

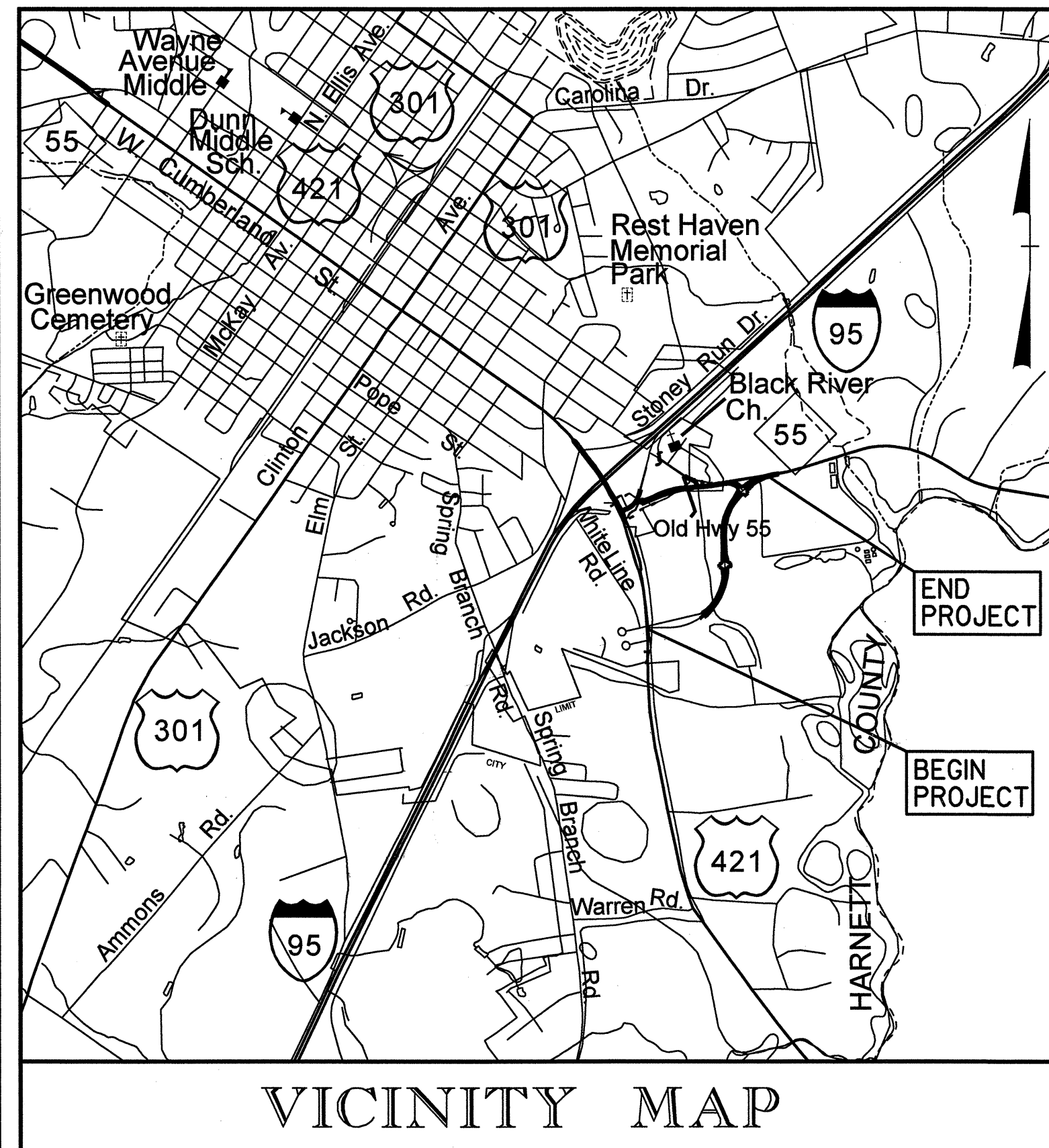
SEE SHEET 1-A FOR INDEX OF SHEETS
SEE SHEET 1-B FOR CONVENTIONAL SYMBOLS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HARNETT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5010	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41822.1.1	IMS 95 210773	PE	
41822.2.1	IMS 95 210773	R/W & UTILITY	
41822.3.1	IMS 95 210773	CONSTR.	

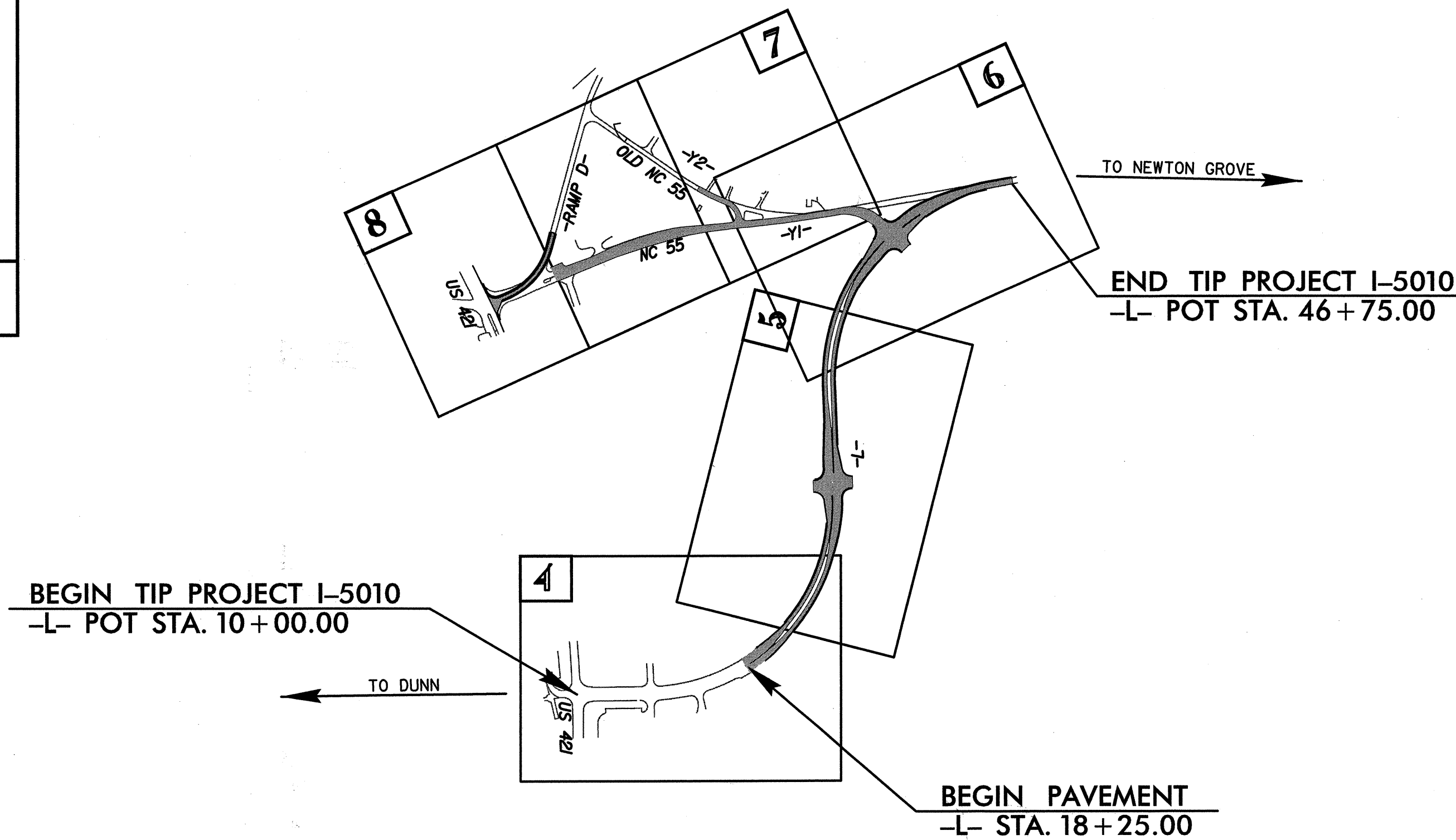
TIP PROJECT: I-5010



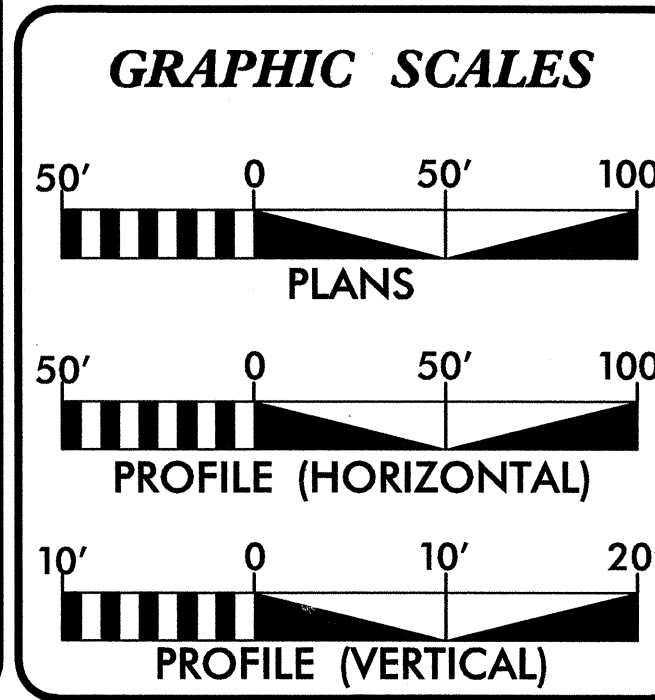
LOCATION: NC 55 AT THE I-95 AND US 421 INTERCHANGE

TYPE OF WORK: WIDENING, GRADING, PAVING, DRAINAGE, SIGNALS AND SIGNING

NAD 83/01 - NC GRID



CONTRACT: C202088



DESIGN DATA

-L-

DS = 50 MPH

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT I-5010 = 0.696 MILE
TOTAL LENGTH TIP PROJECT I-5010 = 0.696 MILE

ARCADIS
G & M of North Carolina, Inc.
80 Corporate Center Drive, Suite 300
Raleigh, NC 27607-5073
Tel: 919/854-4262 Fax: 919/854-5448

2006 STANDARD SPECIFICATIONS

ARCADIS CONTACT:
STEVE SMALLWOOD, P.E.
PROJECT ENGINEER

R/W DATE:
NOVEMBER 17, 2008

LETTING DATE:
JANUARY 19, 2010

HYDRAULICS ENGINEER

[Signature]
P.E.

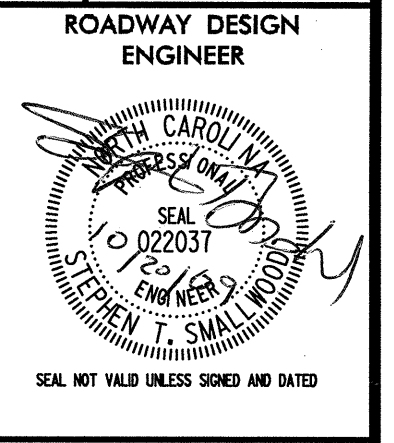
ROADWAY DESIGN ENGINEER

[Signature]
P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

[Signature]
P.E.
STATE HIGHWAY DESIGN ENGINEER

ARCADIS G&M Date: \$DATE\$ Time: \$TIME\$ Filename: \$FILE\$



GENERAL NOTES: 2006 SPECIFICATIONS
 EFFECTIVE: 07-18-06
 REVISED: 07-30-08

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

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

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.

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 City of Dunn, Progress Energy, Embarq, Charter Communications, Piedmont Natural Gas, Harnett County
 ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

2006 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 July 18, 2006 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 Superlevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
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
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Islands
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets

EFF. 07-18-06
 REV. 01-02-07

INDEX OF SHEETS

<u>SHEET NUMBER</u>	<u>SHEET</u>
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, & LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	CENTERLINE COORDINATE LIST
2 THRU 2-C	PAVEMENT SCHEDULE, WEDGING DETAIL, & TYPICAL SECTIONS
2-D	ANCHORAGE DETAIL
2-E	DROP INLET DETAIL
2-F	DRAINAGE STRUCTURE DETAIL
2-G THRU 2-H	METHOD OF PIPE INSTALLATION DETAILS
3	SUMMARY OF QUANTITIES
3-A THRU 3-B	DRAINAGE SUMMARIES
3-C	EARTHWORK SUMMARY & PAVEMENT REMOVAL SUMMARY
3-D	FENCE SUMMARY PARCEL INDEX SHEET
4 THRU 8	PLAN SHEETS
9 THRU 11	PROFILE SHEETS
TCP-1 THRU TCP-10	TRAFFIC CONTROL PLANS
PM-1 THRU PM-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
SIG-1 THRU SIG-19	SIGNAL PLANS
UC-1 THRU UC-3	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-6	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION SUMMARY SHEETS
X-1 THRU X-20	CROSS SECTIONS

8/17/99
 SYSTEMS DESIGN GROUP
 1100 S. MAIN ST. SUITE 100
 DUNN, NC 27826
 TEL: 919/286-1100
 FAX: 919/286-1101
 WWW: WWW.SIDNEYHARRIS.COM

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	⑫③
Existing Fence Line	× × × ×
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	⊠
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing High Quality Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

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	-----
River Basin Buffer	-----
Flow Arrow	←
Disappearing Stream	→
Spring	○
Swamp Marsh	⊗
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊠
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	⊠
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊠
Proposed Control of Access	⊠
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
Curb Cut for Future Wheel Chair Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊙
Pavement Removal	-----

VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

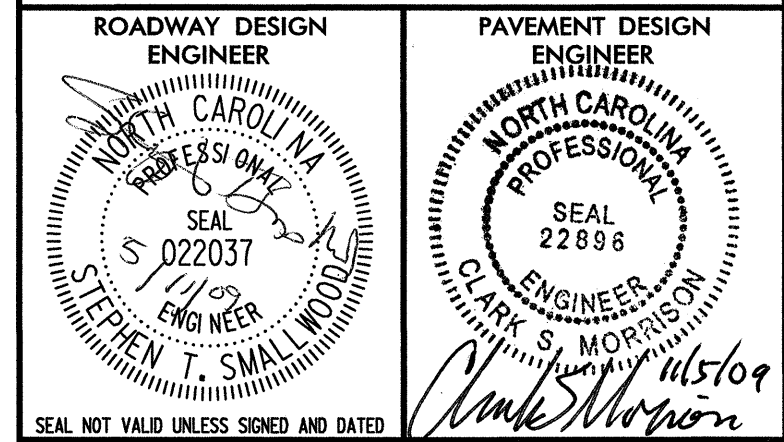
Gas Valve	⊙
Gas Meter	⊙
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

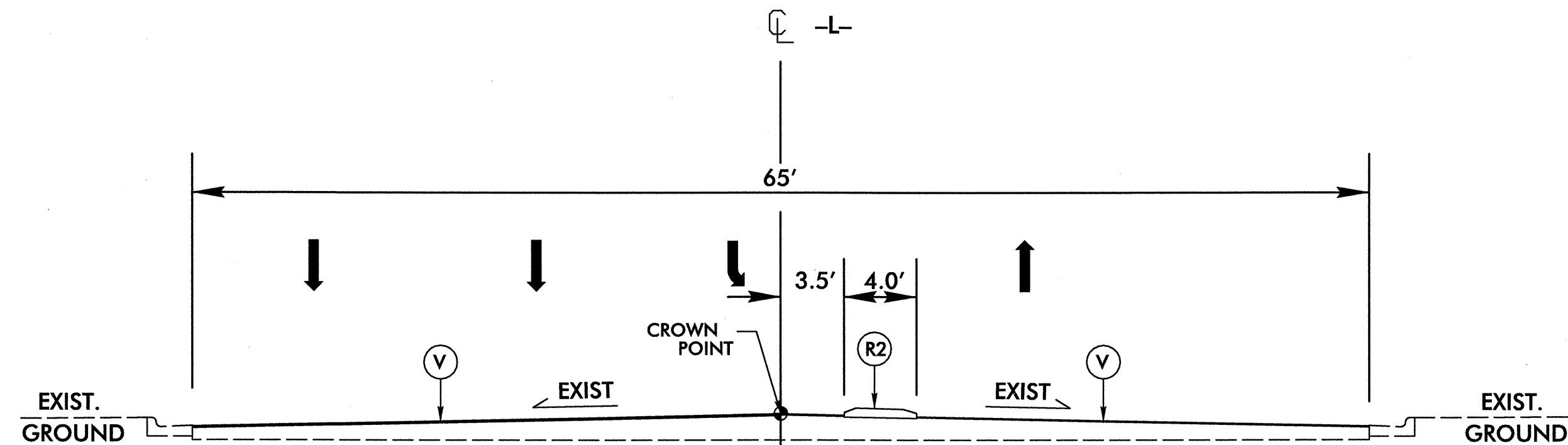
Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

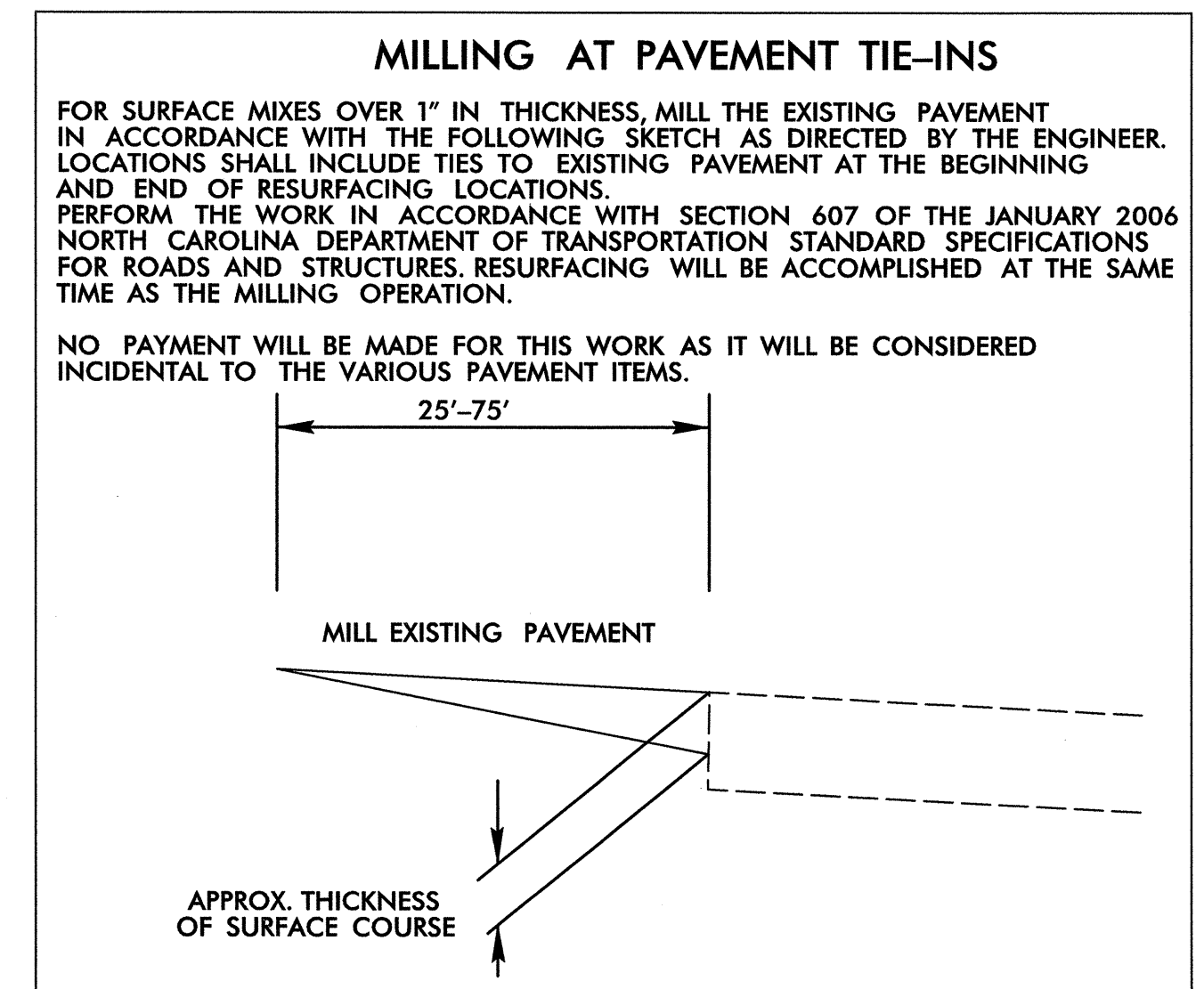
Utility Pole	⊙
Utility Pole with Base	⊠
Utility Located Object	⊙
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	⊠
AG Tank; Water, Gas, Oil	⊠
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



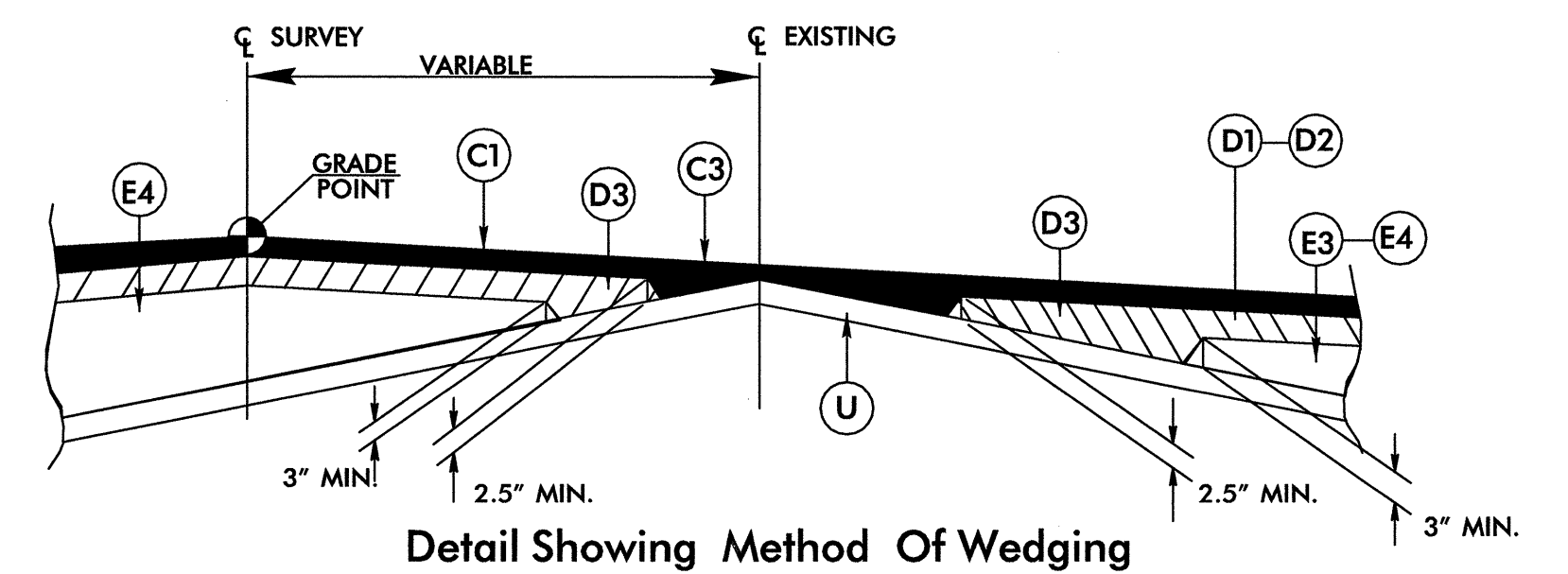
NOTE: SEE PLANS FOR EXACT LOCATION OF TURN LANES AND MONOLITHIC ISLANDS.
 NOTE: SEE SHEET 7 FOR PLACEMENT OF ABC AT END OF -Y2-



TYPICAL SECTION NO. 1
 STA. 18+25.00 TO STA. 18+97.77



CODE	PAVEMENT SCHEDULE
C1	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD
C2	PROP. APPROX. 3.0" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 3.0" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D3	PROP. VAR. ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E3	PROP. APPROX. 6.0" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E4	PROP. VAR. ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT GREATER THAN 5 1/2" IN DEPTH OR LESS THAN 3" IN DEPTH.
R1	1'6" CURB & GUTTER
R2	5" MONO. CONC. ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILL 1.5" & REPLACE WITH 1.5" S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)



REVISIONS

8/17/99

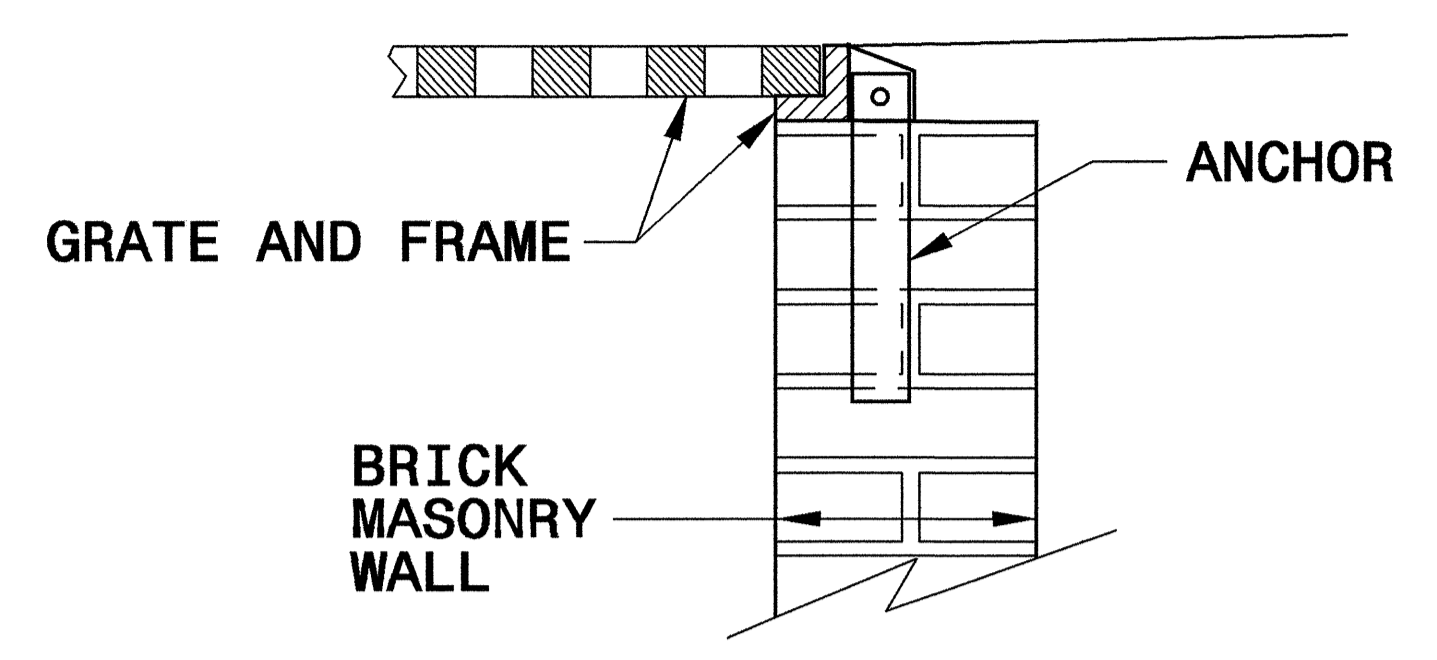
CONDITIONS

8/17/99

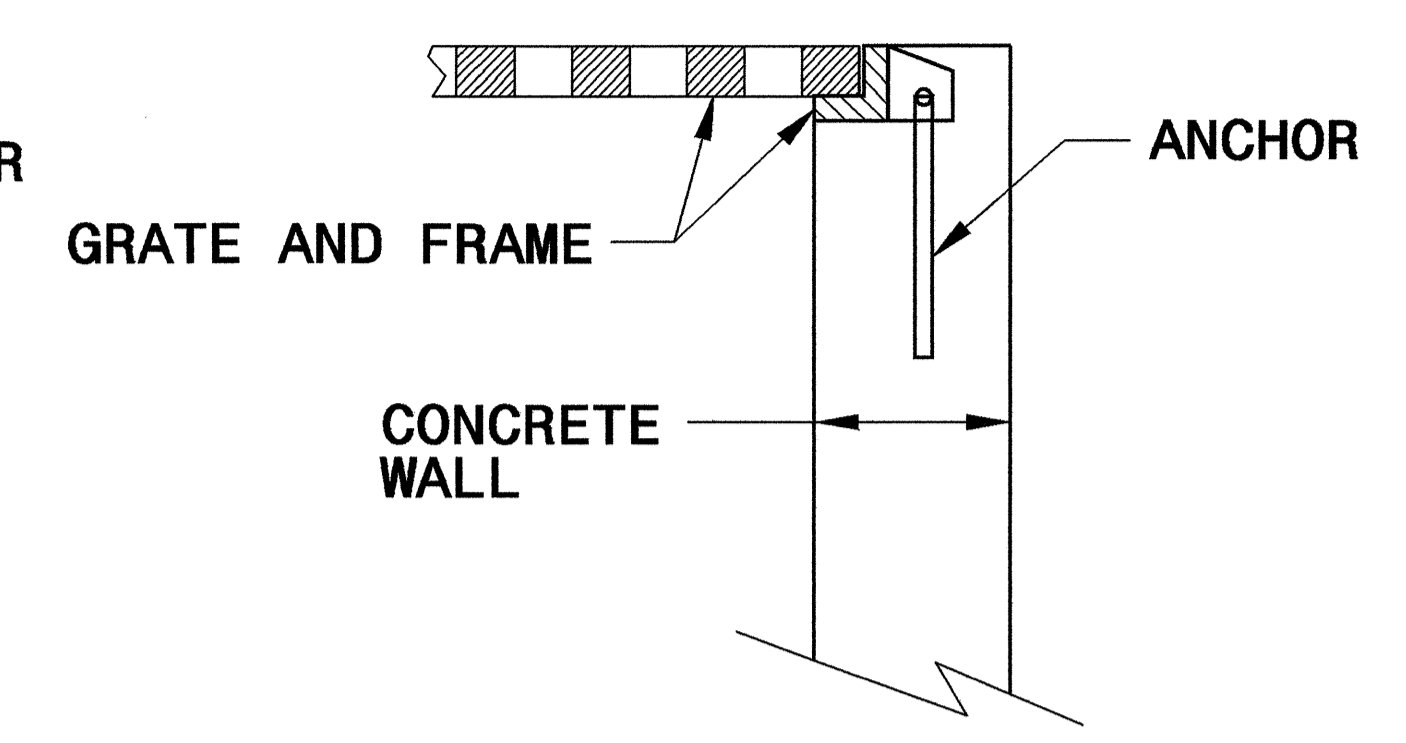
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

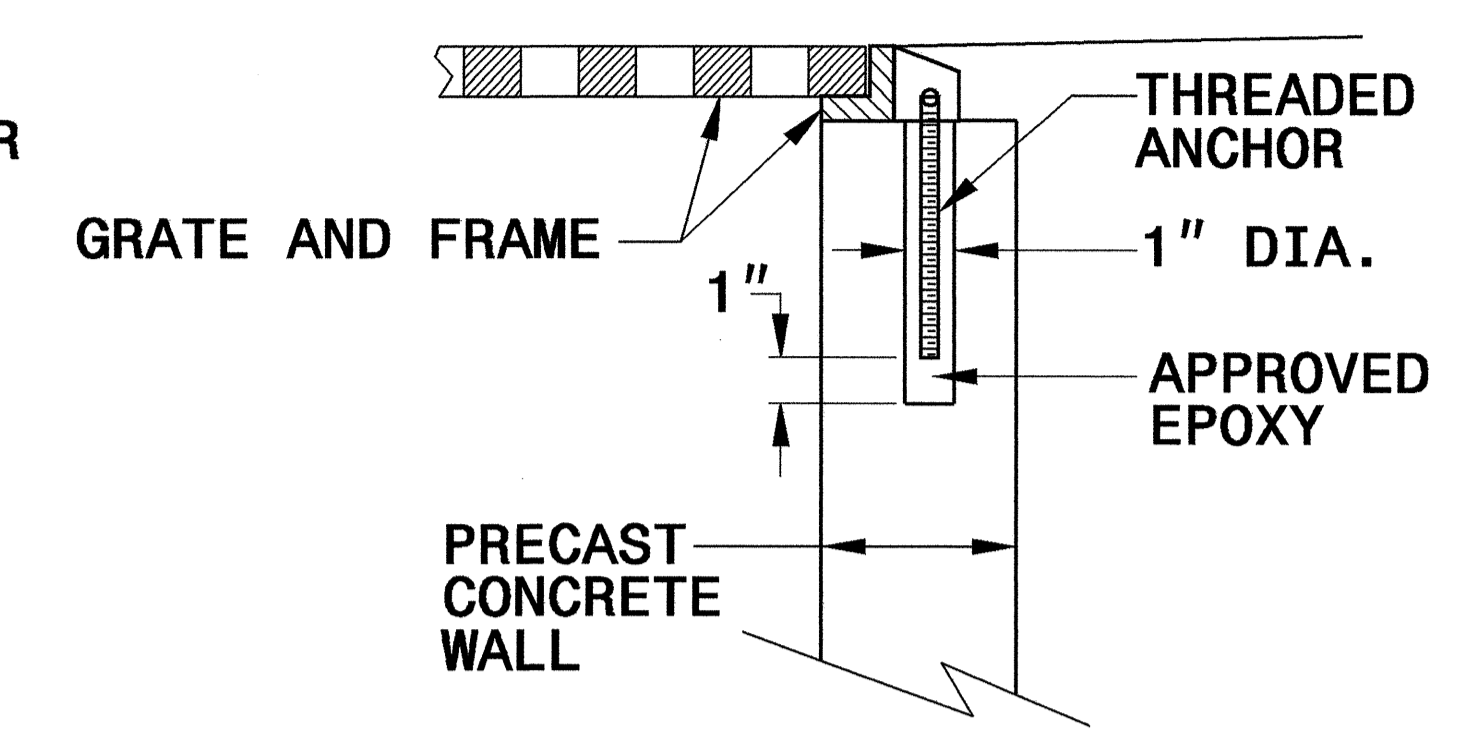
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



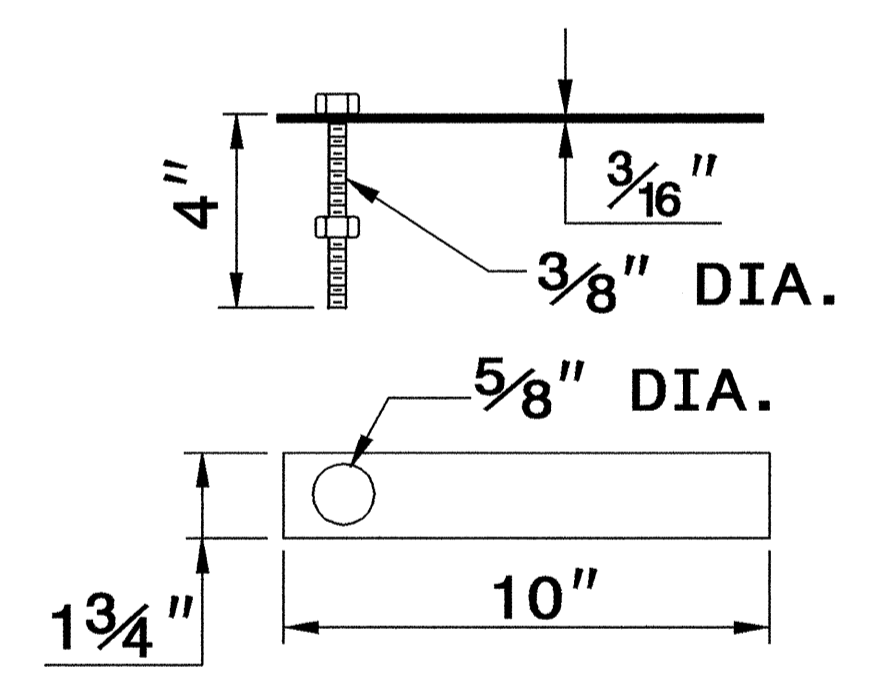
CONCRETE CONSTRUCTION



PRECAST CONCRETE CONSTRUCTION

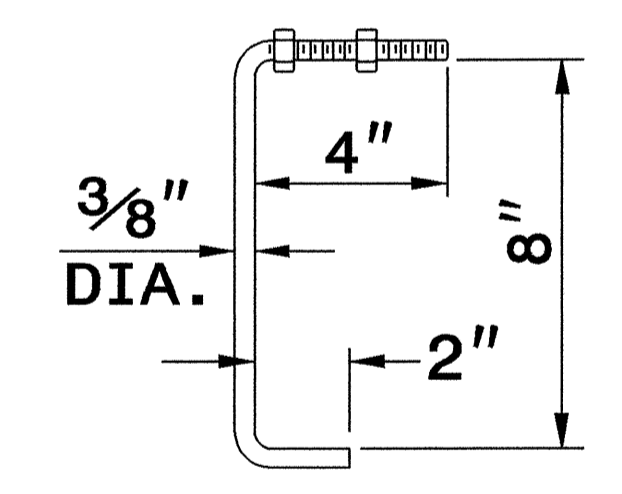
DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



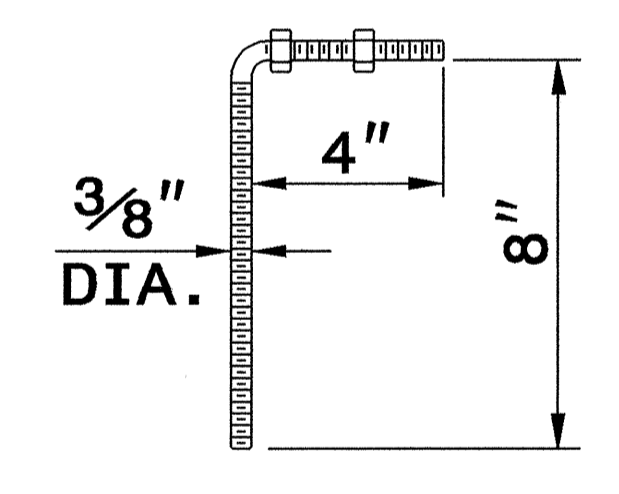
MASONRY ANCHOR

3/8" DIA. BOLT WITH PLATE



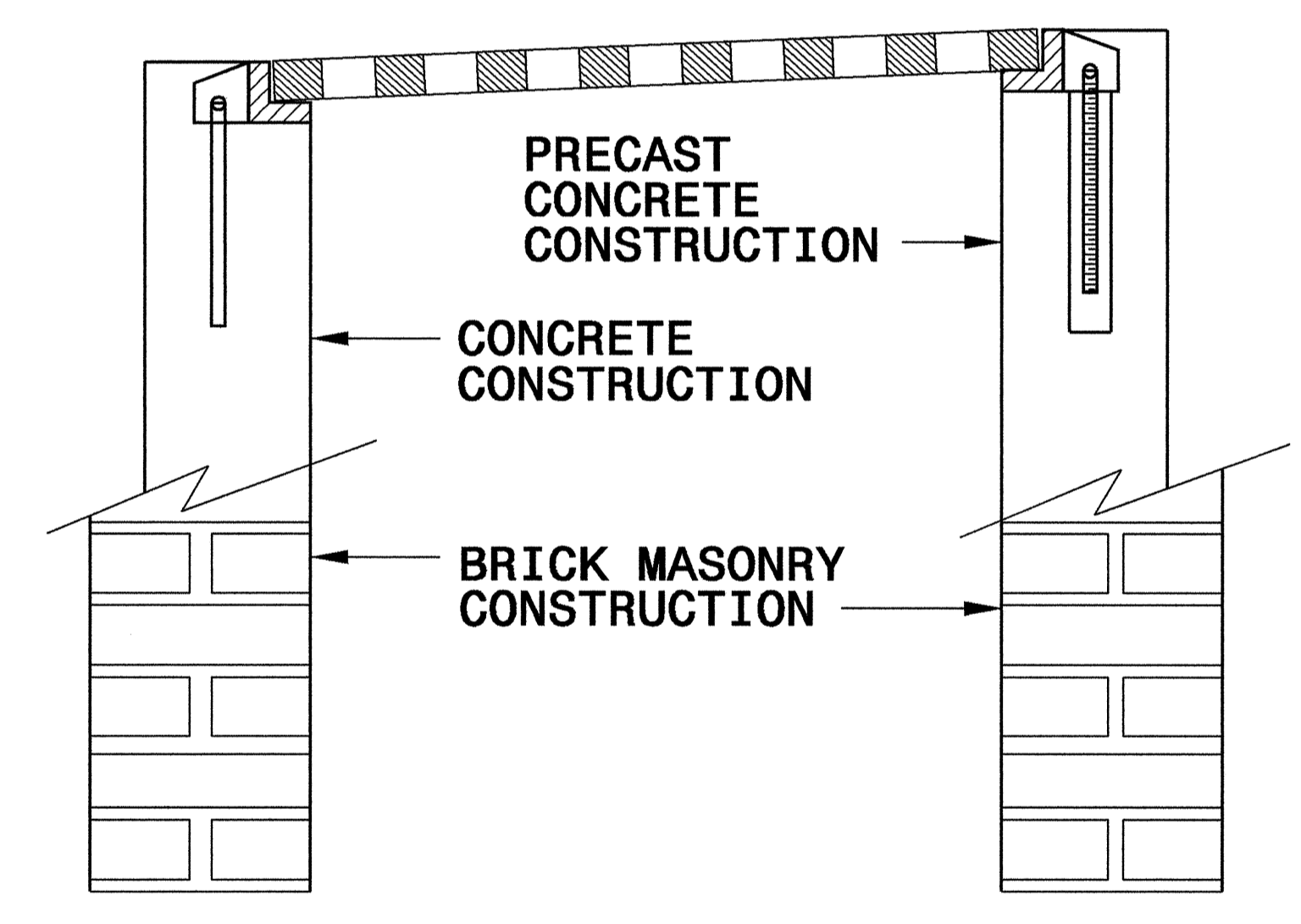
CONCRETE ANCHOR

3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR

3/8" DIA. BENT BAR



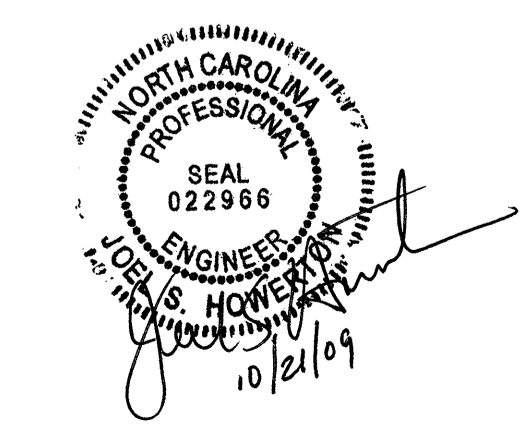
FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

27-SEP-2006 08:59 S:\Contracts\Contract553\Special Details\vieward\stds\06\Std to Special Details\840D25 Anchorage for Frames\0840d25.dgn



**PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
 MODIFIED BY: E.E. WARD DATE: 9/25/06
 CHECKED BY: DATE: _____
 FILE SPEC.: _____

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE STD NO. 840.16 FOR GRATE AND FRAME UNLESS OTHERWISE INDICATED.

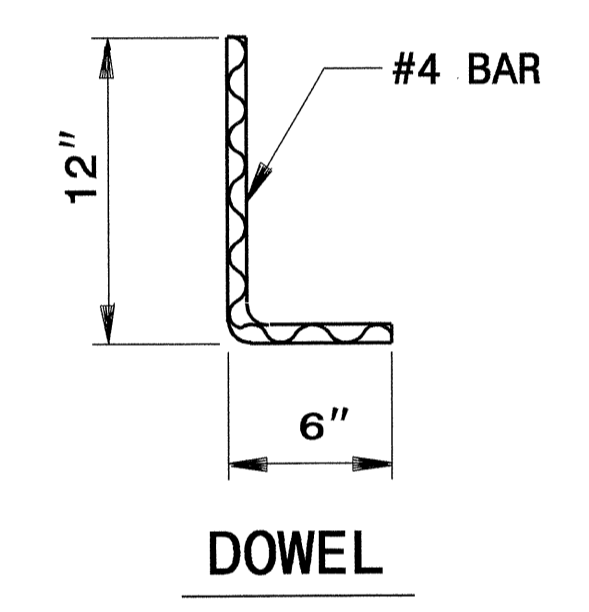
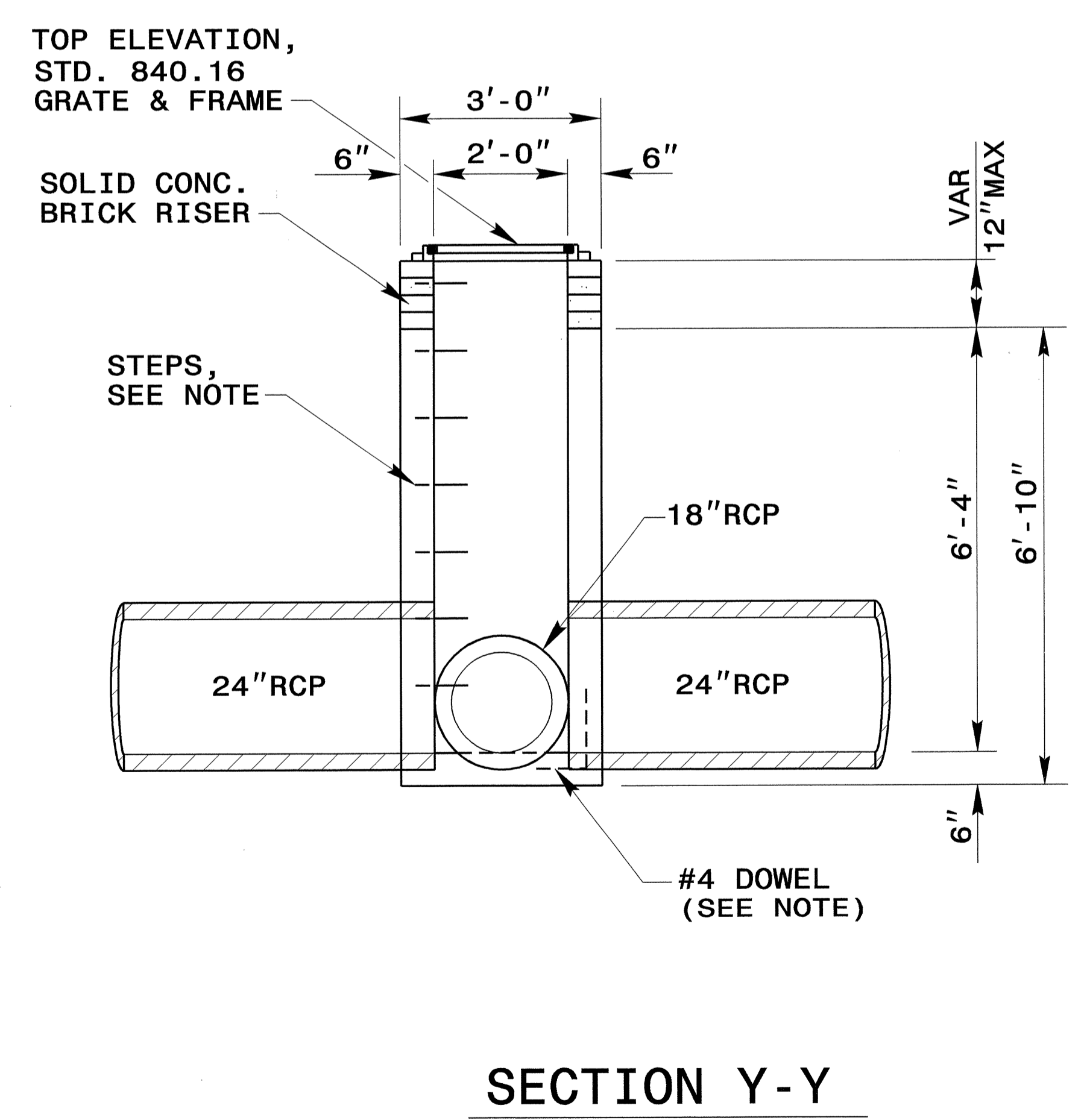
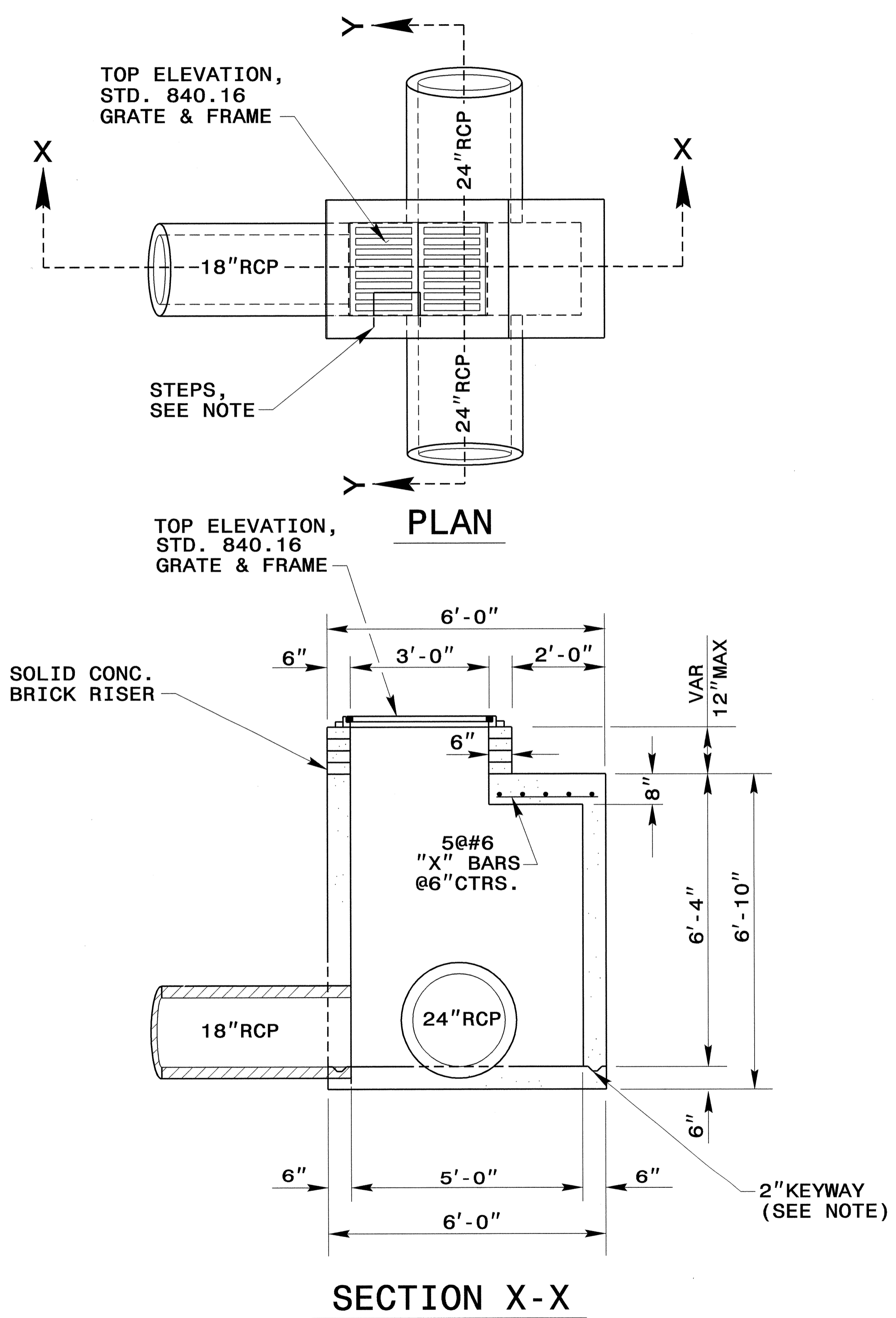
CONSTRUCT WITH PIPE CROWNS MATCHING.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

BILL OF MATERIALS				
BAR	NO.	SIZE	LENGTH	WEIGHT
X	7	#6	2'-2"	23
Y	5	#6	2'-8"	21
TOTAL REINF. STEEL (lbs)				44
CONC. (cu. yds)				2.45
DEDUCTIONS FOR PIPES				
1-18" RCP				-0.06
2-24" RCP				-0.18
DROP INLET OPENING				-0.15
TOTAL CONC. (cu. yds)				2.06
TOTAL CONC.SAY (cu. yds)				2.1



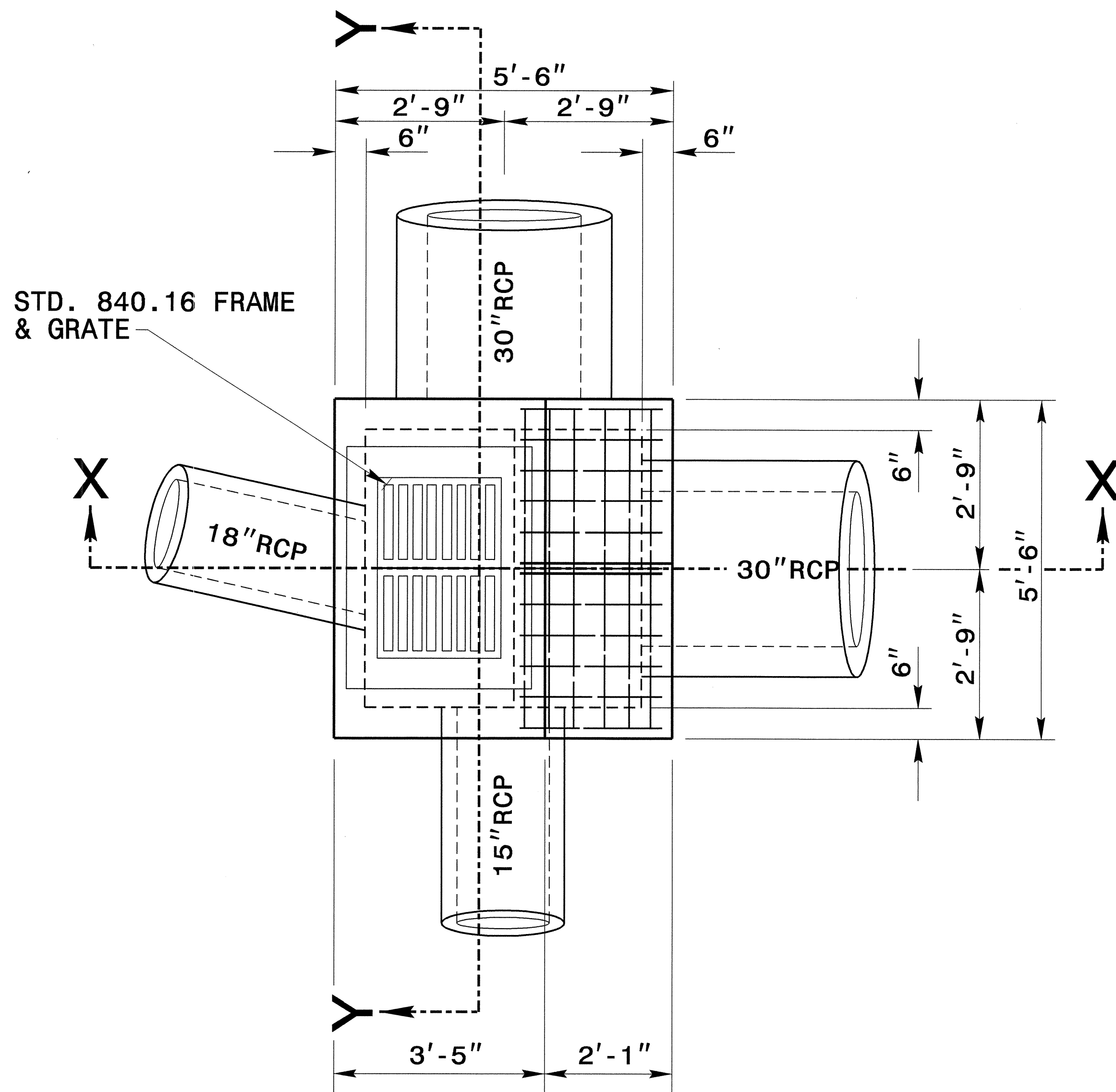
STRUCTURE #8

**PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
Office 919-250-4128 FAX 919-250-4119

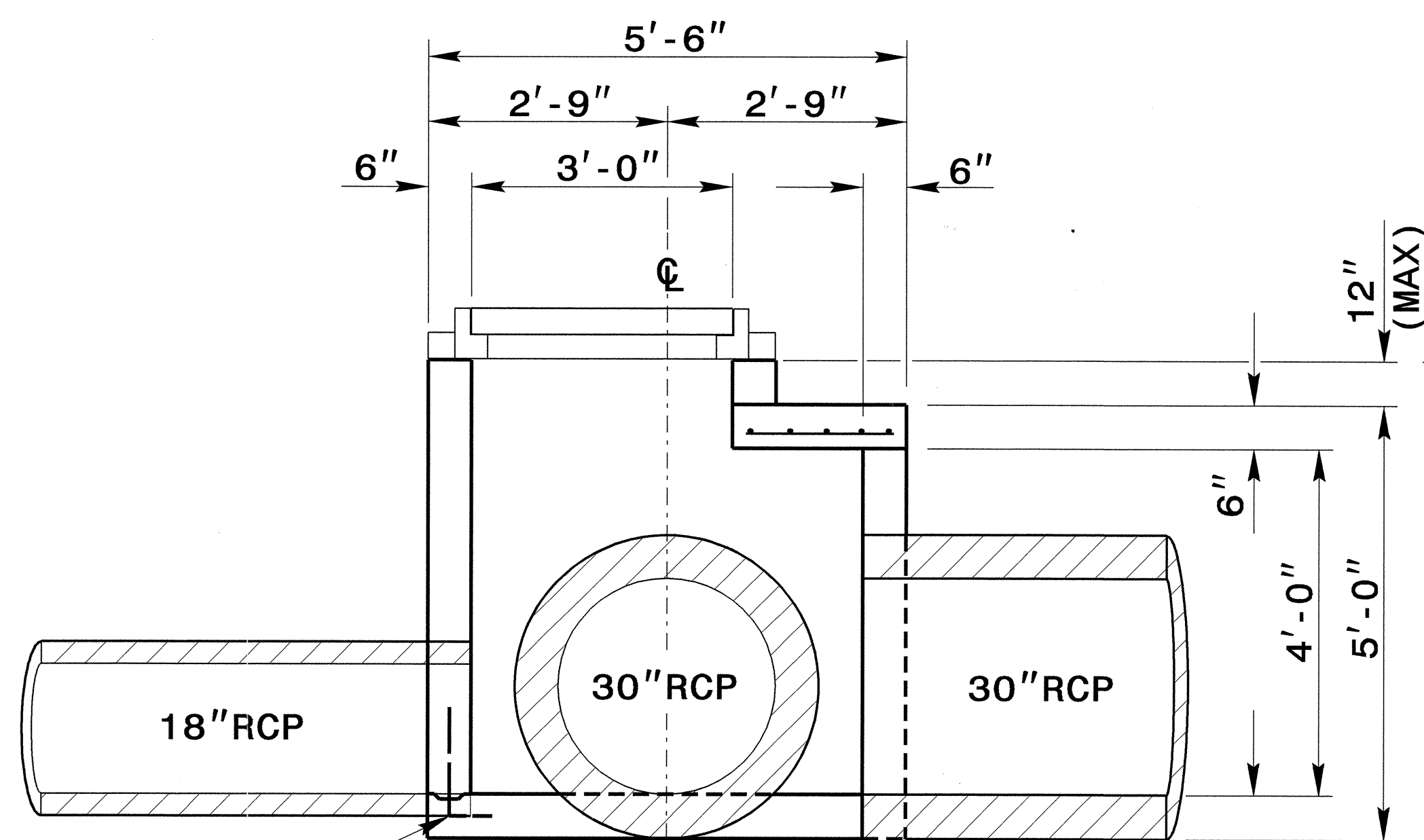
DROP INLET DETAIL

ORIGINAL BY: rnbritt DATE: 04-30-04
 MODIFIED BY: rnbritt DATE: 08-25-09
 CHECKED BY: DATE:
 FILE SPEC.: details/rnbritt/english/interstate/15010di.dgn

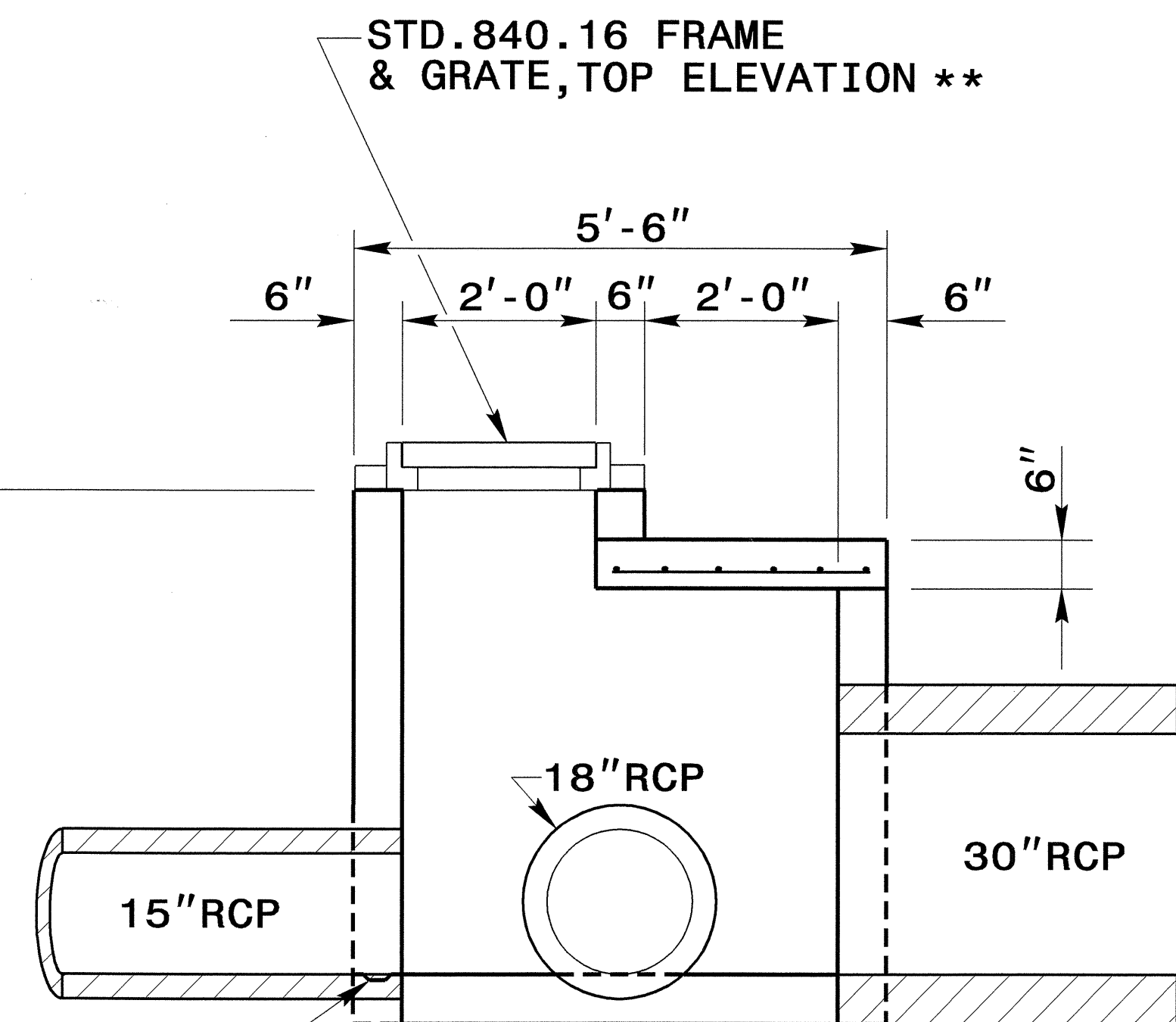
5/14/09
25-AUG-2009 14:27
C:\projects\special_details\rnbritt\english\interstate\15010_drop_inlets.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



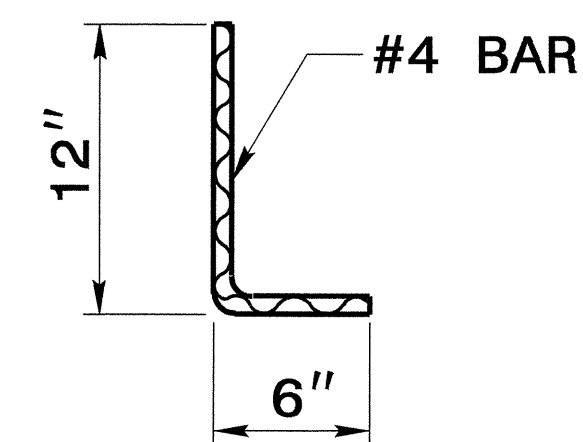
PLAN



SECTION X-X



SECTION Y-Y



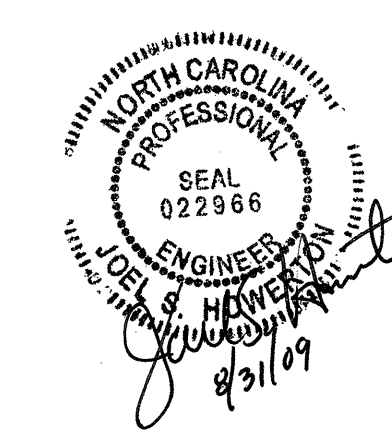
DOWEL

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.
 INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.
 DIMENSIONS MAY BE FIELD ADJUSTED AS DIRECTED BY THE ENGINEER.

BILL OF MATERIAL

BAR	SIZE	NO.	LENGTH	WEIGHT
X	#6	6	1'-8"	16
Y	#6	5	2'-8"	21
TOTAL REINF. STEEL (lbs.)				37
CLASS "B" CONC. (cu. yds.)				2.9

** NO CONCRETE DEDUCTION MADE FOR GRATE OPENING.



STRUCTURE #2

**PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
 Office 919-250-4128 FAX 919-250-4119

DRAINAGE STRUCTURE DETAIL

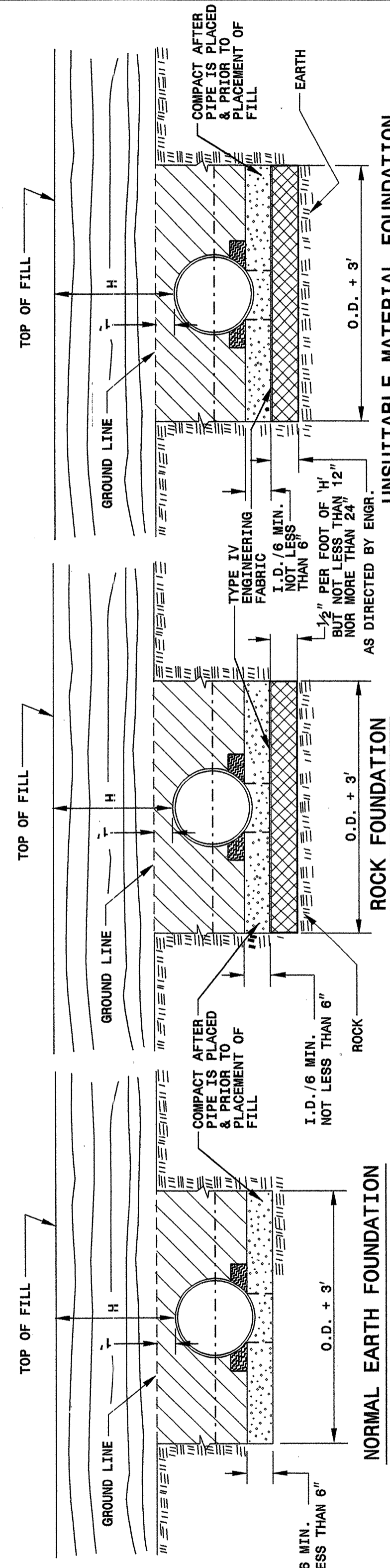
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 CHECKED BY: [Signature] DATE: 5/29/11
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5/14/99

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

7-06



ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE

SHEET 1 OF 3
300D01

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

7-06

ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE

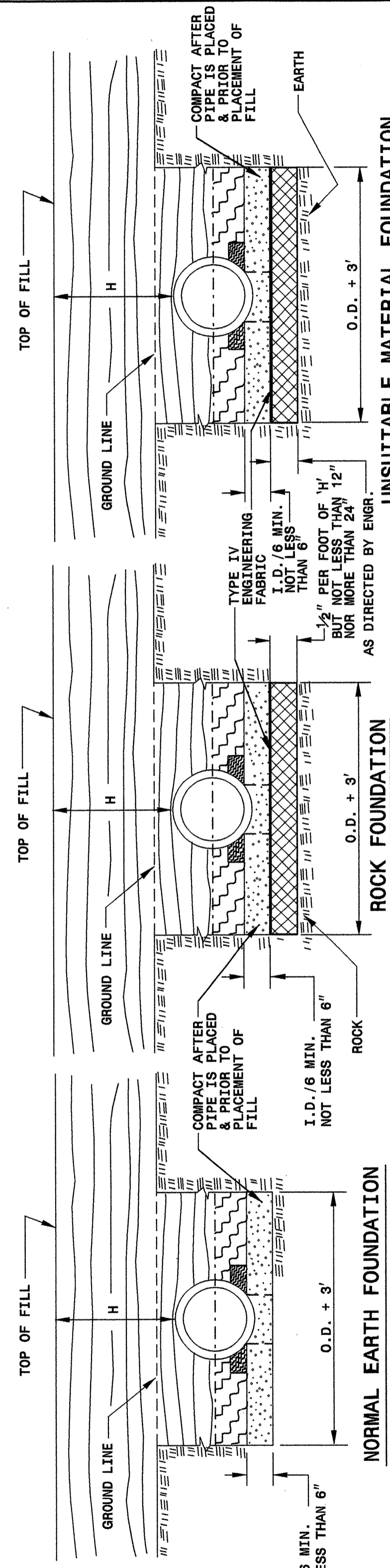
SHEET 1 OF 3
300D01

GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

LEGEND:
 --- SPRINGLINE OF PIPE
 [Diagonal Hatching] SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
 [Horizontal Hatching] APPROVED SUITABLE LOCAL MATERIAL.
 [Cross-hatching] UNDISTURBED EARTH MATERIAL
 [Dotted Pattern] SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

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

7-06



ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION
 RIGID PIPE

SHEET 2 OF 3
300D01

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

7-06

ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION
 RIGID PIPE

SHEET 2 OF 3
300D01

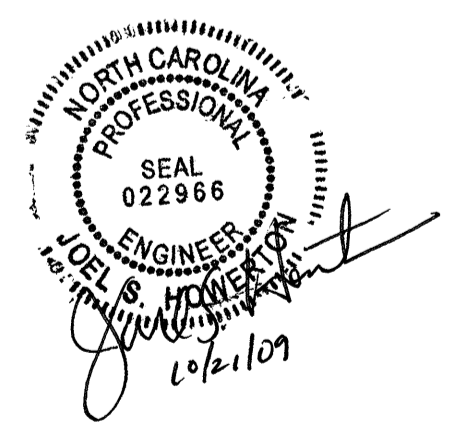
GENERAL NOTES:
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 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

LEGEND:
 --- SPRINGLINE OF PIPE
 [Diagonal Hatching] SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 BELOW SPRINGLINE.
 [Horizontal Hatching] APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.
 [Cross-hatching] UNDISTURBED EARTH MATERIAL
 [Dotted Pattern] SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

**PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN**
 Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: KKempff DATE: 5-15-09
 MODIFIED BY: DATE: 7/23/09
 CHECKED BY: DATE: 7/23/09
 FILE SPE/er/ward/stds/stdsdetails/30001/0300d01.dgn



PROJECT REFERENCE NO.	SHEET NO.
1-010	2-H

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

ENGLISH DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FILL HEIGHT TABLES

FLEXIBLE PIPE

Round Corrugated Steel Pipe
 2 2/3 x 1/2 corrugation **

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			
		16 (Ga)	14	12	8
12	12	204	256		
15	12	162	204		
18	12	135	169	239	
21	12	115	145	204	
24	12	100	128	178	
30	12	79	100	142	
36	12	65	83	117	152
42	12	55	70	100	130
48	12	48	61	87	113
54	12	44	54	77	100
60	12		69	90	111
66	12			81	100
72	12			74	91
78	12				81
84	12				69

Round Corrugated Aluminum Pipe
 2 2/3 x 1/2 corrugation **

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			
		16 (Ga)	14	12	8
12	12	123	155	216	281
15	12	98	123	174	224
18	12	81	102	144	187
21	12	69	87	123	160
24	12	60	76	108	139
27	12	67	95	123	151
30	12	60	85	111	136
36	12	50	71	92	113
42	12	42	60	78	96
48	12	35	52	68	84
54	12		46	50	74
60	12			50	62
66	12				51
72	12				41

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- CSP - AASHTO M36
- CAAP - AASHTO M196
- HDPE - AASHTO M294
- PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

RIGID PIPE

- RCP - * (Minimum fill) 1' for Class IV & CLASS V
- 2' for Class III & Class II
- * (Maximum fill) 10' - Class II pipe
- 20' - Class III pipe
- 30' - Class IV pipe
- 40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

SHEET 3 OF 3
300D01

SHEET 3 OF 3
300D01

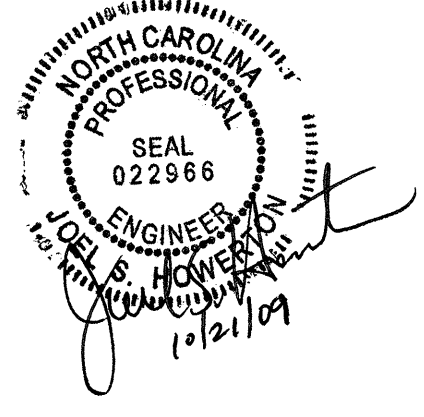
ENGLISH DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FILL HEIGHT TABLES

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

**PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN**
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SEE PLATE FOR TITLE

ORIGINAL BY: K Kempf DATE: 5-15-09
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 7/30/09
 FILE SPEC: enward/stds/stdsdetails/30001/0300d01.dgn



8/17/99

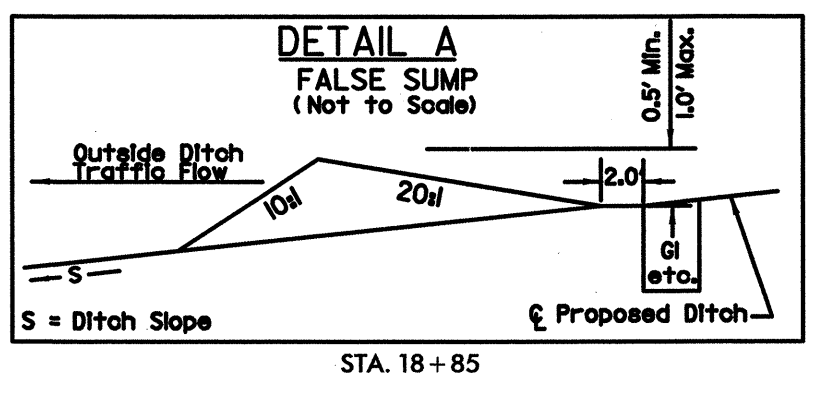
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202088

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
0057000000-E	226	100	CY	UNDERCUT EXCAVATION
0320000000-E	SP	363	SY	FOUNDATION CONDITIONING FABRIC
0330000000-E	SP	290	TON	GENERIC DRAINAGE ITEM FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0343000000-E	310	304	LF	15" SIDE DRAIN PIPE
0366000000-E	310	398	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	536	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	924	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	496	LF	30" RC PIPE CULVERTS, CLASS III
0950000000-E	340	309	LF	PIPE REMOVAL
1121000000-E	520	130	TON	AGGREGATE BASE COURSE
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1297000000-E	607	540	SY	MILLING ASPHALT PAVEMENT, **** DEPTH (1-12")
1491000000-E	610	5,225	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1503000000-E	610	2,400	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0C
1523000000-E	610	3,675	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1560000000-E	620	340	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1565000000-E	620	225	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22
1693000000-E	654	100	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2253000000-E	840	1	CY	PIPE COLLARS
2286000000-N	840	15	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	11	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	5	EA	FRAME WITH TWO GRATES, STD 840.24
2374000000-N	840	6	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2440000000-N	852	6	EA	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN
2451000000-N	852	3	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLETS
2542000000-E	846	2,400	LF	1'-6" CONCRETE CURB & GUTTER
2549000000-E	846	20	LF	2'-6" CONCRETE CURB & GUTTER
2655000000-E	852	700	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
3503000000-E	866	420	LF	WOVEN WIRE FENCE, 47" FABRIC
3509000000-E	866	30	EA	4" TIMBER FENCE POSTS, 7'-6" LONG
3515000000-E	866	20	EA	5" TIMBER FENCE POSTS, 8'-0" LONG
3557000000-E	866	100	LF	ADDITIONAL BARBED WIRE
3649000000-E	876	5	TON	RIP RAP, CLASS B
3656000000-E	876	16	SY	FILTER FABRIC FOR DRAINAGE
4025000000-E	901	32	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)
4025000000-E	901	51	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
4025000000-E	901	187	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (F)
4072000000-E	903	30	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	6	EA	SIGN ERECTION, TYPE D
4102000000-N	904	5	EA	SIGN ERECTION, TYPE E
4108000000-N	904	14	EA	SIGN ERECTION, TYPE F

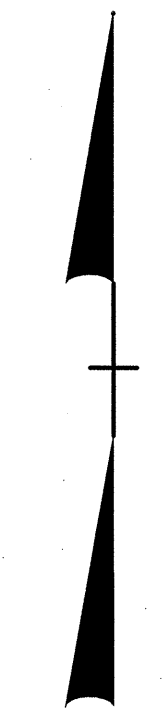
ItemNumber	Sec #	Quantity	Unit	Description
4116100000-N	904	1	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)
4192000000-N	907	20	EA	DISPOSAL OF SUPPORT, U-CHANNEL
4238000000-N	907	15	EA	DISPOSAL OF SIGN, D, E OR F
4360000000-N	SP	18	EA	GENERIC SIGNING ITEM WARNING FLAGS
4400000000-E	1110	56	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	12	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	57	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	30	EA	DRUMS
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4455000000-N	1150	12	MD	FLAGGER
4510000000-N	SP	16	HR	LAW ENFORCEMENT
4685000000-E	1205	9,300	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	9,650	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	200	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4710000000-E	1205	55	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4725000000-E	1205	20	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4900000000-N	1251	310	EA	PERMANENT RAISED PAVEMENT MARKERS
5325200000-E	1510	131	LF	2" WATER LINE
5325800000-E	1510	331	LF	8" WATER LINE
5326200000-E	1510	60	LF	12" WATER LINE
5606000000-E	1515	1	EA	2" BLOW OFF
5648000000-N	1515	2	EA	RELOCATE WATER METER
6000000000-E	1605	4,200	LF	TEMPORARY SILT FENCE
6006000000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	110	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	180	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	7	ACR	TEMPORARY MULCHING
6018000000-E	1620	200	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.75	TON	FERTILIZER FOR TEMPORARY SEEDING
6030000000-E	1630	550	CY	SILT EXCAVATION
6036000000-E	1631	2,300	SY	MATTING FOR EROSION CONTROL
6038000000-E	SP	14	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	720	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	80	LF	COIR FIBER BAFFLES
6084000000-E	1660	4	ACR	SEEDING & MULCHING
6087000000-E	1660	2	ACR	MOWING
6090000000-E	1661	150	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	250	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	6	TON	FERTILIZER TOPDRESSING
6114500000-N	SP	3	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	20	EA	RESPONSE FOR EROSION CONTROL
7060000000-E	1705	970	LF	SIGNAL CABLE
7120000000-E	1705	5	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7132000000-E	1705	5	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
7144000000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7264000000-E	1710	380	LF	MESSENGER CABLE (3/8")
7300000000-E	1715	690	LF	UNPAVED TRENCHING (***** (1, 2")
7324000000-N	1716	6	EA	JUNCTION BOX (STANDARD SIZE)
7408000000-E	1722	1	EA	1" RISER WITH WEATHERHEAD

ItemNumber	Sec #	Quantity	Unit	Description
7432000000-E	1722	1	EA	2" RISER WITH HEAT SHRINK TUBING
7444000000-E	1725	1,060	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	1,810	LF	LEAD-IN CABLE (***** (14-2)
7575142000-N	SP	2	EA	900MHZ WIRELESS RADIO SYSTEM
7576000000-N	SP	4	EA	METAL STRAIN SIGNAL POLE
7613000000-N	SP	4	EA	SOIL TEST
7614100000-E	SP	24	CY	DRILLED PIER FOUNDATION
7636000000-N	1745	3	EA	SIGN FOR SIGNALS
7684000000-N	1750	1	EA	SIGNAL CABINET FOUNDATION
7756000000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
7780000000-N	1751	7	EA	DETECTOR CARD (TYPE 2070L)
7901000000-N	1753	1	EA	CABINET BASE EXTENDER
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM AUXILIARY OUTPUT FILE
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM FURNISH WIRELESS LIGHTNING ARRESTORS
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH WIRELESS RADIO MODEMS

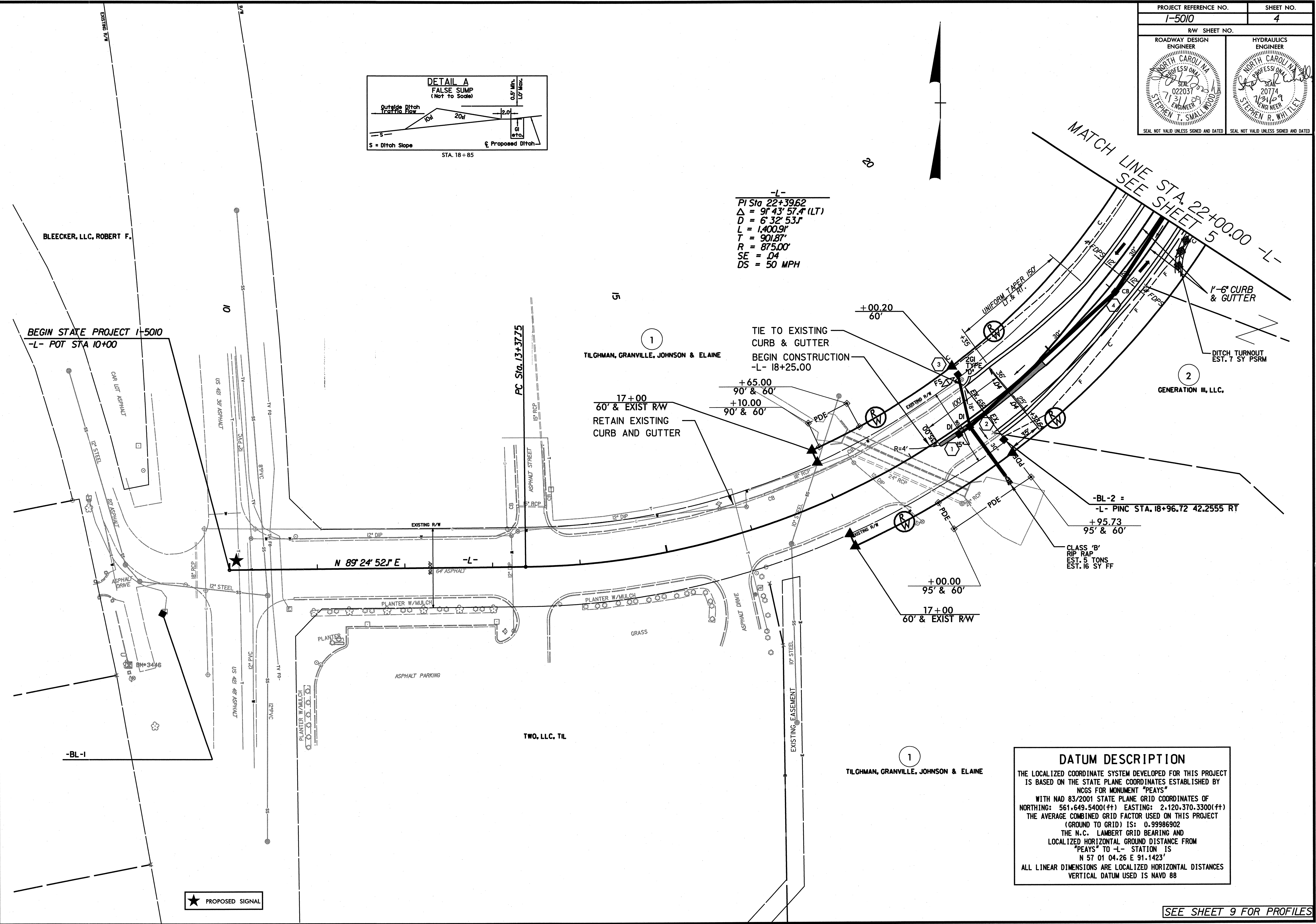
REVISIONS



-L-
 PI Sta 22+39.62
 $\Delta = 9^\circ 43' 57.4''$ (LT)
 $D = 6' 32.53''$
 $L = 1,400.9'$
 $T = 901.87'$
 $R = 875.00'$
 $SE = .04$
 $DS = 50$ MPH



MATCH LINE STA. 22+00.00 -L-
 SEE SHEET 5



BEGIN STATE PROJECT I-5010
 -L- POT STA 10+00

17+00
 60' & EXIST RW
 RETAIN EXISTING CURB AND GUTTER

2
 GENERATION III, LLC.

-BL-2 =
 -L- PINC STA. 18+96.72 42.2555 RT

+95.73
 95' & 60'
 CLASS 'B' RIP RAP
 EST. 5 TONS
 EST. 16 SY FF

+00.00
 95' & 60'
 17+00
 60' & EXIST RW

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "PEAYS" WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF NORTHING: 561,649.5400(ft) EASTING: 2,120,370.3300(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99986902 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "PEAYS" TO -L- STATION IS N 57 01 04.26 E 91.1423' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

SEE SHEET 9 FOR PROFILES

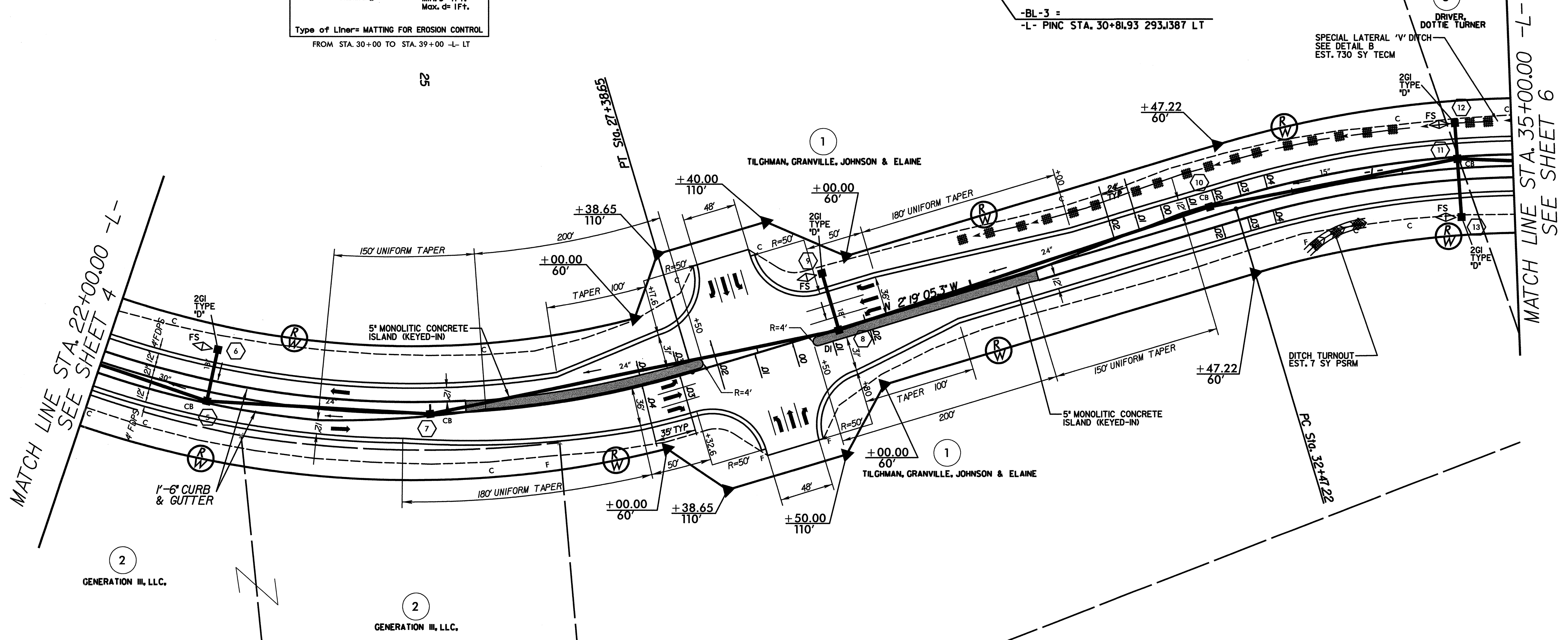
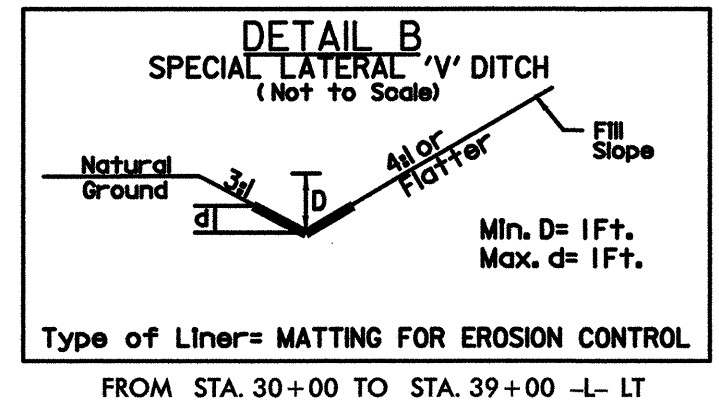
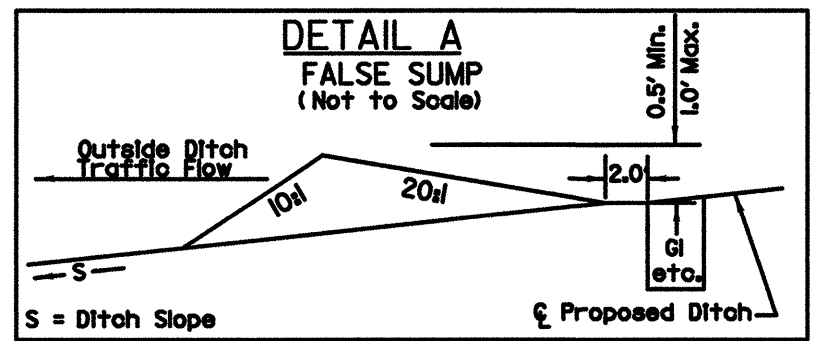
★ PROPOSED SIGNAL

REVISIONS

8/17/99

 1. 10/15/01
 2. 11/15/01
 3. 12/15/01
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-L-	-L-
PI Sta 22+39.62	$\Delta = 8^{\circ} 10' 31.5''$ (RT)
$\Delta = 9^{\circ} 43' 57.4''$ (LT)	$D = 6^{\circ} 09' 39.0''$
$D = 6^{\circ} 32' 53.1''$	$L = 1,317.60'$
$L = 1,400.91'$	$T = 796.76'$
$T = 901.87'$	$R = 930.00'$
$R = 875.00'$	$SE = .04$
$SE = .04$	$DS = 50$ MPH
$DS = 50$ MPH	



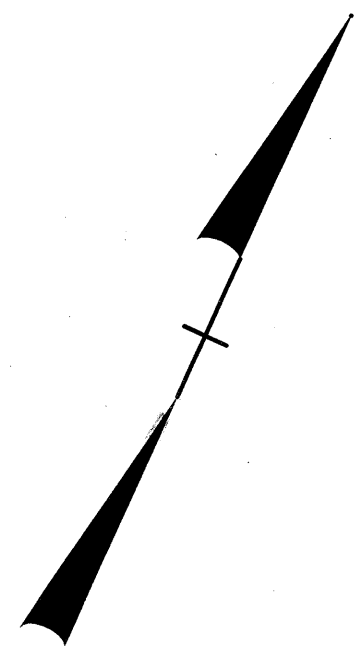
8/17/99

REVISIONS

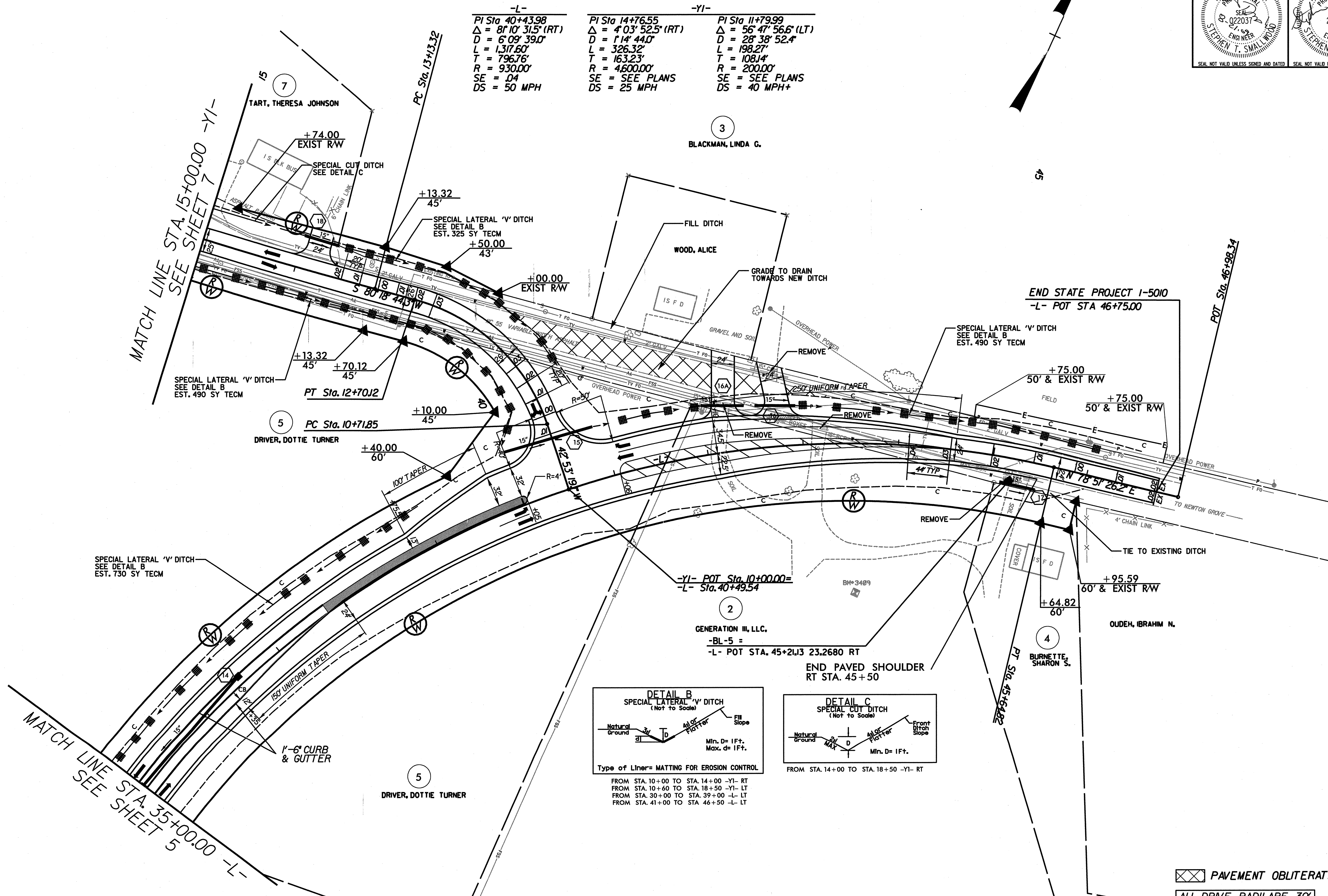
SYSTEMS DESIGN CONSULTANTS

SEE SHEET 9 FOR PROFILES

-L-	-YI-	-YI-
PI Sta 40+43.98	PI Sta 14+76.55	PI Sta 11+79.99
$\Delta = 8' 10' 31.5''$ (RT)	$\Delta = 4' 03' 52.5''$ (RT)	$\Delta = 56' 47' 56.6''$ (LT)
D = 6'09' 39.0"	D = 1'14' 44.0"	D = 28' 38' 52.4"
L = 1,317.60'	L = 326.32'	L = 198.27'
T = 796.76'	T = 163.23'	T = 108.14'
R = 930.00'	R = 4,600.00'	R = 200.00'
SE = 04	SE = SEE PLANS	SE = SEE PLANS
DS = 50 MPH	DS = 25 MPH	DS = 40 MPH+



REVISIONS



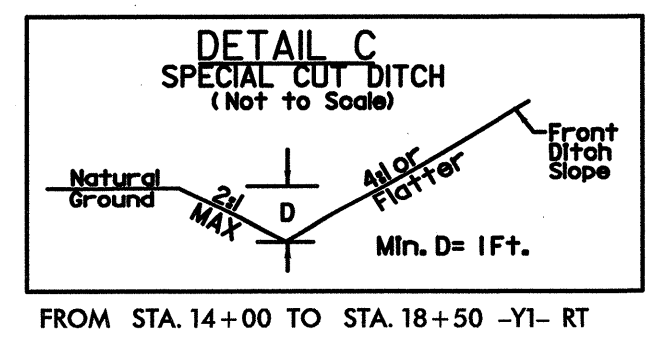
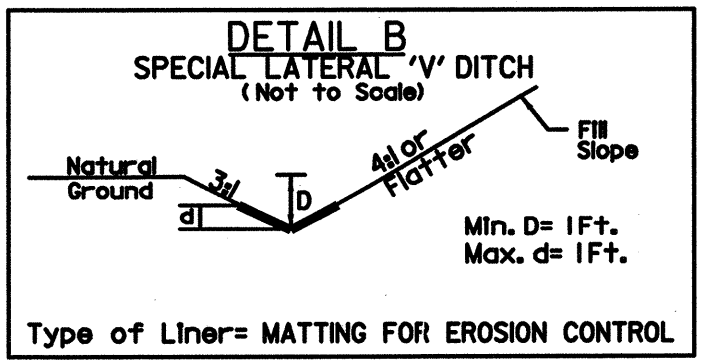
MATCH LINE STA. 15+00.00 -YI-
SEE SHEET 7

MATCH LINE STA. 35+00.00 -L-
SEE SHEET 5

END STATE PROJECT I-5010
-L- POT STA 46+75.00

-YI- POT Sta. 10+00.00 =
-L- Sta. 40+49.54

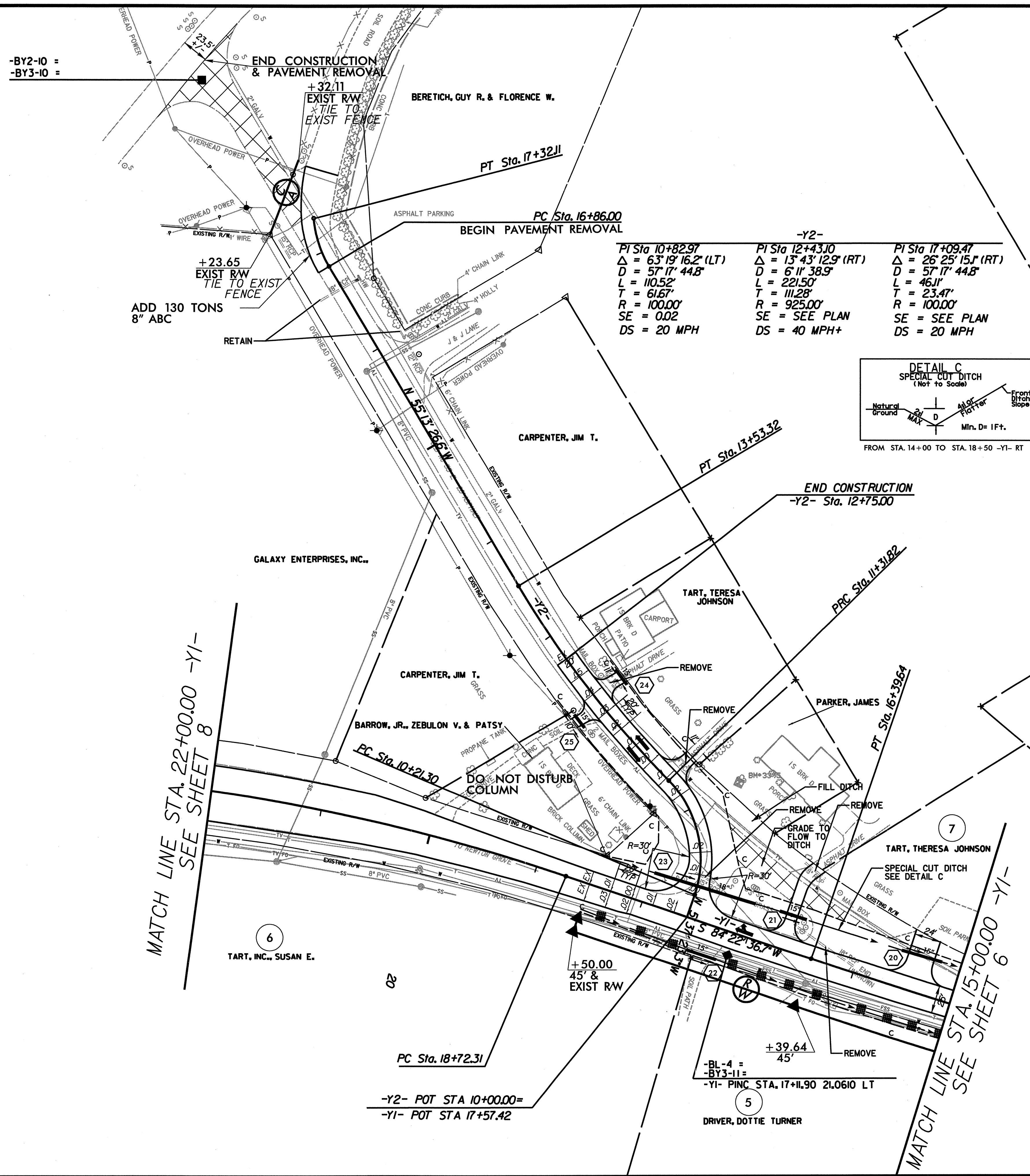
END PAVED SHOULDER
RT STA. 45+50



PAVEMENT OBLITERATION
ALL DRIVE RADII ARE 30'.
SEE SHEETS 9.10 & 11 FOR PROFILES

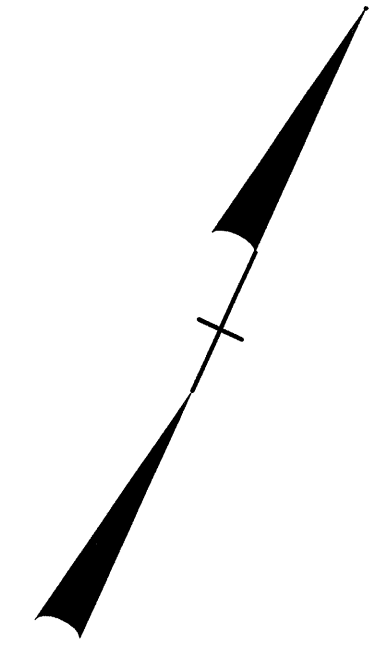
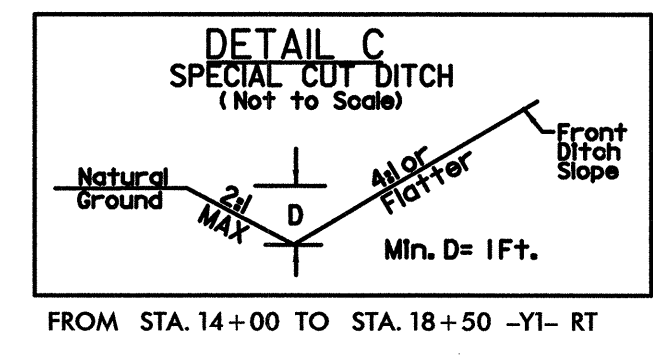
8/17/99

SYSTEMS TIME



-Y2-

PI Sta 10+82.97 Δ = 6° 19' 16.2" (LT) D = 57' 17" 44.8" L = 110.52' T = 61.67' R = 100.00' SE = 0.02 DS = 20 MPH	PI Sta 12+43.10 Δ = 13° 43' 12.9" (RT) D = 6' 11" 38.9" L = 221.50' T = 111.28' R = 925.00' SE = SEE PLAN DS = 40 MPH+	PI Sta 17+09.47 Δ = 26° 25' 15.1" (RT) D = 57' 17" 44.8" L = 46.11' T = 23.47' R = 100.00' SE = SEE PLAN DS = 20 MPH
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REVISIONS

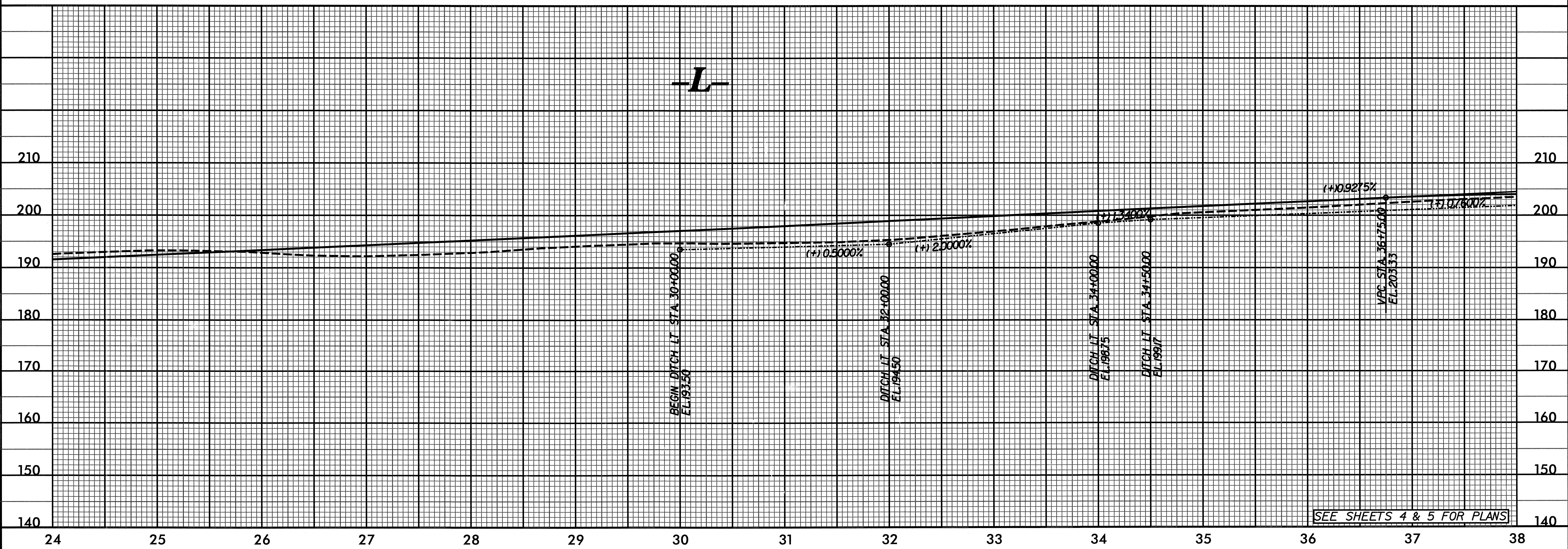
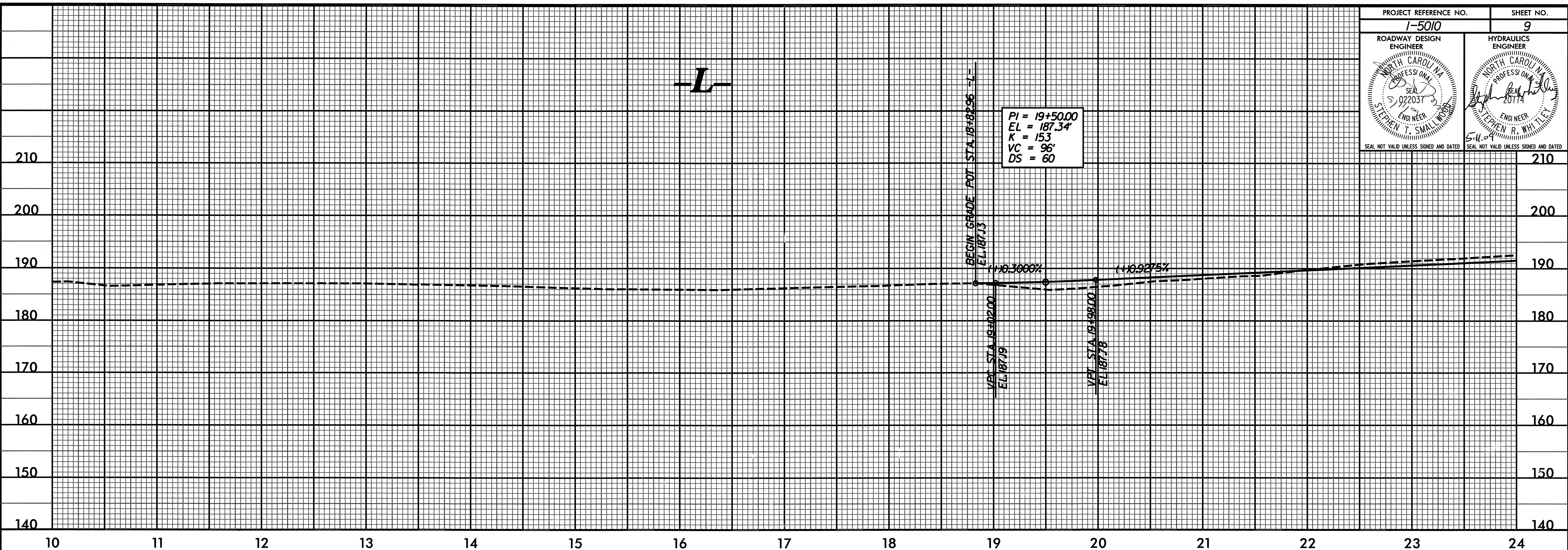
8/17/99

SYSTINE

☒ PAVEMENT OBLITERATION
SEE SHEET 11 FOR PROFILES

5/28/99

PROJECT REFERENCE NO. 1-5010	SHEET NO. 9
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 5 022031 STEPHEN T. SMALL	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 5 02174 STEPHEN R. WILLETTE
SEAL NOT VALID UNLESS SIGNED AND DATED	SEAL NOT VALID UNLESS SIGNED AND DATED



SEE SHEETS 4 & 5 FOR PLANS

SYTIME
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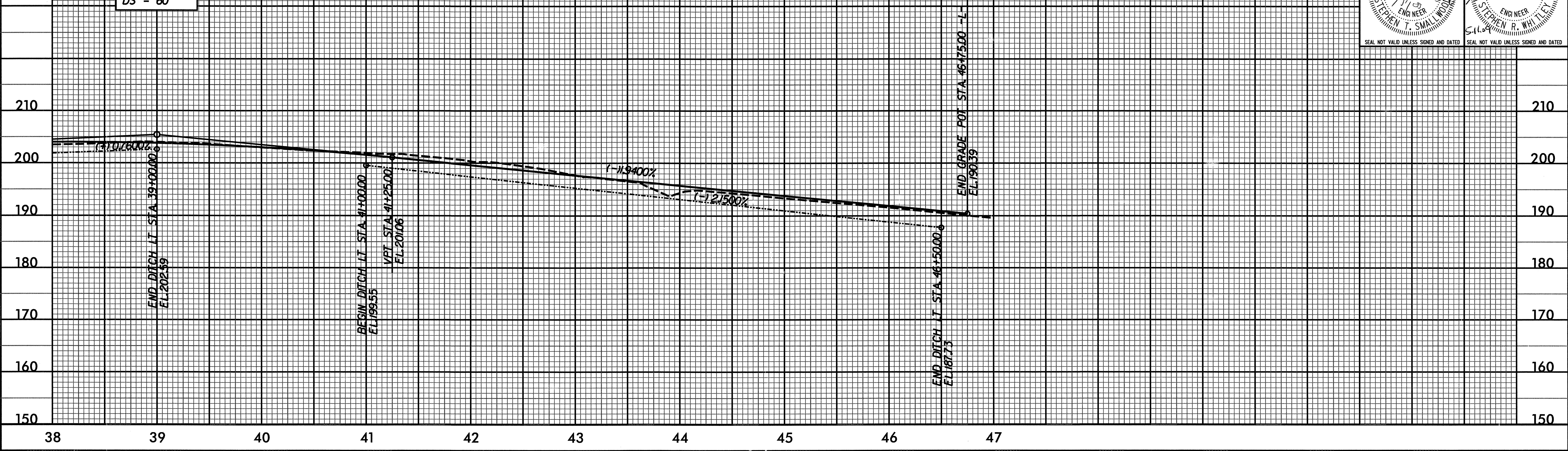
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5/28/99

PROJECT REFERENCE NO. I-5010	SHEET NO. 10
ROADWAY DESIGN ENGINEER STEPHEN T. SMALL SEAL S 022037 1/13/99 ENGINEER	HYDRAULICS ENGINEER STEPHEN R. WILLETTE SEAL 20774 1/13/99 ENGINEER
SEAL NOT VALID UNLESS SIGNED AND DATED	

PI = 39+00.00
 EL = 205.42'
 K = 157
 VC = 450'
 DS = 60

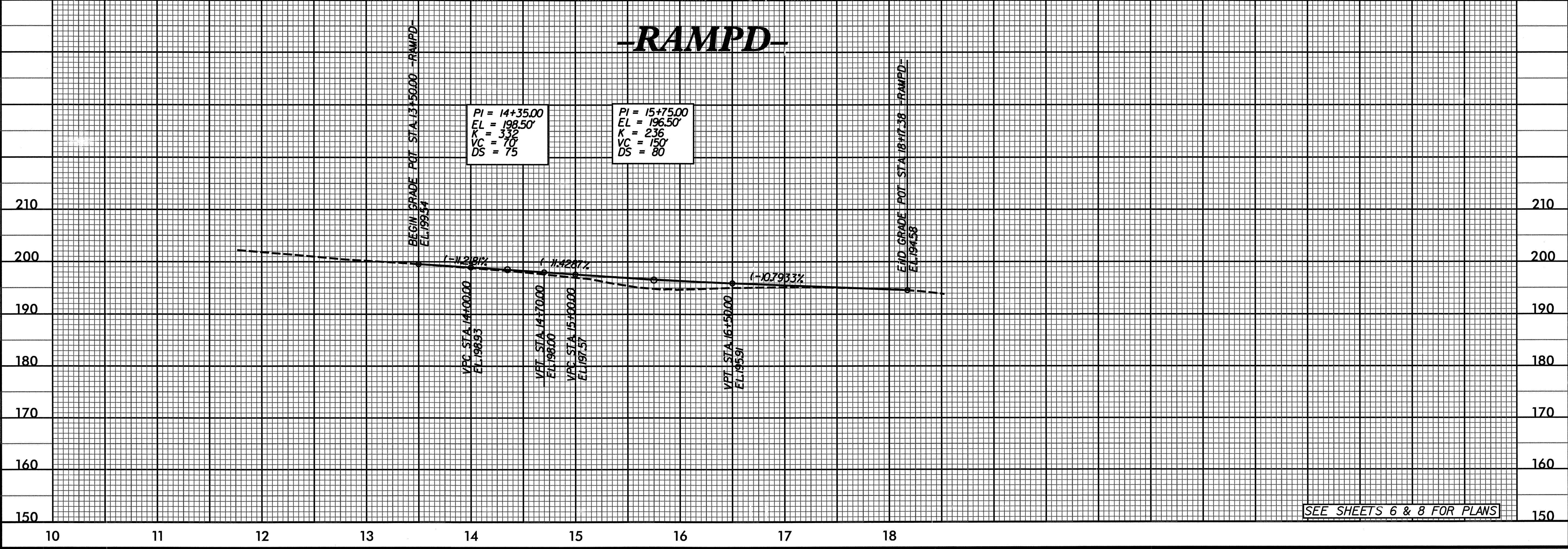
-L-



-RAMPD-

PI = 14+35.00
 EL = 198.50'
 K = 336
 VC = 70'
 DS = 75

PI = 15+75.00
 EL = 196.50'
 K = 236
 VC = 150'
 DS = 80



SEE SHEETS 6 & 8 FOR PLANS

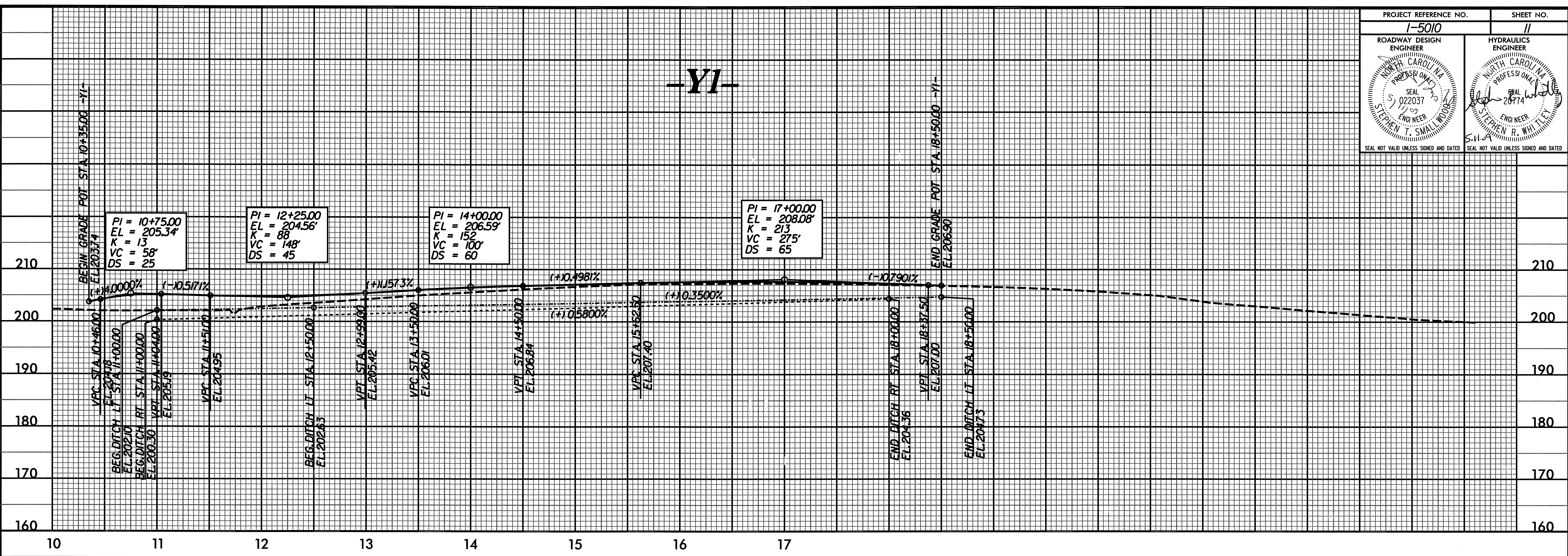
SYTIME

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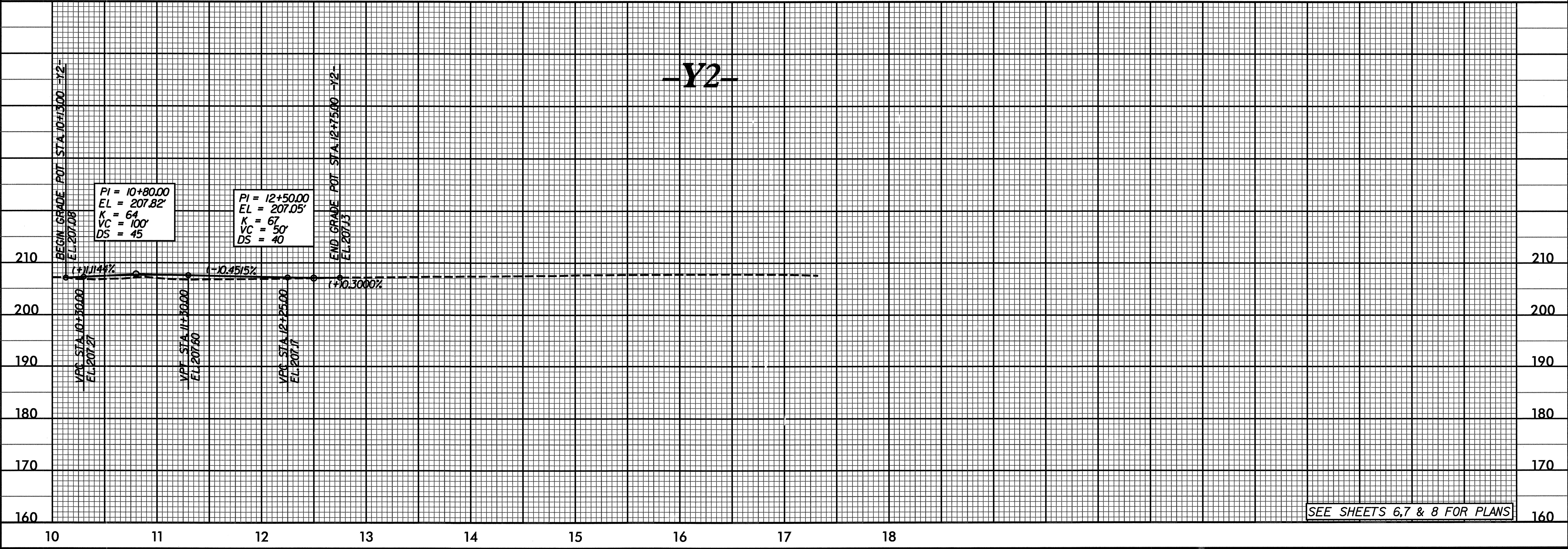
5/28/99

PROJECT REFERENCE NO. I-5010	SHEET NO. 11
ROADWAY DESIGN ENGINEER SEAL 202037 5/11/99 STEPHEN T. SMALL	HYDRAULICS ENGINEER SEAL 20774 5/11/99 STEPHEN R. WELT
SEAL NOT VALID UNLESS SIGNED AND DATED	

-Y1-



-Y2-



SEE SHEETS 6, 7 & 8 FOR PLANS

SYSTEMS TIME

5/11/2008 10:16:05 AM