

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

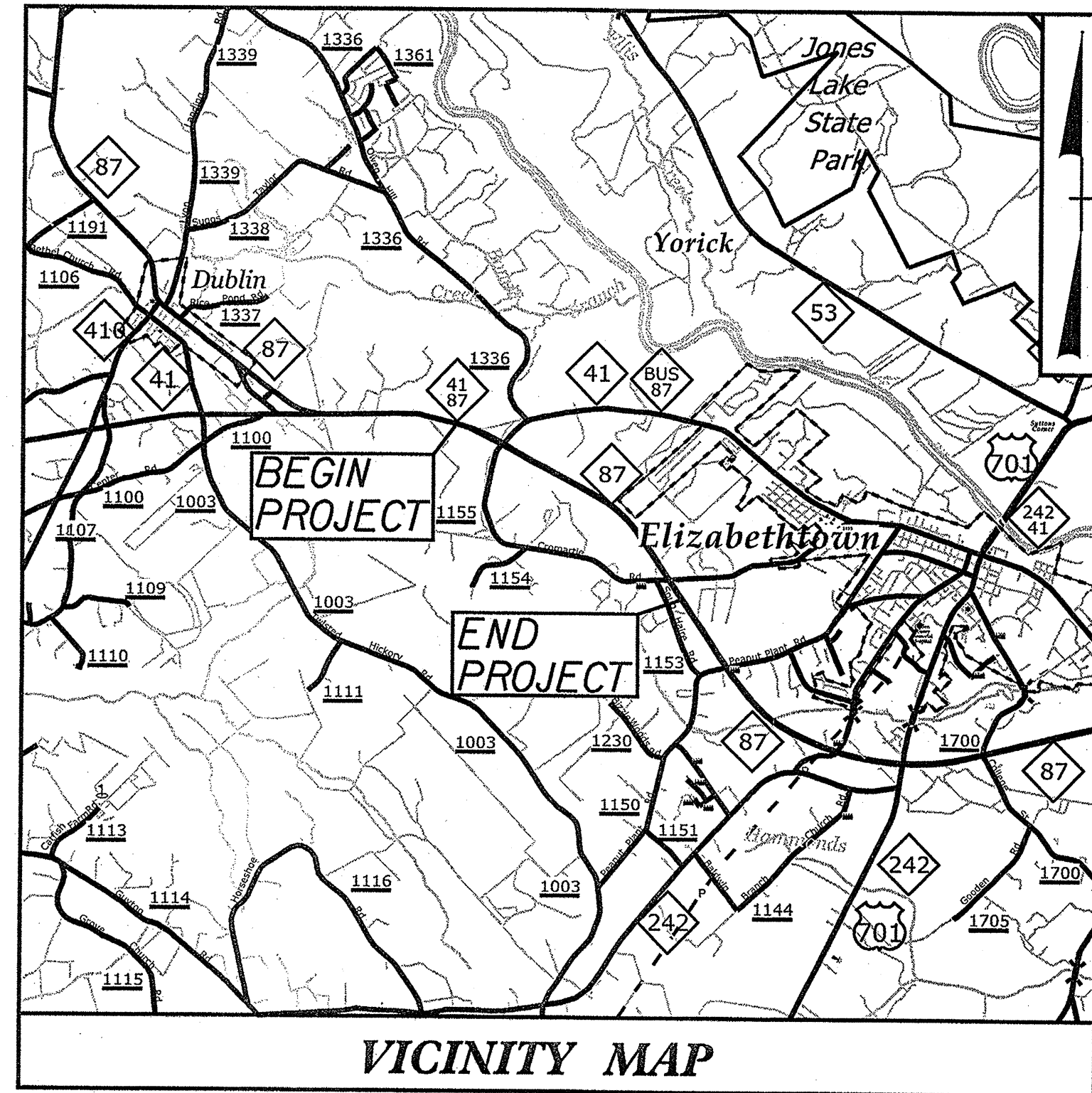
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BLADEN COUNTY

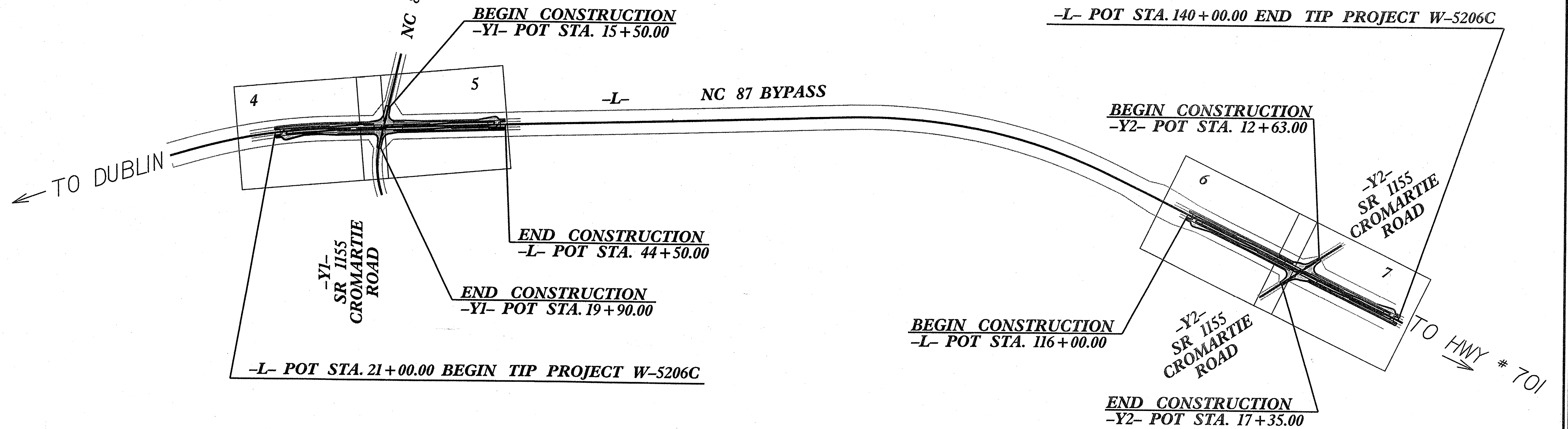
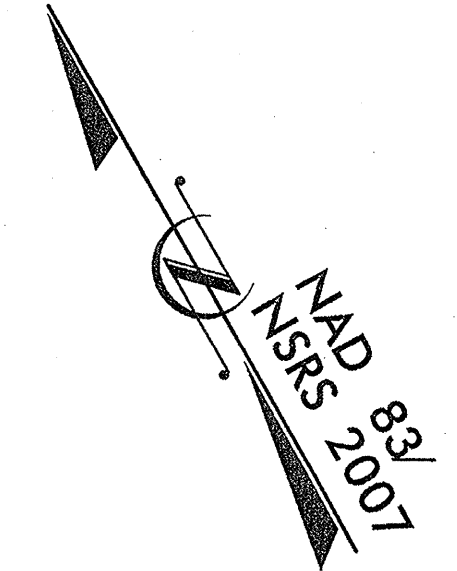
LOCATION: NC 87 BYPASS AT THE INTERSECTIONS OF
SR 1155 (CROMARTIE RD.) AND NC 87 BUS/NC 41

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNING

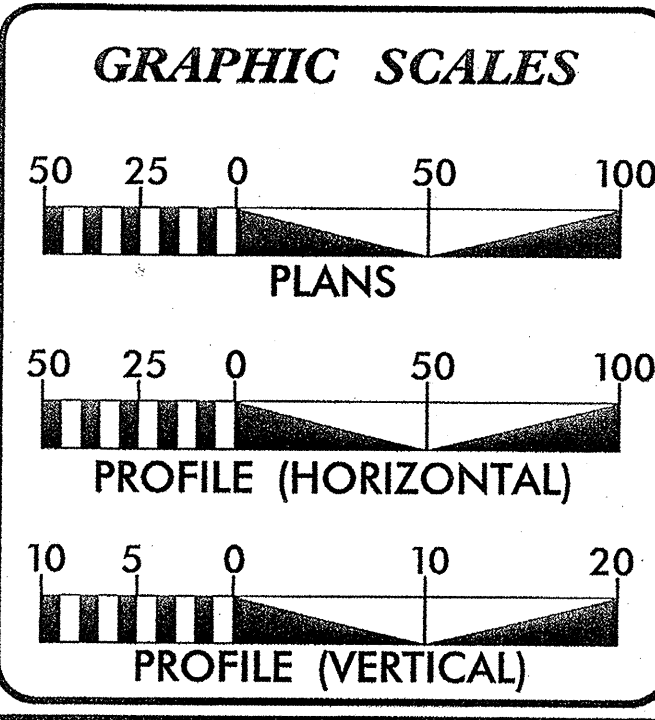
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5206C	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
WBS-45336.1.3	STPNHS-0087(28)	P.E.	
WBS-45336.2.3	STPNHS-0087(28)	R/W & UTILITIES	
WBS-45336.3.3	STPNHS-0087(28)	CONST.	



VICINITY MAP



CONTRACT: C202946
 TIP PROJECT: W-5206C



DESIGN DATA

ADT 2009 = 10,000
V = 60 MPH
FUNC CLASS = MINOR ARTERIAL
STATEWIDE TIER DESIGN

PROJECT LENGTH

LENGTH ROADWAY PROJECT = 0.900 MILES
TOTAL LENGTH STATE PROJECT = 0.900 MILES

Prepared in the Office of:

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6558

ARCADIS
G & M of North Carolina, Inc.
WWW.ARCADIS-US.COM
801 Corporate Center Drive, Suite 300
Raleigh, NC 27607-5073
Tel: 919/854-1282 Fax: 919/854-5448

for the North Carolina Department of Transportation

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: APRIL 17, 2012

STEVE SMALLWOOD, P.E.
PROJECT ENGINEER

HYDRAULICS ENGINEER

Signature: [Signature]

ROADWAY DESIGN ENGINEER

Signature: [Signature]

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

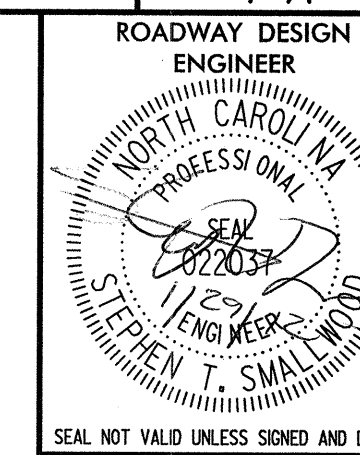
STATE HIGHWAY DESIGN ENGINEER

SYSTEMS
 DGN
 USER NAME

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



PROJECT REFERENCE NO. SHEET NO.
W-5206C I-A



GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11-01-11

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-17-12

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, & LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2	PAVEMENT SCHEDULE & TYPICAL SECTIONS
2-A	DETAIL OF CONVERTING DITO JB/MH
2-B	DETAIL OF CONCRETE FLUME IN MONOLITHIC ISLAND
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	EARTHWORK AND GUARDRAIL SUMMARIES
4 THRU 7	PLAN SHEETS
8 THRU 9	PROFILE SHEETS
TMP-1 THRU TMP-6	TRAFFIC CONTROL PLANS
PMP-1 THRU PMP-5	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
X-1A	CROSS SECTION SUMMARY SHEET
X-1 THRU X-19	CROSS SECTIONS

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

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.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

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

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE FOUR COUNTY EMC, STAR TELEPHONE, AT&T AND TIME WARNER.

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
225.05	Method of Obtaining Superelevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections

DIVISION 3 - PIPE CULVERTS

300.01	Method of Pipe Installation
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DIVISION 5 - SUBGRADE, BASES AND SHOULDERS

560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
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DIVISION 6 - ASPHALT BASES AND PAVEMENTS

654.01	Pavement Repairs
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DIVISION 8 - INCIDENTALS

840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg. 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12' thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12' thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
848.04	Street Turnout
852.01	Concrete Islands
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method of Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/99

8/17/99

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	○
Property Corner	✕
Property Monument	□
Parcel/Sequence Number	(23)
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

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⋈
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	⊕
Church	⊕
Dam	▬

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	JS
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	WLB
Proposed Lateral, Tail, Head Ditch	FD
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 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	XXXX
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	⊙
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	PH
H-Frame Pole	●
Recorded U/G Power Line	P
Designated U/G Power Line (S.U.E.*)	P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

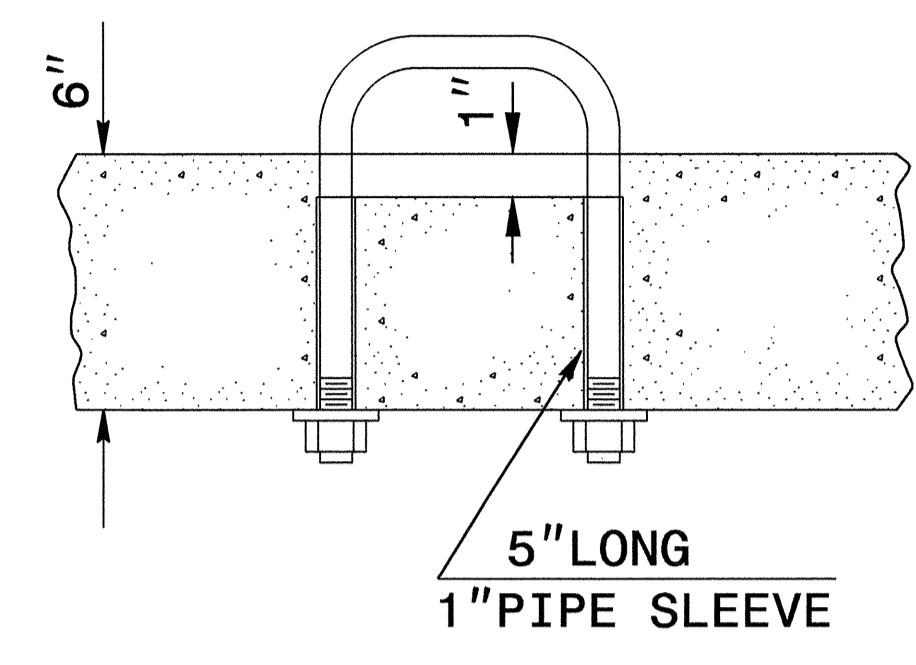
Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	G
Designated U/G Gas Line (S.U.E.*)	G
Above Ground Gas Line	A/G Gas

SANITARY SEWER:

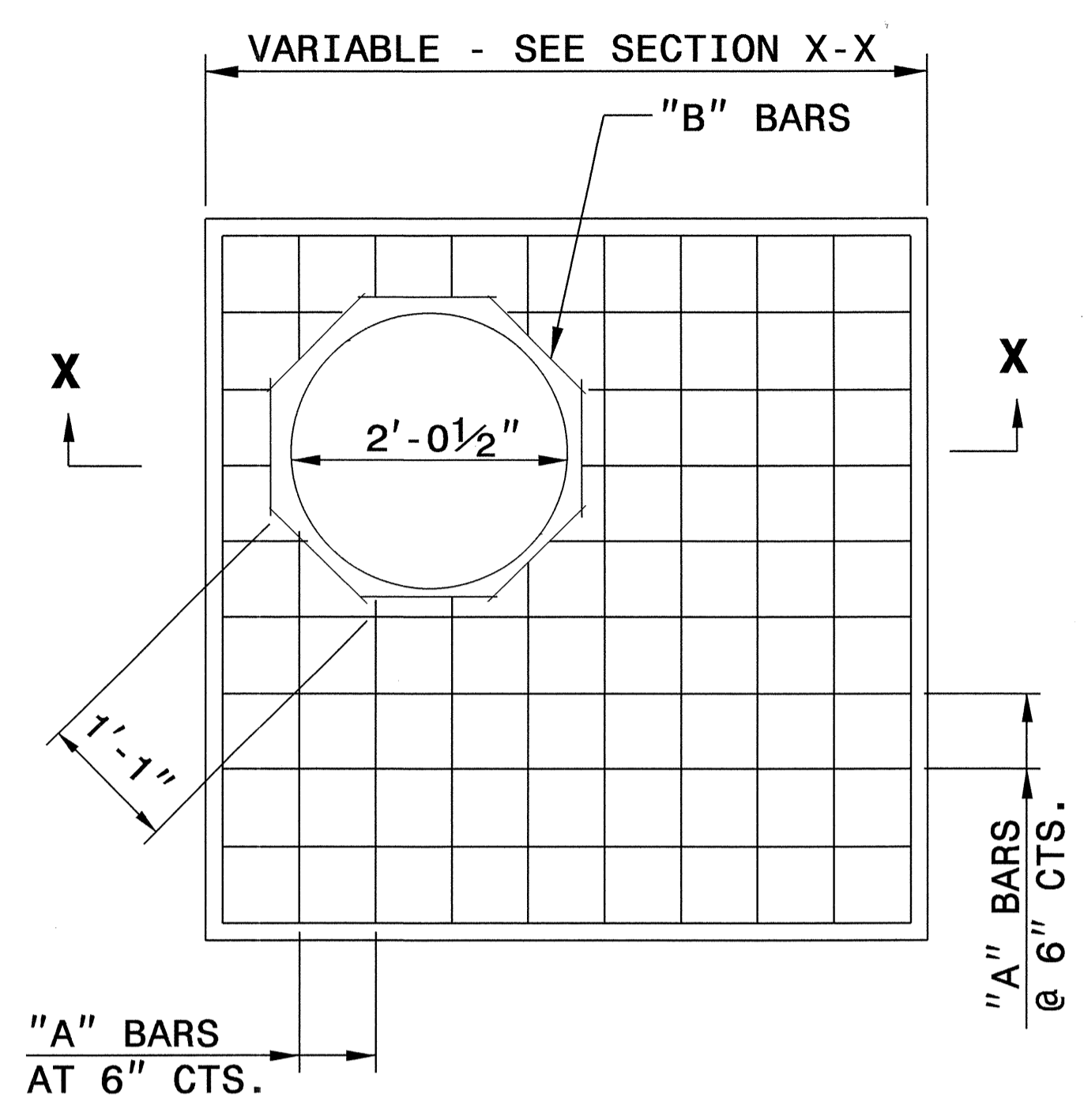
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	SS
Above Ground Sanitary Sewer	A/G Sanitary Sewer
Recorded SS Forced Main Line	FSS
Designated SS Forced Main Line (S.U.E.*)	FSS

MISCELLANEOUS:

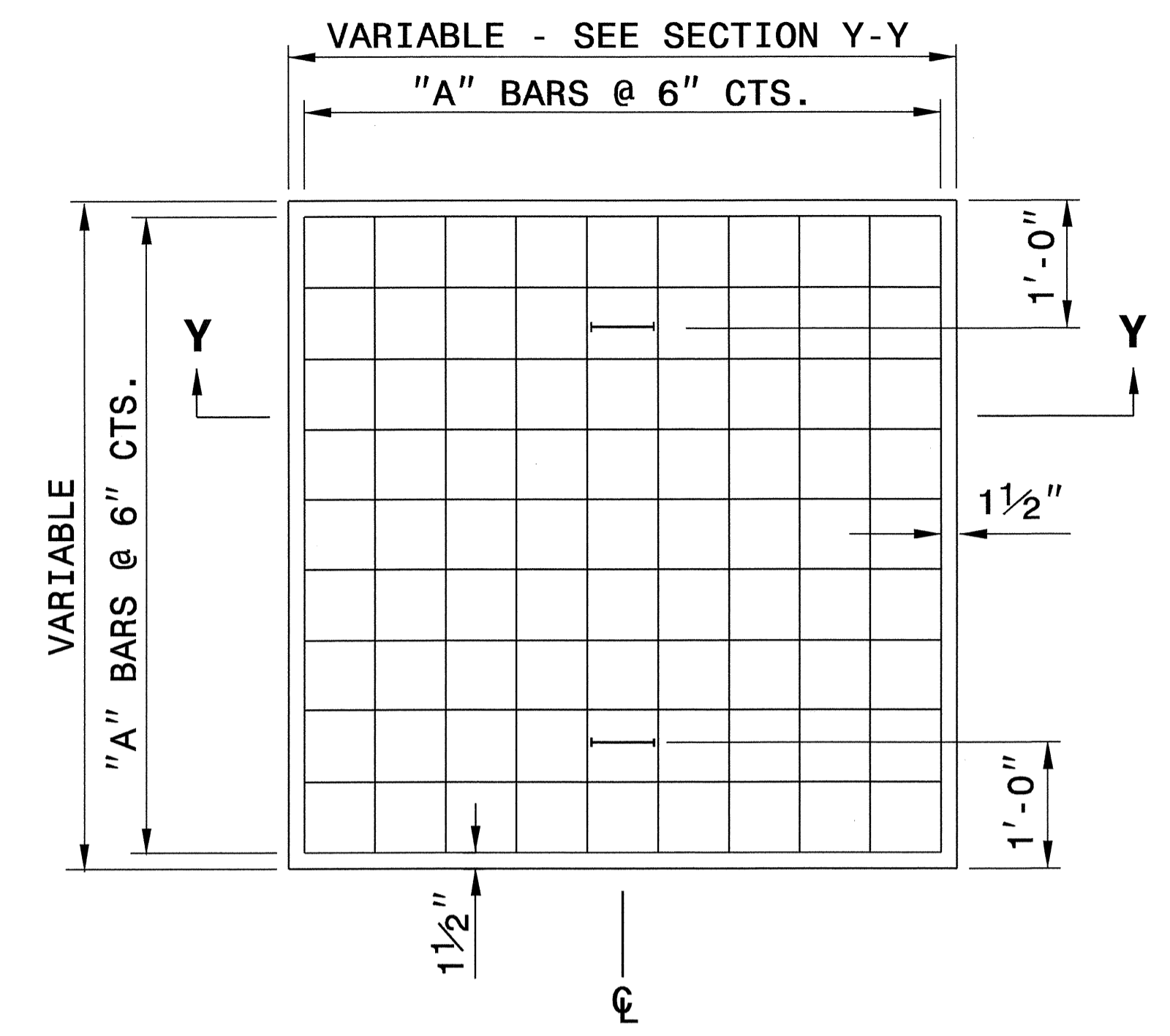
Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	UUL
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



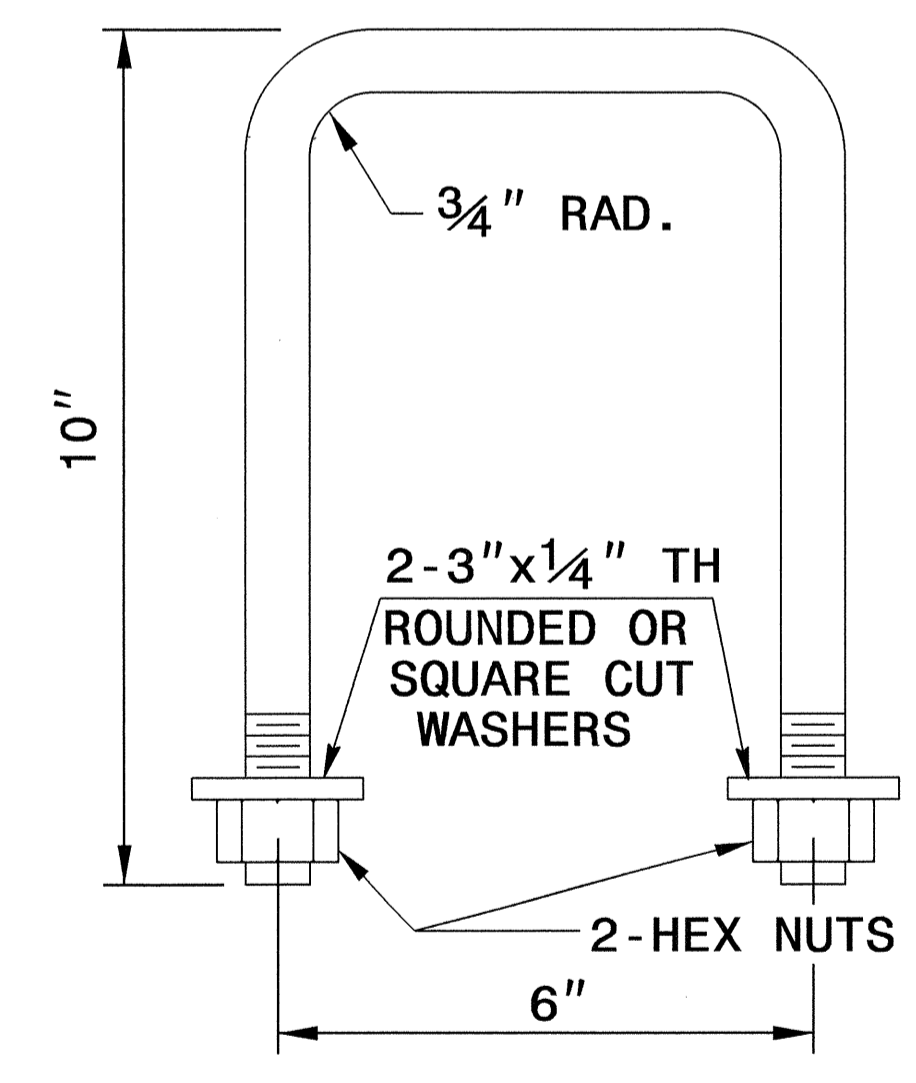
PARTIAL SECTION



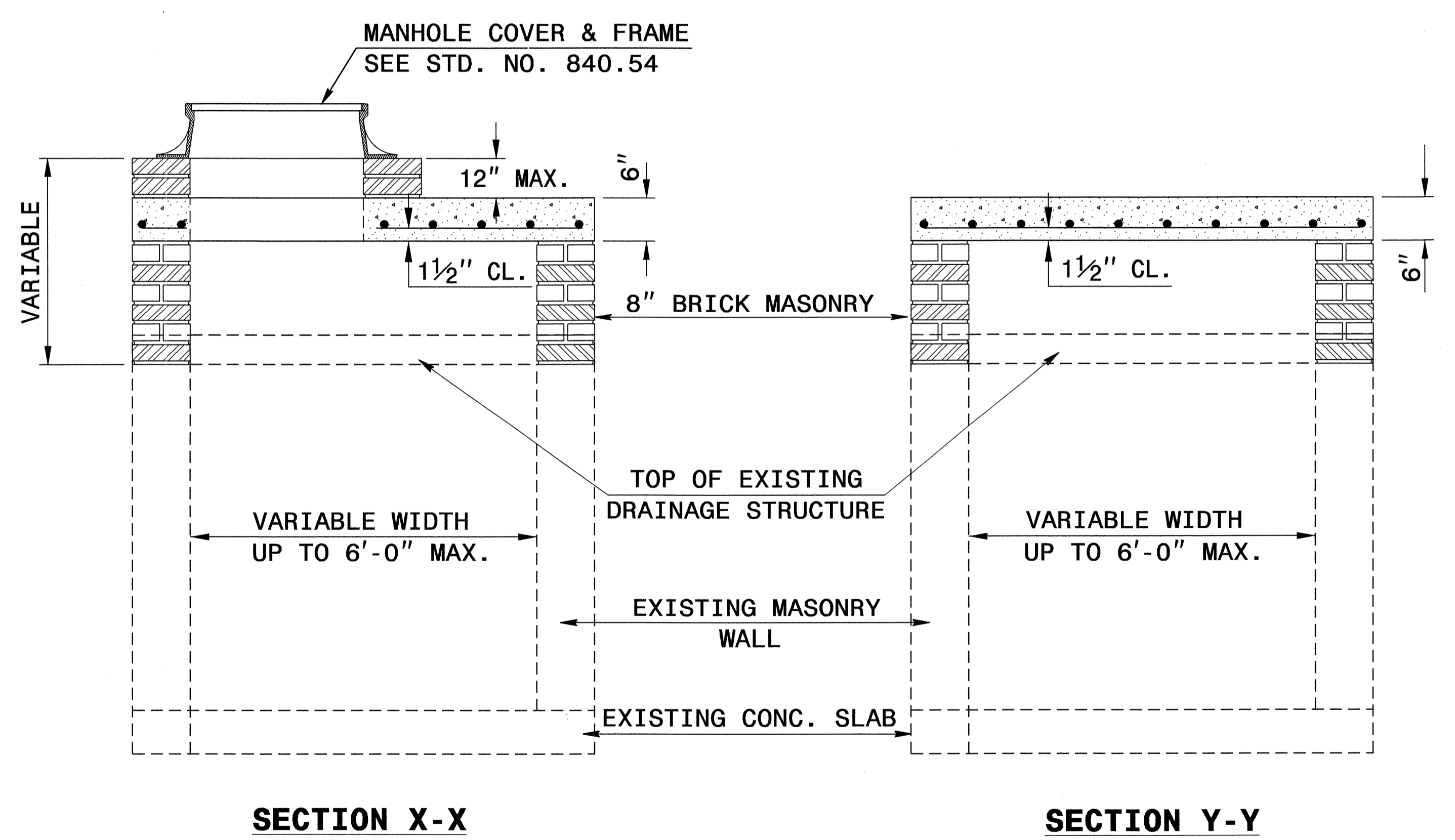
PLAN



PLAN



DETAIL OF HANDLE



SECTION X-X

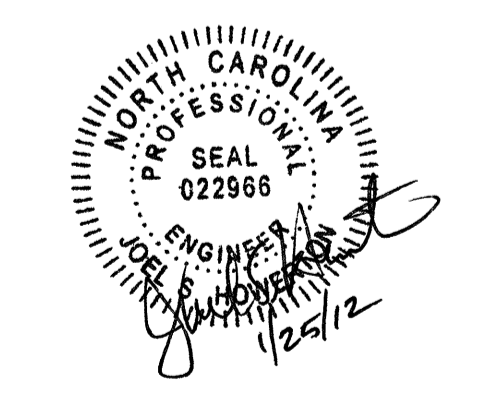
SECTION Y-Y

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.
 THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.
 DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS				
REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111

*** NOTE:**
 QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.

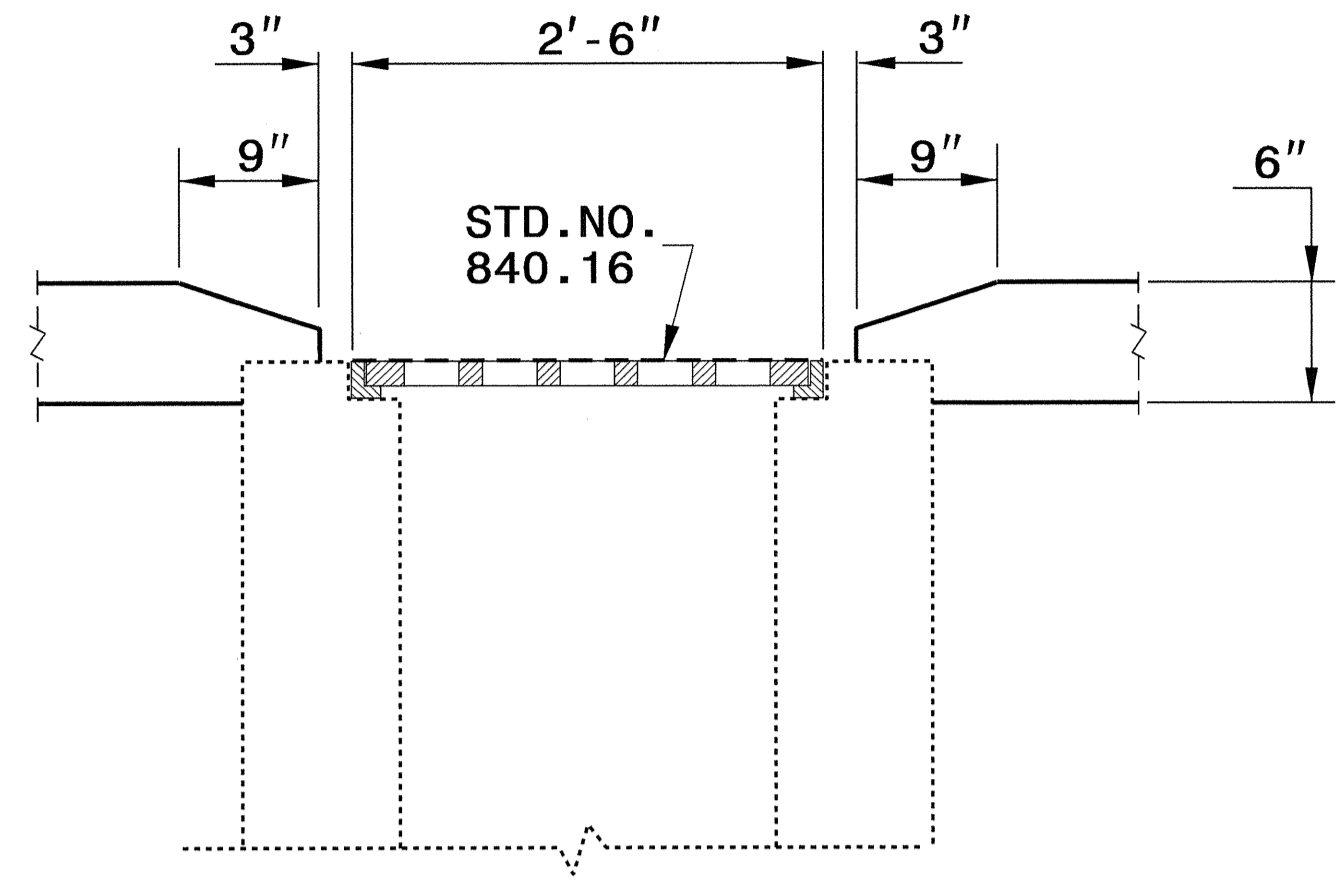


CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

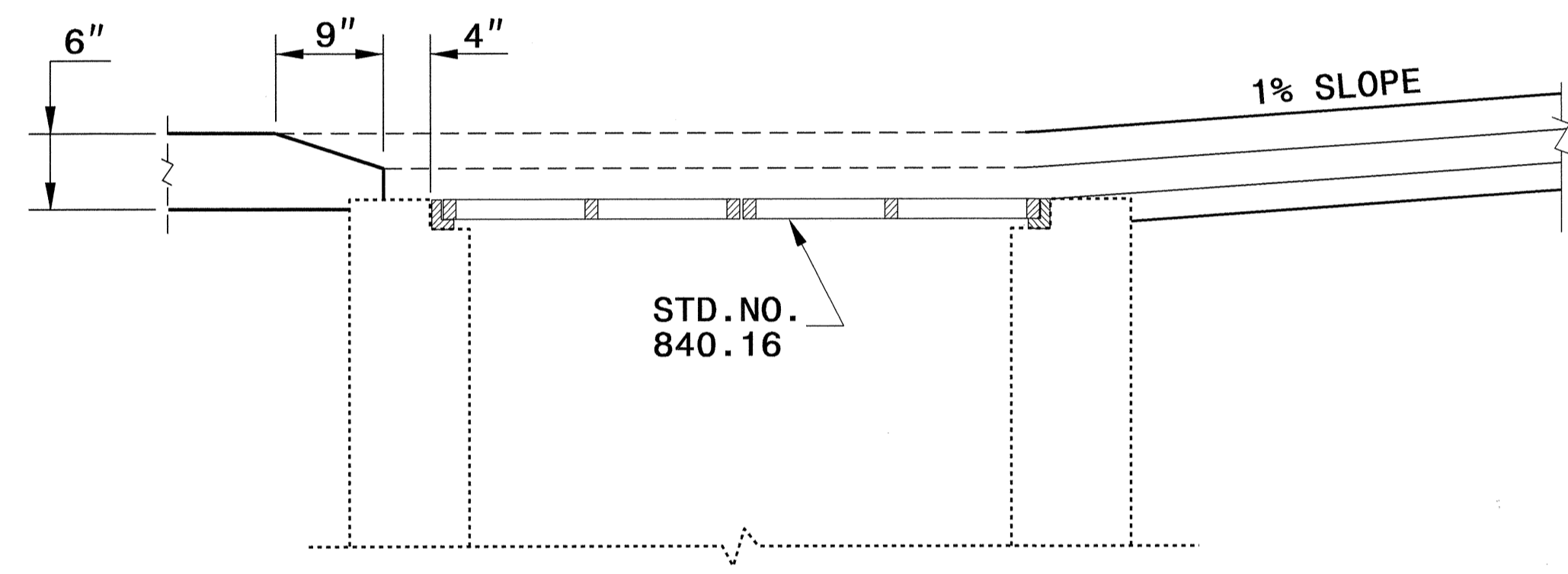
DETAIL TO CONVERT EXISTING DROP INLET OR CATCH BASIN TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: NOV. 1997
 MODIFIED BY: T.S.S. DATE: FEB. 2000
 CHECKED BY: *[Signature]* DATE: 1/9/12
 FILE SPEC.: 06174:/usr/details/stand/boxtojb.dgn

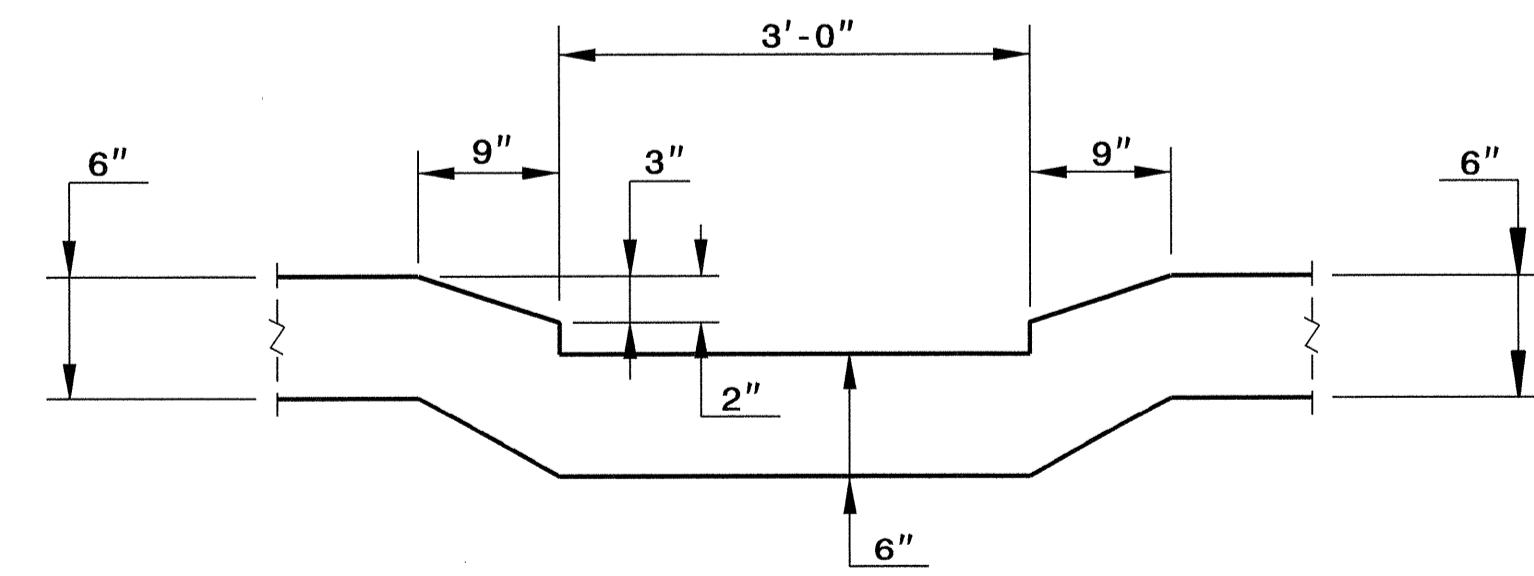
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SECTION 'A-A'



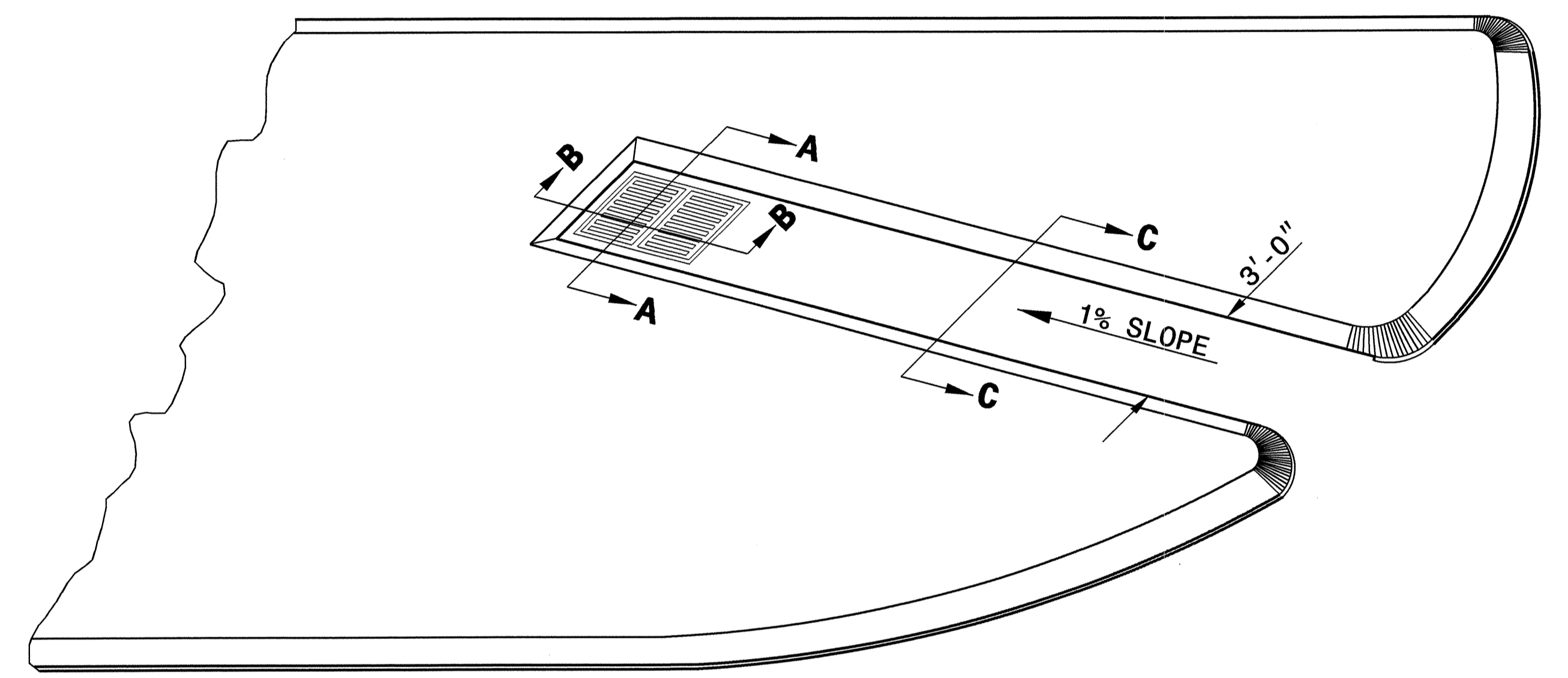
SECTION 'B-B'



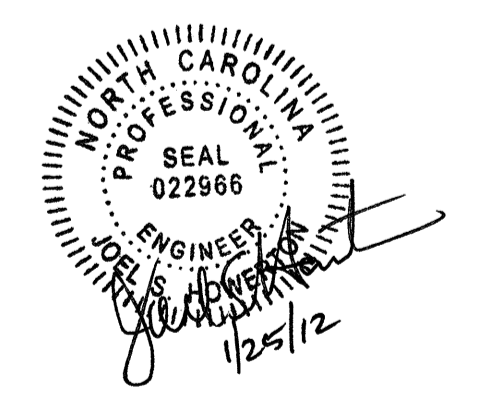
SECTION 'C-C'

NOTES:

SEE ROADWAY STANDARD DRAWING 852.01 FOR MONOLITHIC ISLAND.
SEE ROADWAY STANDARD DRAWING 840.14 AND 840.15 FOR DRAINAGE STRUCTURE.



SPECIAL DETAIL OF KEYED-IN MONOLITHIC ISLAND



CONTRACT STANDARDS AND DEVELOPMENT UNIT
PLANS AND STANDARDS SECTION
Office 919-707-6950 FAX 919-250-4119

SPECIAL DETAIL OF KEYED-IN MONOLITHIC ISLAND

ORIGINAL BY: TSpell	DATE: 1-9-12
MODIFIED BY: [Signature]	DATE: 1/9/12
CHECKED BY: [Signature]	DATE: 1/9/12
FILE SPEC.: [Path]	

09-JAN-2012 14:00
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 \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202946

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0196000000-E	270	5,000	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	110	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	340	SY	FOUNDATION CONDITIONING GEOTEXTILE
0366000000-E	310	440	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	12	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	12	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	28	LF	30" RC PIPE CULVERTS, CLASS III
0448200000-E	310	520	LF	15" RC PIPE CULVERTS, CLASS IV
0995000000-E	340	8	LF	PIPE REMOVAL
1099500000-E	505	1,000	CY	SHALLOW UNDERCUT
1099700000-E	505	2,000	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	100	TON	INCIDENTAL STONE BASE
1330000000-E	607	3,350	SY	INCIDENTAL MILLING
1491000000-E	610	4,875	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1503000000-E	610	3,400	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1523000000-E	610	5,300	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1575000000-E	620	700	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	10	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2253000000-E	840	2	CY	PIPE COLLARS
2286000000-N	840	15	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	1	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	7	EA	FRAME WITH TWO GRATES, STD 840.16
2365000000-N	840	7	EA	FRAME WITH TWO GRATES, STD 840.22
2396000000-N	840	4	EA	FRAME WITH COVER, STD 840.54
2451000000-N	852	6	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLET
2473000000-N	SP	1	EA	GENERIC DRAINAGE ITEM CONCRETE FLUME
2655000000-E	852	4,700	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
2815000000-N	858	2	EA	ADJUSTMENT OF DROP INLETS
2938000000-N	859	3	EA	CONVERT EXISTING DROP INLET TO JUNCTION BOX WITH MANHOLE
3030000000-E	862	337.5	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3210000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3285000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE M-350
3360000000-E	863	626	LF	REMOVE EXISTING GUARDRAIL
3649000000-E	876	245	TON	RIP RAP, CLASS B
3656000000-E	876	282	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	1,023	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	47	EA	SIGN ERECTION, TYPE E
4108000000-N	904	5	EA	SIGN ERECTION, TYPE F
4116100000-N	904	4	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)
4116100000-N	904	2	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
4155000000-N	907	34	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM DISPOSAL OF FLASHER SYSTEM

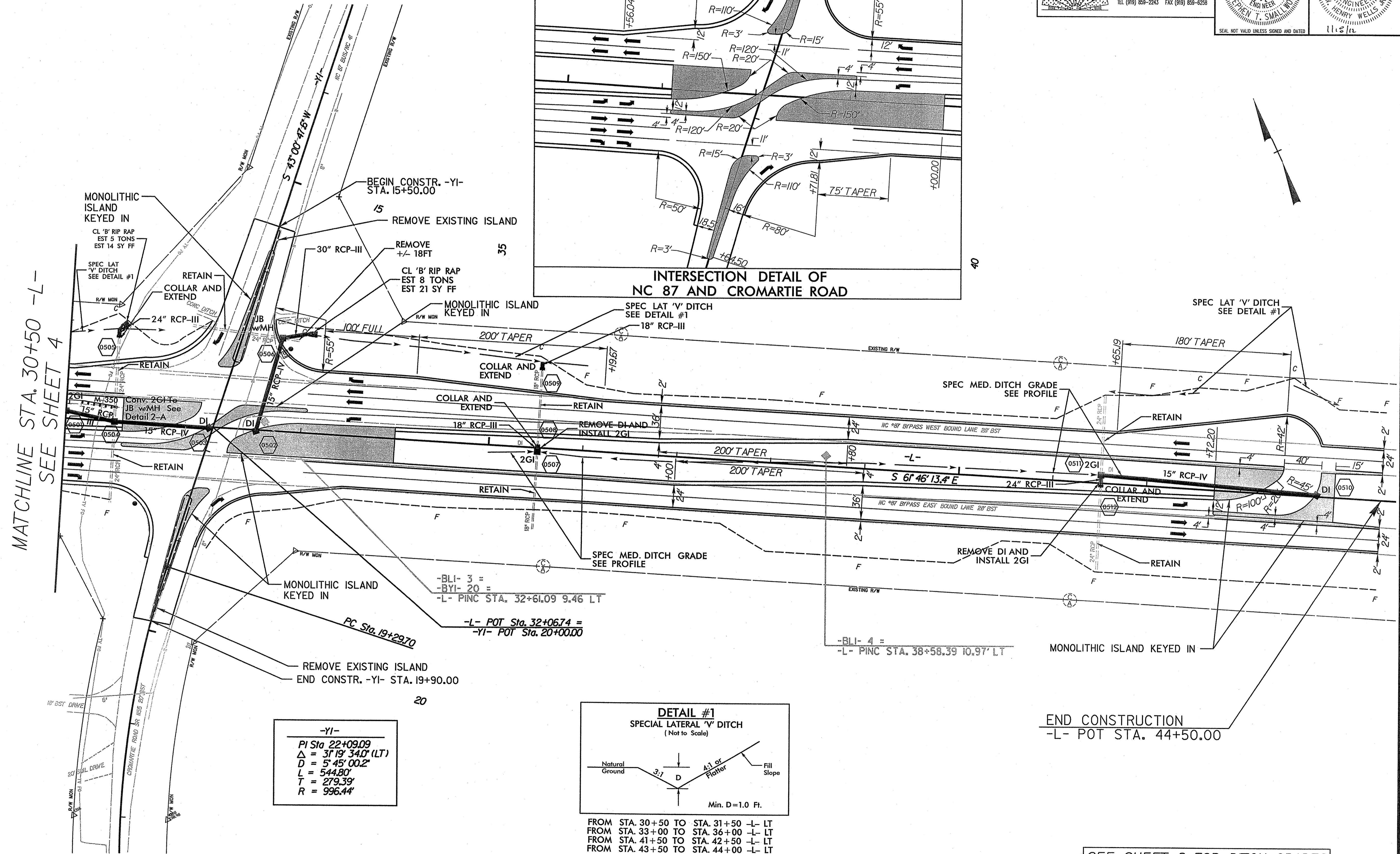
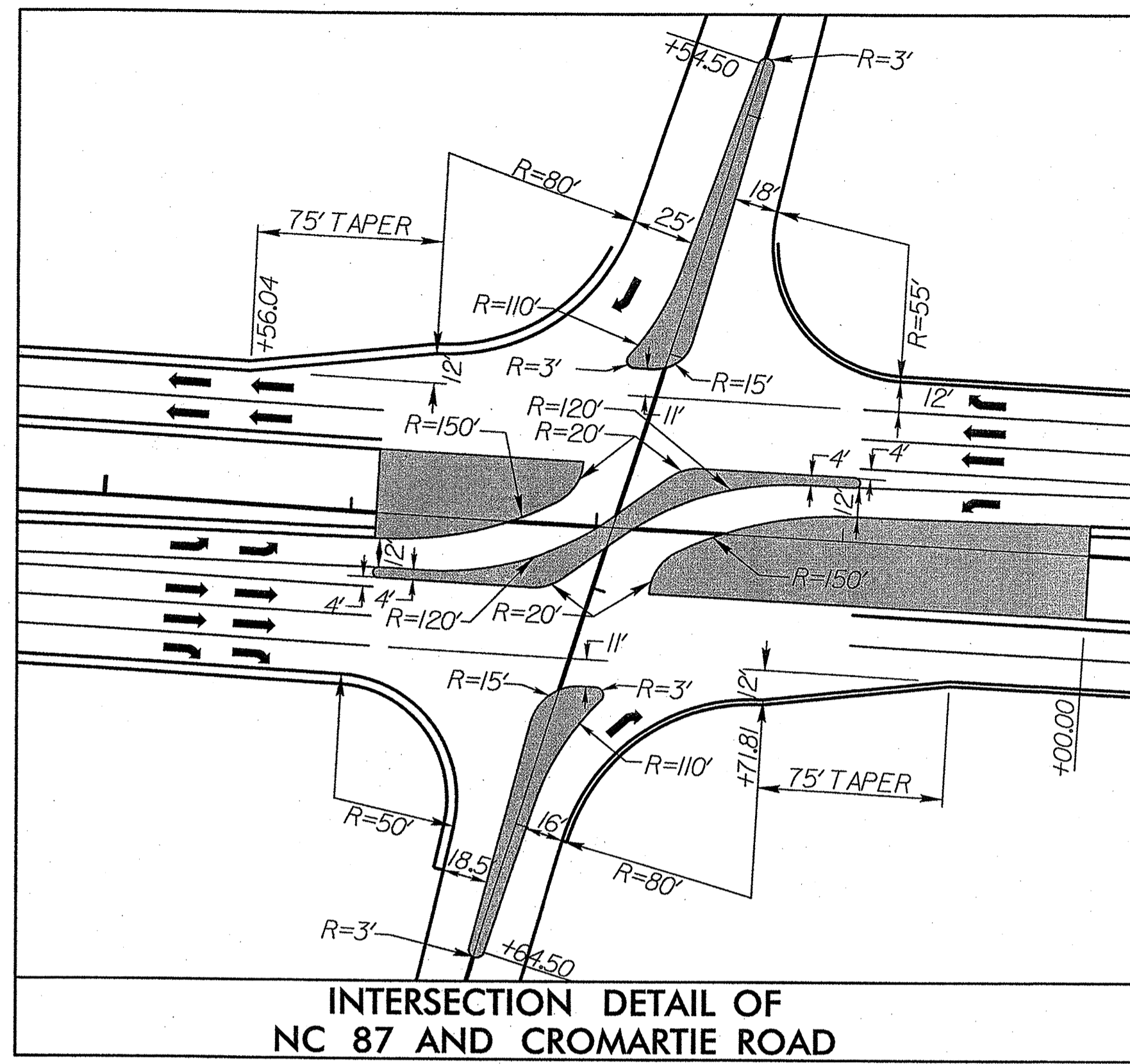
ItemNumber	Sec #	Quantity	Unit	Description
4400000000-E	1110	256	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	288	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	64	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	2	EA	FLASHING ARROW BOARD
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	300	EA	DRUMS
4435000000-N	1135	40	EA	CONES
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4455000000-N	1150	32	DAY	FLAGGER
4480000000-N	1165	2	EA	TMA
4510000000-N	SP	20	HR	LAW ENFORCEMENT
4650000000-N	1251	200	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	22,367	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	3,929	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	5,998	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4725000000-E	1205	30	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4810000000-E	1205	8,940	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	3,200	LF	PAINT PAVEMENT MARKING LINES (8")
4845000000-N	1205	30	EA	PAINT PAVEMENT MARKING SYMBOL
4850000000-E	1205	700	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4875000000-N	1205	4	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4900000000-N	1251	609	EA	PERMANENT RAISED PAVEMENT MARKERS
6000000000-E	1605	6,910	LF	TEMPORARY SILT FENCE
6006000000-E	1610	50	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	95	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	350	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	11	ACR	TEMPORARY MULCHING
6018000000-E	1620	450	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.75	TON	FERTILIZER FOR TEMPORARY SEEDING
6030000000-E	1630	155	CY	SILT EXCAVATION
6036000000-E	1631	3,800	SY	MATTING FOR EROSION CONTROL
6038000000-E	SP	160	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	1,545	LF	1/4" HARDWARE CLOTH
6071010000-E	SP	735	LF	WATTLE
6071020000-E	SP	95	LB	POLYACRYLAMIDE (PAM)
6084000000-E	1660	12	ACR	SEEDING & MULCHING
6087000000-E	1660	9	ACR	MOWING
6090000000-E	1661	150	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	300	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	8.5	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	13	EA	RESPONSE FOR EROSION CONTROL

5/14/99

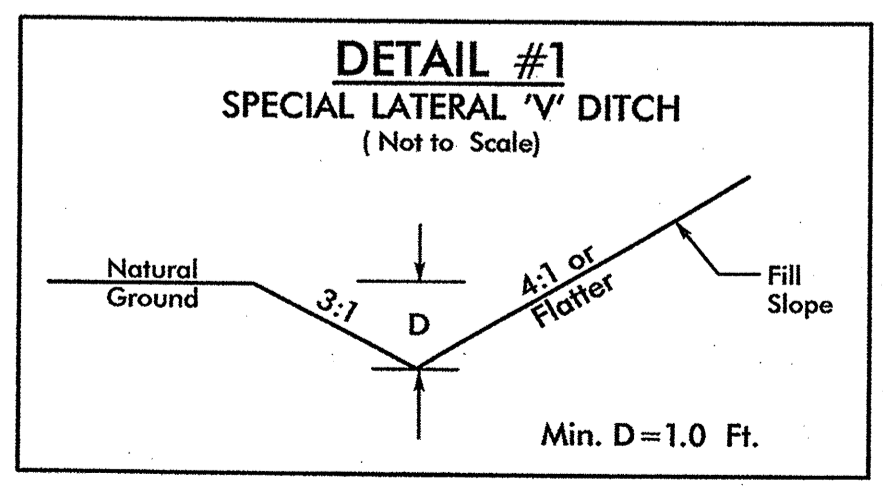
ARCADIS
 G & M of North Carolina, Inc.
 WWW.ARCADIS-US.COM
 801 Corporate Center Drive, Suite 300
 Raleigh, NC 27607-5073
 Tel: 919/854-1282 Fax: 919/854-5448

SUNGATE DESIGN GROUP, P.A.
 915 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243 FAX (919) 859-6238

PROJECT REFERENCE NO. W-5206C	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL NOT VALID UNLESS SIGNED AND DATED	



-YI-
 PI Sta 22+09.09
 $\Delta = 31' 19" 34.0" (LT)$
 $D = 5' 45" 00.2"$
 $L = 544.80'$
 $T = 279.39'$
 $R = 996.44'$



FROM STA. 30+50 TO STA. 31+50 -L- LT
 FROM STA. 33+00 TO STA. 36+00 -L- LT
 FROM STA. 41+50 TO STA. 42+50 -L- LT
 FROM STA. 43+50 TO STA. 44+00 -L- LT

SEE SHEET 8 FOR DITCH GRADES

SYSTEMS
 DONOVAN
 SHERMAN

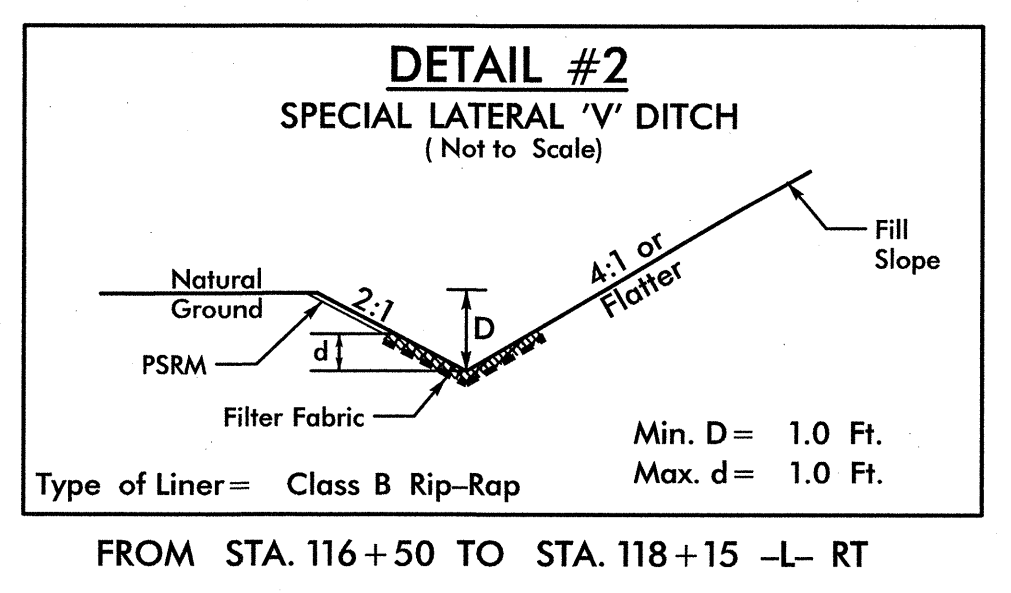
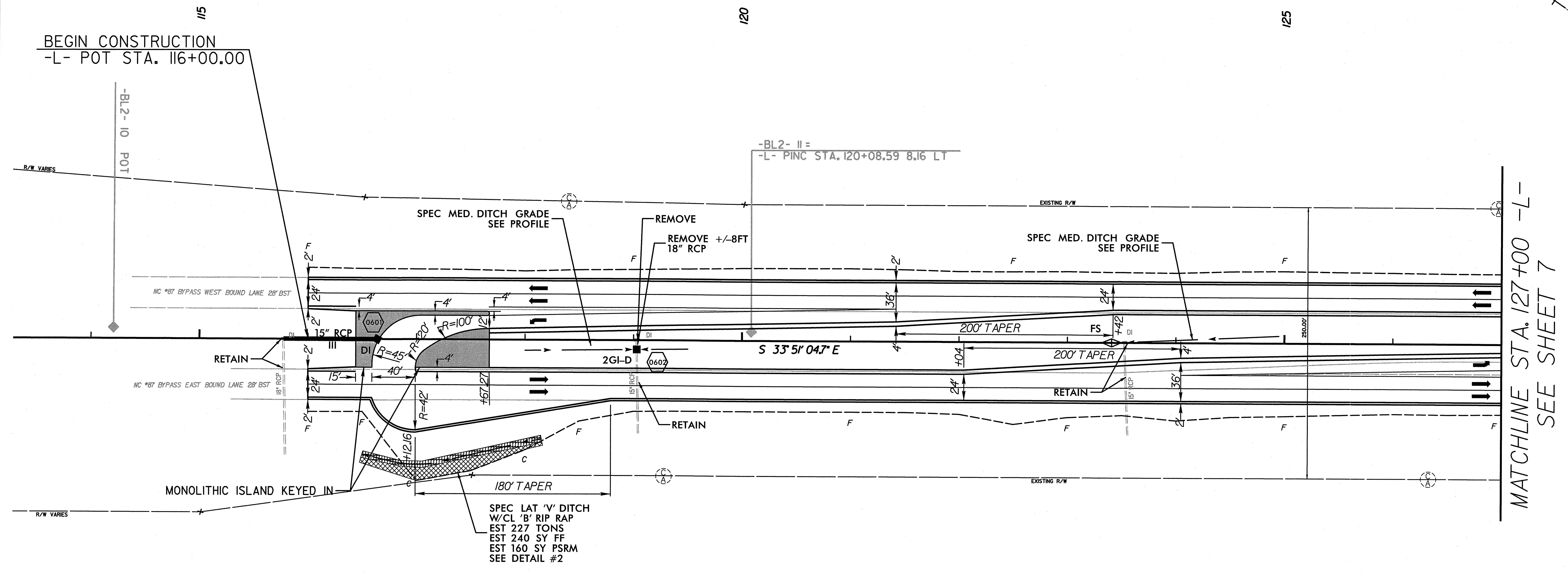
06/11/2012 11:29:09 AM

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 RALEIGH, NORTH CAROLINA 27606
 TEL (919) 859-2243 FAX (919) 859-6258

PROJECT REFERENCE NO. W-5206C	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER STEPHEN T. SMALL 1/22/12 022037	HYDRAULICS ENGINEER W. HENRY WELLS 9334 11/8/12

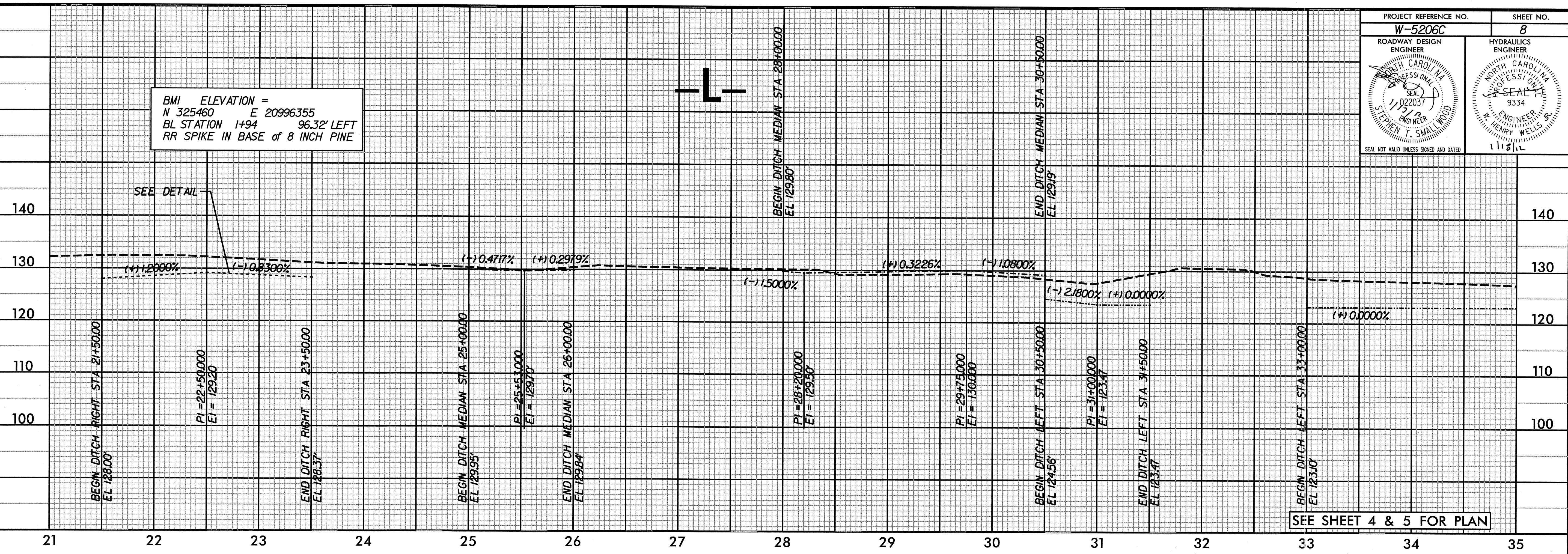


SEE SHEET 9 FOR DITCH GRADES

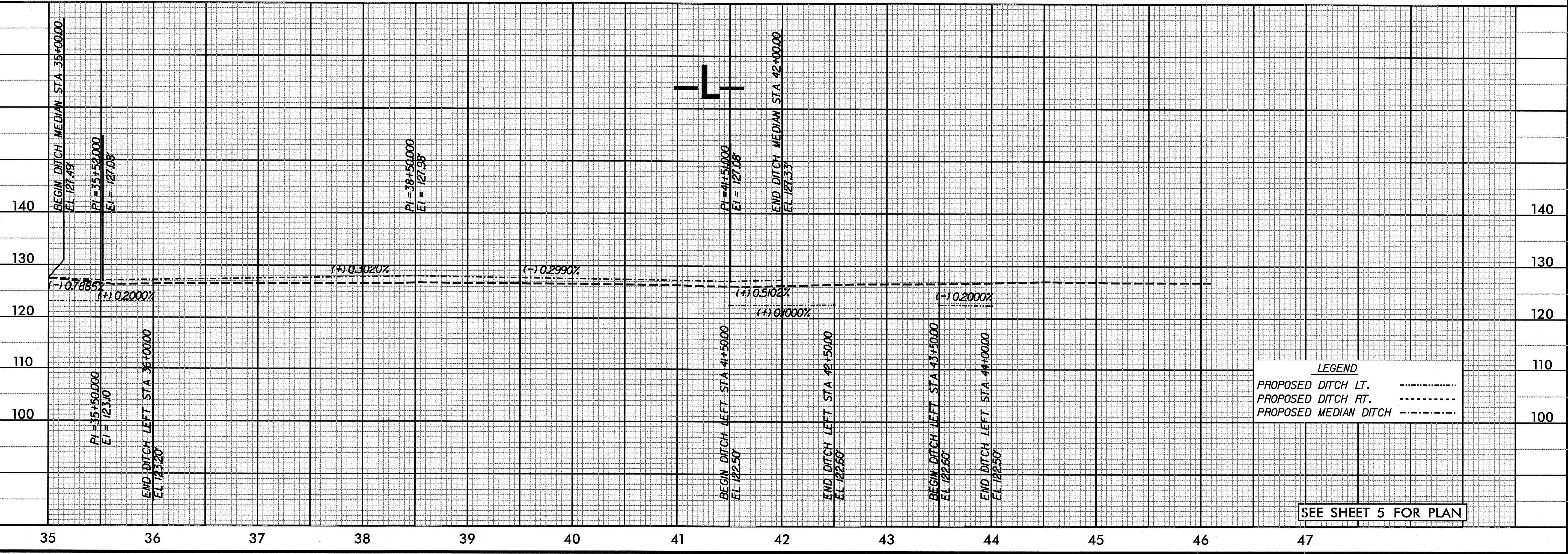
5/14/99

3/20/06 rtw dsh 06.dwg 1/16/2012 8:13:21 AM

BMI ELEVATION =
 N 325460 E 20996355
 BL STATION 1+94 96.32' LEFT
 RR SPIKE IN BASE of 8 INCH PINE



SEE SHEET 4 & 5 FOR PLAN



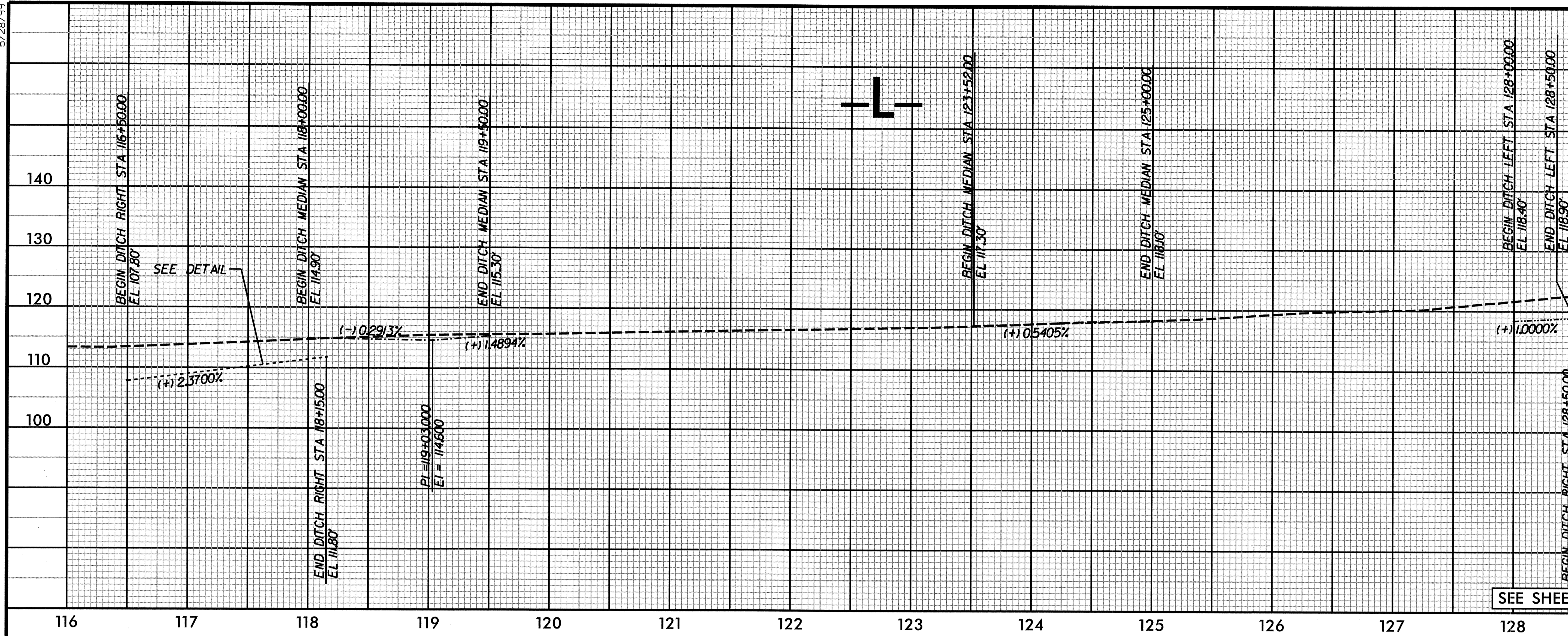
LEGEND
 PROPOSED DITCH LT. -----
 PROPOSED DITCH RT. -----
 PROPOSED MEDIAN DITCH - . - . - .

SEE SHEET 5 FOR PLAN

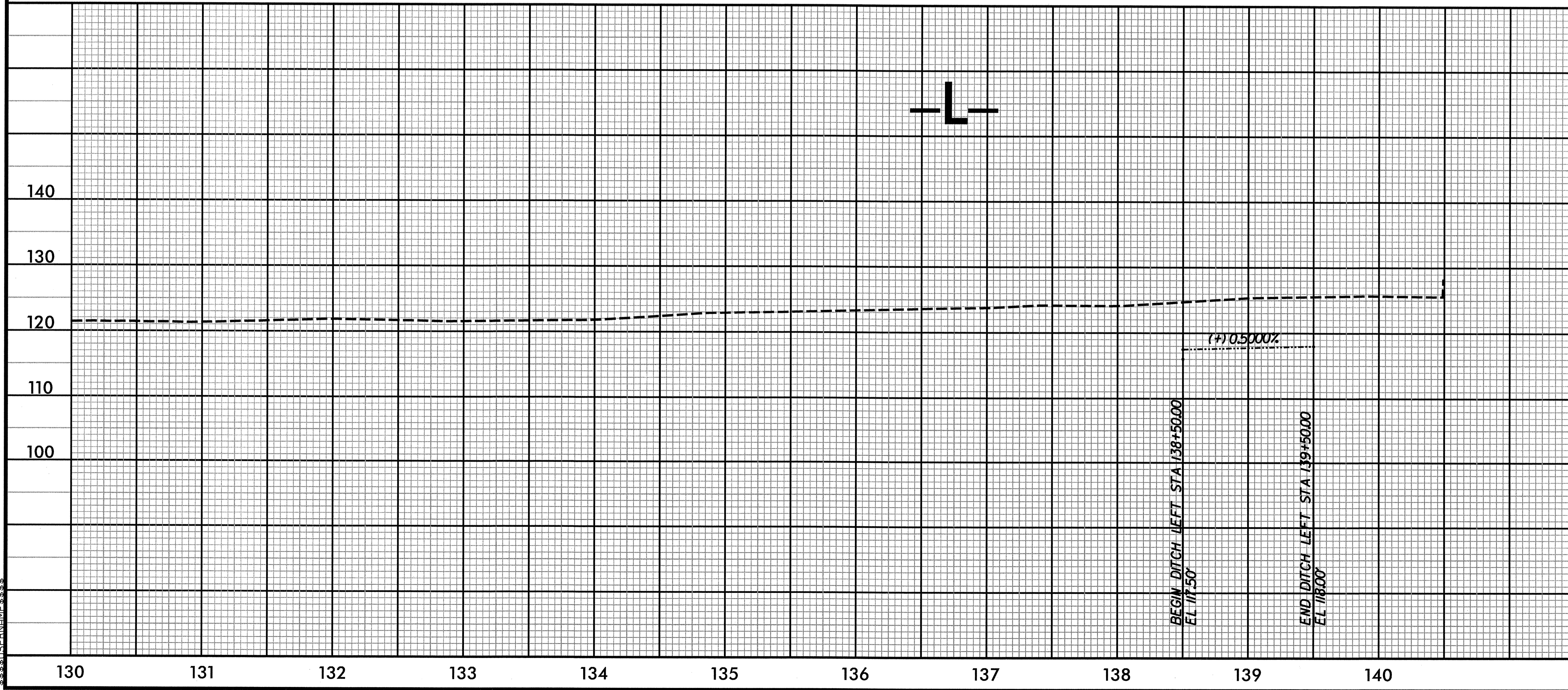
5/28/99
 SYSTEMS
 (SERNAM)

5/28/99

PROJECT REFERENCE NO. W-5206C	SHEET NO. 9
ROADWAY DESIGN ENGINEER <i>(Signature)</i> 1022037 1/7/98	HYDRAULICS ENGINEER <i>(Signature)</i> 9334
SEAL NOT VALID UNLESS SIGNED AND DATED	



SEE SHEET 6 & 7 FOR PLAN



LEGEND
 PROPOSED DITCH LT. -----
 PROPOSED DITCH RT. -----
 PROPOSED MEDIAN DITCH -----

SEE SHEET 7 FOR PLAN

C:\TIME*****

plc: rrv rfv: nsh09.dwg 1/13/2012 12:59:52 PM