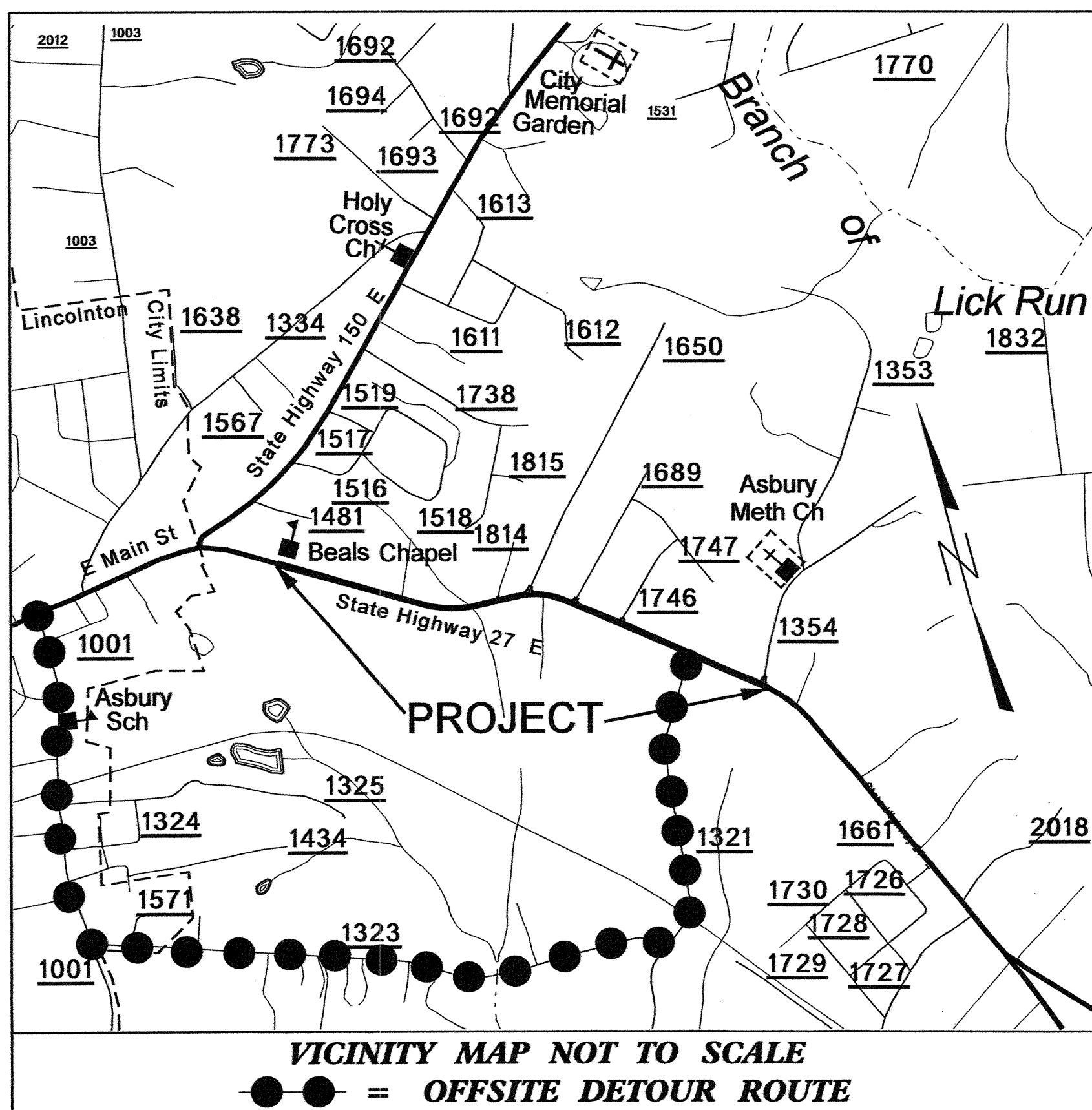


09/28/09

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LINCOLN COUNTY

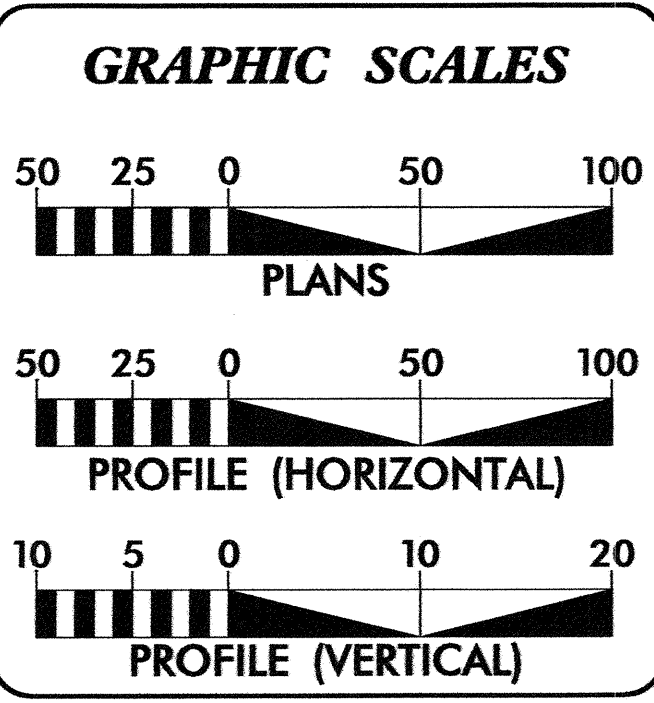
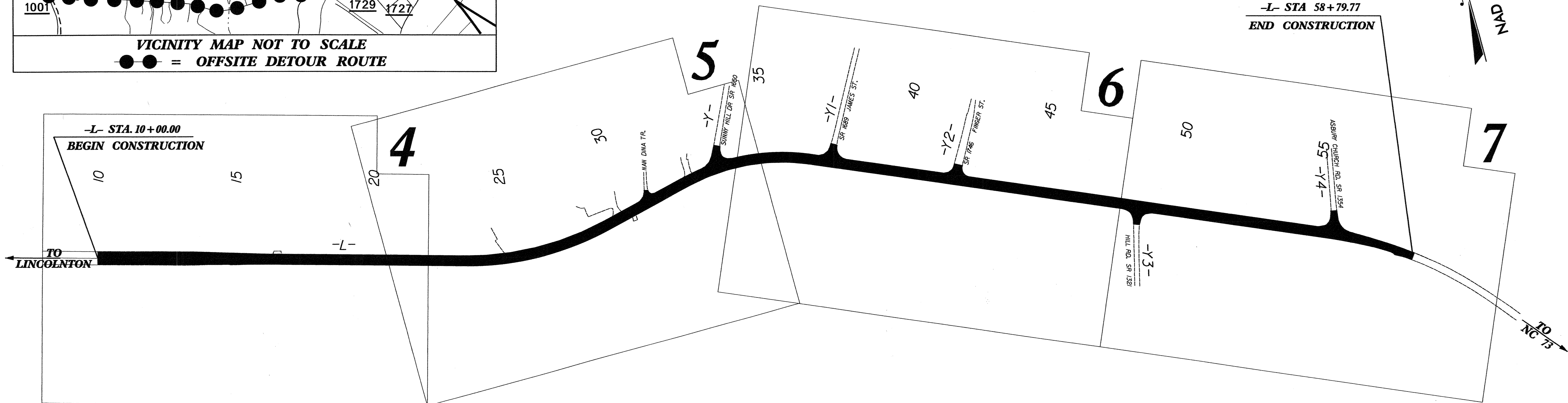
LOCATION: NC 27 FROM JUST EAST OF THE NC 150 INTERSECTION
TO 300' EAST OF ASBURY CHURCH RD. (SR 1354)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CURB AND GUTTER

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|--------------|--------------|
| N.C. | W-4712 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 37734.1.1 | STP-0027(7) | PE | |
| 37734.2.1 | STP-0027(7) | ROW | |
| 37734.3.1 | STP-0027(7) | CONSTRUCTION | |

TIP PROJECT: W-4712

CONTRACT: C202025



DESIGN DATA

ADT 2010 = 19200
ADT 2030 = 34600

DHV = 11 %
D = 5 %
T = 4 % *
V = 50 MPH

* TTST = 2 DUAL 3
FUNC CLASS =
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-4712 = 0.924 MI
TOTAL LENGTH TIP PROJECT W-4712 = 0.924 MI

Prepared in the Office of:
DIVISION 12 DDC UNIT
1710 East Marion St., Shelby NC, 28152

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 15, 2009

LETTING DATE:
February 21, 2012

M.E. STAFFORD, P.E.
DIVISION OPERATIONS ENGINEER

R.E. HUMPHRIES, PLS
DIVISION DESIGN-CONSTRUCT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

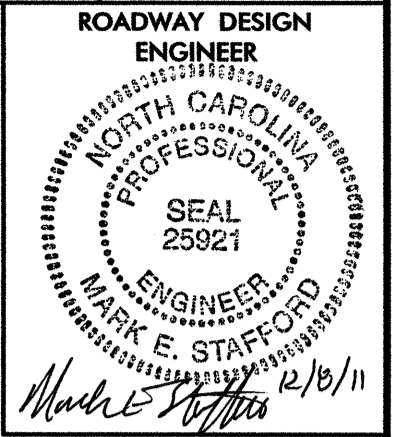
ROADWAY DESIGN ENGINEER
SEAL 25921

SIGNATURE: _____ P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

M. L. Holder P.E.
TWELFTH DIVISION ENGINEER

07-OCT-2011 09:35
S:\DDC\District 3\Lincoln\W-4712\Plan Sheets\w-4712_rdy_tsh.dgn
D:\sowell



| SHEET NUMBER | SHEET |
|-------------------|--|
| 1 | TITLE SHEET |
| 1-A | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS |
| 1-B | CONVENTIONAL SYMBOLS |
| 1-C THRU 1-D | SURVEY CONTROL SHEETS |
| 2 THRU 2-C | PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS |
| 2-D THRU 2-I | DETAILS |
| 3 | SUMMARY OF QUANTITIES |
| 3A-3F | SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY |
| 3G | PARCEL INDEX |
| 4 THRU 7 | PLAN SHEET |
| 8 THRU 9 | PROFILE SHEET |
| TCP-1 THRU TCP- 5 | TRAFFIC CONTROL PLANS |
| PM-1 THRU PM- 5 | PAVEMENT MARKING PLANS |
| EC-1 THRU EC- 11 | EROSION CONTROL PLANS |
| X-1 THRU X- 41 | CROSS-SECTIONS |

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 08/31/11

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

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.

BERM DITCHES:
BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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.
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.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

| STD. NO. | TITLE |
|---|---|
| DIVISION 2 - EARTHWORK | |
| 200.03 | Method of Clearing - Method III |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| 225.04 | Method of Obtaining Superelevation - Two Lane Pavement |
| 225.06 | Method of Grading Sight Distance at Intersections |
| 240.01 | Guide for Berm Ditch Construction |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 654.01 Pavement Repairs | |
| DIVISION 8 - INCIDENTALS | |
| 838.21 | Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew |
| 838.33 | Reinforced Concrete Endwall - for Single 66" Pipe 90 Skew |
| 838.45 | Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40 |
| 838.51 | Reinforced Brick Endwall - for Single 54" Pipe 90 Skew |
| 838.63 | Reinforced Brick Endwall - for Single 66" Pipe 90 Skew |
| 838.75 | Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70 |
| 840.00 | Concrete Base Pad for Drainage Structures |
| 840.01 | Brick Catch Basin - 12" thru 54" Pipe |
| 840.02 | Concrete Catch Basin - 12" thru 54" Pipe |
| 840.03 | Frame, Grates and Hood - for Use on Standard Catch Basin |
| 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 |
| 840.22 | 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 |
| 840.30 | Driveway Drop Inlet |
| 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 |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 848.02 | Driveway Turnout - Radius Type |
| 848.04 | Street Turnout |
| 850.10 | Guide for Berm Drainage Outlet - 15" and 18" Pipe |
| 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 |

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for 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, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for 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:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Wetland, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for 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, Proposed Temporary Utility Easement, Proposed Permanent Easement with Iron Pin and Cap Marker.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for 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:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing symbols for 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.*).

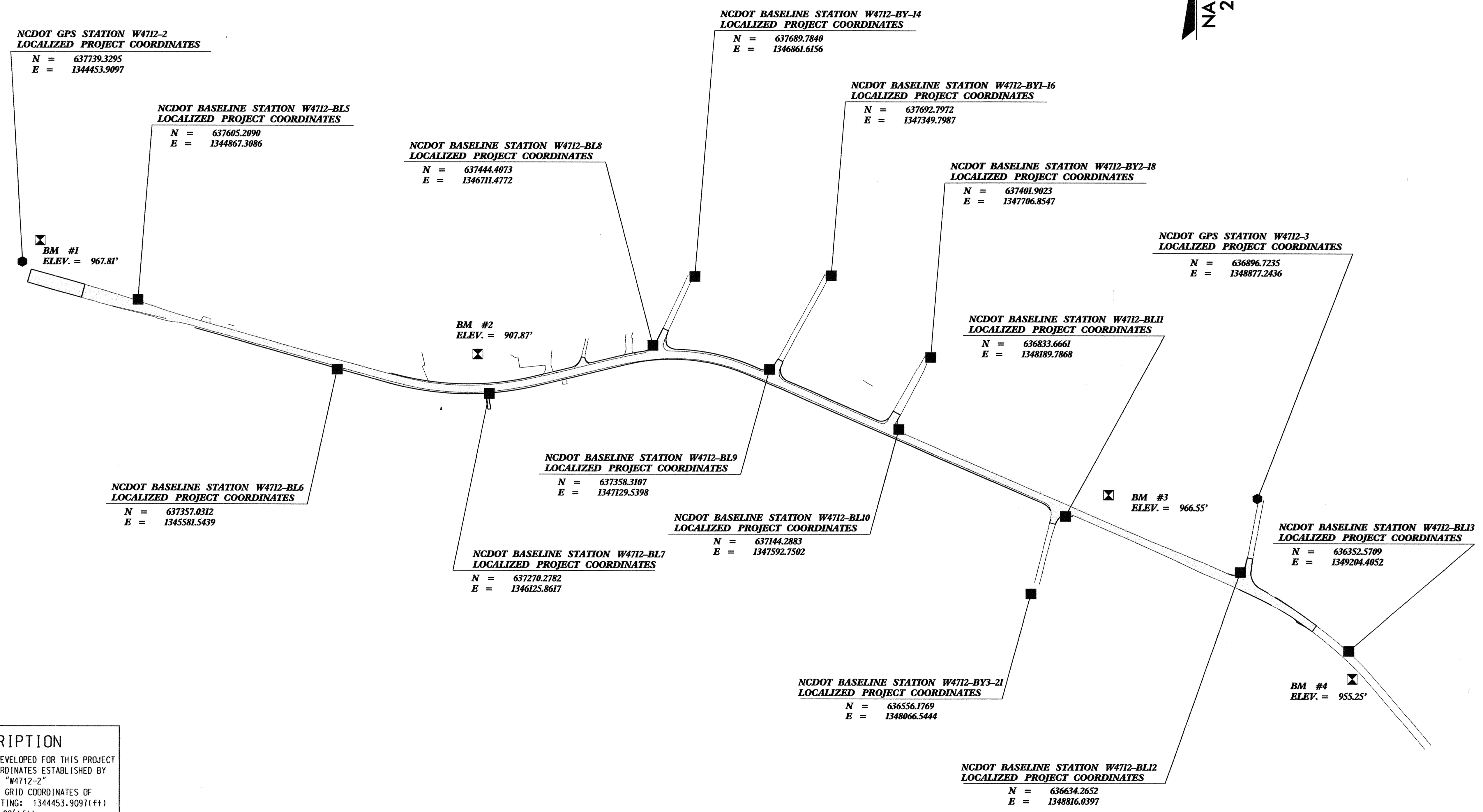
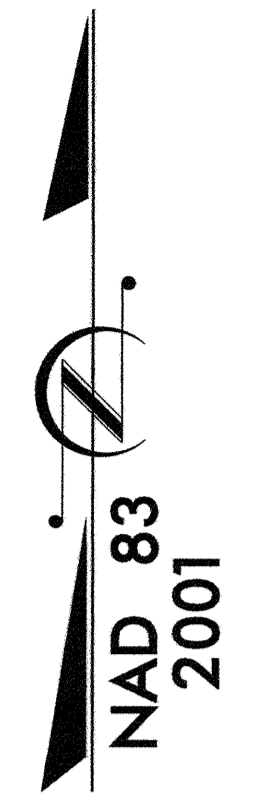
MISCELLANEOUS:

Table listing symbols for 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, A/G Tank; Water, Gas, Oil, U/G Test Hole (S.U.E.*), Abandoned According to Utility Records, End of Information.

8/17/99

SURVEY CONTROL SHEET W-4712

| | |
|---------------------------------|---------------------|
| PROJECT REFERENCE NO. W-4712 | SHEET NO. 1-C |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W4712-2" WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF NORTHING: 637739.3295(±ft) EASTING: 1344453.9097(±ft) ELEVATION: 968.00'(±ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99983929

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W4712-2" TO L- STATION 12+00.00 IS S 64° 19' 13" E 240.91'

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

NOTE: DRAWING NOT TO SCALE

07-001-20109-23 S:\DDC\Drawings\3\Lincoln\W-4712\Plan Sheets\w-4712_rdu_psh_1c.dgn

| | | | |
|-------------------------|--|---------------------|--|
| PROJECT REFERENCE NO. | | SHEET NO. | |
| W-4712 | | I-D | |
| RW SHEET NO. | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |

SURVEY CONTROL SHEET W-4712

| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -L- STATION | OFFSET |
|---------|-------------|-------------|--------------|-----------|----------------|----------|
| W4712-2 | GPS W4712-2 | 637739.3295 | 1344453.9097 | 968.00 | OUTSIDE LIMITS | |
| BL5 | BL-5 | 637605.2090 | 1344867.3086 | 955.39 | 13+96.99 | -24.5911 |
| BL6 | BL-6 | 637357.0312 | 1345581.5439 | 941.50 | 21+51.76 | 20.7040 |
| BL7 | BL-7 | 637270.2782 | 1346125.8617 | 917.09 | 26+99.76 | 19.4374 |
| BL8 | BL-8 | 637444.4073 | 1346711.4772 | 920.09 | 33+02.74 | -35.0709 |
| BL9 | BL-9 | 637358.3107 | 1347129.5398 | 927.42 | 37+18.45 | -30.3809 |
| BL10 | BL-10 | 637144.2883 | 1347592.7502 | 933.93 | 42+28.59 | -18.9439 |
| BL11 | BL-11 | 636833.6661 | 1348189.7868 | 963.62 | 48+99.98 | 27.6769 |
| BL12 | BL-12 | 636634.2652 | 1348816.0397 | 950.80 | 55+53.78 | -39.3444 |
| BL13 | BL-13 | 636352.5709 | 1349204.4052 | 951.72 | OUTSIDE LIMITS | |

| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -Y- STATION | OFFSET |
|-------|-------------|-------------|--------------|-----------|----------------|---------|
| BY14 | BY-14 | 637689.7840 | 1346861.6156 | 932.08 | OUTSIDE LIMITS | |
| BY15 | BL-8 | 637444.4073 | 1346711.4772 | 920.09 | 11+70.24 | 18.5907 |

| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -Y1- STATION | OFFSET |
|-------|-------------|-------------|--------------|-----------|----------------|---------|
| BY116 | BY1-16 | 637692.7972 | 1347349.7987 | 933.70 | OUTSIDE LIMITS | |
| BY117 | BL-9 | 637358.3107 | 1347129.5398 | 927.42 | 11+71.21 | 18.3512 |

| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -Y2- STATION | OFFSET |
|-------|-------------|-------------|--------------|-----------|----------------|----------|
| BY218 | BY2-18 | 637401.9023 | 1347706.8547 | 936.99 | OUTSIDE LIMITS | |
| BY219 | BL-10 | 637144.2883 | 1347592.7502 | 933.93 | 11+78.20 | -33.9140 |

| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -Y3- STATION | OFFSET |
|-------|-------------|-------------|--------------|-----------|----------------|----------|
| BY320 | BL-11 | 636833.6661 | 1348189.7868 | 963.62 | 10+33.68 | -37.6926 |
| BY321 | BY3-21 | 636556.1769 | 1348066.5444 | 959.49 | OUTSIDE LIMITS | |

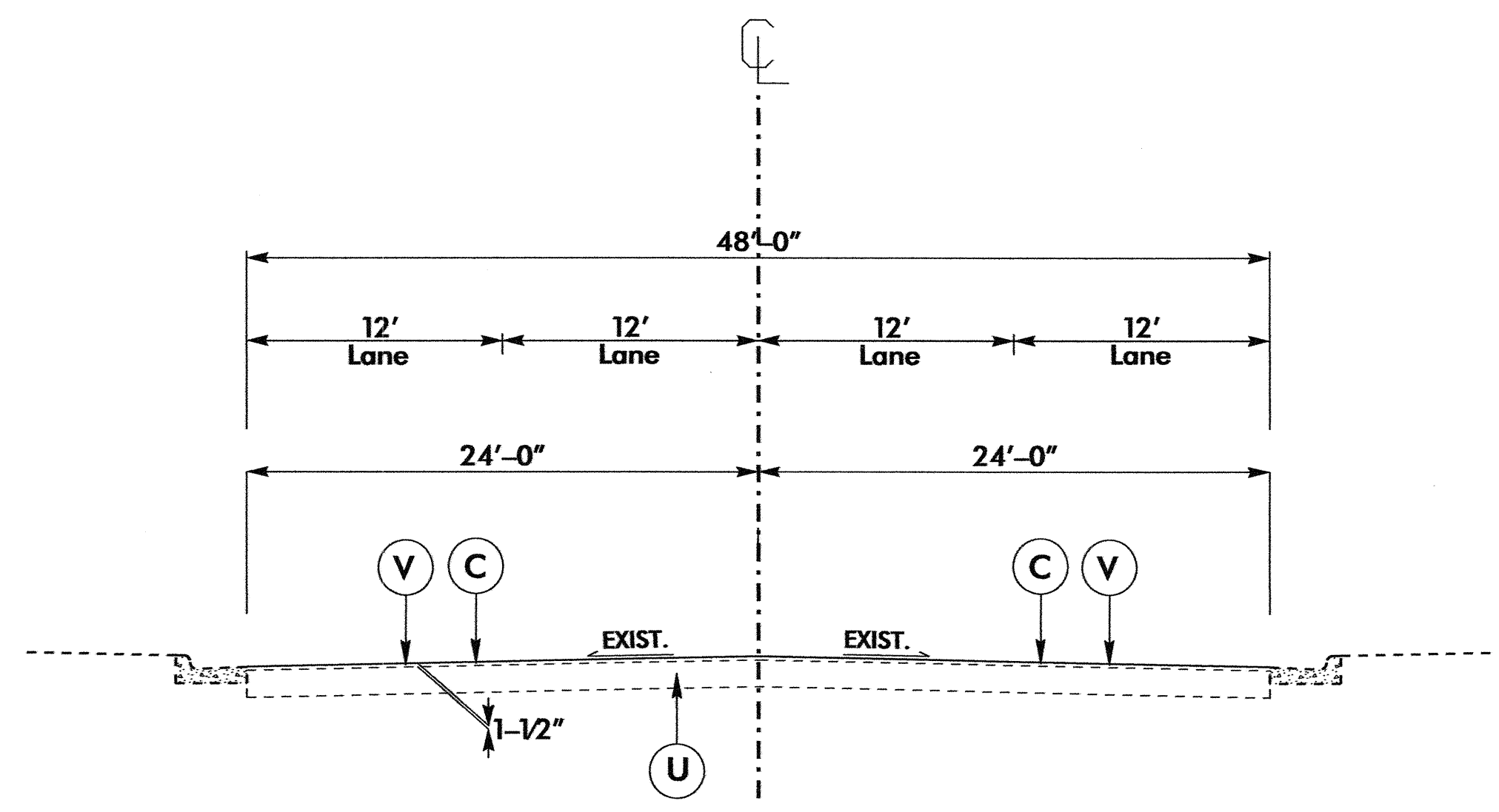
| POINT | DESCRIPTION | NORTH | EAST | ELEVATION | -Y4- STATION | OFFSET |
|--------|-------------|-------------|--------------|-----------|----------------|---------|
| W47123 | GPS W4712-3 | 636896.7235 | 1348877.2436 | 951.65 | OUTSIDE LIMITS | |
| BY422 | BL-12 | 636634.2652 | 1348816.0397 | 950.80 | 11+58.19 | 23.2324 |

 BM#1 ELEVATION = 967.81'
 N 637816 E 1344517
 BL STATION 5+37 93' LEFT
 L STATION 10+03 133' LEFT
 8" SPIKE IN ROOT OF 42" OAK

 BM#2 ELEVATION = 907.87'
 N 637412 E 1346085
 BL STATION 21+79 133' LEFT
 L STATION 26+65 124' LEFT
 8" SPIKE IN ROOT OF 3 PRONG MAPLE

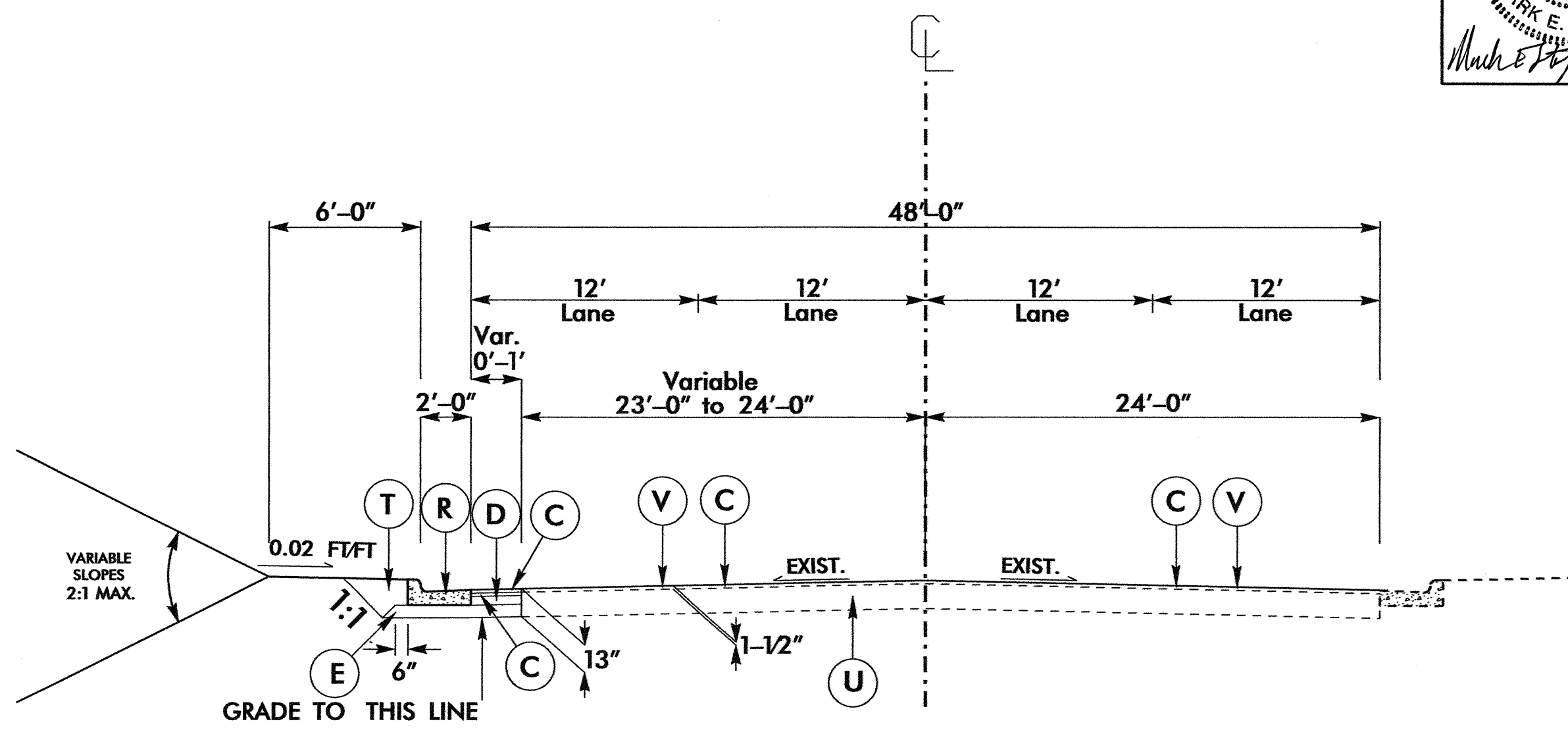
 BM#3 ELEVATION = 966.55'
 N 636909 E 1348344
 BL STATION 45+87 119' LEFT
 L STATION 50+12 103' LEFT
 8" SPIKE IN ROOT OF 4 PRONG OAK

 BM#4 ELEVATION = 955.25'
 N 636253 E 1349217
 BL STATION EXTENDED 56+68.79 73.59'
 RIGHT
 L STATION OUTSIDE LIMITS
 8" SPIKE IN ROOT OF 6" GUM



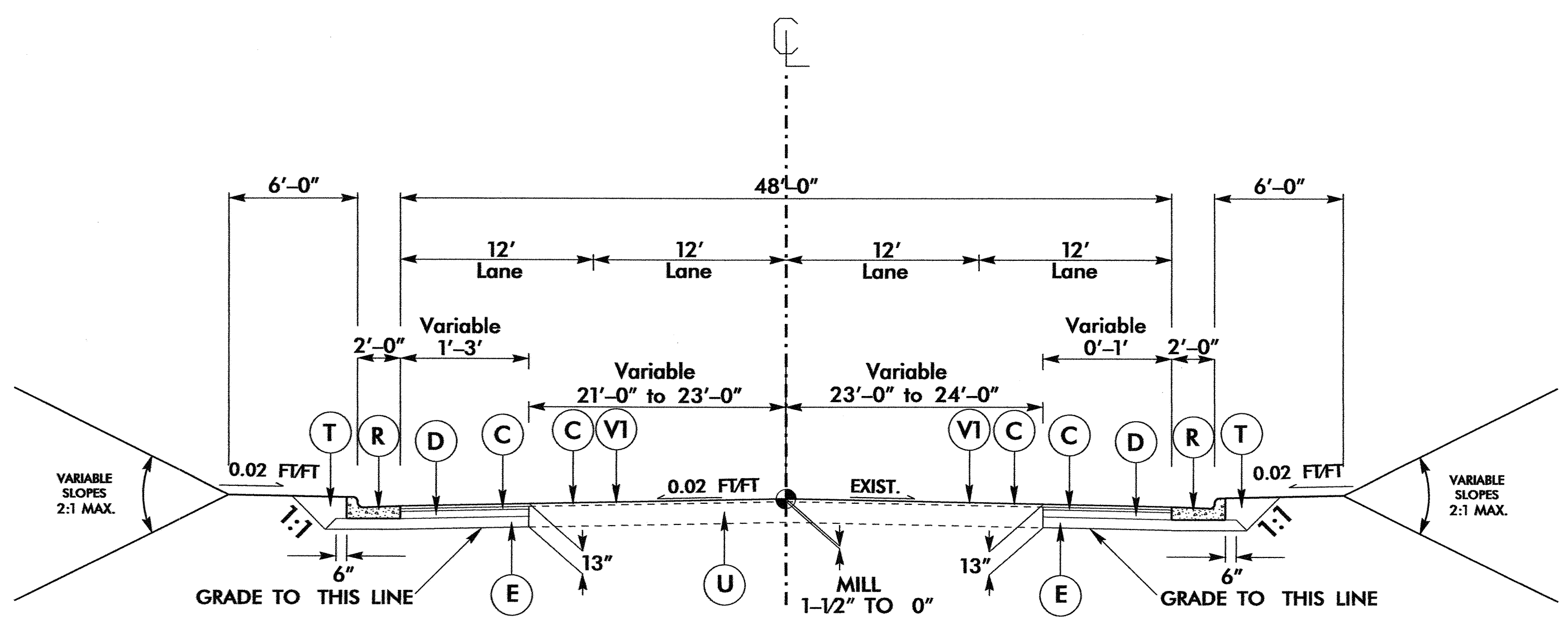
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- Station 10+00 to 12+67



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- Station 12+67 to 12+94



TYPICAL SECTION NO. 3

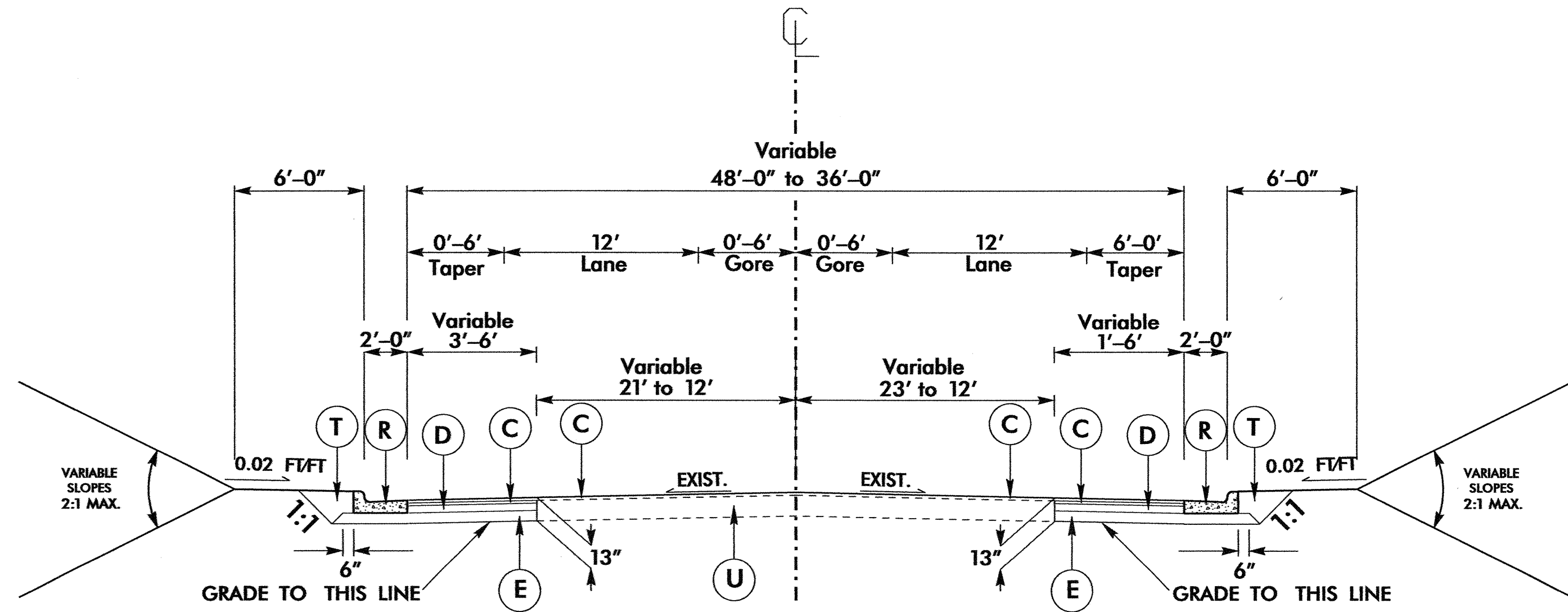
USE TYPICAL SECTION NO. 3
-L- Station 12+94 to 13+50

| PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN) | |
|--|--|
| C | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| D | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LIFTS |
| C1 | PROP. VAR. DEPTH ASPHALT CONCRETE 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. VAR. DEPTH ASPHALT CONCRETE 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" IN DEPTH OR GREATER THAN 4" IN DEPTH. |
| E1 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH. |
| R | 2'-6" CONCRETE CURB AND GUTTER. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | MILLING BITUMINOUS PAVEMENT. 1-1/2" DEPTH. |
| V1 | MILLING BITUMINOUS PAVEMENT. 0" TO 1-1/2" DEPTH. |

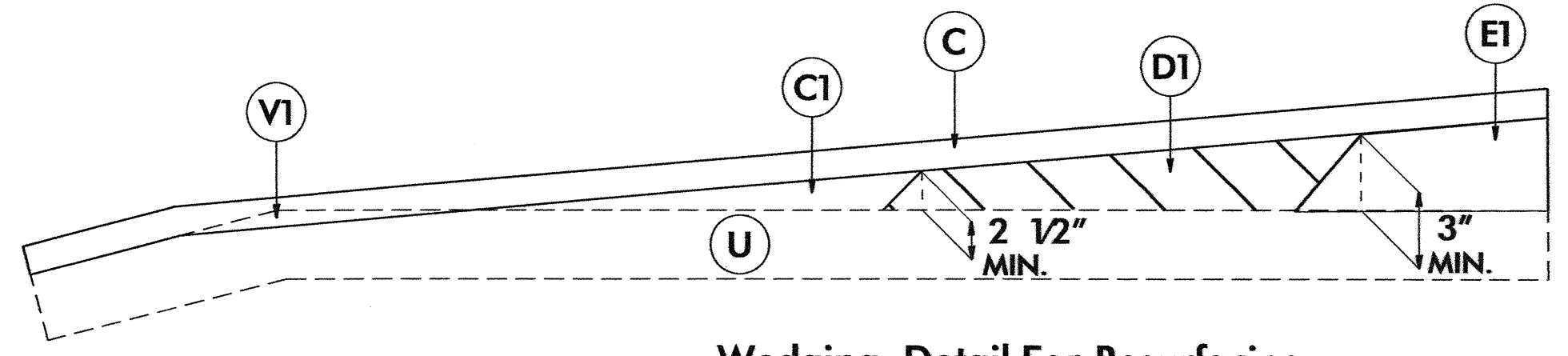
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

8/17/99

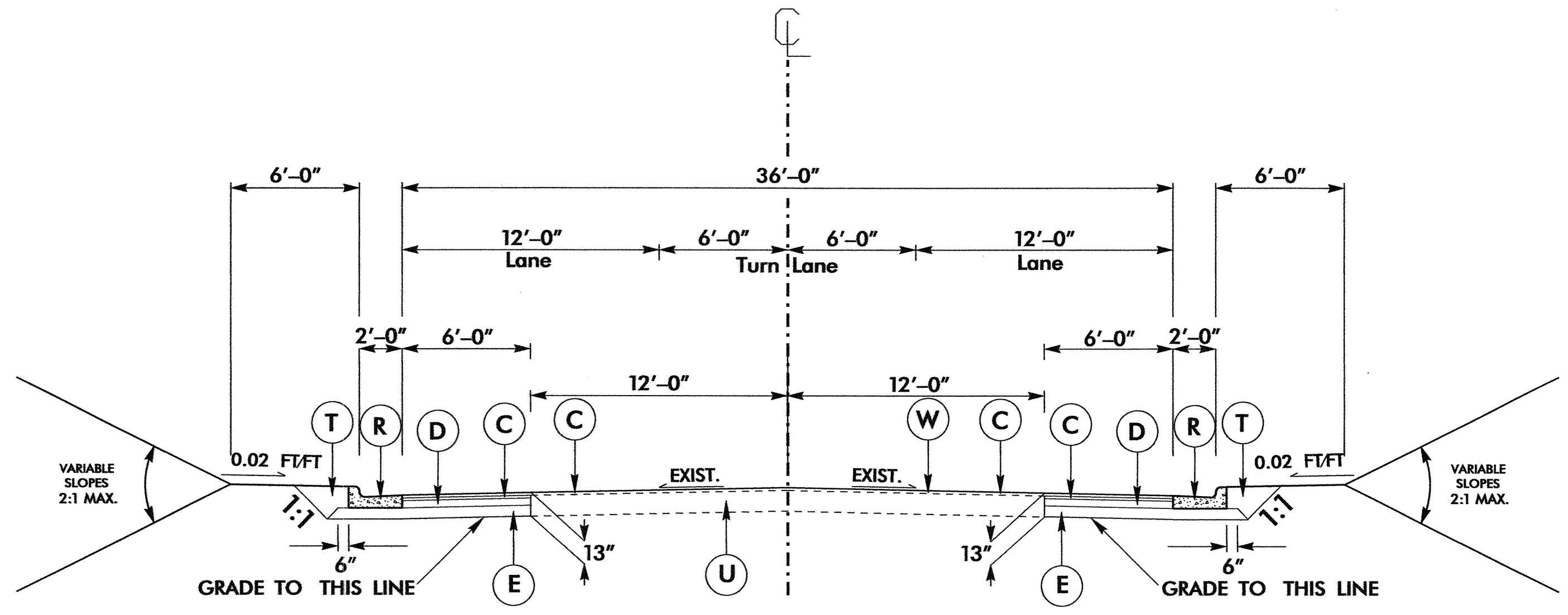
| | |
|---|---------------------|
| PROJECT REFERENCE NO. W-4712 | SHEET NO. 2-A |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 25921 MARK E. STAFFORD 12/9/11 | HYDRAULICS ENGINEER |



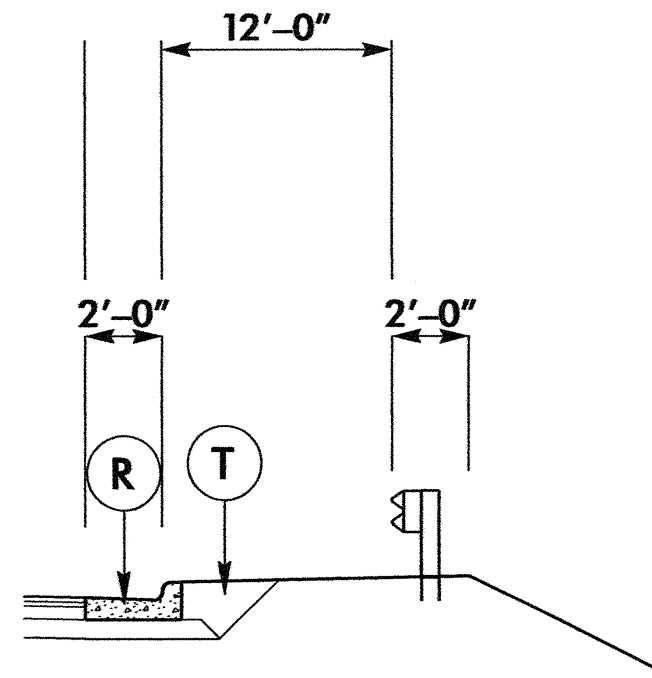
TYPICAL SECTION NO. 4
USE TYPICAL SECTION NO. 4
-L- Station 13+50 to 16+20



Wedging Detail For Resurfacing
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 5
-L- STATION 23+00 TO 30+00



TYPICAL SECTION NO. 5
USE TYPICAL SECTION NO. 5
-L- Station 16+20 to 51+50
-Y- Lines (Variable Width Pavement)



GUARDRAIL PLACEMENT DETAIL
SEE STD DWG NO. 862.01
-L- STATION 27+00 TO 29+00 RIGHT

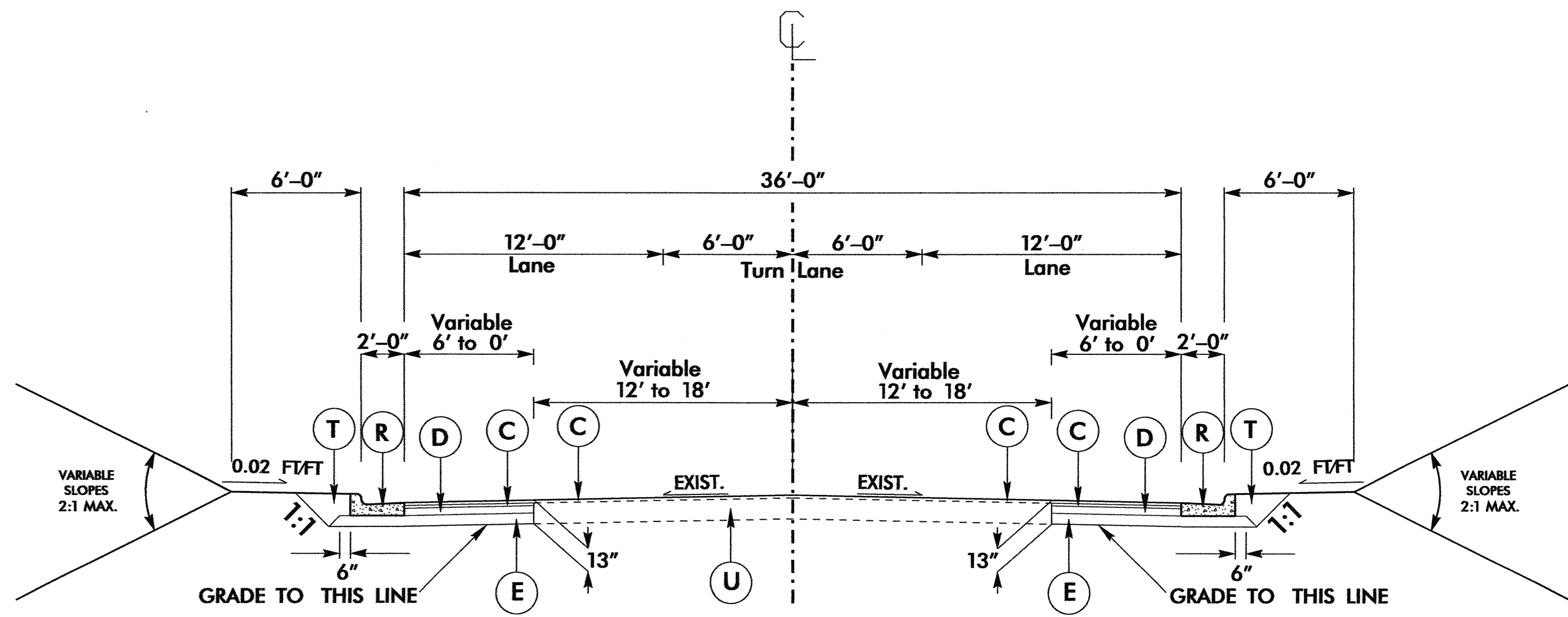
| PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN) | |
|--|--|
| C | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| D | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LIFTS |
| C1 | PROP. VAR. DEPTH ASPHALT CONCRETE 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. VAR. DEPTH ASPHALT CONCRETE 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" IN DEPTH OR GREATER THAN 4" IN DEPTH. |
| E1 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH. |
| R | 2'-6" CONCRETE CURB AND GUTTER. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | MILLING BITUMINOUS PAVEMENT. 1-1/2" DEPTH. |
| V1 | MILLING BITUMINOUS PAVEMENT. 0" TO 1-1/2" DEPTH. |
| W | WEDGING |

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

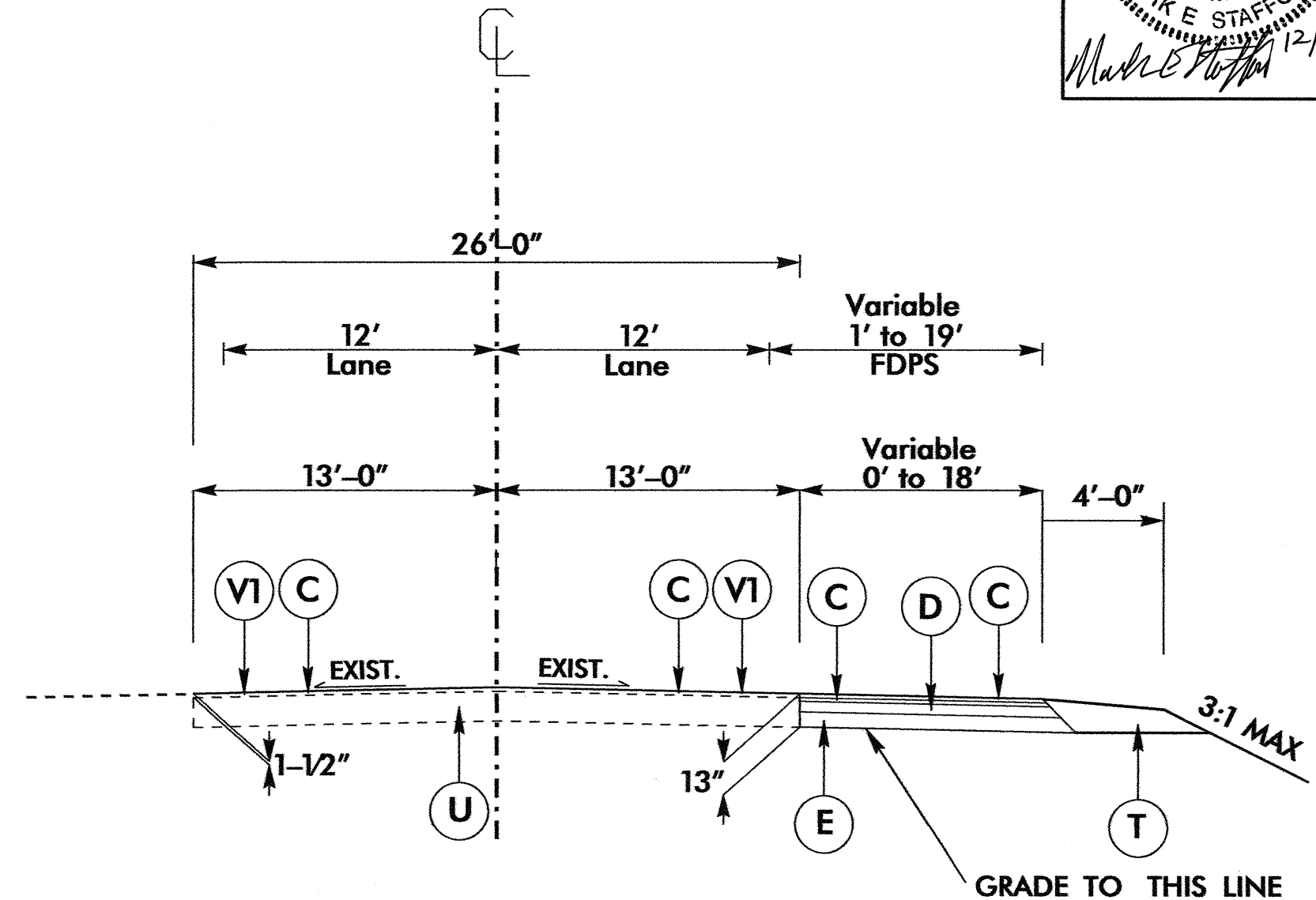
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8/17/99

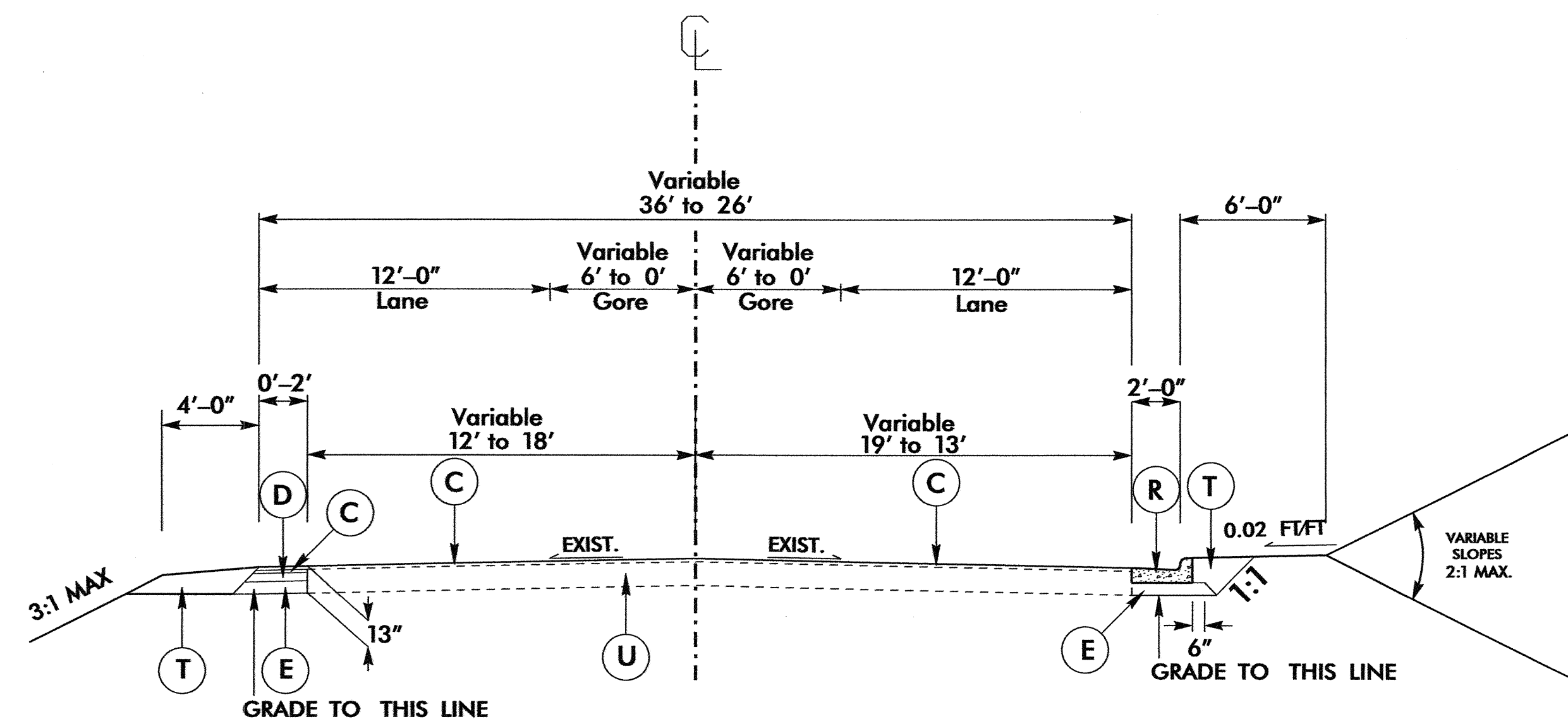
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|--|------------------------|
| PROJECT REFERENCE NO. W-4712 | SHEET NO. 2-B |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 25921 M. E. STAFFORD 12/9/11 | HYDRAULICS ENGINEER |



TYPICAL SECTION NO. 6
 USE TYPICAL SECTION NO. 6
 -L- Station 51+50 to 55+80



TYPICAL SECTION NO. 8
 USE TYPICAL SECTION NO. 8
 -L- Station 57+65 to 58+79.77

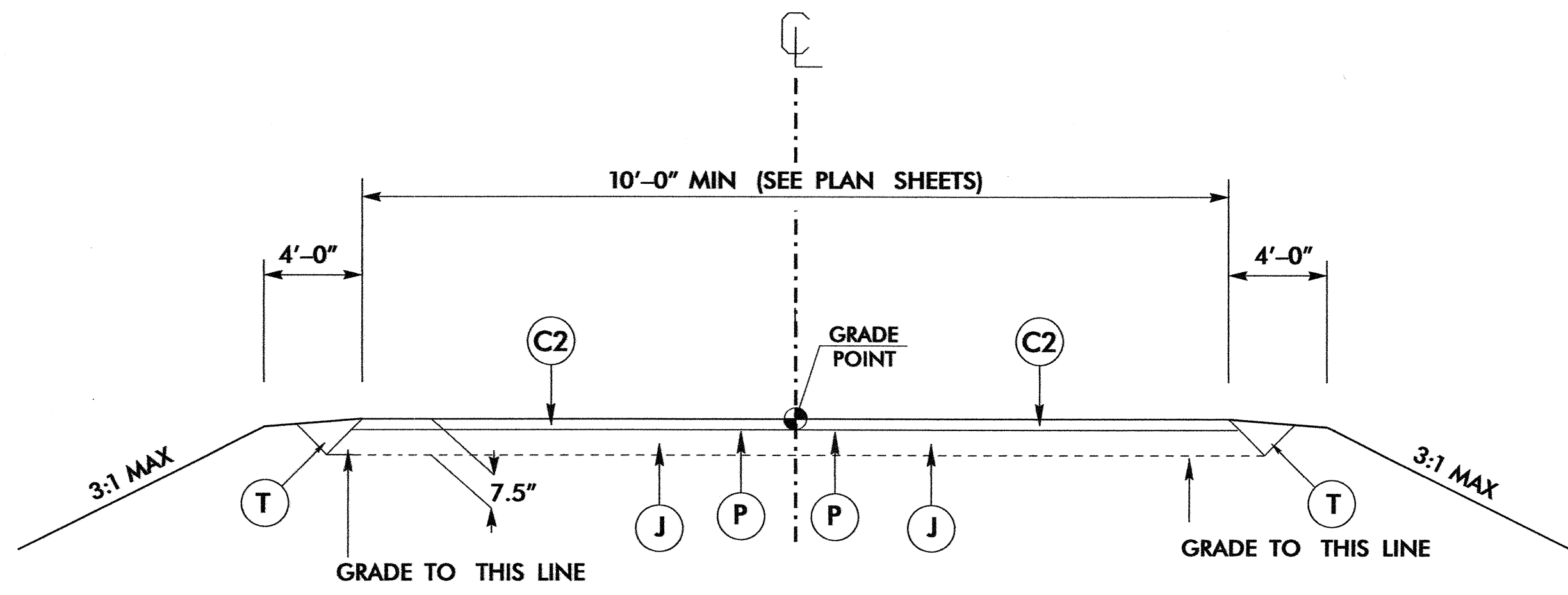


TYPICAL SECTION NO. 7
 USE TYPICAL SECTION NO. 7
 -L- Station 55+80 to 57+65

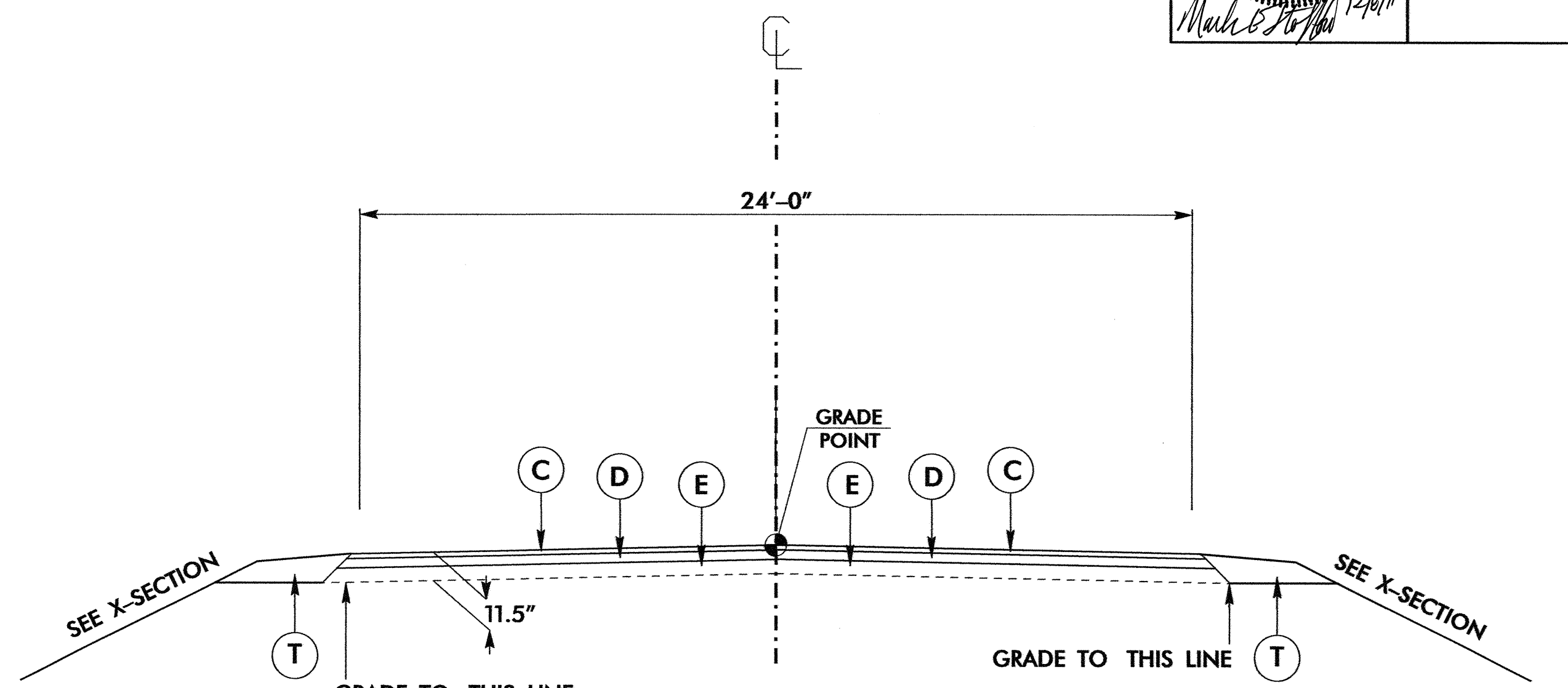
| PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN) | |
|--|--|
| C | PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| D | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LIFTS |
| C1 | PROP. VAR. DEPTH ASPHALT CONCRETE 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. VAR. DEPTH ASPHALT CONCRETE 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" IN DEPTH OR GREATER THAN 4" IN DEPTH. |
| E1 | PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH. |
| R | 2'-6" CONCRETE CURB AND GUTTER. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | MILLING BITUMINOUS PAVEMENT. 1-1/2" DEPTH. |
| V1 | MILLING BITUMINOUS PAVEMENT. 0" TO 1-1/2" DEPTH. |

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

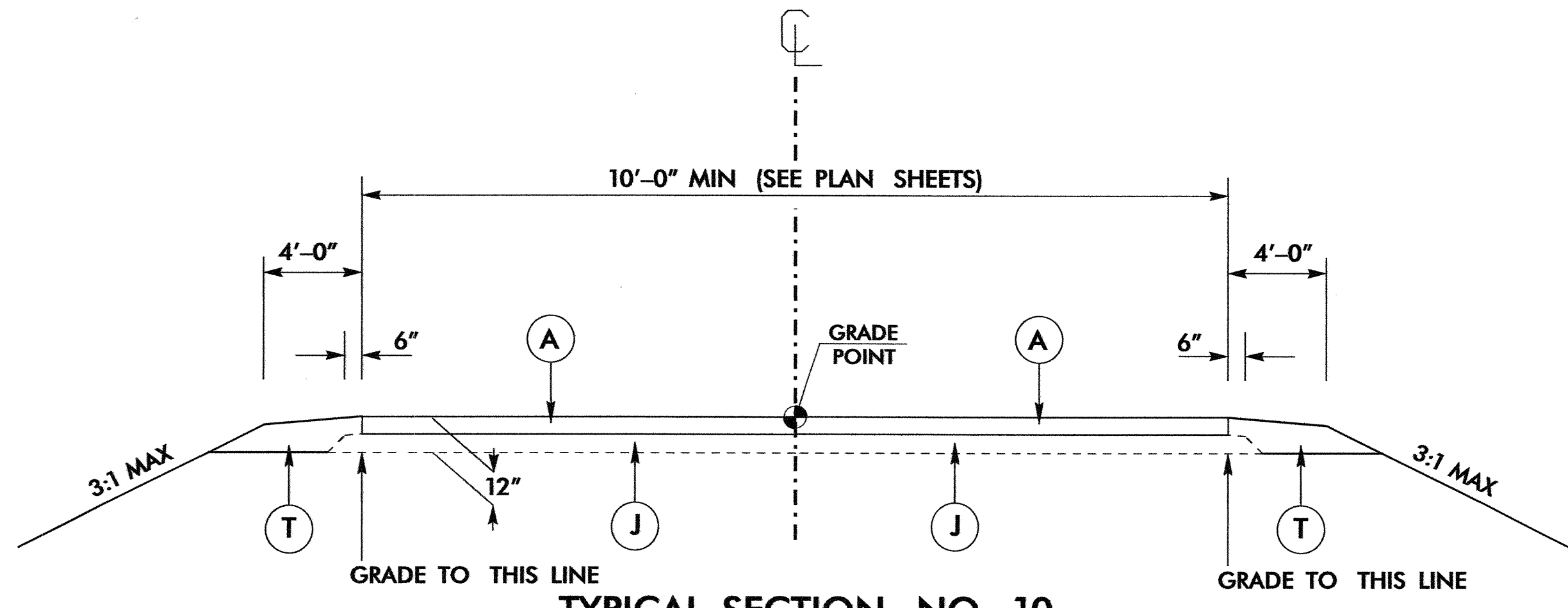
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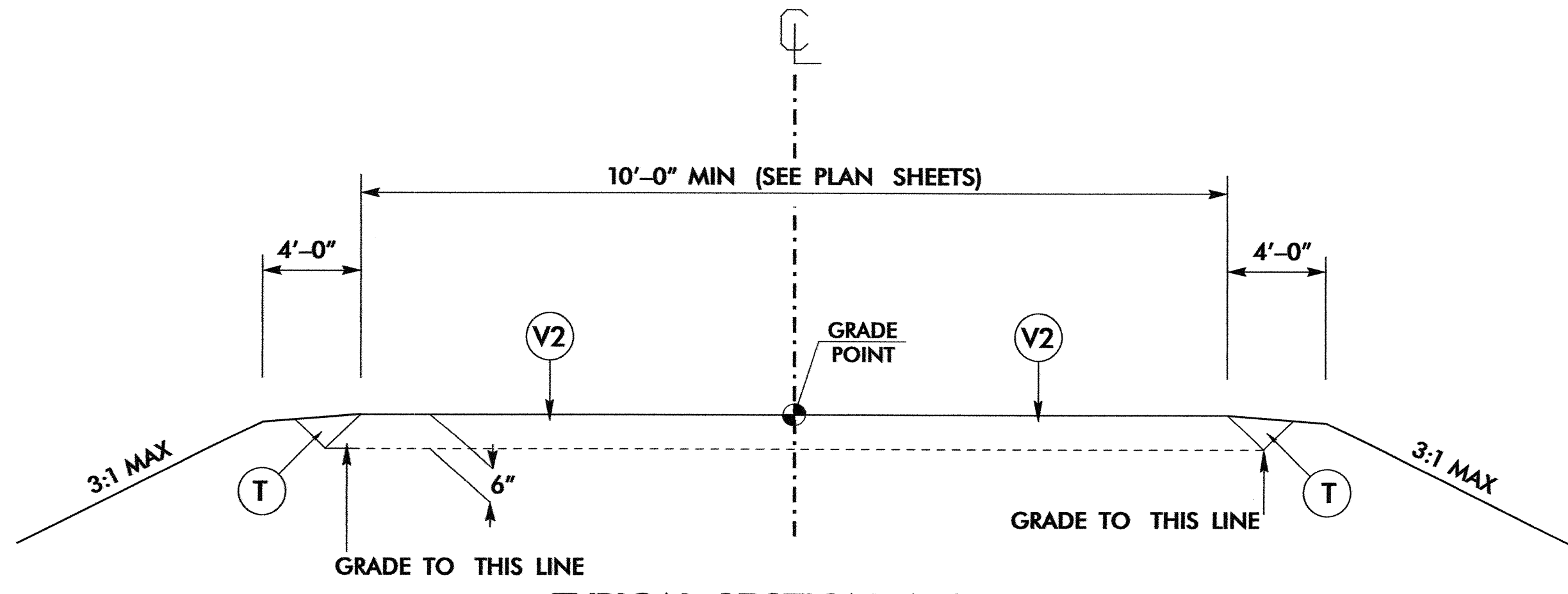
TYPICAL SECTION NO. 9
USE TYPICAL SECTION NO. 9
ASPHALT DRIVEWAYS



TYPICAL SECTION NO. 12
USE TYPICAL SECTION NO. 12
PAVEMENT REPAIR OVER 96", 66", & 60" CROSS PIPES



TYPICAL SECTION NO. 10
USE TYPICAL SECTION NO. 10
CONCRETE DRIVEWAYS



TYPICAL SECTION NO. 11
USE TYPICAL SECTION NO. 11
GRAVEL DRIVEWAYS

| PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN) | |
|--|---|
| A | 6" CONCRETE DRIVEWAY |
| C | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| C2 | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| D | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E | PROP. APPROX. 6" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LIFTS |
| J | PROP. 6" AGGREGATE BASE COURSE |
| P | PRIME COAT AT 0.35 GALS PER SQ. YD. |
| T | EARTH MATERIAL |
| V2 | INCIDENTAL STONE BASE |

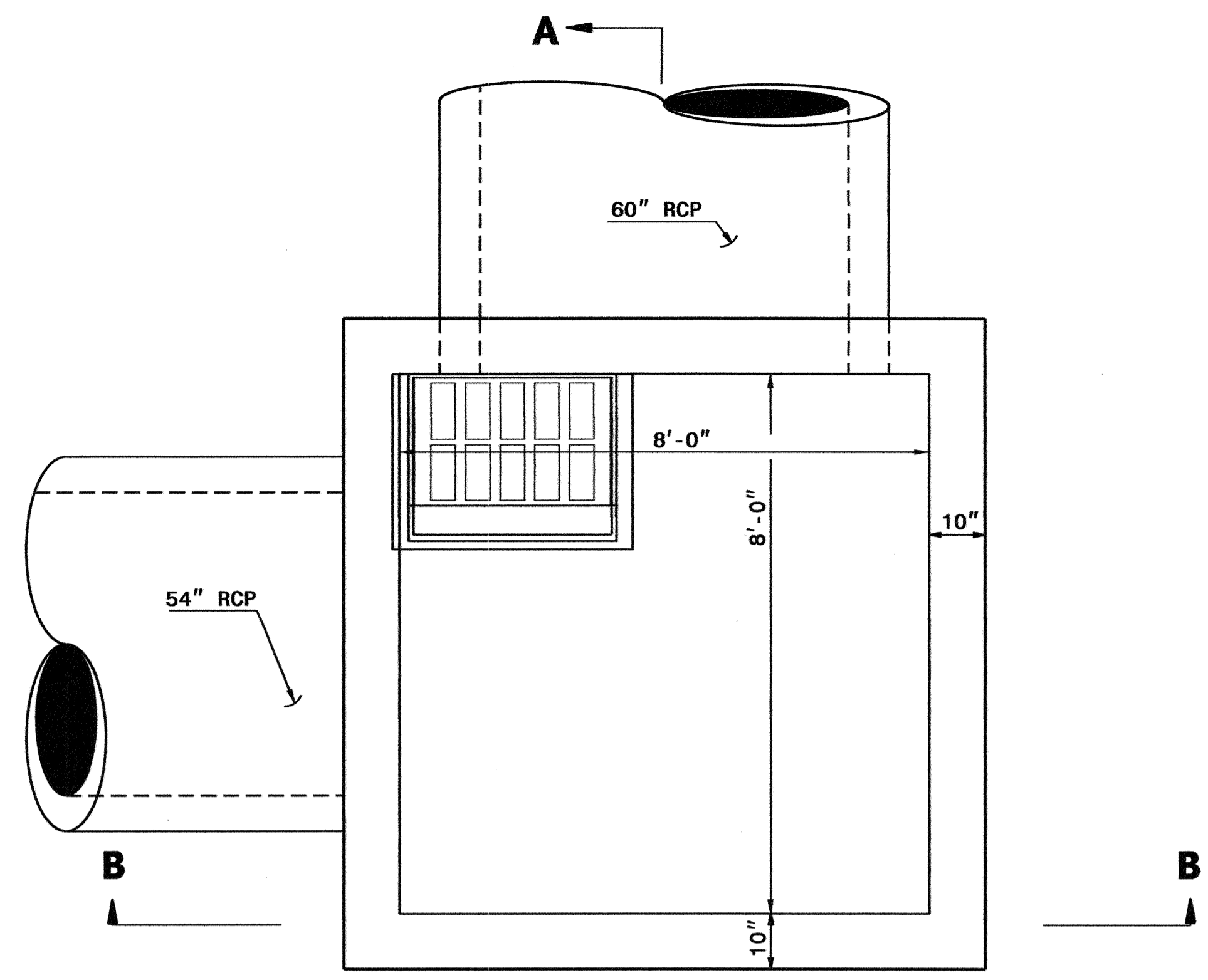
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

8/17/99
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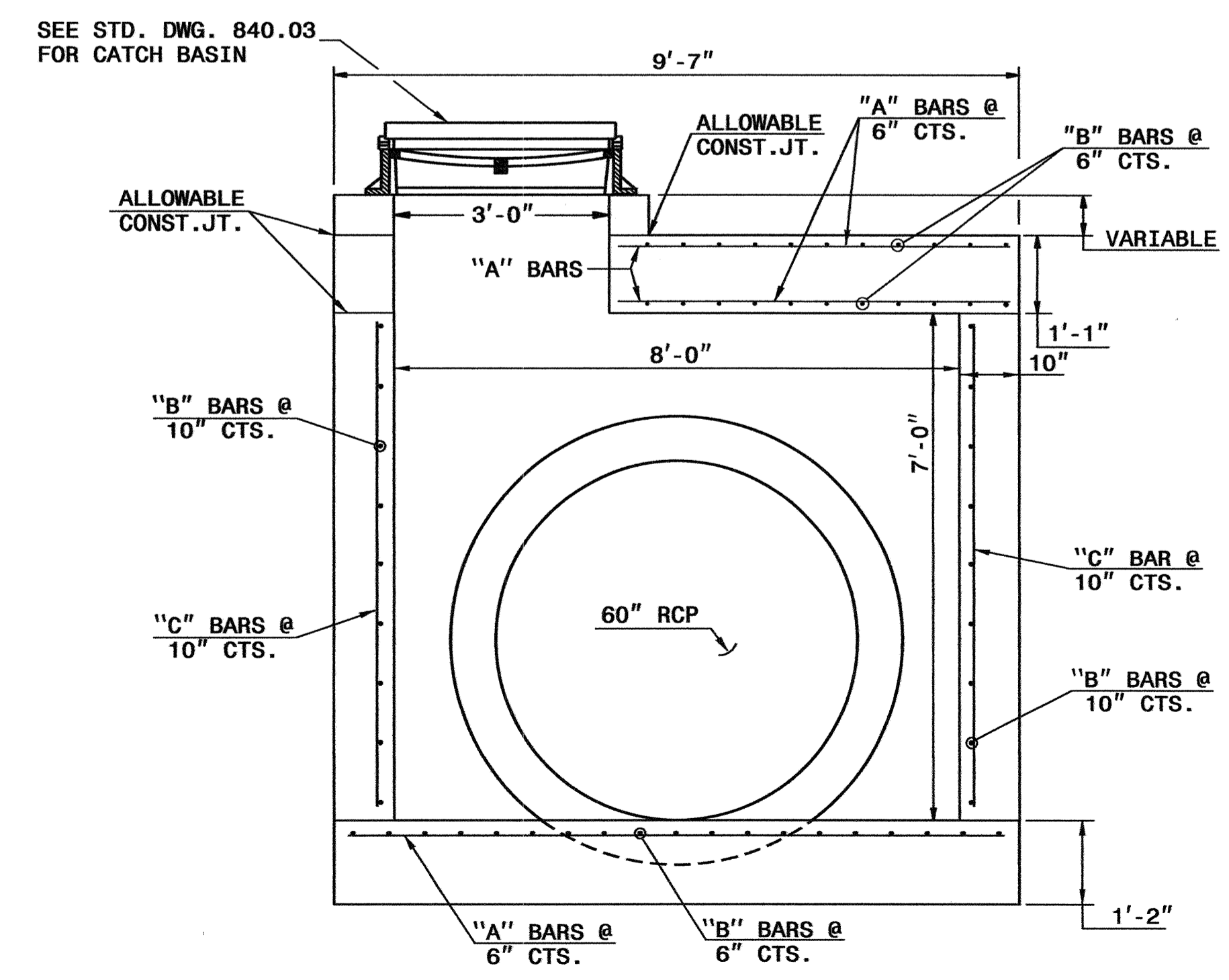
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| PROJECT REFERENCE NO. | | SHEET NO. | |
| W-4712 | | 2-D | |
| RW SHEET NO. | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |

GENERAL NOTES:

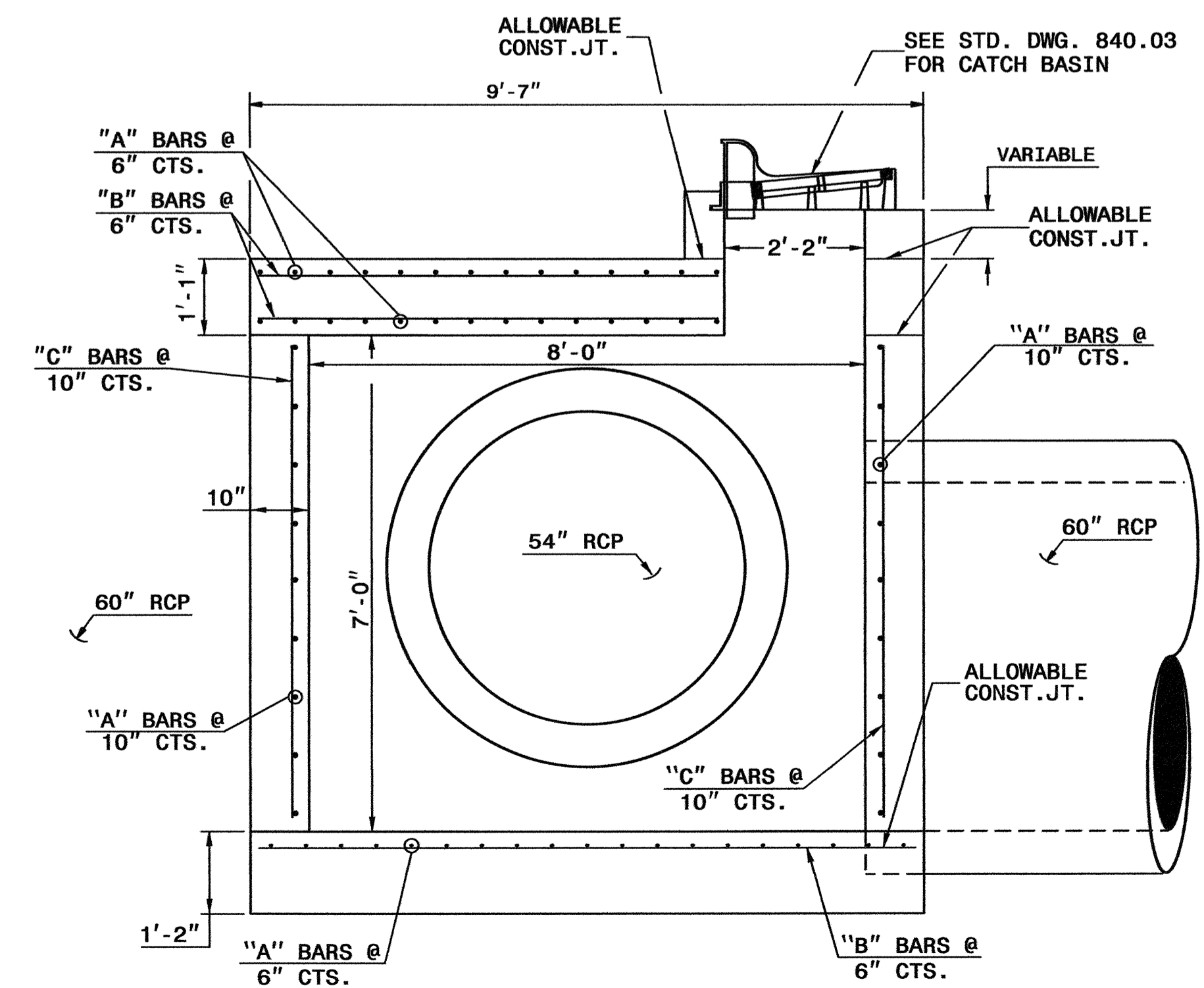
1. USE CLASS "B" CONCRETE THROUGHOUT.
2. CONSTRUCT CONCRETE BOX IN ACCORDANCE WITH SECTION 825 OF THE STANDARD SPECIFICATIONS.
3. USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
4. ADJUST LENGTH OF STEEL BARS AS NEEDED TO COMPENSATE FOR PIPES AND FRAME AND GRATE OPENINGS.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 400.
6. CUT OR BEND STEEL BARS AS NEEDED TO PROVIDE 2" CLEARANCE.
7. LOCATE FRAME AND GRATE AS FIELD CONDITIONS DICTATE AND AS DIRECTED BY THE ENGINEER.
8. HEIGHT OF CATCH BASIN MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.



PLAN



SECTION B-B



SECTION A-A

| BILL OF MATERIALS | | | | |
|---------------------------|-----|------|--------|--------|
| BAR | QTY | SIZE | LENGTH | WEIGHT |
| A | 80 | #5 | 9'-4" | 798 |
| B | 80 | #5 | 9'-4" | 798 |
| C | 48 | #5 | 8'-0" | 400 |
| TOTAL REINF. STEEL (lbs.) | | | | 1996 |
| TOTAL CONC. CU. YDS. | | | | 38.0 |

NO DEDUCTIONS HAVE BEEN MADE TO ACCOMMODATE PIPES OR CATCH BASIN OPENING.



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

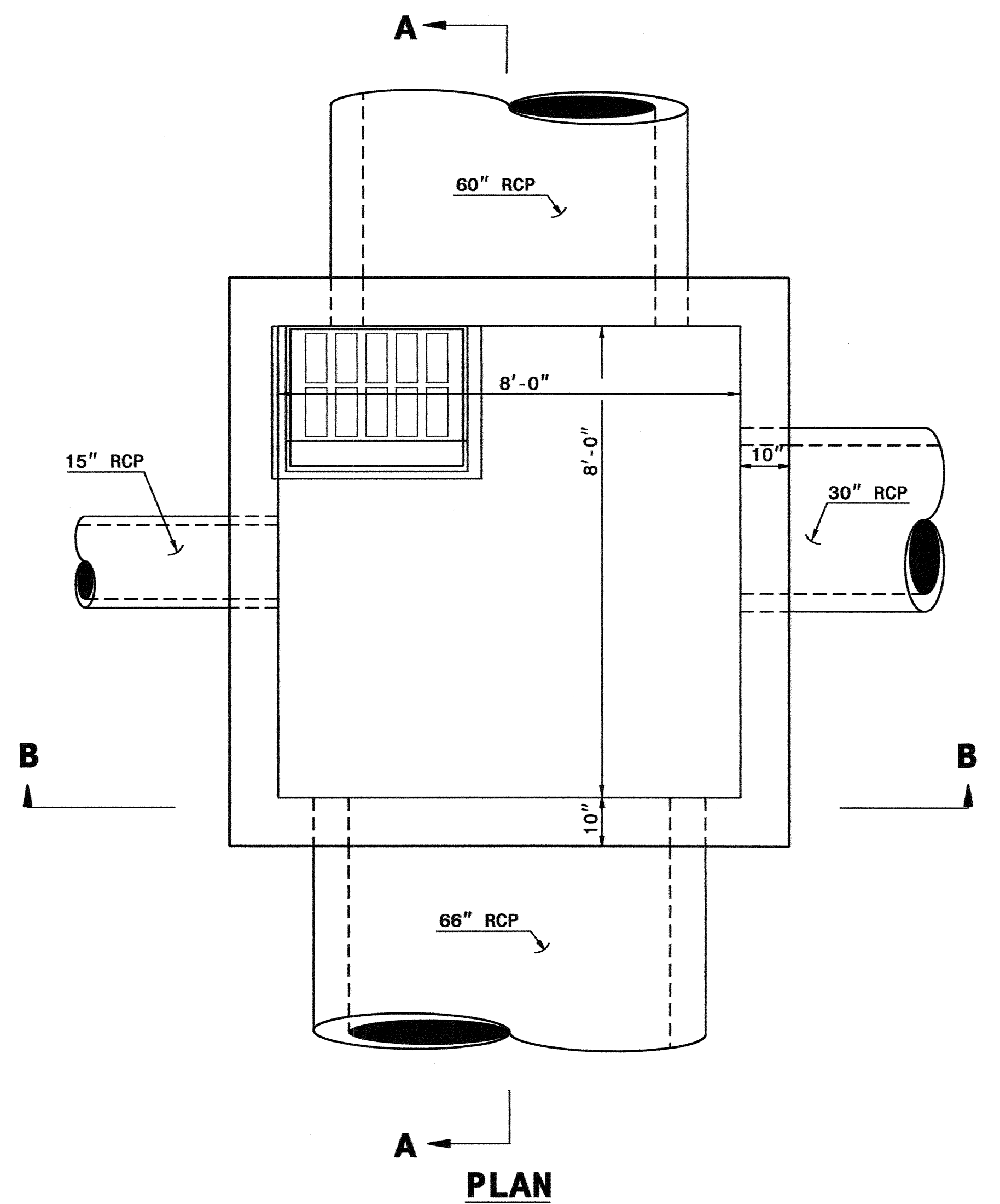
**DETAIL OF SPECIAL
CATCH BASIN**

ORIGINAL BY: T. Stephenson DATE: Aug. 1996
 MODIFIED BY: B. Sowell DATE: Nov. 12, 2009
 CHECKED BY: DATE: _____
 FILE SPEC.: _____

8/17/99
 03-MAN-202.09:35
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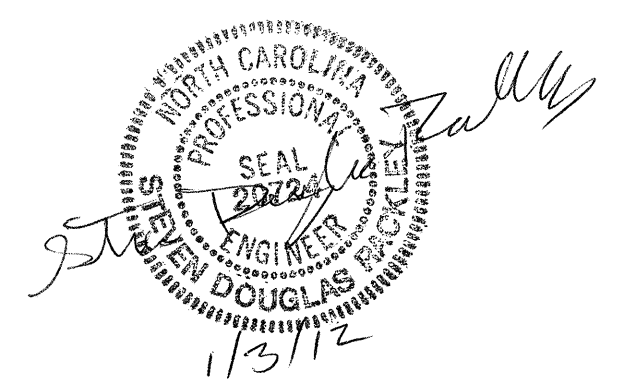
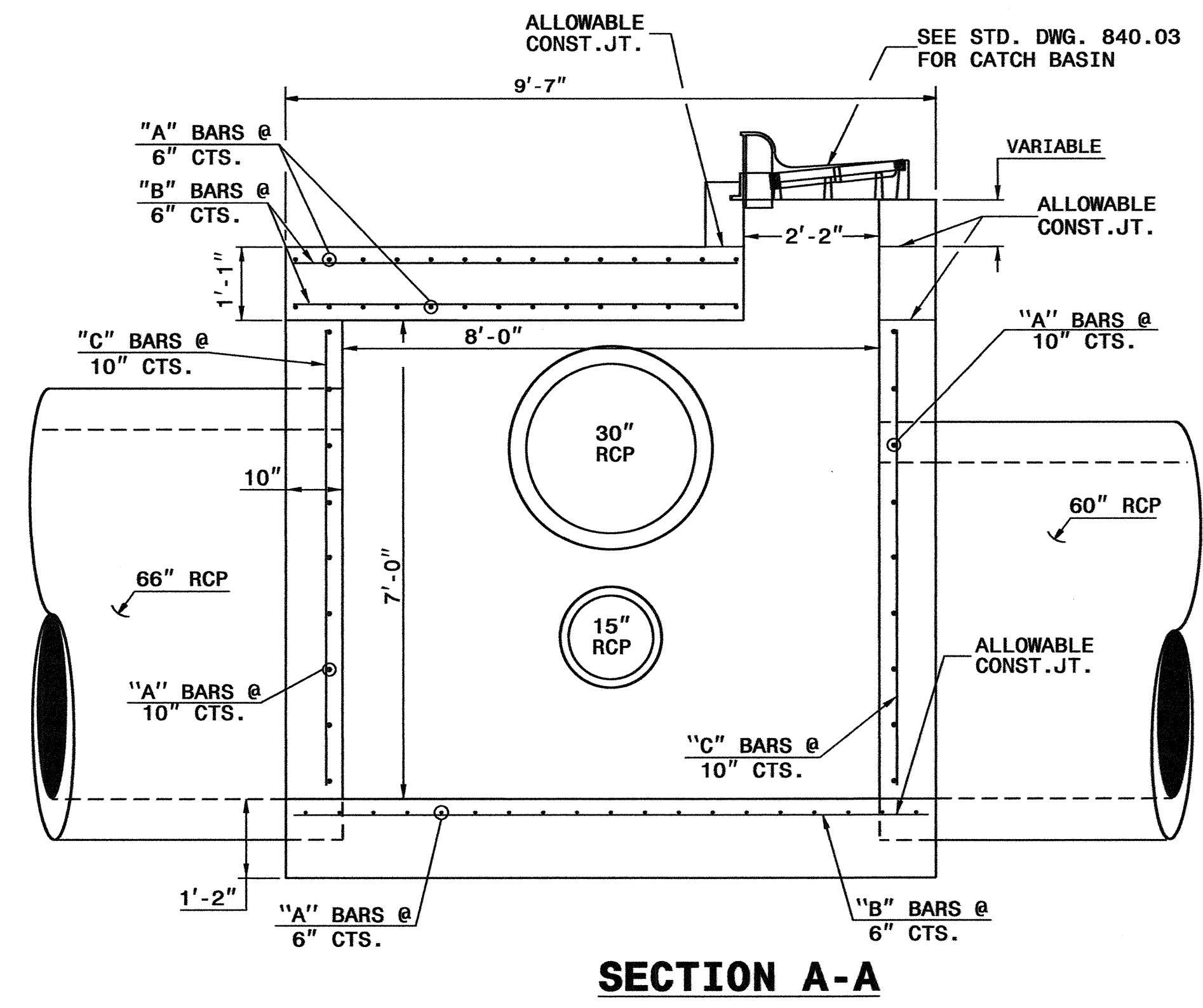
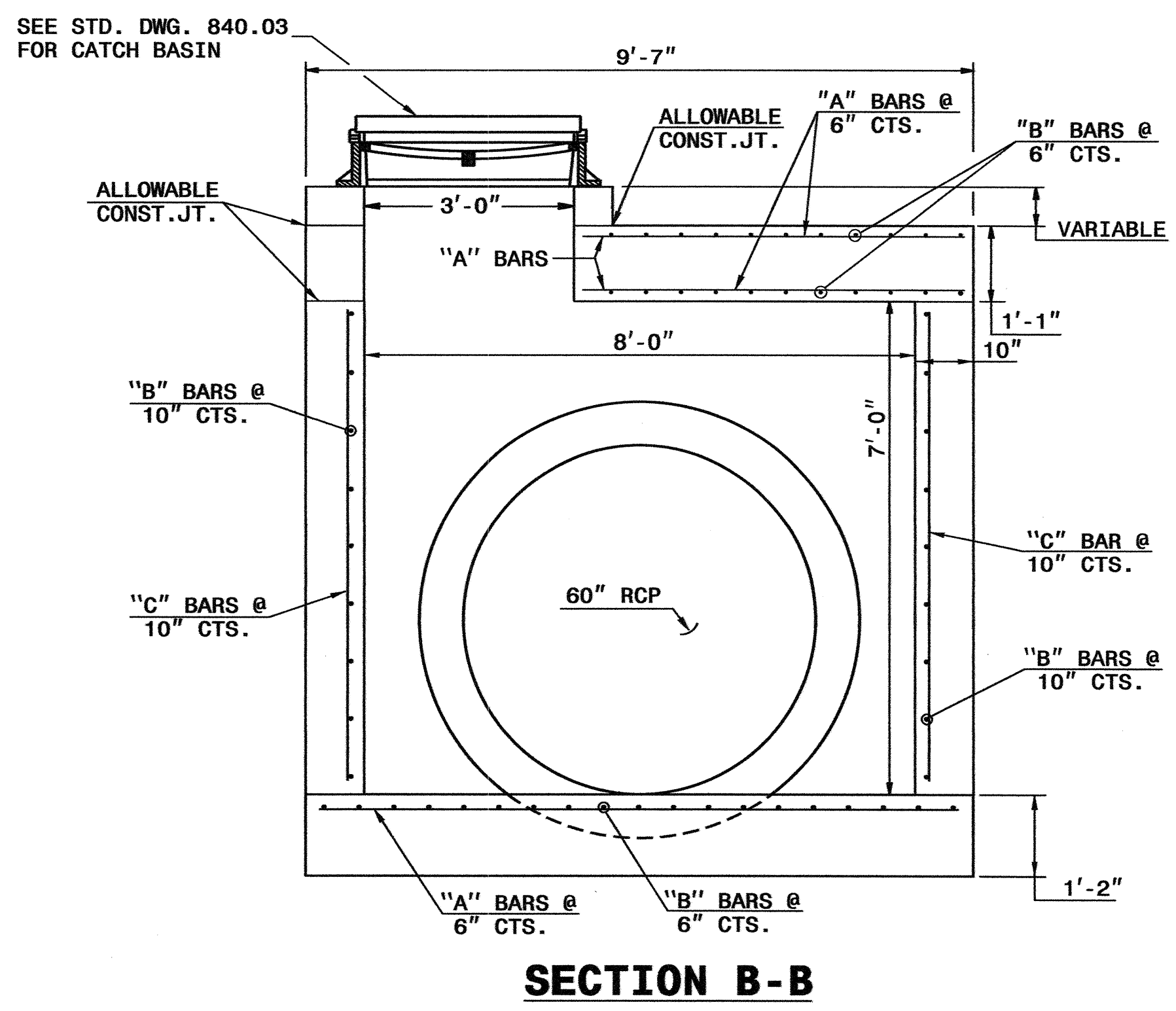
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| PROJECT REFERENCE NO. | | SHEET NO. | |
| W-4712 | | 2-E | |
| RW SHEET NO. | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |

- GENERAL NOTES:
1. USE CLASS "B" CONCRETE THROUGHOUT.
 2. CONSTRUCT CONCRETE BOX IN ACCORDANCE WITH SECTION 825 OF THE STANDARD SPECIFICATIONS.
 3. USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
 4. ADJUST LENGTH OF STEEL BARS AS NEEDED TO COMPENSATE FOR PIPES AND FRAME AND GRATE OPENINGS.
 5. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 400.
 6. CUT OR BEND STEEL BARS AS NEEDED TO PROVIDE 2" CLEARANCE.
 7. LOCATE FRAME AND GRATE AS FIELD CONDITIONS DICTATE AND AS DIRECTED BY THE ENGINEER.
 8. HEIGHT OF CATCH BASIN MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.



| BILL OF MATERIALS | | | | |
|---------------------------|-----|------|--------|--------|
| BAR | QTY | SIZE | LENGTH | WEIGHT |
| A | 80 | #5 | 9'-4" | 798 |
| B | 80 | #5 | 9'-4" | 798 |
| C | 48 | #5 | 8'-0" | 400 |
| TOTAL REINF. STEEL (lbs.) | | | | 1996 |
| TOTAL CONC. CU. YDS. | | | | 38.0 |

NO DEDUCTIONS HAVE BEEN MADE TO ACCOMMODATE PIPES OR CATCH BASIN OPENING.

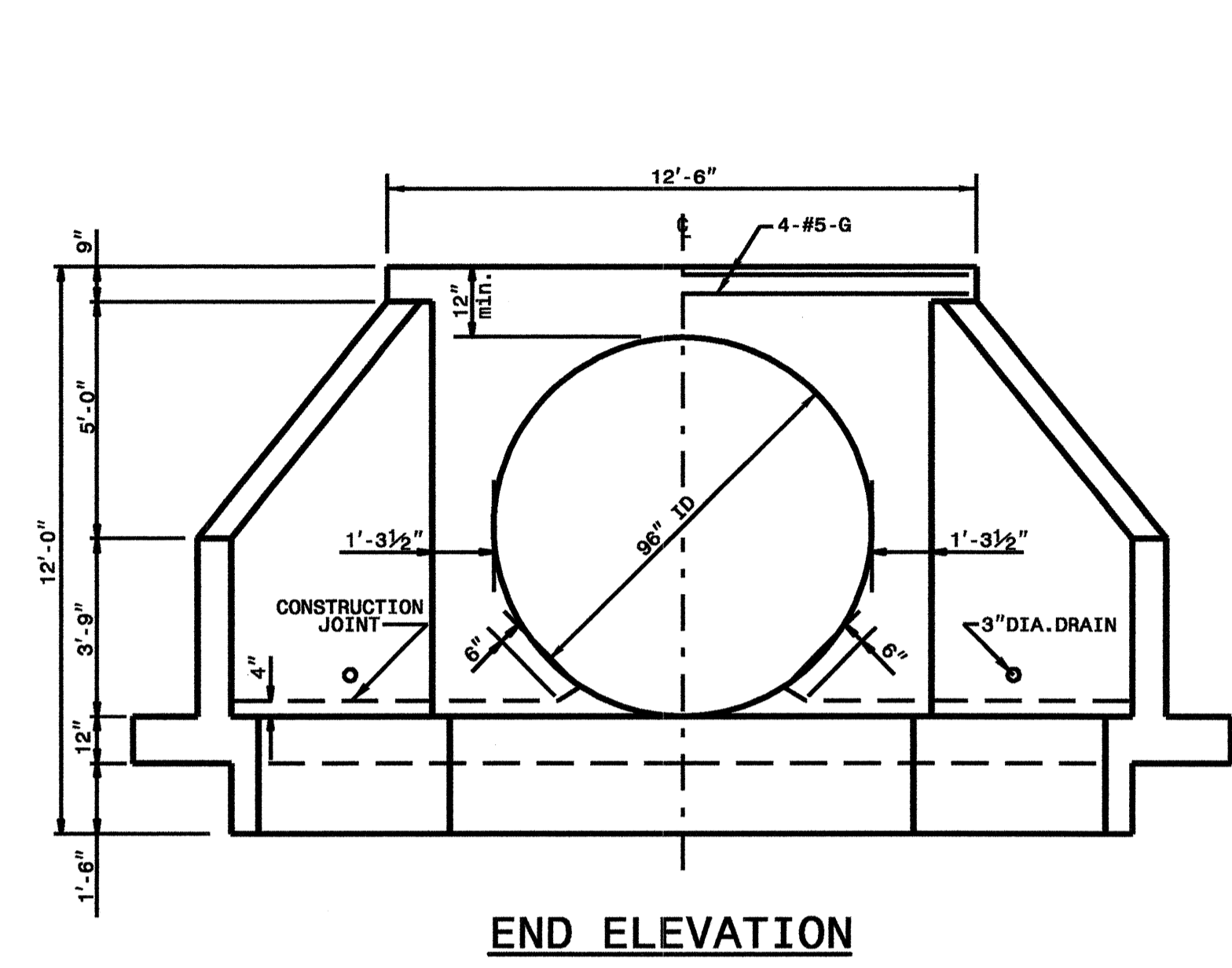


PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

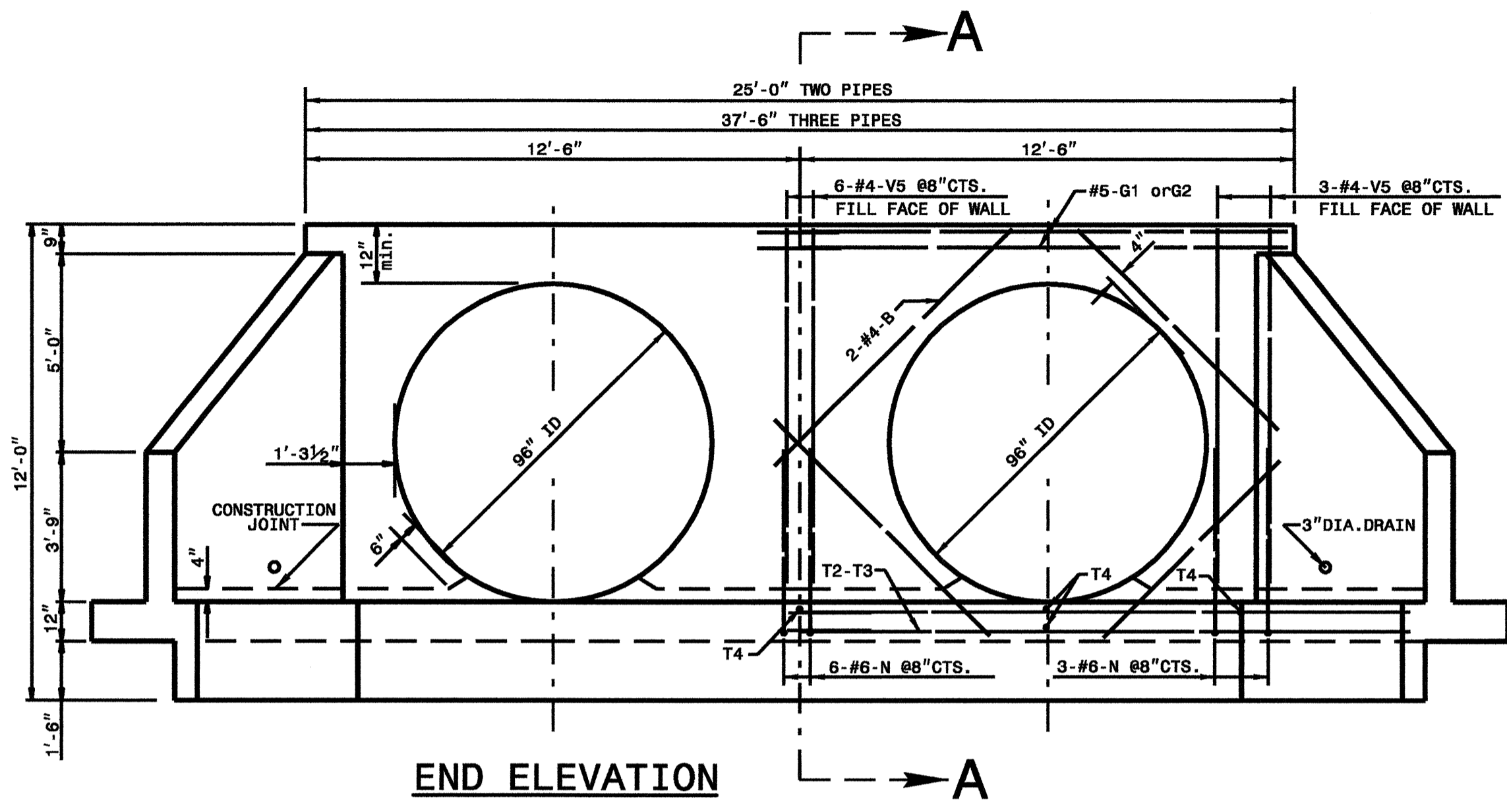
DETAIL OF SPECIAL CATCH BASIN

ORIGINAL BY: T. Stephenson DATE: Aug. 1996
 MODIFIED BY: B. Sowell DATE: Nov. 12, 2009
 CHECKED BY: DATE: _____
 FILE SPEC.: _____

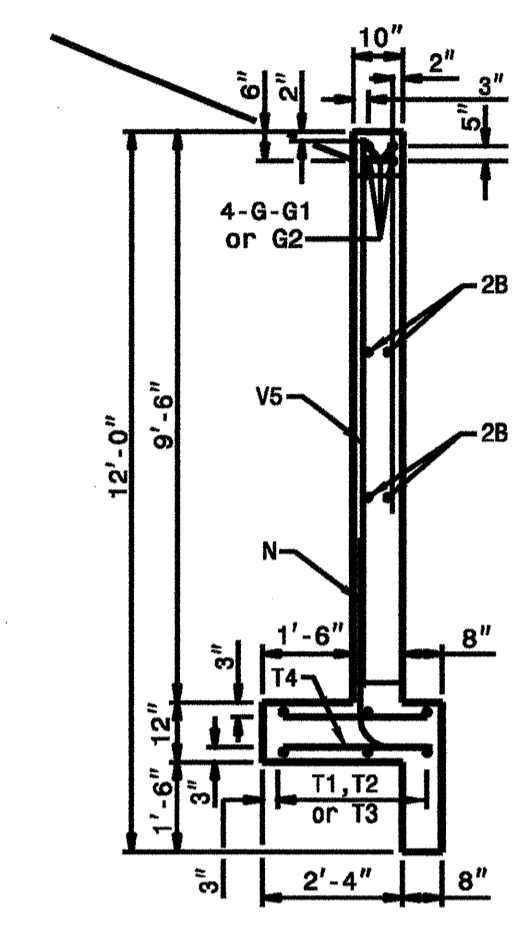
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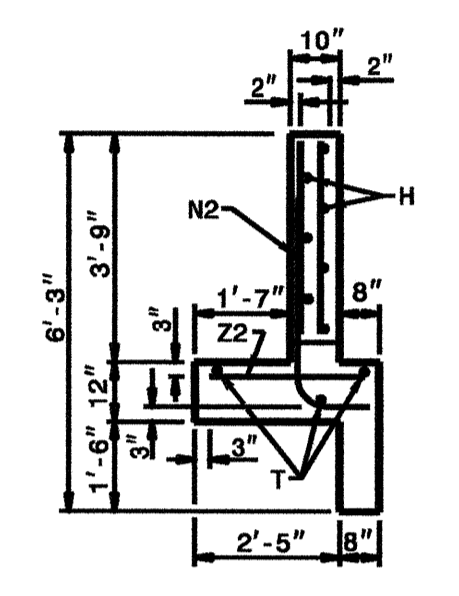
END ELEVATION



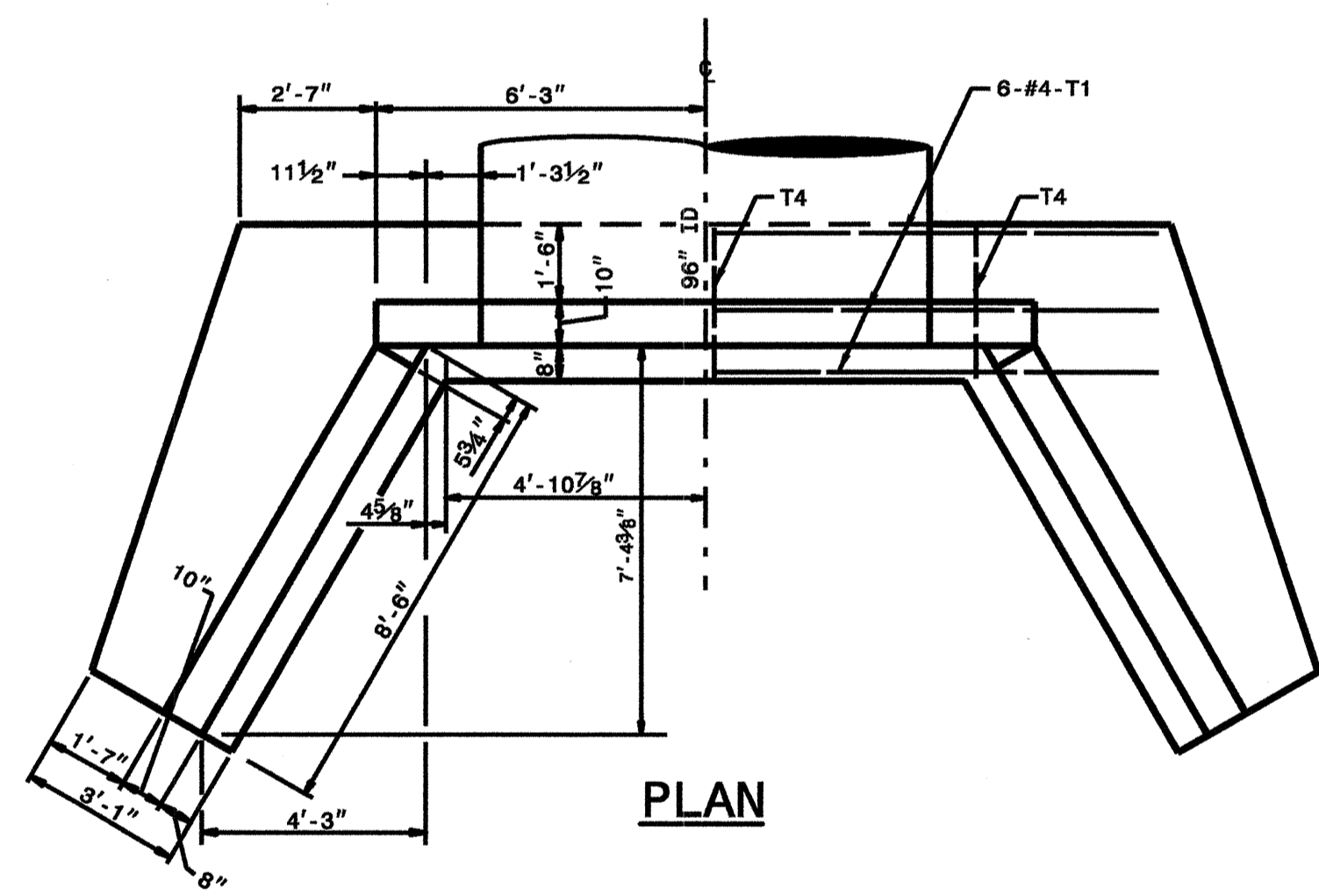
END ELEVATION



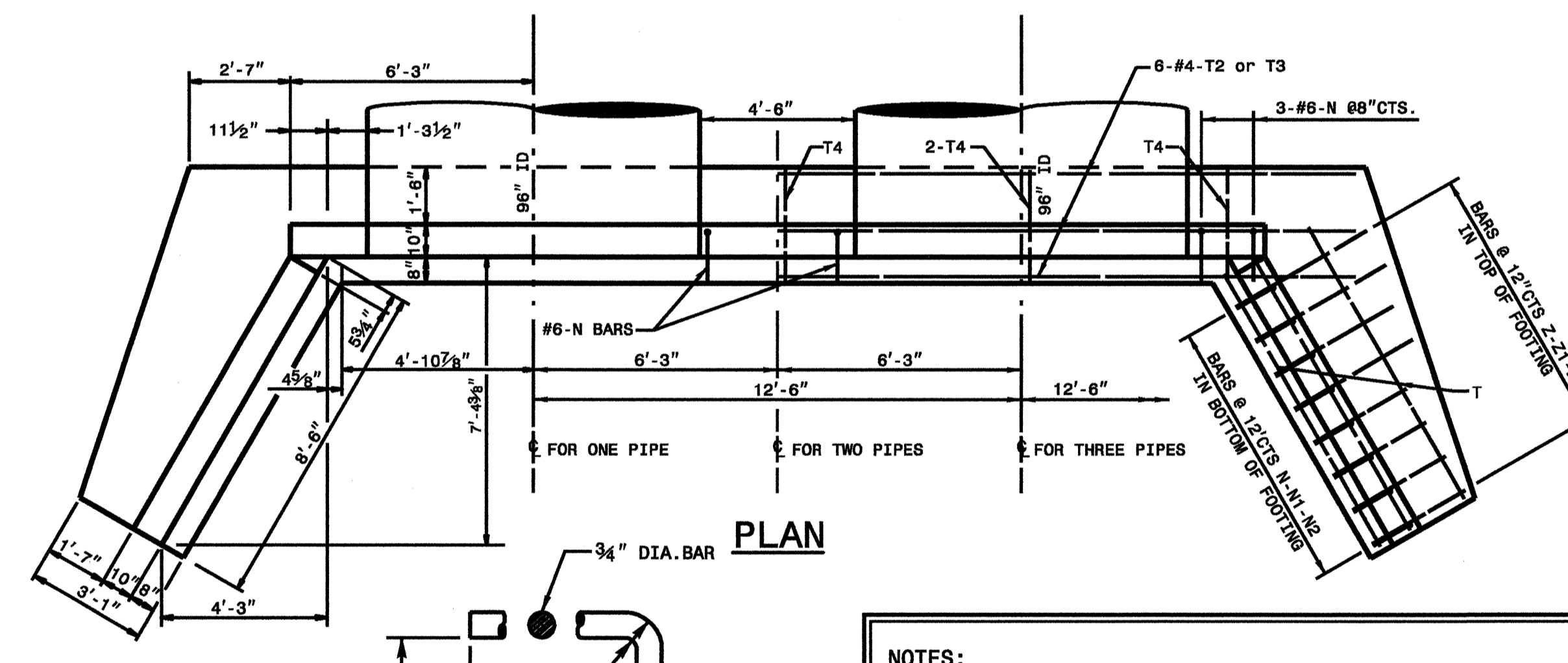
SECTION A-A



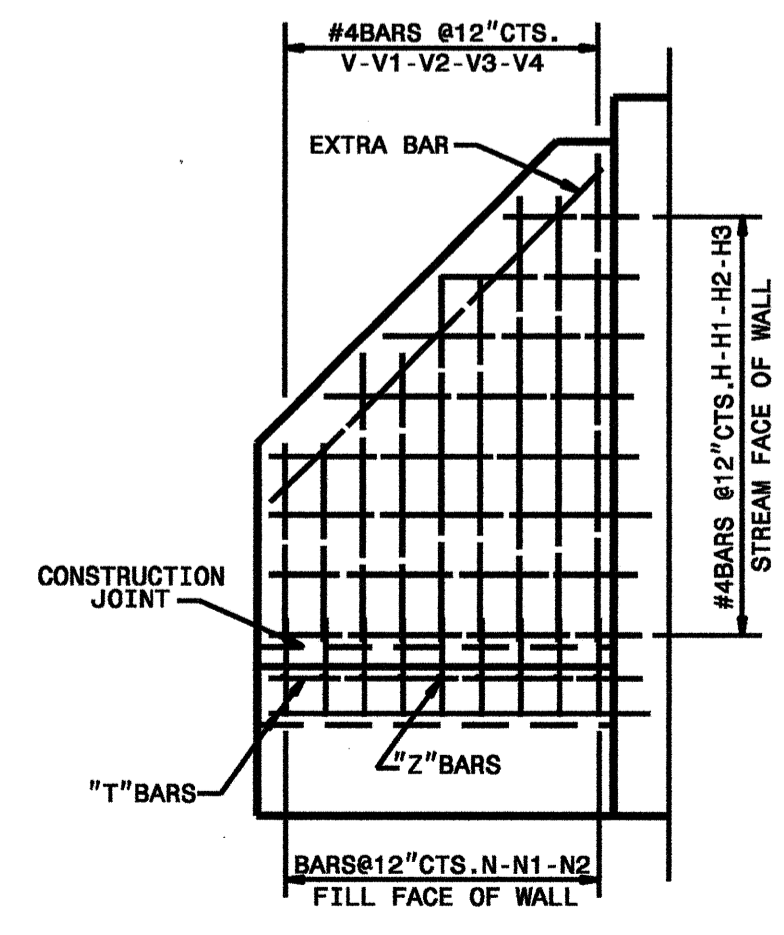
END OF WING



PLAN

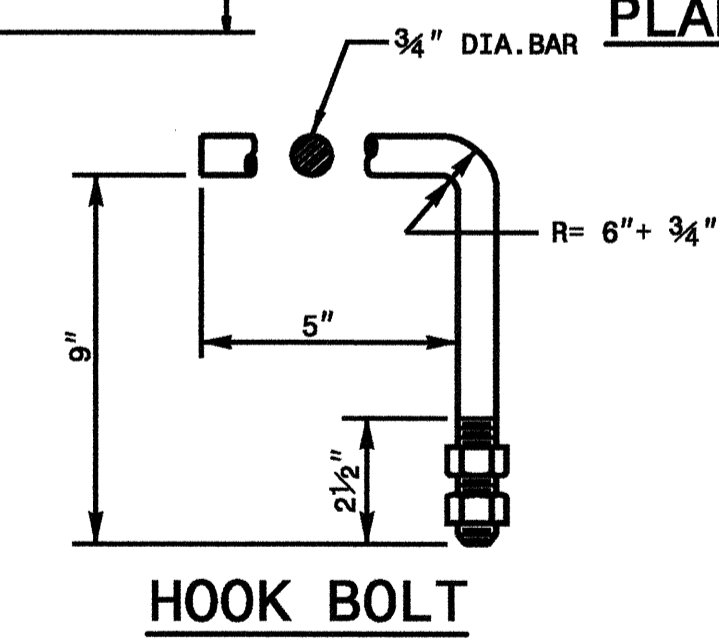


PLAN

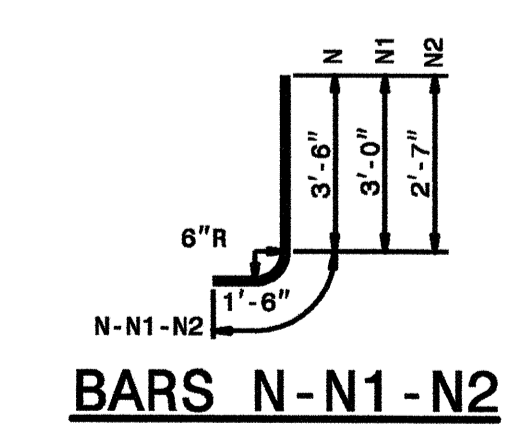


ELEVATION OF WING

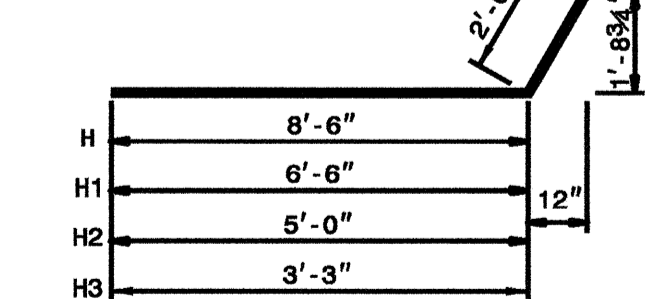
NOTE: CONSTRUCT HOOK BOLTS (ANCHORS) AT 600mm CTS. ALONG THE CIRCUMFERENCE OF THE 96" CSPA. EMBED THE HOOK BOLTS 6" IN DEPTH. THE GALVANIZED 3/4" DIA. HOOK BOLTS MUST MEET ASTM A-307 OR ASTM A-836. BOTH BOLTS AND NUTS MUST BE IN ACCORDANCE WITH ASTM A-153 FOR GALVANIZING.



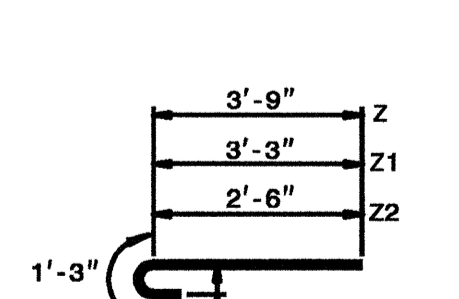
HOOK BOLT



BARS N-N1-N2



BARS H-H1-H2-H3



BARS Z-Z1-Z2

DESIGN DATA

Specifications A.A.S.H.T.O.
 Steel in tension 20,000 LBS.PER.SQ.INCH
 Concrete in compression 12,000 LBS.PER.SQ.INCH
 Shear Class "A" Concrete 40 LBS.PER.SQ.INCH
 Equiv. fluid pressure of earth 30 LBS.PER.SQ.FOOT

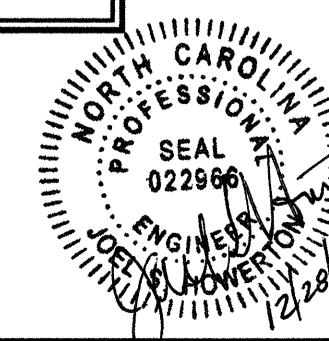
NOTES:
 ALL CONCRETE TO BE CLASS "A".
 ALL REINFORCING STEEL SHALL BE ASTMA615-GRADE 60.
 ALL REINFORCING STEEL SHALL BE DEFORMED BARS. WHERE SPLICING OF REINFORCEMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS.
 THE FOOTING, CURTAIN WALL AND 4 IN. OF WALL ARE TO BE POURED IN ONE OPERATION ALLOWING NO TIME FOR INITIAL SET TO TAKE PLACE BETWEEN THEM. THE REMAINING WALL SHALL THEN BE POURED IN ONE OPERATION.
 ALL EXPOSED CORNERS ARE TO BE CHAMFERED 1 IN.
 3 IN. DIAMETER DRAINS SHALL BE PLACED IN WALL AS SHOWN AND BE 6 IN. ABOVE NORMAL FLOW LINE.
 ALL MATERIAL AND WORKMANSHIP AS PER N.C. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
 THE EXTRA BARS ARE PROVIDED FOR HOLDING REINFORCING STEEL IN CORRECT POSITION IN WING.

BILL OF MATERIALS FOR ONE ENDWALL

| BAR | SIZE | LENGTH | QTY | WEIGHT | QTY | WEIGHT | QTY | WEIGHT |
|--------------------------|------|--------|-----|--------|-----|--------|-----|--------|
| B | 4 | 6'-6" | 8 | 35 | 16 | 69 | 24 | 104 |
| G | 5 | 12'-3" | 4 | 51 | -- | -- | -- | -- |
| G1 | 5 | 13'-6" | -- | -- | 8 | 113 | -- | -- |
| G2 | 5 | 19'-9" | -- | -- | -- | -- | 8 | 165 |
| H | 4 | 10'-6" | 12 | 84 | 12 | 84 | 12 | 84 |
| H1 | 4 | 8'-6" | 4 | 23 | 4 | 23 | 4 | 23 |
| H2 | 4 | 7'-0" | 2 | 9 | 2 | 9 | 2 | 9 |
| H3 | 4 | 5'-3" | 4 | 14 | 4 | 14 | 4 | 14 |
| N | 6 | 5'-0" | 12 | 90 | 18 | 135 | 24 | 180 |
| N1 | 5 | 4'-6" | 4 | 19 | 4 | 19 | 4 | 19 |
| N2 | 4 | 4'-1" | 8 | 22 | 8 | 22 | 8 | 22 |
| T | 4 | 8'-6" | 6 | 34 | 6 | 34 | 6 | 34 |
| T1 | 4 | 17'-4" | 6 | 69 | -- | -- | -- | -- |
| T2 | 4 | 16'-0" | -- | -- | 12 | 128 | -- | -- |
| T3 | 4 | 22'-3" | -- | -- | -- | -- | 12 | 178 |
| T4 | 4 | 2'-9" | 4 | 7 | 7 | 13 | 10 | 18 |
| V | 4 | 8'-0" | 4 | 11 | 4 | 11 | 4 | 11 |
| V1 | 4 | 7'-0" | 4 | 19 | 4 | 19 | 4 | 19 |
| V2 | 4 | 5'-6" | 6 | 22 | 6 | 22 | 6 | 22 |
| V3 | 4 | 4'-6" | 4 | 12 | 4 | 12 | 4 | 12 |
| V4 | 4 | 3'-3" | 6 | 13 | 6 | 13 | 6 | 13 |
| V5 | 4 | 9'-0" | 6 | 36 | 12 | 72 | 18 | 108 |
| Z | 6 | 5'-0" | 6 | 45 | 6 | 45 | 6 | 45 |
| Z1 | 5 | 4'-6" | 4 | 19 | 4 | 19 | 4 | 19 |
| Z2 | 4 | 3'-9" | 8 | 20 | 8 | 20 | 8 | 20 |
| REINF. STEEL (lbs.) | | | | 654 | | 896 | | 1119 |
| CLASS "A" CONC (cu.yds.) | | | | 10.1 | | 13.9 | | 17.6 |

* NO DEDUCTIONS HAVE BEEN MADE FOR PIPES

31-MAY-2007 09:19 C:\projects\special_details\britt\english\hydro\96in_endwall_190sk.dgn



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

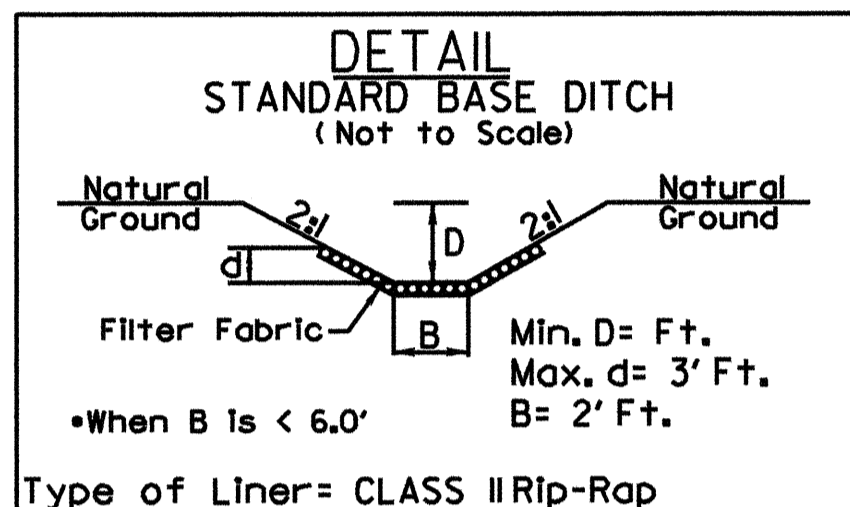
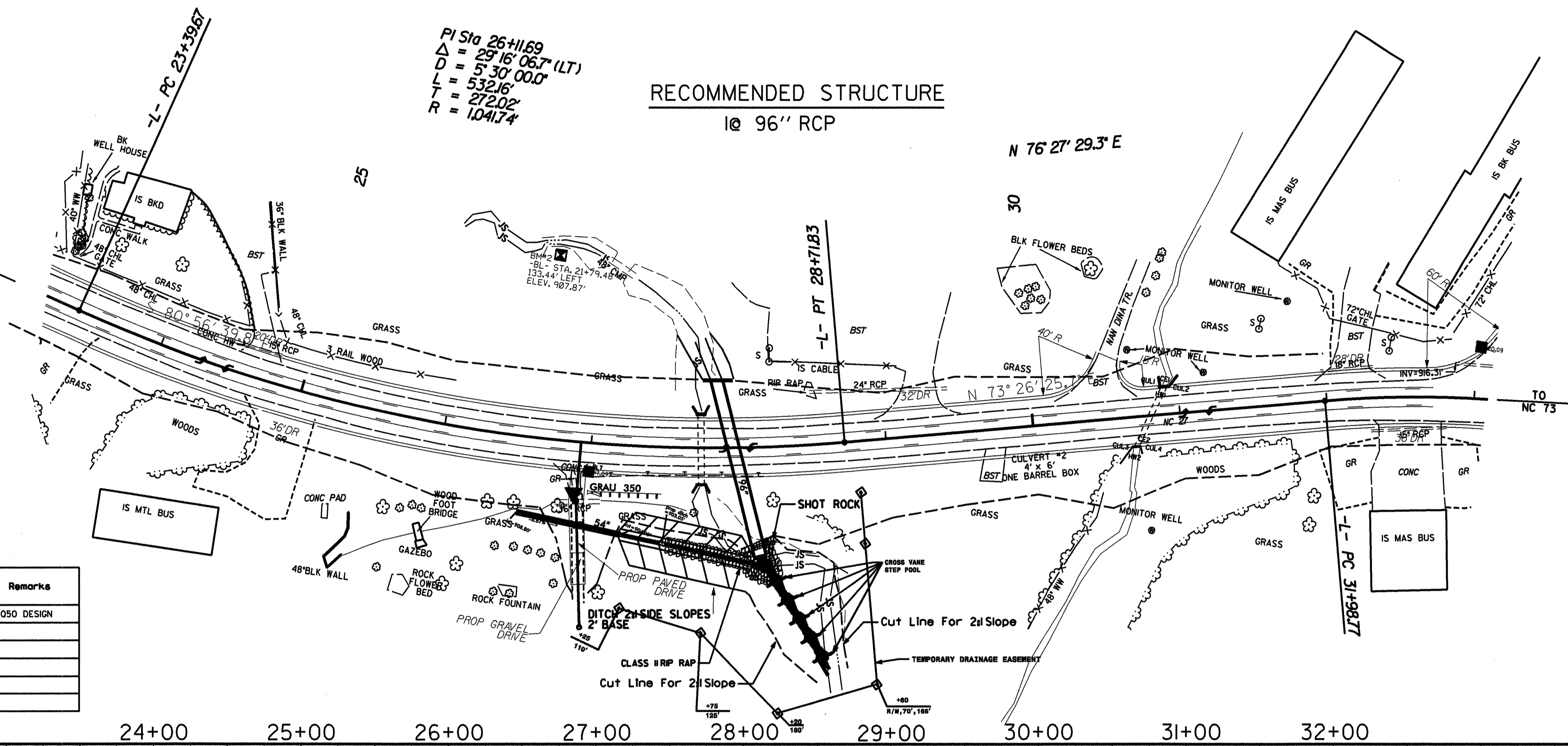
REINFORCED CONCRETE ENDWALL
 FOR
 96IN. DIAMETER PIPE - 90° SKEW

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: rnbritt DATE: 12-07-06
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: details/rbitt/english/hydro/96in_endwall_190sk.dgn



PI Sta 26+11.69
 $\Delta = 29' 16" 06.7" (LT)$
 $D = 5' 30" 00.0"$
 $L = 532.16'$
 $T = 272.02'$
 $R = 1041.74'$

RECOMMENDED STRUCTURE
@ 96" RCP



| Size & Type | Inlet Control | | | | Outlet Control | | | | Remarks | | |
|-------------|---------------|----------------|------------------|----------------|----------------|------------------|----------------|-----|---------|-----------------|----------------|
| | Q | K _e | H _{w/D} | H _w | d _c | d _{c/D} | h _o | H | | L _{S0} | H _w |
| 1e96" RCP | 375 | 0.5 | .95 | 7.6 | 4.9 | 6.45 | --- | 1.8 | 5.5 | 2.8 | O50 DESIGN |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

HAZARDOUS SPILL BASIN CHECKLIST

RIVER BASIN: CATAWBA

WATER QUALITY CRITERIA:

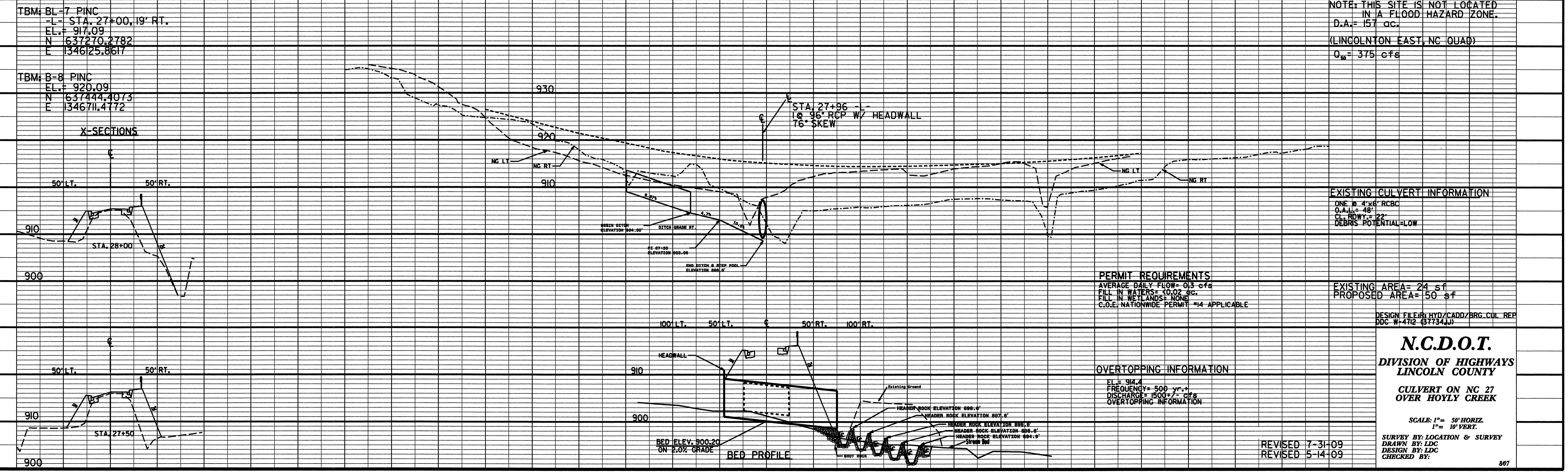
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|---|---|
| STREAM CROSSING BLUE LINE ON USGS | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| ORW | <input type="checkbox"/> <input checked="" type="checkbox"/> |
| WSI | <input type="checkbox"/> <input checked="" type="checkbox"/> |
| WS III,III or IV, CROSSING WITHIN 0.5mi of W.S. CRITICAL AREA | <input type="checkbox"/> <input checked="" type="checkbox"/> |

ROADWAY CRITERIA:

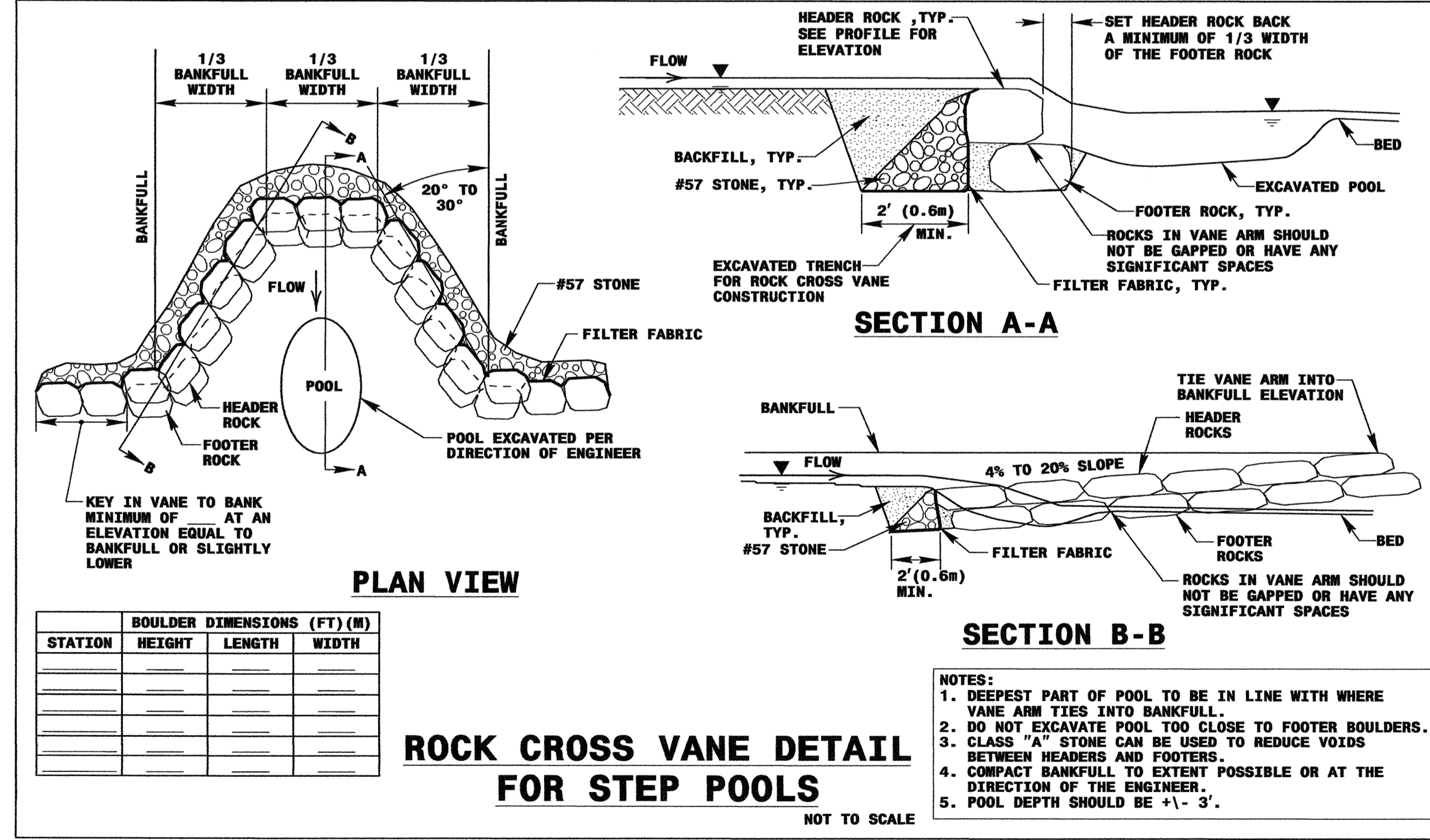
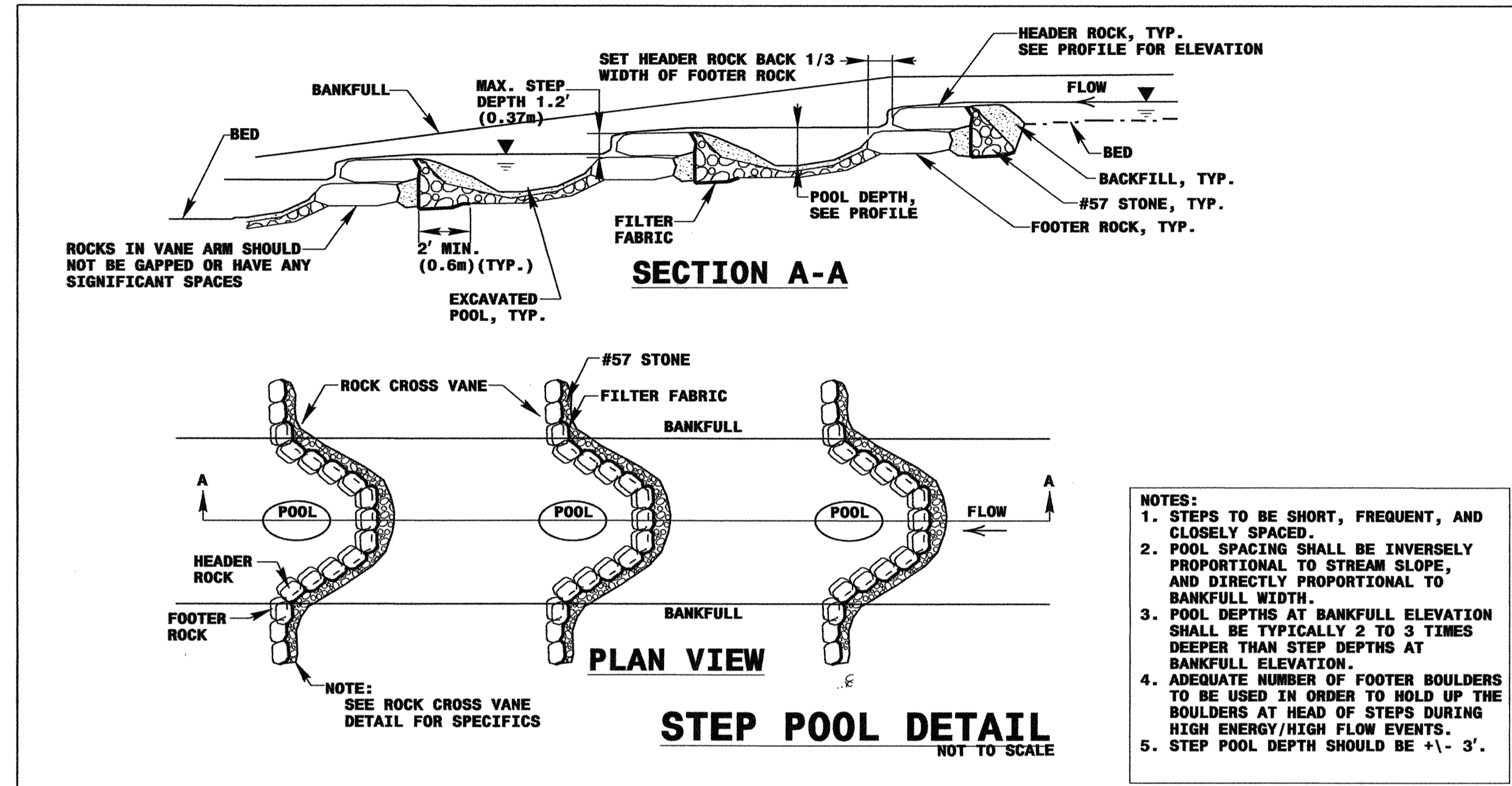
| | |
|--------------------|---|
| ROUTE DESIGNATION- | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| ARTERIAL URBAN | <input checked="" type="checkbox"/> <input type="checkbox"/> |
| ARTERIAL RURAL | <input type="checkbox"/> <input checked="" type="checkbox"/> |

IS A HAZARDOUS SPILL BASIN REQUIRED? YES NO

STREAM CLASSIFICATION: WS-V



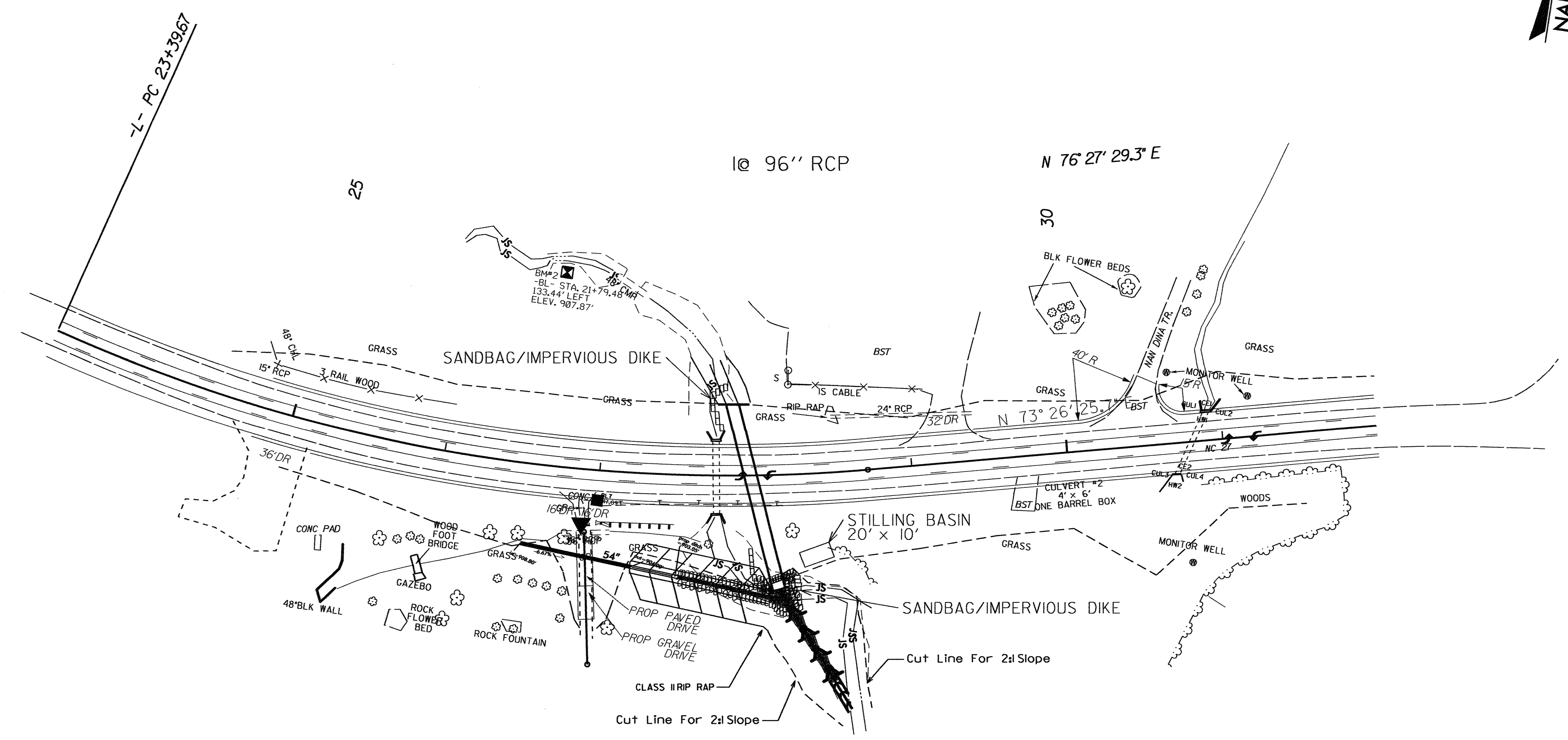
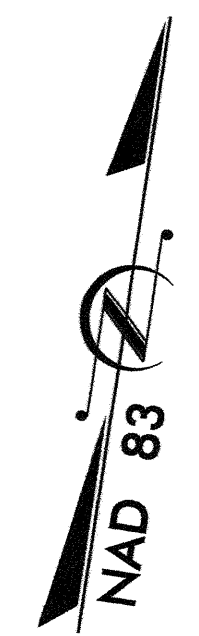
STEP POOL DETAILS



07-001-20108.38
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CULVERT PHASING DETAIL

| | |
|---|---|
| PROJECT REFERENCE NO. W-4712 | SHEET NO. 2-1 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 25921 MARK E. STAFFORD 10-10-11 | HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 15838 10-10-11 |



- CULVERT CONSTRUCTION PHASING
1. PLACE SAND BAGS/IMPERVIOUS BARRIER SO THAT PIPE CAN BE INSTALLED IN THE DRY.
 2. EXCAVATE TEMPORARY STILLING BASIN (IF NEEDED)
 3. EXCAVATE AND LAY PIPE. INSTALL HEADWALL AND SILLS. PIPE SHOULD BE BACKFILLED TO MIDPOINT AS A MINIMUM.
 4. EXCAVATE HEAD DITCH AND TAIL DITCH. PLACE AS MUCH RIP RAP AS POSSIBLE WITHOUT OBSTRUCTING STREAM FLOW.
 5. DIVERT FLOW TO NEW CHANNEL AND 96' PIPE.
 6. REMOVE OR GROUT FULL OLD RCBC, FILL OLD CHANNEL, PLACE REMAINDER OF RIP RAP
 7. CONTINUE BACKFILL TO GRADE.

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202025

| 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 |
| 0134000000-E | 240 | 100 | CY | DRAINAGE DITCH EXCAVATION |
| 0141000000-E | 240 | 120 | LF | BERM DITCH CONSTRUCTION |
| 0314000000-E | SP | 500 | TON | SELECT MATERIAL, CLASS ***** (VII) |
| 0318000000-E | 300 | 630 | TON | FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES |
| 0320000000-E | 300 | 1,980 | SY | FOUNDATION CONDITIONING GEOTEXTILE |
| 0335200000-E | 305 | 3,176 | LF | 15" DRAINAGE PIPE |
| 0335300000-E | 305 | 1,040 | LF | 18" DRAINAGE PIPE |
| 0335400000-E | 305 | 828 | LF | 24" DRAINAGE PIPE |
| 0335500000-E | 305 | 320 | LF | 30" DRAINAGE PIPE |
| 0335600000-E | 305 | 328 | LF | 36" DRAINAGE PIPE |
| 0354000000-E | 310 | 120 | LF | **** RC PIPE CULVERTS, CLASS ***** (96", III) |
| 0408000000-E | 310 | 152 | LF | 54" RC PIPE CULVERTS, CLASS III |
| 0414000000-E | 310 | 36 | LF | 60" RC PIPE CULVERTS, CLASS III |
| 0420000000-E | 310 | 128 | LF | 66" RC PIPE CULVERTS, CLASS III |
| 0995000000-E | 340 | 935 | LF | PIPE REMOVAL |
| 1077000000-E | SP | 15 | TON | #57 STONE |
| 1121000000-E | 520 | 2,896 | TON | AGGREGATE BASE COURSE |
| 1220000000-E | 545 | 1,200 | TON | INCIDENTAL STONE BASE |
| 1275000000-E | 600 | 238 | GAL | PRIME COAT |
| 1297000000-E | 607 | 1,600 | SY | MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2") |
| 1308000000-E | 607 | 500 | SY | MILLING ASPHALT PAVEMENT, **** TO ***** (0" TO 1-1/2") |
| 1491000000-E | 610 | 2,960 | TON | ASPHALT CONC BASE COURSE, TYPE B25.0C |
| 1503000000-E | 610 | 1,490 | TON | ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C |
| 1519000000-E | 610 | 60 | TON | ASPHALT CONC SURFACE COURSE, TYPE S9.5B |
| 1523000000-E | 610 | 2,260 | TON | ASPHALT CONC SURFACE COURSE, TYPE S9.5C |
| 1575000000-E | 620 | 340 | TON | ASPHALT BINDER FOR PLANT MIX |
| 1693000000-E | 654 | 180 | TON | ASPHALT PLANT MIX, PAVEMENT REPAIR |
| 1704000000-E | SP | 10 | TON | PATCHING EXISTING PAVEMENT |
| 2220000000-E | 838 | 26.4 | CY | REINFORCED ENDWALLS |
| 2275000000-E | SP | 45 | CY | FLOWABLE FILL |
| 2286000000-N | 840 | 74 | EA | MASONRY DRAINAGE STRUCTURES |
| 2297000000-E | 840 | 114 | CY | MASONRY DRAINAGE STRUCTURES |
| 2308000000-E | 840 | 33.1 | LF | MASONRY DRAINAGE STRUCTURES |
| 2364000000-N | 840 | 25 | EA | FRAME WITH TWO GRATES, STD 840.16 |
| 2365000000-N | 840 | 5 | EA | FRAME WITH TWO GRATES, STD 840.22 |
| 2374000000-N | 840 | 1 | EA | FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E) |
| 2374000000-N | 840 | 21 | EA | FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F) |
| 2374000000-N | 840 | 20 | EA | FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G) |
| 2396000000-N | 840 | 1 | EA | FRAME WITH COVER, STD 840.54 |
| 2418000000-E | SP | 60 | LF | FRAME WITH GRATES, DRIVEWAY DROP INLET |
| 2549000000-E | 846 | 8,090 | LF | 2'-6" CONCRETE CURB & GUTTER |

| ItemNumber | Sec # | Quantity | Unit | Description |
|--------------|-------|----------|------|---|
| 2612000000-E | 848 | 880 | SY | 6" CONCRETE DRIVEWAY |
| 2619000000-E | 850 | 11 | SY | 4" CONCRETE PAVED DITCH |
| 2905000000-N | 859 | 1 | EA | CONVERT EXISTING DROP INLET TO JUNCTION BOX |
| 3030000000-E | 862 | 100 | LF | STEEL BM GUARDRAIL |
| 3150000000-N | 862 | 5 | EA | ADDITIONAL GUARDRAIL POSTS |
| 3270000000-N | SP | 2 | EA | GUARDRAIL ANCHOR UNITS, TYPE 350 |
| 3628000000-E | 876 | 35 | TON | RIP RAP, CLASS I |
| 3635000000-E | 876 | 627 | TON | RIP RAP, CLASS II |
| 3649000000-E | 876 | 131 | TON | RIP RAP, CLASS B |
| 3651000000-E | SP | 200 | TON | BOULDERS |
| 3656000000-E | 876 | 730 | SY | GEOTEXTILE FOR DRAINAGE |
| 3659000000-N | SP | 1 | EA | PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON |
| 4400000000-E | 1110 | 865 | SF | WORK ZONE SIGNS (STATIONARY) |
| 4405000000-E | 1110 | 96 | SF | WORK ZONE SIGNS (PORTABLE) |
| 4410000000-E | 1110 | 90 | SF | WORK ZONE SIGNS (BARRICADE MOUNTED) |
| 4430000000-N | 1130 | 300 | EA | DRUMS |
| 4445000000-E | 1145 | 64 | LF | BARRICADES (TYPE III) |
| 4455000000-N | 1150 | 100 | DAY | FLAGGER |
| 4650000000-N | 1251 | 10 | EA | TEMPORARY RAISED PAVEMENT MARKERS |
| 4685000000-E | 1205 | 500 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS) |
| 4686000000-E | 1205 | 12,177 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS) |
| 4695000000-E | 1205 | 50 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS) |
| 4710000000-E | 1205 | 72 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS) |
| 4725000000-E | 1205 | 30 | EA | THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS) |
| 4810000000-E | 1205 | 2,000 | LF | PAINT PAVEMENT MARKING LINES (4") |
| 4905000000-N | 1253 | 140 | EA | SNOWPLOWABLE PAVEMENT MARKERS |
| 6000000000-E | 1605 | 5,165 | LF | TEMPORARY SILT FENCE |
| 6006000000-E | 1610 | 21 | TON | STONE FOR EROSION CONTROL, CLASS A |
| 6009000000-E | 1610 | 500 | TON | STONE FOR EROSION CONTROL, CLASS B |
| 6012000000-E | 1610 | 462 | TON | SEDIMENT CONTROL STONE |
| 6015000000-E | 1615 | 1 | ACR | TEMPORARY MULCHING |
| 6018000000-E | 1620 | 30 | LB | SEED FOR TEMPORARY SEEDING |
| 6021000000-E | 1620 | 1 | TON | FERTILIZER FOR TEMPORARY SEEDING |
| 6024000000-E | 1622 | 70 | LF | TEMPORARY SLOPE DRAINS |
| 6029000000-E | SP | 100 | LF | SAFETY FENCE |
| 6030000000-E | 1630 | 1,100 | CY | SILT EXCAVATION |
| 6036000000-E | 1631 | 400 | SY | MATTING FOR EROSION CONTROL |
| 6037000000-E | SP | 100 | SY | COIR FIBER MAT |
| 6038000000-E | SP | 30 | SY | PERMANENT SOIL REINFORCEMENT MAT |
| 6042000000-E | 1632 | 2,000 | LF | 1/4" HARDWARE CLOTH |
| 6045000000-E | SP | 150 | LF | *** TEMPORARY PIPE (18") |
| 6070000000-N | 1639 | 1 | EA | SPECIAL STILLING BASINS |
| 6071010000-E | SP | 150 | LF | WATTLE |
| 6071030000-E | 1640 | 375 | LF | COIR FIBER BAFFLE |
| 6071050000-E | SP | 5 | EA | *** SKIMMER (1-1/2") |
| 6084000000-E | 1660 | 3 | ACR | SEEDING & MULCHING |
| 6111000000-E | SP | 400 | LF | IMPERVIOUS DIKE |
| 6114500000-N | 1667 | 20 | MHR | SPECIALIZED HAND MOWING |
| 6117000000-N | SP | 28 | EA | RESPONSE FOR EROSION CONTROL |
| 8035000000-N | 402 | Lump Sum | | REMOVAL OF EXISTING STRUCTURE AT STATION ***** (30+80-L-) |

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 CHECKED BY: REH DATE: 8-10

PROJECT NO. SHEET NO.
 W-4712 3-A

D12CAD247784

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK IN CUBIC YARDS

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

| Station | Station | Uncl. Excav. | Embank. +% | Borrow | Waste |
|---------------------------|---------|--------------|------------|-------------|-------|
| -L- 13+00 | 42+00 | 1586 | 7252 | 5666 | |
| -Y- 11+20 | 11+70 | 26 | 18 | | 8 |
| -Y1- 11+30 | 11+70 | 16 | 17 | | 1 |
| -Y2- 11+50 | 11+80 | 10 | 31 | 21 | |
| -Y3-10+30 | 10+60 | 13 | 7 | | 6 |
| -L- 42+50 | 58+80 | 665 | 1145 | 480 | |
| -Y4- 11+00 | 11+80 | 19 | 9 | | 10 |
| -DEXT- 10+50 | 10+75 | | 109 | 109 | |
| FILL @ 96" CULVERT | 27+96 | | 690 | 690 | |
| SUBTOTALS: | | 2335 | 9278 | 6967 | 24 |
| MATERIAL FOR SHLDR CONST. | | | 115 | 115 | |
| LOSS DUE TO C&G | | -25 | | 25 | |
| SUBTOTALS: | | 2310 | 9393 | 7107 | 24 |
| 5% REPLACE BORROW PIT | | | | 355 | |
| PROJECT TOTALS: | | 2310 | 9393 | 7462 | 24 |
| PROJECT TOTALS: | | 2310 | 9393 | 7462 | 24 |
| GRAND TOTALS: | | 2310 | | 7462 | |
| SAY: | | 2500 | | 8000 | |

| LINE | Station | Station | LOC LT/RT/CL | YD ² |
|---------------|---------|---------|--------------|-----------------|
| -L- | 37+69 | 37+84 | RT | 7.7 |
| TOTAL: | | | | 7.70 |
| SAY: | | | | 10 |

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

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

GUARDRAIL SUMMARY

| LINE | BEG. STA. | END STA. | LOC. | LENGTH | | | WARRANT POINT | | "N" DIST FROM E.O.L. | TOTAL SHLDR WIDTH | FLAIR LENGTH | | W | | ANCHORS | | | | | | IMP. ATTEN. TYPE 350 | | | REMOVE EXISTING GRDRAIL | REMARKS | |
|------------------------|-----------|----------|------|------------|-------------|--------------|---------------|------------|----------------------|-------------------|--------------|------------|-----------|------------|---------|----|----------|-------|-----|-------|----------------------|----|---|-------------------------|---------|--------------------------------|
| | | | | STRAIGHT | SHOP CURVED | DOUBLE FACED | APPR. END | TRAIL. END | | | APPR. END | TRAIL. END | APPR. END | TRAIL. END | XI MOD | XI | GRAU 350 | M-350 | XII | CAT-1 | VI MOD | EA | G | | | NG |
| -L- | 27+00 | 29+00 | RT | 200 | | | 27+50 | 28+50 | 12' | | | | | | | | | | | | | | | | | SEE STD. 862.01 SHEET 12 OF 12 |
| TOTAL | | | | 200 | | | | | | | | | | | | | | | | | | | | | | |
| DEDUCTIONS FOR ANCHORS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 TYPE 350 @50' EACH | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRAND TOTAL | | | | 100 | | | | | | | | | | | | | | | | | | | | | | |

ADDITIONAL GUARDRAIL POSTS 5 EACH

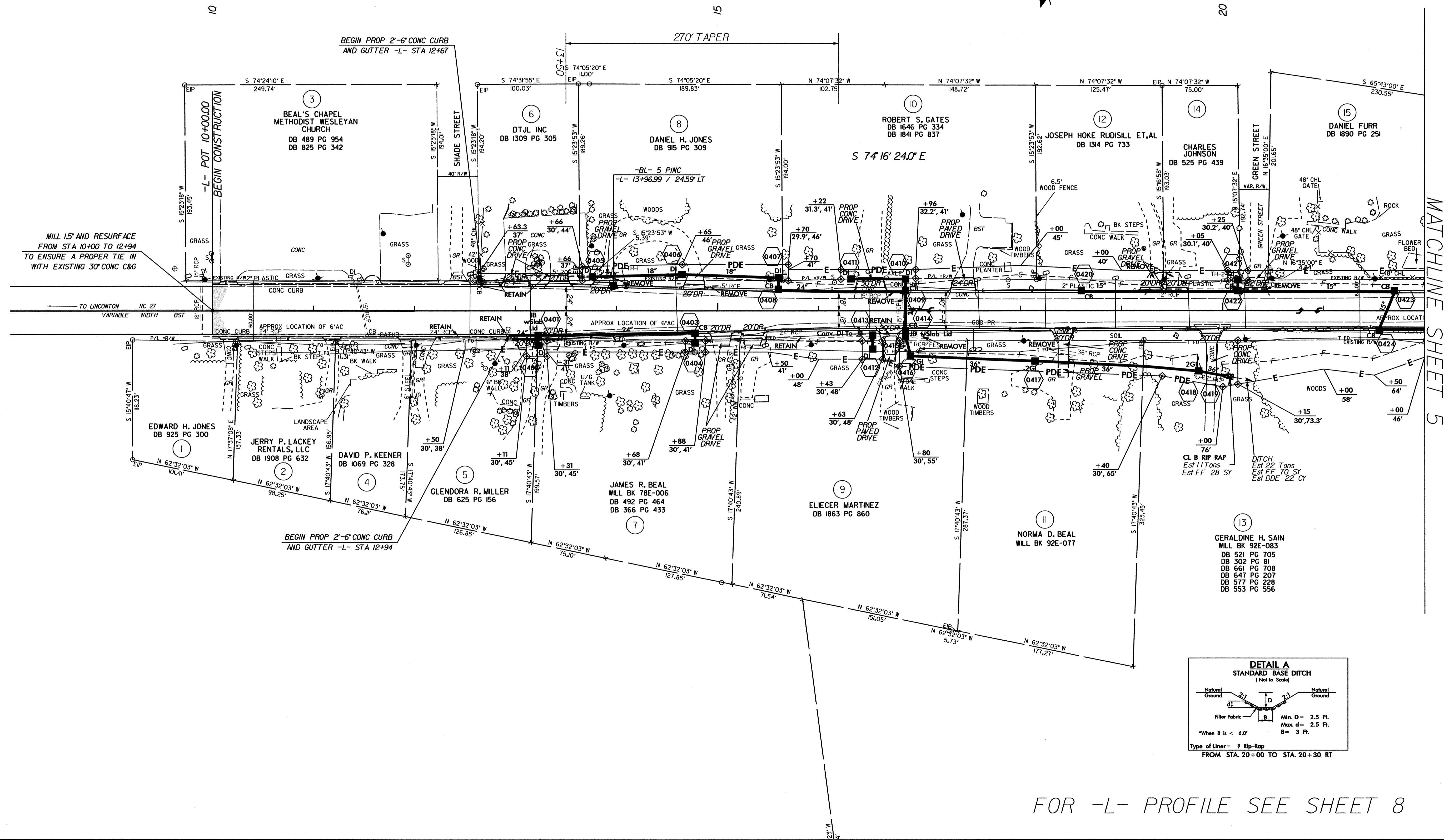
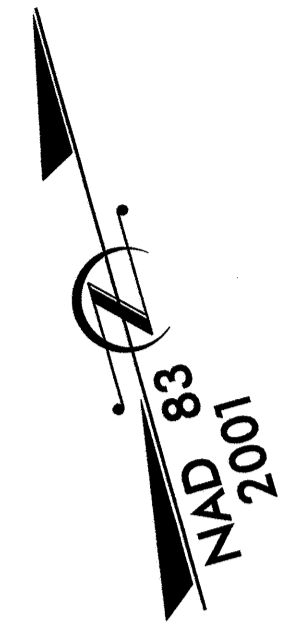
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| PROJECT REFERENCE NO. | SHEET NO. |
| W-4712 | 3-G |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
PARCEL INDEX SHEET

| PARCEL NO. | SHEET NO. | PROPERTY OWNERS NAME |
|------------|-----------|--|
| 1 | 4 | EDWARD H. JONES |
| 2 | 4 | JERRY P. LACKEY RENTALS |
| 3 | 4 | BEAL'S CHAPEL METHODIST WESLEYAN CHURCH |
| 4 | 4 | DAVID P. KEENER |
| 5 | 4 | GLENDORA R. MILLER |
| 6 | 4 | D T J L INC. |
| 7 | 4 | JAMES R. BEAL |
| 8 | 4 | DANIEL H. JONES |
| 9 | 4 | ELIECER MARTINEZ |
| 10 | 4 | ROBERT S. GATES |
| 11 | 4 | NORMA D. BEAL |
| 12 | 4 | JOSEPH HOKE RUDISALL et AL |
| 13 | 4, 5 | GERALDINE H. SAIN |
| 14 | 4 | CHARLES JOHNSON |
| 15 | 4, 5 | DANIEL FURR |
| 16 | 5 | BLANCHE BEAL DIXON |
| 17 | 5 | CLAUDE RALPH CARPENTER |
| 18 | 5 | TERRELL EUGENE ROBINSON |
| 19 | 5 | WAYNE H. HEAVNER |
| 20 | 5 | FRED JOEL BEAL |
| 21 | 5 | WENDELL F. CALDWELL STEVEN M. CALDWELL |
| 22 | 5 | RANDY L. BEAL |
| 23 | 5 | JOE BALLARD'S SHEET METAL |
| 24 | 5 | BRIAN S. HOUSER et AL |

| PARCEL NO. | SHEET NO. | PROPERTY OWNERS NAME |
|------------|-----------|---|
| 25 | 5, 6 | GILBERT DOWNS |
| 26 | 5, 6 | ANASTASIOS JOHNSON et AL |
| 27 | 6 | NORMA D. BEAL |
| 28 | 6 | PAULA C. FORBES et AL |
| 29 | 6 | JEFFREY D. WILKINSON |
| 30 | 6 | NC DISTRICT COUNCIL of THE ASSEMBLIES OF GOD, INC. |
| 31 | 6 | 27 LLC |
| 32 | 6 | MILLARD BEAL |
| 33 | 6 | TEMPLE BAPTIST CHURCH OF THE SOUTH FORK BAPTIST ASSOC., INC. |
| 34 | 6 | JANE B. CHRONISTER et AL |
| 35 | 6 | AVANEAL SHUFORD TALBERT |
| 36 | 6 | B. JANE GANTT |
| 37 | 6, 7 | STEVEN R. LEMMOND |
| 38 | 6 | DONALD L. WAND |
| 39 | 6, 7 | PAULA ANNETTE SOUNDERS-STROUPE |
| 40 | 7 | EUGENE GREEN |
| 41 | 7 | ROBERT KEVIN NICHOLS |
| 42 | 7 | VALERIA S. JENKINS |
| 43 | 7 | TRACEY R. McDONALD |
| 44 | 7 | ROBERT KEVIN NICHOLS |
| 45 | 7 | SAM M. BEAN |
| 46 | 7 | SAMUEL C. RALSTON |
| 47 | 7 | CRISSON ENTERPRISES, INC |

NOTE:
THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE 2" PLASTIC NATURAL GAS LINE LOCATED FROM -L- STATION 10+00 TO APPROXIMATELY -L- STATION 21+00 ON THE LEFT. THE CONTRACTOR SHALL NOTIFY PIEDMONT NATURAL GAS TWO (2) WEEKS PRIOR TO BEGINNING CONSTRUCTION IN THIS AREA OF THE PROJECT AND ALLOW TIME FOR ADJUSTMENTS OF THIS UTILITY.

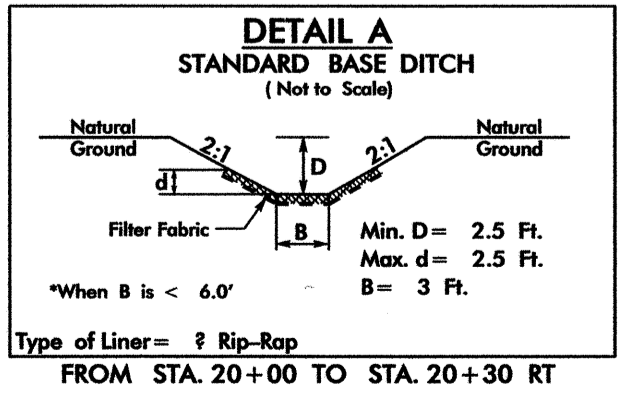


MILL 15' AND RESURFACE FROM STA 10+00 TO 12+94 TO ENSURE A PROPER TIE IN WITH EXISTING 30" CONC C&G

BEGIN PROP 2'-6" CONC CURB AND GUTTER -L- STA 12+94

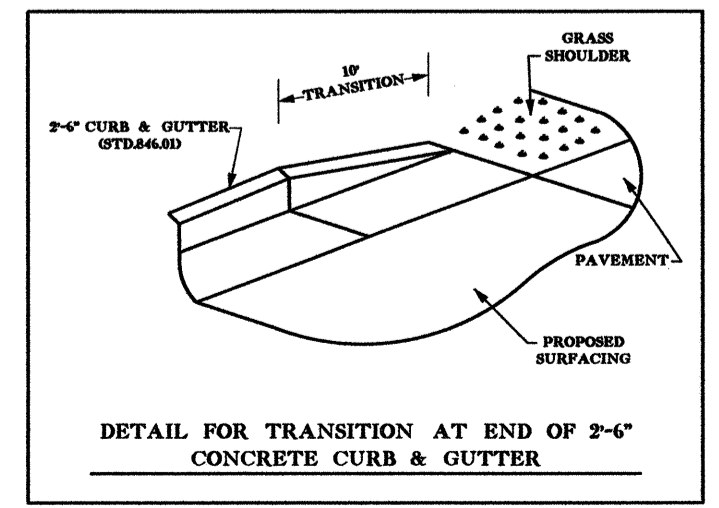
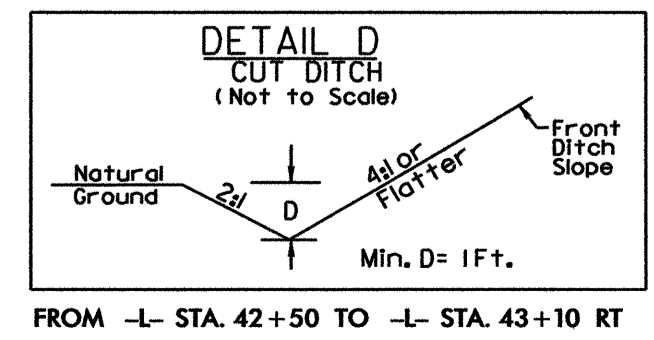
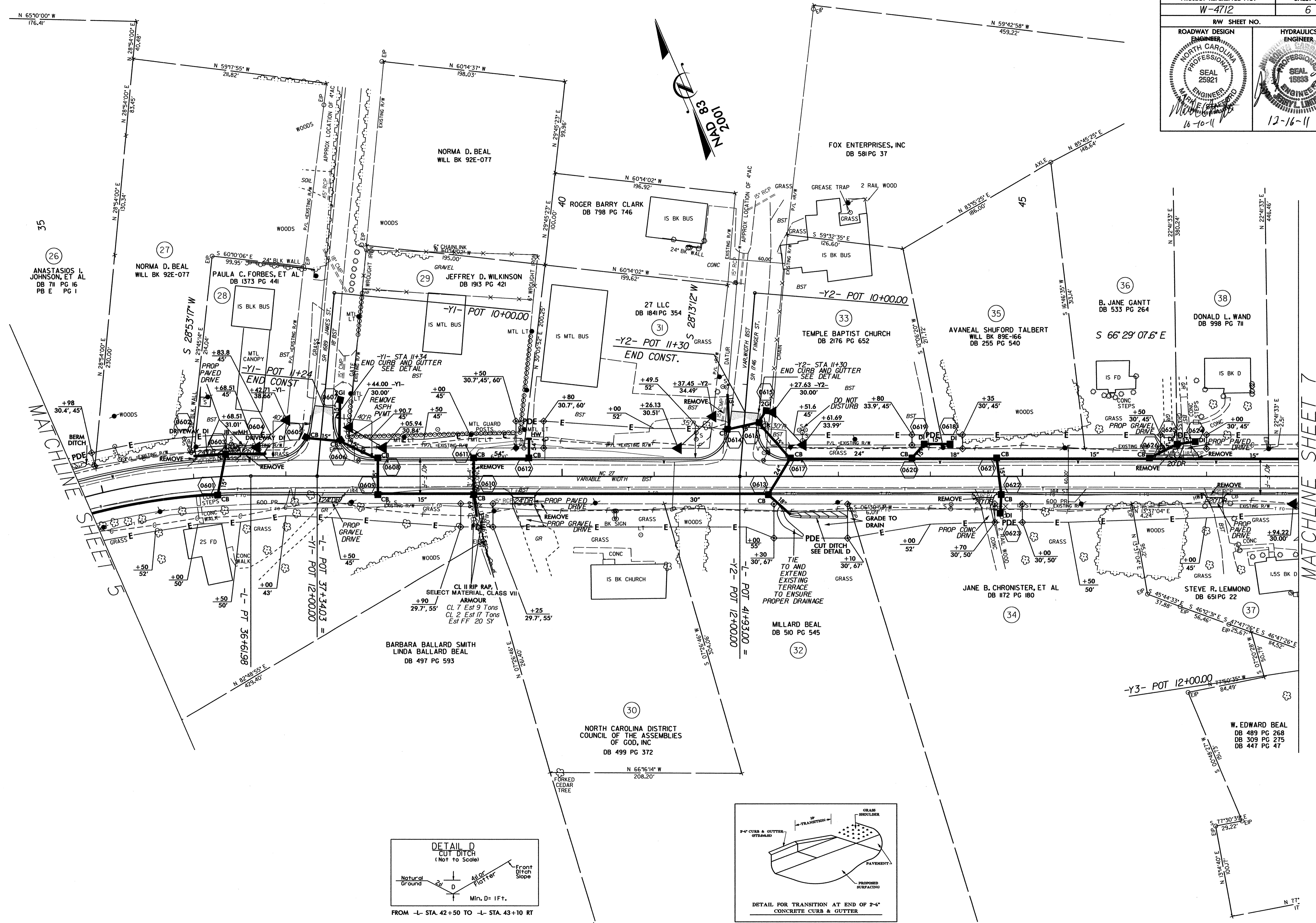
-L- POT 10+00.00 BEGIN CONSTRUCTION

BEGIN PROP 2'-6" CONC CURB AND GUTTER -L- STA 12+67



FOR -L- PROFILE SEE SHEET 8

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FOR -L- PROFILE SEE SHEET 9

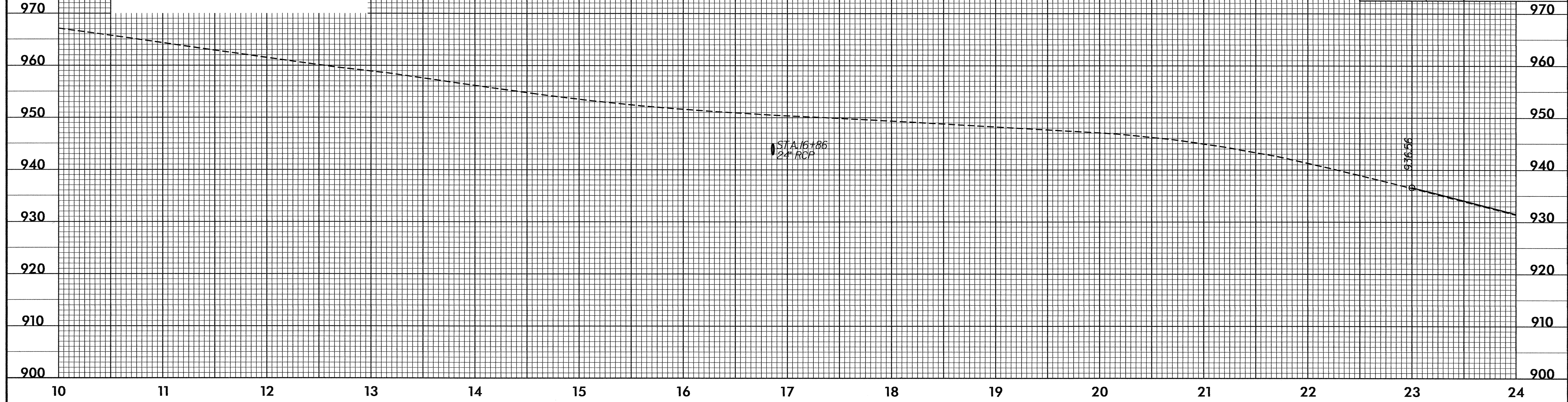
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| | |
|---------------------------------|------------------------|
| PROJECT REFERENCE NO. W-4712 | SHEET NO. 8 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| | |

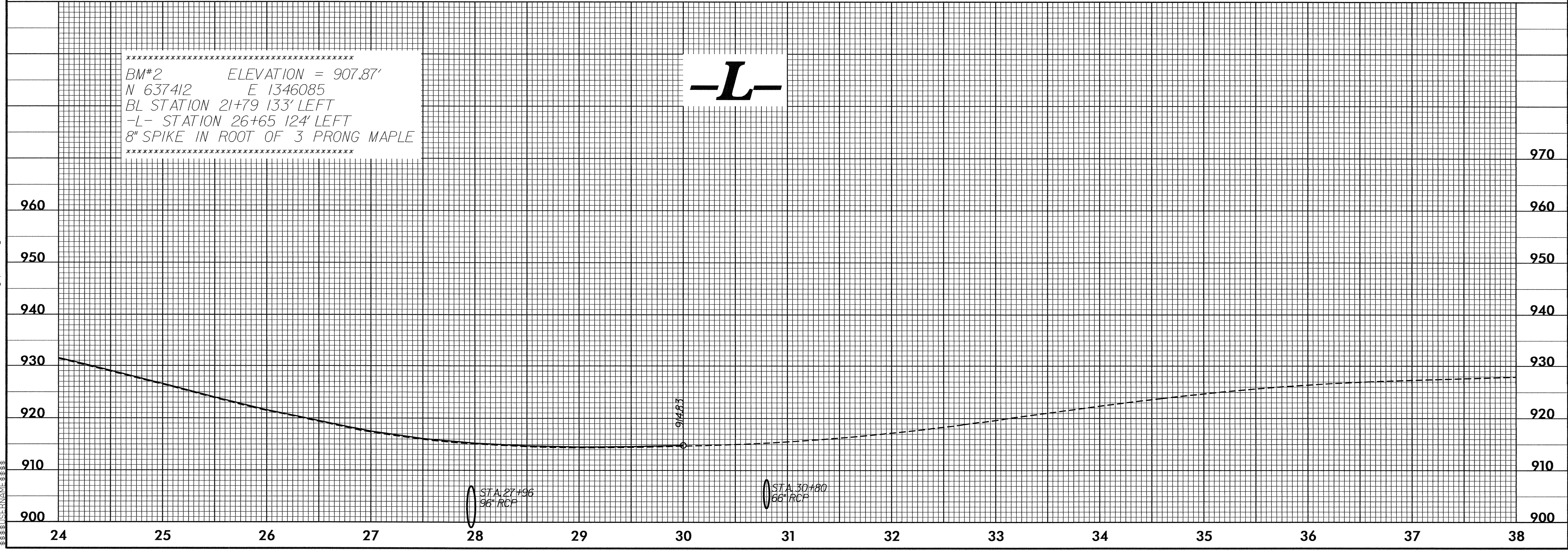
 BM#1 ELEVATION = 967.81'
 N 637816 E 1344517
 BL STATION 5+37 93' LEFT
 -L- STATION 10+03 133' LEFT
 8" SPIKE IN ROOT OF 42" OAK

-L-




 BM#2 ELEVATION = 907.87'
 N 637412 E 1346085
 BL STATION 21+79 133' LEFT
 -L- STATION 26+65 124' LEFT
 8" SPIKE IN ROOT OF 3 PRONG MAPLE

-L-



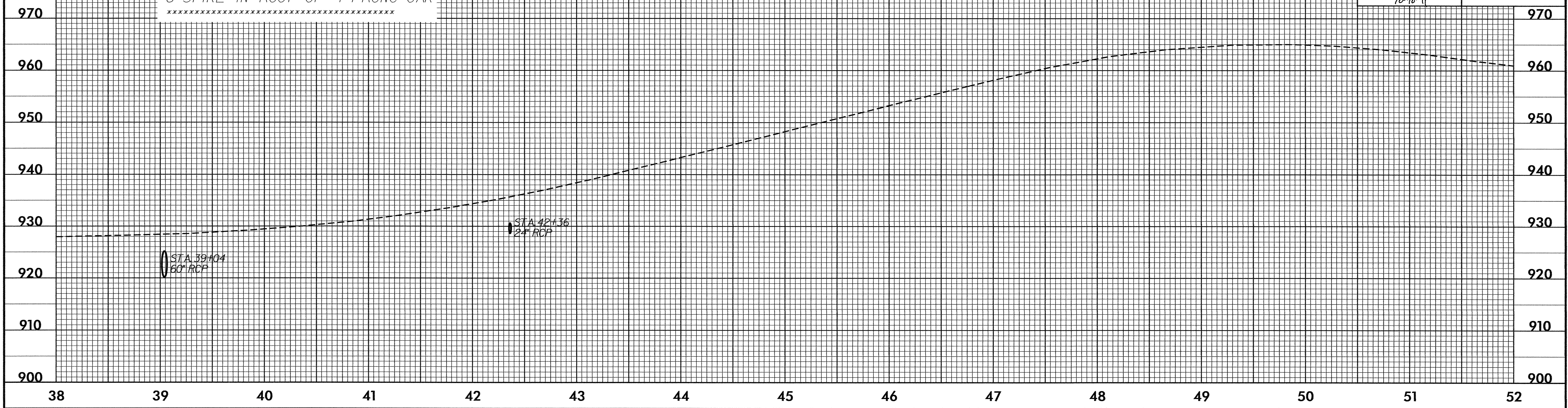
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| | |
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| PROJECT REFERENCE NO. W-4712 | SHEET NO. 9 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
|  | |

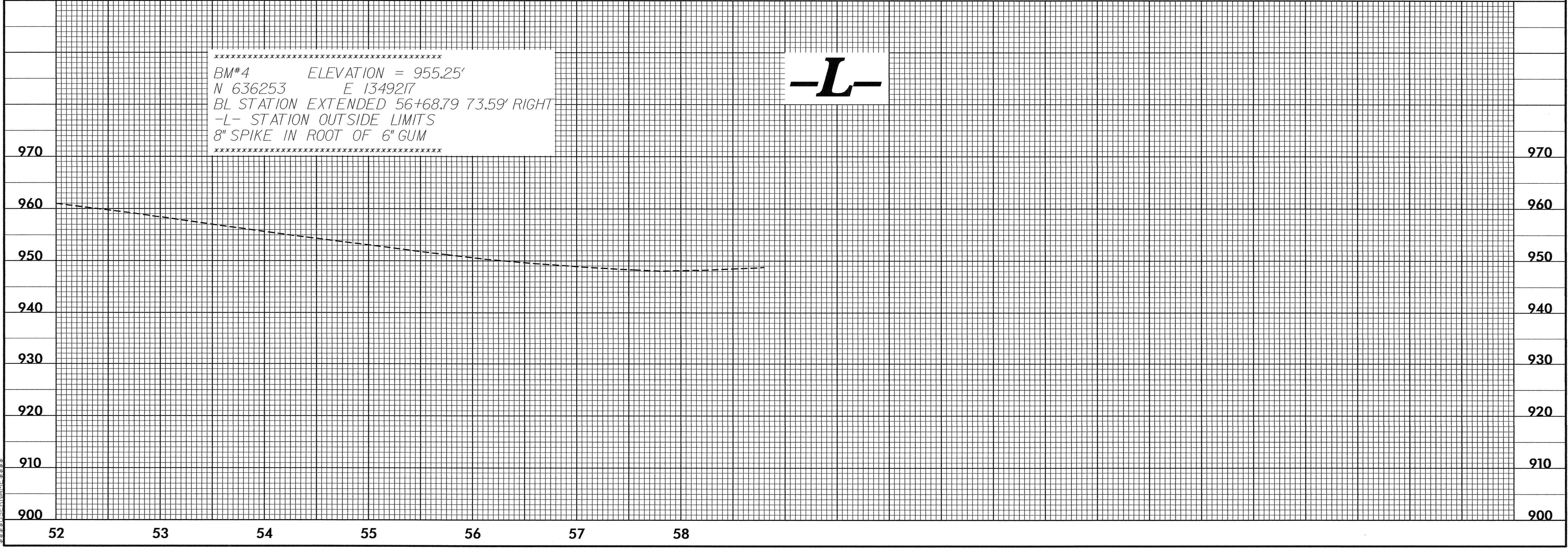
 BM#3 ELEVATION = 966.55'
 N 636909 E 1348344
 BL STATION 45+87 119' LEFT
 -L- STATION 50+12 103' LEFT
 8" SPIKE IN ROOT OF 4 PRONG OAK

-L-



 BM#4 ELEVATION = 955.25'
 N 636253 E 1349217
 BL STATION EXTENDED 56+68.79 73.59' RIGHT
 -L- STATION OUTSIDE LIMITS
 8" SPIKE IN ROOT OF 6" GUM

-L-



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