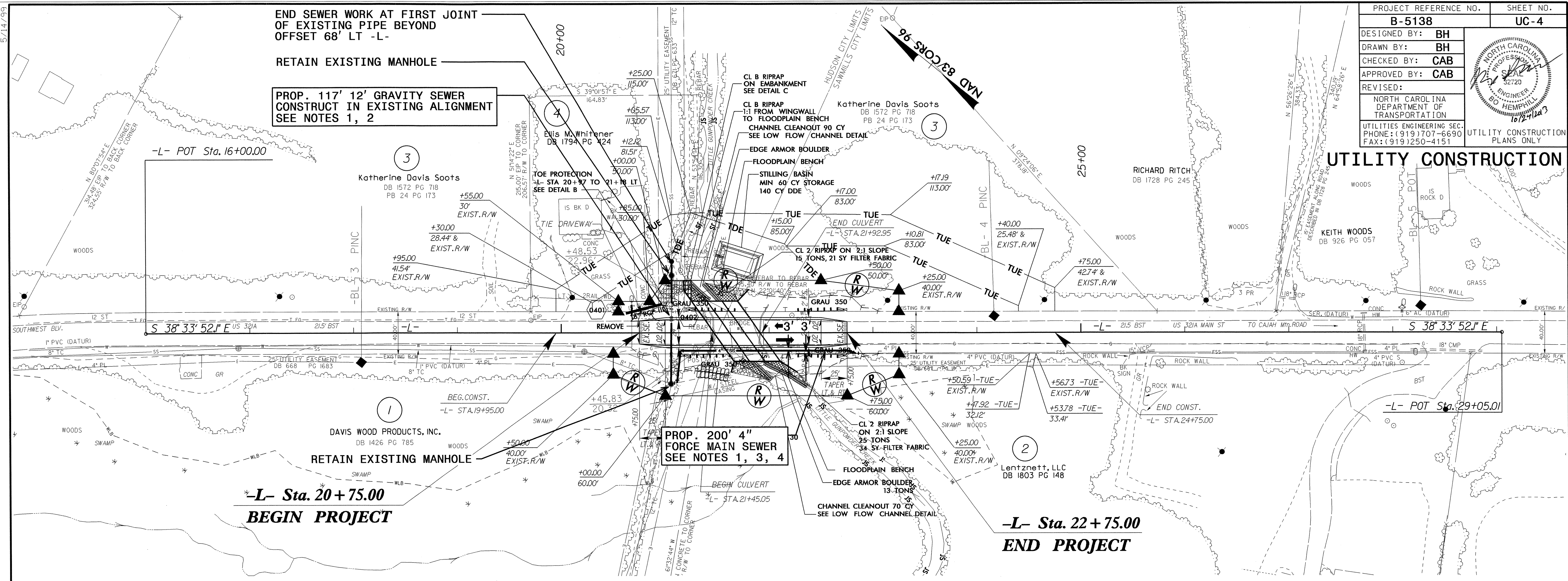
PROJECT SPECIFIC NOTES:

1. ALL PROPOSED SEWER LINES SHALL BE DUCTILE IRON (DI) PIPE.
2. THE 12" GRAVITY SEWER LINE SHALL BE REPLACED WITH DUCTILE IRON PIPE AS SHOWN ON THE PLANS BEFORE DRIVING PILING AS REQUIRED IN THE STRUCTURES PLANS. ALL PIPE SHALL BE REPLACED IN THE SAME LOCATION. PIPE SHALL BE REPLACED TO THE FIRST JOINT IN THE EXISTING PIPE MORE THAN 68' LEFT OF THE -L- LINE.
3. THE 4" FORCE MAIN SHALL BE EMBEDDED IN SELECT MATERIAL OVER THE CULVERT TO A DEPTH OF 4" ABOVE THE PIPE.
4. THE 4" FORCE MAIN WILL BE REMOVED FROM SERVICE BY THE CITY OF LENOIR PRIOR TO THE PROJECT STARTING. THE FORCE MAIN WILL BE RETURNED TO SERVICE AFTER COMPLETION AND ACCEPTANCE OF THE LINE.

LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT
- 1520.01 SEWER CLEAN OUT
- 1525.06 PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

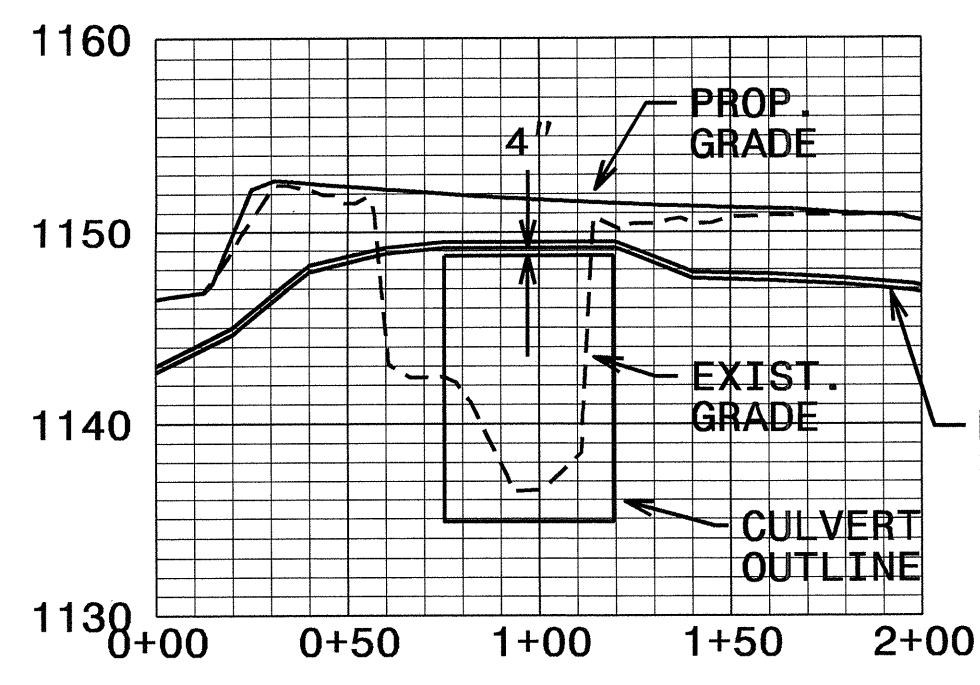
PROJECT REFERENCE NO.	SHEET NO.
B-5138	UC-4
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	REVIS: 10/12/2013
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



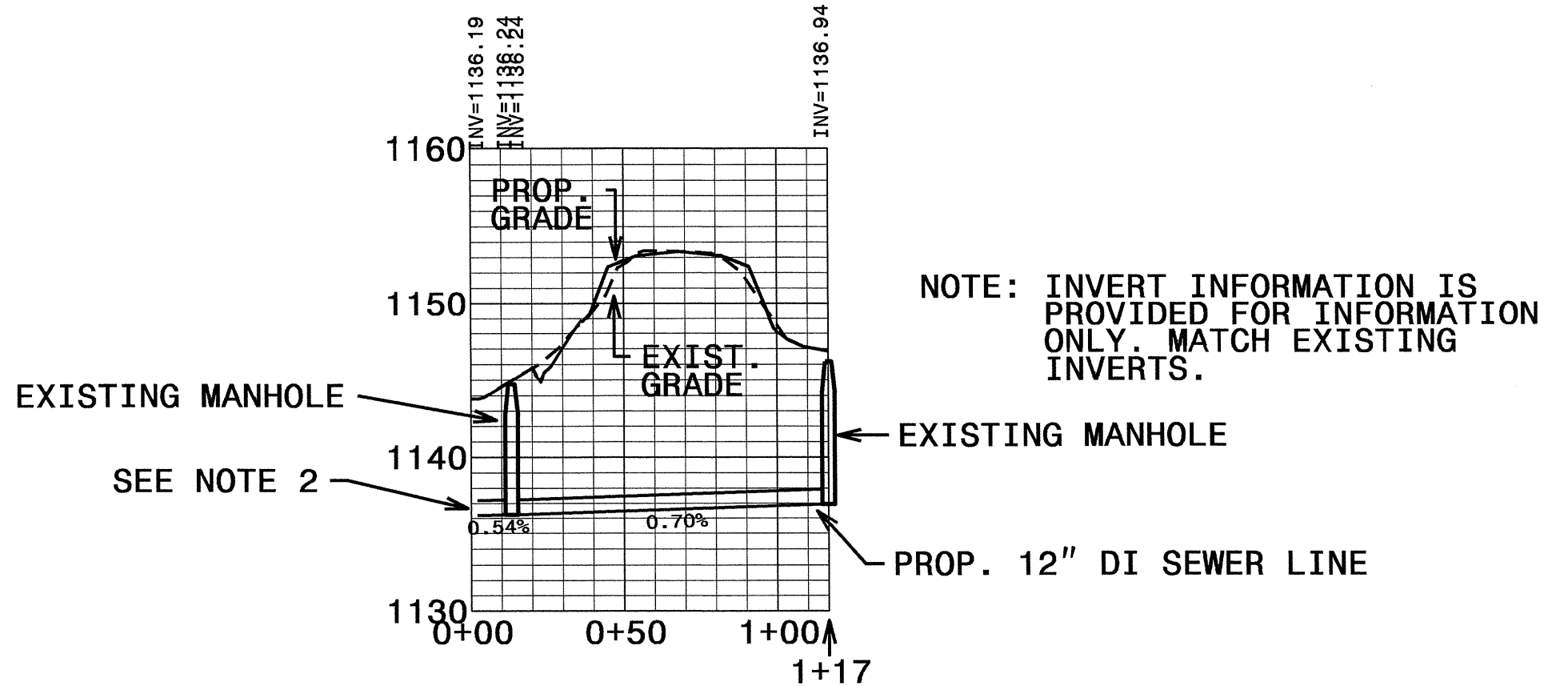
PROFILES

PROJECT TYPICAL DETAILS

4" FORCE MAIN

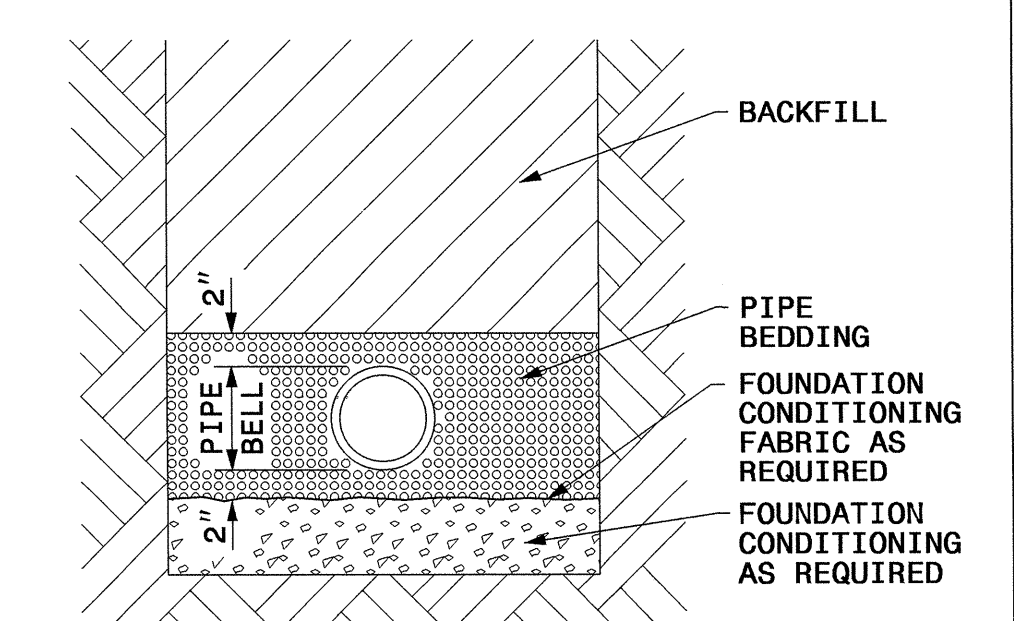


12" GRAVITY SEWER



NOTE: INVERT INFORMATION IS PROVIDED FOR INFORMATION ONLY. MATCH EXISTING INVERTS.

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

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 \$\$\$\$\$\$FRONT\$\$\$\$\$\$

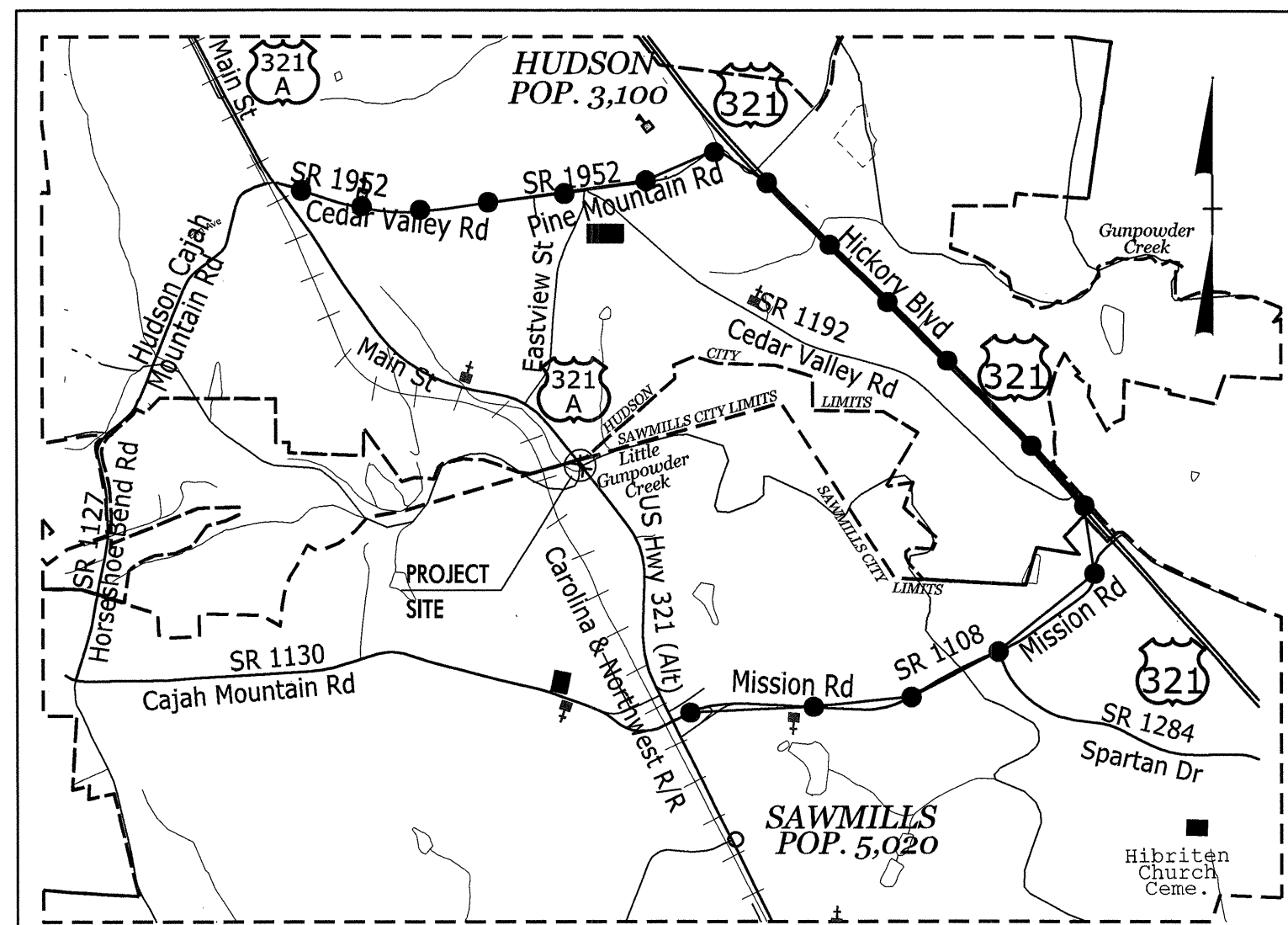
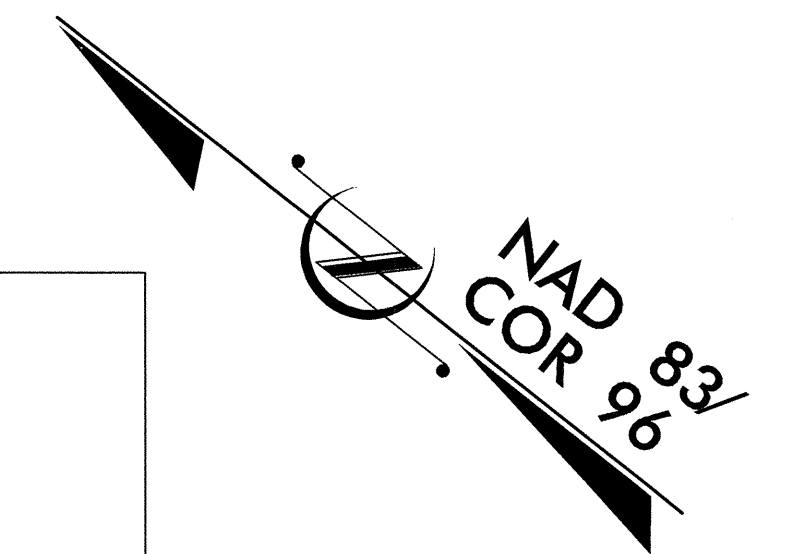
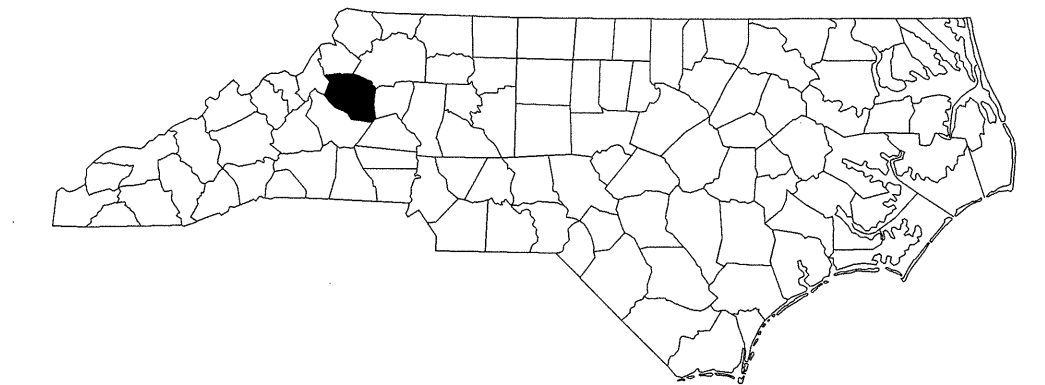
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-5138	UO-1

UTILITIES BY OTHERS PLAN CALDWELL COUNTY

LOCATION: BRIDGE NO. 6 OVER LITTLE GUNPOWDER CREEK
AND APPROACHES ON US 321A

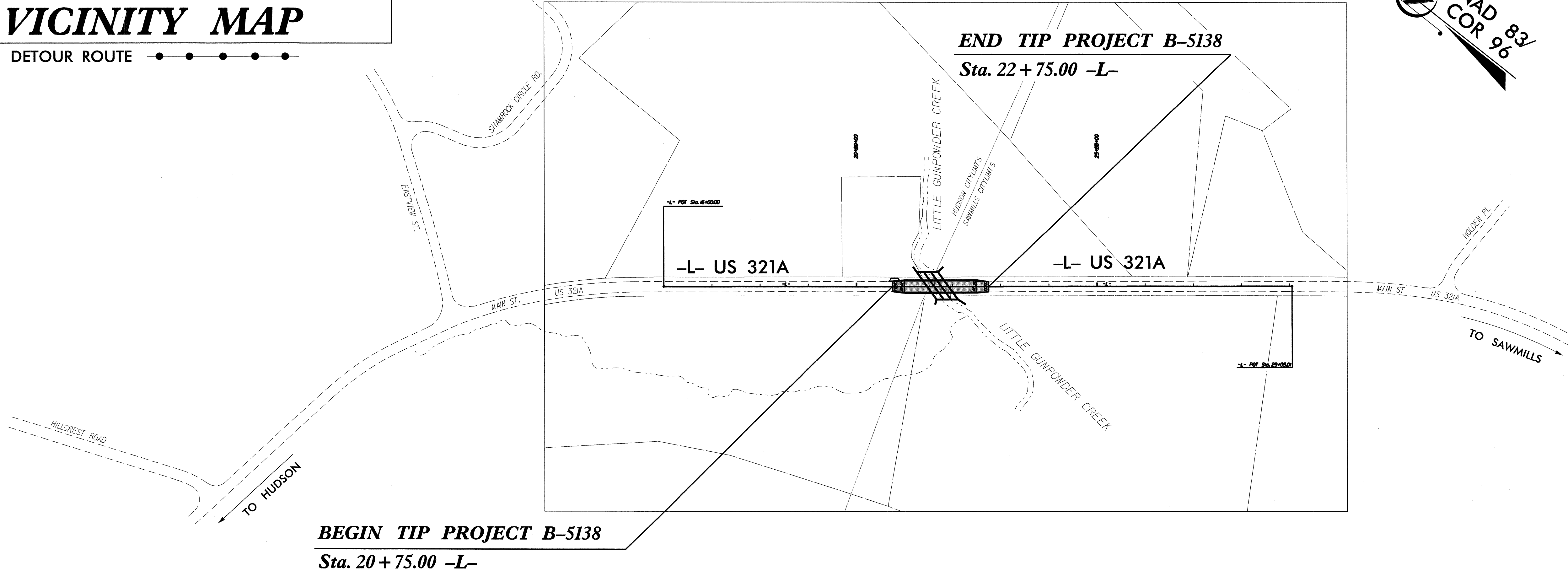
TYPE OF WORK: POWER DISTRIBUTION, CABLE TELEVISION AND
TELEPHONE COMMUNICATIONS RELOCATION



VICINITY MAP

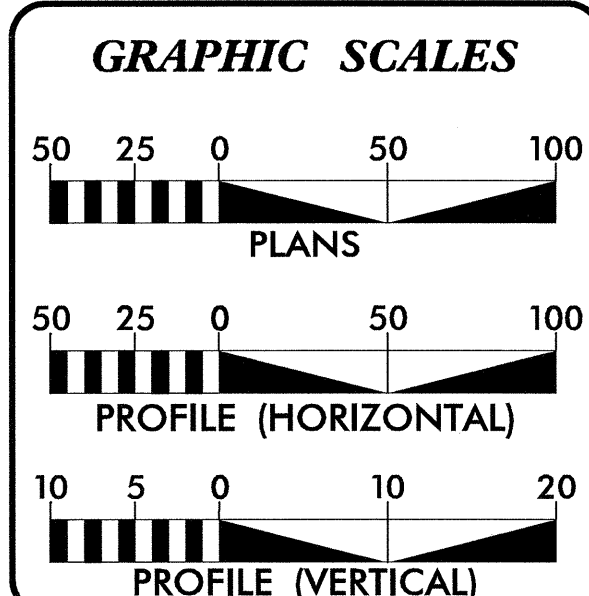
DETOUR ROUTE ●●●●●

TIP PROJECT: B-5138



BEGIN TIP PROJECT B-5138
Sta. 20+75.00 -L-

END TIP PROJECT B-5138
Sta. 22+75.00 -L-



SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEET

- UTILITY OWNERS ON PROJECT**
- (1) DUKE ENERGY (POWER DISTRIBUTION)
 - (2) CHARTER COMMUNICATIONS (CABLE TELEVISION)
 - (3) AT&T (TELECOMMUNICATIONS)
 - (4) CENTURYLINK (TELECOMMUNICATIONS)
 - (5) PIEDMONT NATURAL GAS (GAS DISTRIBUTION)
 - (6) CITY OF LENOIR (WATER)

Baker

Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518

UTILITIES COORDINATION
CONSULTANT

Gus Kretschmer

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

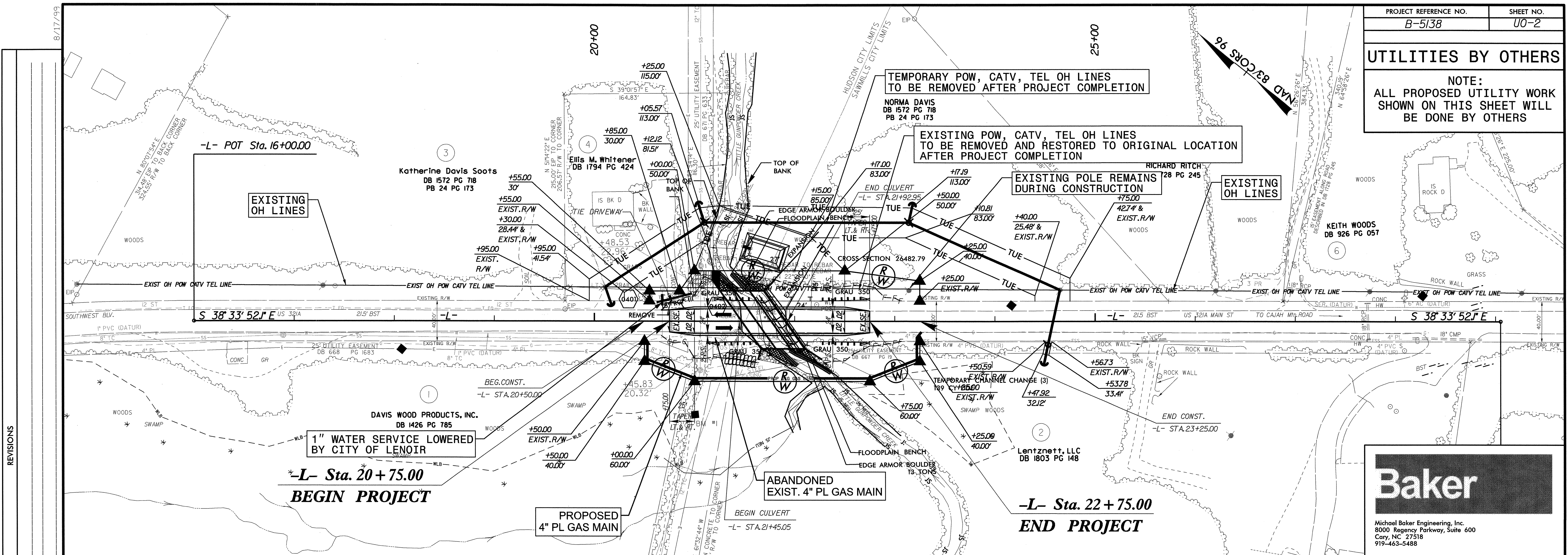
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER
Bo Hemphill, P.E. UTILITIES PROJECT DESIGNER

08-OCT-2013 16:21 Y:\Projects\NC DOT\Utility On-Call Contract\Div II Six Bridge Replacement\B-5138_ut_tsh_UO1_psh.dgn AT CARY\WIKOONS

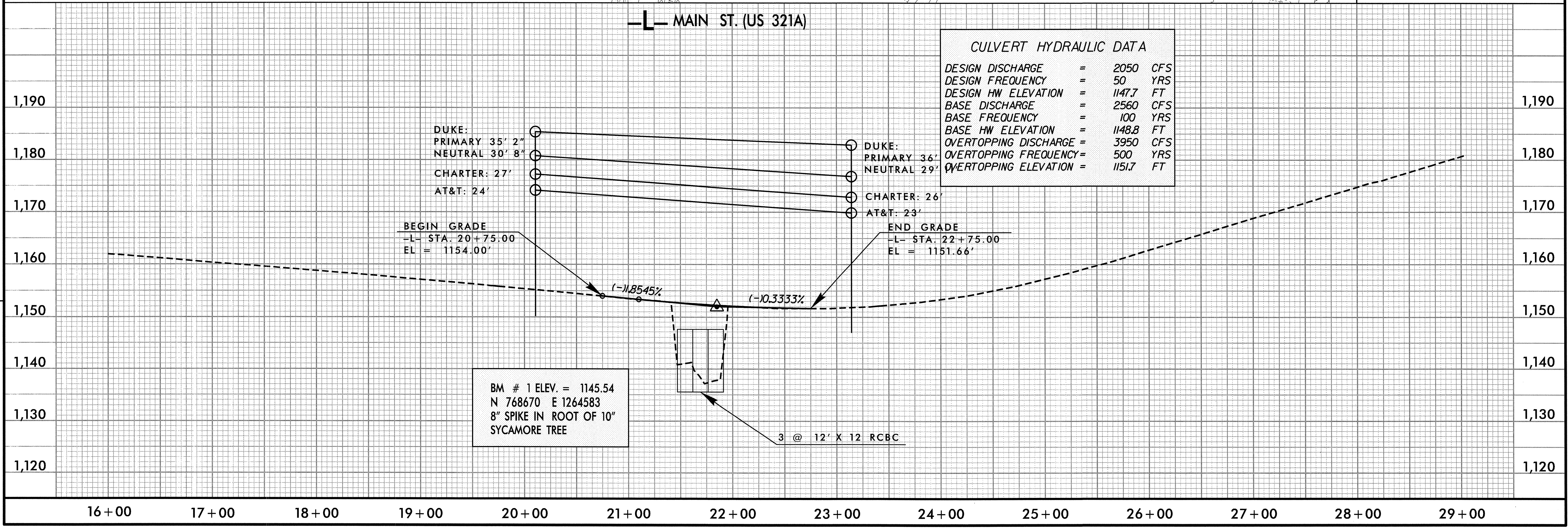
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



REVISIONS

Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
919-463-5488

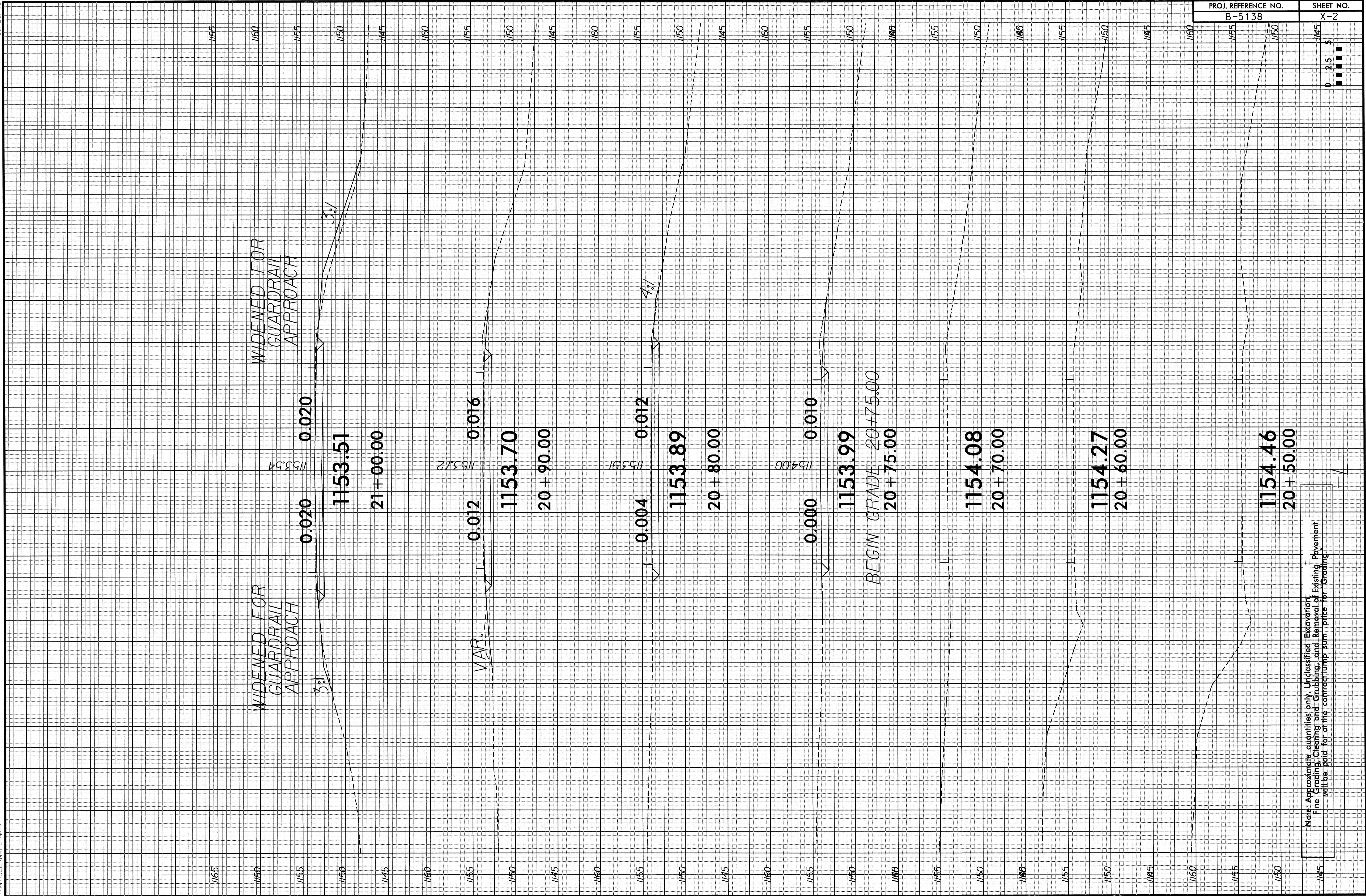


CULVERT HYDRAULIC DATA

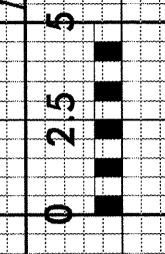
DESIGN DISCHARGE	=	2050 CFS
DESIGN FREQUENCY	=	50 YRS
DESIGN HW ELEVATION	=	1147.7 FT
BASE DISCHARGE	=	2560 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	1148.8 FT
OVERTOPPING DISCHARGE	=	3950 CFS
OVERTOPPING FREQUENCY	=	500 YRS
OVERTOPPING ELEVATION	=	1151.7 FT

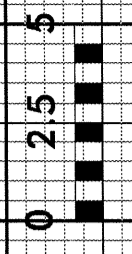
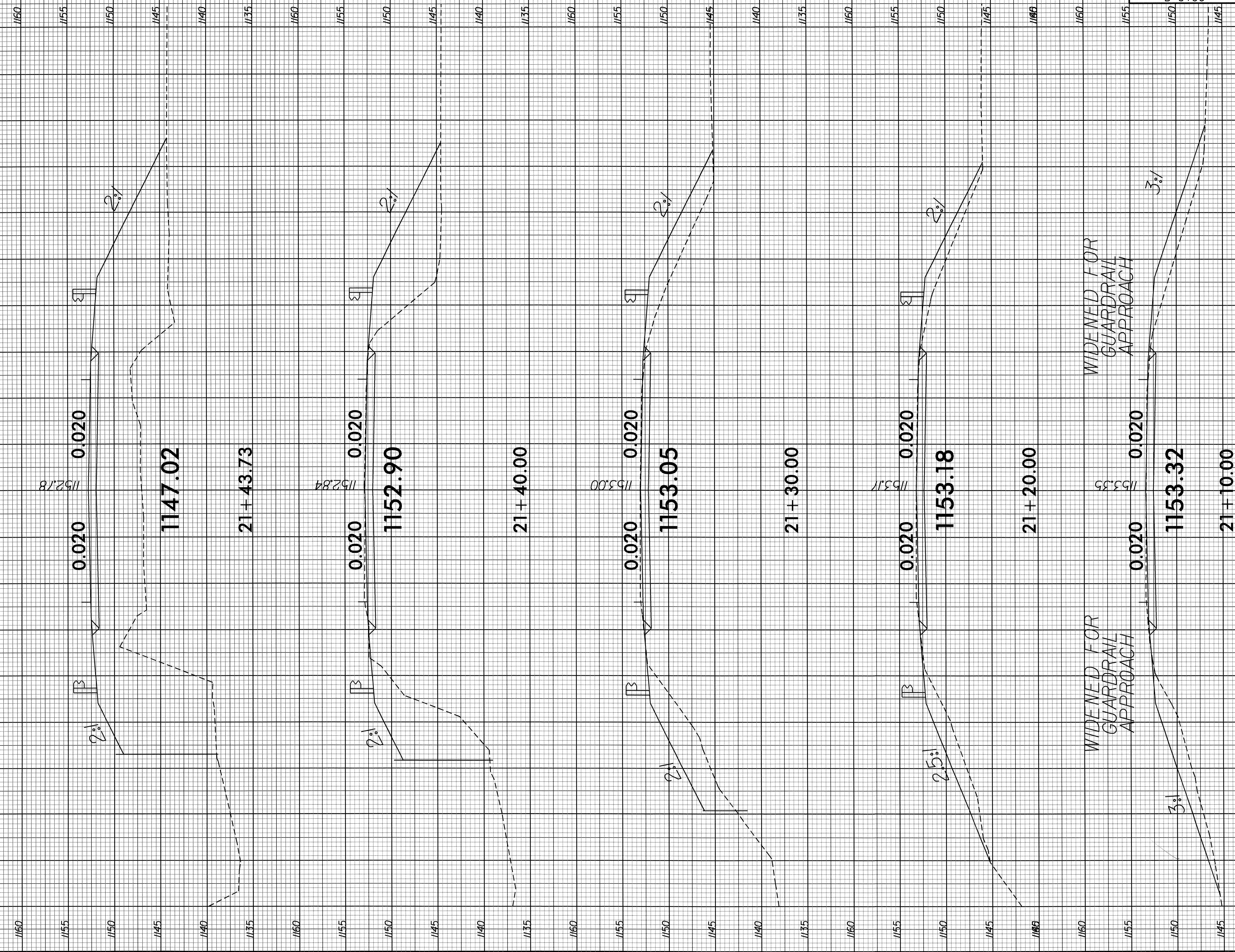
BM # 1 ELEV. = 1145.54
N 768670 E 1264583
8" SPIKE IN ROOT OF 10"
SYCAMORE TREE

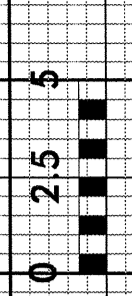
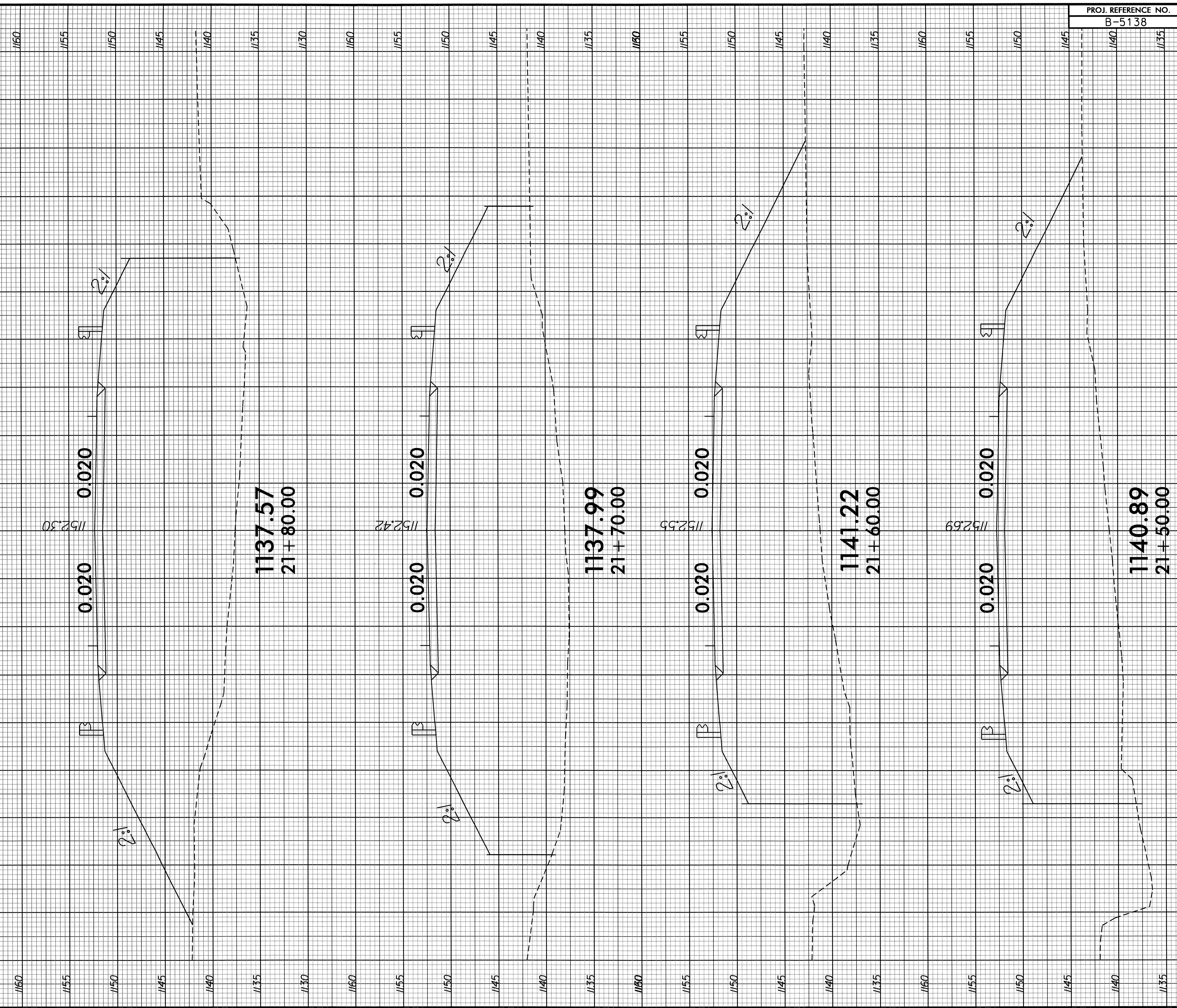
3 @ 12' X 12' RCBC

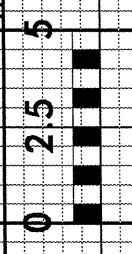
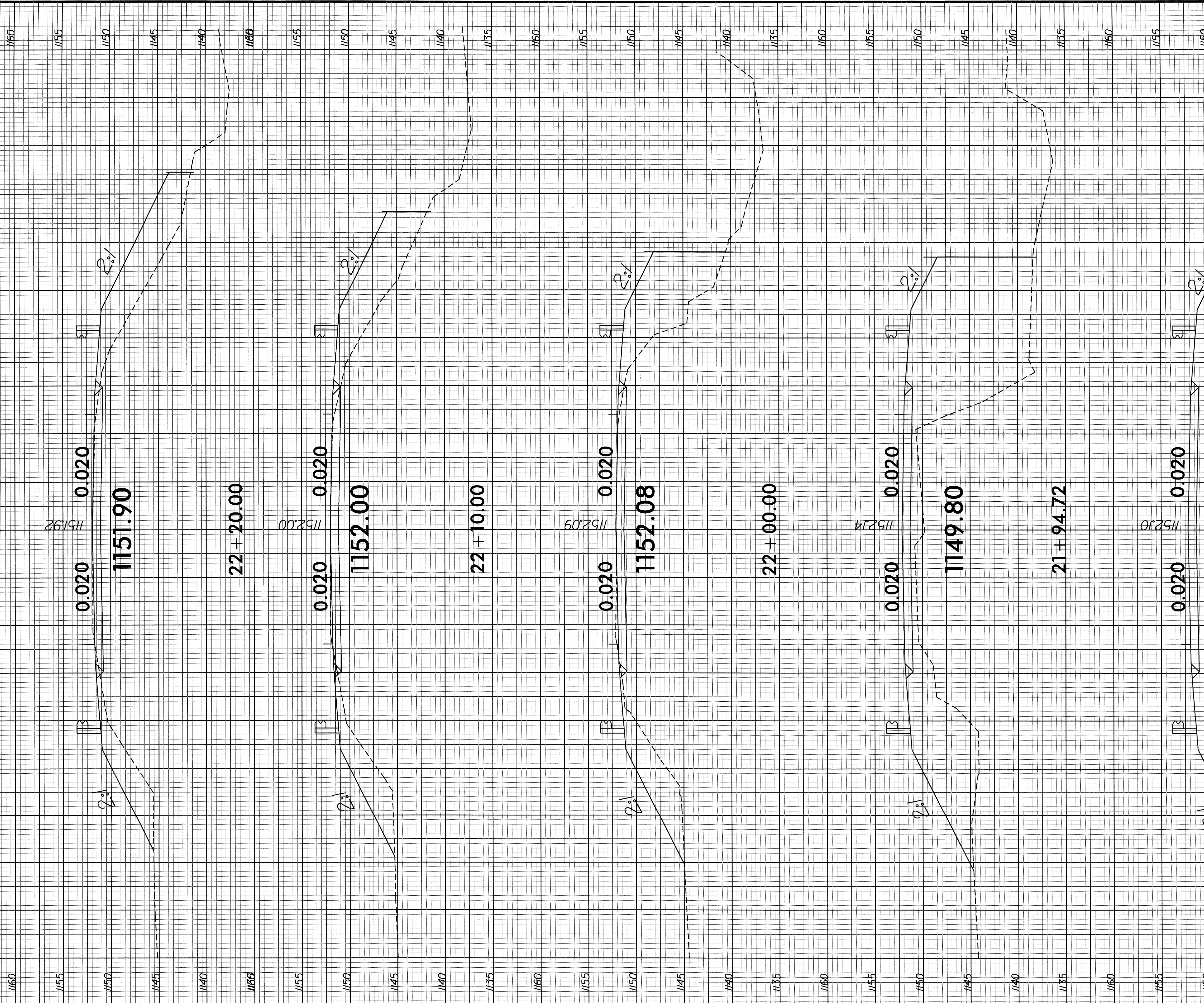


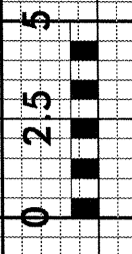
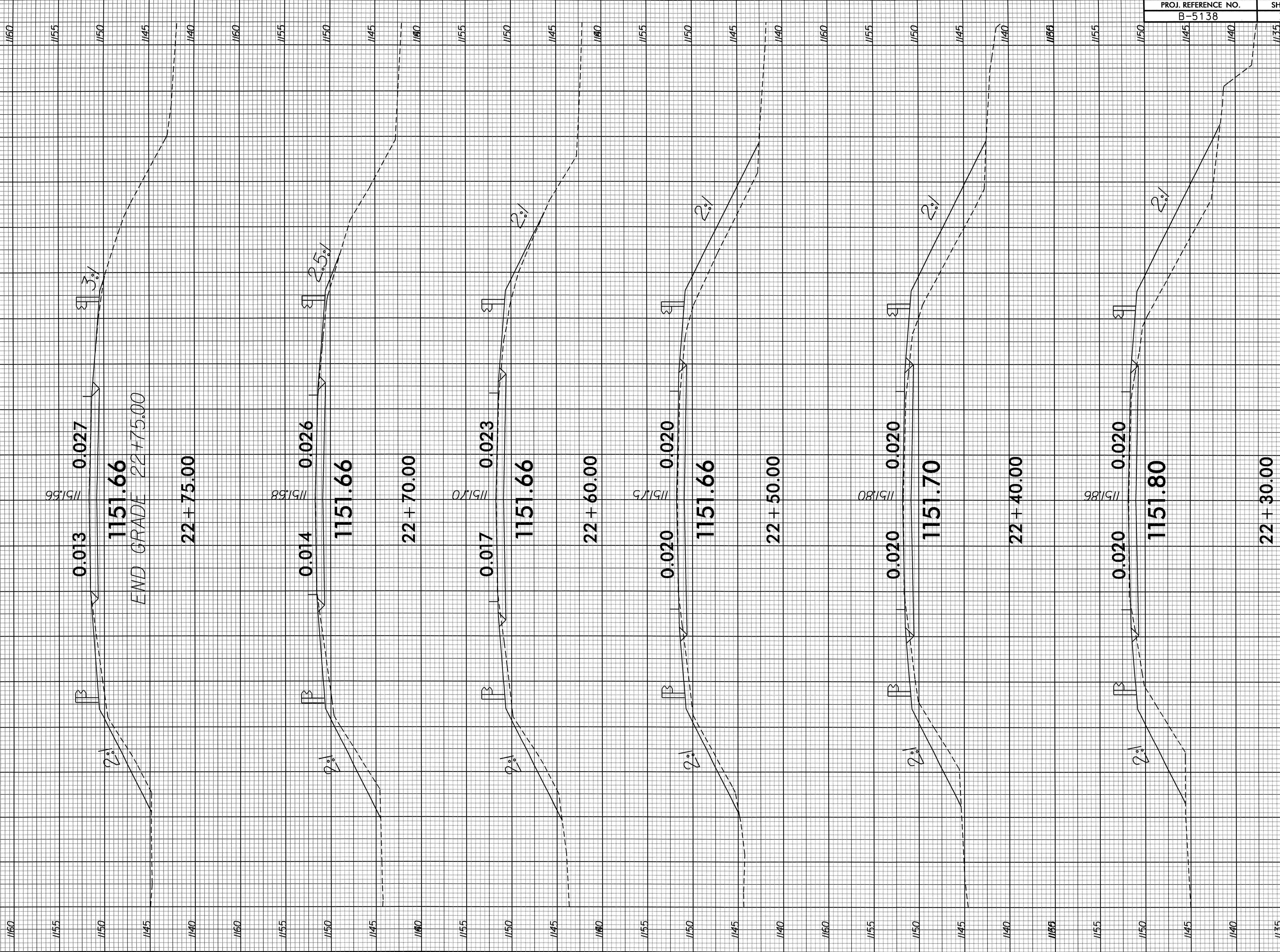
Note: Approximate quantities only. Unclassified Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for Grading.

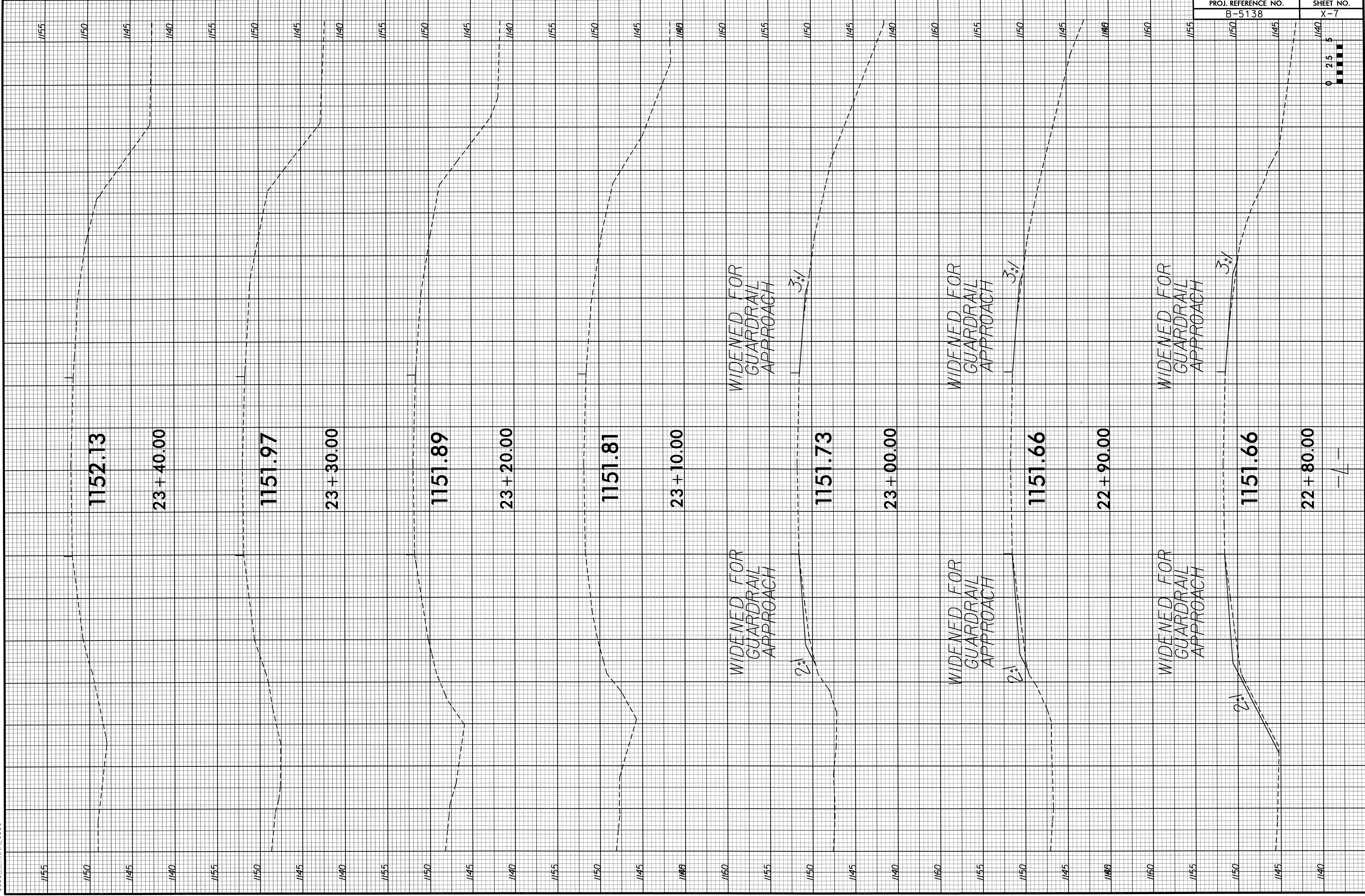












PROJ. REFERENCE NO.	SHEET NO.
B-5138	X-7