

TIP PROJECT: B-4302

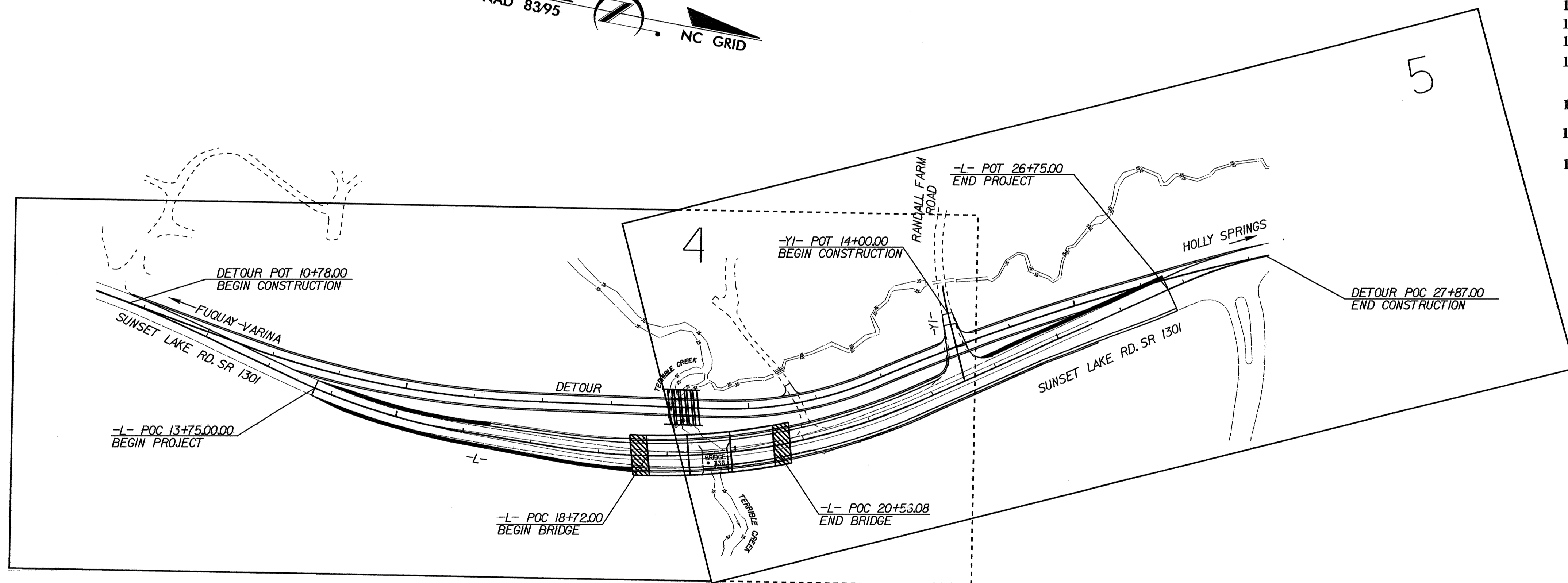
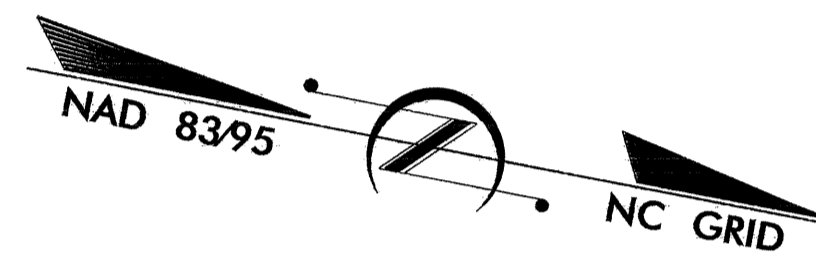
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WAKE COUNTY

**LOCATION: BRIDGE NO. 336 OVER TERRIBLE CREEK
ON SR 1301 (SUNSET LAKE ROAD)**

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4302	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSO
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	ZZZZZZZZZZ
1622.01	Temporary Berms and Slope Drains	TBD
1630.01	Riser Basin	⊙
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-B	▶
	Wattle	⌒
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	⊙
1635.02	Rock Pipe Inlet Sediment Trap Type-B	⊙
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

**THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.**

**THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.**

**ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT**

*Refer To E. C. Special Provisions
for Special Considerations.*

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

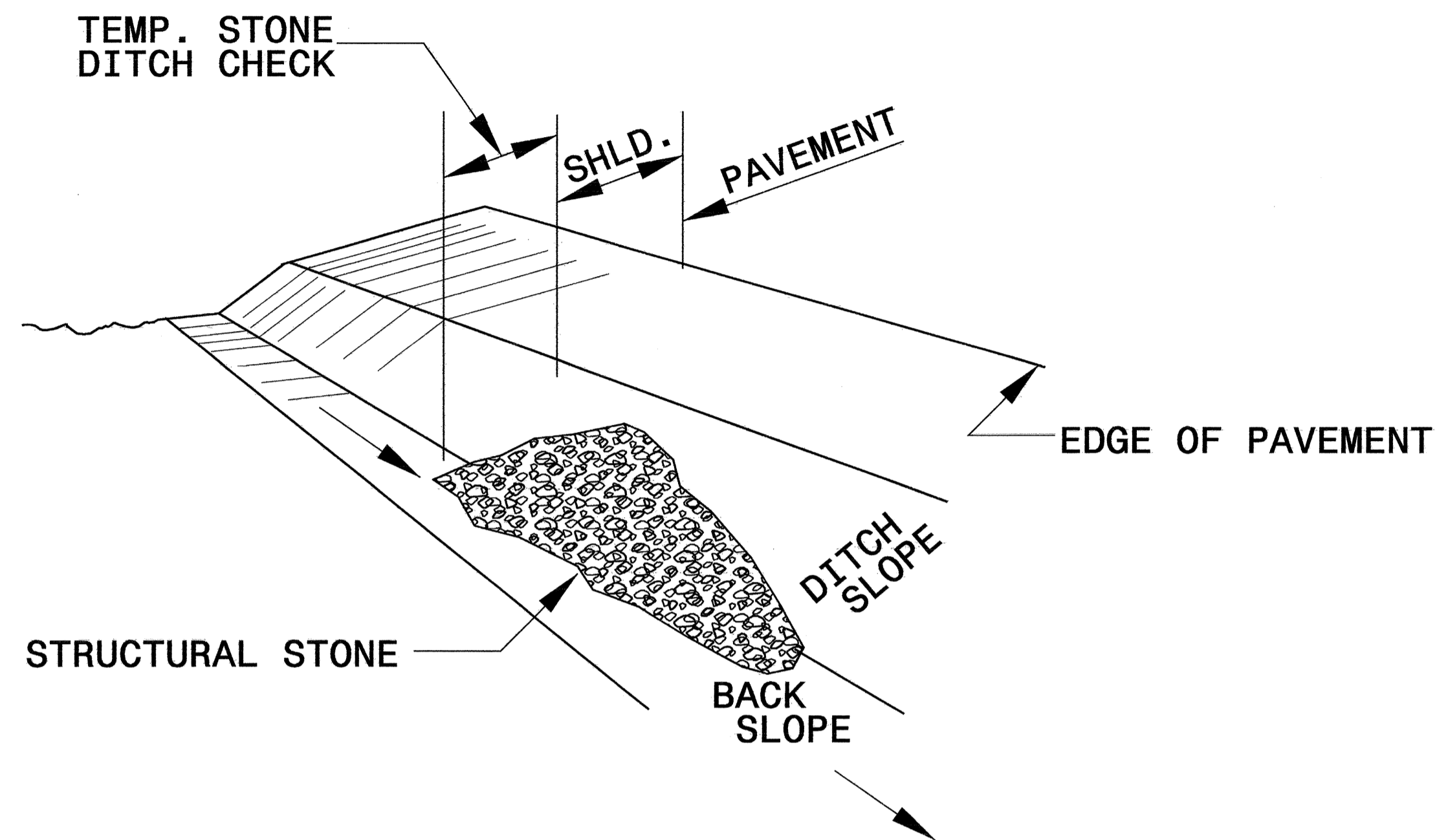
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.03 Rock Inlet Sediment Trap Type C
1606.01 Special Sediment Control Fence	1633.01 Temporary Rock Silt Check Type A
1607.01 Gravel Construction Entrance	
1622.01 Temporary Berms and Slope Drains	
1630.05 Temporary Diversion	

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 AT: RENV231312

PROJECT REFERENCE NO. B-4302	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

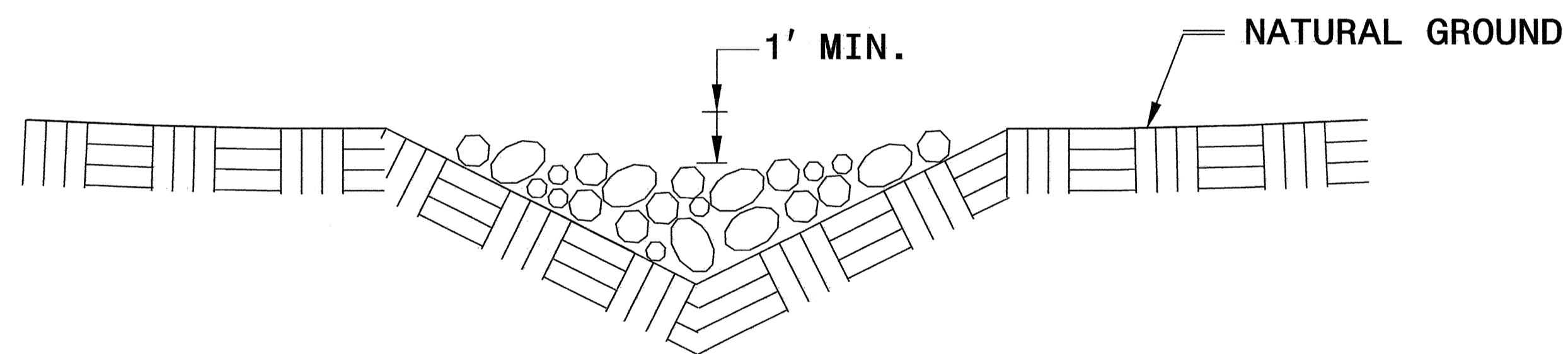


ISOMETRIC VIEW

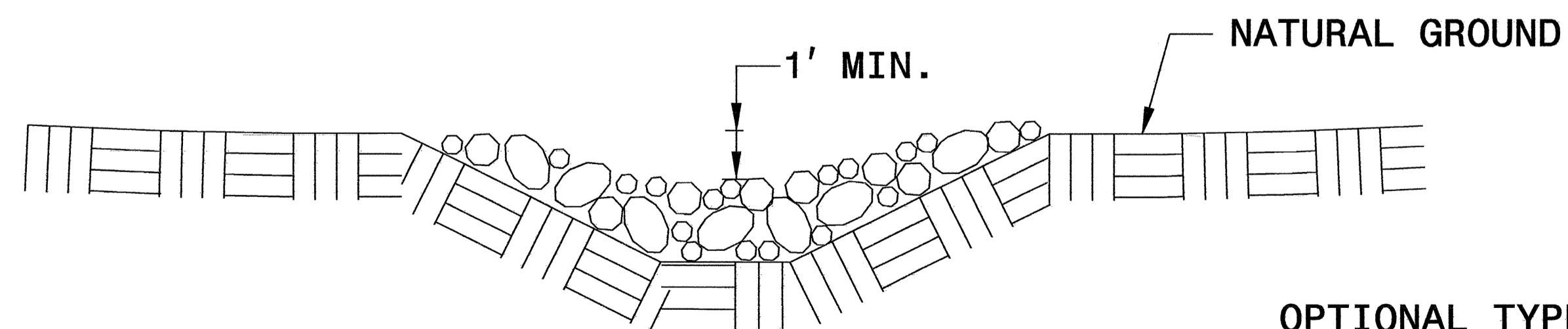
NOTES:

USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

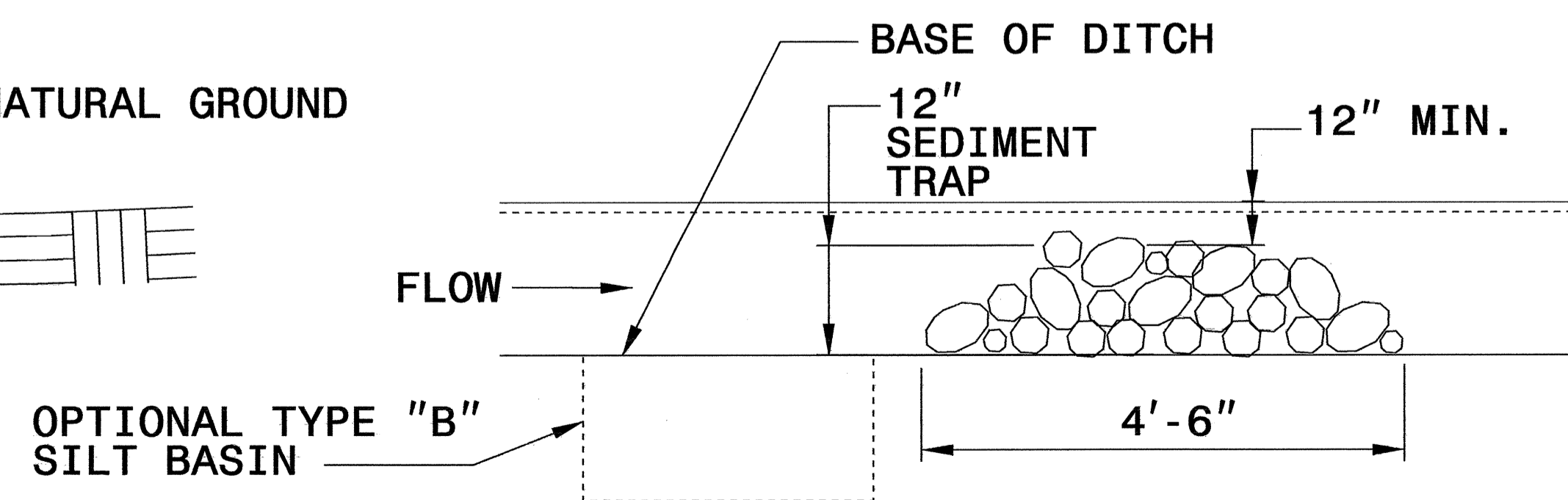
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



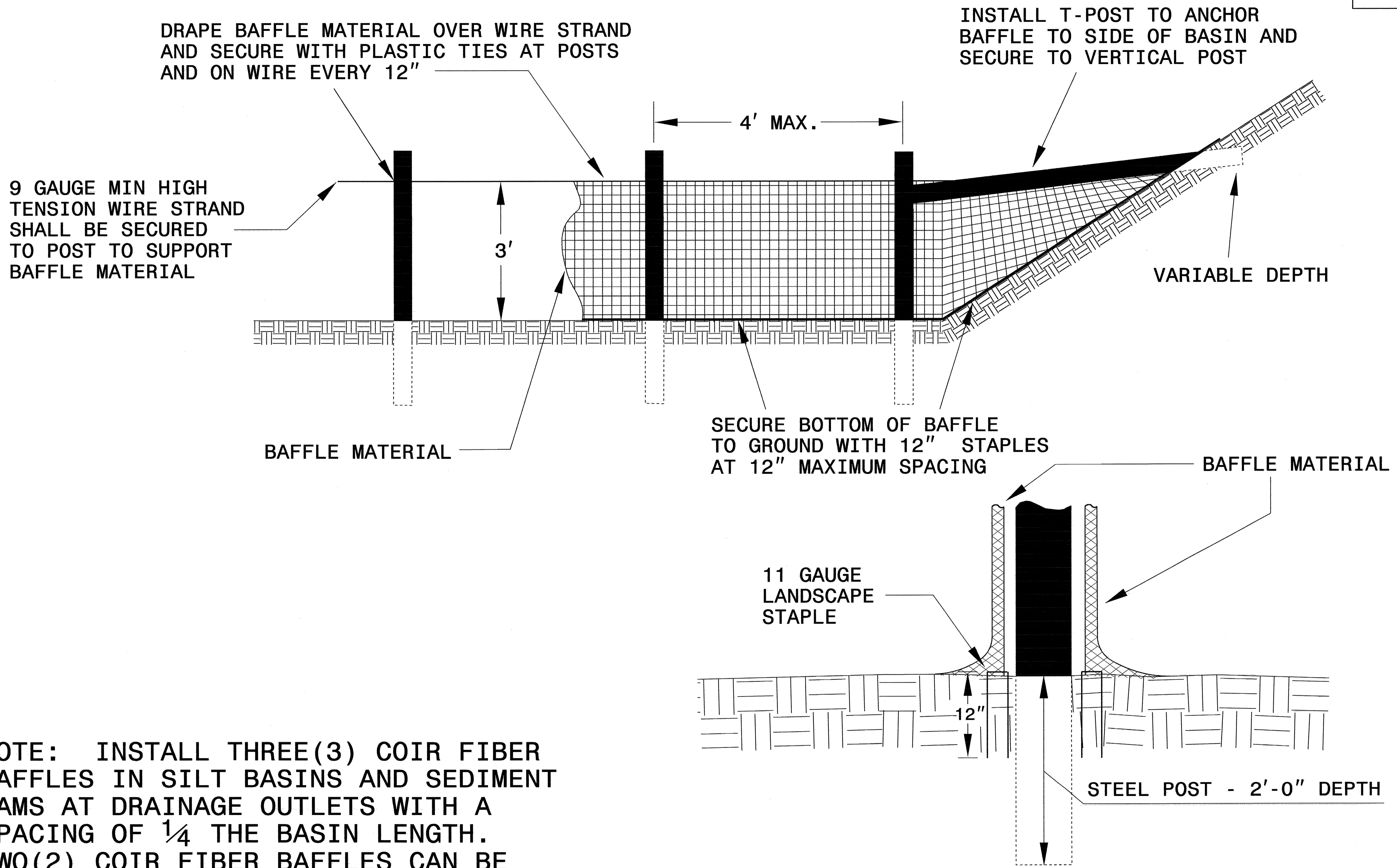
CROSS SECTION TRAPEZOIDAL DITCH



ELEVATION VIEW

PROJECT REFERENCE NO. B-4302	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL

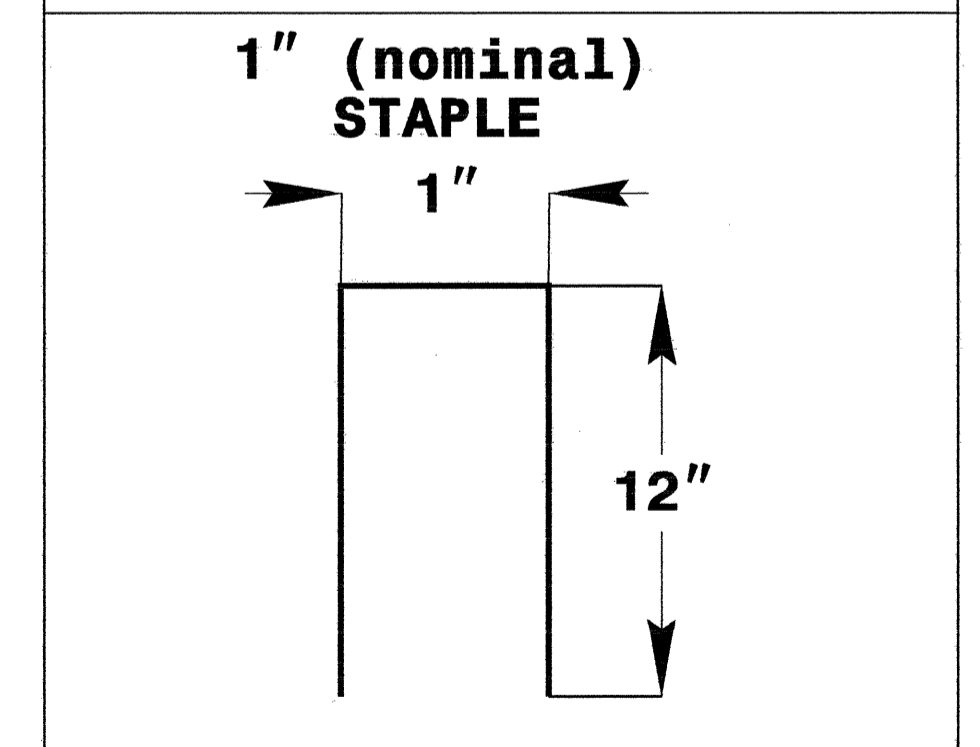
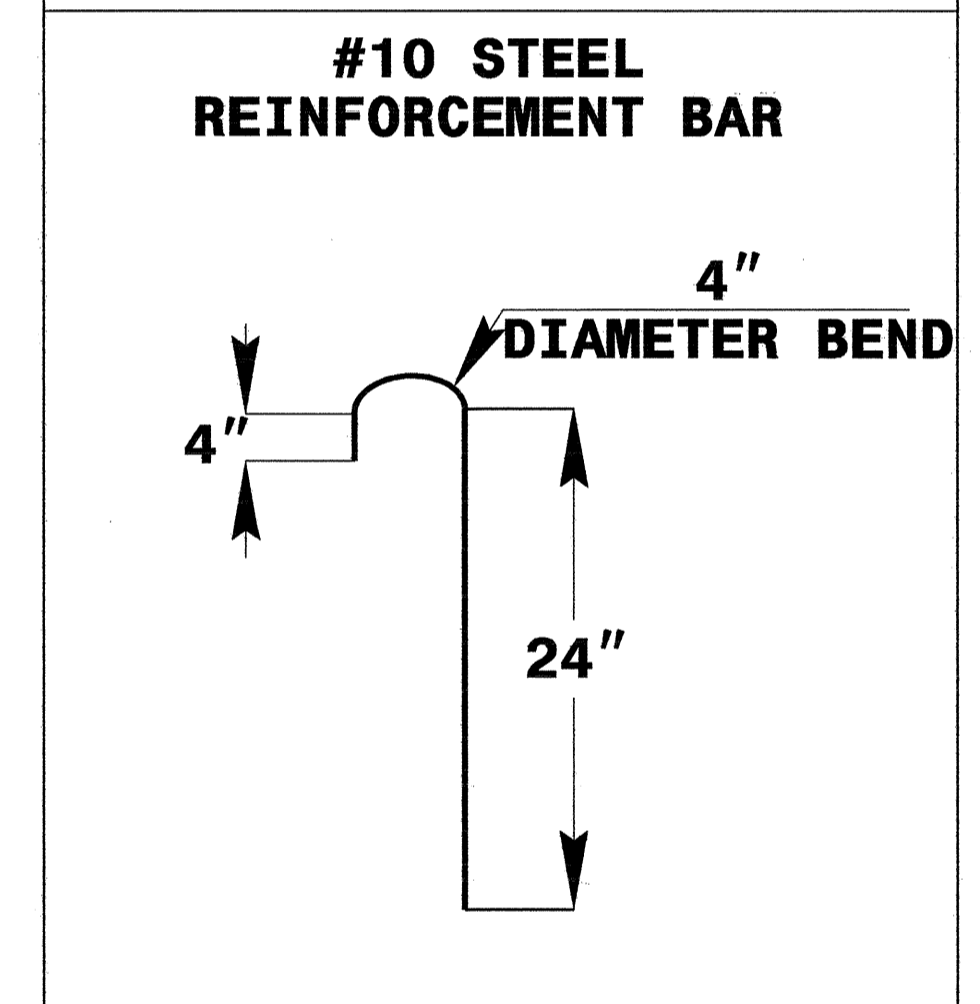
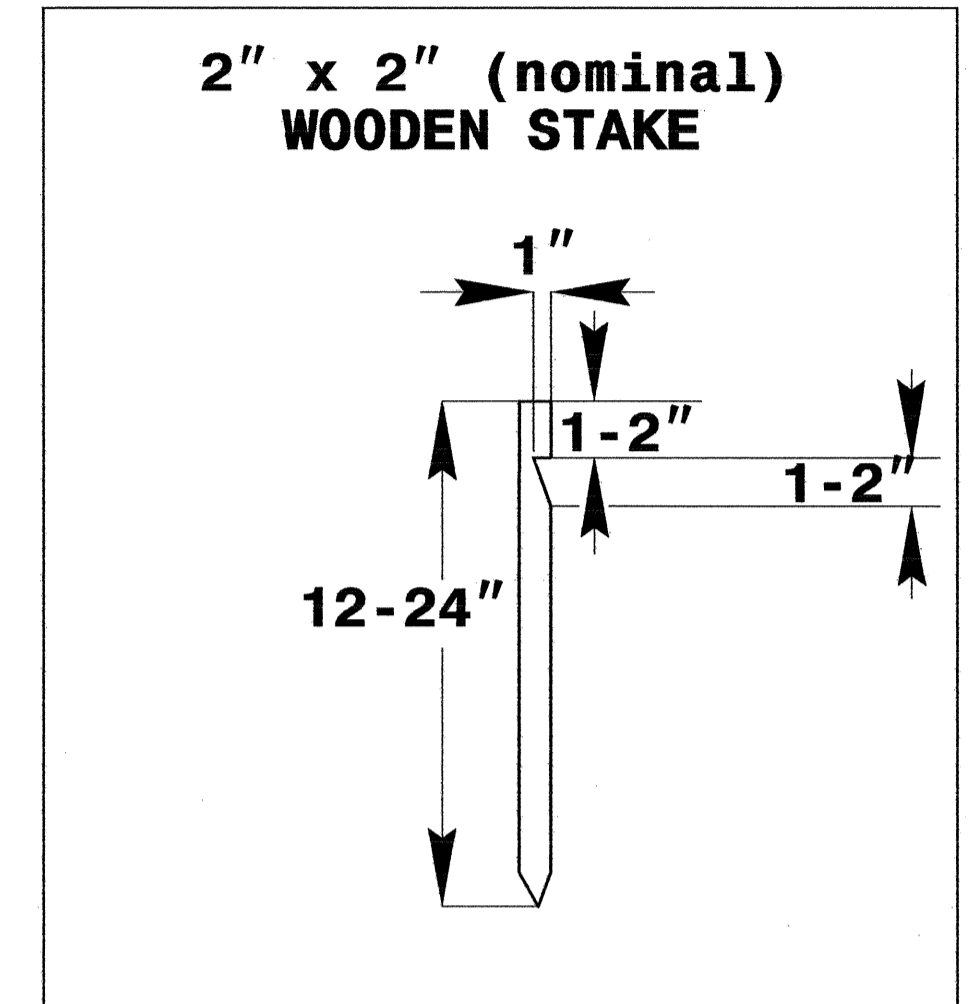
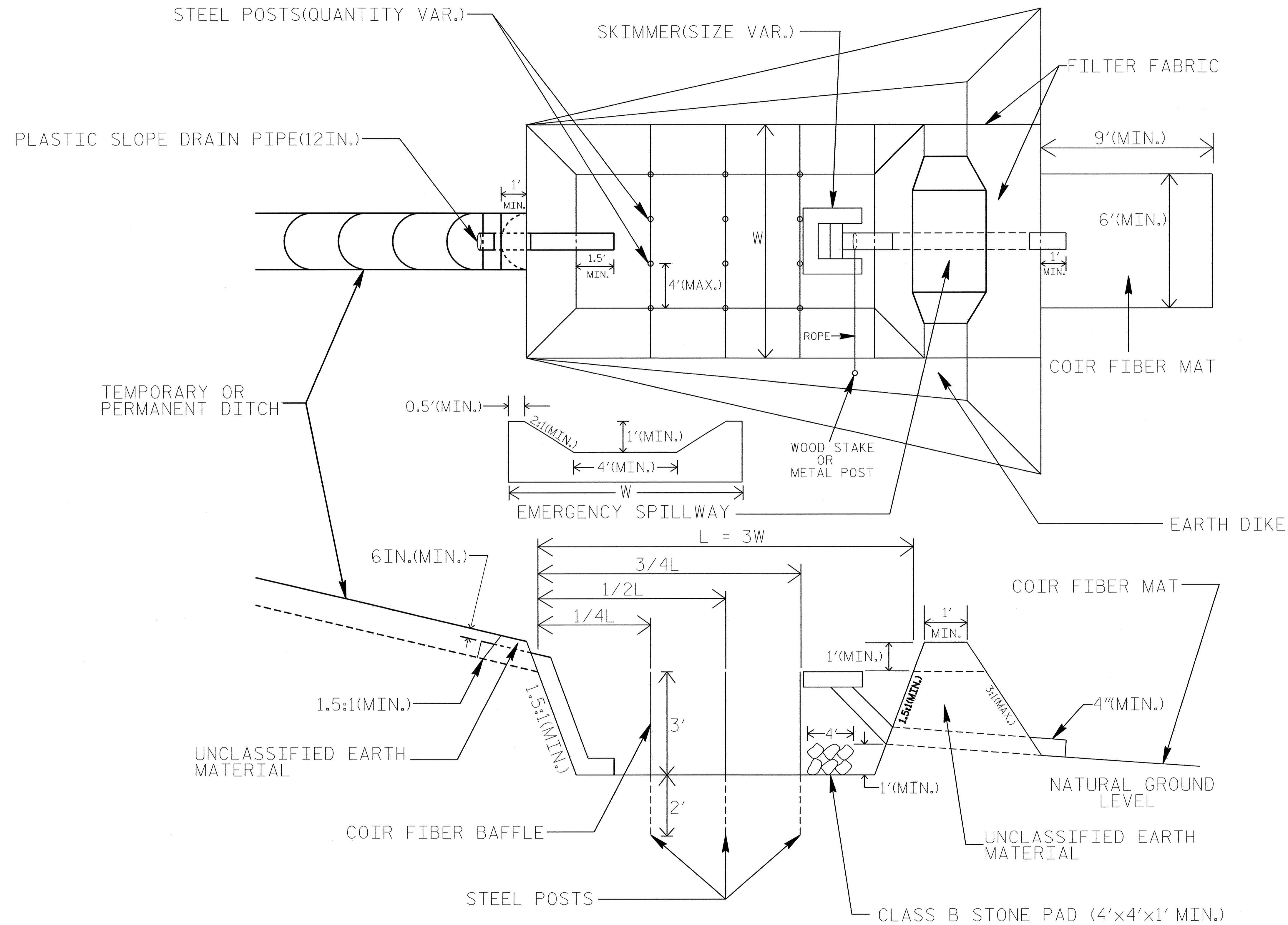


NOTE: INSTALL THREE(3) COIR FIBER BAFFLES IN SILT BASINS AND SEDIMENT DAMS AT DRAINAGE OUTLETS WITH A SPACING OF $\frac{1}{4}$ THE BASIN LENGTH. TWO(2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 20 FT. IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.

BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 12" LANDSCAPE STAPLES

SKIMMER BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. B-4302	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

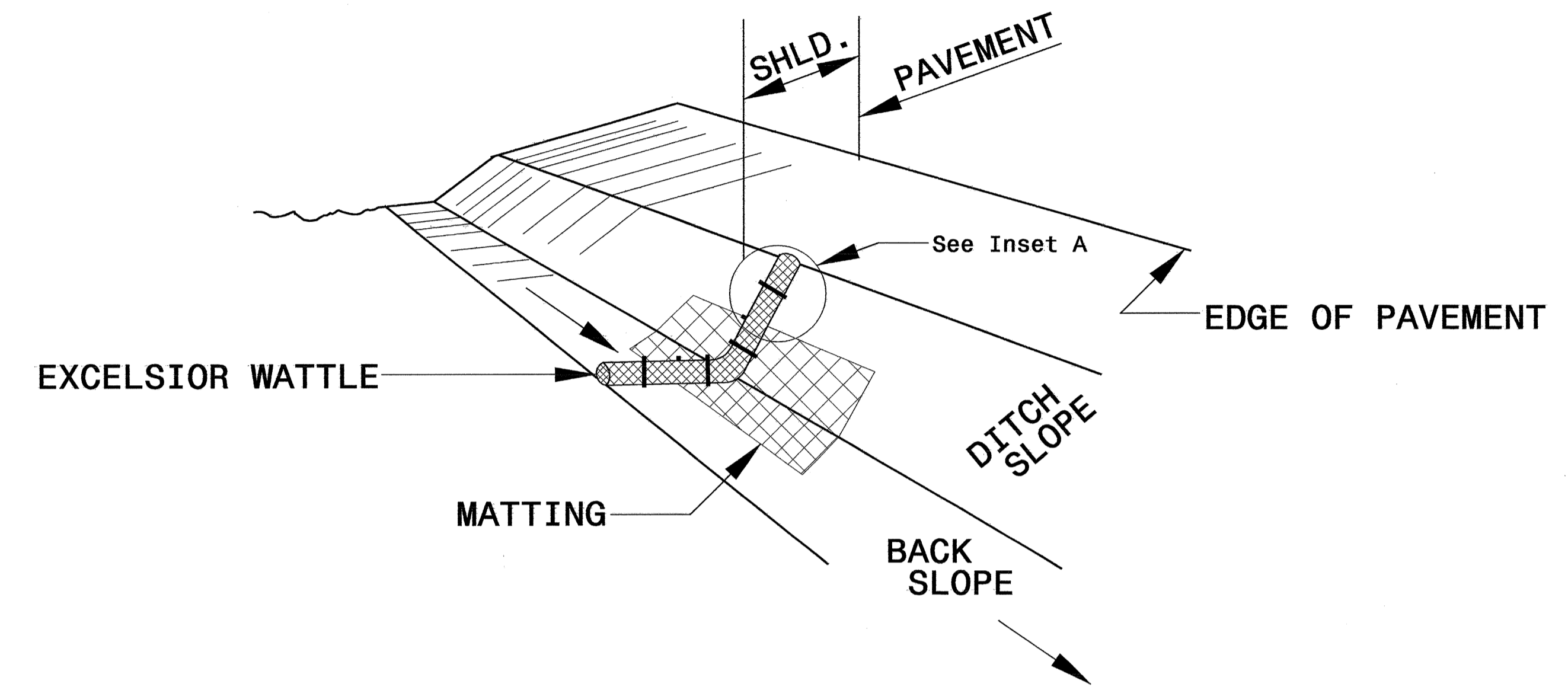
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

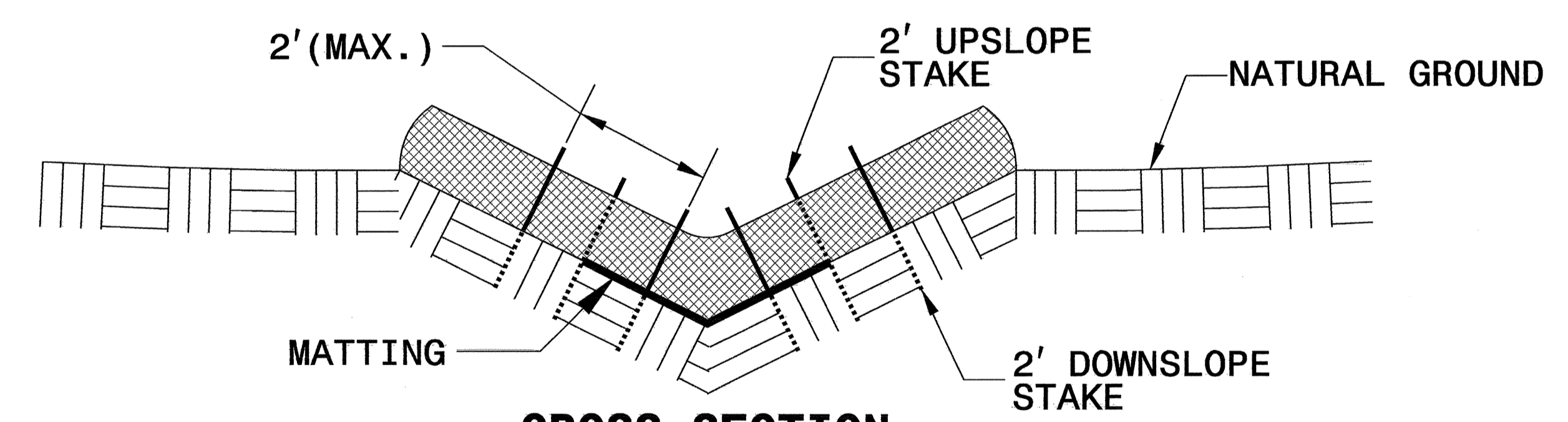
NOT TO SCALE

PROJECT REFERENCE NO. B-4302	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

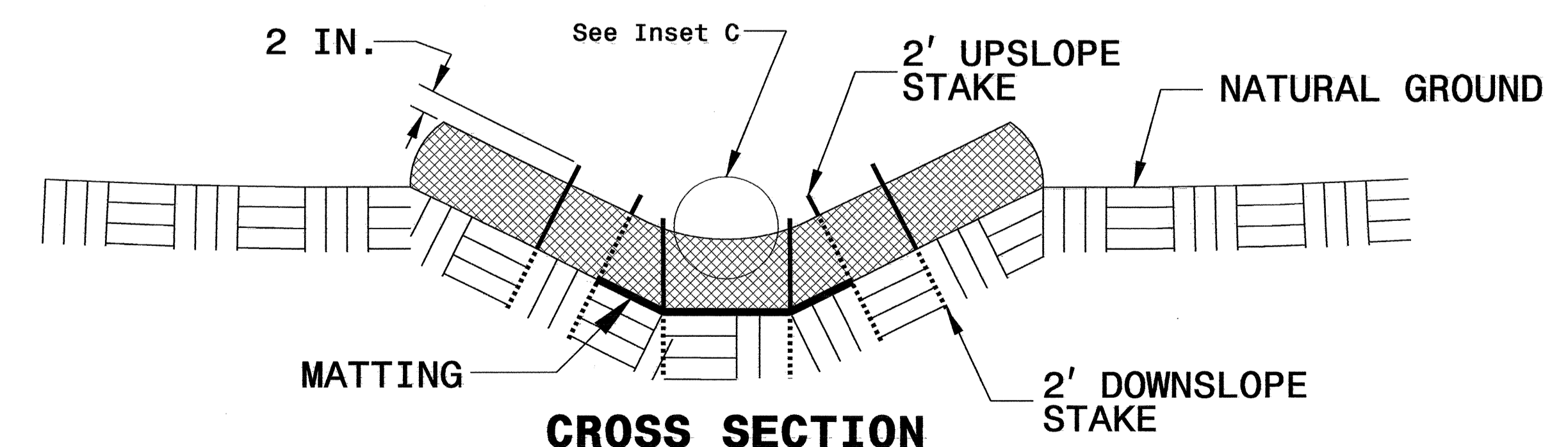
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



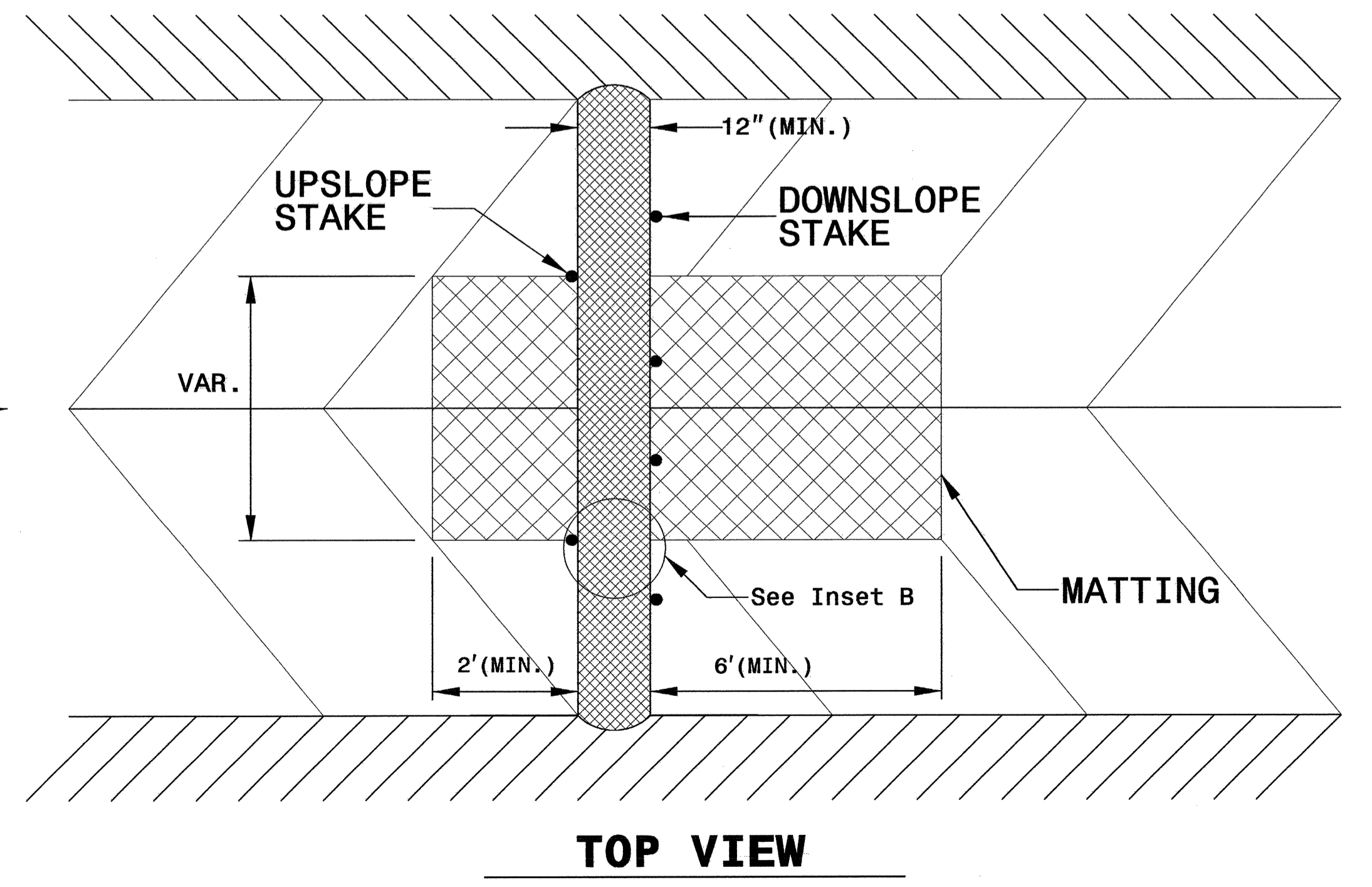
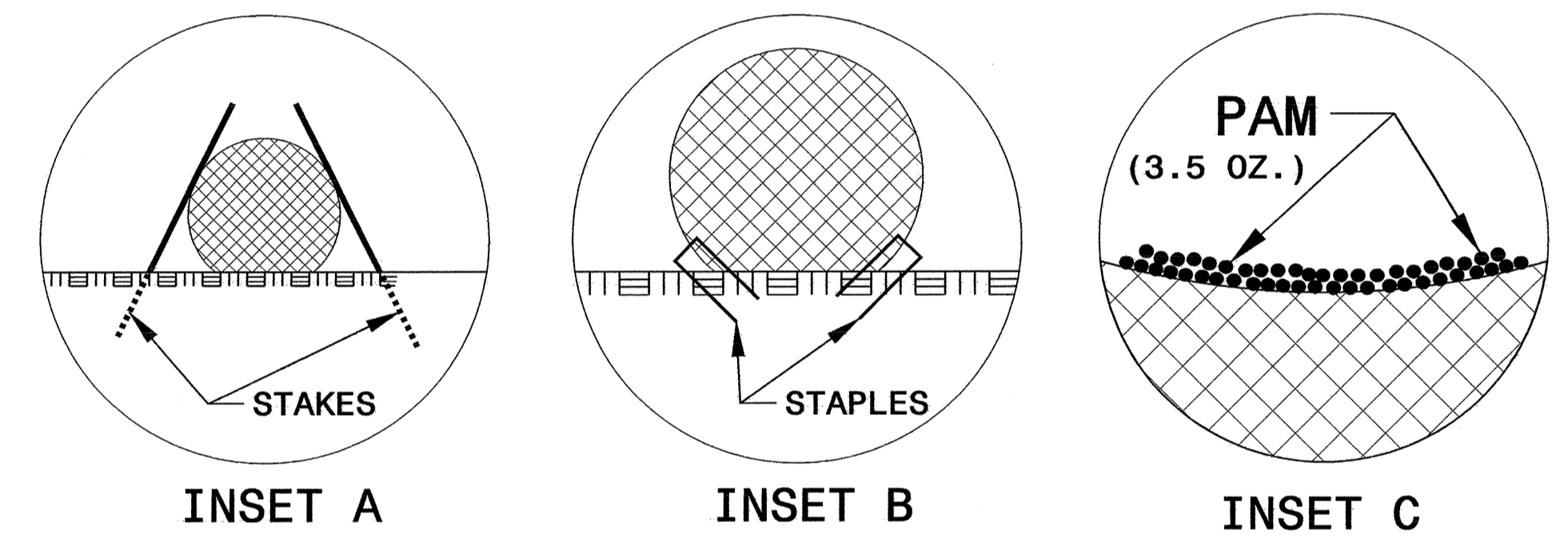
CROSS SECTION VEE DITCH



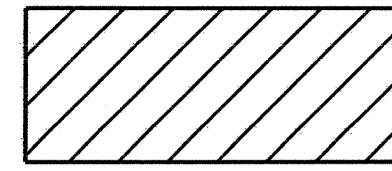
CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.25 IN.



PROJECT REFERENCE NO. B-4302	SHEET NO. EC-5/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

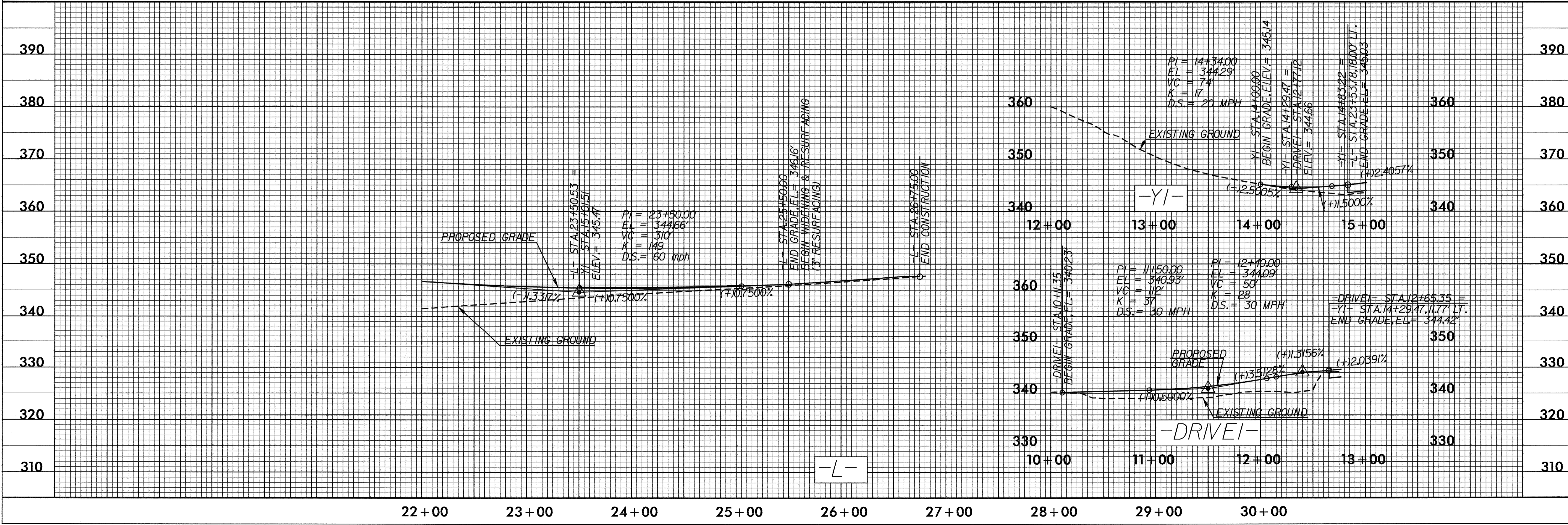
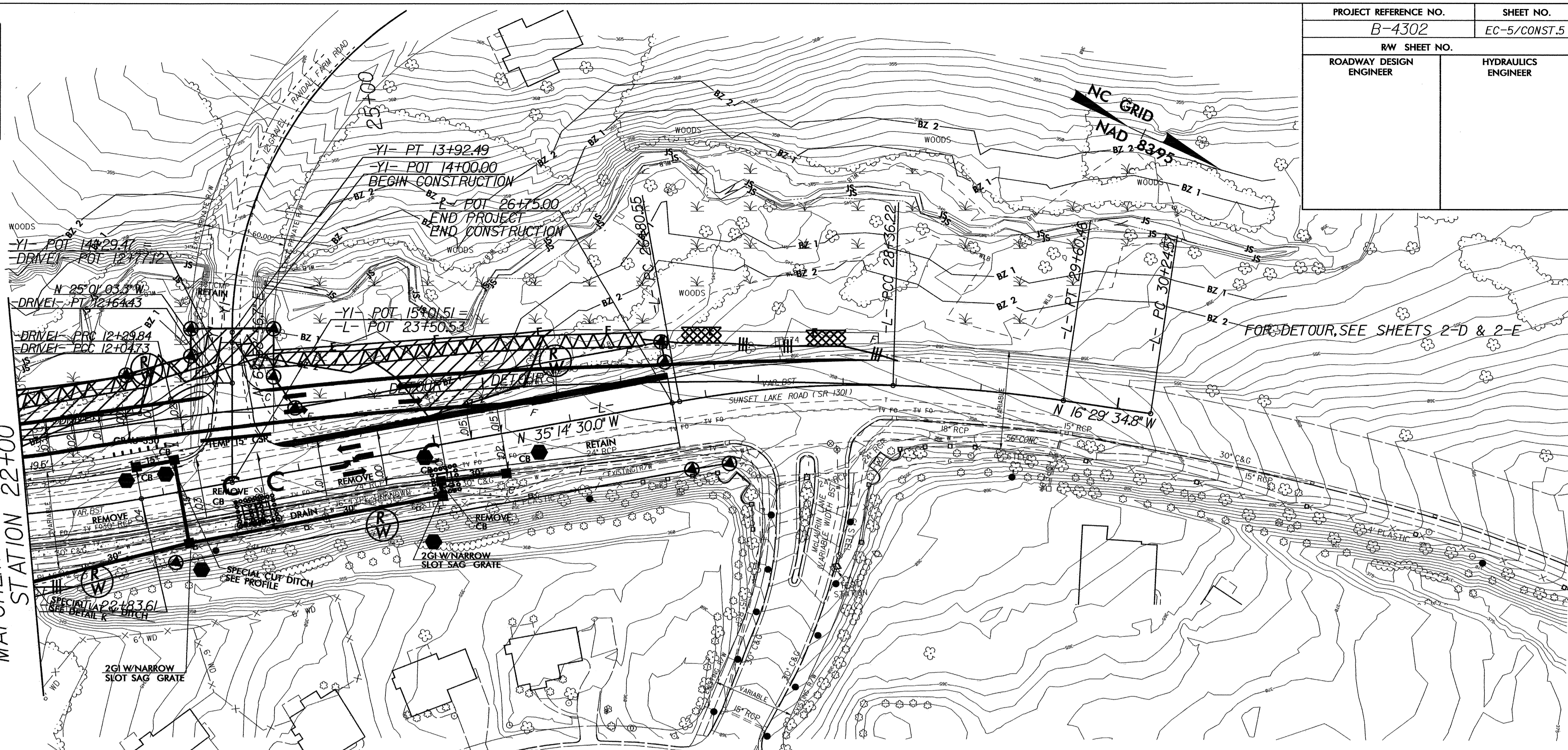


ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

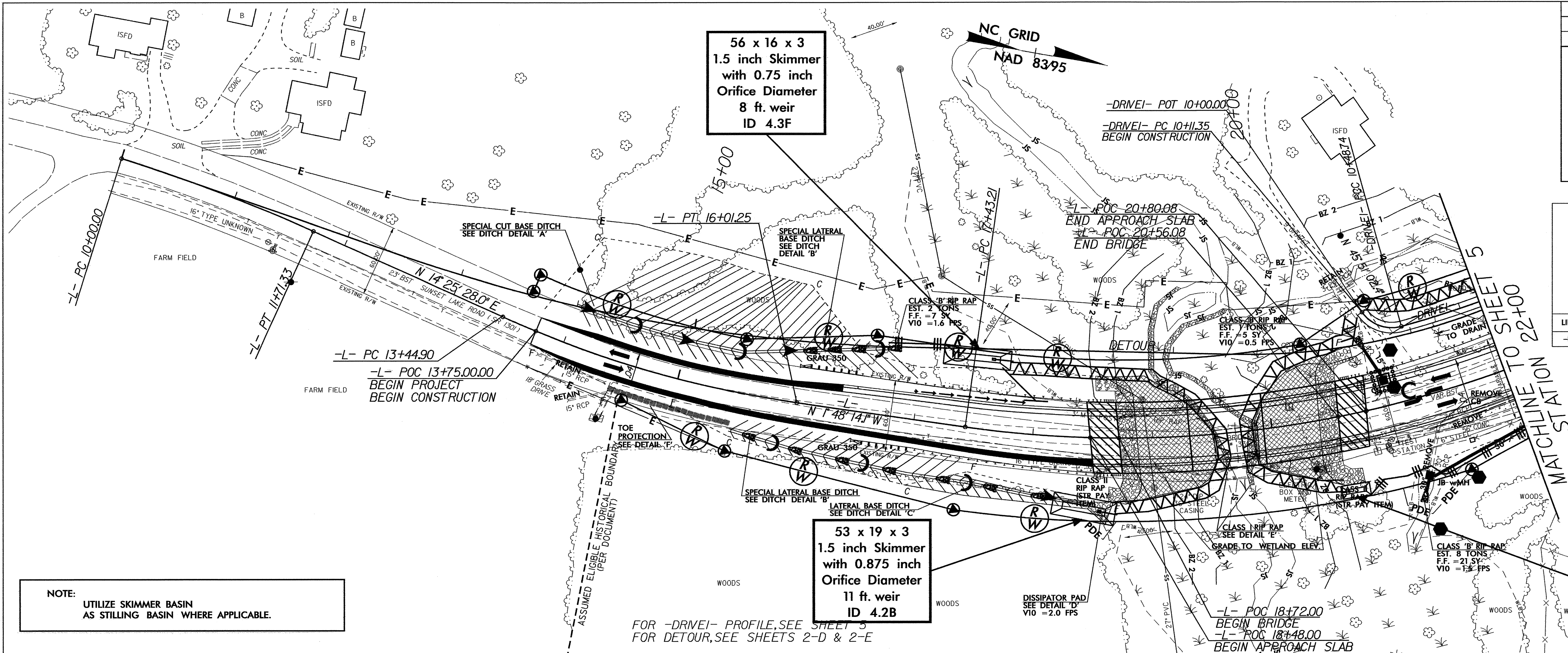
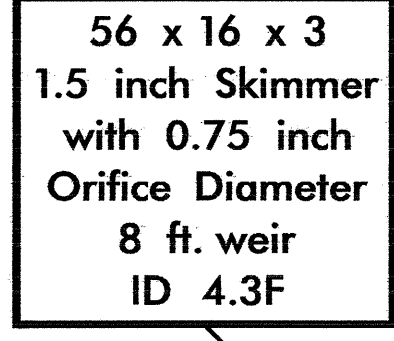
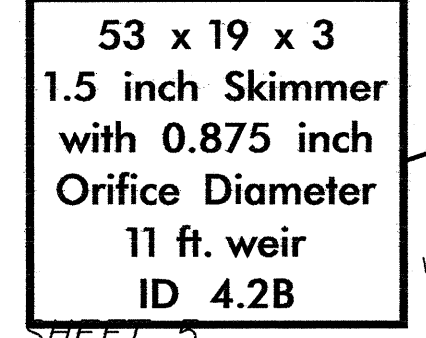
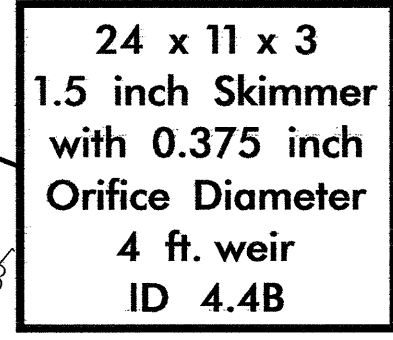
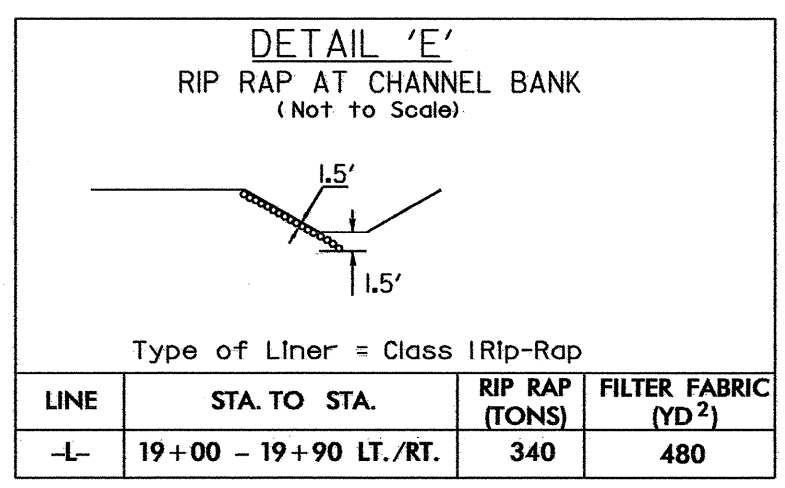
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

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

MATCHLINE TO SHEET 4
STATION 22+00

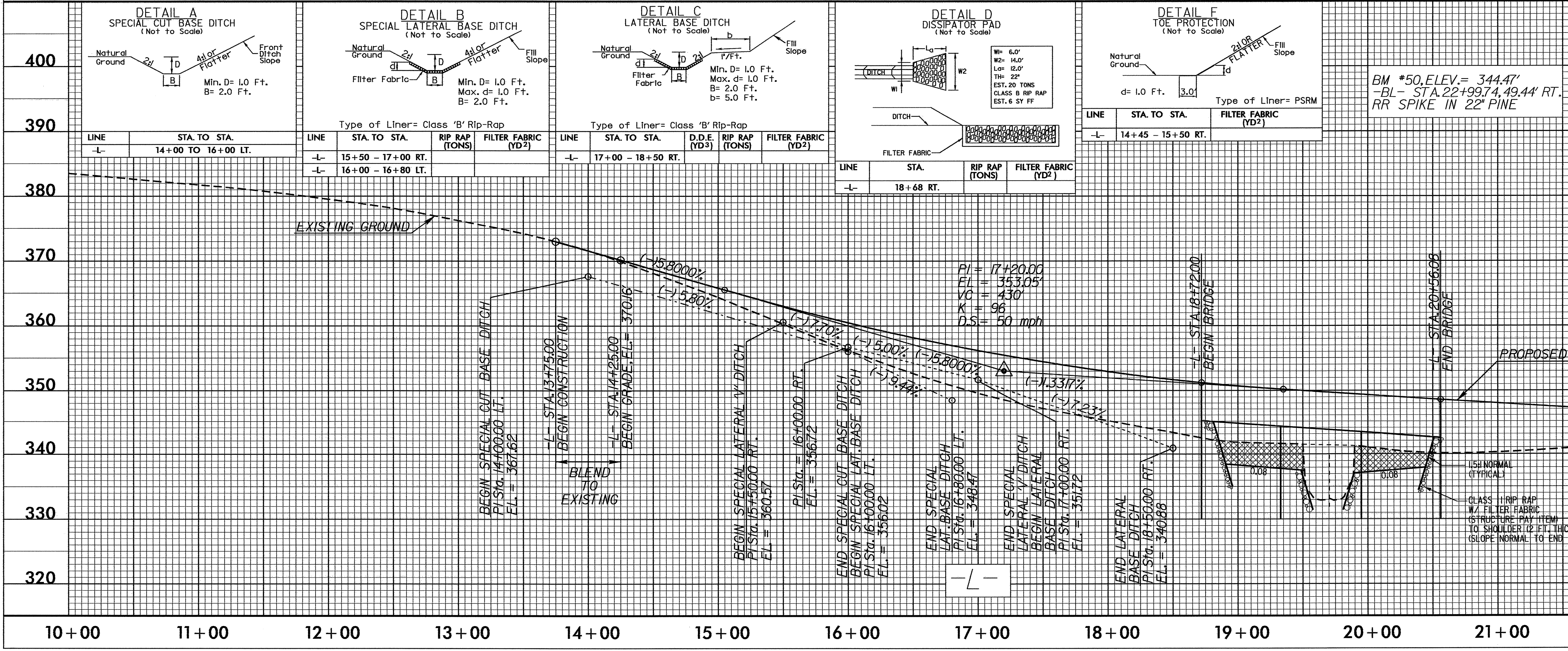


DATE: FILE: TIME:



NOTE:
UTILIZE SKIMMER BASIN
AS STILLING BASIN WHERE APPLICABLE.

FOR -DRIVE- PROFILE, SEE SHEET 5
FOR DETOUR, SEE SHEETS 2-D & 2-E



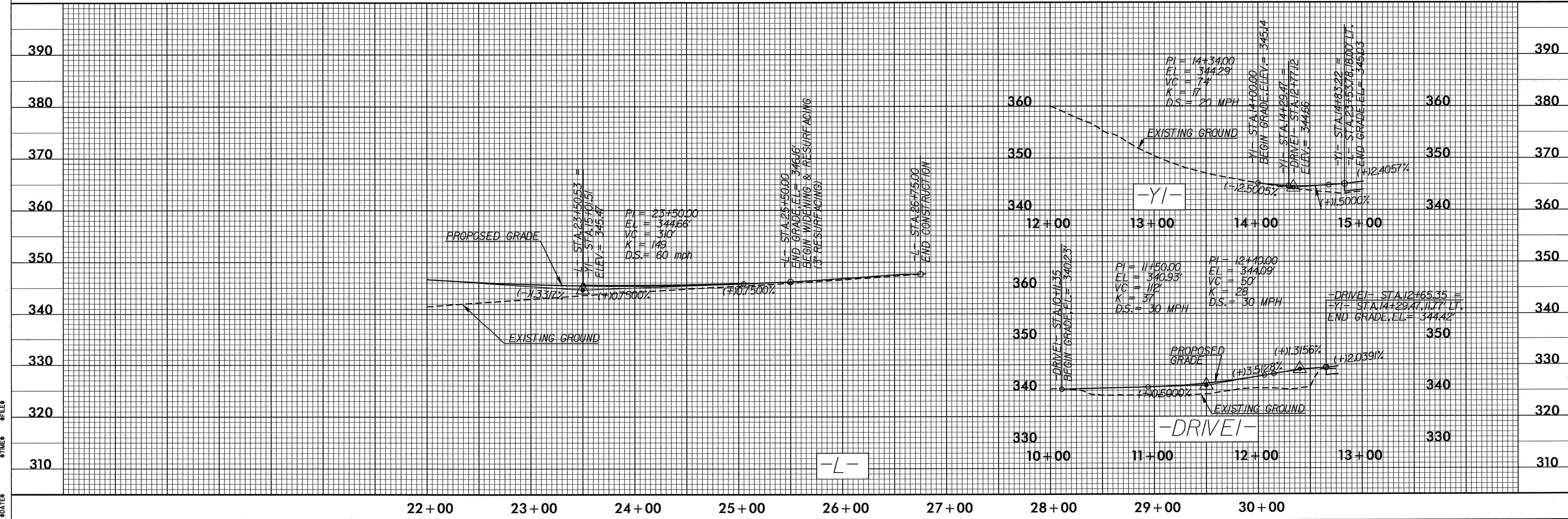
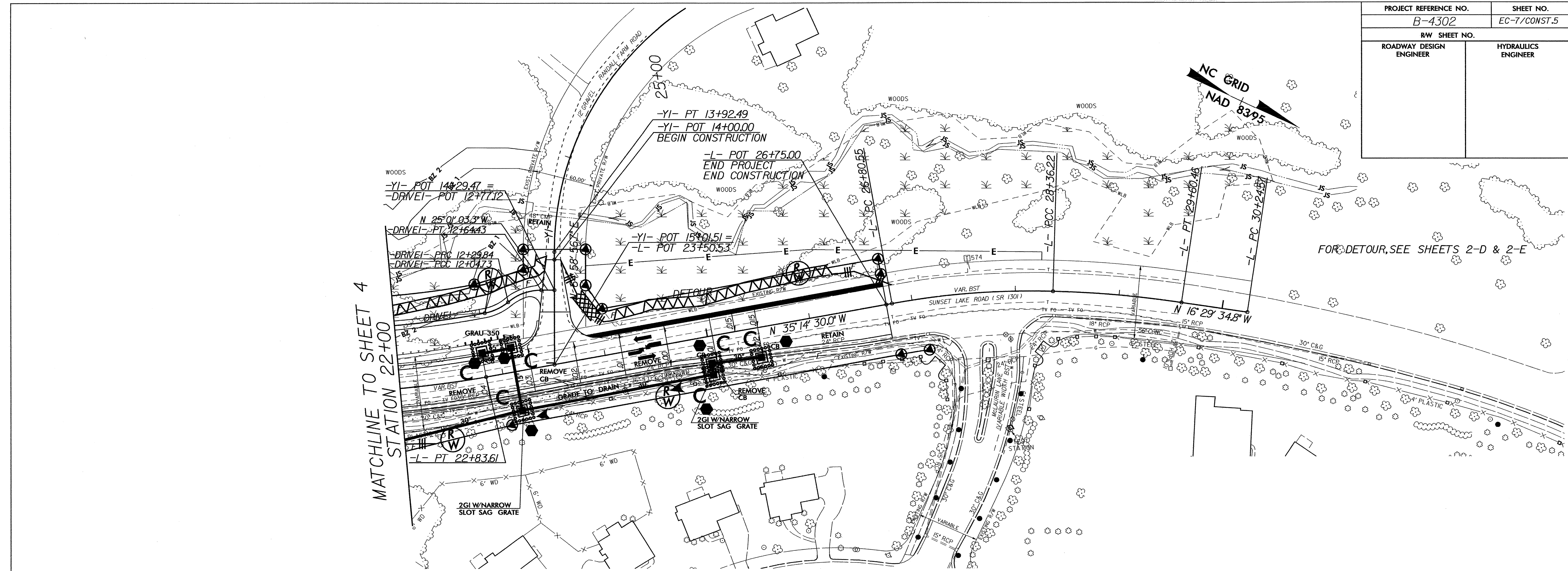
BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1900 CFS	400
DESIGN FREQUENCY	= 50 YRS	
DESIGN HW ELEVATION	= 342.0 FT	
BASE DISCHARGE	= 2200 CFS	390
BASE FREQUENCY	= 100 YRS	
BASE HW ELEVATION	= 342.4 FT	
OVERTOPPING DISCHARGE	= 10000 CFS	380
OVERTOPPING FREQUENCY	= 500 YRS	
OVERTOPPING ELEVATION	= 345.1 FT	
DATE OF SURVEY	= 10/11/07	370
W.S. ELEVATION AT DATE OF SURVEY	= 335.9 FT	

BM #50, ELEV. = 344.4'
BL - STA. 22+99.74, 49.44' RT.
RR SPIKE IN 22" PINE

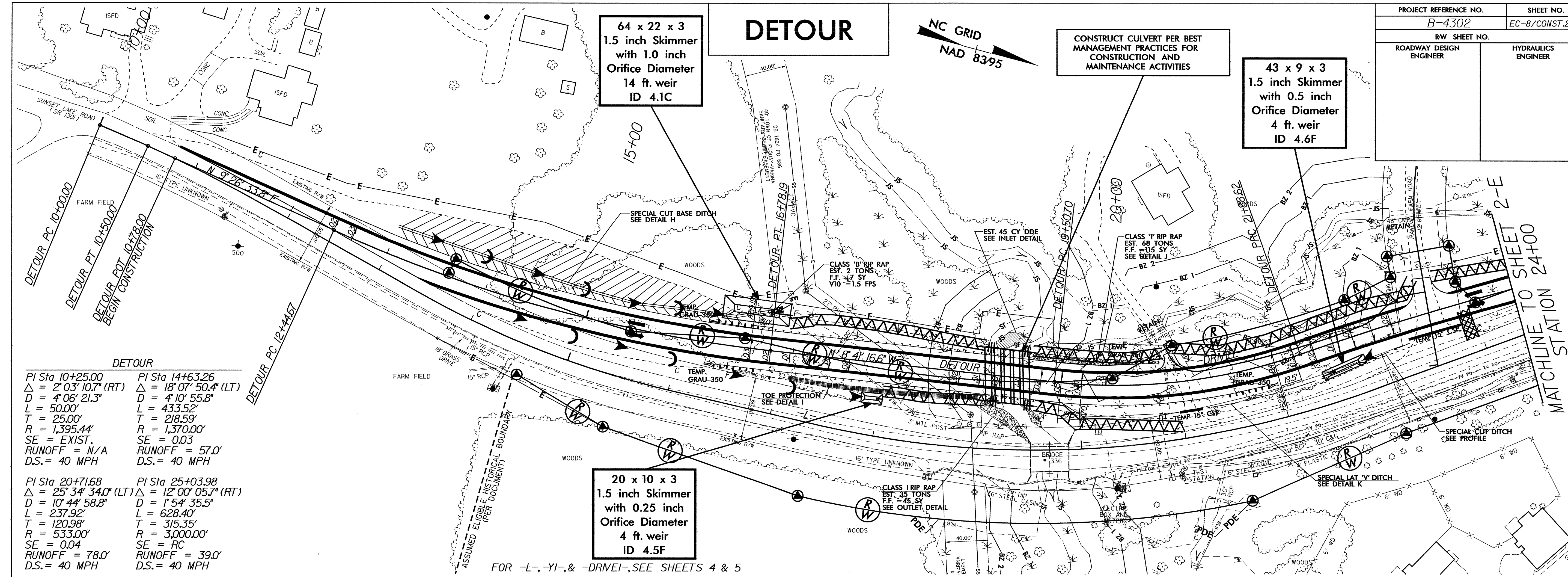
ROW REVISION - PARCEL 6; REVISED ESMT.
DATE:

PROJECT REFERENCE NO.	SHEET NO.
B-4302	EC-7/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DATE: _____ TIME: _____ FILE: _____

PROJECT REFERENCE NO.	SHEET NO.
B-4302	EC-8/CONST.2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DETOUR

PI Sta 10+25.00 Δ = 2° 03' 10.7" (RT) D = 4° 06' 21.3" L = 50.00' T = 25.00' R = 1,395.44' SE = EXIST. RUNOFF = N/A D.S. = 40 MPH	PI Sta 14+63.26 Δ = 18° 07' 50.4" (LT) D = 4° 10' 55.8" L = 433.52' T = 218.59' R = 1,370.00' SE = 0.03 RUNOFF = 57.0' D.S. = 40 MPH
PI Sta 20+71.68 Δ = 25° 34' 34.0" (LT) D = 10° 44' 58.8" L = 237.92' T = 120.98' R = 533.00' SE = 0.04 RUNOFF = 78.0' D.S. = 40 MPH	PI Sta 25+03.98 Δ = 12° 00' 05.7" (RT) D = 1° 54' 35.5" L = 628.40' T = 315.35' R = 3,000.00' SE = RC RUNOFF = 39.0' D.S. = 40 MPH

DETAIL H
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D = 1.0 Ft.
B = 2.0 Ft.

LINE	STA. TO STA.	TYPE OF LINER	FILTER FABRIC (YD ²)
DETOUR	17+00 - 18+80 RT.	PSRM	
DETOUR	12+51 to 16+75 LT.		

DETAIL I
TOE PROTECTION
(Not to Scale)

Type of Liner = PSRM

LINE	STA. TO STA.	TYPE OF LINER	FILTER FABRIC (YD ²)
DETOUR	19+20 - 20+35 LT.	Class I Rip-Rap	68

DETAIL J
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = Class I Rip-Rap

LINE	STA. TO STA.	TYPE OF LINER	FILTER FABRIC (YD ²)
DETOUR	19+20 - 20+35 LT.	Class I Rip-Rap	115

DETAIL K
SPECIAL LATERAL "V" DITCH
(Not to Scale)

Min. D = 1.0 Ft.

LINE	STA. TO STA.	D.D.E. (YD ³)
DETOUR	19+74 - 22+09 RT.	45

INLET DETAIL
(Not to Scale)

VARIES 10 TO 15'

LINE	STA. TO STA.	D.D.E. (YD ³)
DETOUR	18+91 - 19+27 LT.	45

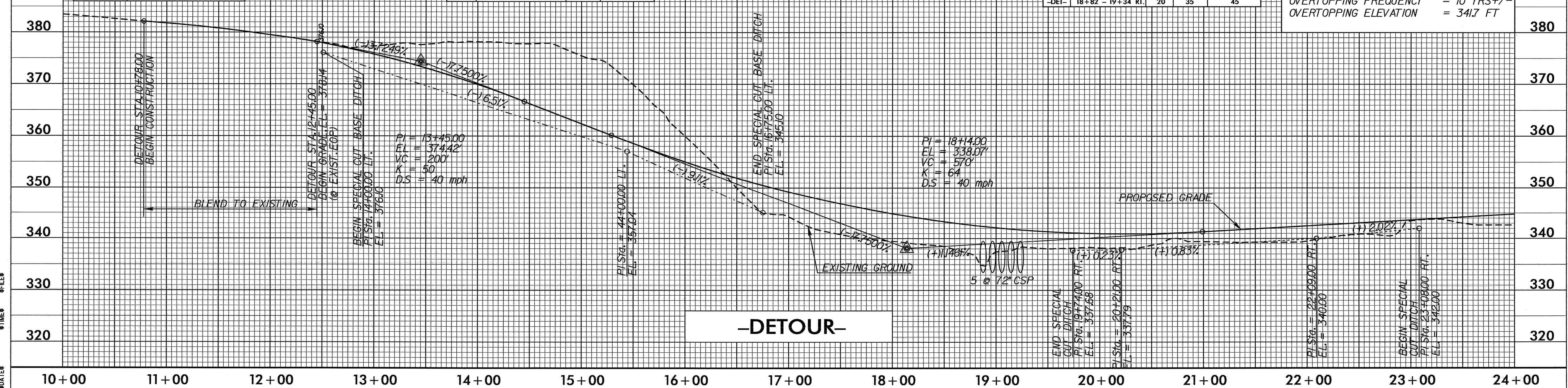
OUTLET DETAIL
(Not to Scale)

VARIES

LINE	STA. TO STA.	D.D.E. (YD ³)	RIP RAP (TONS)	FILTER FABRIC (YD ²)
DETOUR	18+82 - 19+34 RT.	20	35	45

CULVERT HYDRAULIC DATA

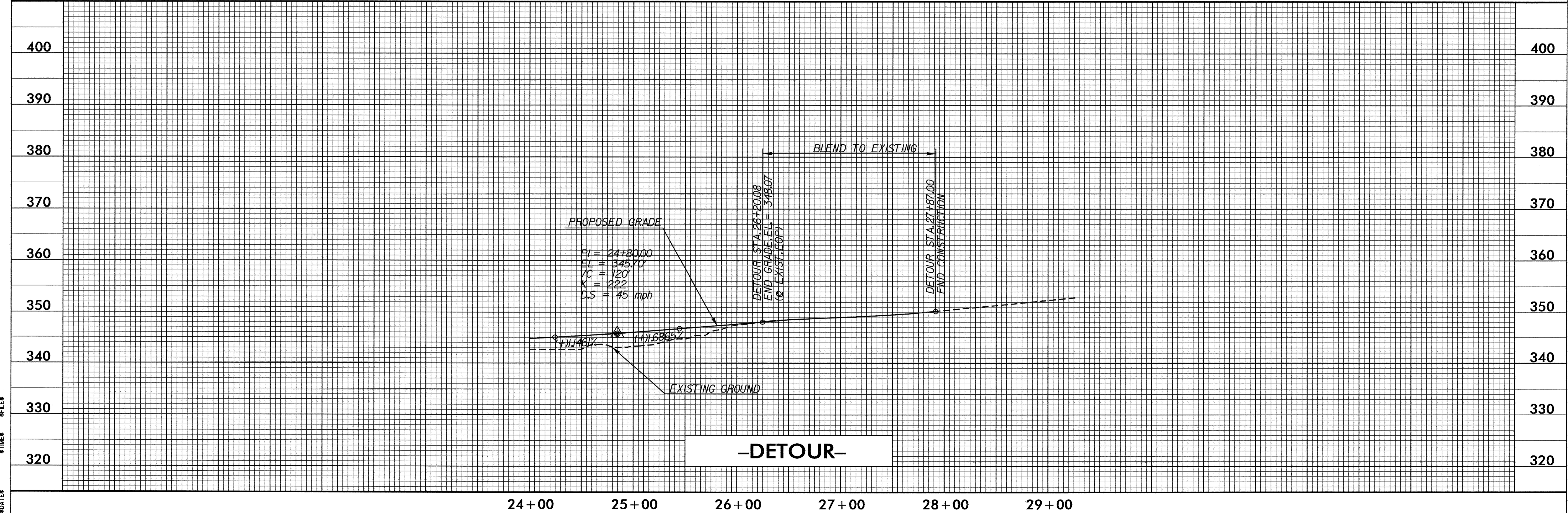
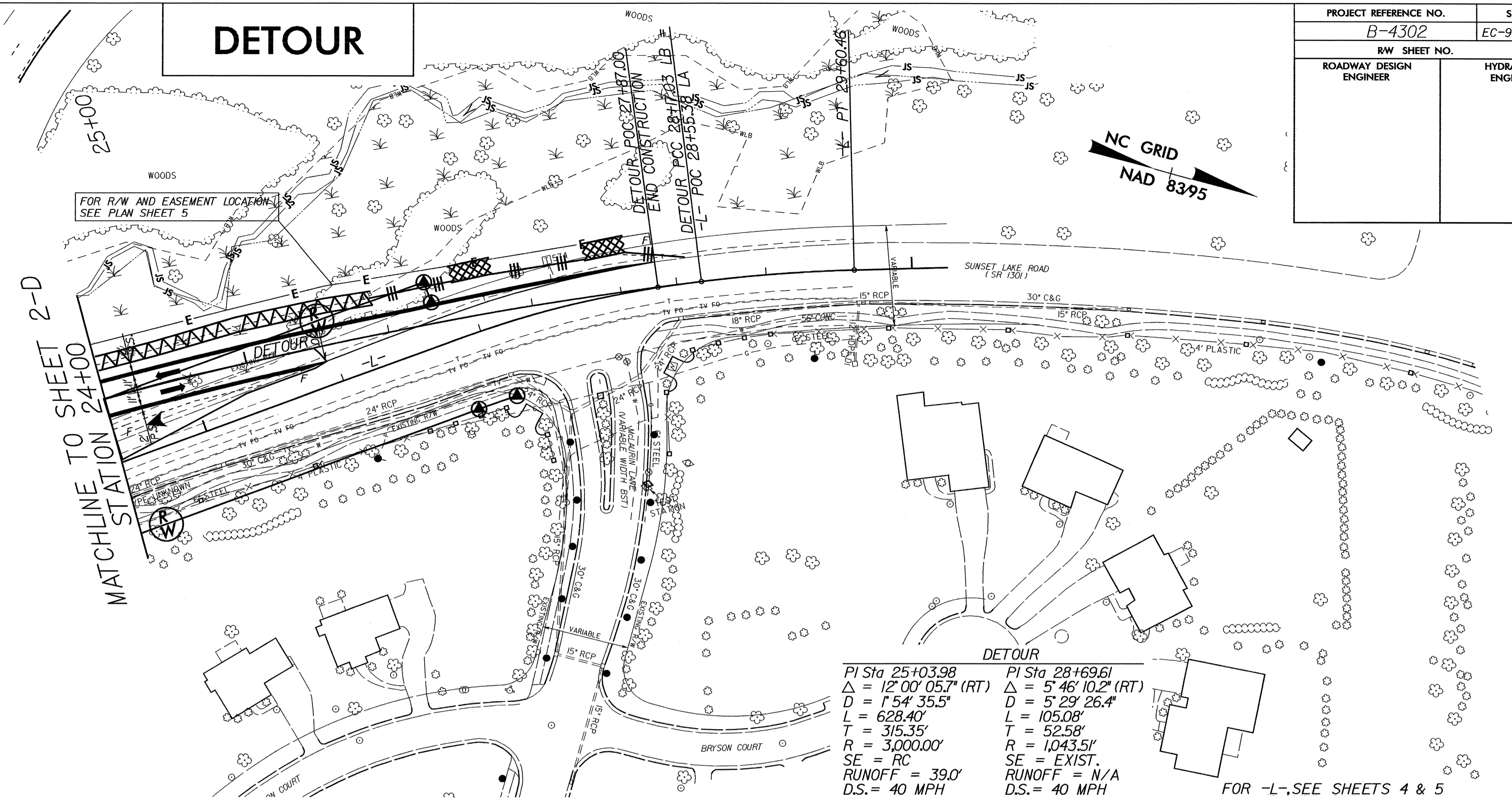
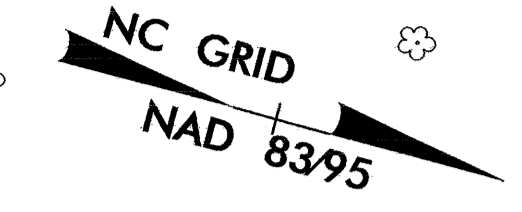
DESIGN DISCHARGE	= 950 CFS	400
DESIGN FREQUENCY	= 5 YRS	
DESIGN HW ELEVATION	= 340.0 FT	
BASE DISCHARGE	= N/A CFS	
BASE FREQUENCY	= N/A YRS	
BASE HW ELEVATION	= N/A FT	
OVERTOPPING DISCHARGE	= 1800 CFS	390
OVERTOPPING FREQUENCY	= 10 YRS +/-	
OVERTOPPING ELEVATION	= 341.7 FT	380



DATE: FILE:

DETOUR

PROJECT REFERENCE NO.	SHEET NO.
B-4302	EC-9/CONST.2-E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



DATE TIME FILE