


TIP PROJECT: R-2414B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
CAMDEN COUNTY

LOCATION: US 158 - FROM NORTH OF SR 1257 (HAVENWOOD DRIVE) TO EAST OF NC 34 IN BELCROSS

TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING, CURB & GUTTER, SIGNALS & STRUCTURES



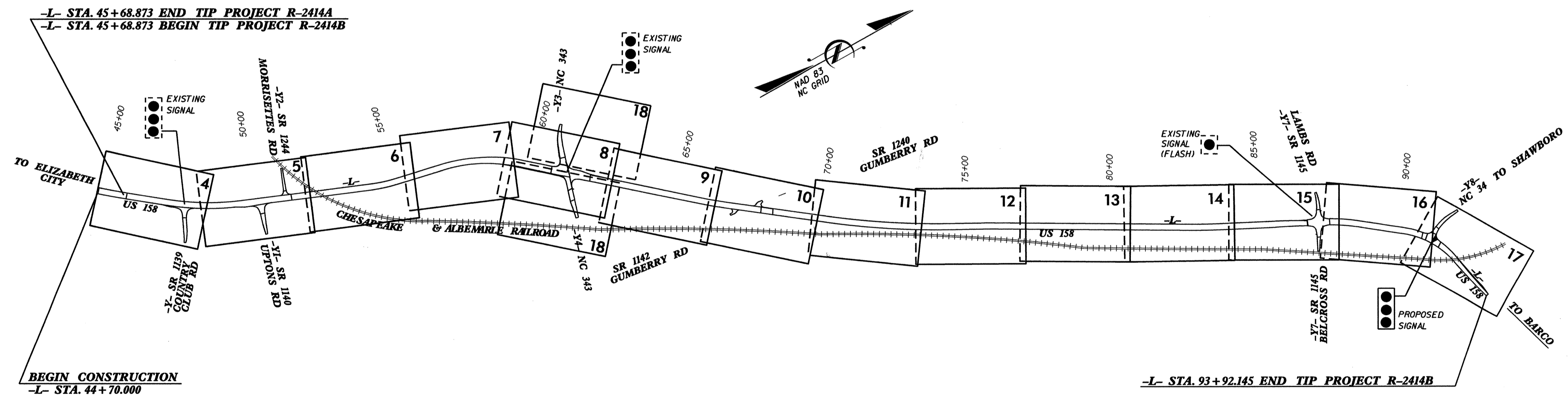
ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2414B	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
	Temporary Silt Fence	
	Special Sediment Control Fence	~ ~ ~
1622.01	Temporary Berms and Slope Drains	—
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	—
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	—
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	⊂
	Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

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



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

1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.05 Temporary Diversion	1635.01 Rock Pipe Inlet Sediment Trap Type A
1632.02 Rock Inlet Sediment Trap Type B	1635.02 Rock Pipe Inlet Sediment Trap Type B
1633.01 Temporary Rock Silt Check Type A	

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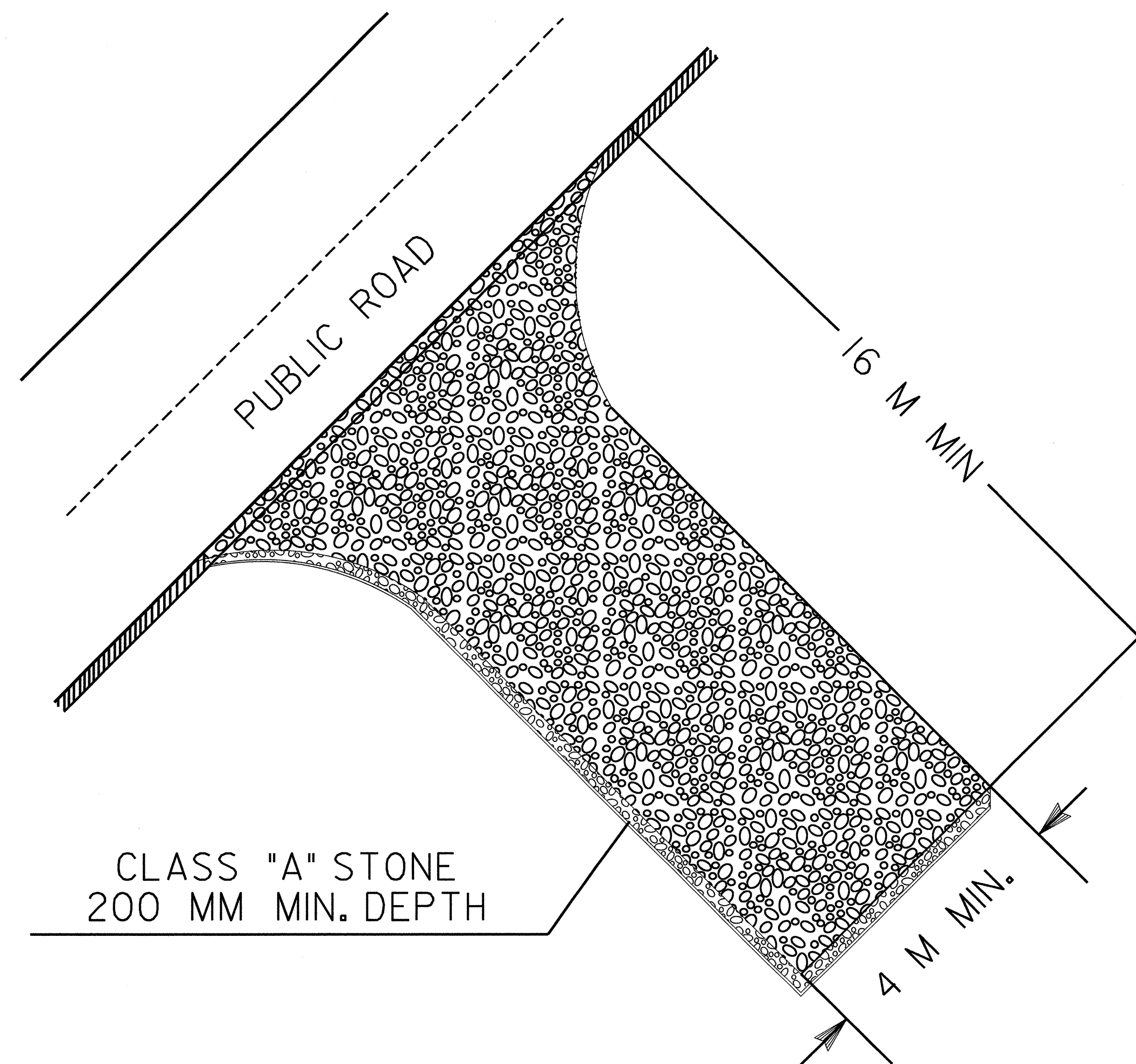


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER

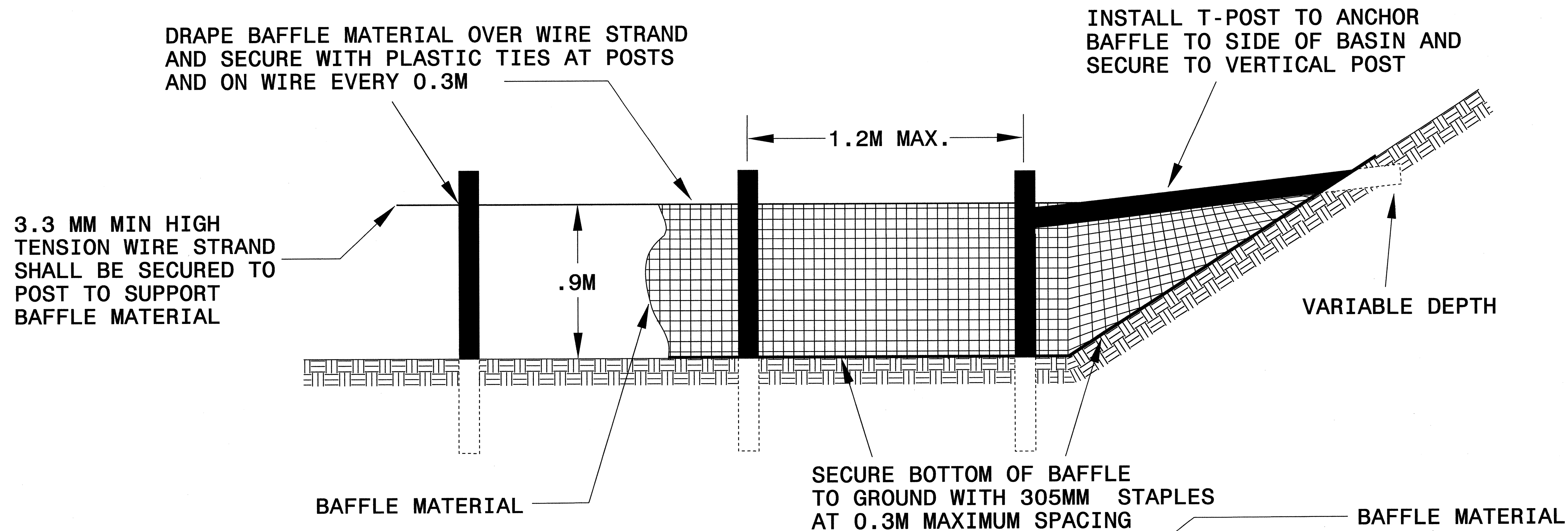


NOTE: FILTER FABRIC TO BE PLACED BENEATH STONE

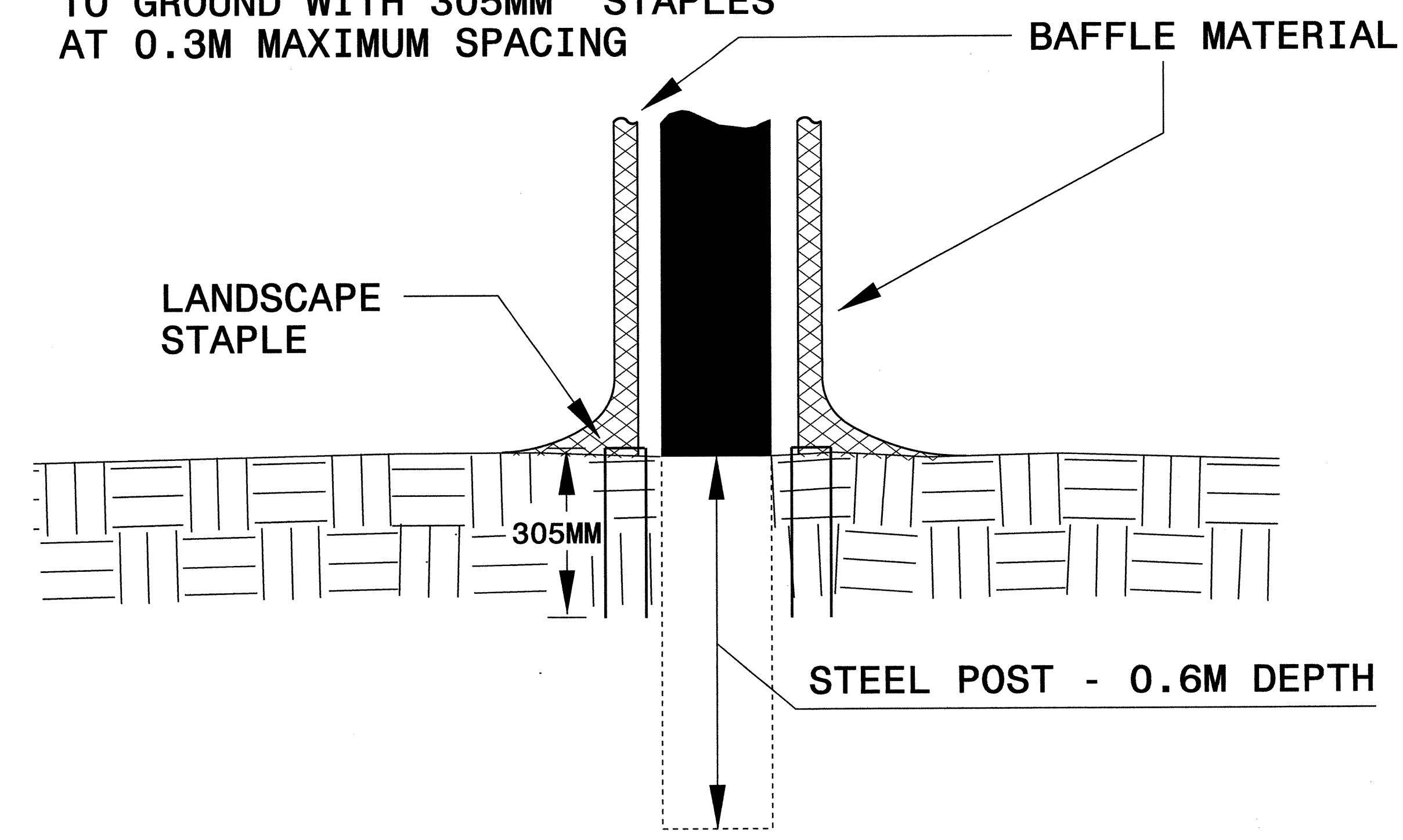


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COIR FIBER BAFFLE DETAIL



1. 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.
2. TWO (2) COIR FIBER BAFFLES CAN BE INSTALLED IN SILT BASINS AND DAMS LESS THAN 6 M IN LENGTH WITH A SPACING OF $\frac{1}{3}$ THE BASIN LENGTH.
3. TOP HEIGHT OF COIR FIBER BAFFLES SHALL NOT BE BELOW BASE OF EMERGENCY SPILLWAY ELEVATION.

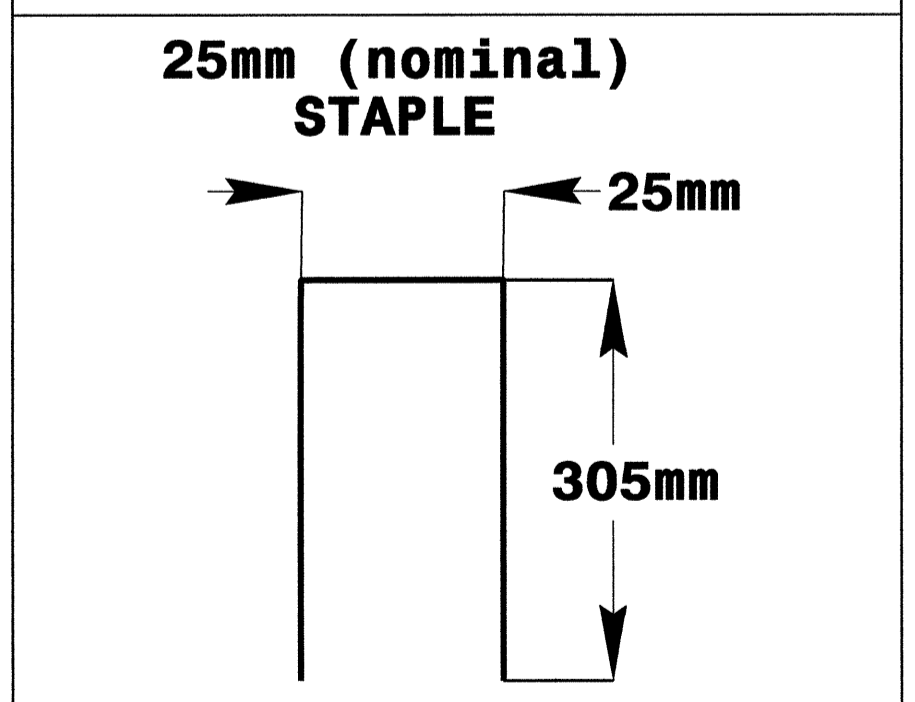
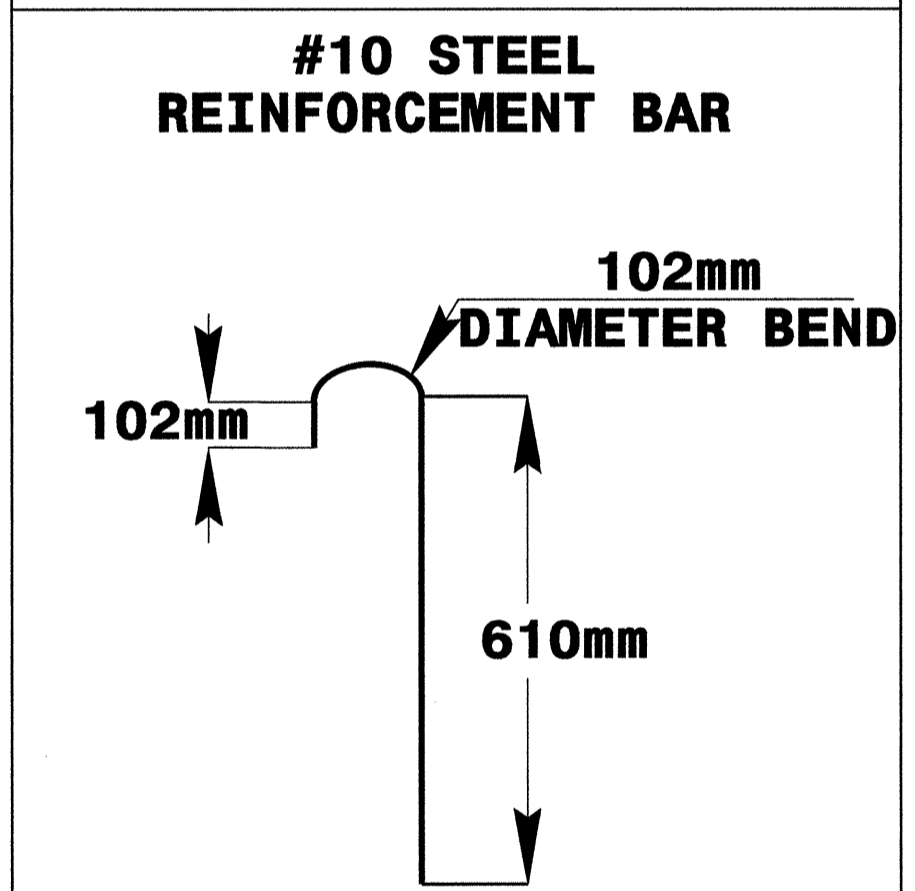
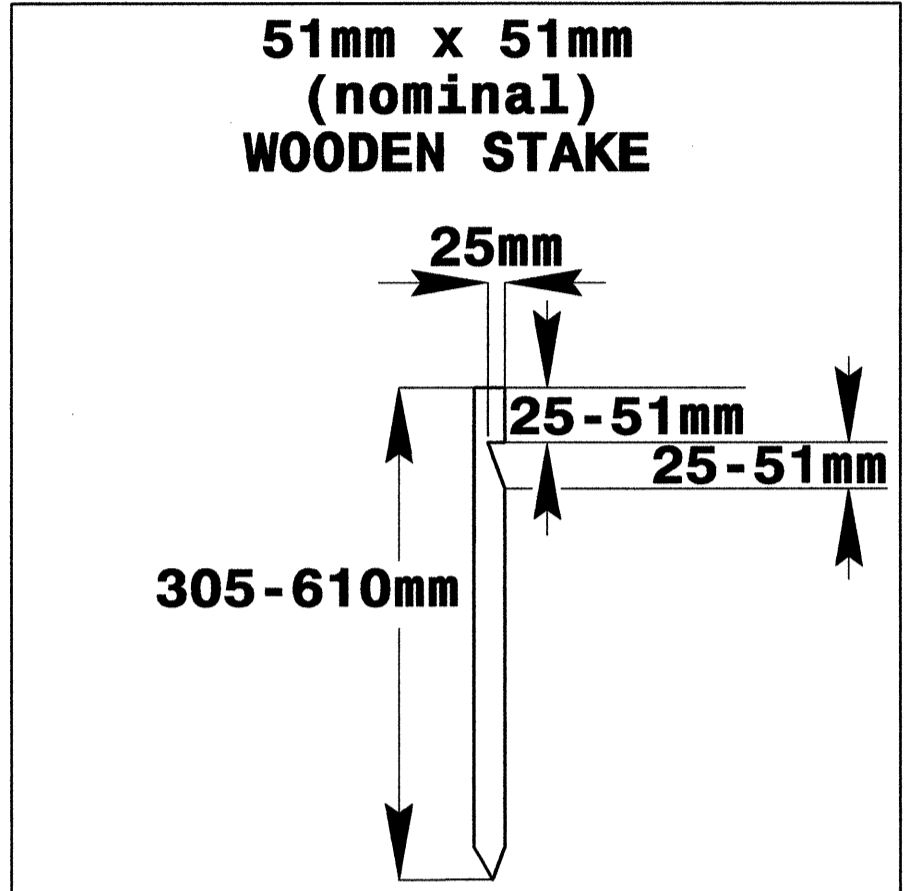
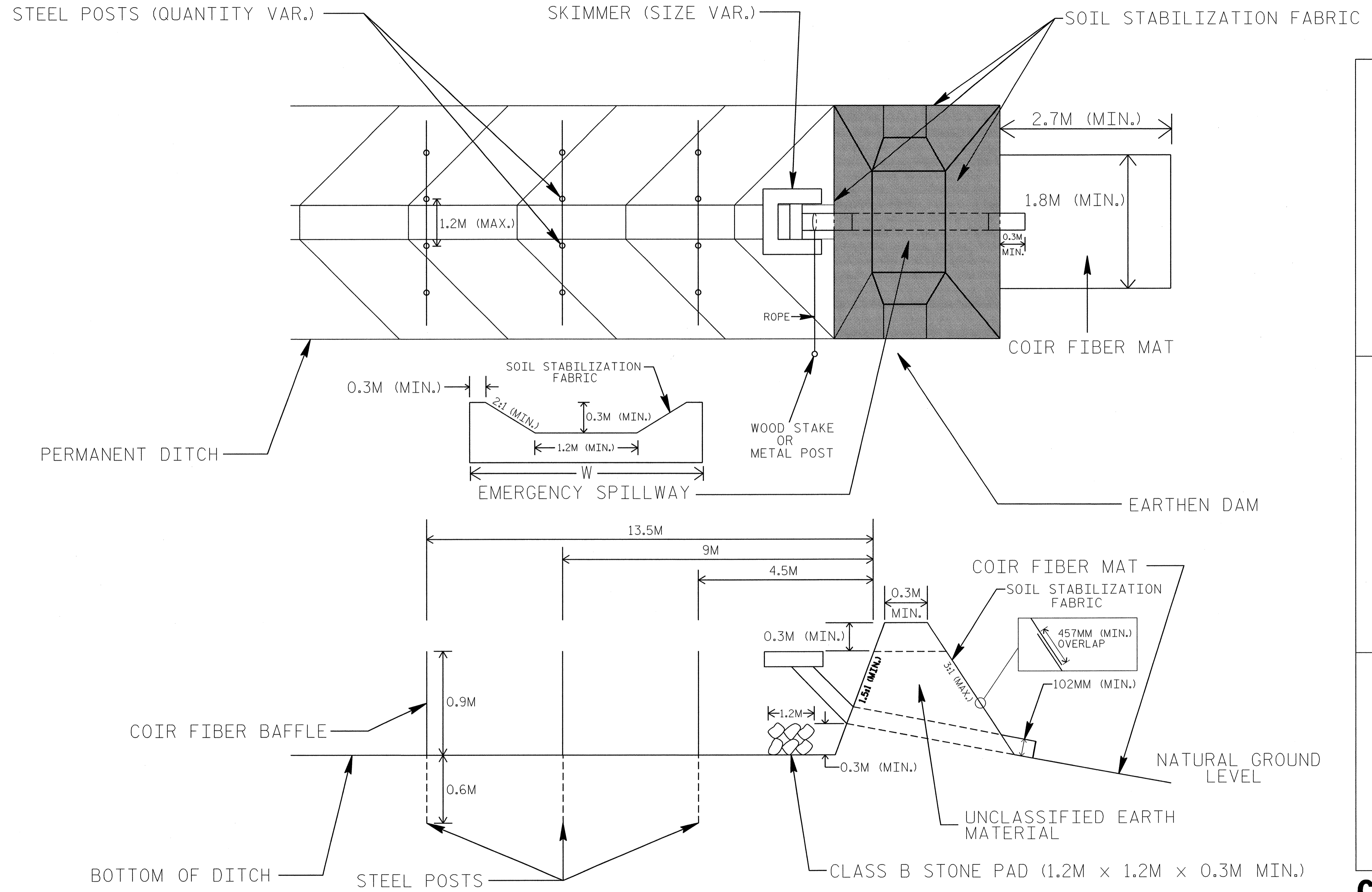


BAFFLE MATERIAL SHALL BE SECURED TO THE BOTTOM AND SIDES OF BASIN USING 305MM LANDSCAPE STAPLES

EARTHEN DAM WITH SKIMMER



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

NOTES

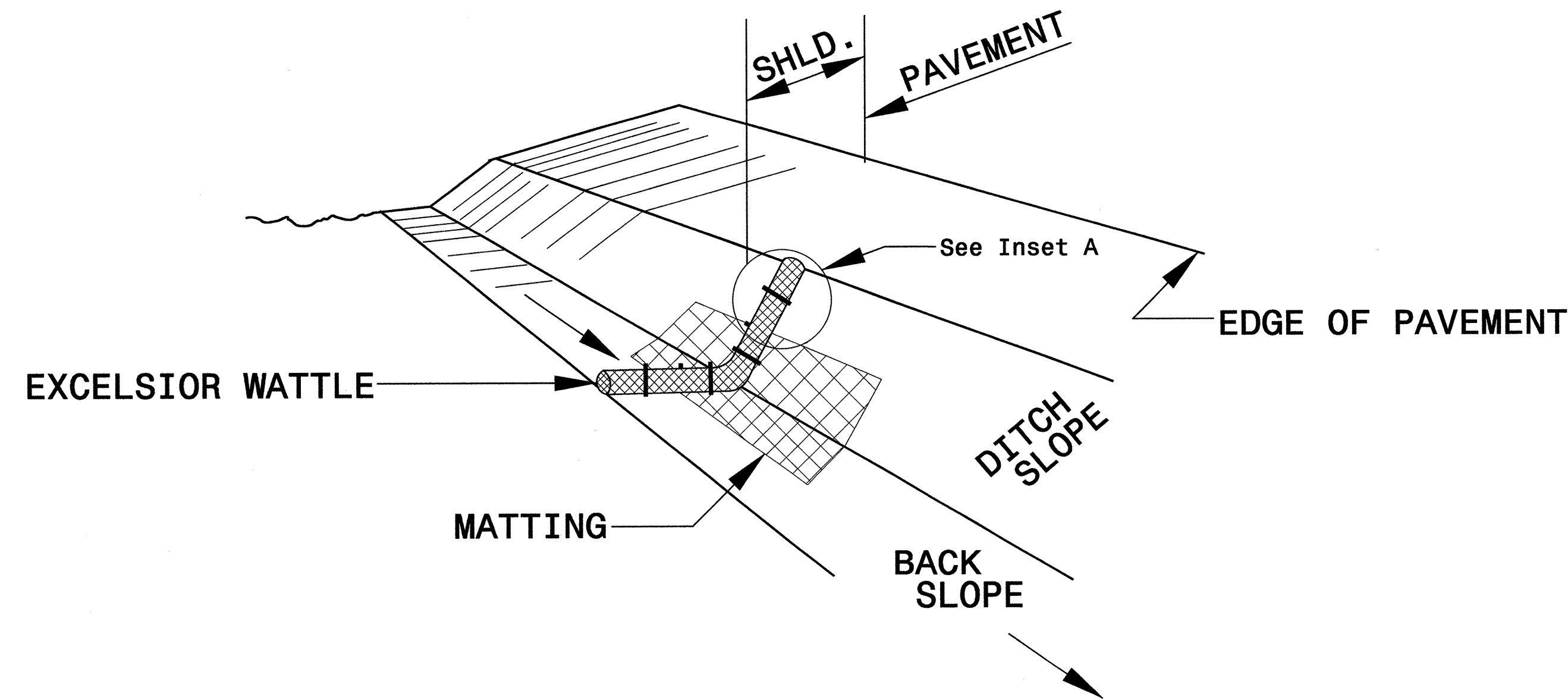
1. LIMIT EARTHEN DAM HEIGHT TO 1.5M.
2. DETERMINE EMERGENCY SPILLWAY LENGTH (M) USING $Q/0.074$, WHERE Q IS FLOW RATE (CMS) INTO BASIN.
3. SOIL STABILIZATION FABRIC FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 457MM AS SHOWN.

NOT TO SCALE

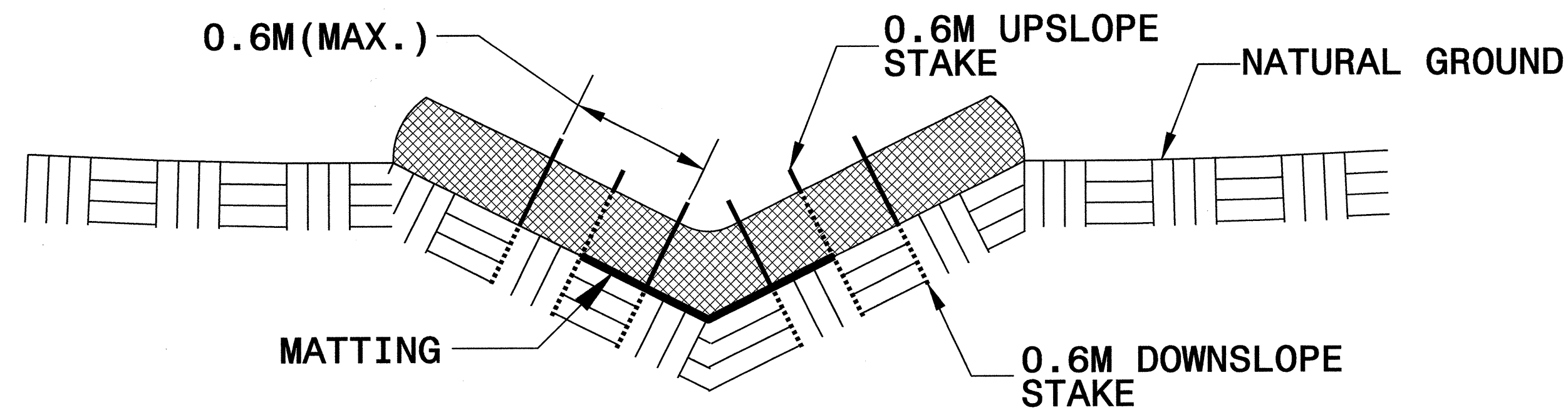


PROJECT REFERENCE NO. R-244B	SHEET NO. EC-2C
R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

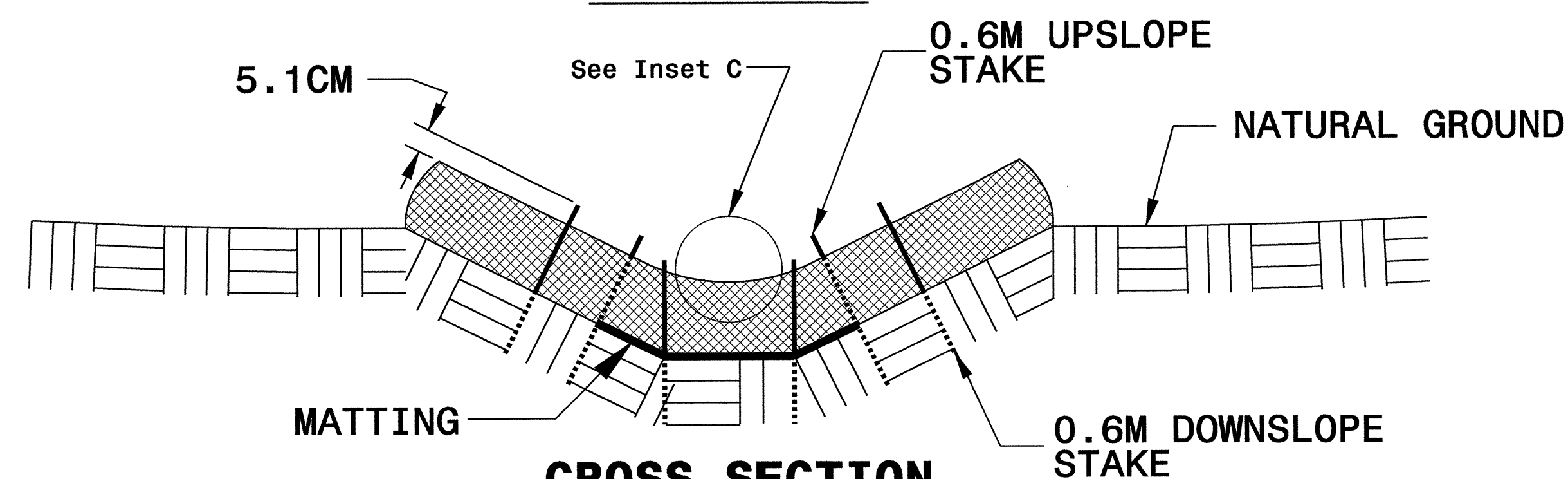
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 305 MM DIAMETER EXCELSIOR WATTLE.

USE 0.6 M WOODEN STAKES WITH A 5.1 CM BY 5.1 CM NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

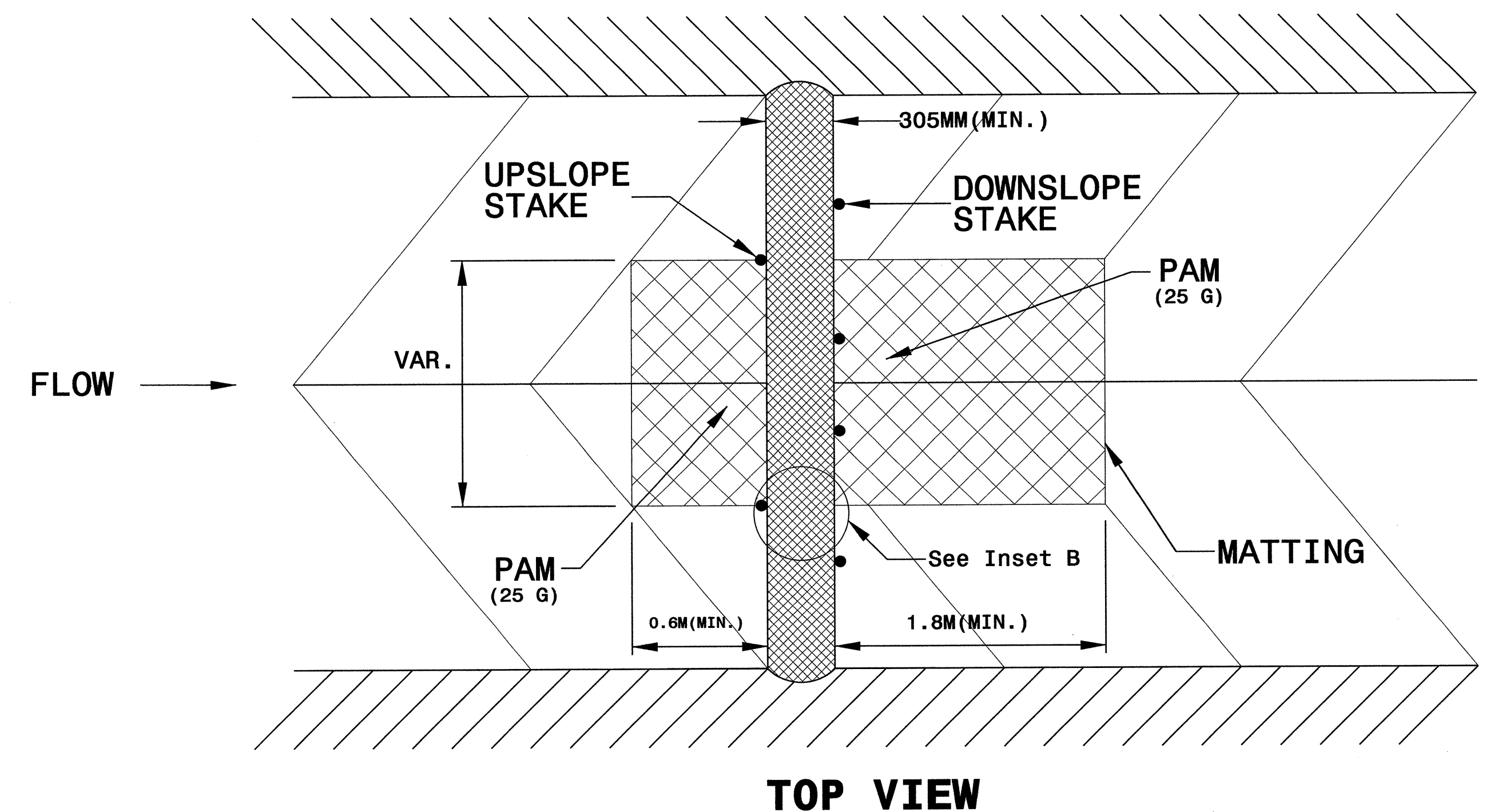
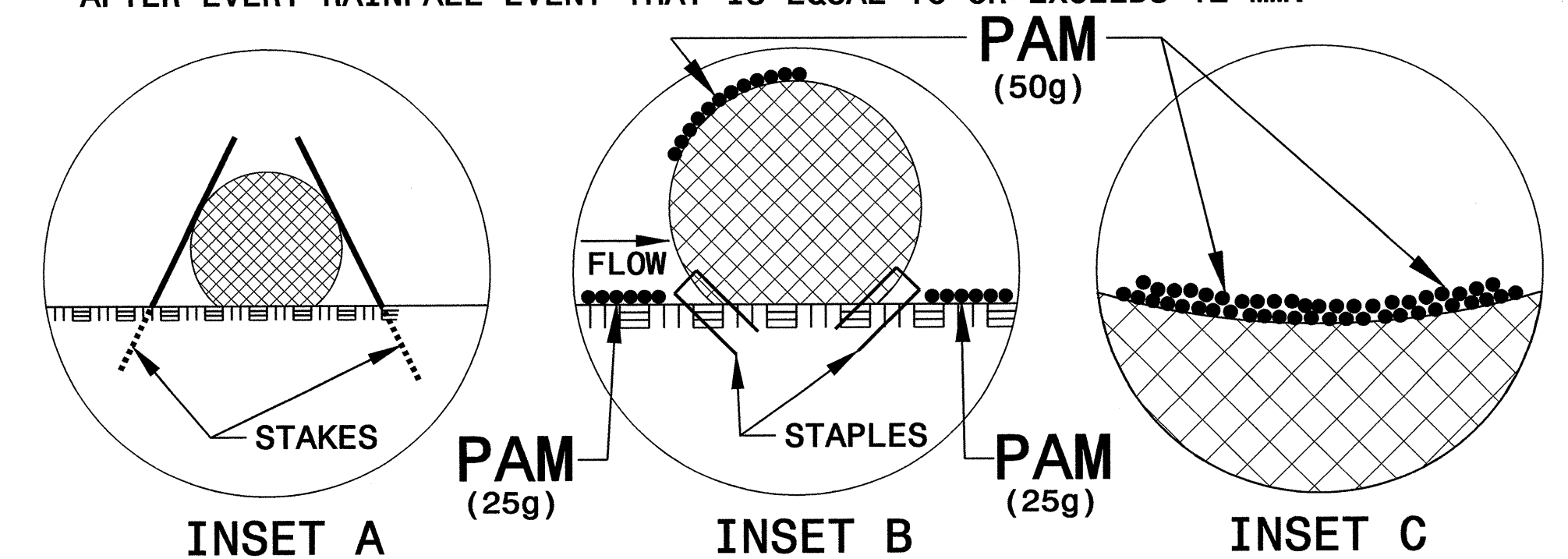
PROVIDE STAPLES MADE OF 3 MM DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 305 MM IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 0.3 LINEAR METER 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.

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

INITIALLY APPLY 50 GRAMS OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 25 GRAMS ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 12 MM.

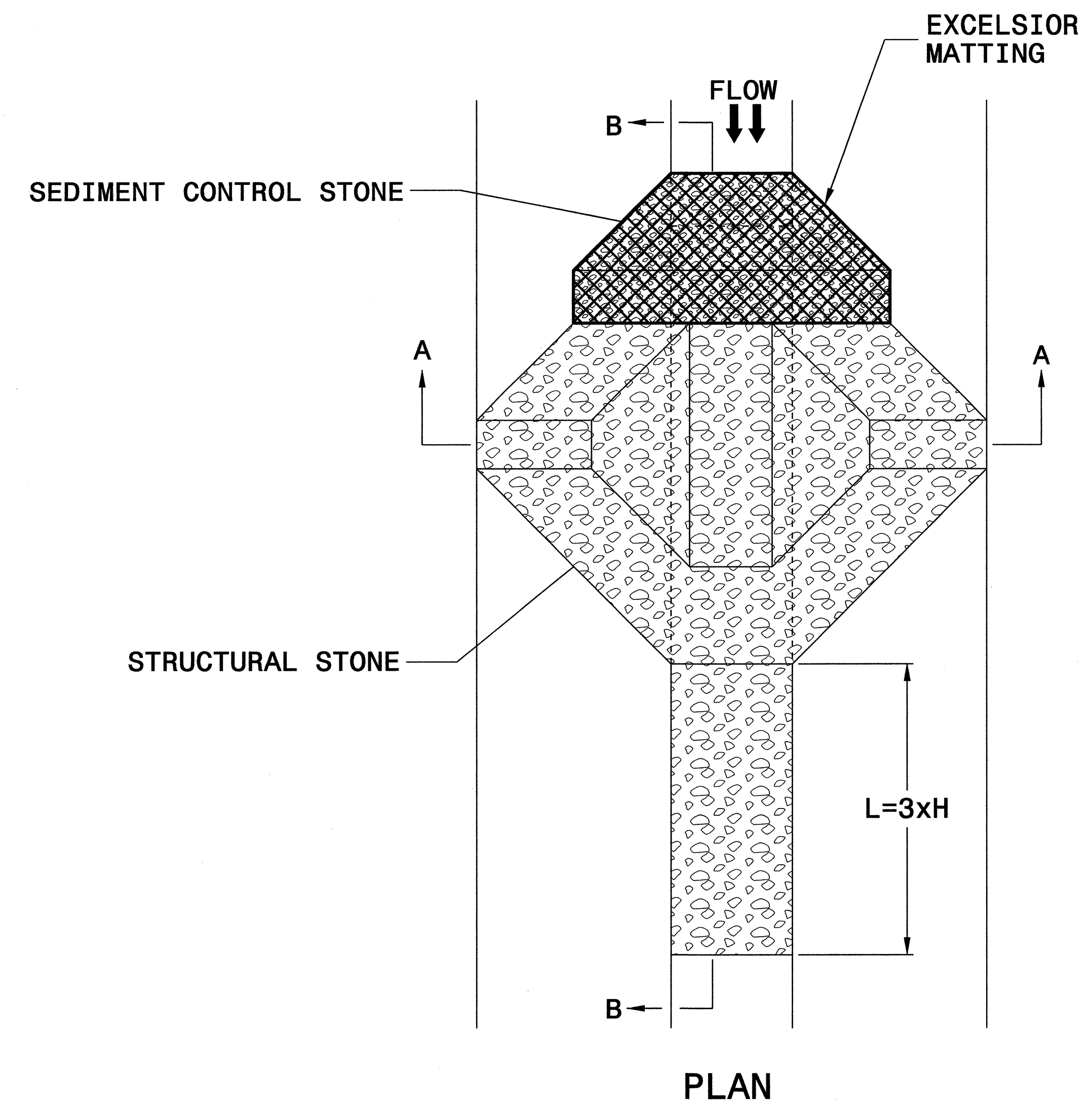


TOP VIEW



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2D
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

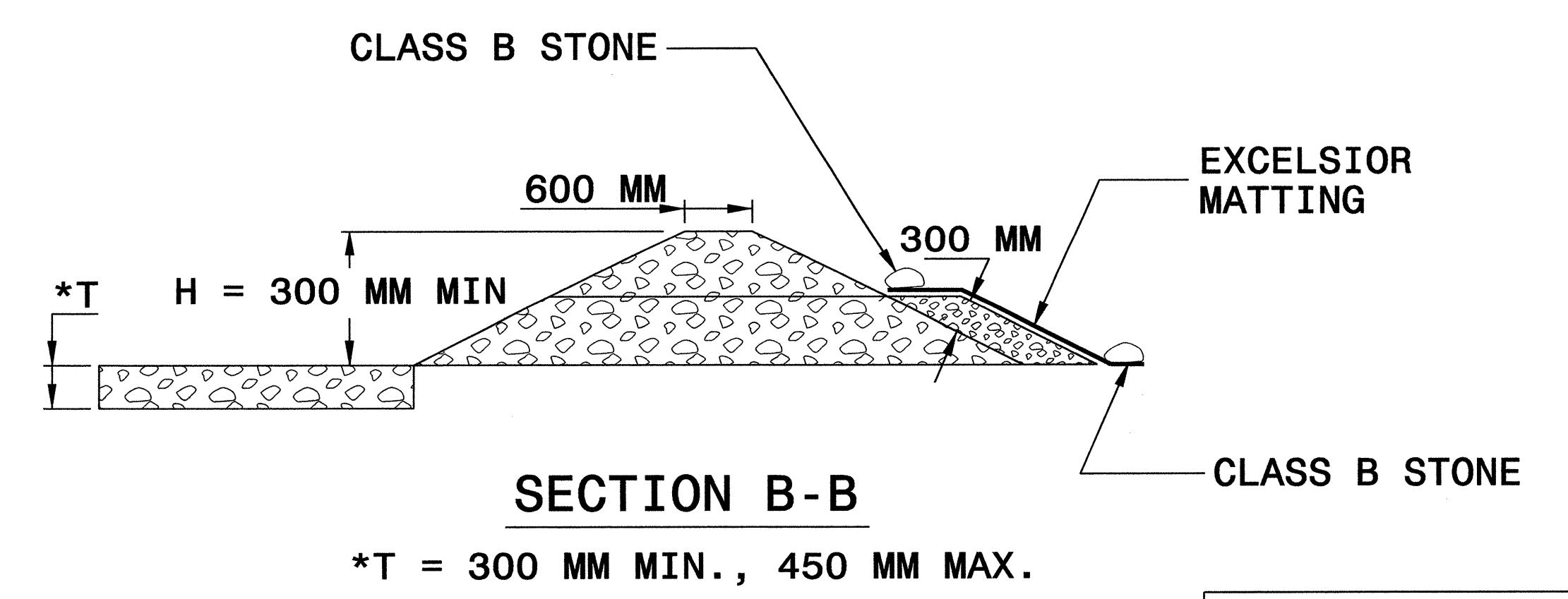
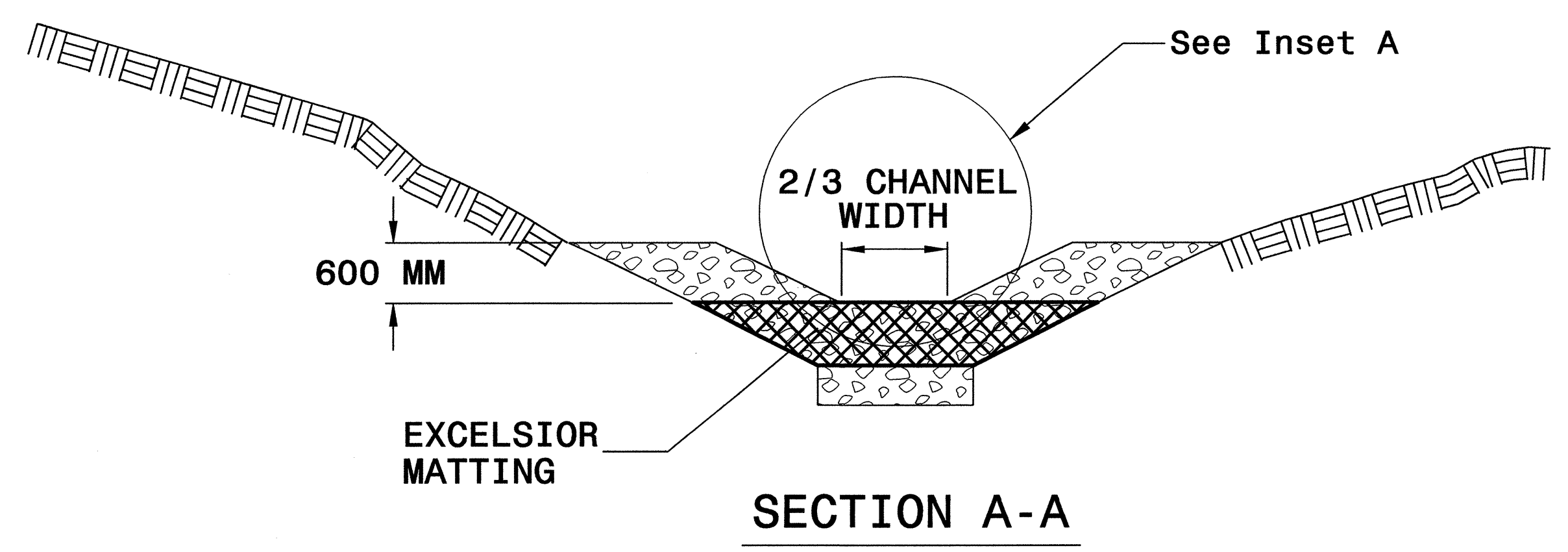
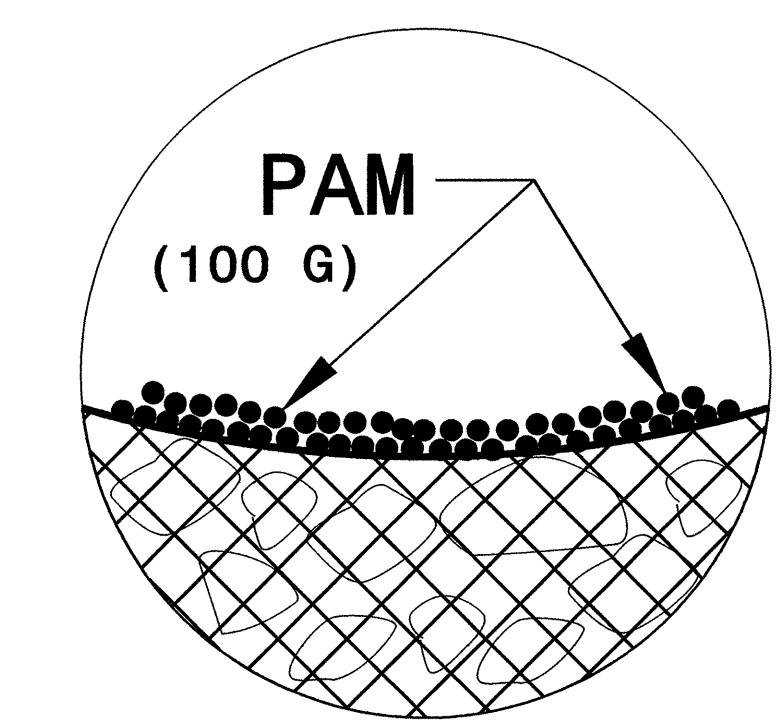


NOTES

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

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

INITIALLY APPLY 100 GRAMS OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 12 MM.

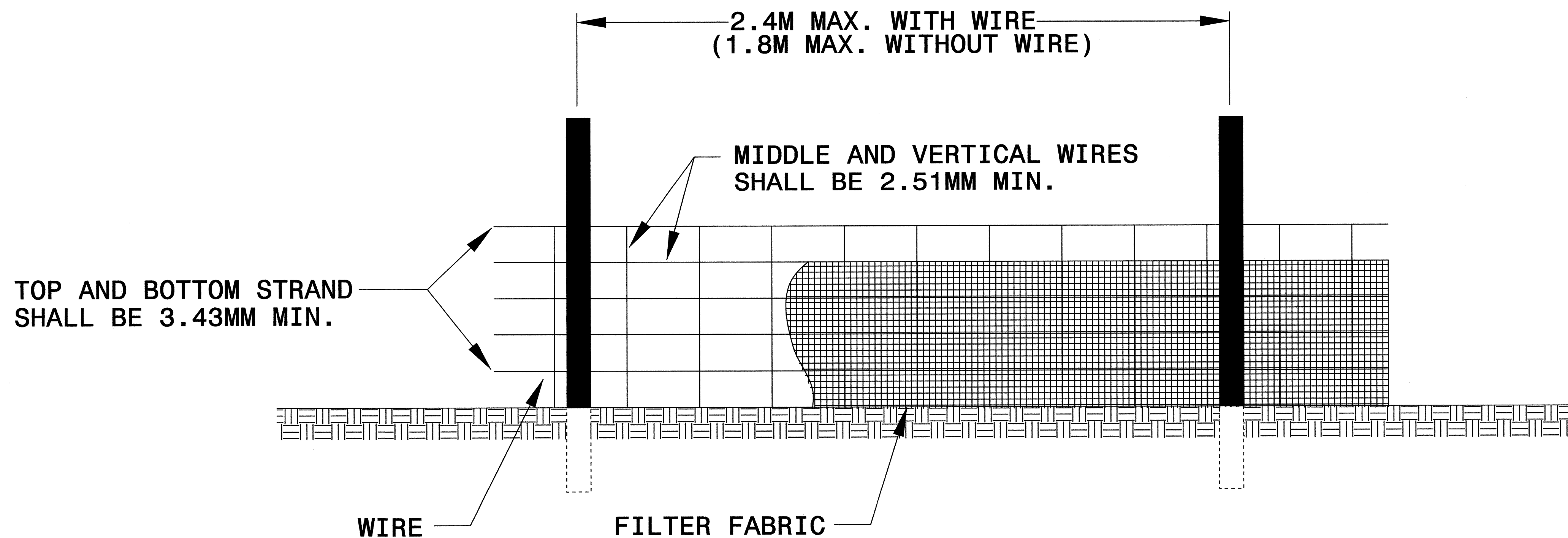


NOT TO SCALE



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2E
R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY SILT FENCE DETAIL

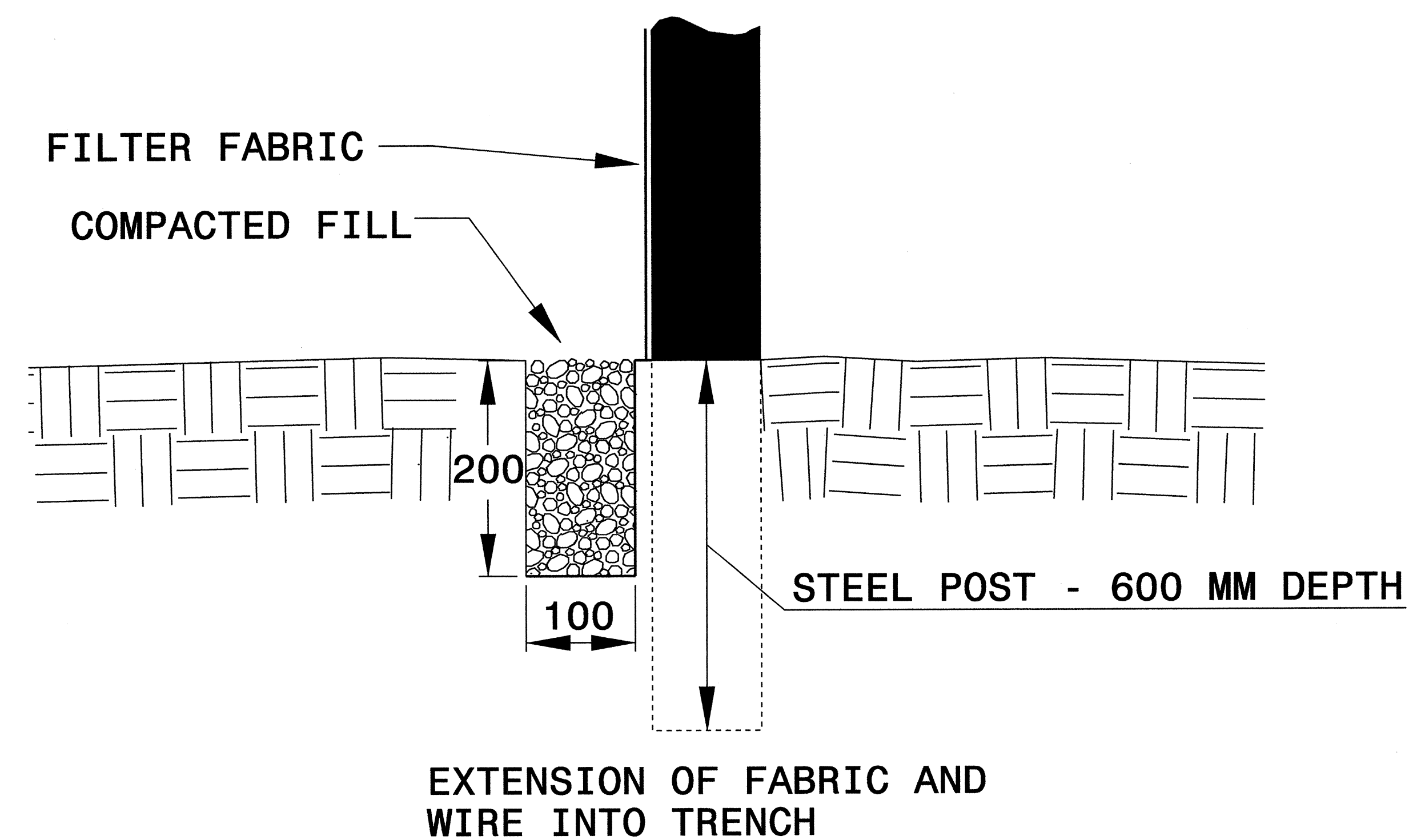


NOTES

USE WIRE A MINIMUM OF 800MM IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 300MM STAY SPACING.

USE FILTER FABRIC A MINIMUM OF 900MM IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

PROVIDE 1.5M STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE. ANGLE STEEL TYPE.





PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2F
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SPECIAL SEDIMENT CONTROL FENCE DETAIL

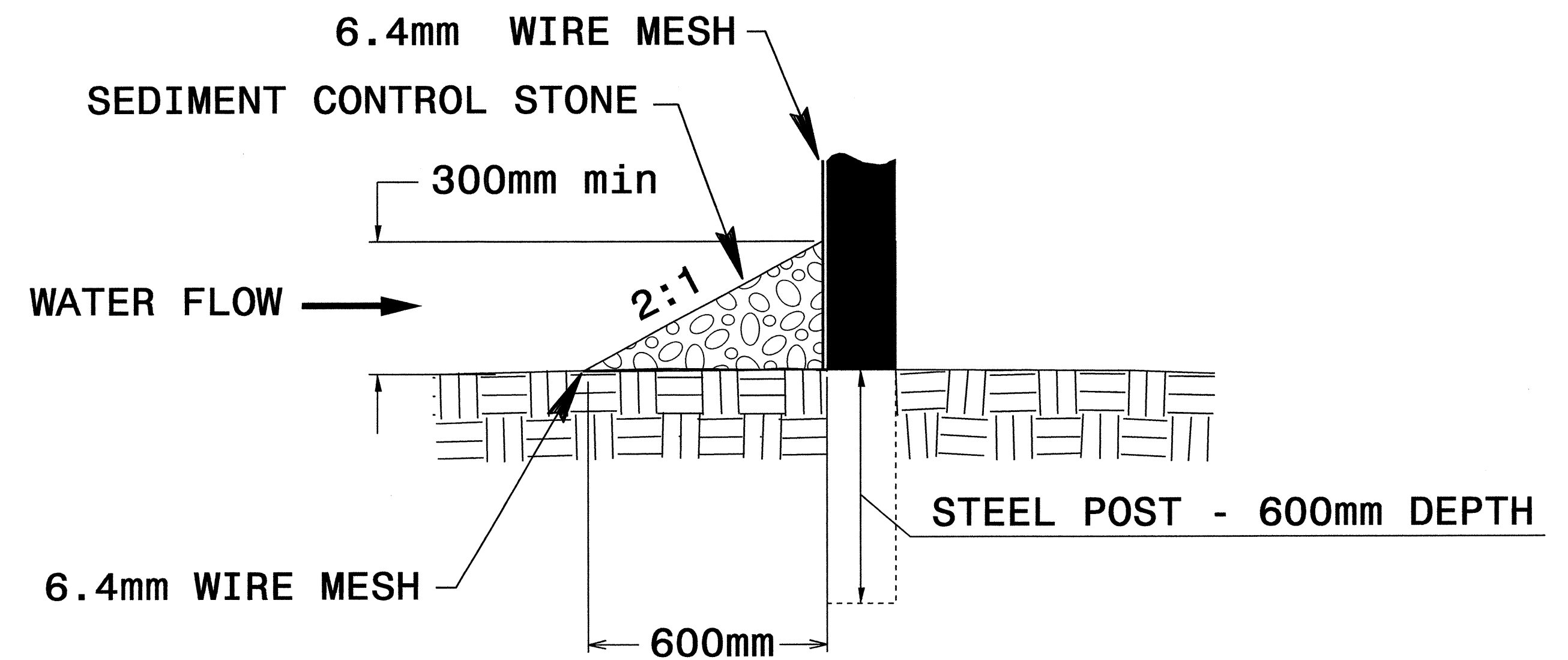
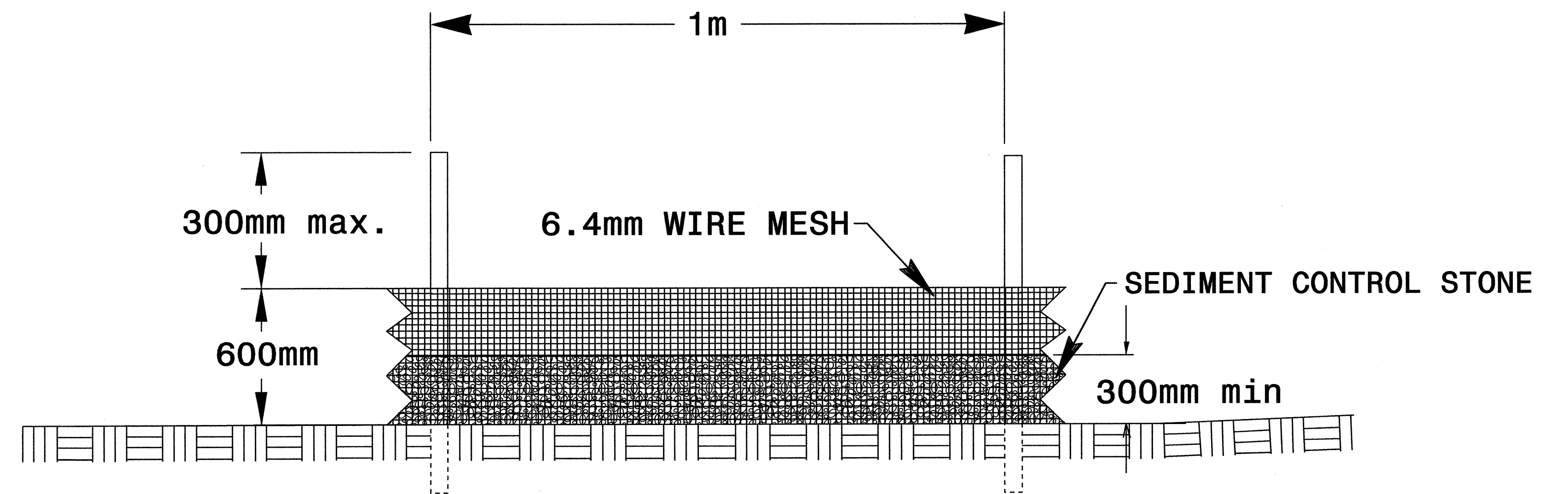
GENERAL NOTES:

USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.

USE 0.65mm HARDWARE CLOTH WIRE MESH WITH 6.4 mm MESH OPENINGS.

INSTALL 1.5m SELF FASTENER ANGLE STEEL POST 600mm DEEP MINIMUM.

SPACE POST A MAXIMUM OF 1m.





PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STILLING BASIN

GENERAL NOTES:
CONSTRUCT THE COIR FIBER BAFFLES WITH A MATERIAL THAT MEETS THE SPECIFICATIONS OF THE COIR FIBER MAT SPECIAL PROVISION PROVIDED IN THE CONTRACT.

PROVIDE 1.5M STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 0.9M OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE STILLING BASIN WITH 12" STAPLES.

INSTALL THE TOP OF THE COIR FIBER BAFFLE A MINIMUM OF 300MM LOWER THAN THE TOP OF THE STILLING BASIN BERMS.

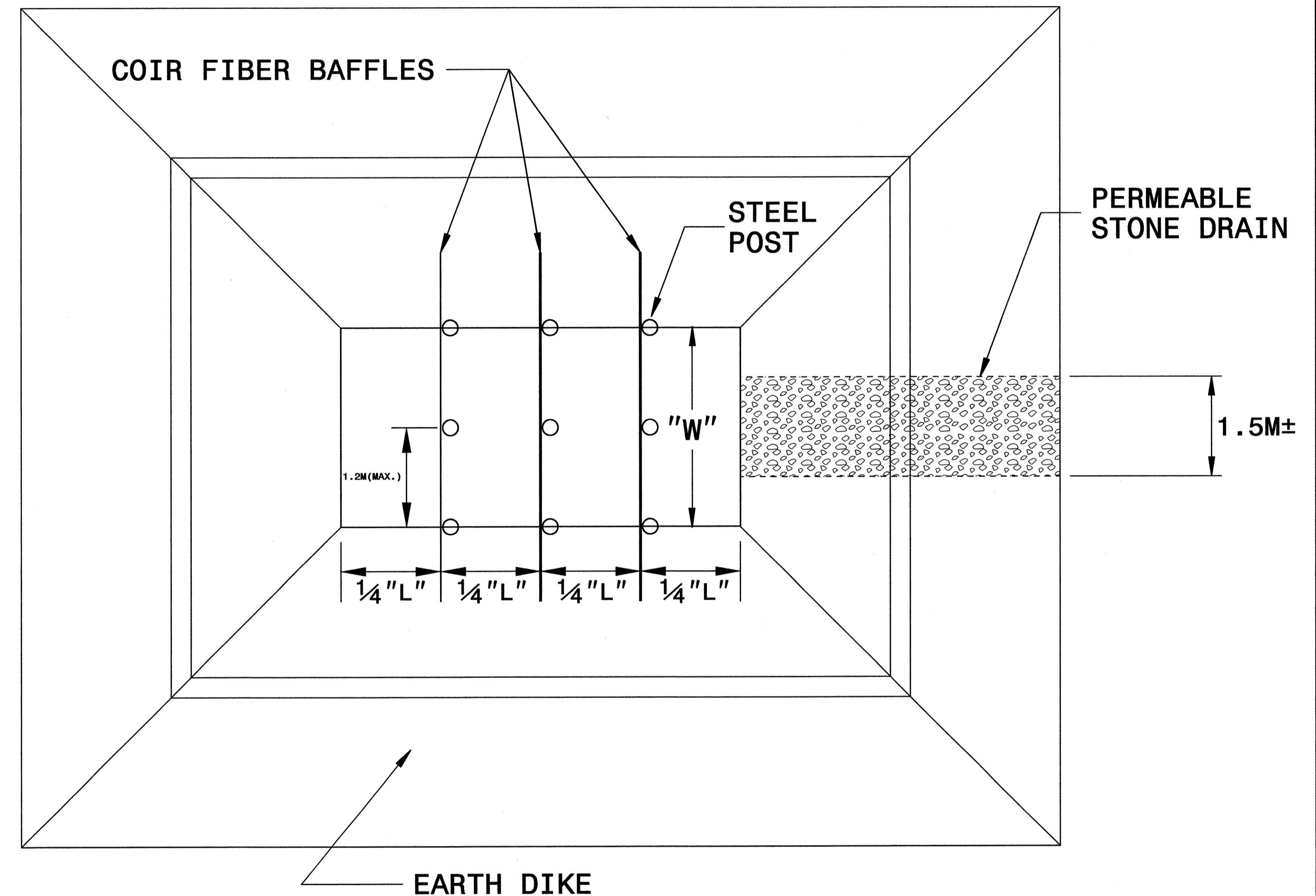
USE THE TYPICAL SECTION SHOWN FOR THE STILLING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A PERMEABLE STONE DRAIN.

DO NOT EXCEED 1.5M IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR STILLING BASINS. ADDITIONAL DEPTHS MAY BE ATTAINED BY EXCAVATING BELOW THE NATURAL GROUND LEVEL.

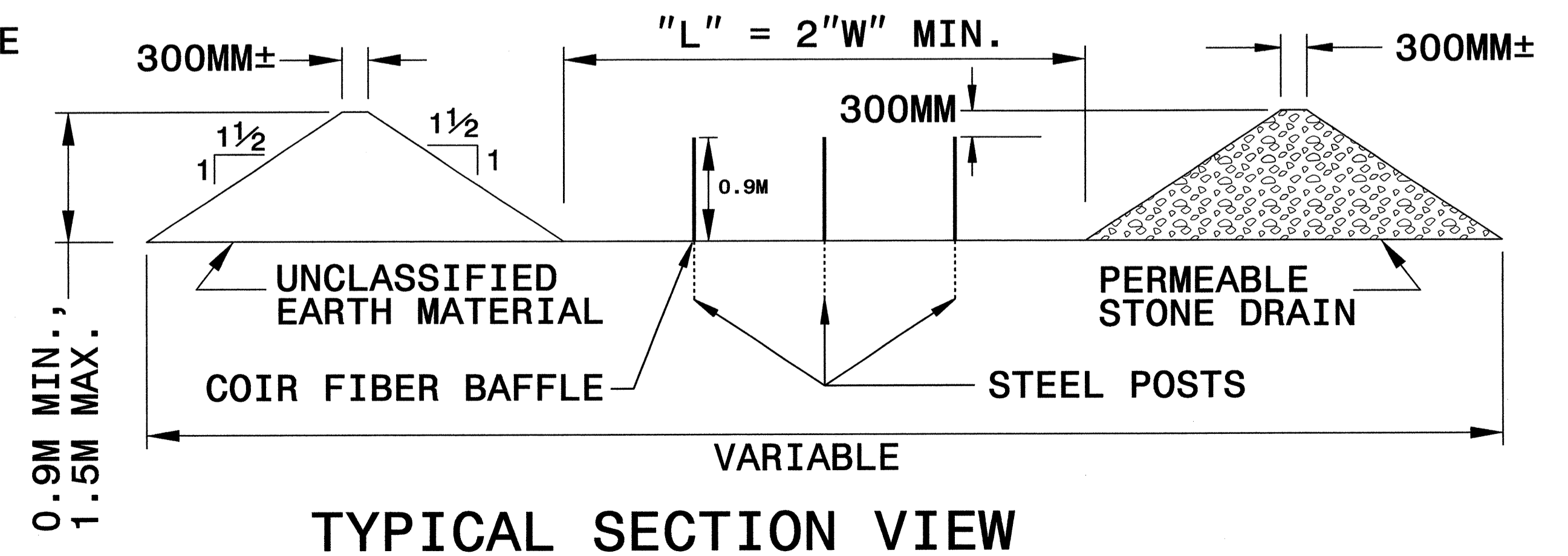
THE STILLING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

SUBMIT THE SIZE, LOCATION AND PERMEABLE STONE DRAIN MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE STILLING BASIN TO A MAXIMUM DEPTH OF 0.9 METERS.



PLAN

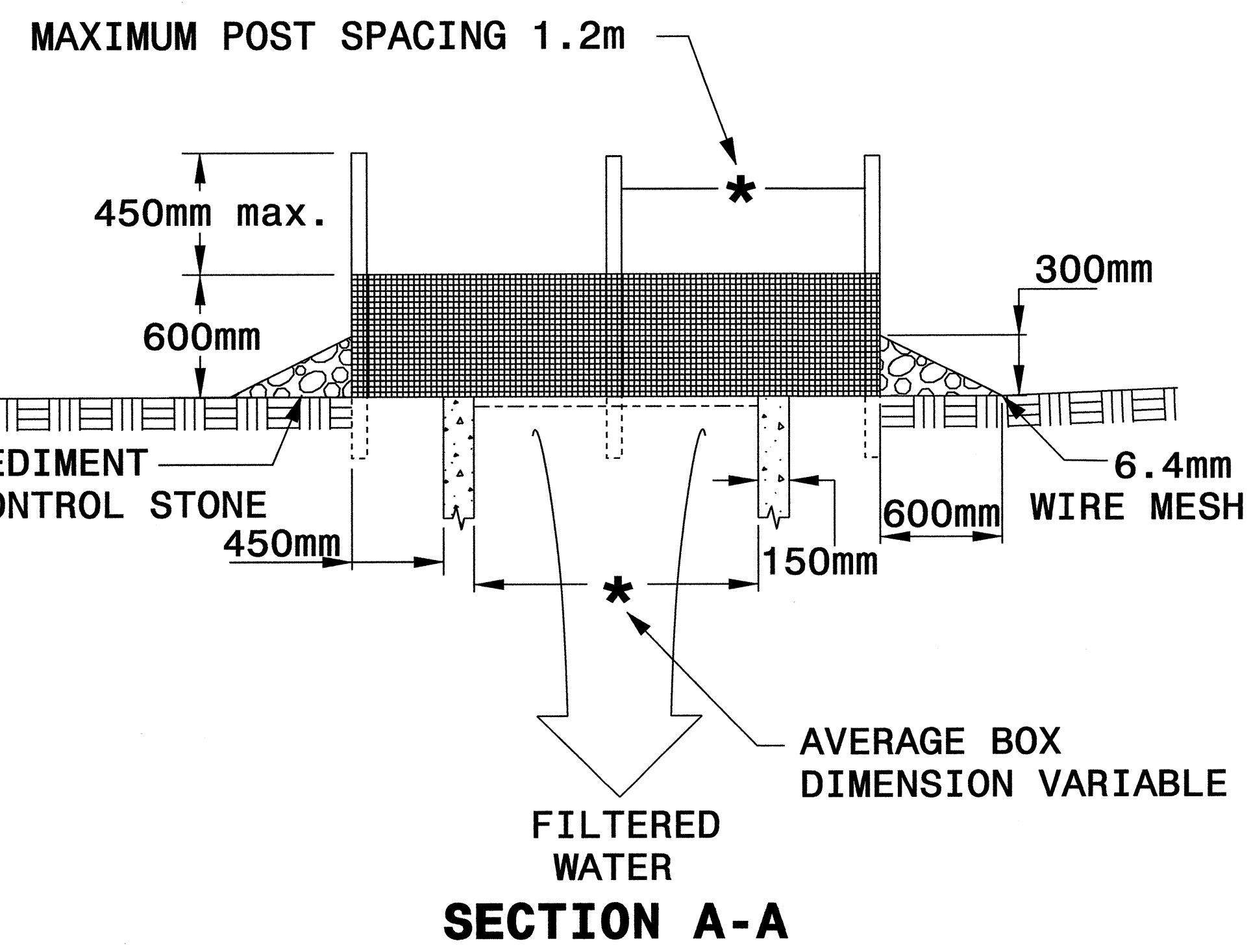
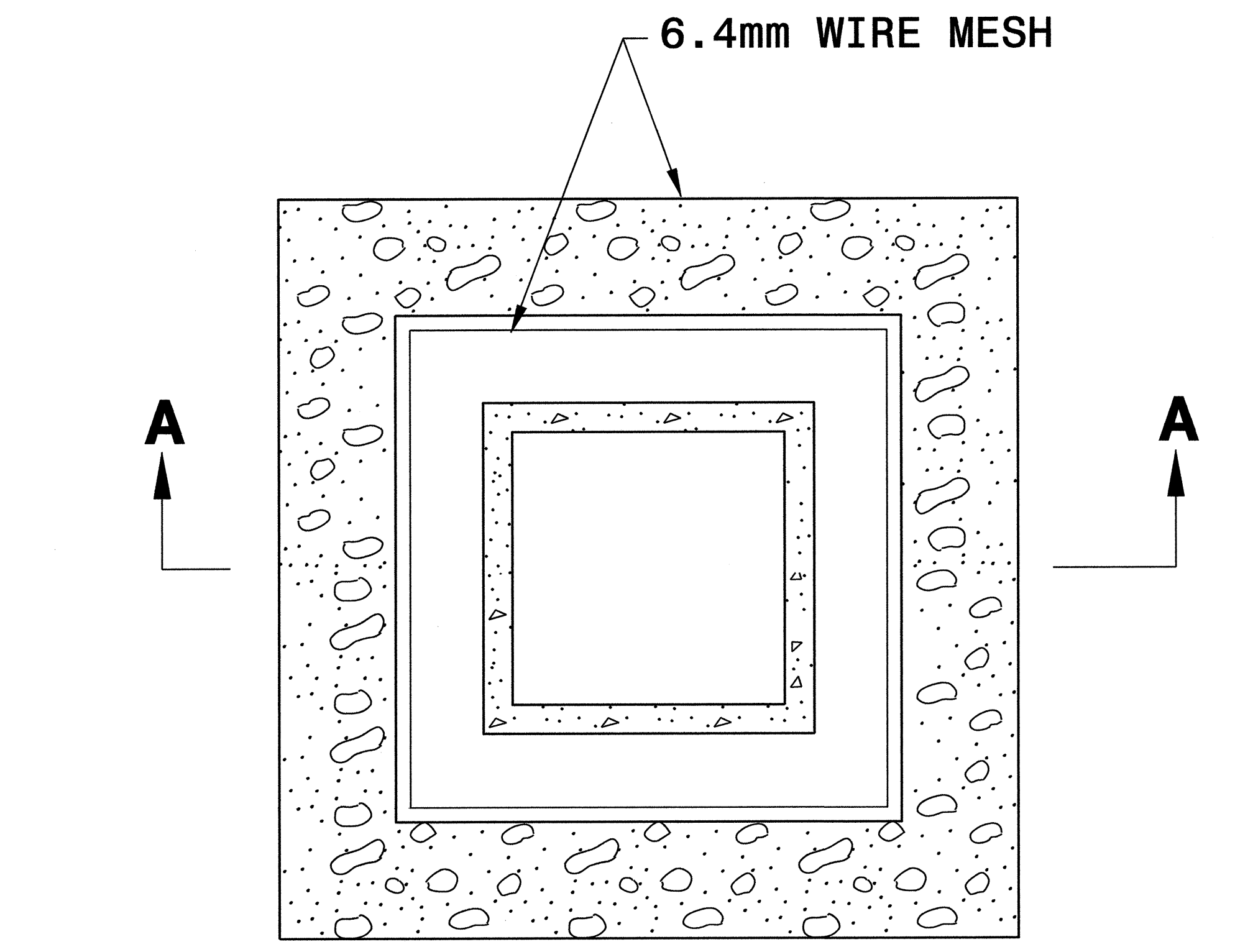


TYPICAL SECTION VIEW

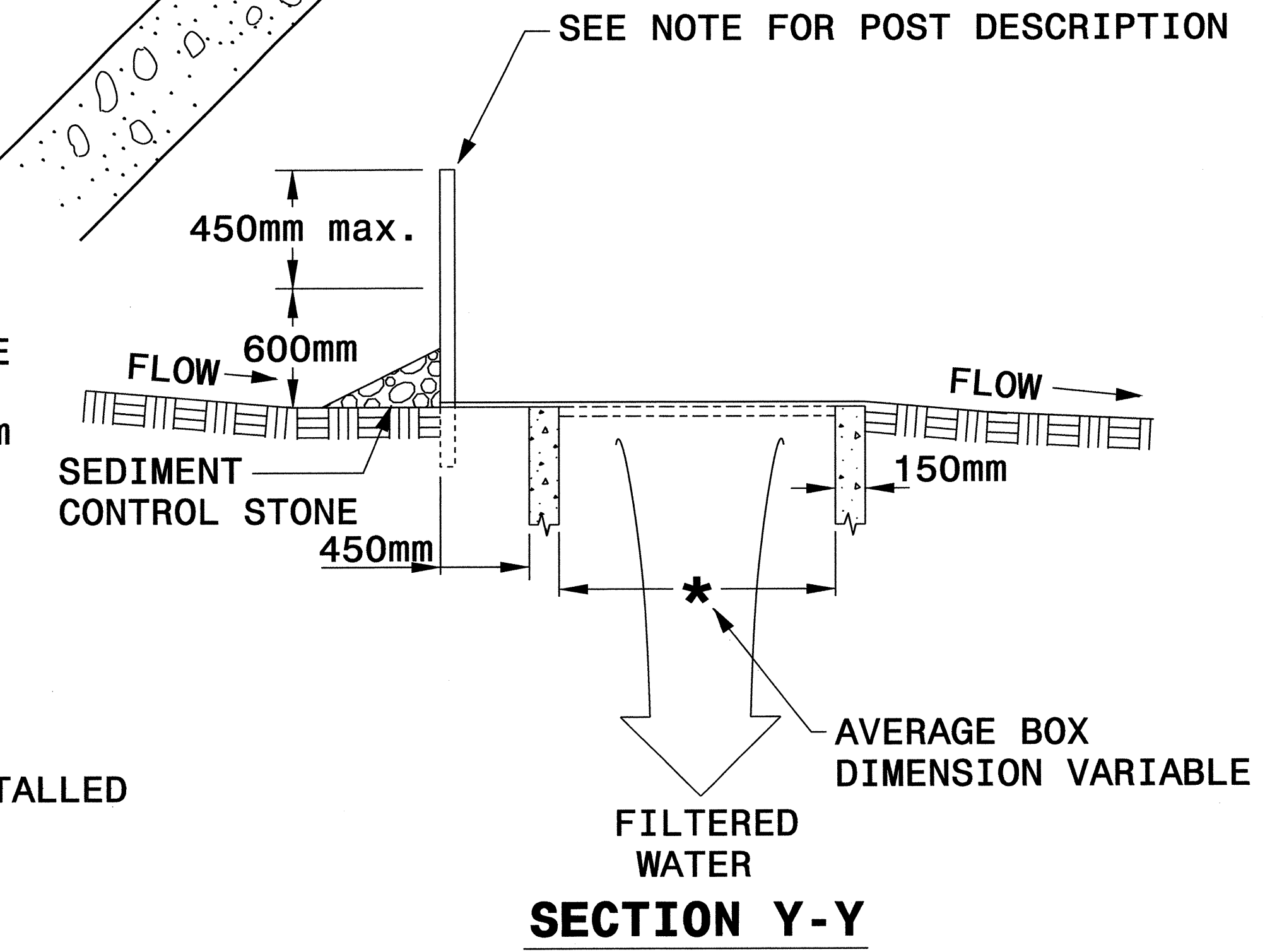
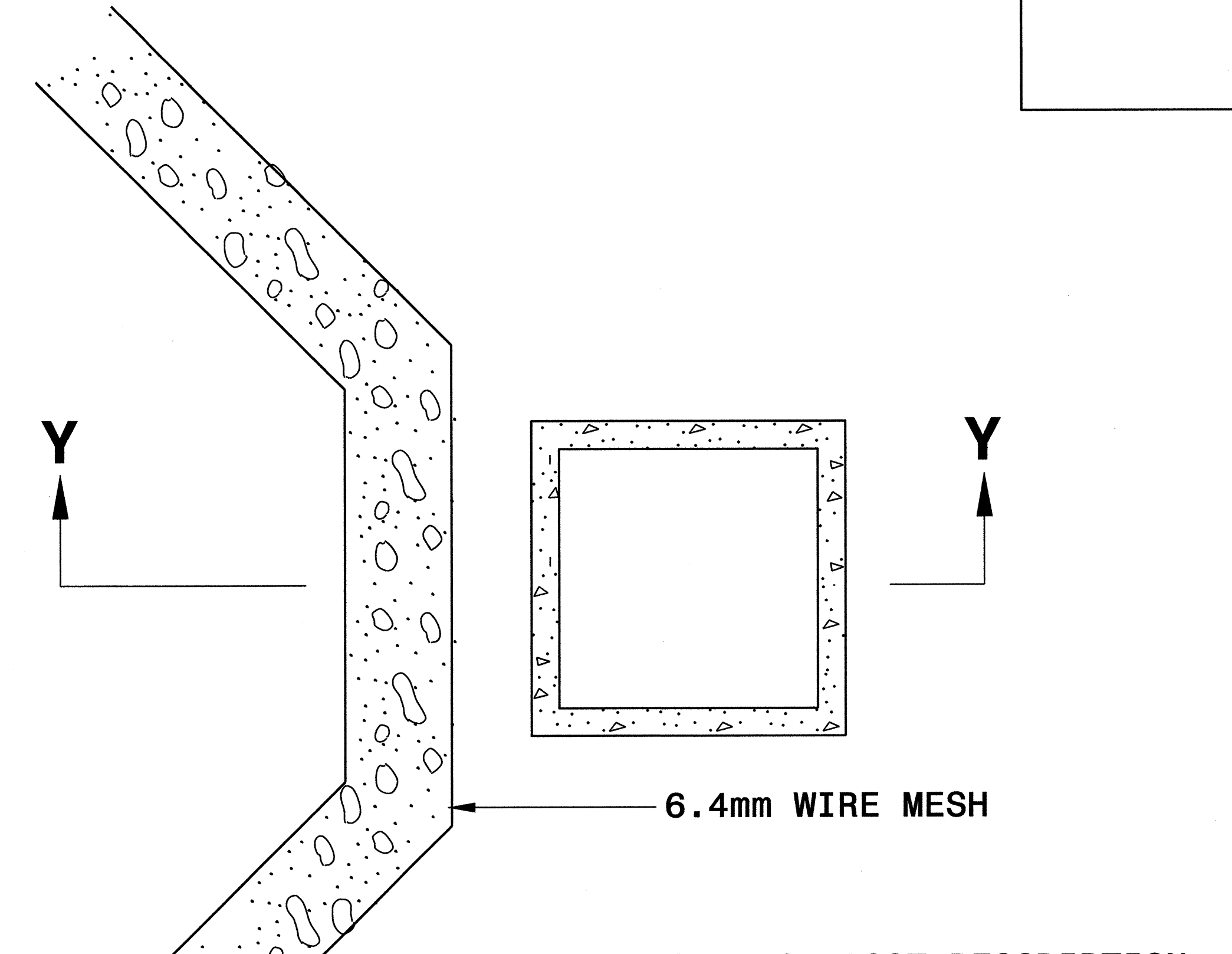


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-2H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ROCK INLET SEDIMENT TRAP TYPE 'C' DETAIL



MULTI-DIRECTIONAL FLOW



SINGLE-DIRECTIONAL FLOW

NOTE
 USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
 USE HARDWARE CLOTH 0.65mm WIRE MESH WITH 6.4mm MESH OPENINGS.
 PLACE TOP OF WIRE MESH A MINIMUM OF 300mm BELOW THE SHOULDER OR ANY DIVERSION POINT.
 INSTALL WIRE MESH UNDER SEDIMENT CONTROL STONE.
 USE 1.5m STEEL POST, INSTALLED 450mm DEEP MINIMUM, AND OF THE SELF-FASTENER ANGLE STEEL TYPE.
 SPACE POST A MAXIMUM OF 1.2m.

BORROW PIT DEWATERING BASIN DETAIL



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GENERAL NOTES:

DETERMINE BORROW PIT DEWATERING BASIN SIZE USING $V = 8.0203 * Q * T$, WHERE V IS VOLUME (FT³), Q IS PUMP FLOW RATE (GPM), AND T IS DEWATERING TIME (HR). USE MAXIMUM FLOW RATE OF 1000 GPM AND A MINIMUM DEWATERING TIME OF 2 HOURS.

RISER SHALL BE A NON-PERFORATED, SMOOTH OR CORRUGATED MATERIAL WITH A FLASHBOARD OPTION.

CONSTRUCT THE COIR FIBER BAFFLE WITH A MATERIAL THAT MEETS THE SPECIFICATIONS OF THE COIR FIBER MAT SPECIAL PROVISION PROVIDED IN THE CONTRACT.

PROVIDE 1.5M STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 0.9M OF THE POST APPEARING ABOVE THE GROUND.

ATTACH THE COIR FIBER MAT TO THE STEEL POSTS WITH WIRE OR OTHER ACCEPTABLE MEANS AND STAPLED INTO THE BOTTOM AND SIDE SLOPES OF THE BASIN WITH 300mm STAPLES.

INSTALL TYPE 2 FILTER FABRIC ON SIDESLOPES AND BOTTOM OF BASIN AT INLET AS SHOWN IN THE DETAIL.

USE THE TYPICAL SECTION SHOWN FOR THE BORROW PIT DEWATERING BASIN AS A GUIDE. THE BASIN MAY HAVE ANY TYPE CONFIGURATION AS LONG AS SUFFICIENT VOLUME IS PROVIDED AND PROVISIONS ARE MADE FOR A NON-PERFORATED RISER.

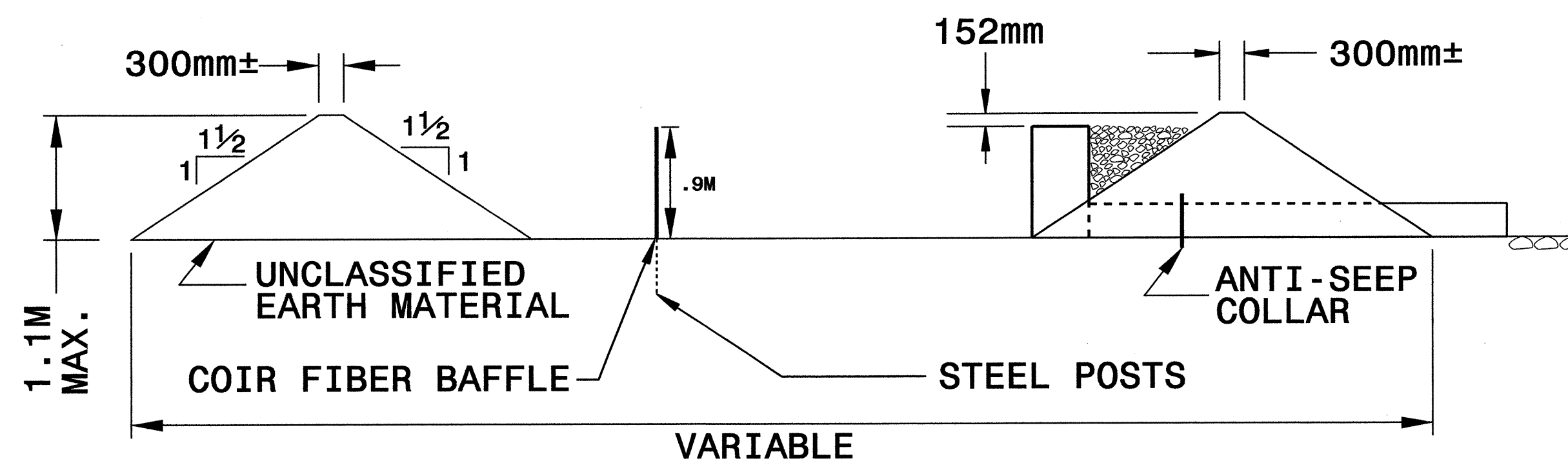
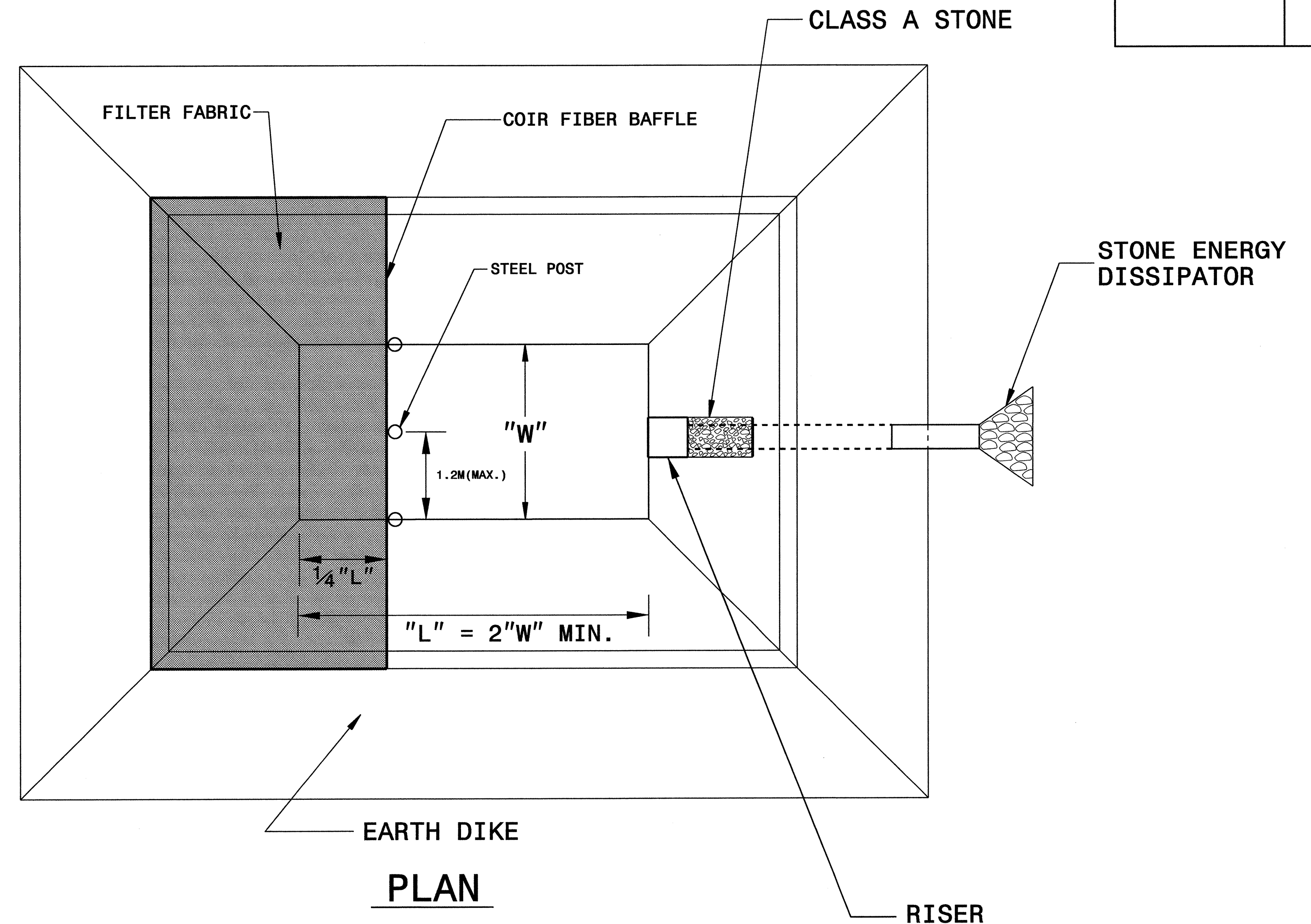
DO NOT EXCEED 1.1M IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

THE BORROW PIT DEWATERING BASIN SIZE IS VARIABLE AND DEPENDENT ON SPECIFIC SITE REQUIREMENTS AS WELL AS PROPOSED CONSTRUCTION OPERATIONS.

SUBMIT THE SIZE, LOCATION AND RISER PIPE MATERIAL FOR APPROVAL PRIOR TO CONSTRUCTION.

PUMP THE EFFLUENT INTO THE BORROW PIT DEWATERING BASIN TO A MAXIMUM DEPTH OF 152mm BELOW TOP OF EARTH DIKE.

PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



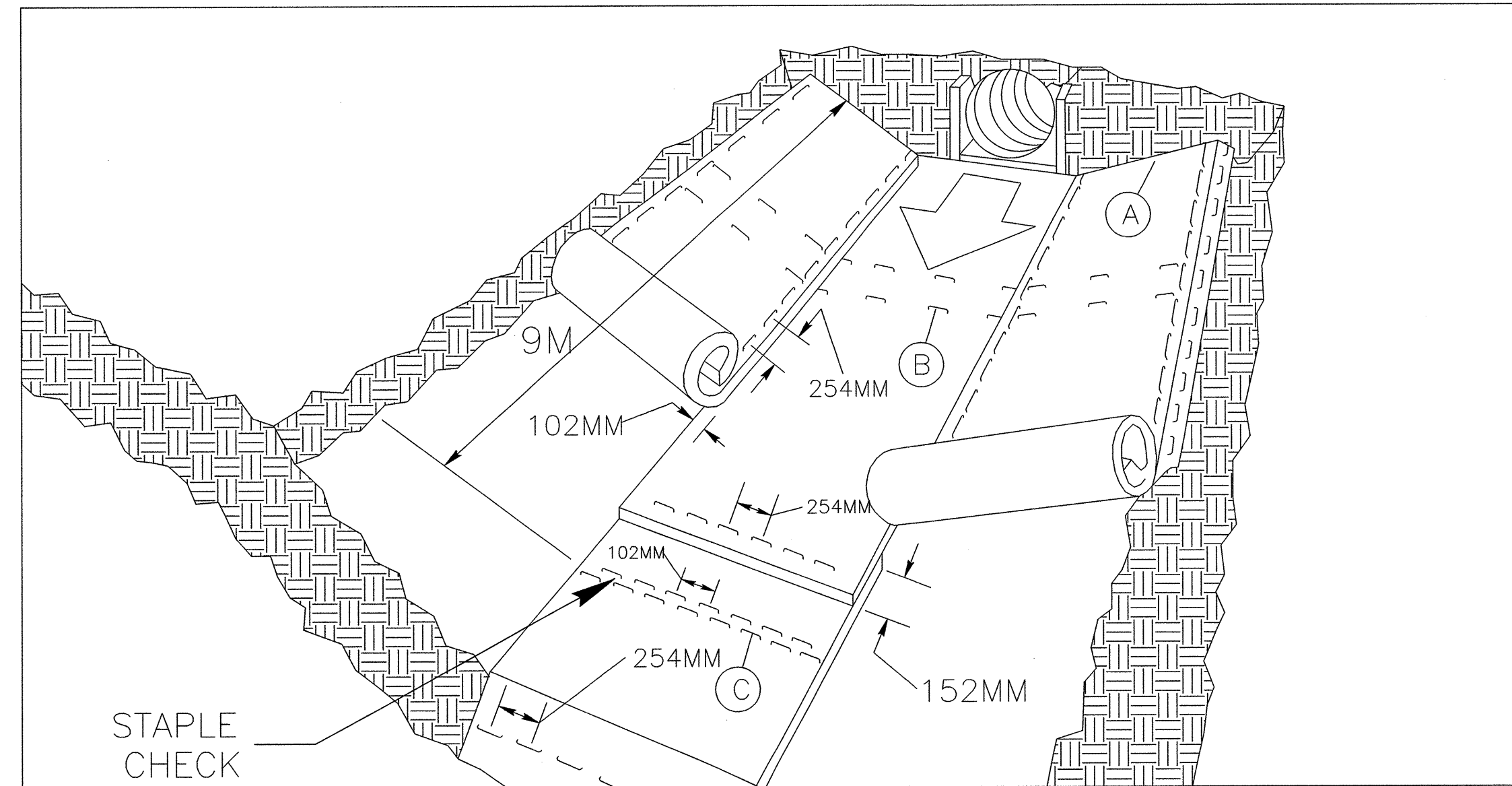
TYPICAL SECTION VIEW

NOT TO SCALE



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATTING INSTALLATION DETAIL



MATTING IN DITCHES

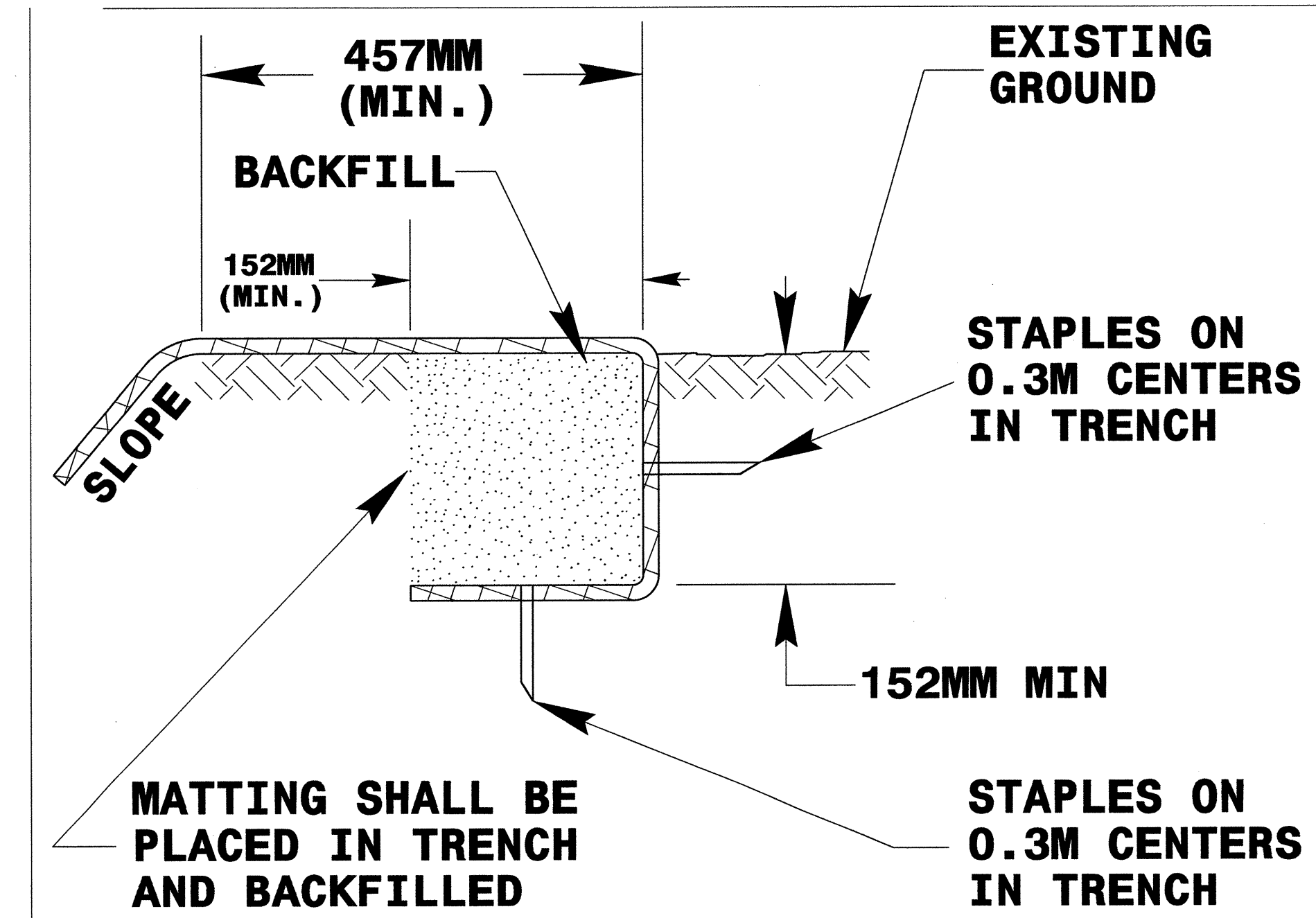
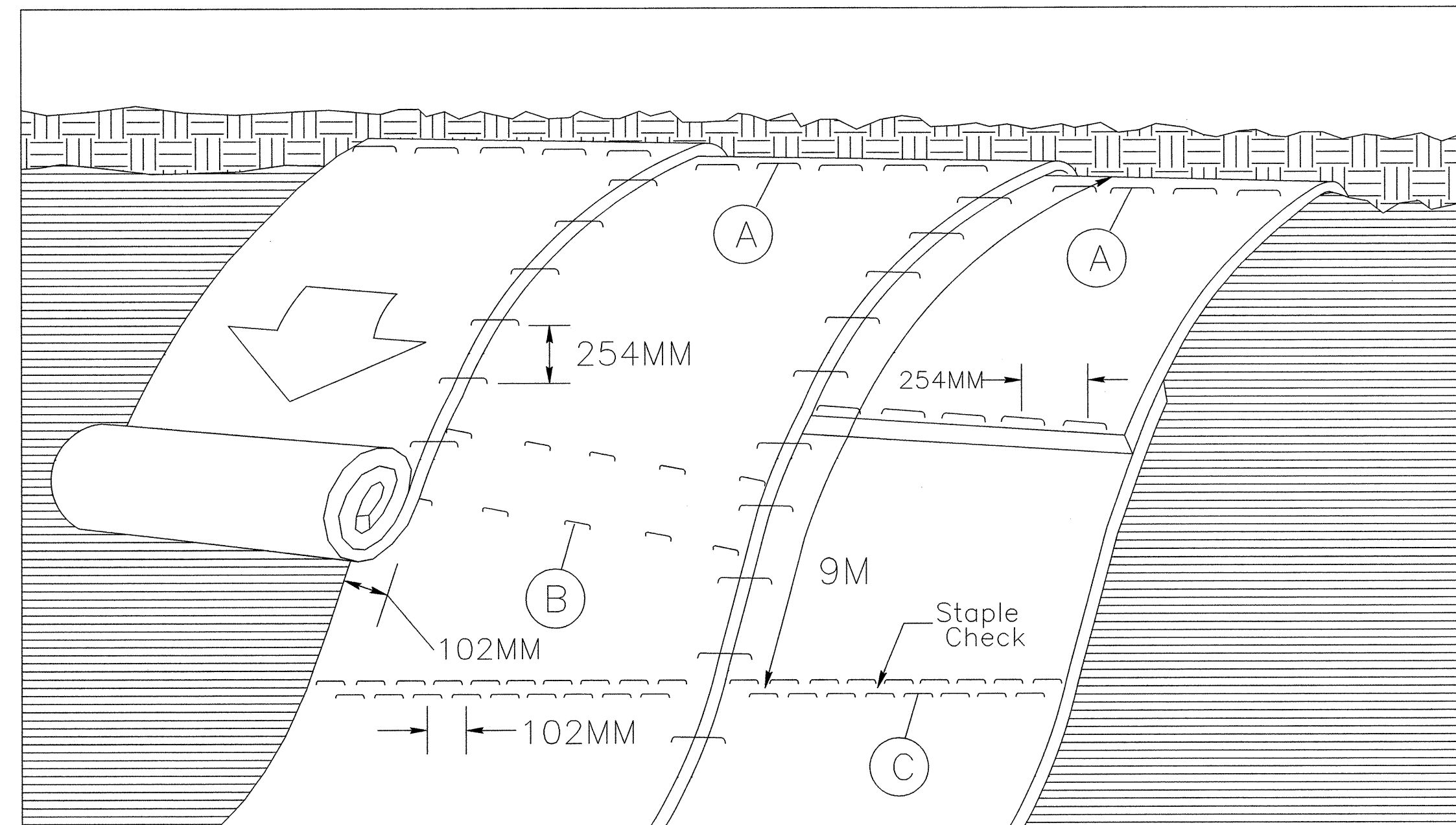


DIAGRAM (A)



MATTING ON SLOPES

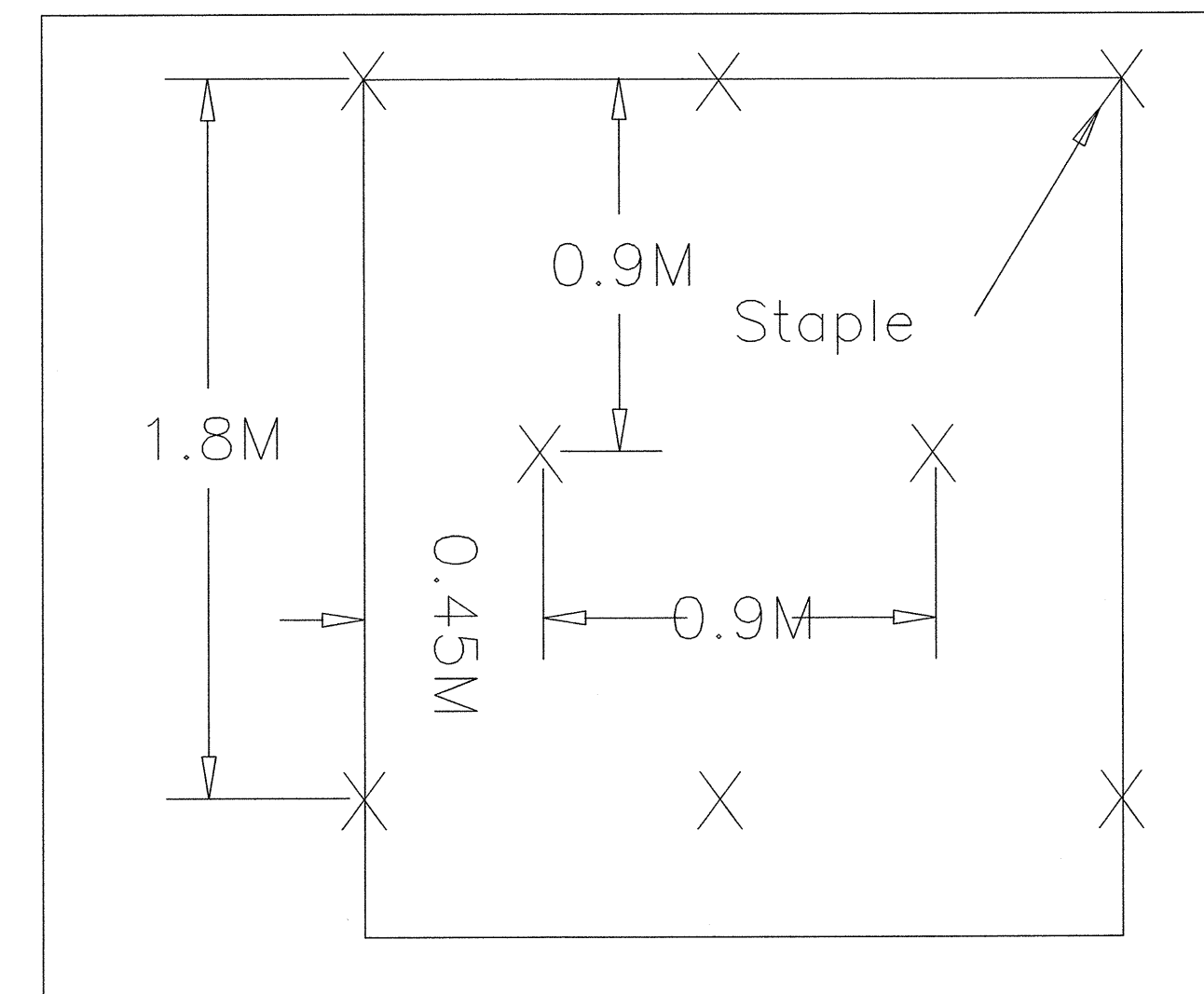


DIAGRAM (B)

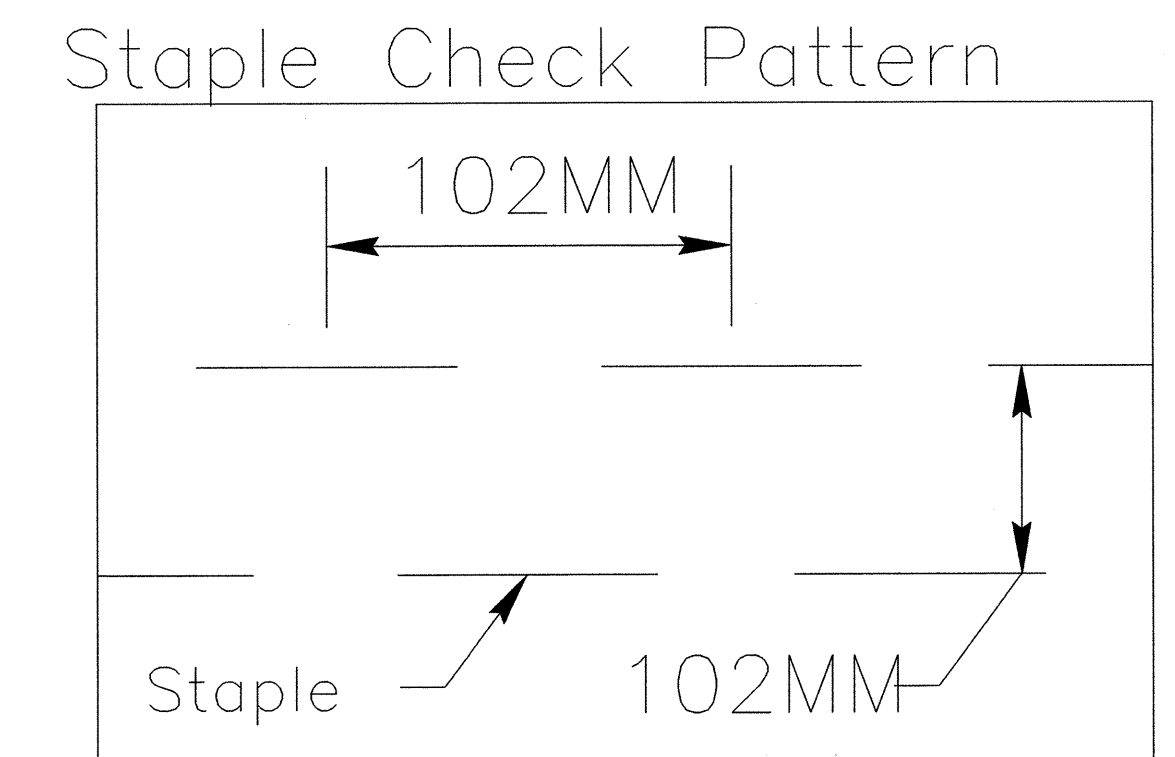


DIAGRAM (C)

NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 25MM AND NOT LESS THAN 152MM IN LENGTH.


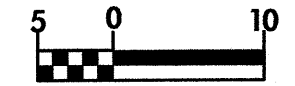
NOT TO SCALE

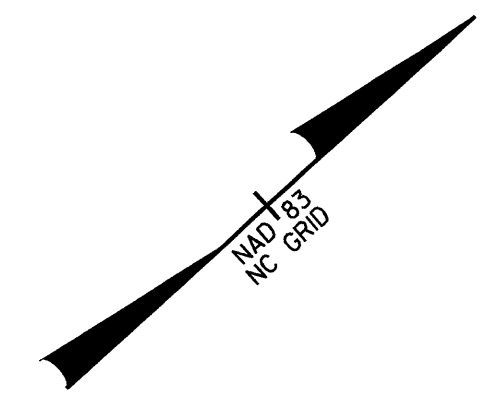
6/10/99

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

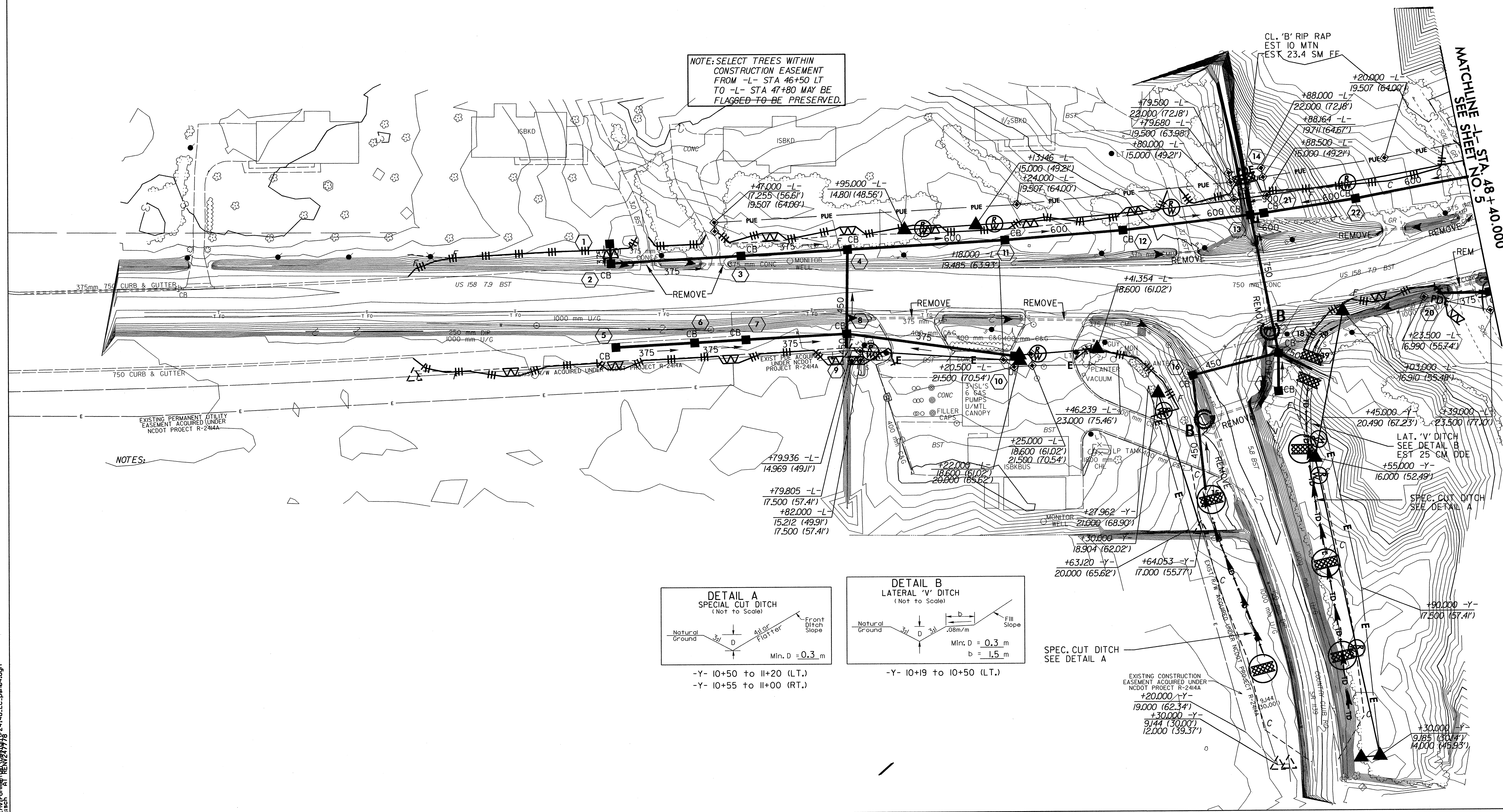
REVISIONS

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

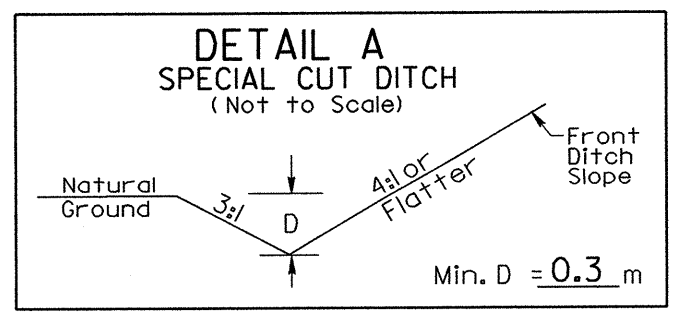
	PROJECT REFERENCE NO.	SHEET NO.
	R-2414B	EC-4/CONST.4
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.		
R/W REV.		



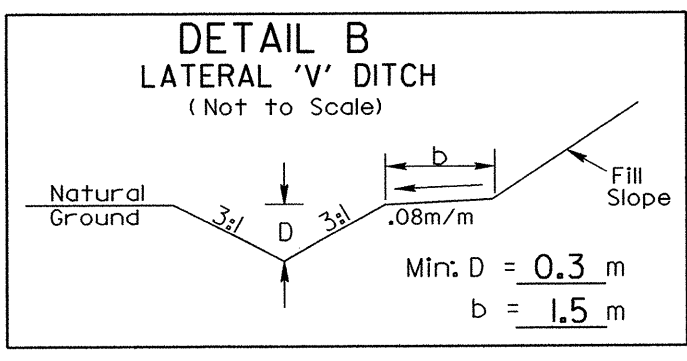
NOTE: SELECT TREES WITHIN
CONSTRUCTION EASEMENT
FROM -L- STA 46+50 LT
TO -L- STA 47+80 MAY BE
FLAGGED TO BE PRESERVED.



NOTES:



-Y- 10+50 to 11+20 (LT.)
-Y- 10+55 to 11+00 (RT.)



-Y- 10+19 to 10+50 (LT.)

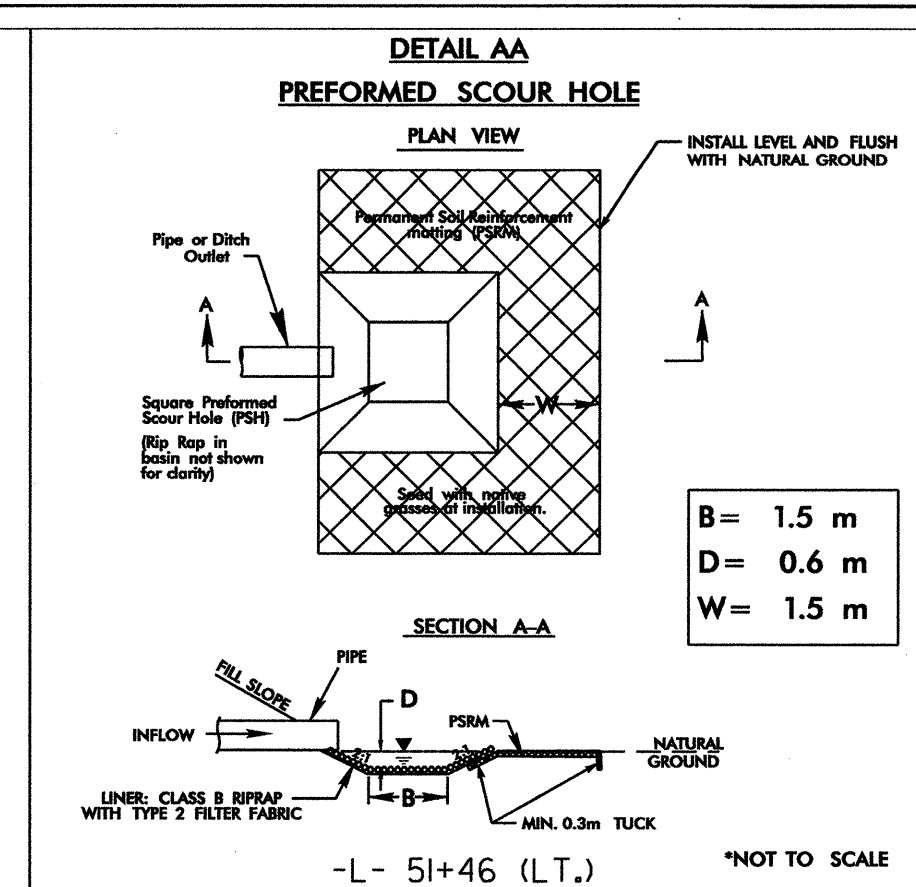
SPEC. CUT DITCH
SEE DETAIL A

EXISTING CONSTRUCTION
EASEMENT ACQUIRED UNDER
NCDOT PROJECT R-2414A

+20.000 -Y-
19.000 (62.34')
+30.000 -Y-
9.144 (30.00')
12.000 (39.37')

09-SEP-2000 13:27
R:\envi\com\p1\2414b\2414b_EC-pn04.dgn
m0000001

6/10/09

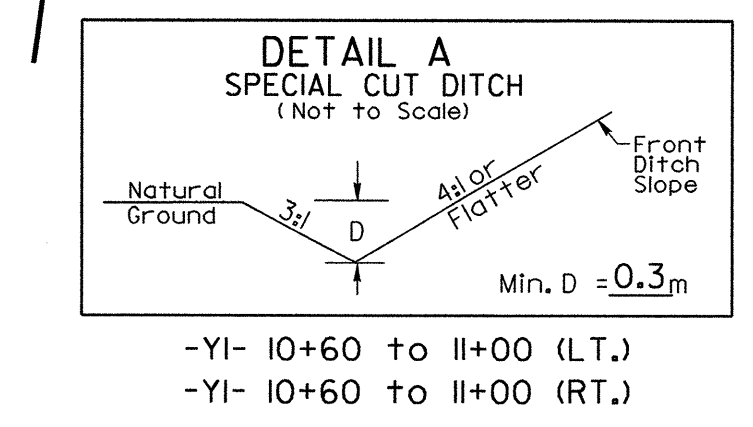
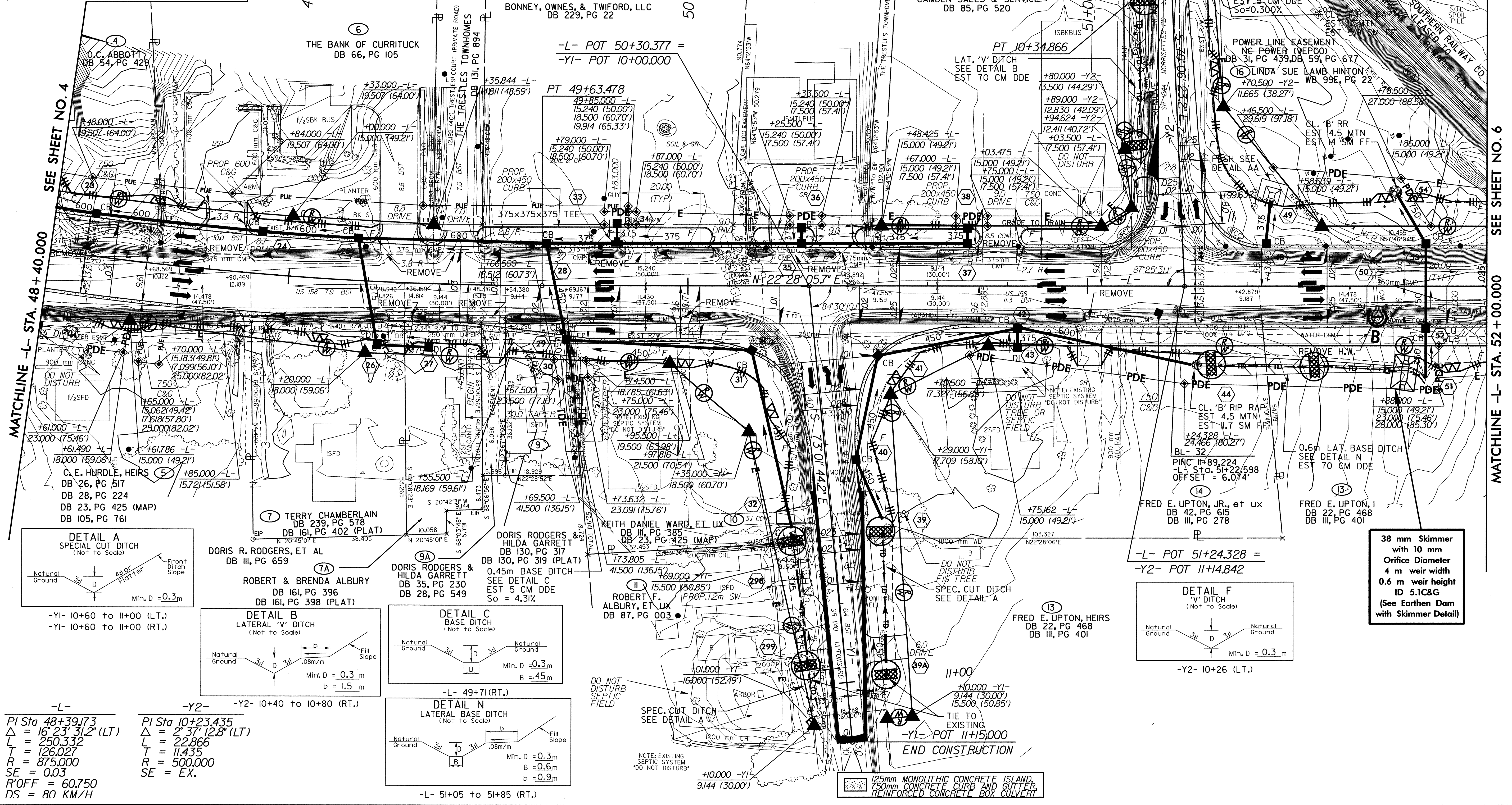


CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 5

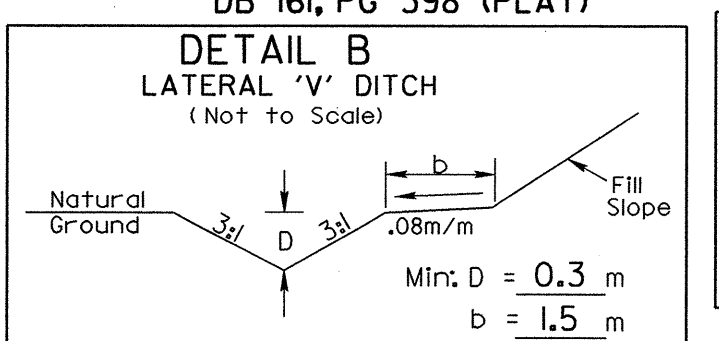
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.



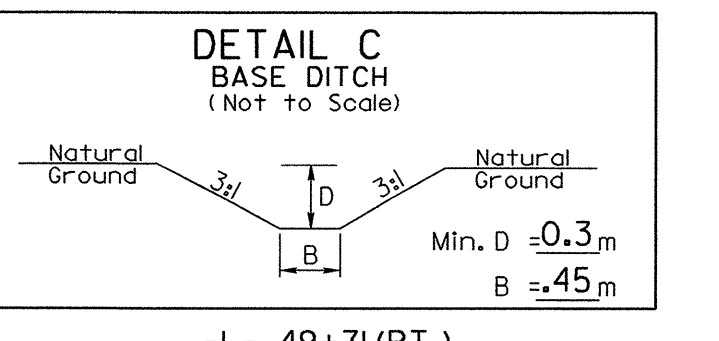
PROJECT REFERENCE NO.	R-2414B	SHEET NO.	EC-5/CONST.5
ROADWAY DESIGN ENGINEER	R/W SHEET NO.		
HYDRAULICS ENGINEER	CONST.REV.		



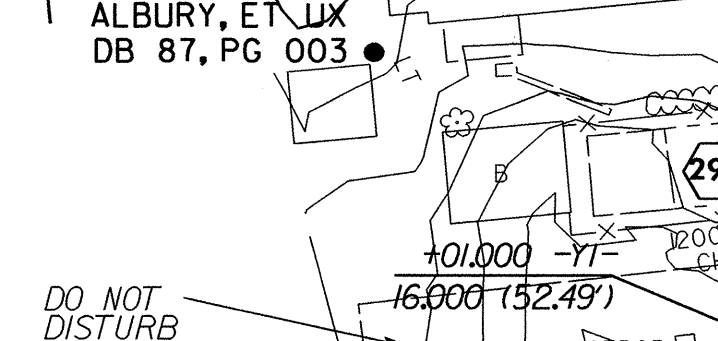
-YI- 10+60 to 11+00 (LT.)
-YI- 10+60 to 11+00 (RT.)



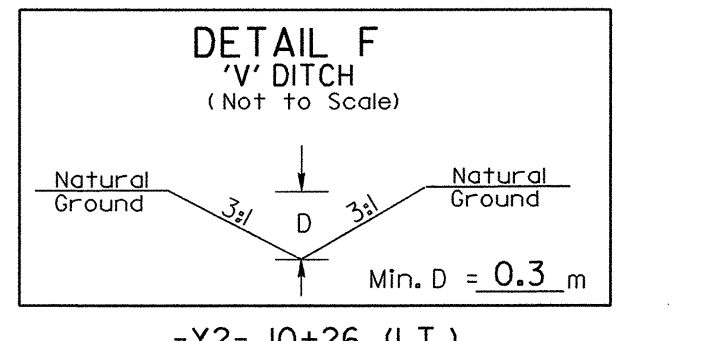
-L- 51+05 to 51+85 (RT.)



-L- 49+71 (RT.)



-L- 51+05 to 51+85 (RT.)



-Y2- 10+26 (LT.)

38 mm Skimmer with 10 mm Orifice Diameter
4 m weir width
0.6 m weir height
ID 5.1C&G
(See Earthen Dam with Skimmer Detail)

-L-
PI Sta 48+39.73
 $\Delta = 16' 23' 31.2''$ (LT.)
L = 250.332
T = 126.027
R = 875.000
SE = 0.03
R'OFF = 60.750
DS = 80 KM/H

-Y2-
PI Sta 10+23.435
 $\Delta = 2' 37' 12.8''$ (LT.)
L = 22.866
T = 11.435
R = 500.000
SE = EX.

SEE SHEET NO. 4
MATCHLINE -L- STA. 48 + 40.000
MATCHLINE -L- STA. 52 + 00.000
SEE SHEET NO. 6

6/10/99

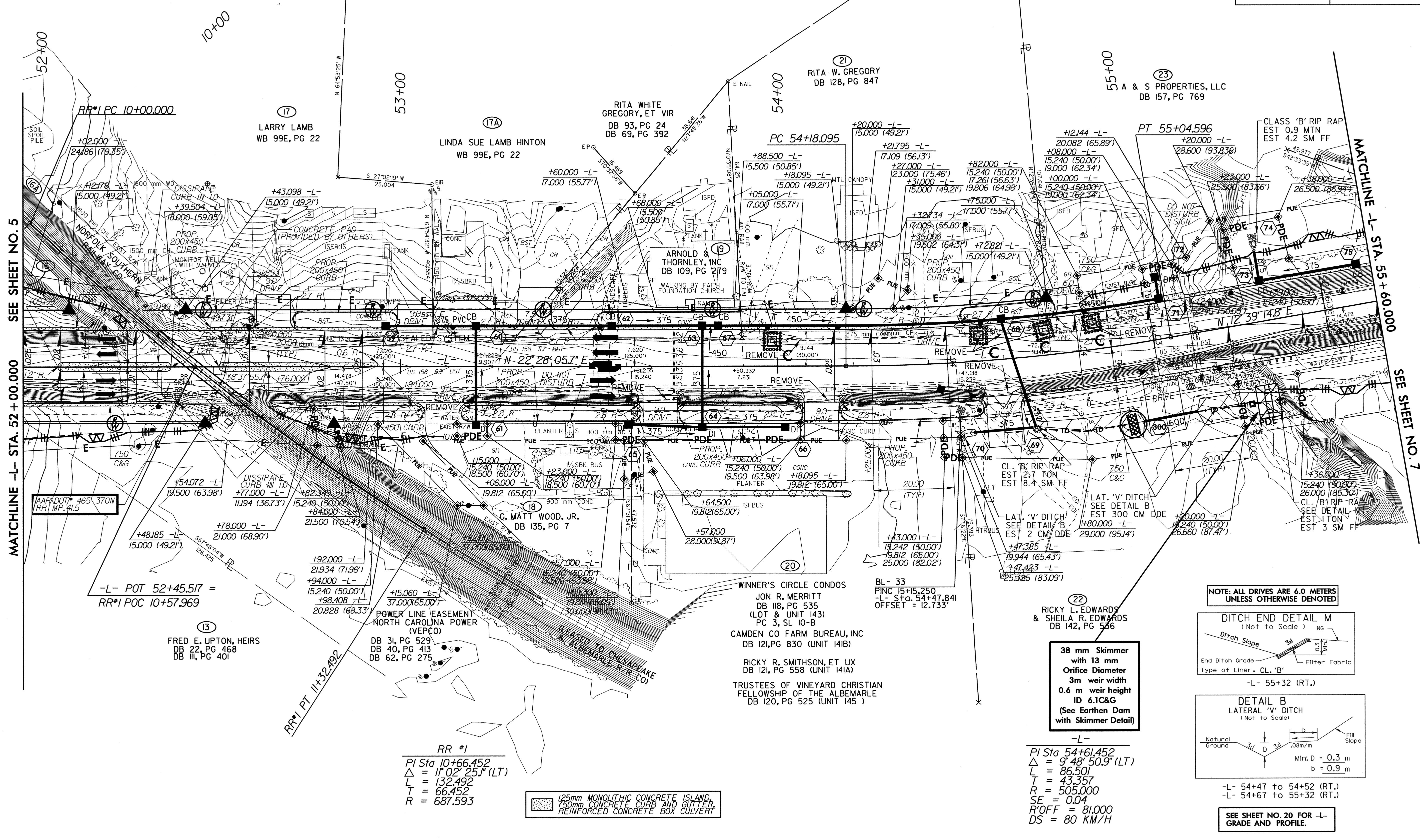
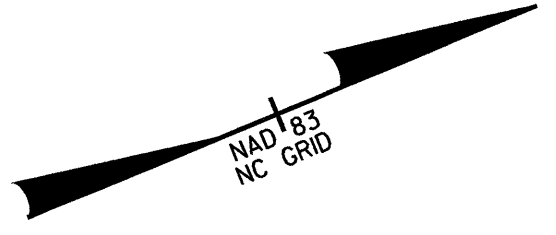
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

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

METRIC

CONST. REV.
R/W REV.

PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



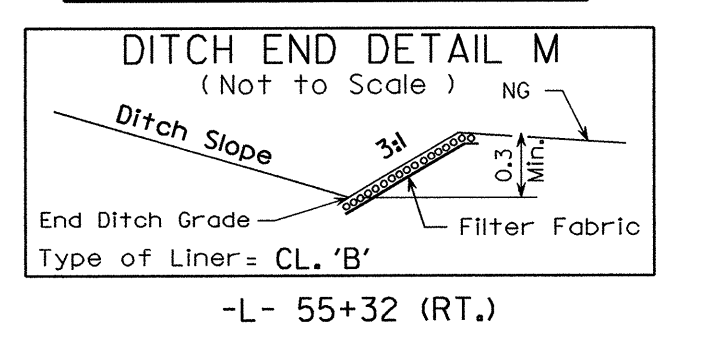
MATCHLINE -L- STA. 52+00.000 SEE SHEET NO. 5

MATCHLINE -L- STA. 55+60.000 SEE SHEET NO. 7

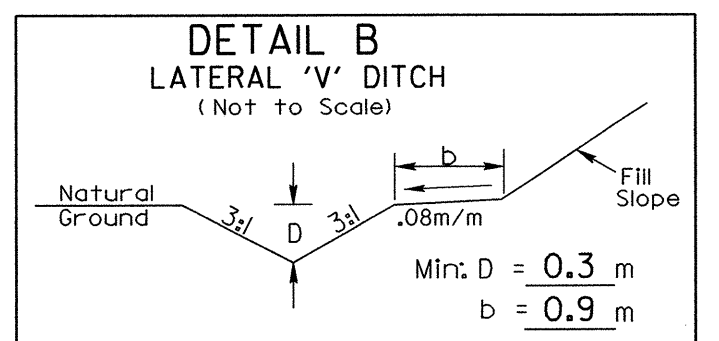
RR #1
 PI Sta 10+66.452
 $\Delta = 11^{\circ}02'25.1''$ (LT)
 L = 132.492
 T = 66.452
 R = 687.593

125mm MONOLITHIC CONCRETE ISLAND,
 750mm CONCRETE CURB AND GUTTER,
 REINFORCED CONCRETE BOX CULVERT

NOTE: ALL DRIVES ARE 6.0 METERS UNLESS OTHERWISE DENOTED



38 mm Skimmer
 with 13 mm
 Orifice Diameter
 3m weir width
 0.6 m weir height
 ID 6.1C&G
 (See Earthen Dam
 with Skimmer Detail)

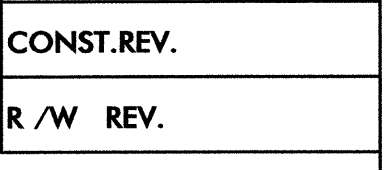
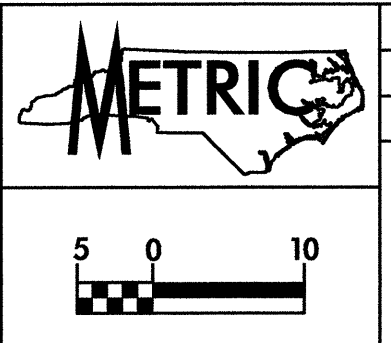


SEE SHEET NO. 20 FOR -L- GRADE AND PROFILE.

-L-
 PI Sta 54+61.452
 $\Delta = 9^{\circ}48'50.9''$ (LT)
 L = 86.501
 T = 43.357
 R = 505.000
 SE = 0.04
 R/OFF = 81.000
 DS = 80 KM/H

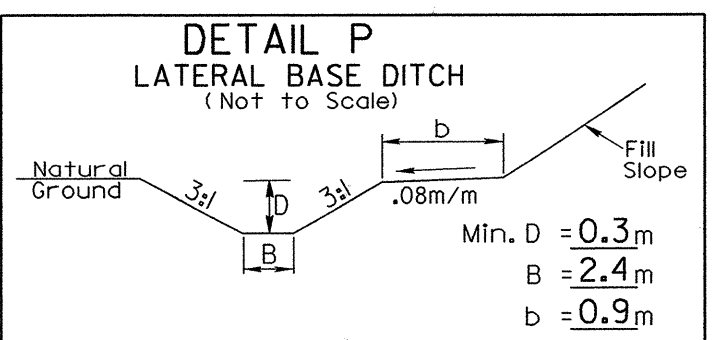
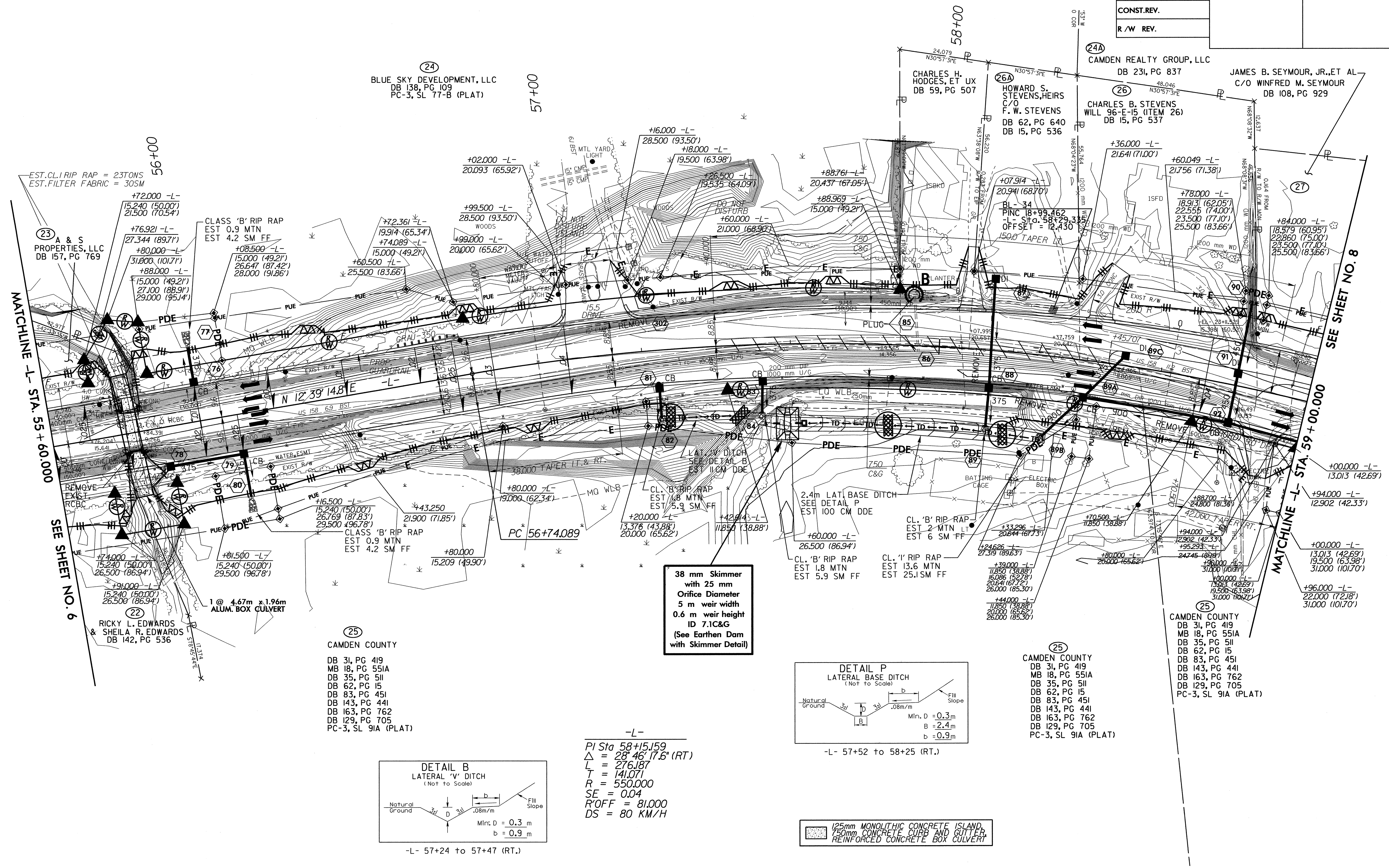
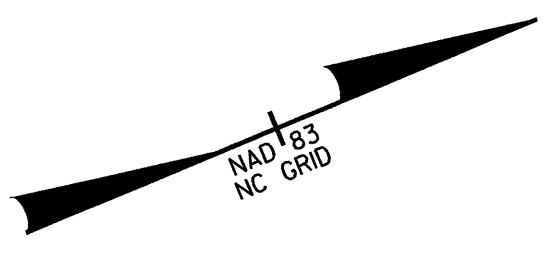
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

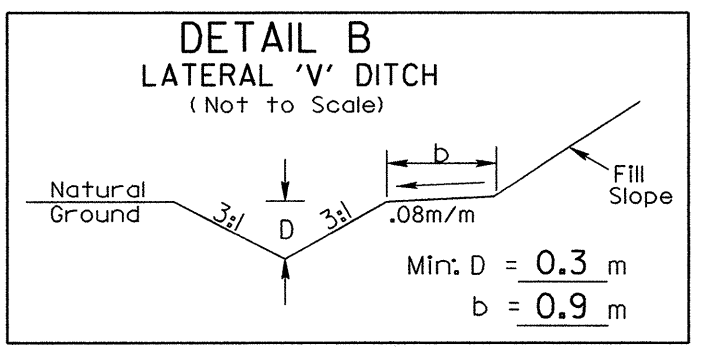


CONST. REV.
R/W REV.

PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L- 57+52 to 58+25 (RT.)



-L- 57+24 to 57+47 (RT.)

-L-
P/ Sta 58+15.59
 $\Delta = 28^\circ 46' 17.6''$ (RT.)
L = 276.187
T = 141.071
R = 550.000
SE = 0.04
R'OFF = 81.000
DS = 80 KM/H

125mm MONOLITHIC CONCRETE ISLAND,
750mm CONCRETE CURB AND GUTTER,
REINFORCED CONCRETE BOX CULVERT

07-DEC-2000 09:08
 RA:EC-7/CONST.7
 R/W SHEET NO. 7
 R-2414B-EC-7/CONST.7.dgn
 07-DEC-2000 09:08
 RA:EC-7/CONST.7
 R/W SHEET NO. 7
 R-2414B-EC-7/CONST.7.dgn



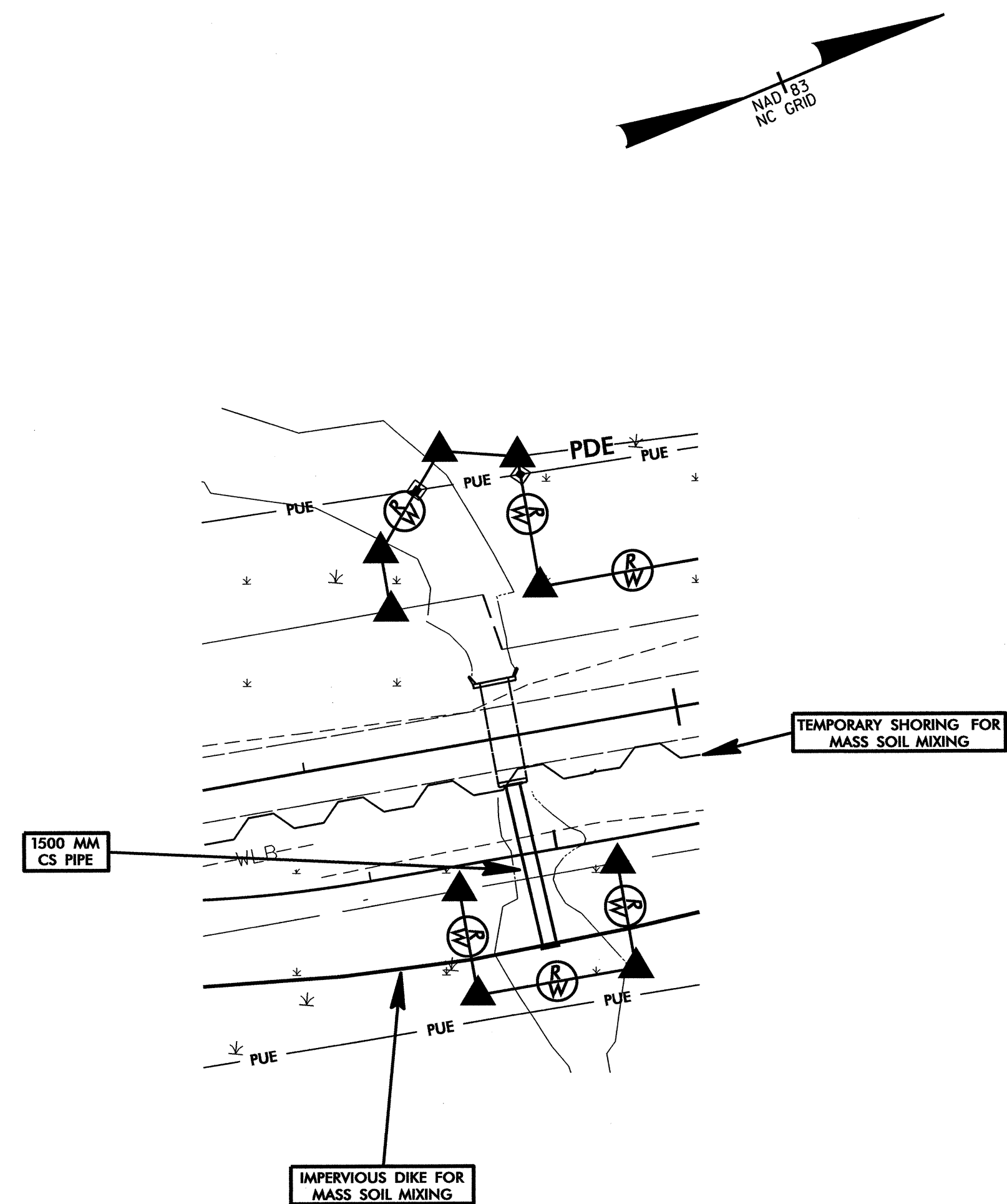
PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-8/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 55 + 81 -L-

(SHEET 1 OF 2)

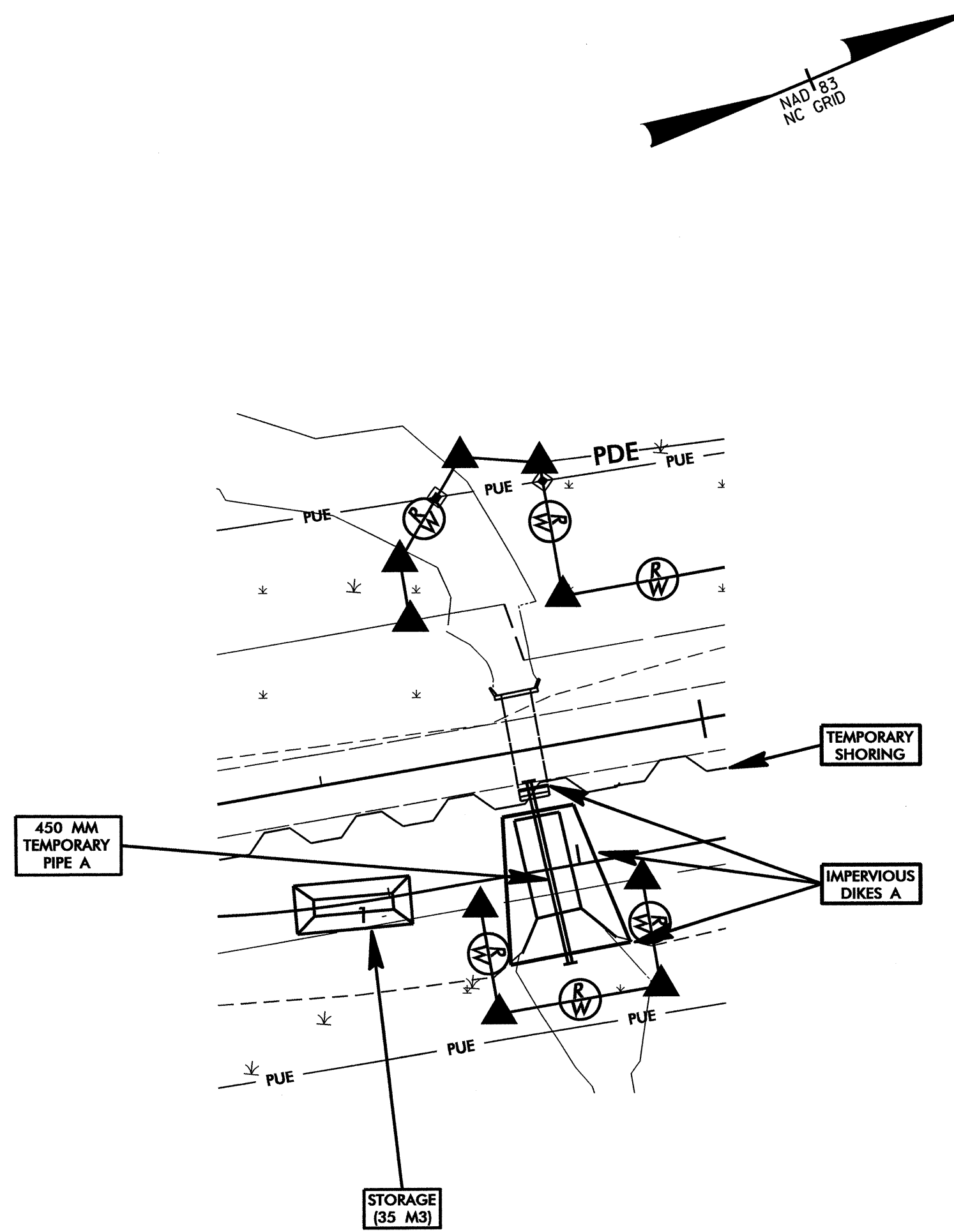
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE I.
2. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
3. INSTALL 1500MM 76.2 X 25.4 CS PIPE WITH ROD AND LUG CONNECTORS.
4. PERFORM MASS SOIL MIXING OPERATION.
5. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPE MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.



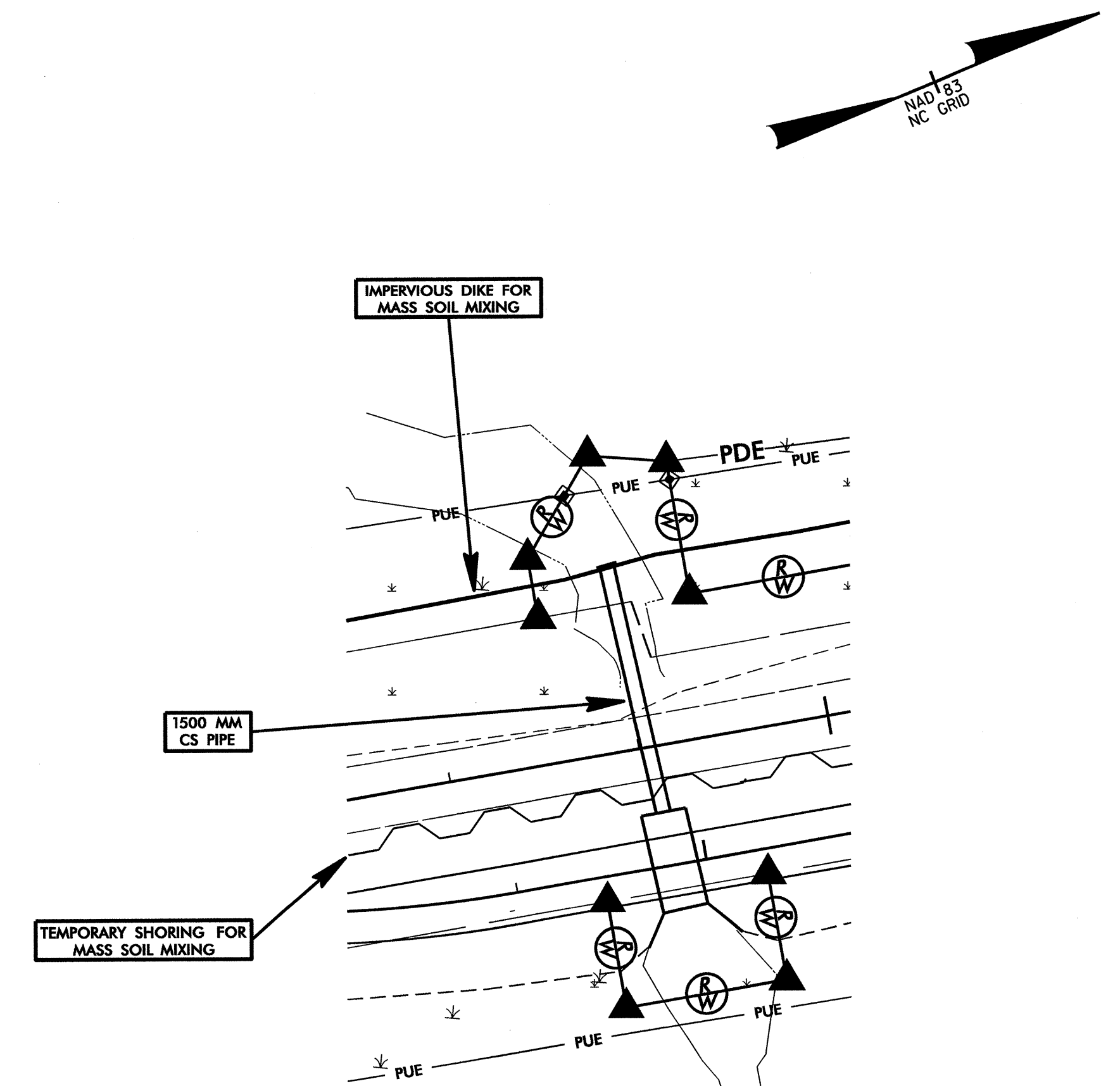
PHASE II

6. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 1 (35 M3).
7. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500MM CS PIPE.
8. CONSTRUCT IMPERVIOUS DIKES A AND INSTALL 450MM TEMPORARY PIPE A, DIVERTING FLOW.
9. CONSTRUCT APPROXIMATELY 10 METERS OF THE UPSTREAM SECTION OF THE PROPOSED CULVERT.
10. REMOVE IMPERVIOUS DIKES A AND TEMPORARY PIPE A.
11. REMOVE STILLING BASIN 1.



PHASE III

12. CONSTRUCT TEMPORARY DETOUR AND SHIFT TRAFFIC.
13. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE III.
14. REMOVE EXISTING CULVERT.
15. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
16. INSTALL 1500MM 76.2 X 25.4 CS PIPE WITH ROD AND LUG CONNECTORS.
17. PERFORM MASS SOIL MIXING OPERATION.
18. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPE MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.





PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-8A/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

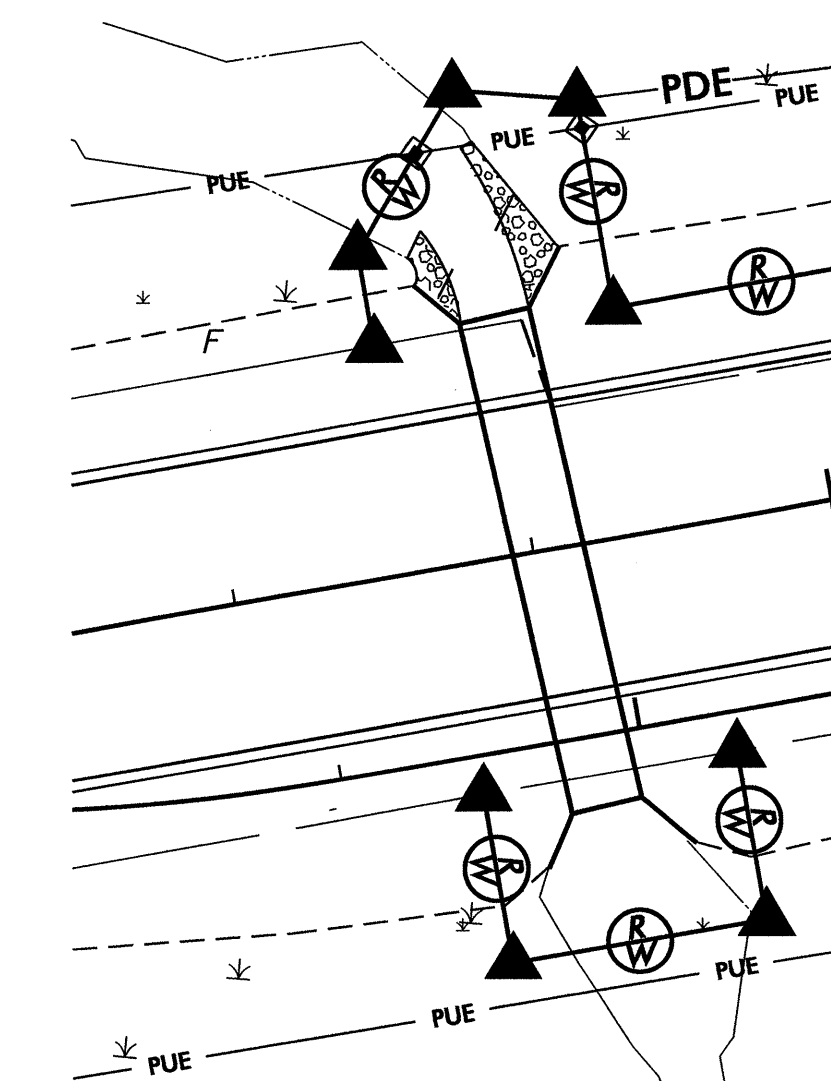
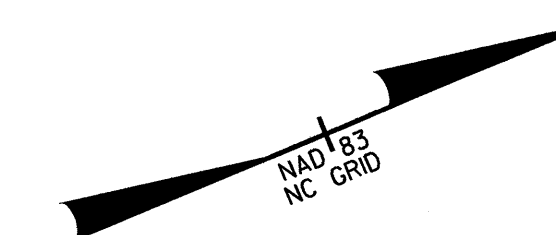
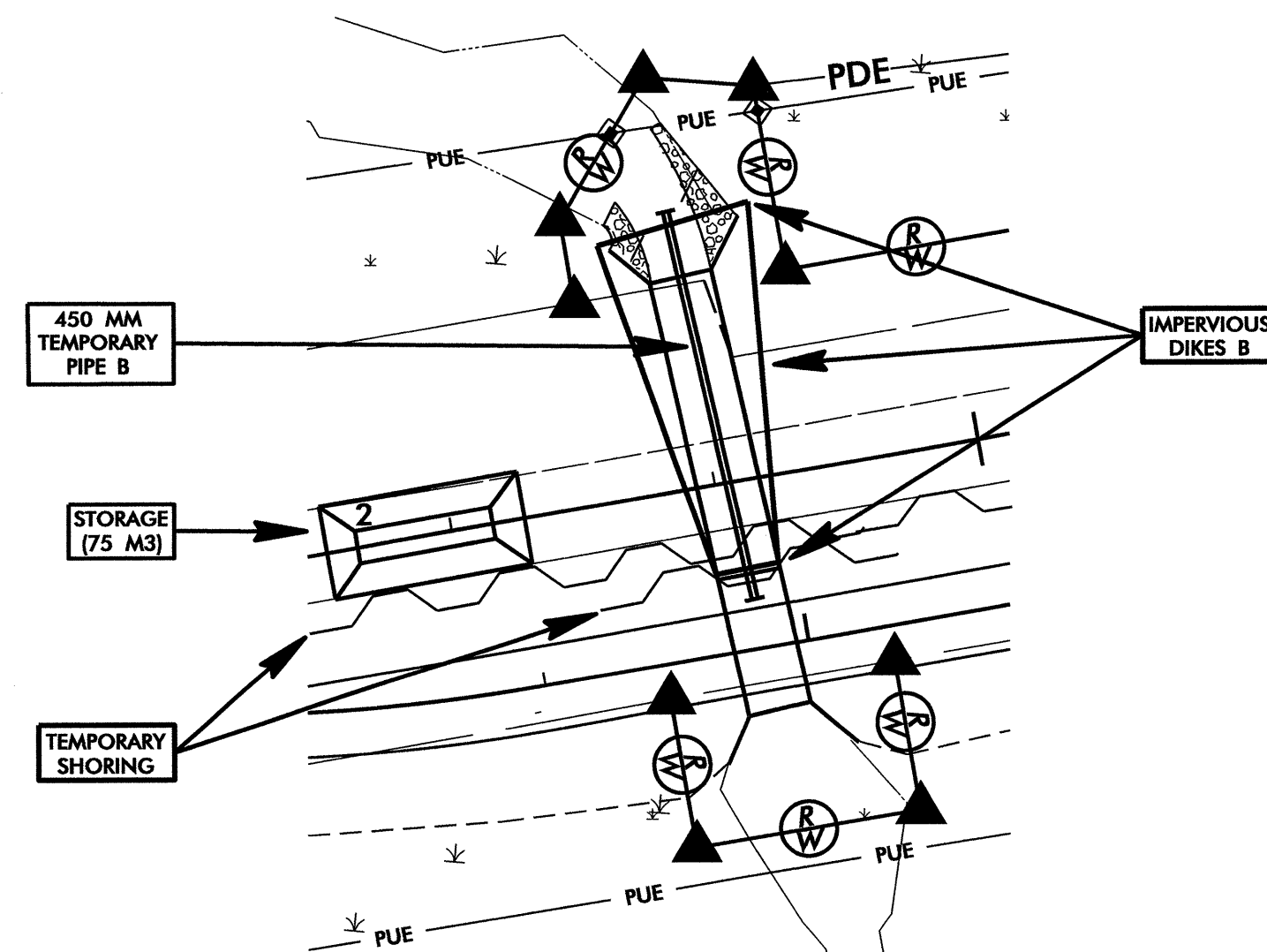
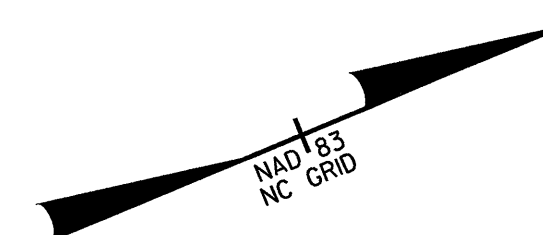
CULVERT CONSTRUCTION SEQUENCE STA. 55 + 81 -L- (SHEET 2 OF 2)

PHASE IV

- 19. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 2 (75 M3).
- 20. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500 CS PIPE.
- 21. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 450MM TEMPORARY PIPE B, DIVERTING FLOW.
- 22. CONSTRUCT REMAINDER OF PROPOSED CULVERT AND ANY NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
- 23. REMOVE IMPERVIOUS DIKES B AND TEMPORARY PIPE B, ALLOWING FLOW THROUGH THE CULVERT.
- 24. REMOVE STILLING BASIN 2.

PHASE V

- 25. CONSTRUCT ROADWAY OVER THE DOWNSTREAM SECTION OF THE CULVERT.
- 26. REMOVE TEMPORARY DETOUR AND SHIFT TRAFFIC.
- 27. COMPLETE ROADWAY.



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET B

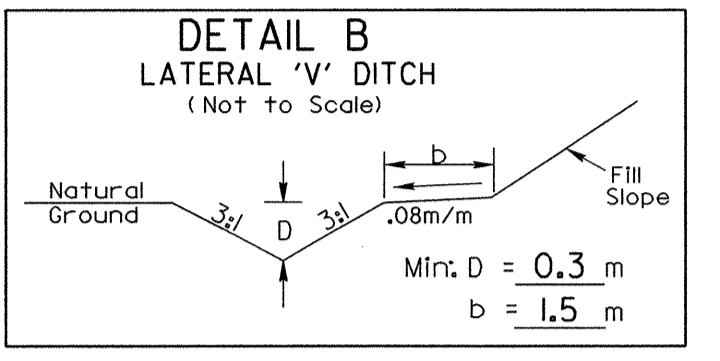
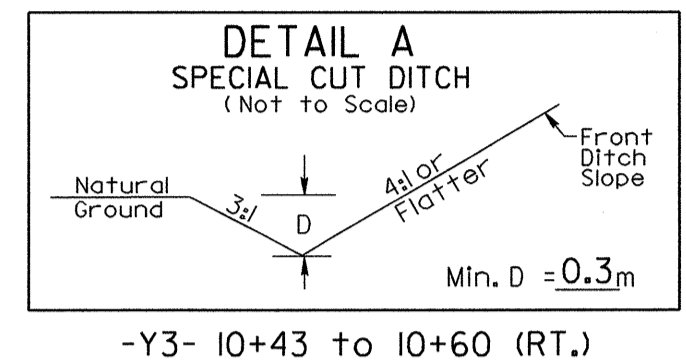
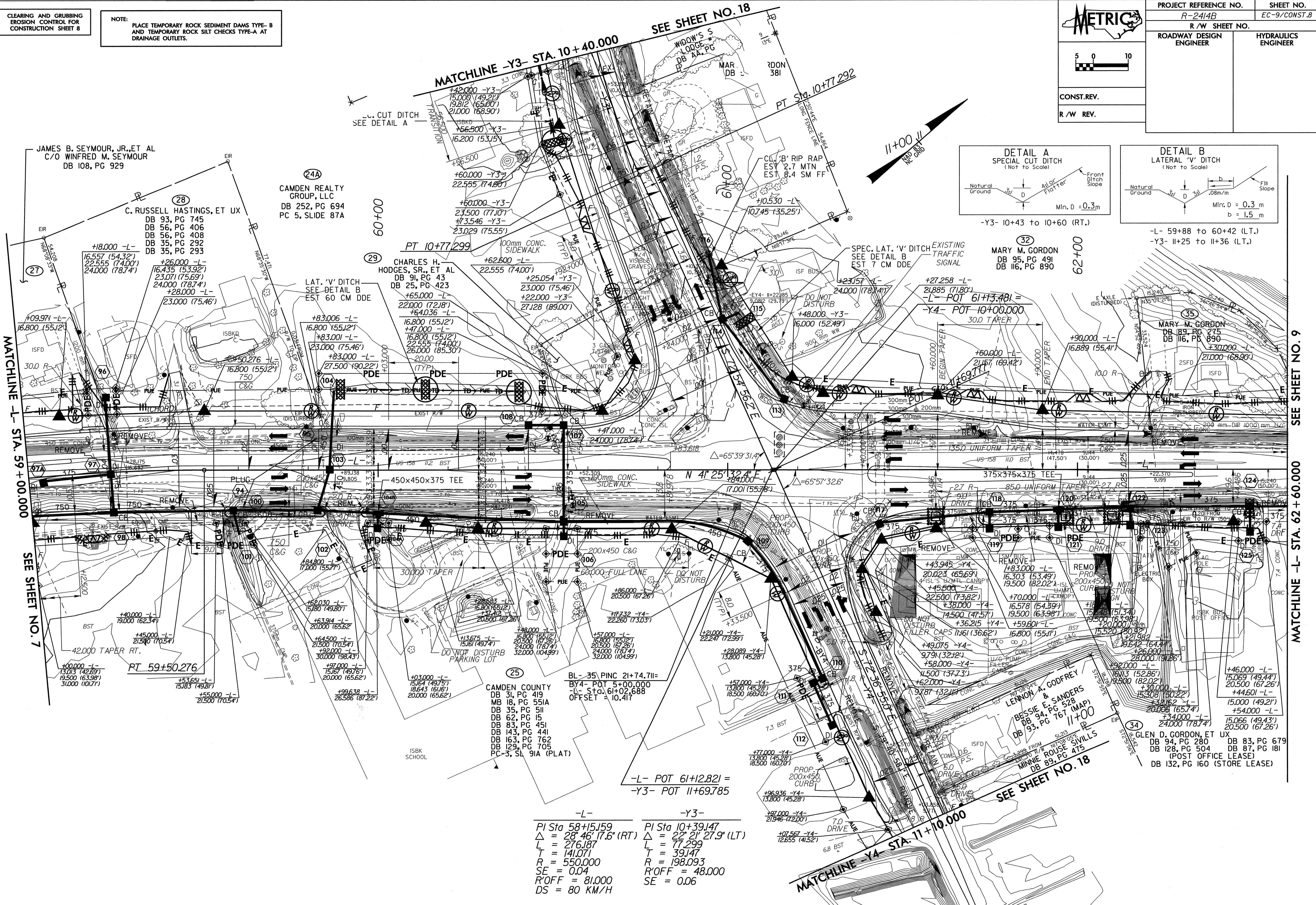
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B
AND TEMPORARY ROCK SILT CHECKS TYPE-A AT
DRAINAGE OUTLETS.

METRIC

5 0 10

CONST. REV.
R/W REV.

PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-9/CONST. B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



JAMES B. SEYMOUR, JR., ET AL
C/O WINFRED M. SEYMOUR
DB 108, PG 929

(28)
C. RUSSELL HASTINGS, ET UX
DB 93, PG 745
DB 56, PG 406
DB 56, PG 408
DB 35, PG 292
DB 35, PG 293

(24A)
CAMDEN REALTY
GROUP, LLC
DB 252, PG 694
PC 5, SLIDE 87A

(29)
CHARLES H.
HODGES, SR., ET AL
DB 91, PG 43
DB 25, PG 423

(25)
CAMDEN COUNTY
DB 31, PG 419
DB 18, PG 551A
DB 35, PG 511
DB 62, PG 15
DB 83, PG 451
DB 143, PG 441
DB 163, PG 762
DB 129, PG 705
PC-3, SL 91A (PLAT)

(32)
MARY M. GORDON
DB 95, PG 491
DB 116, PG 890

(35)
MARY M. GORDON
DB 83, PG 875
DB 116, PG 890

(34)
GLENN D. GORDON, ET UX
DB 94, PG 280
DB 128, PG 504
DB 87, PG 181
(POST OFFICE LEASE)
DB 132, PG 160 (STORE LEASE)

-L-	-Y3-
PI Sta 58+15.59	PI Sta 10+39.17
$\Delta = 28' 46" 17.6'$ (RT)	$\Delta = 22' 21" 27.9'$ (LT)
L = 276.187	L = 77.299
T = 141.071	T = 39.147
R = 550.000	R = 198.093
SE = 0.04	R'OFF = 48.000
R'OFF = 81.000	SE = 0.06
DS = 80 KM/H	

R:\E-09-SEP-2010\1037
 m...
 R:\E-09-SEP-2010\1037
 m...

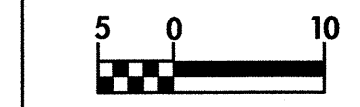
MATCHLINE -L- STA. 59 + 00.00
 MATCHLINE -L- STA. 62 + 60.00
 MATCHLINE -Y3- STA. 10 + 40.00
 MATCHLINE -Y4- STA. 11 + 10.00
 SEE SHEET NO. 7
 SEE SHEET NO. 18
 SEE SHEET NO. 18
 SEE SHEET NO. 9

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

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

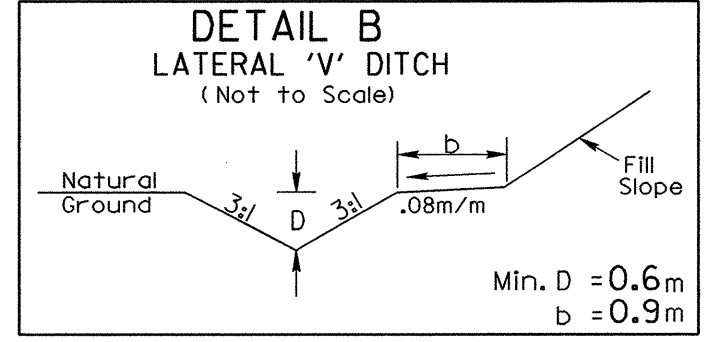
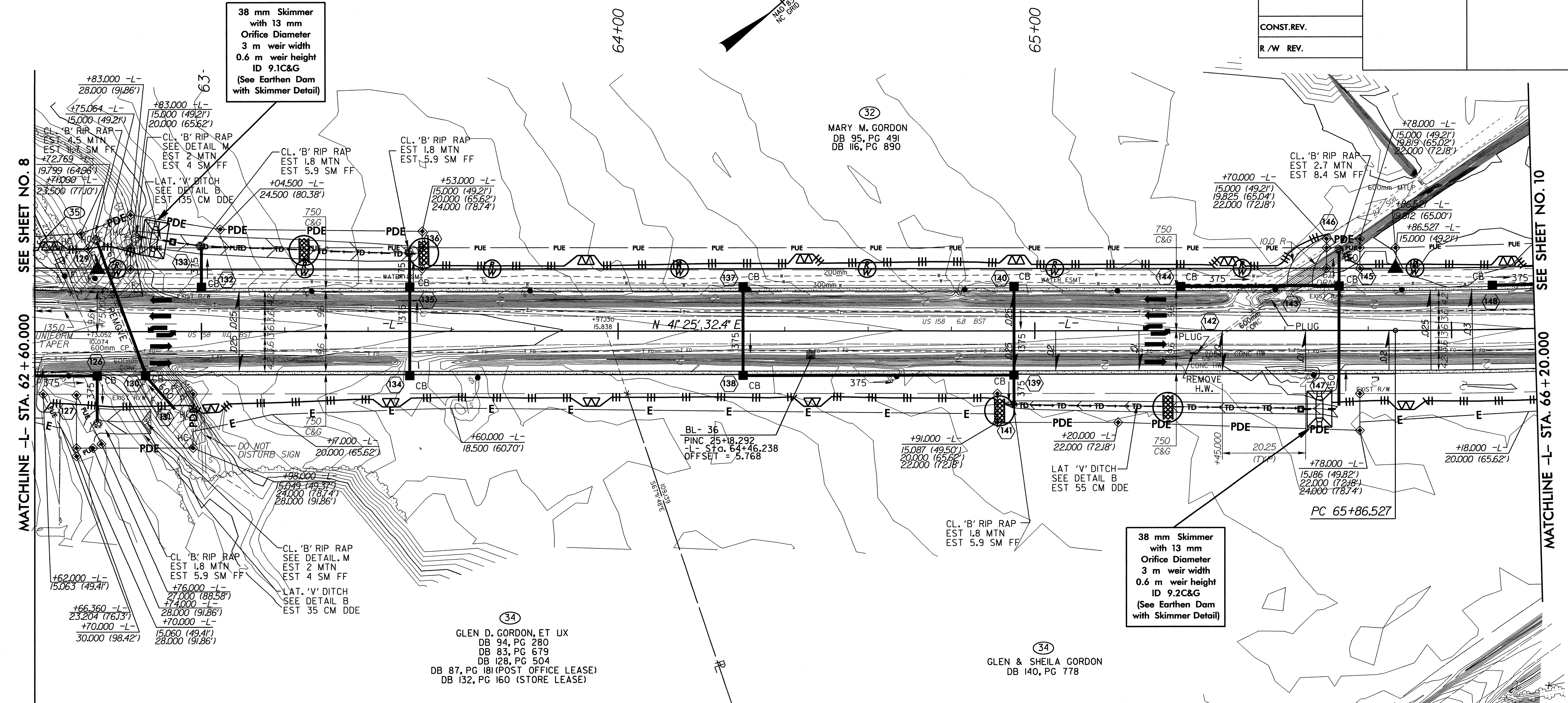


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-10/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST.REV.	
R/W REV.	

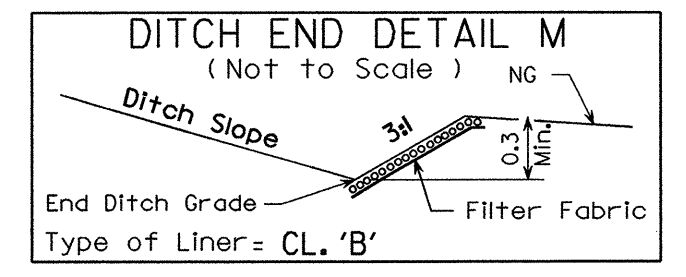


38 mm Skimmer
with 13 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 9.1C&G
(See Earthen Dam
with Skimmer Detail)

38 mm Skimmer
with 13 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 9.2C&G
(See Earthen Dam
with Skimmer Detail)



- L- 62+84 to 63+50 (LT.)
- L- 62+75 to 62+88 (RT.)
- L- 64+94 to 65+73 (RT.)



- L- 62+88 (LT.)
- L- 62+88 (RT.)

-L-
PI Sta 66+25.744
 $\Delta = 3^\circ 44' 37.0''$ (LT)
L = 78.406
T = 39.217
R = 1,200,000
SE = 0.03
R'OFF = 60.750
DS = 80 KM/H

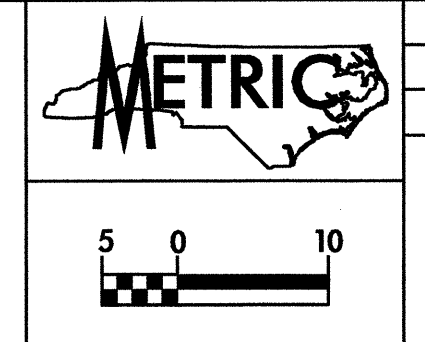
-Y6-
PI Sta 10+19.890
 $\Delta = 2^\circ 55' 37.3''$ (LT)
L = 39.770
T = 19.890
R = 778.495
SE = EX.
BK = N 6°28'25.4" E

-Y6-
PI Sta 10+59.540
 $\Delta = 2^\circ 26' 50.5''$ (RT)
L = 39.533
T = 19.769
R = 925.512
SE = EX.
AH = N 5°59'38.6" E

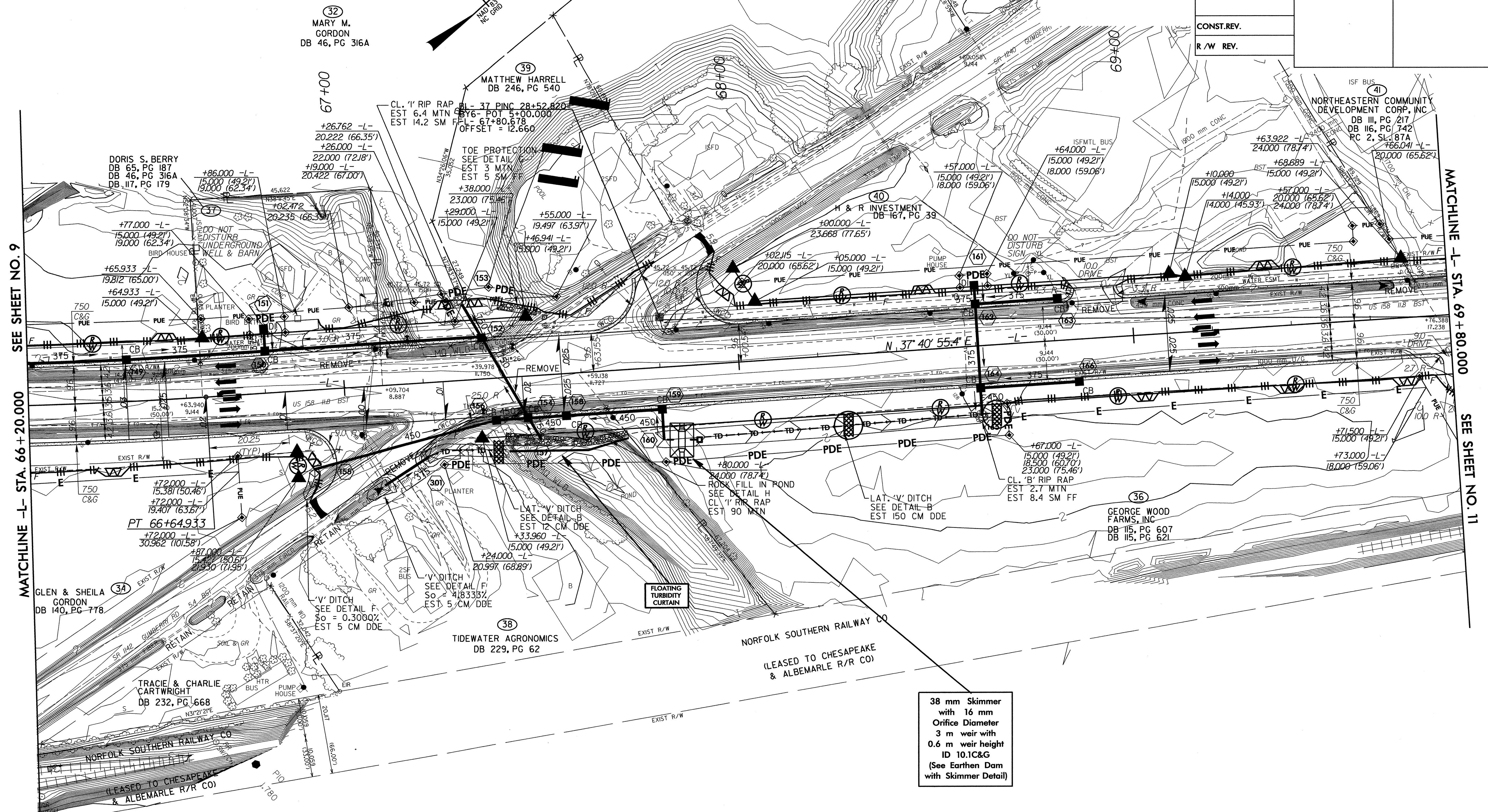
09-SEP-2006 10:39 R:\E-SEP-2006\1039\2414b.ec.pnb\09.dgn

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

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



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-11/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.	
R/W REV.	



SEE SHEET NO. 9
MATCHLINE -L- STA. 66+20.000

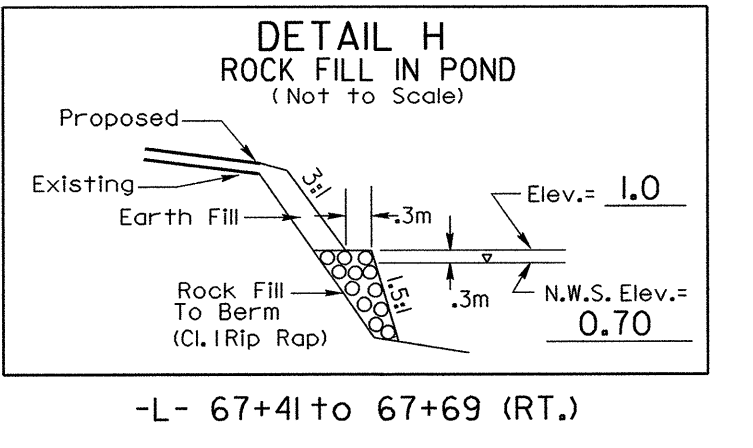
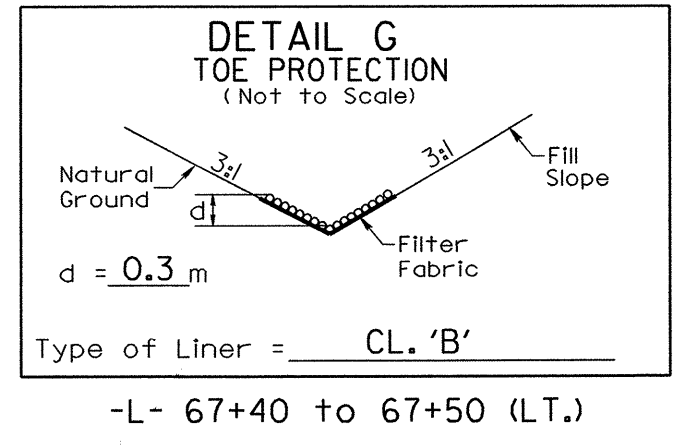
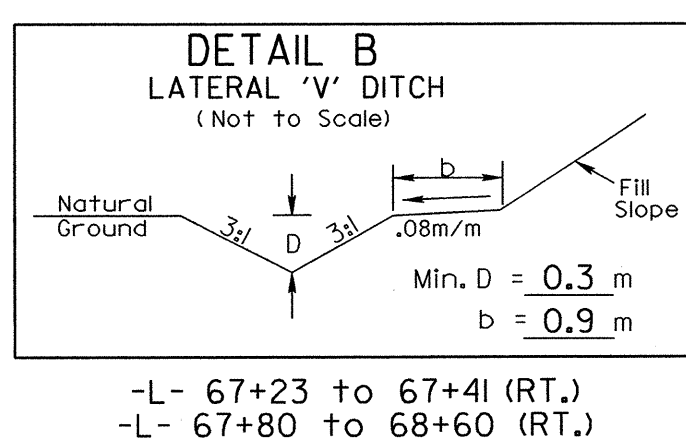
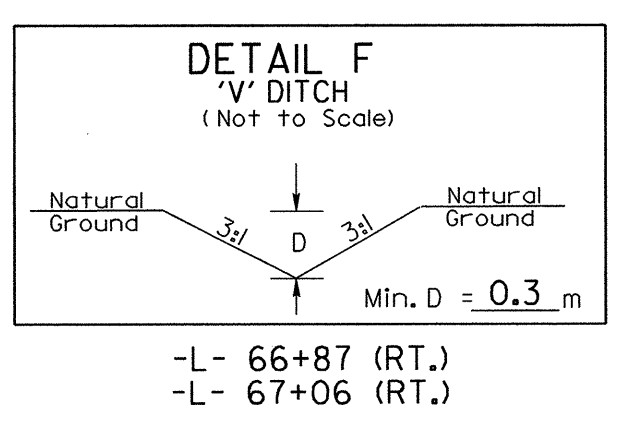
MATCHLINE -L- STA. 69+80.000
SEE SHEET NO. 11

R:\E-09-SEP-2000_1042
 mcaughn\cadd\2414b\EC-11\10.dgn

-L-
 PI Sta 66+25744
 $\Delta = 3' 44'' 37.0'' (LT)$
 $L = 78.406$
 $T = 39.217$
 $R = 1,200.000$
 $SE = 0.03$
 $R/OFF = 60.750$
 $DS = 80 KM/H$

36
 GEORGE WOOD
 FARMS, INC
 DB 115, PG 607
 DB 115, PG 621

38 mm Skimmer
 with 16 mm
 Orifice Diameter
 3 m weir with
 0.6 m weir height
 ID 10.1C&G
 (See Earthen Dam
 with Skimmer Detail)

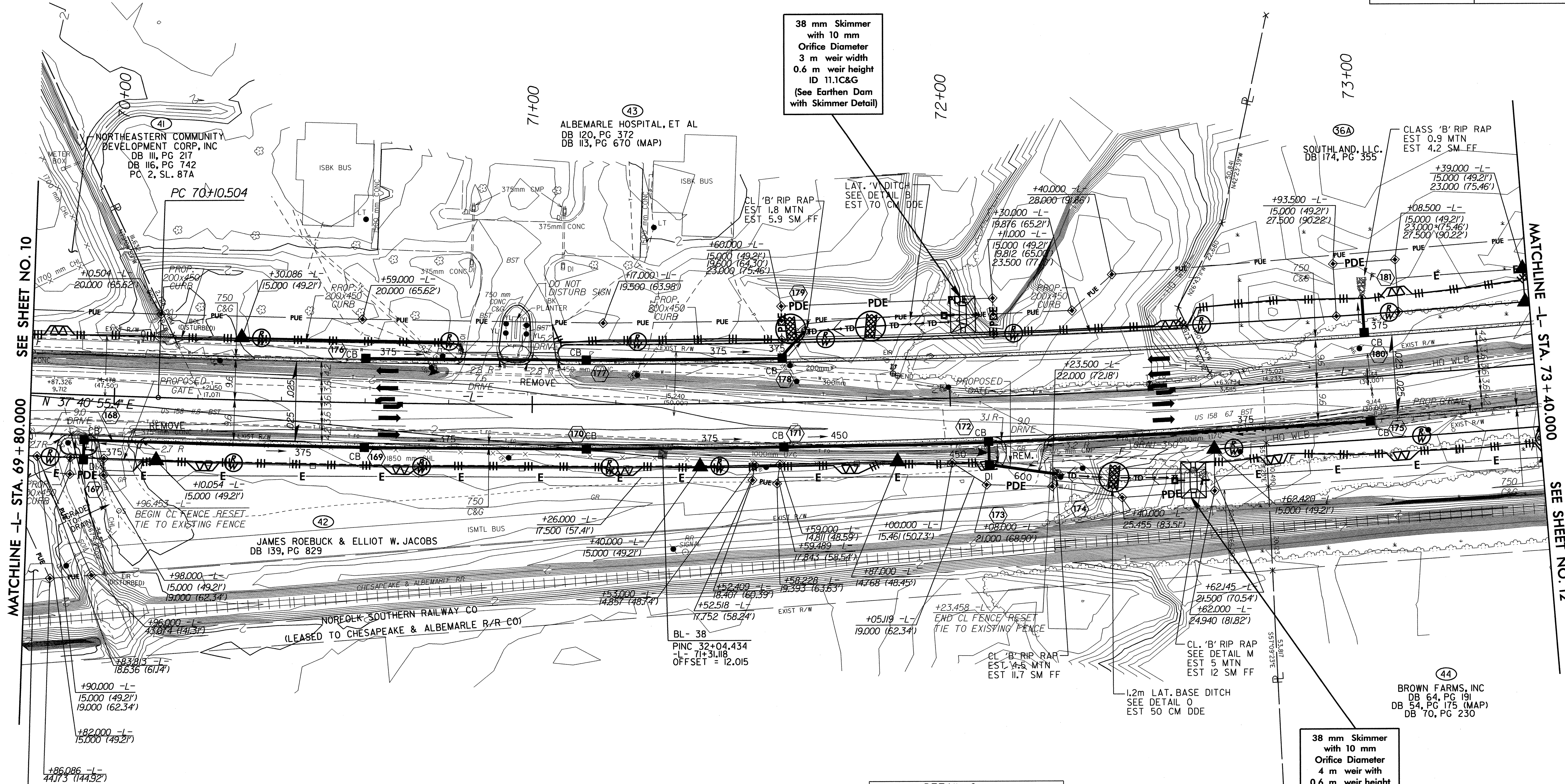
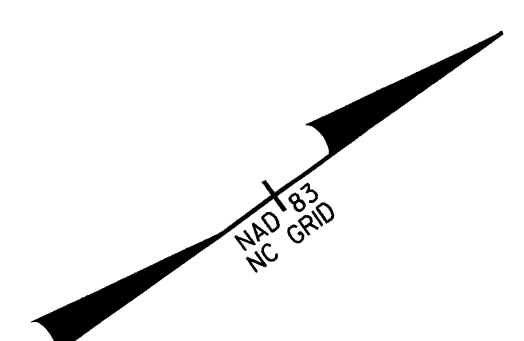
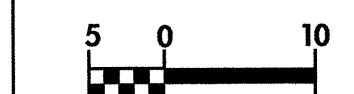


CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

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



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-12/CONST.11
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
CONST. REV.	
R/W REV.	

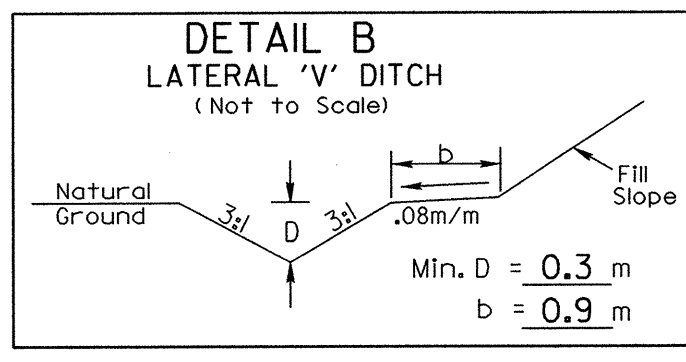


SEE SHEET NO. 10

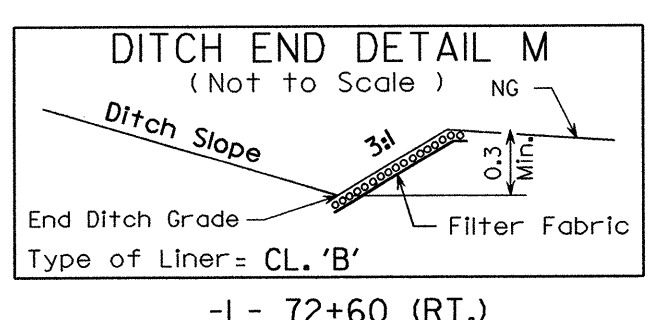
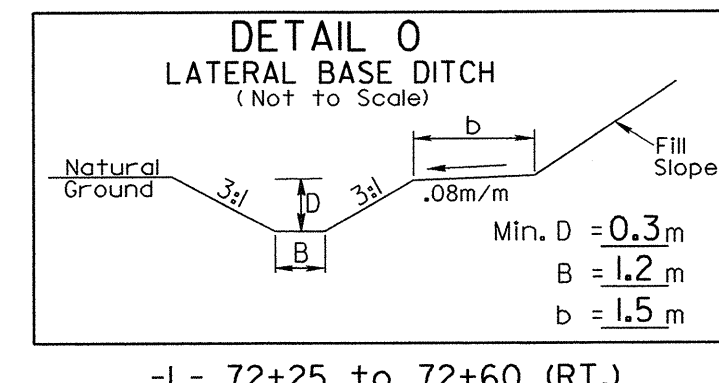
MATCHLINE -L- STA. 69 + 80.000

MATCHLINE -L- STA. 73 + 40.000

SEE SHEET NO. 12



-L-
PI Sta 72+27.319
 $\Delta = 8' 51'' 201''$ (LT)
L = 432.766
T = 216.815
R = 2,800.000
SE = NC
DS = 80 KM/H





38 mm Skimmer
with 10 mm
Orifice Diameter
4 m weir with
0.6 m weir height
ID 11.2C&G
(See Earthen Dam
with Skimmer Detail)

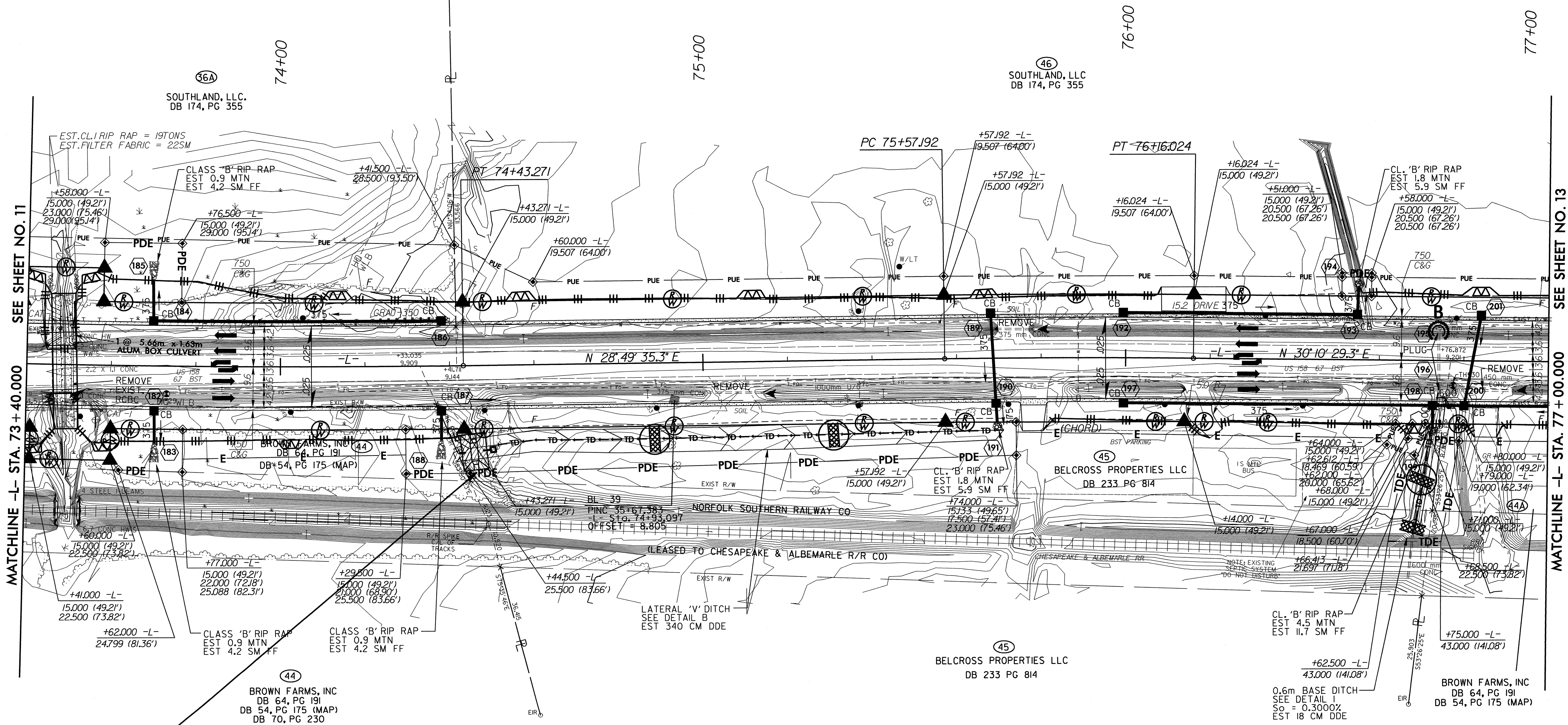
36
GEORGE WOOD
FARMS, INC
DB 115, PG 607
DB 115, PG 621

44
BROWN FARMS, INC
DB 64, PG 191
DB 54, PG 175 (MAP)
DB 70, PG 230

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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

  CONST. REV. R / W REV.	PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-13/CONST.12
	R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



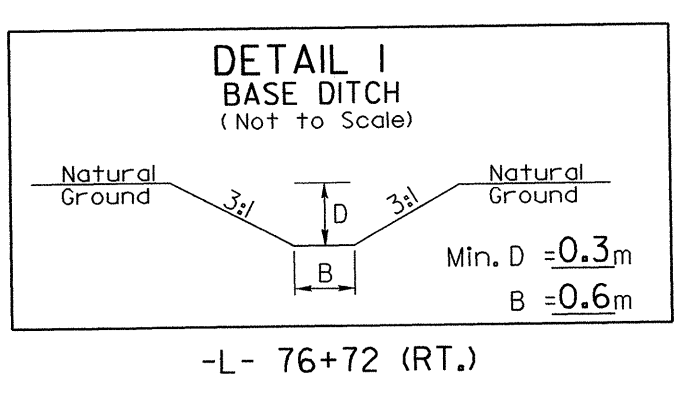
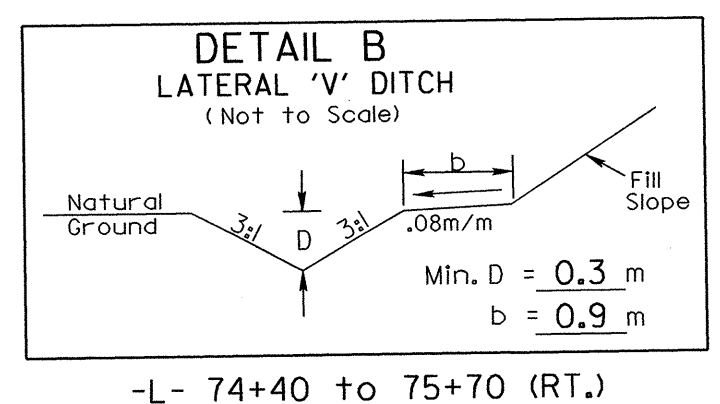
SEE SHEET NO. 11

MATCHLINE -L- STA. 73+40.000

SEE SHEET NO. 13

MATCHLINE -L- STA. 77+00.000

38 mm Skimmer
with 19 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 12.1C&G
(See Earthen Dam
with Skimmer Detail)



-L-
PI Sta 72+27.319
 $\Delta = 8' 51' 20''$ (LT)
L = 432.766
T = 216.815
R = 2,800.000
SE = NC
DS = 80 KM/H

-L-
PI Sta 75+86.610
 $\Delta = 1' 20' 54.0''$ (RT)
L = 58.832
T = 29.418
R = 2,500.000
SE = NC
DS = 80 KM/H

5/10/09
 R:\S-07-DEC-2000\3335
 m\augustine\proj\2414b\EC-phd12.dgn

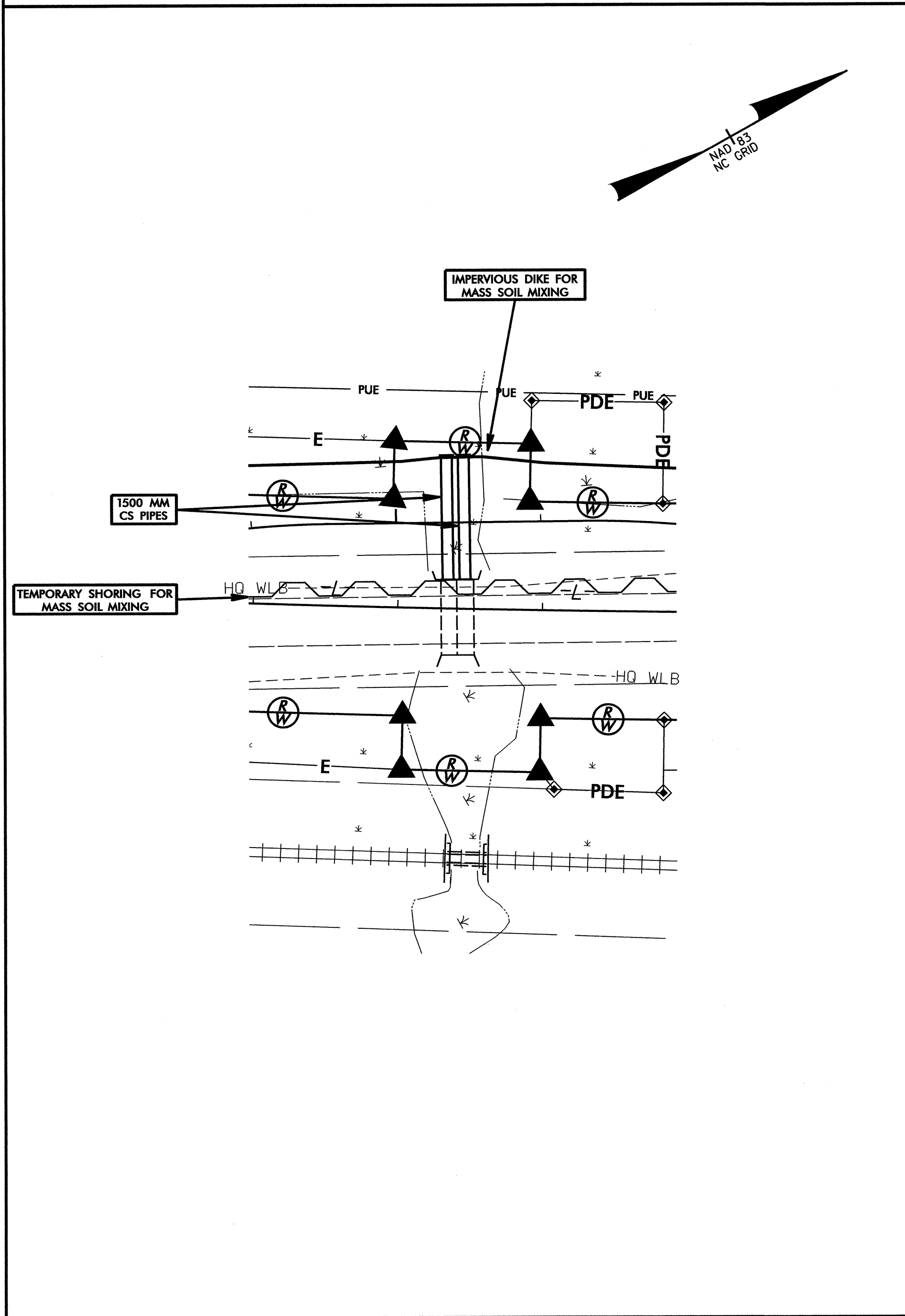


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-14/CONST J2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 73+49 -L- (SHEET 1 OF 2)

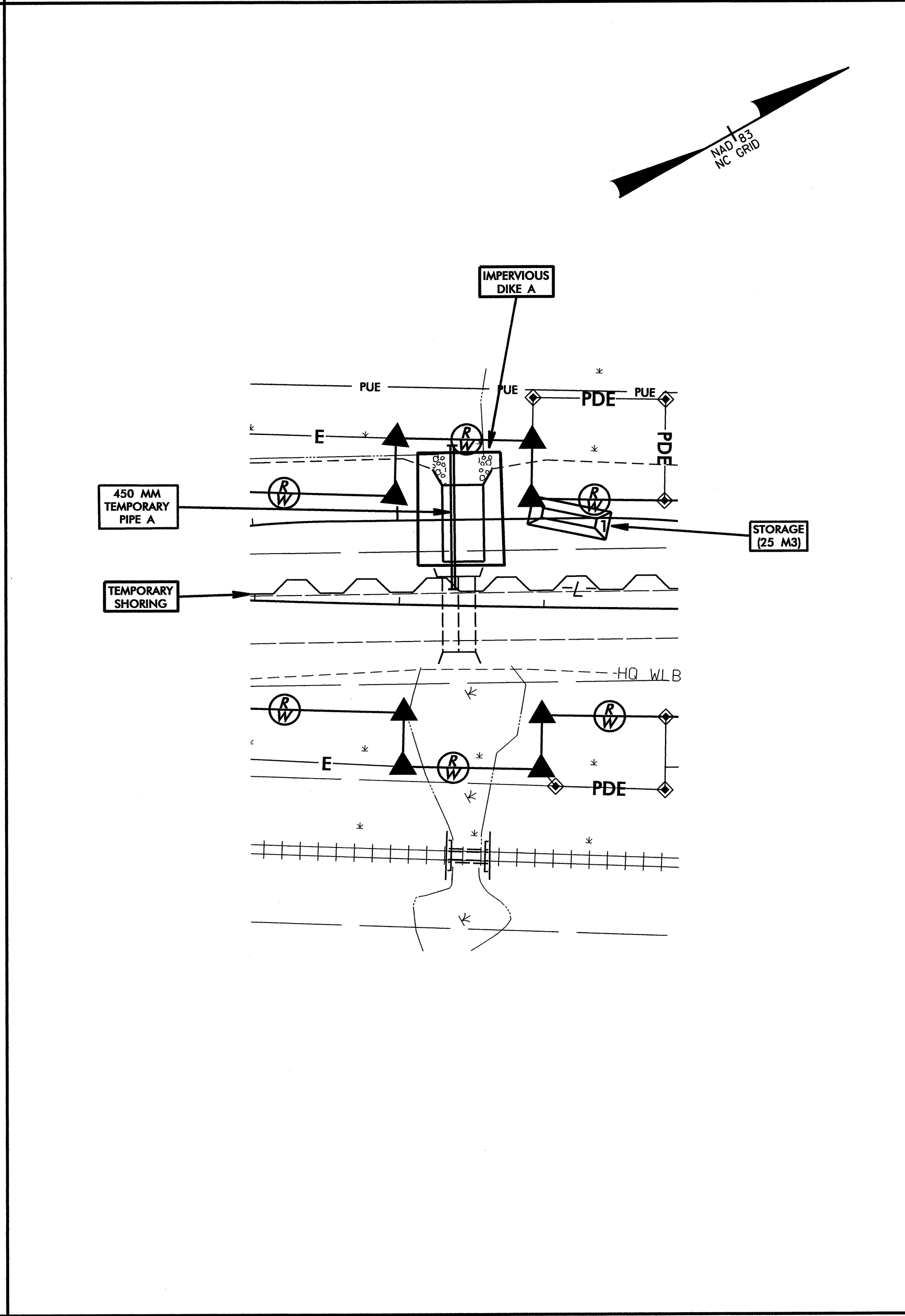
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE I.
2. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
3. INSTALL 2 @ 1500MM 76.2 X 25.4 CS PIPES WITH ROD AND LUG CONNECTORS.
4. PERFORM MASS SOIL MIXING OPERATION.
5. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPES MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.



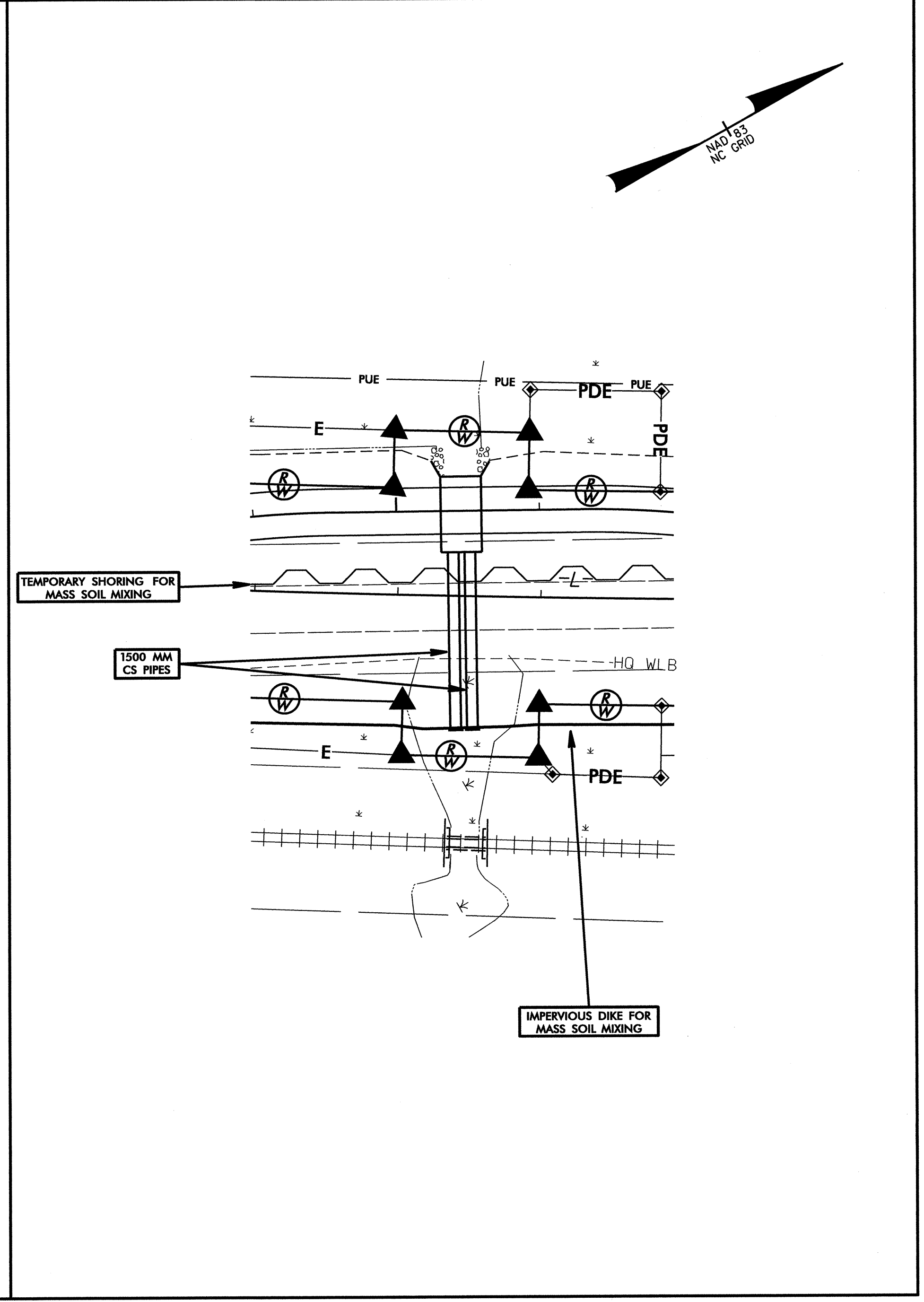
PHASE II

6. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 1 (25 M3).
7. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500MM CS PIPES.
8. CONSTRUCT IMPERVIOUS DIKE A AND INSTALL 450MM TEMPORARY PIPE A, DIVERTING FLOW.
9. CONSTRUCT APPROXIMATELY 11 METERS OF THE DOWNSTREAM SECTION OF THE PROPOSED CULVERT, INCLUDING THE DOWNSTREAM CHANNEL IMPROVEMENTS.
10. REMOVE IMPERVIOUS DIKE A AND TEMPORARY PIPE A.
11. REMOVE STILLING BASIN 1.



PHASE III

12. CONSTRUCT TEMPORARY DETOUR AND SHIFT TRAFFIC.
13. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE III.
14. REMOVE EXISTING CULVERT.
15. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
16. INSTALL 2 @ 1500MM 76.2 X 25.4 CS PIPES WITH ROD AND LUG CONNECTORS.
17. PERFORM MASS SOIL MIXING OPERATION.
18. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPES MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.



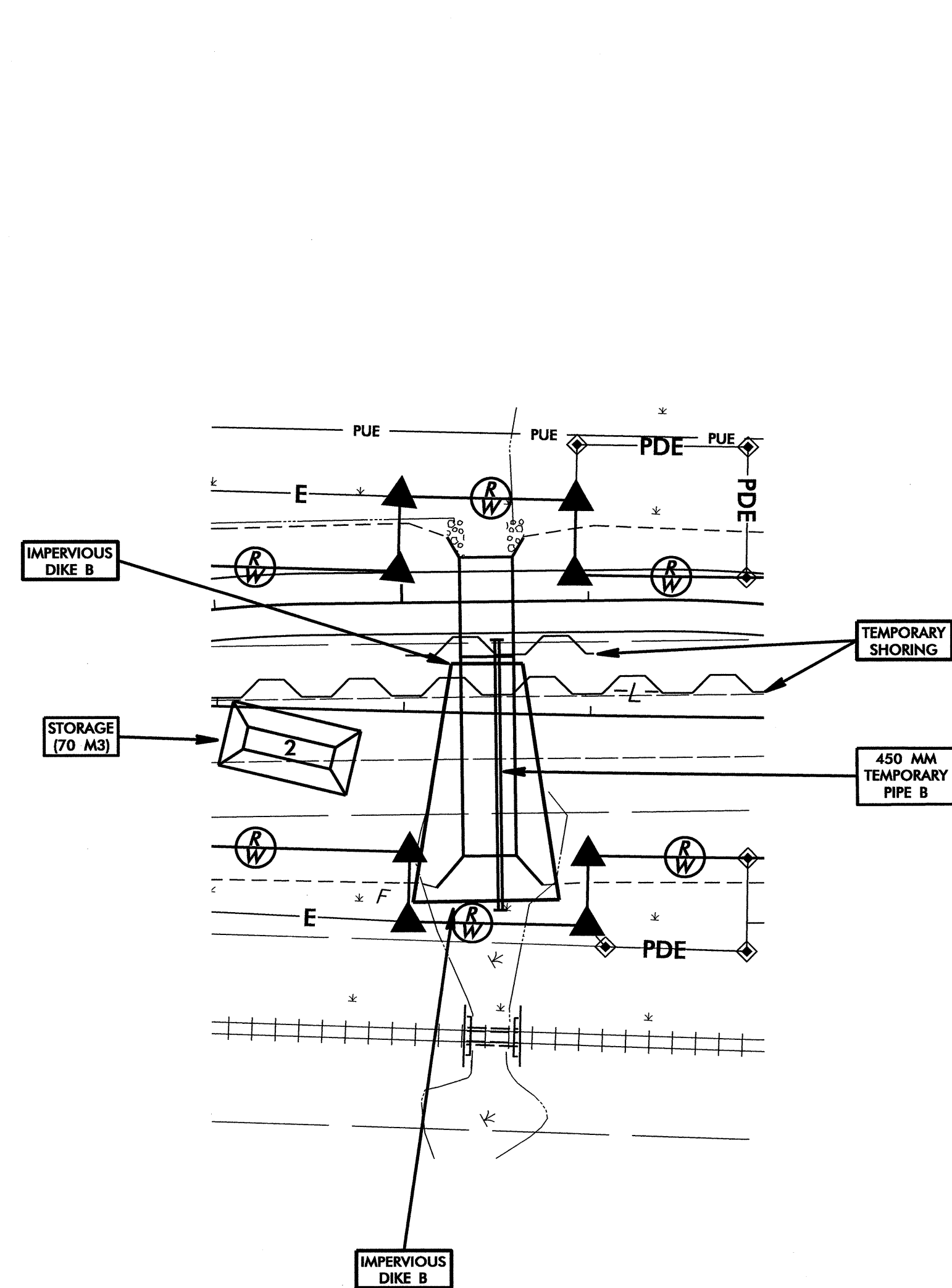


PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-14A/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 73 + 49 -L- (SHEET 2 OF 2)

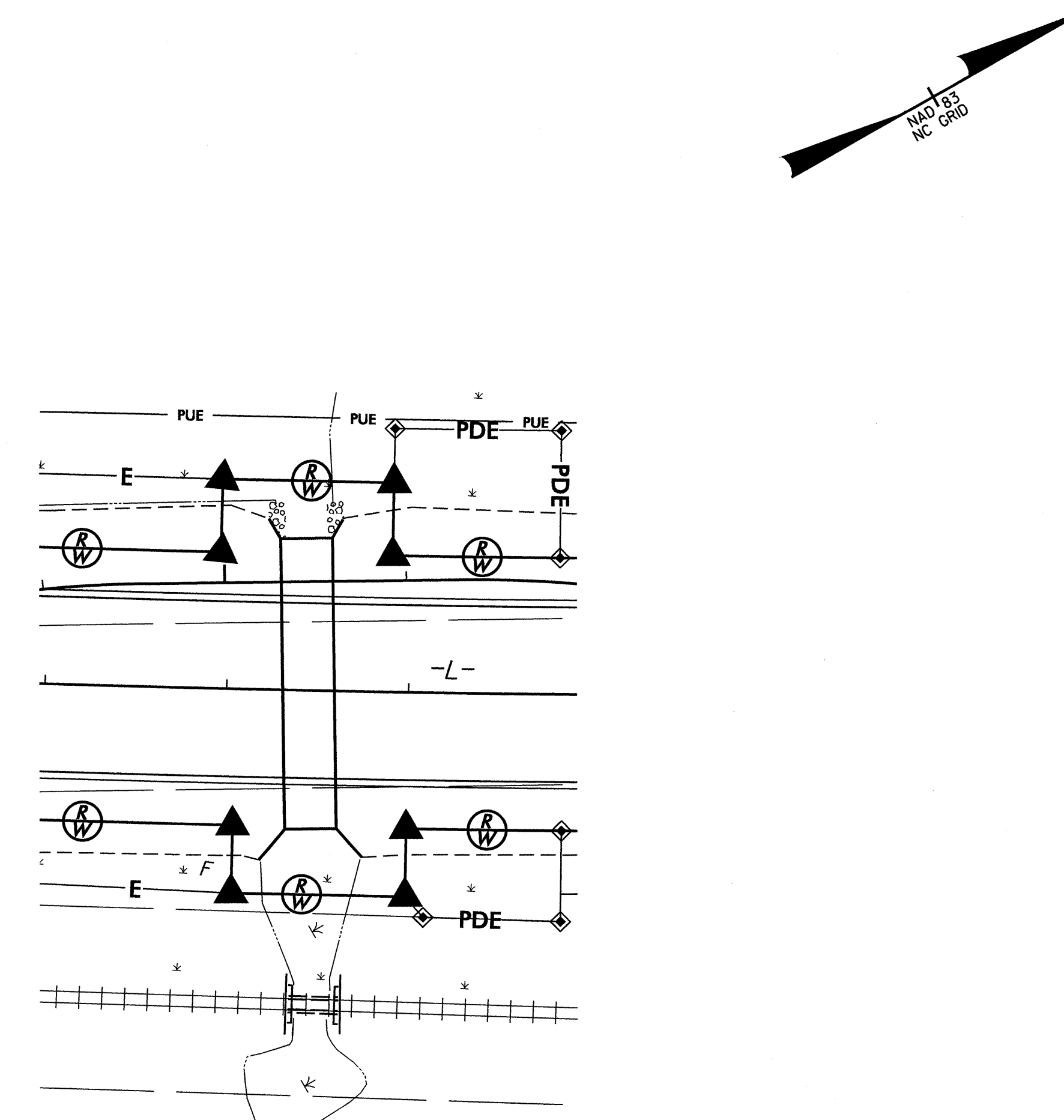
PHASE IV

19. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 2 (70 M3).
20. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500 CS PIPES.
21. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 450MM TEMPORARY PIPE B, DIVERTING FLOW.
22. CONSTRUCT REMAINDER OF PROPOSED CULVERT AND ANY NECESSARY UPSTREAM CHANNEL IMPROVEMENTS.
23. REMOVE IMPERVIOUS DIKES B AND TEMPORARY PIPE B, ALLOWING FLOW THROUGH THE CULVERT.
24. REMOVE STILLING BASIN 2.



PHASE V

25. CONSTRUCT ROADWAY OVER THE UPSTREAM SECTION OF THE CULVERT.
26. REMOVE THE TEMPORARY DETOUR AND SHIFT TRAFFIC.
27. COMPLETE ROADWAY.

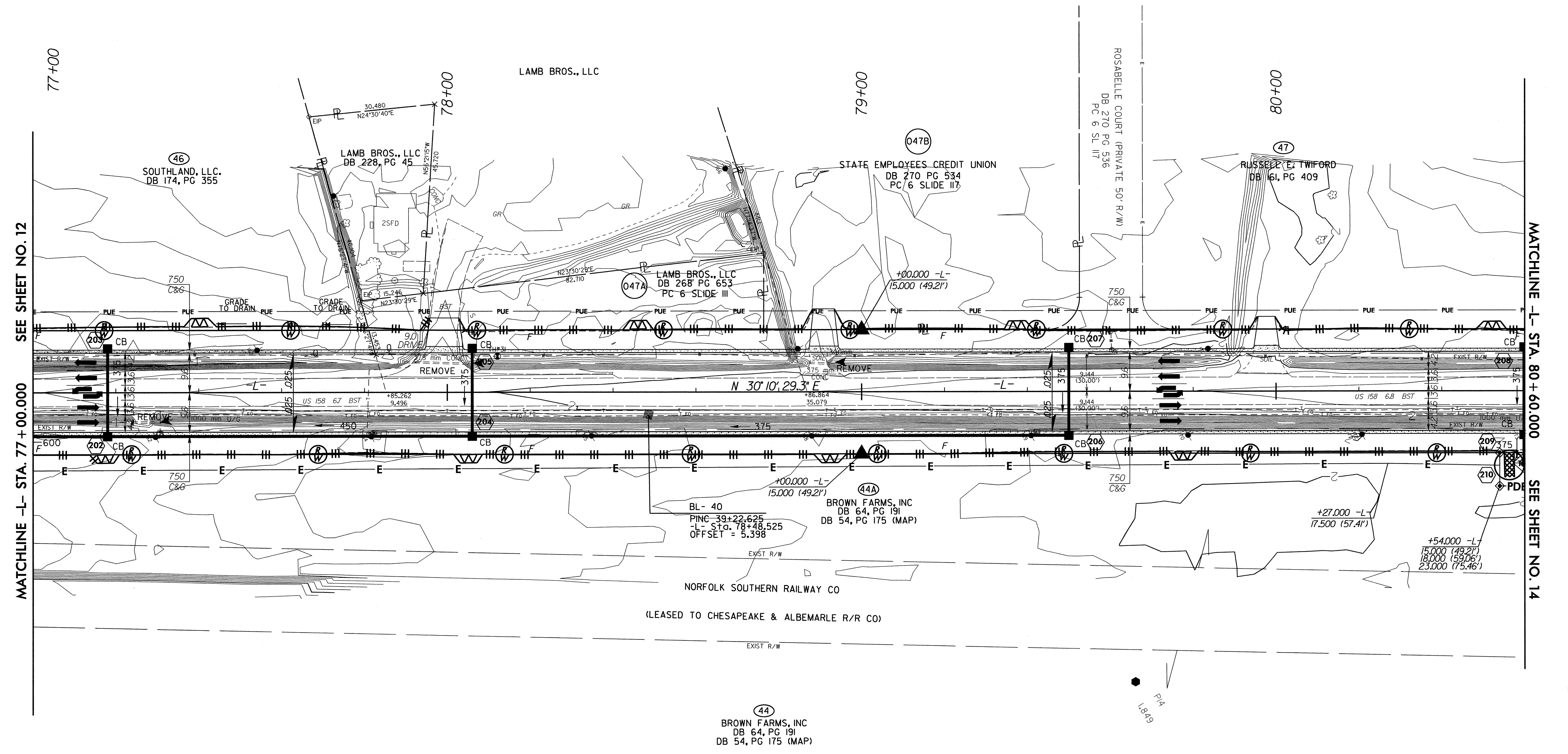
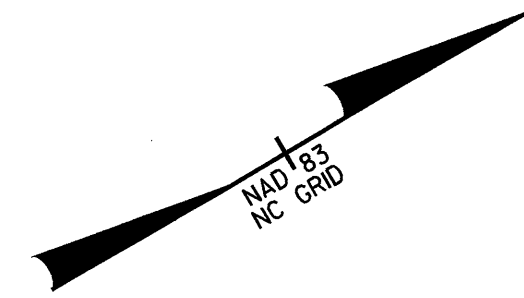
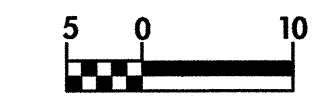


CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 13

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



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-15/CONST.13
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
CONST.REV.	
R/W REV.	



SEE SHEET NO. 12
MATCHLINE -L- STA. 77 + 00.000

MATCHLINE -L- STA. 80 + 60.000
SEE SHEET NO. 14


09-SEP-2010 10:50
RAE: [unclear] R-2414b-EC-const13.dgn

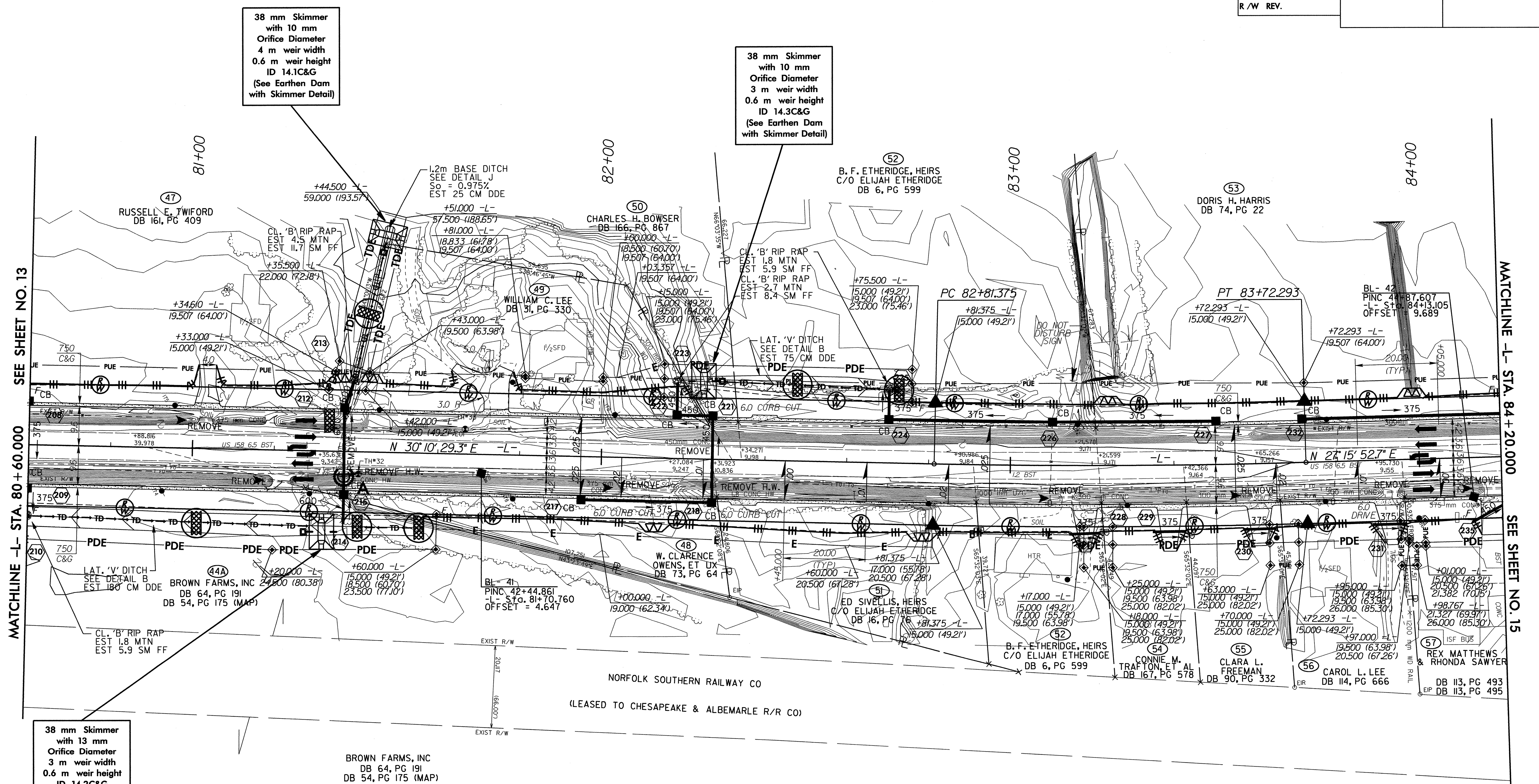
44
BROWN FARMS, INC
DB 64, PG 191
DB 54, PG 175 (MAP)

6/20/99
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 214b-EC-pah14.dwg
 1352

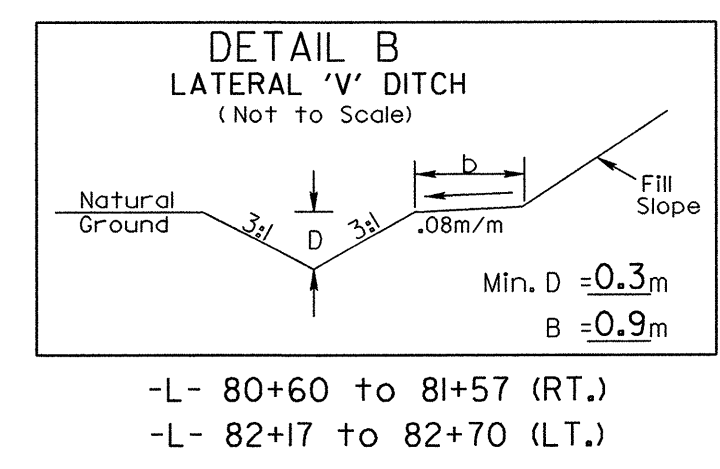
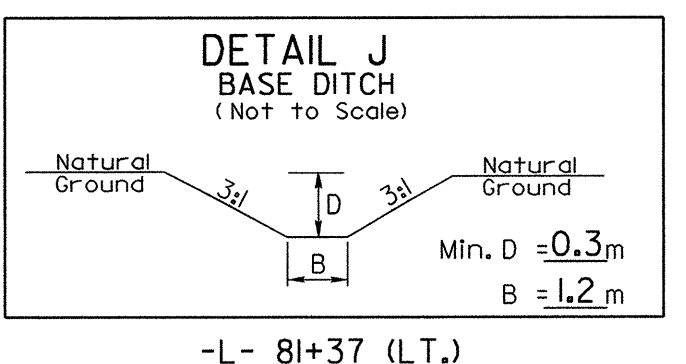
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14

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

 5 0 10 CONST. REV. R/W REV.	PROJECT REFERENCE NO. R-214B	SHEET NO. EC-16/CONST.14
	R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



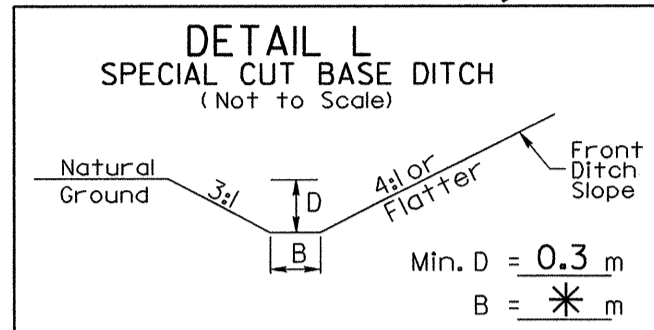
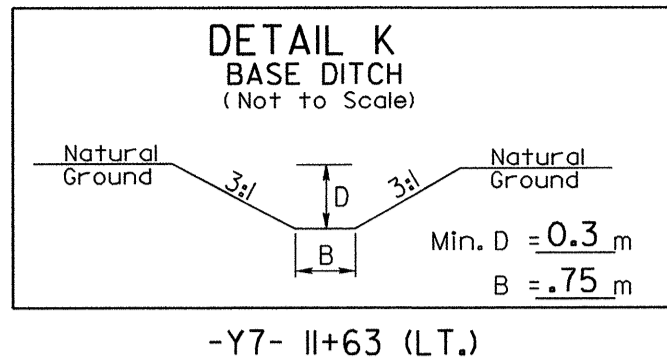
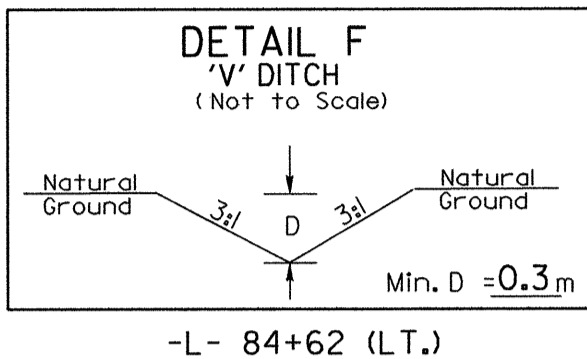
38 mm Skimmer
with 13 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 14.2C&G
(See Earthen Dam
with Skimmer Detail)



-L-
PI Sta 83+26.844
 $\Delta = 2^\circ 54' 36.6''$ (LT)
L = 90.918
T = 45.469
R = 1,790.000
SE = 0.025
R'OFF = 50.625
DS = 80 KM/H

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 15

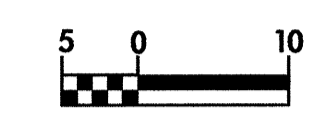
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B
AND TEMPORARY ROCK SILT CHECKS TYPE-A AT
DRAINAGE OUTLETS.



38 mm Skimmer
with 10 mm
Orifice Diameter
5 m weir width
0.6 m weir height
ID 15.1C&G
(See Earthen Dam
with Skimmer Detail)



PROJECT REFERENCE NO.	R-2414B	SHEET NO.	EC-17/CONST.15
ROADWAY DESIGN ENGINEER	R/W SHEET NO.		
HYDRAULICS ENGINEER	CONST.REV.		
	R/W REV.		



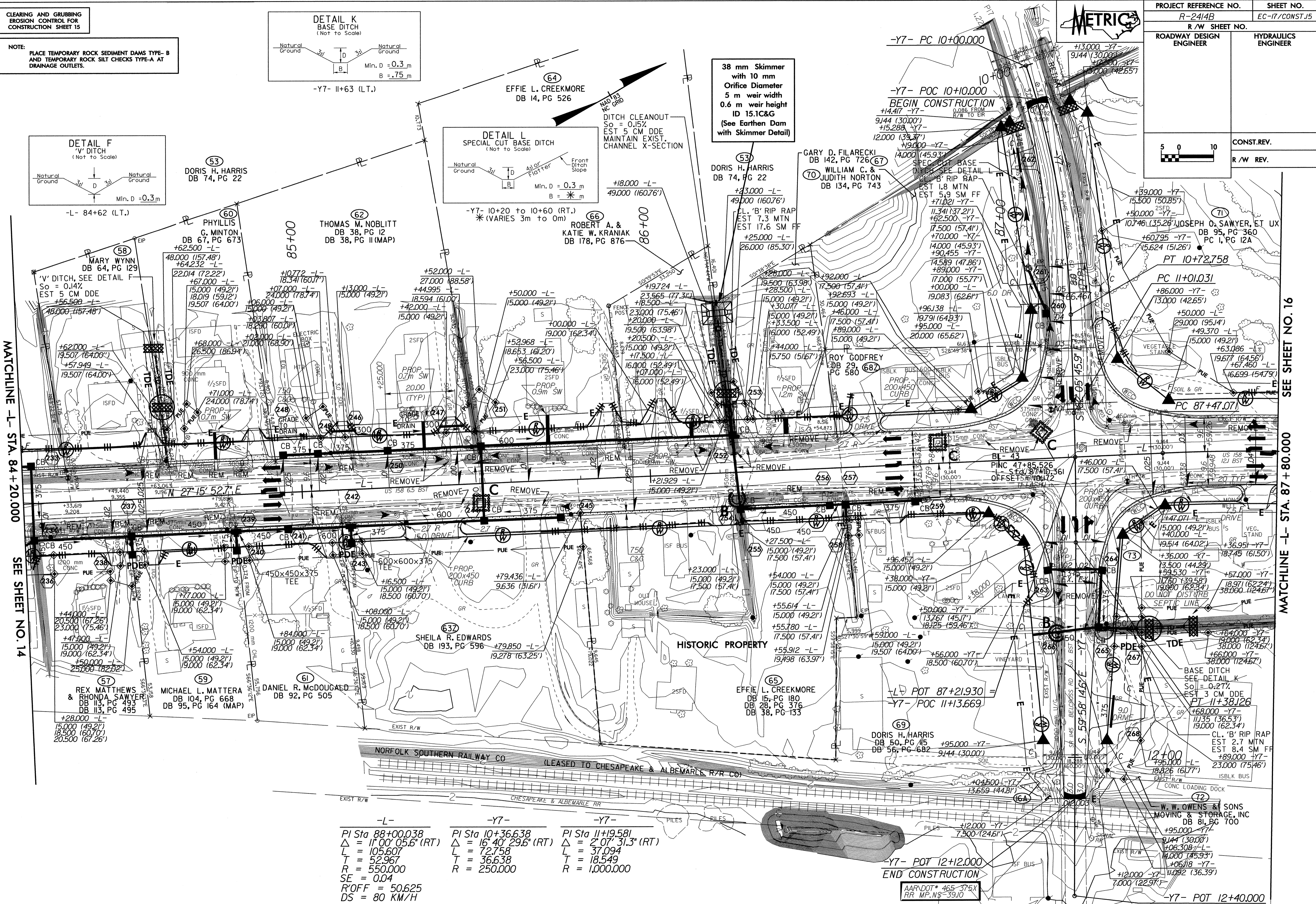
MATCHLINE -L- STA. 84+20.000

SEE SHEET NO. 14

SEE SHEET NO. 16

MATCHLINE -L- STA. 87+80.000

6/10/09
09-SEP-2009 09:54
C:\p15\15.dwg
PLOT: P15.dwg



-L-	-Y7-	-Y7-
PI Sta 88+00.038	PI Sta 10+36.638	PI Sta 11+19.581
$\Delta = 11^{\circ} 00' 05.6"$ (RT)	$\Delta = 16^{\circ} 40' 29.6"$ (RT)	$\Delta = 2^{\circ} 07' 31.3"$ (RT)
L = 105.607	L = 72.758	L = 37.094
T = 52.967	T = 36.638	T = 18.549
R = 550.000	R = 250.000	R = 1,000.000
SE = 0.04		
ROFF = 50.625		
DS = 80 KM/H		

-Y7- POT 12+12.000
END CONSTRUCTION

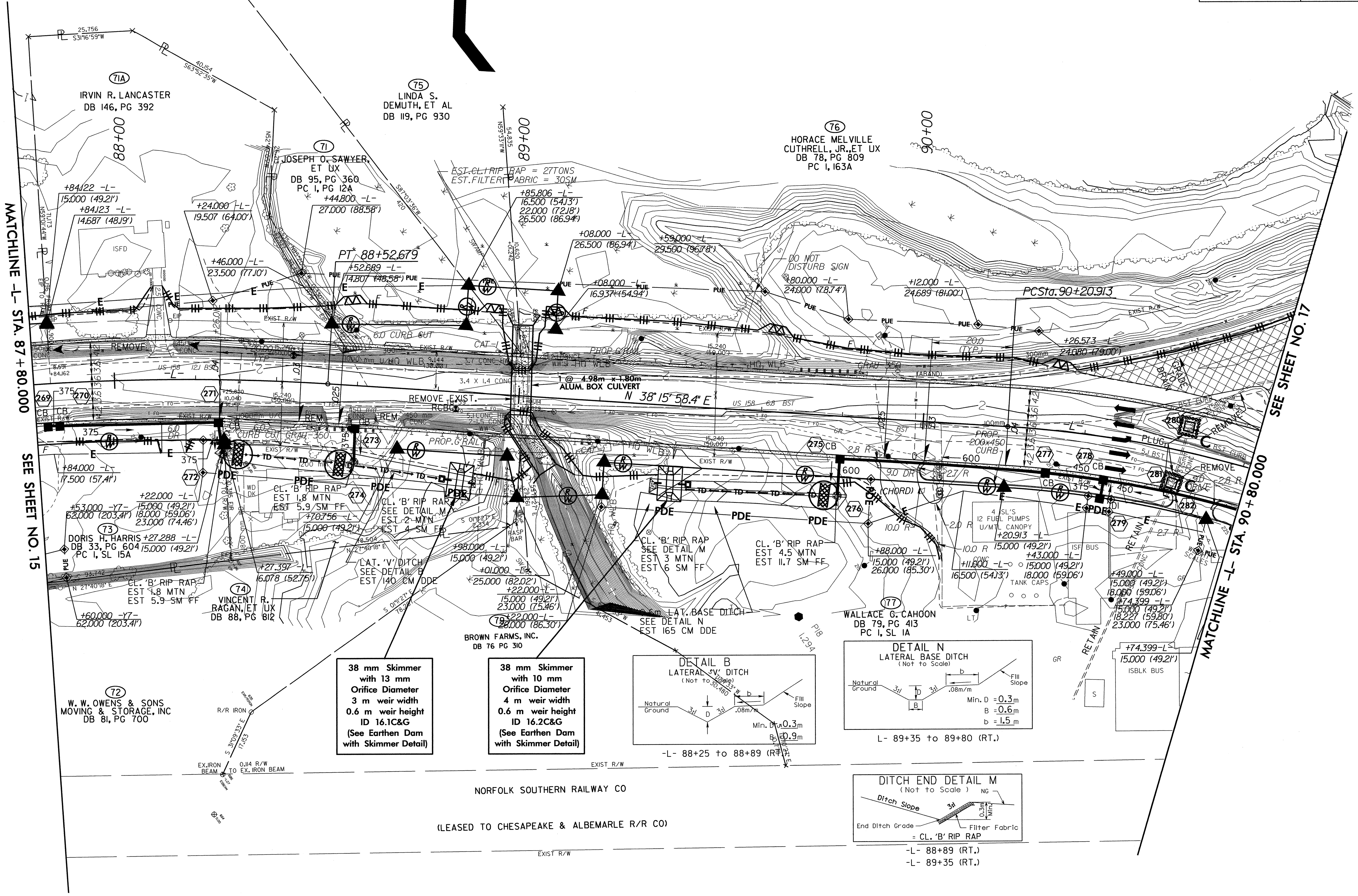
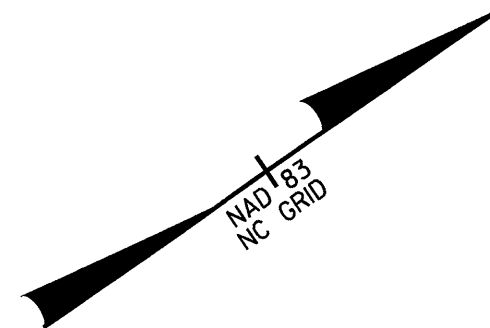
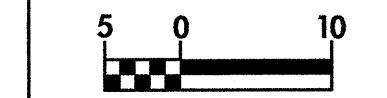
AAR DOT 465 375X
RR MP NS-39.10

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 16

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

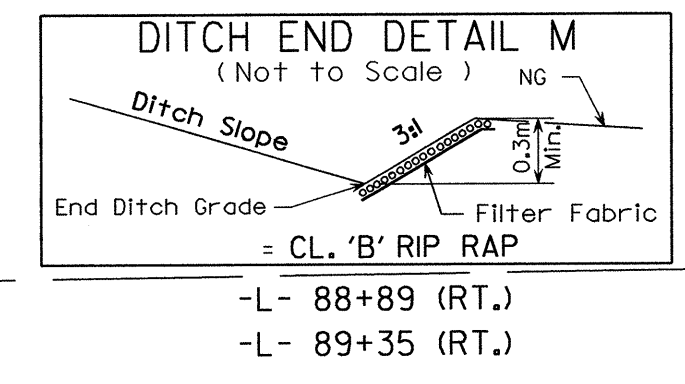
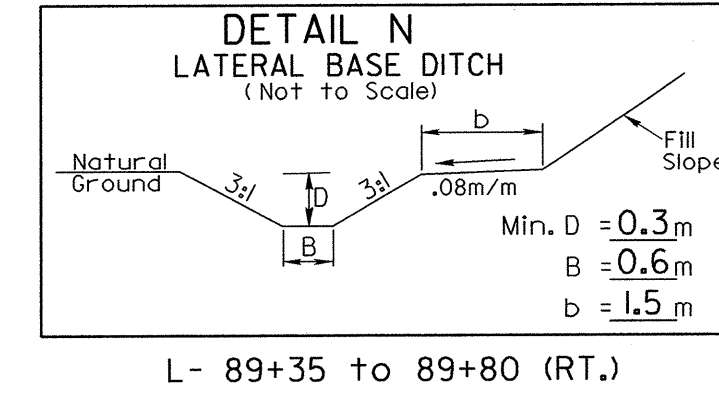
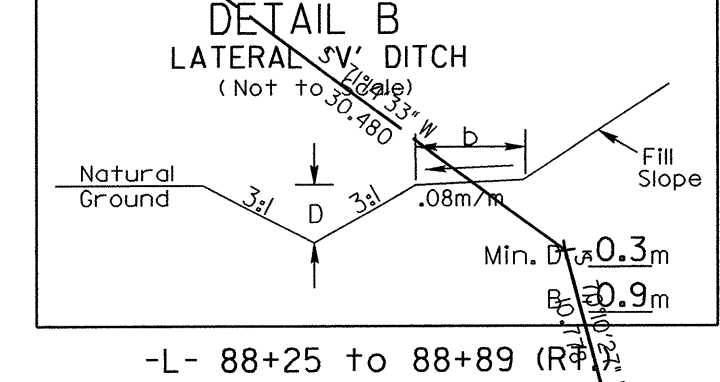


PROJECT REFERENCE NO. R-2414B		SHEET NO. EC-18/CONST.16	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
CONST. REV.			
R/W REV.			



38 mm Skimmer
with 13 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 16.1C&G
(See Earthen Dam
with Skimmer Detail)

38 mm Skimmer
with 10 mm
Orifice Diameter
4 m weir width
0.6 m weir height
ID 16.2C&G
(See Earthen Dam
with Skimmer Detail)



6/10/09
R:\07-DEC-2000_0926
m\p\16.dgn
R:\07-DEC-2000_0926
m\p\16.dgn



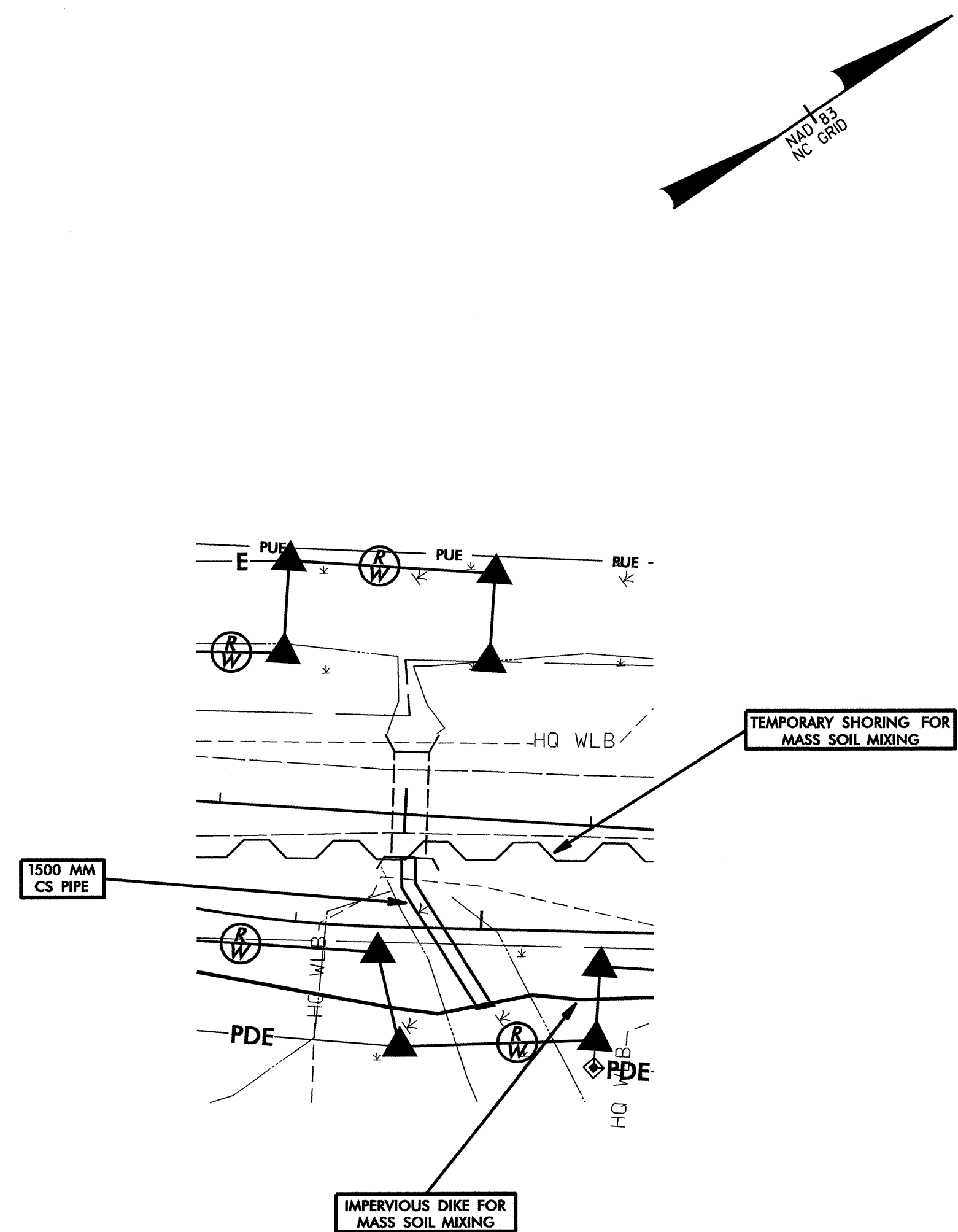
PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-19/CONST16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 89 + 00.50 -L-

(SHEET 1 OF 2)

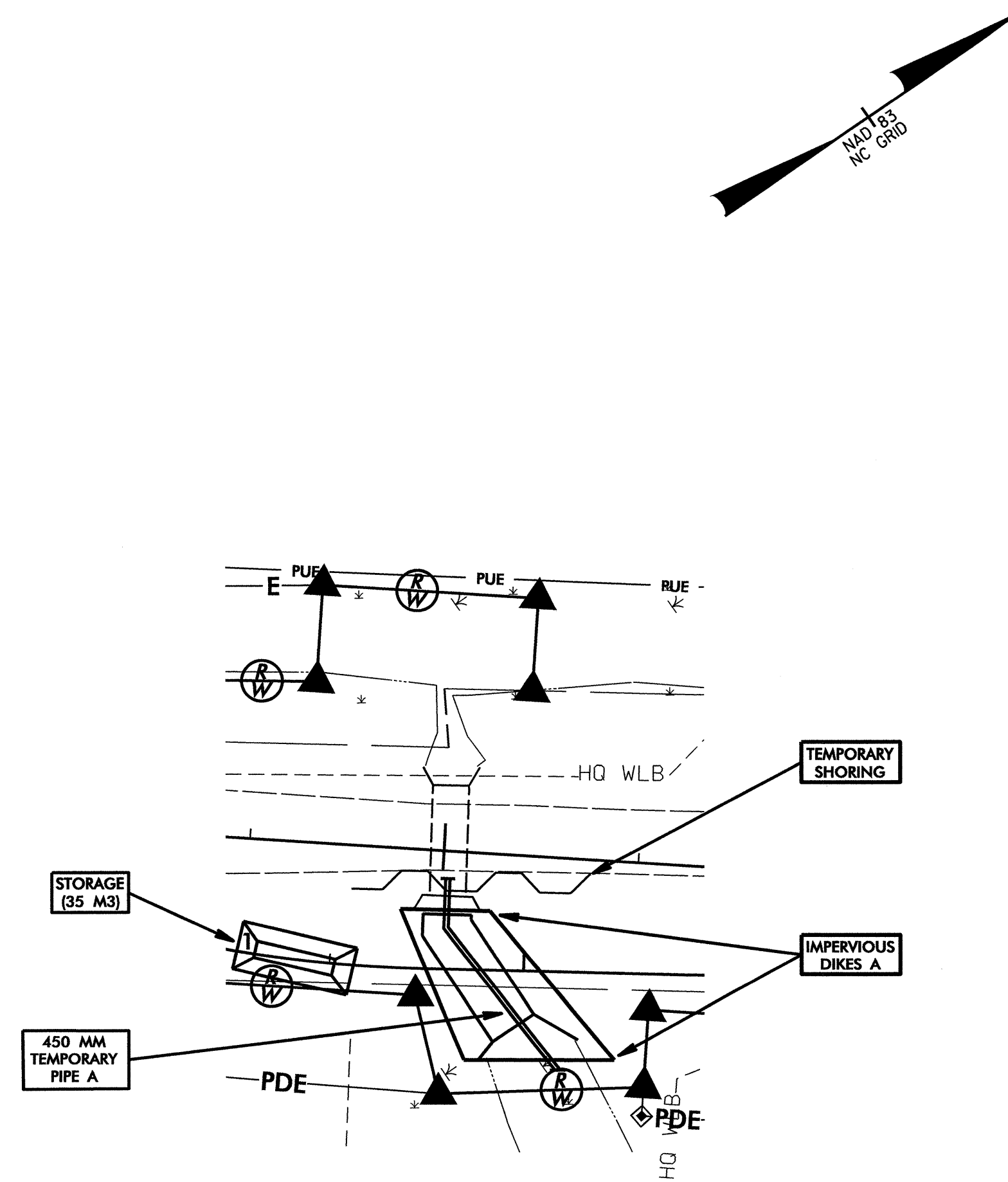
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE I.
2. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
3. INSTALL 1500MM 76.2 X 25.4 CS PIPE WITH ROD AND LUG CONNECTORS.
4. PERFORM MASS SOIL MIXING OPERATION.
5. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPE MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.



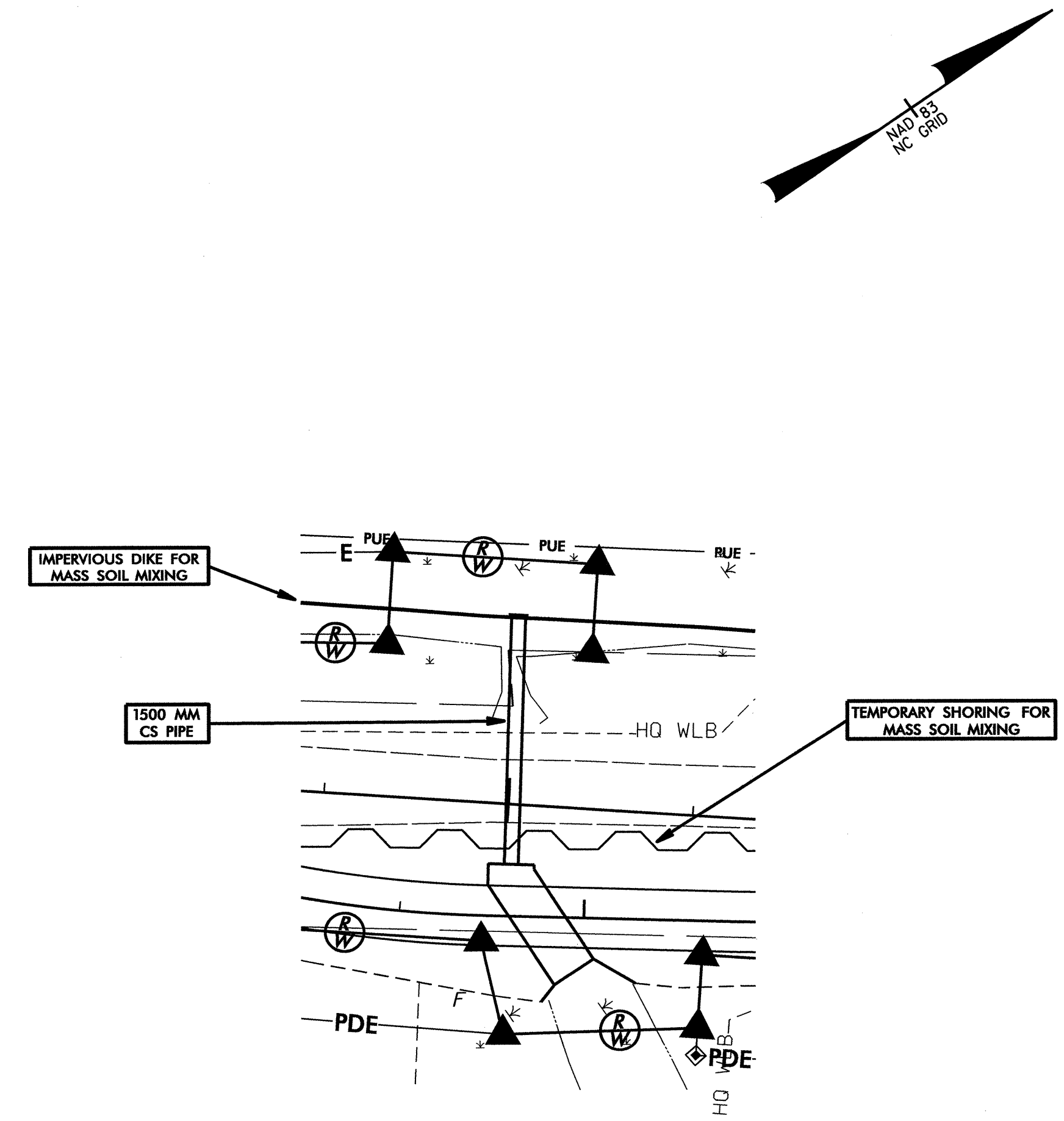
PHASE II

6. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 1 (35 M3).
7. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500MM CS PIPE.
8. CONSTRUCT IMPERVIOUS DIKES A AND INSTALL 450MM TEMPORARY PIPE A, DIVERTING FLOW.
9. CONSTRUCT APPROXIMATELY 14 METERS OF THE UPSTREAM SECTION OF THE PROPOSED CULVERT.
10. REMOVE IMPERVIOUS DIKES A AND TEMPORARY PIPE A.
11. REMOVE STILLING BASIN 1.



PHASE III

12. CONSTRUCT TEMPORARY DETOUR AND SHIFT TRAFFIC.
13. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING PHASE III.
14. REMOVE EXISTING CULVERT.
15. INSTALL TEMPORARY SHORING FOR MASS SOIL MIXING AND CONSTRUCT IMPERVIOUS DIKE FOR MASS SOIL MIXING, AS SPECIFIED BY GEOTECHNICAL PLANS.
16. INSTALL 1500MM 76.2 X 25.4 CS PIPE WITH ROD AND LUG CONNECTORS.
17. PERFORM MASS SOIL MIXING OPERATION.
18. PLACE FILL FOR SURCHARGE AND ALLOW TO SETTLE. NOTE: THE 1500MM PIPE MUST REMAIN OPERATIONAL DURING THE SETTLING OF THE SURCHARGE.





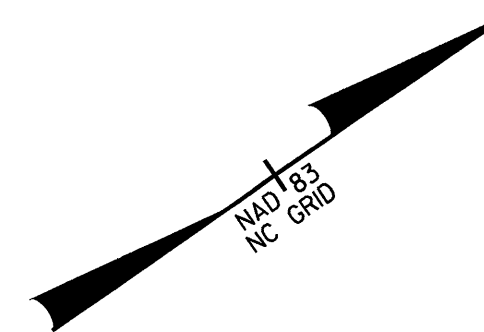
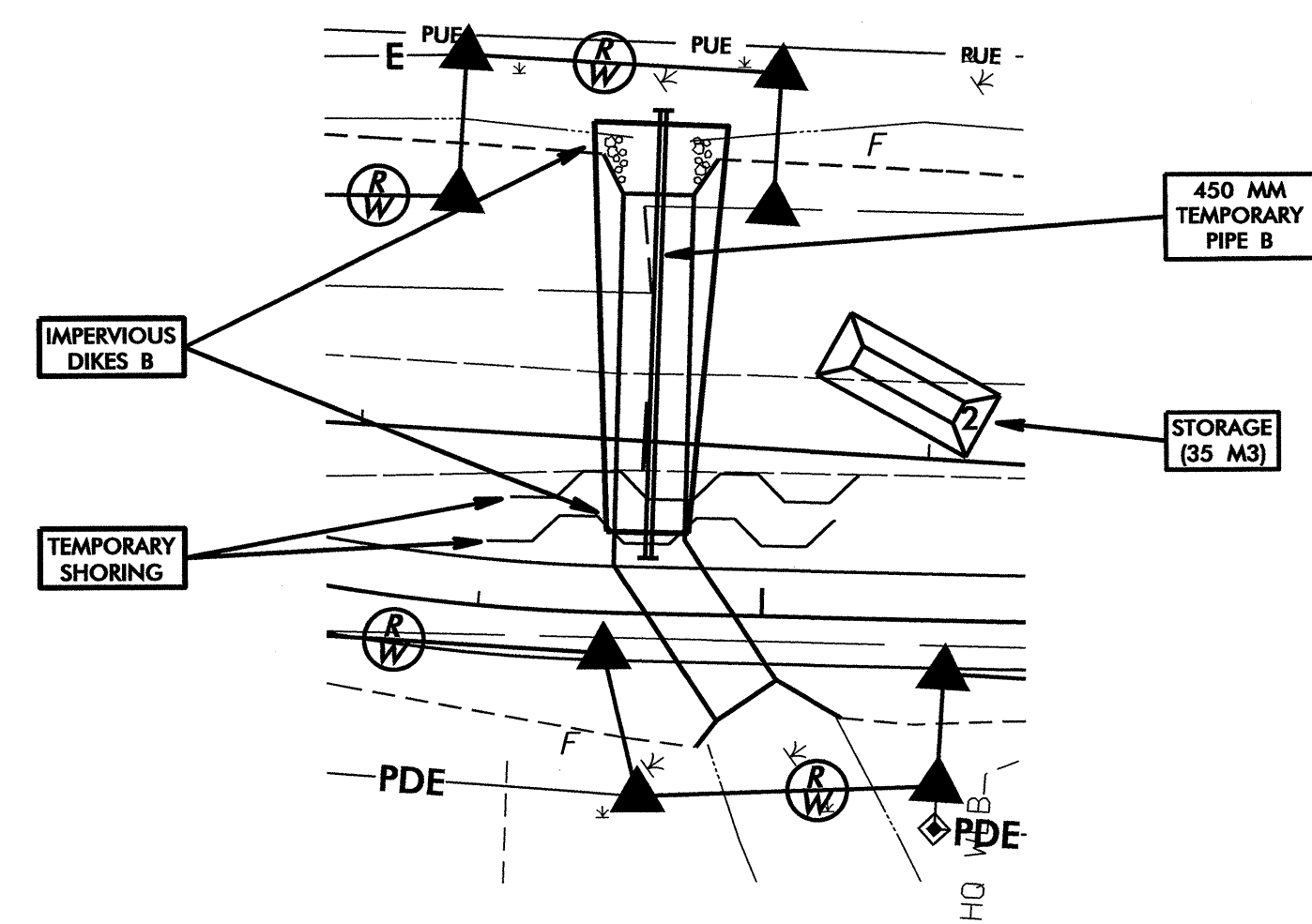
PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-19A/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CULVERT CONSTRUCTION SEQUENCE STA. 89 + 00.50 -L-

(SHEET 2 OF 2)

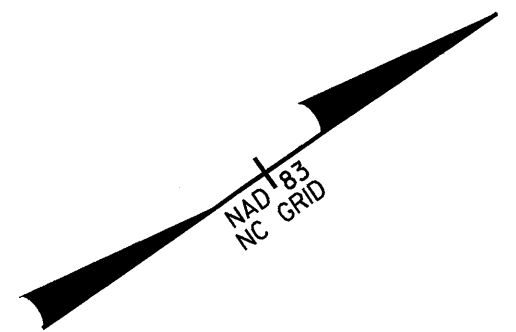
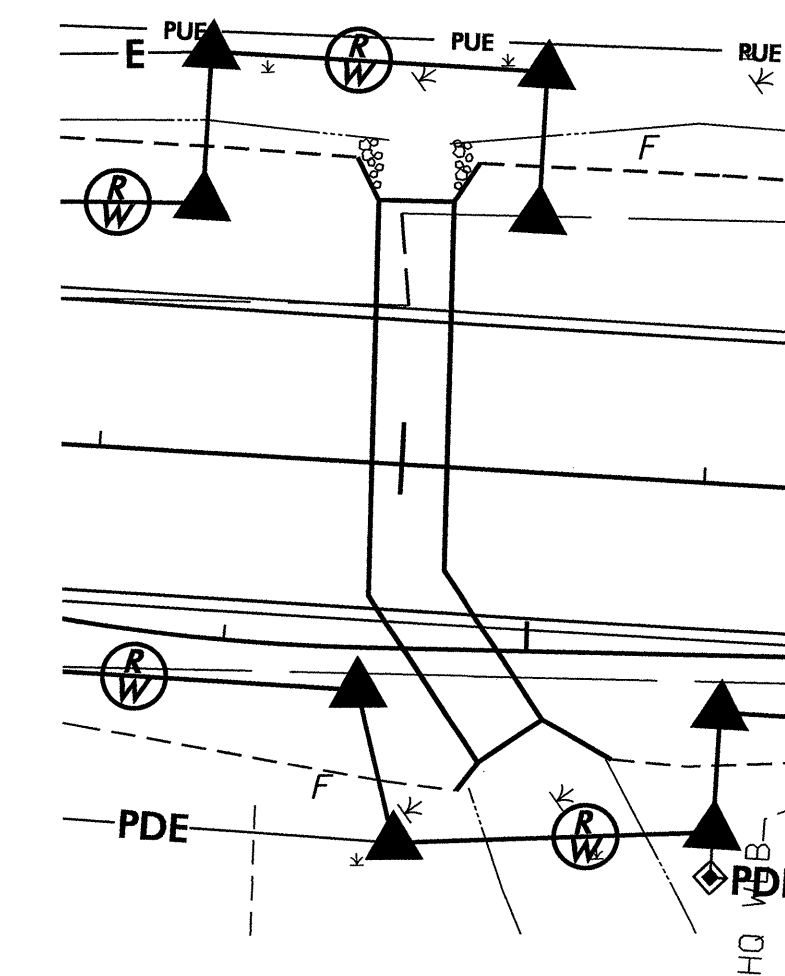
PHASE IV

19. AFTER SETTLING TIME IS COMPLETE, CONSTRUCT STILLING BASIN 2 (35 M3).
20. REMOVE TEMPORARY SHORING FOR MASS SOIL MIXING AND IMPERVIOUS DIKE FOR MASS SOIL MIXING, AND 1500 CS PIPE.
21. CONSTRUCT IMPERVIOUS DIKES B AND INSTALL 450MM TEMPORARY PIPE B, DIVERTING FLOW.
22. CONSTRUCT REMAINDER OF PROPOSED CULVERT AND ANY NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
23. REMOVE IMPERVIOUS DIKES B AND TEMPORARY PIPE B, ALLOWING FLOW THROUGH THE CULVERT.
24. REMOVE STILLING BASIN 2.



PHASE V

25. CONSTRUCT ROADWAY OVER THE DOWNSTREAM SECTION OF THE CULVERT.
26. REMOVE TEMPORARY DETOUR AND SHIFT TRAFFIC.
27. COMPLETE ROADWAY.

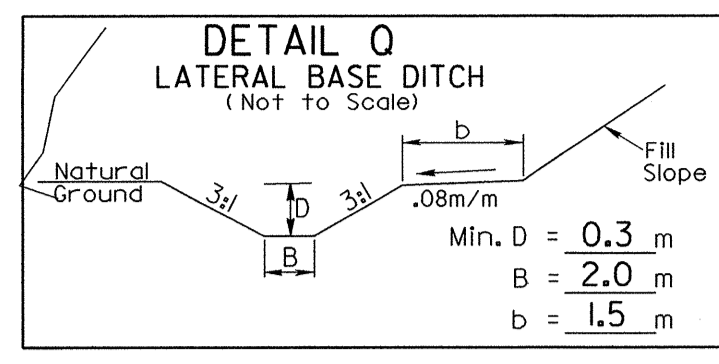


(76)
HORACE MELVILLE
CUTHRELL, JR., ET UX
DB 78, PG 809
PC 1, 16.3A

-Y8- POT 11+00.00
BEGIN CONSTRUCTION

+39.000 -Y8-
18.000 (59.06')

+47.000 -Y8-
17.256 (56.61')



-L- 91+60 to 92+40 (LT.)

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 17

METRIC

5 0 10

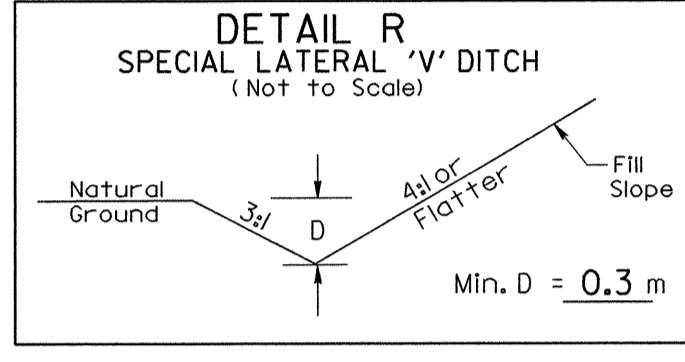
CONST. REV.

R/W REV.

PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-20/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

(78)
C. RUSSELL HASTINGS
AND
CALVIN LAMB
DB 119, PG 94
PC 2, SL 55A

38 mm Skimmer
with 20 mm
Orifice Diameter
5 m weir width
0.6 m weir height
ID 17.1C&G
(See Earthen Dam
with Skimmer Detail)

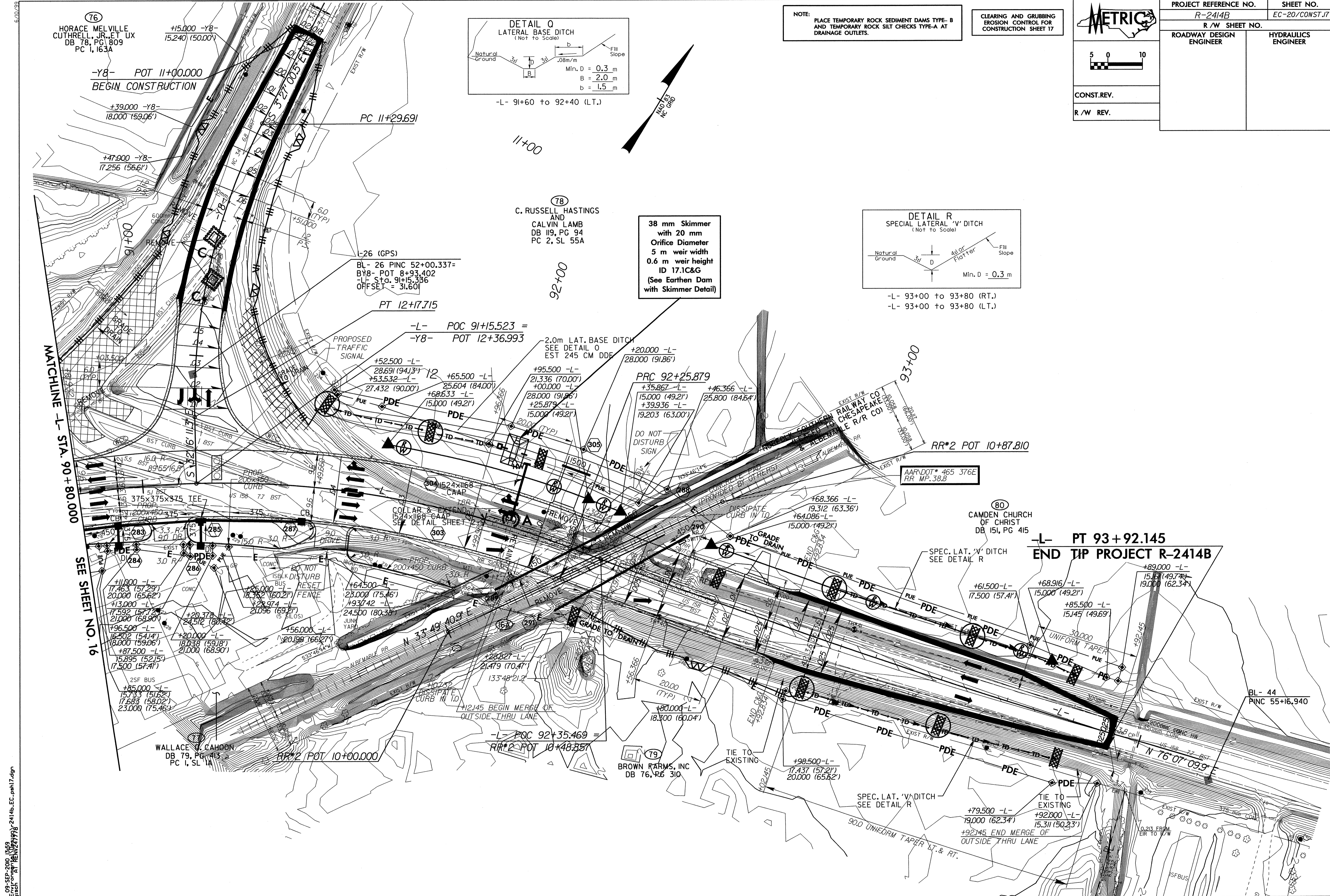


-L- 93+00 to 93+80 (RT.)
-L- 93+00 to 93+80 (LT.)

MATCHLINE -L- STA. 90+80.000

SEE SHEET NO. 16

-L- PT 93+92.145
END TIP PROJECT R-2414B

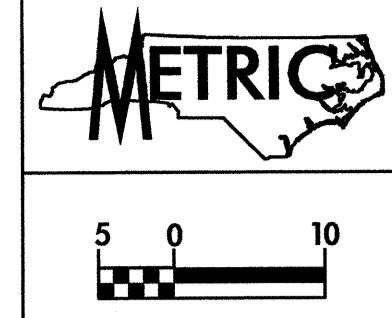
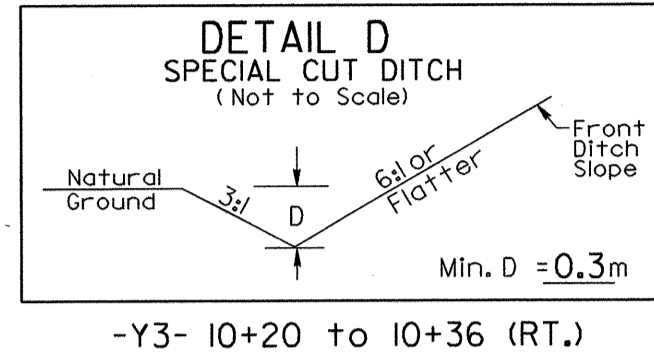
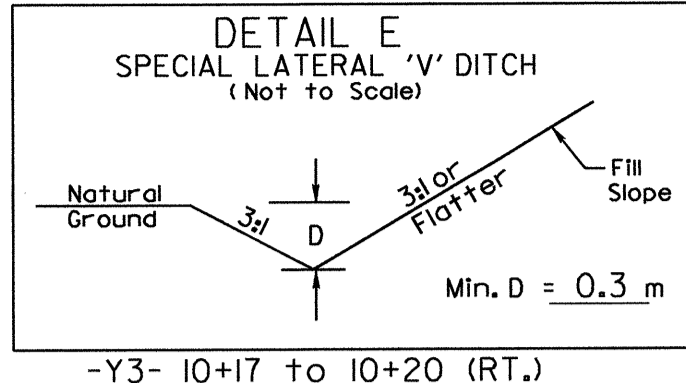
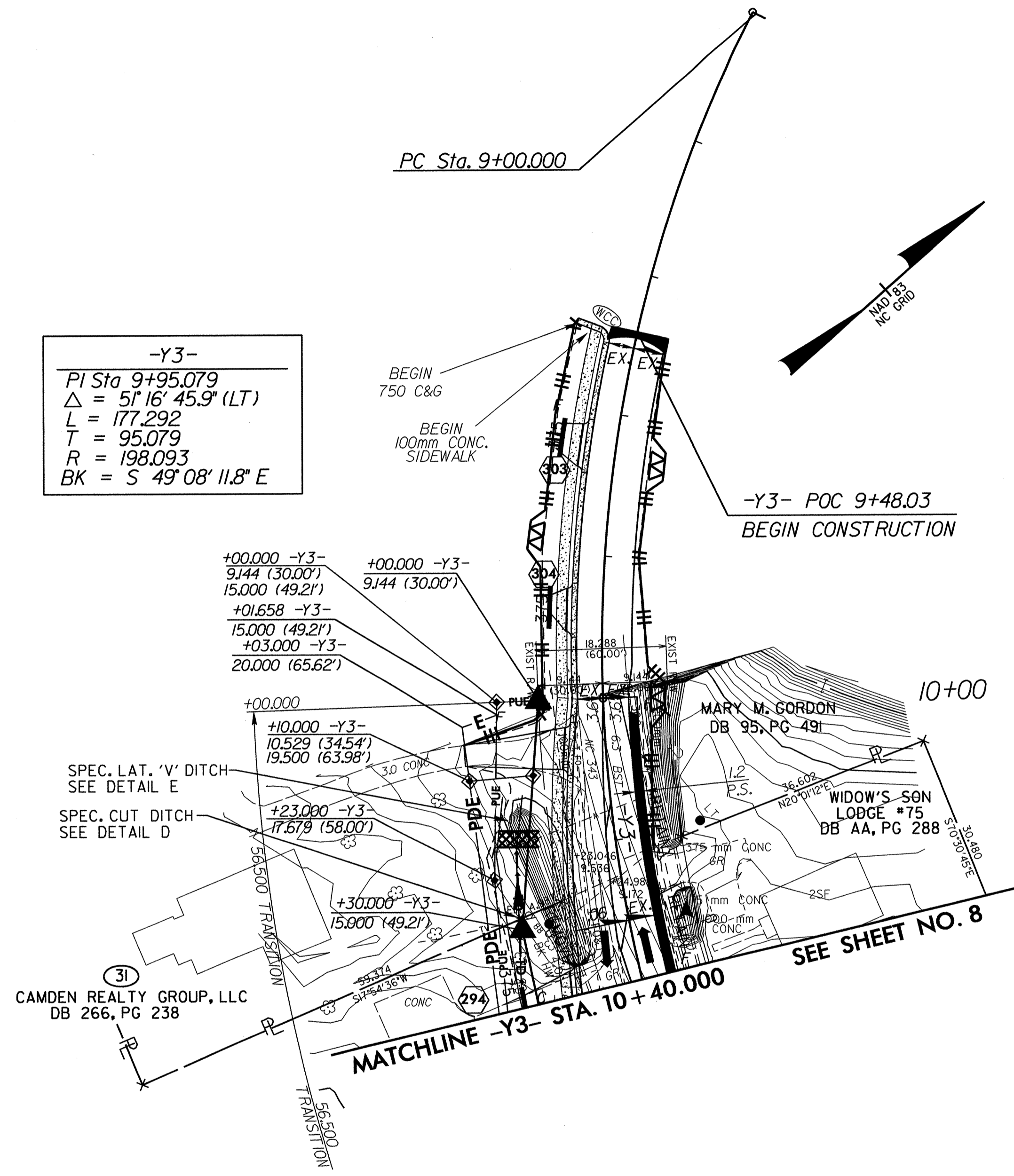


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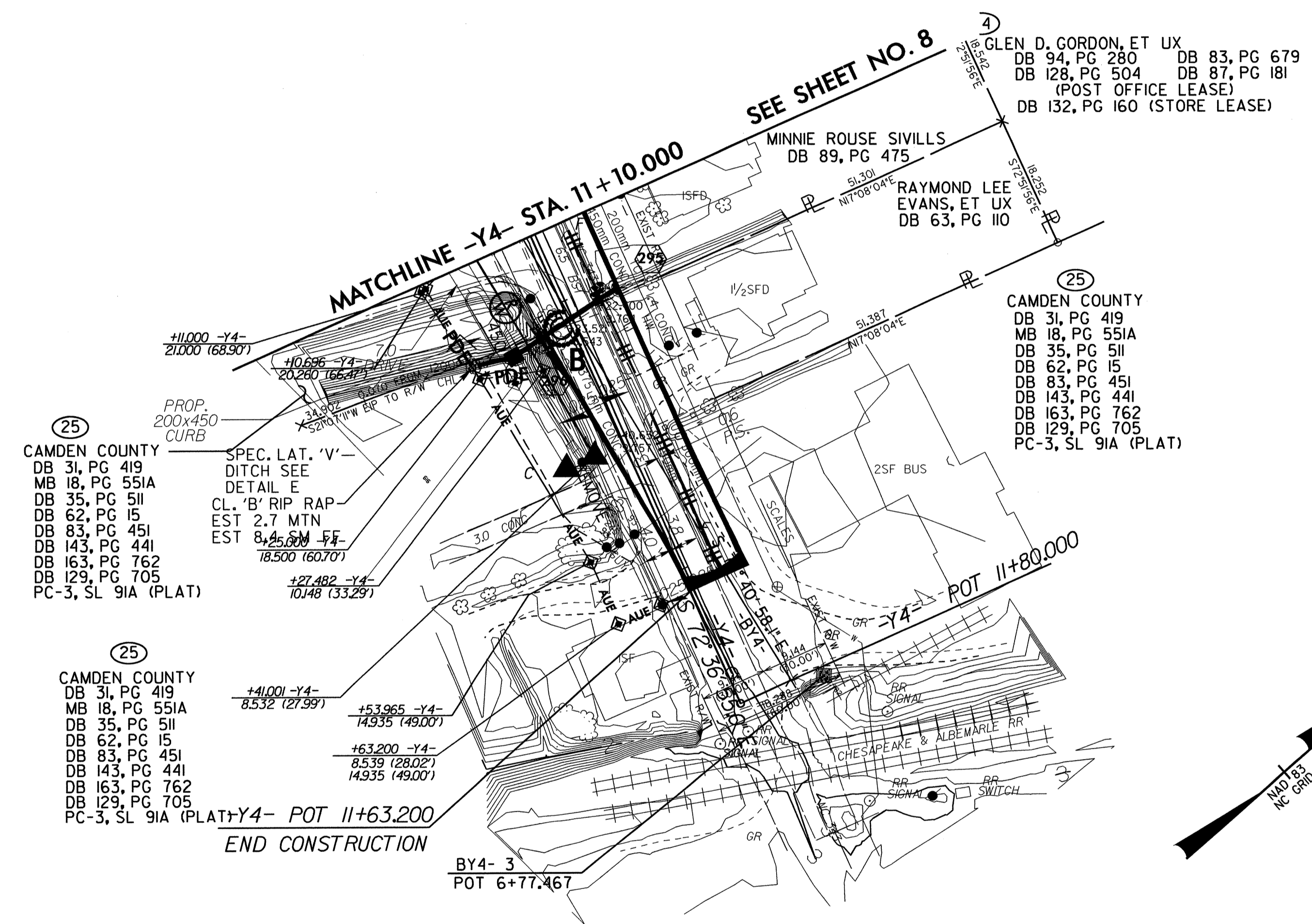
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 18

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

-Y3-
PI Sta 9+95.079
 $\Delta = 5^\circ 16' 45.9''$ (LT)
L = 177.292
T = 95.079
R = 198.093
BK = S 49° 08' 11.8" E



PROJECT REFERENCE NO. R-2414B		SHEET NO. EC-21/CONST.18	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
CONST. REV.			
R/W REV.			

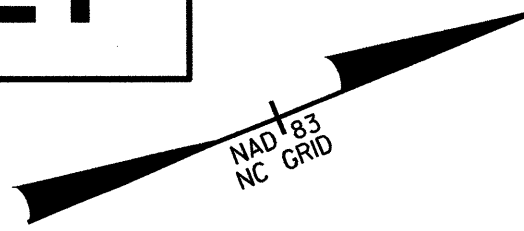
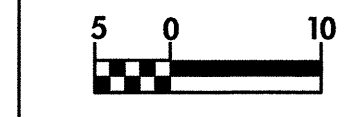


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2414b_EC.plt\18.dgn

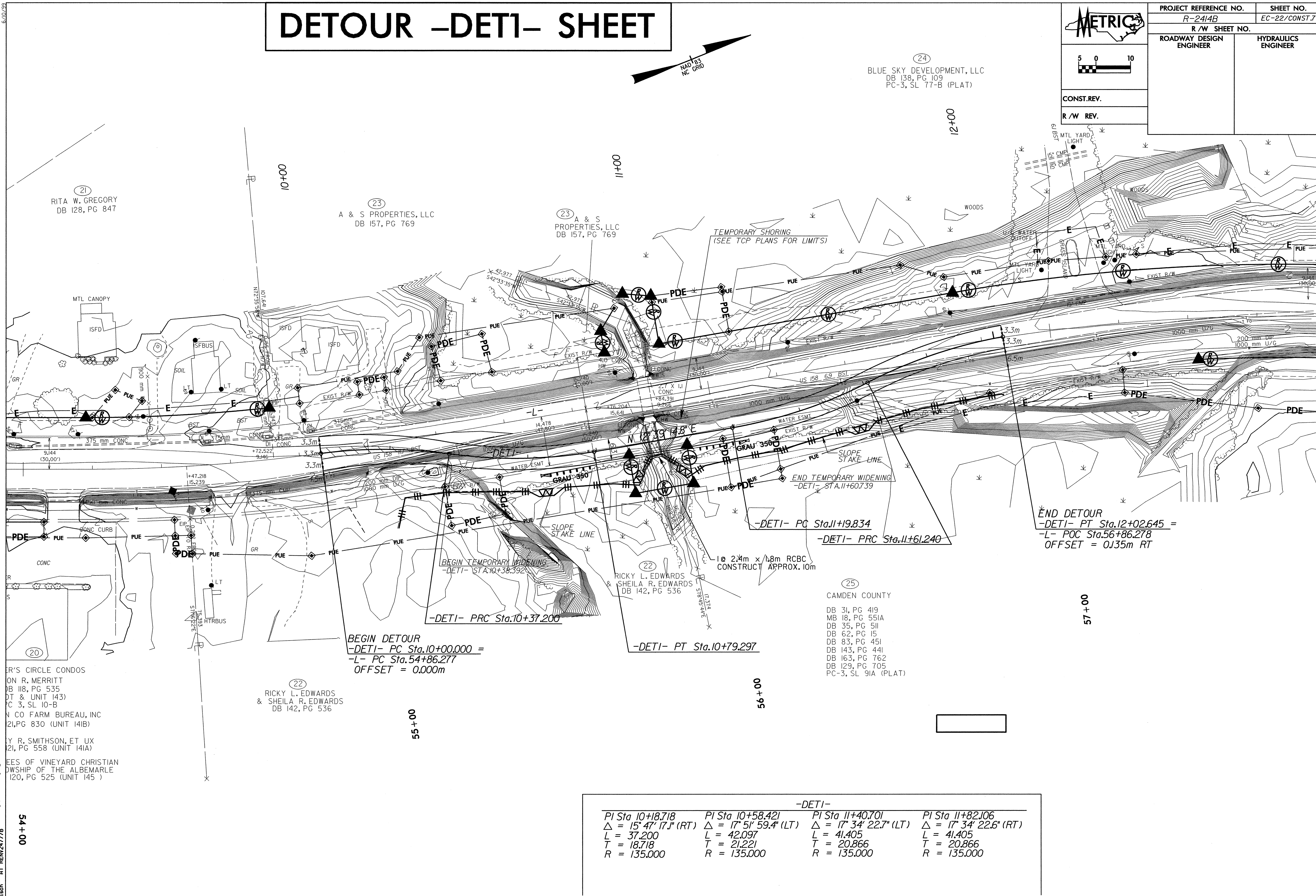
DETOUR -DET1- SHEET



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-22/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.	
R/W REV.	



BLUE SKY DEVELOPMENT, LLC
DB 138, PG 109
PC-3, SL 77-B (PLAT)



21 RITA W. GREGORY
DB 128, PG 847

23 A & S PROPERTIES, LLC
DB 157, PG 769

23 A & S PROPERTIES, LLC
DB 157, PG 769

22 RICKY L. EDWARDS & SHEILA R. EDWARDS
DB 142, PG 536

25 CAMDEN COUNTY
DB 31, PG 419
MB 18, PG 551A
DB 35, PG 511
DB 62, PG 15
DB 83, PG 451
DB 143, PG 441
DB 163, PG 762
DB 129, PG 705
PC-3, SL 91A (PLAT)

20 R'S CIRCLE CONDOS
ON R. MERRITT
DB 118, PG 535
DT & UNIT 143)
PC 3, SL 10-B
N CO FARM BUREAU, INC
21, PG 830 (UNIT 141B)
Y. R. SMITHSON, ET UX
21, PG 558 (UNIT 141A)

22 RICKY L. EDWARDS & SHEILA R. EDWARDS
DB 142, PG 536

20 EES OF VINEYARD CHRISTIAN
DWSHIP OF THE ALBEMARLE
120, PG 525 (UNIT 145)

54+00

55+00

56+00

57+00

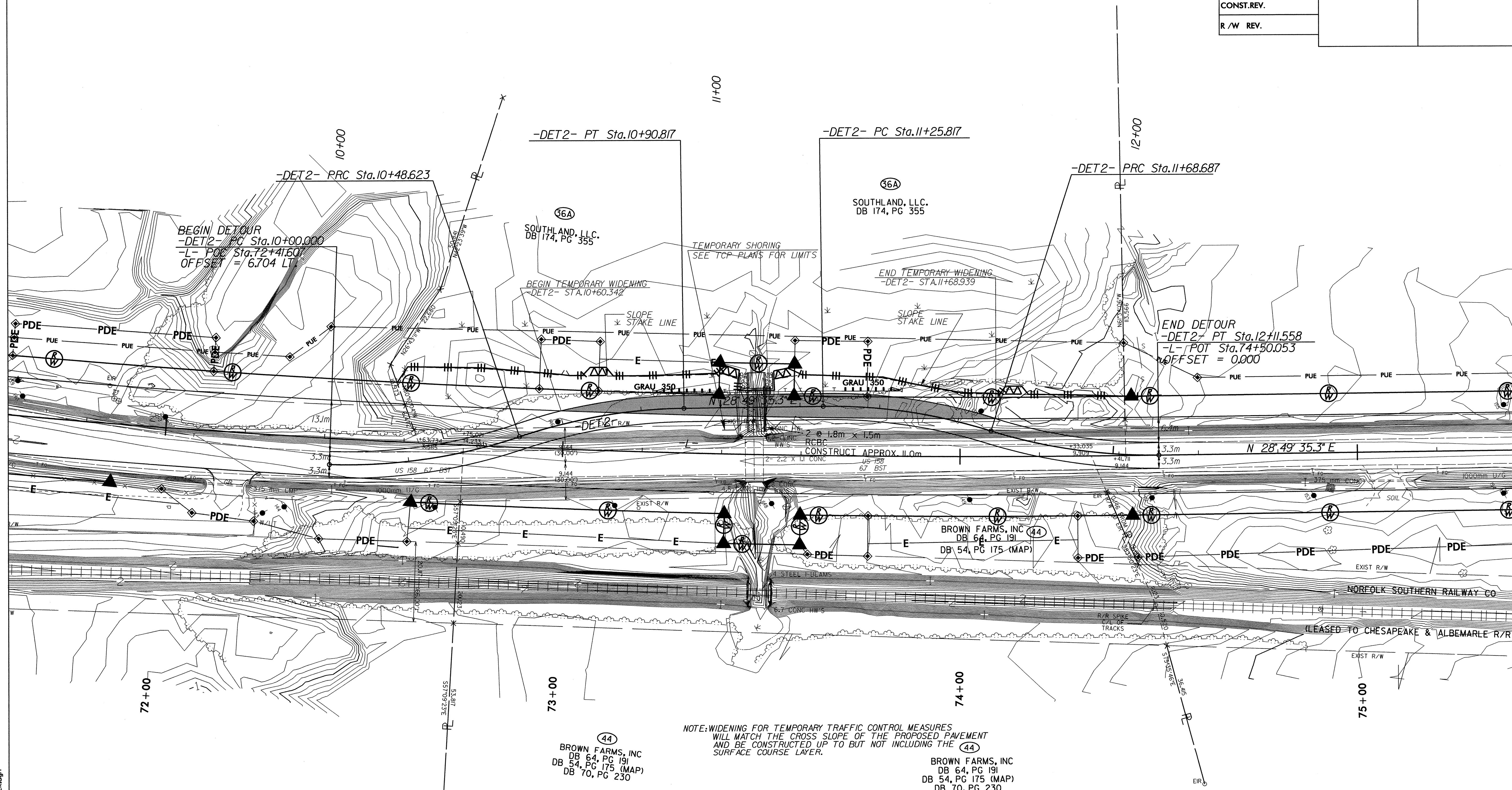
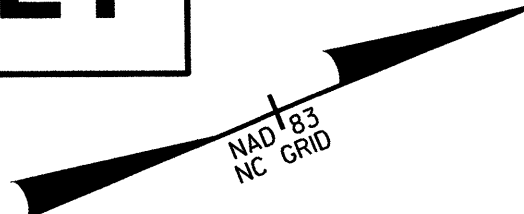
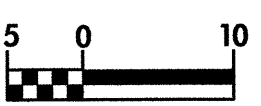
-DET1-			
PI Sta 10+18.718	PI Sta 10+58.421	PI Sta 11+40.701	PI Sta 11+82.106
$\Delta = 15^{\circ} 47' 17.1''$ (RT)	$\Delta = 17^{\circ} 51' 59.4''$ (LT)	$\Delta = 17^{\circ} 34' 22.7''$ (LT)	$\Delta = 17^{\circ} 34' 22.6''$ (RT)
L = 37.200	L = 42.097	L = 41.405	L = 41.405
T = 18.718	T = 21.221	T = 20.866	T = 20.866
R = 135.000	R = 135.000	R = 135.000	R = 135.000

09-SEP-2010 14:56
 R:\E:\projects\2414B\2414B-rcd\psh-dw-2.dgn
 m:\b\psh\2414B\2414B-rcd\psh-dw-2.dgn

DETOUR -DET2- SHEET



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-23/CONST.12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.	
R/W REV.	



-DET2-			
PI Sta 10+24.578	PI Sta 10+69.893	PI Sta 11+47.434	PI Sta 11+90.304
$\Delta = 20^{\circ} 38' 10.0''$ (LT)	$\Delta = 17^{\circ} 54' 27.4''$ (RT)	$\Delta = 18^{\circ} 11' 41.5''$ (RT)	$\Delta = 18^{\circ} 11' 41.5''$ (LT)
L = 48.623	L = 42.194	L = 42.871	L = 42.871
T = 24.578	T = 21.270	T = 21.617	T = 21.617
R = 135.000	R = 135.000	R = 135.000	R = 135.000

LIMITS OF TEMPORARY PAVEMENT FOR CONSTRUCTION OF PROPOSED CULVERTS

NOTE: WIDENING FOR TEMPORARY TRAFFIC CONTROL MEASURES WILL MATCH THE GROSS SLOPE OF THE PROPOSED PAVEMENT AND BE CONSTRUCTED UP TO BUT NOT INCLUDING THE SURFACE COURSE LAYER.

09-SEP-2010 14:34 R:\enviro\cadd\14b_rdy_pah_de\2k.dgn

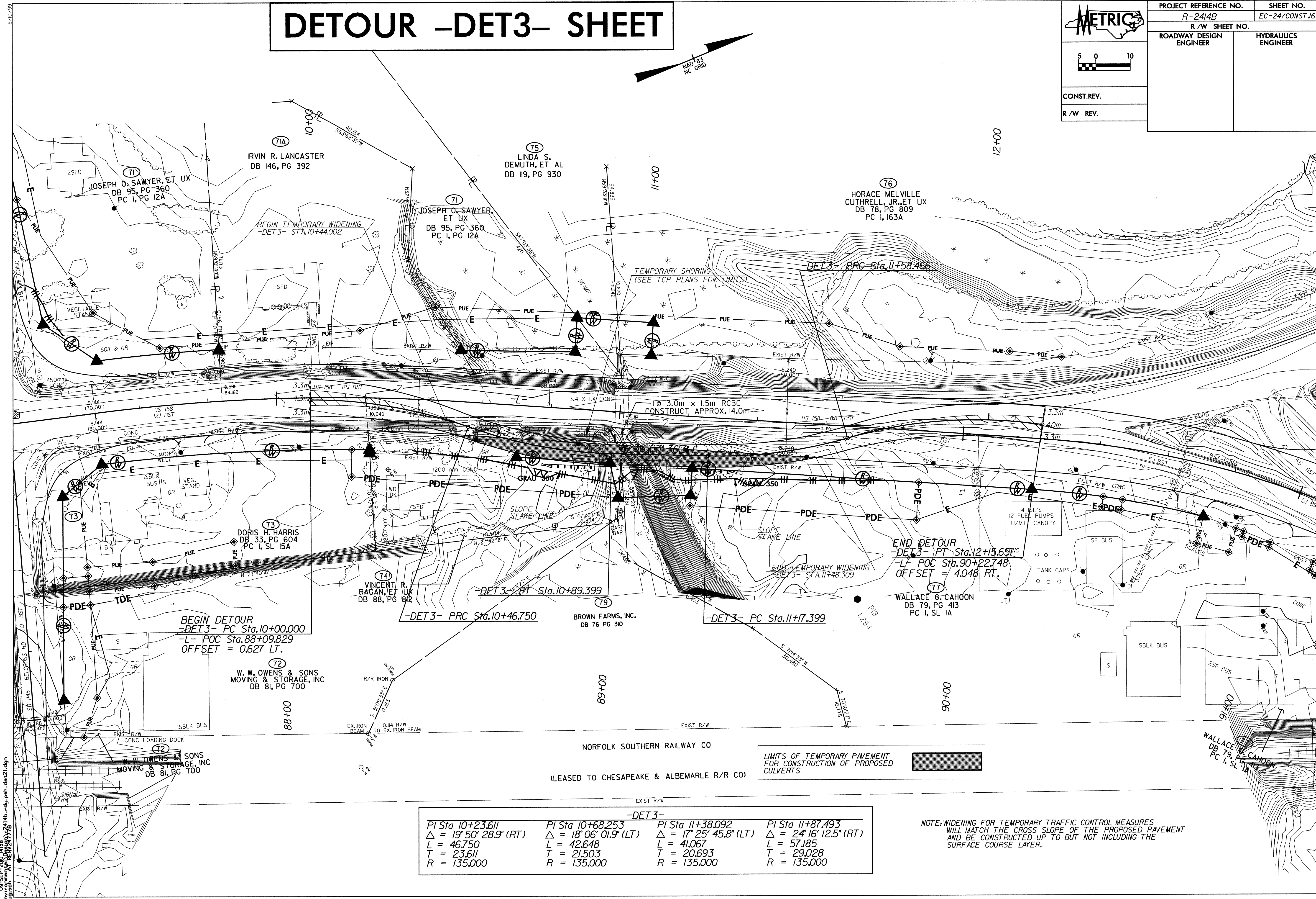
DETOUR -DET3- SHEET

METRIC

PROJECT REFERENCE NO. R-2414B SHEET NO. EC-24/CONST16
 R/W SHEET NO.
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

CONST.REV.
 R/W REV.

5 0 10



BEGIN DETOUR
 -DET3- PC Sta.10+00.000
 -L- POC Sta.88+09.829
 OFFSET = 0.627 LT.

-DET3- PRC Sta.10+46.750

-DET3- PT Sta.10+89.399

-DET3- PC Sta.11+17.399

END DETOUR
 -DET3- IPT Sta.12+15.651 MC
 -L- POC Sta.90+22.748
 OFFSET = 4.048 RT.

-DET3-

PI Sta 10+23.611	PI Sta 10+68.253	PI Sta 11+38.092	PI Sta 11+87.493
$\Delta = 19^{\circ} 50' 28.9" (RT)$	$\Delta = 18^{\circ} 06' 01.9" (LT)$	$\Delta = 17^{\circ} 25' 45.8" (LT)$	$\Delta = 24^{\circ} 16' 12.5" (RT)$
L = 46.750	L = 42.648	L = 41.067	L = 57.185
T = 23.611	T = 21.503	T = 20.693	T = 29.028
R = 135.000	R = 135.000	R = 135.000	R = 135.000


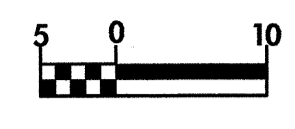
LIMITS OF TEMPORARY PAVEMENT FOR CONSTRUCTION OF PROPOSED CULVERTS

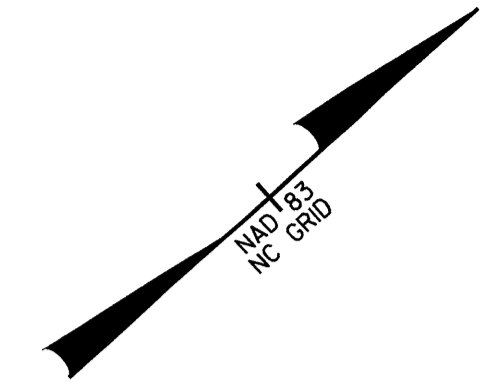
NOTE: WIDENING FOR TEMPORARY TRAFFIC CONTROL MEASURES WILL MATCH THE CROSS SLOPE OF THE PROPOSED PAVEMENT AND BE CONSTRUCTED UP TO BUT NOT INCLUDING THE SURFACE COURSE LAYER.

09-SEP-2010 14:38
 RAE:cv:sm:rs:2414b-04-ph-sh-dt2.dgn
 11/15/10 11:17:16

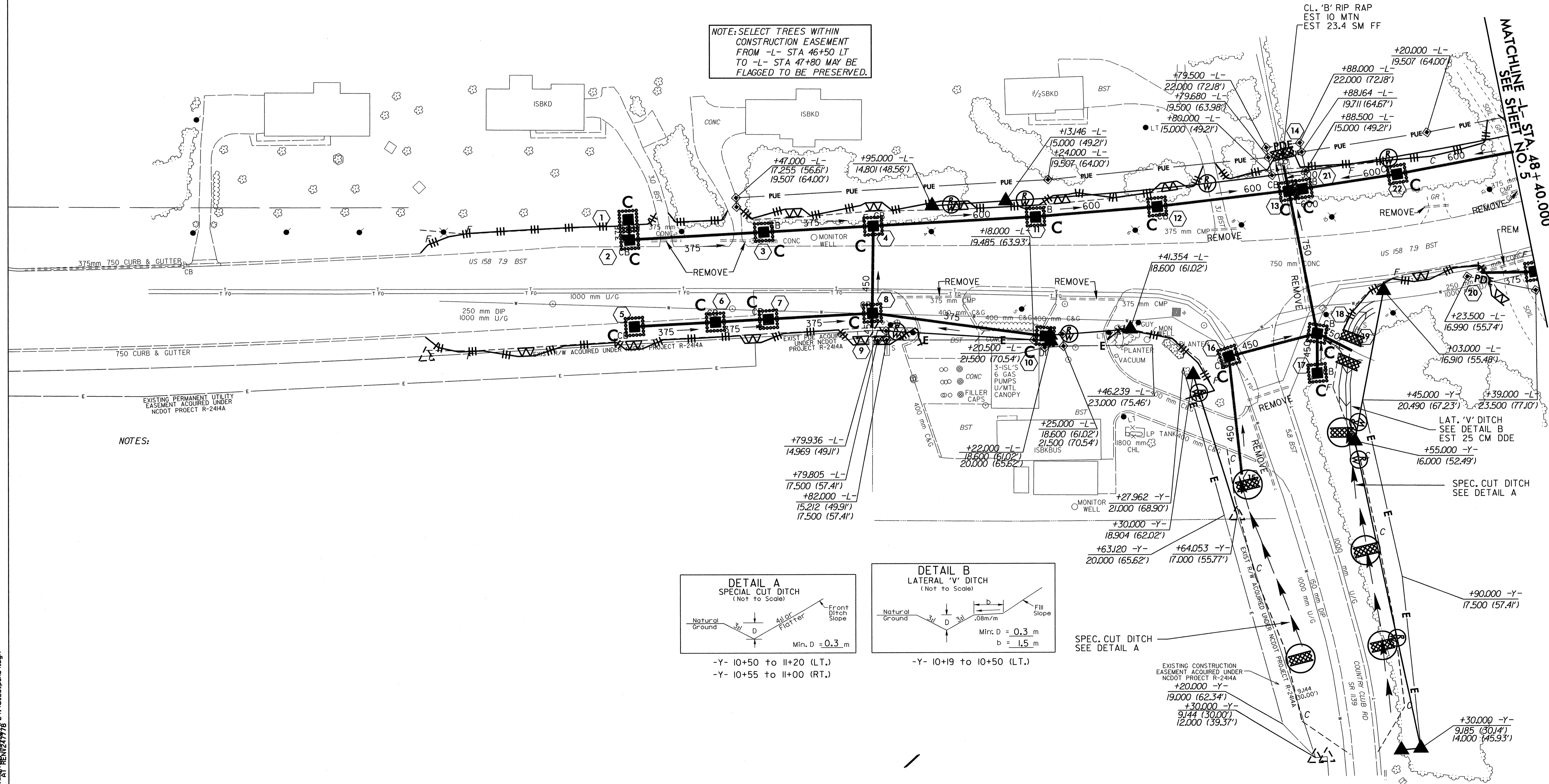
6/10/23

REVISIONS

	PROJECT REFERENCE NO.	SHEET NO.
	R-2414B	EC-25/CONST.4
	R/W SHEET NO.	
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.		
R/W REV.		



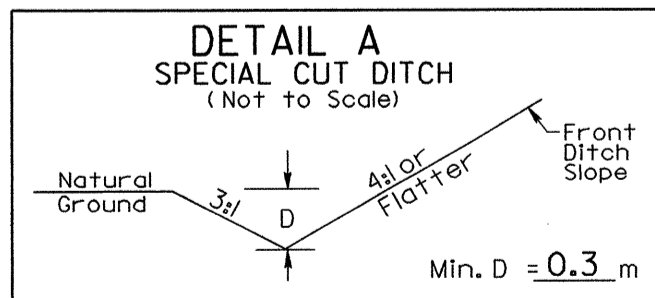
NOTE: SELECT TREES WITHIN CONSTRUCTION EASEMENT FROM -L- STA 46+50 LT TO -L- STA 47+80 MAY BE FLAGGED TO BE PRESERVED.



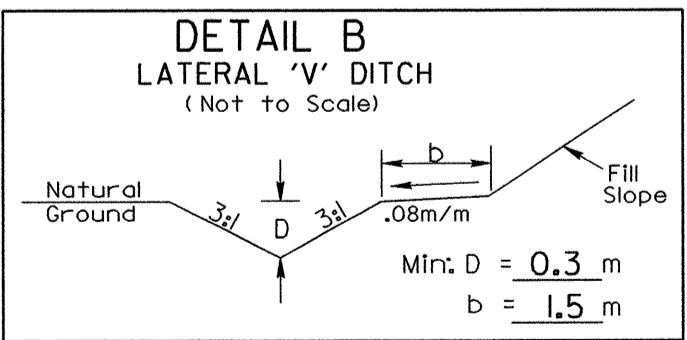
NOTES:

EXISTING PERMANENT UTILITY EASEMENT ACQUIRED UNDER NCDOT PROJECT R-2414A

EXISTING CONSTRUCTION EASEMENT ACQUIRED UNDER NCDOT PROJECT R-2414A



-Y- 10+50 to 11+20 (LT.)
-Y- 10+55 to 11+00 (RT.)

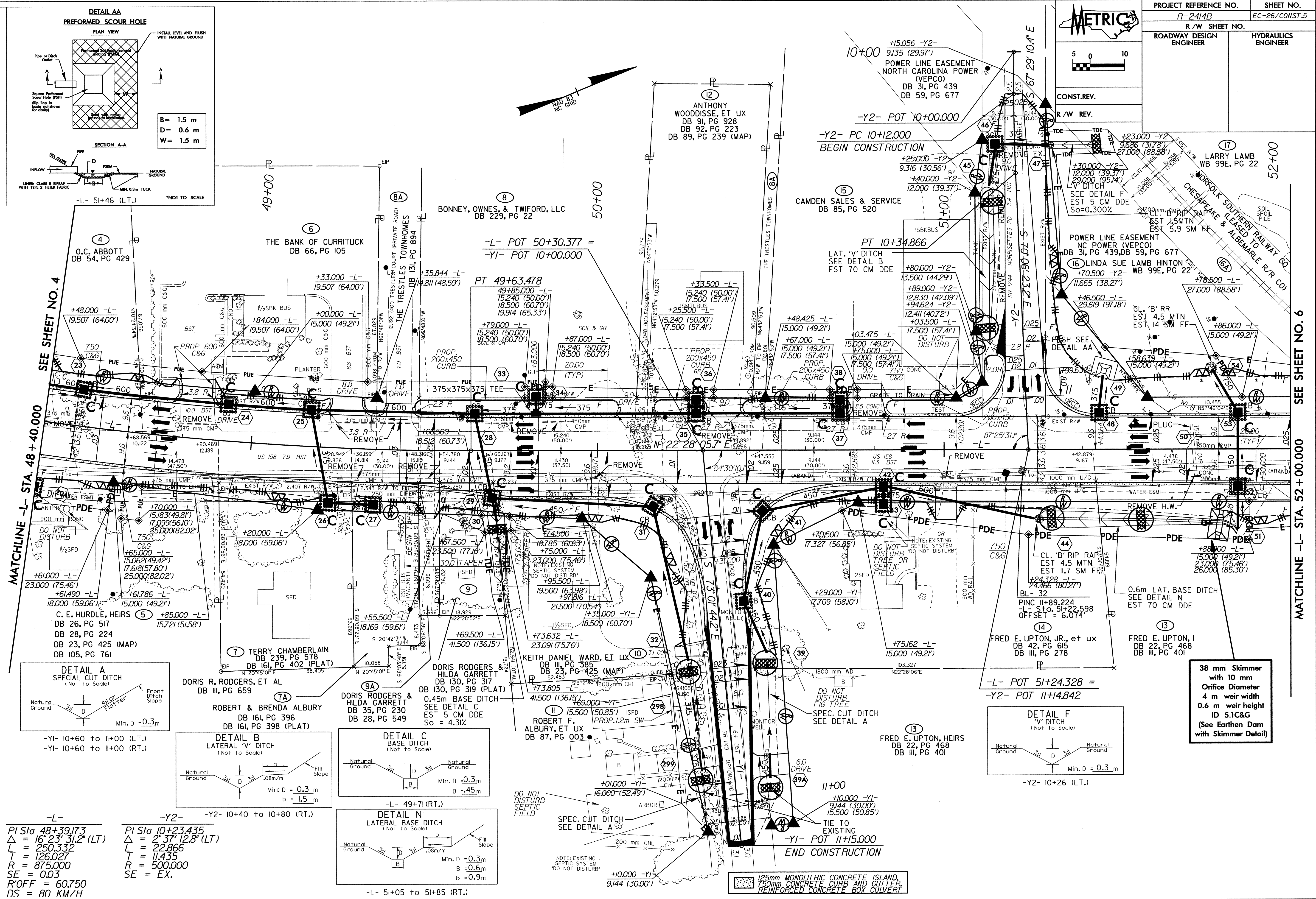


-Y- 10+19 to 10+50 (LT.)

SPEC. CUT DITCH SEE DETAIL A

09-SEP-2010 13:28
m:\projects\2010\23\2314b.ec.psm04.dgn

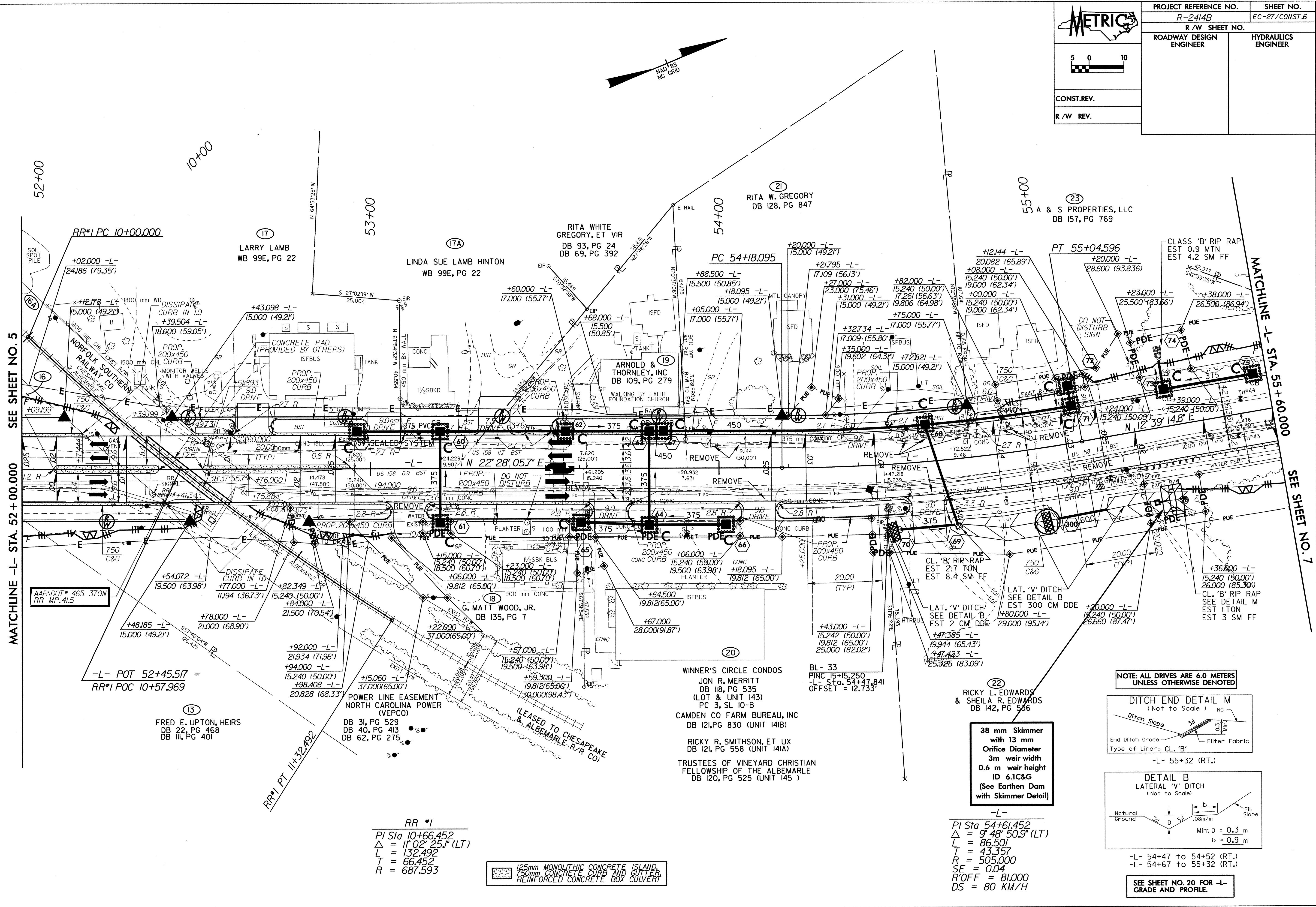
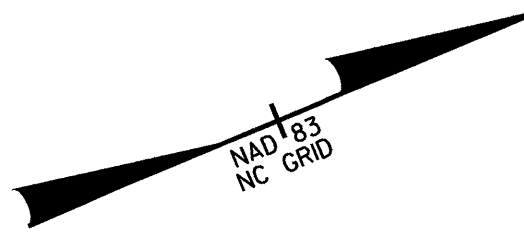
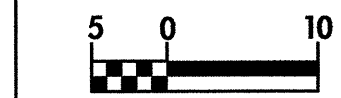
6/10/99



6/10/23



PROJECT REFERENCE NO.	R-2414B	SHEET NO.	EC-27/CONST.6
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER		
CONST.REV.			
R/W REV.			



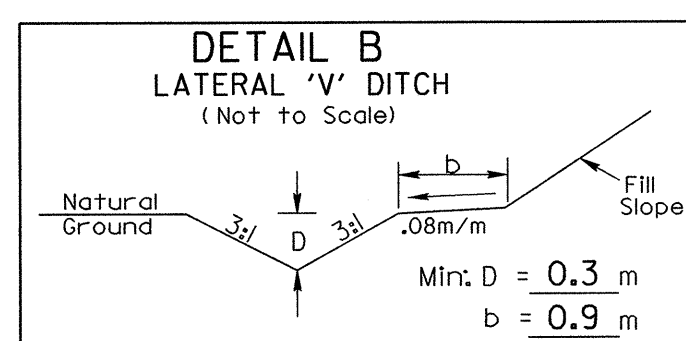
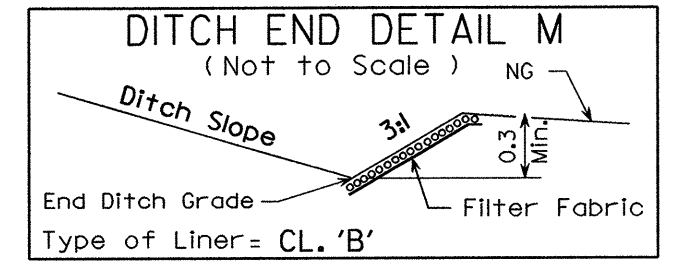
SEE SHEET NO. 5
MATCHLINE -L- STA. 52+00.000

MATCHLINE -L- STA. 55+60.000
SEE SHEET NO. 7

RR #1
 PI Sta 10+66.452
 $\Delta = 11^{\circ}02'25.1''$ (LT)
 L = 132.492
 T = 66.452
 R = 687.593

125mm MONOLITHIC CONCRETE ISLAND,
 150mm CONCRETE CURB AND GUTTER,
 REINFORCED CONCRETE BOX CULVERT

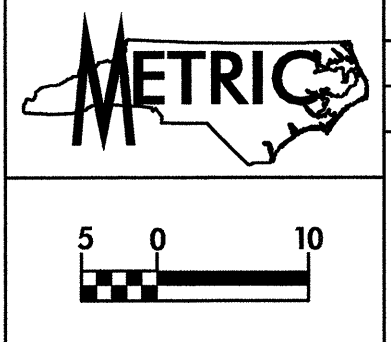
NOTE: ALL DRIVES ARE 6.0 METERS
 UNLESS OTHERWISE DENOTED



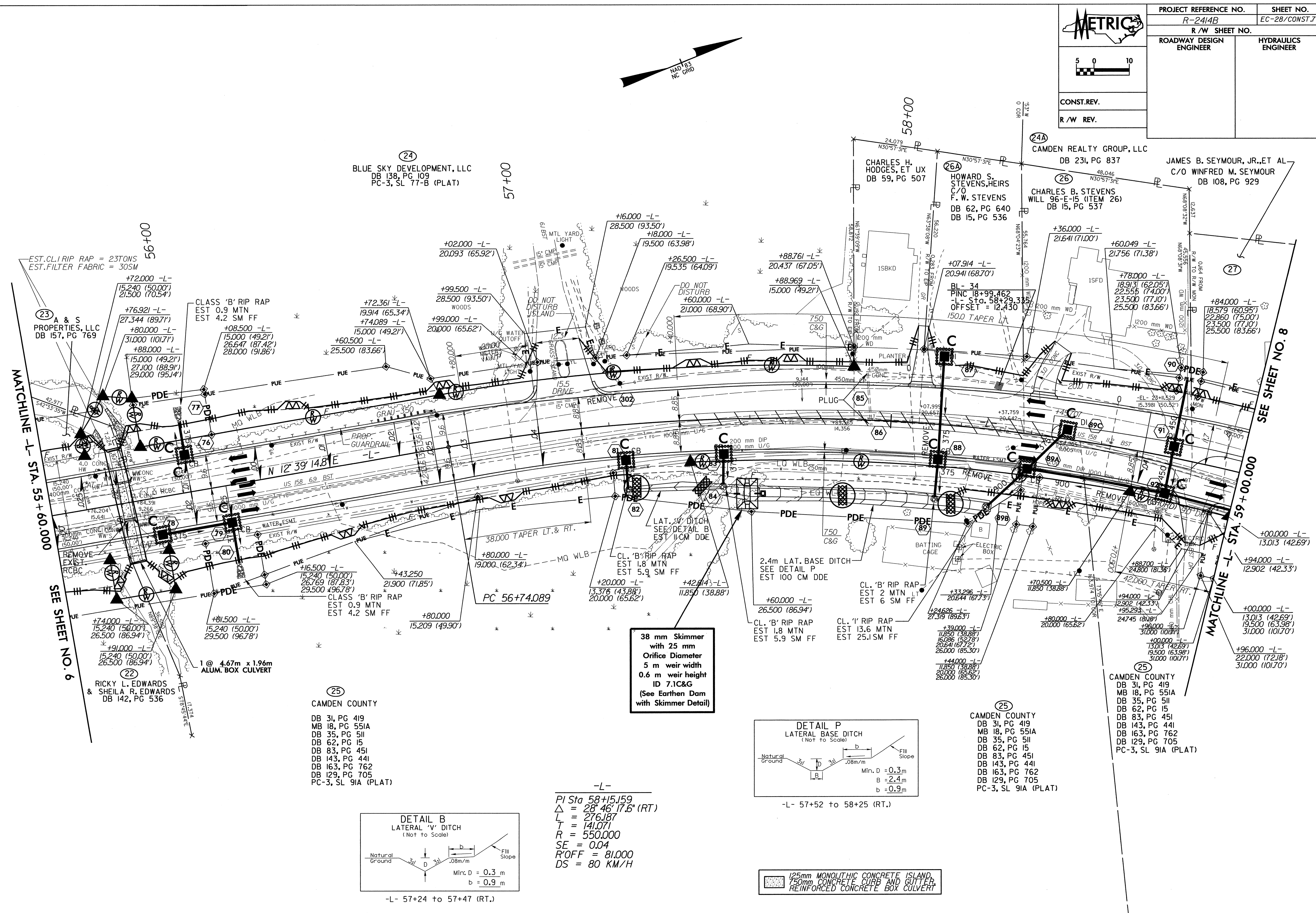
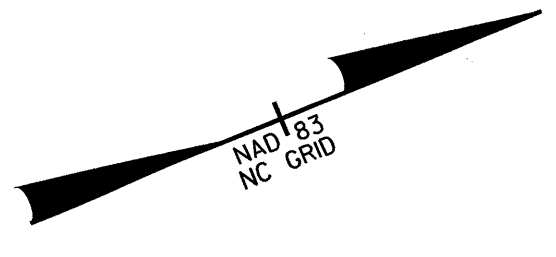
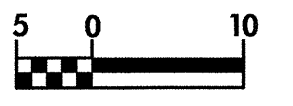
38 mm Skimmer
 with 13 mm
 Orifice Diameter
 3m weir width
 0.6 m weir height
 ID 6.1C&G
 (See Earthen Dam
 with Skimmer Detail)

-L-
 PI Sta 54+61.452
 $\Delta = 9^{\circ}48'50.9''$ (LT)
 L = 86.501
 T = 43.357
 R = 505.000
 SE = 0.04
 R/OFF = 81,000
 DS = 80 KM/H

SEE SHEET NO. 20 FOR -L-
 GRADE AND PROFILE.



PROJECT REFERENCE NO.	SHEET NO.
R-2414B	EC-28/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.	
R/W REV.	



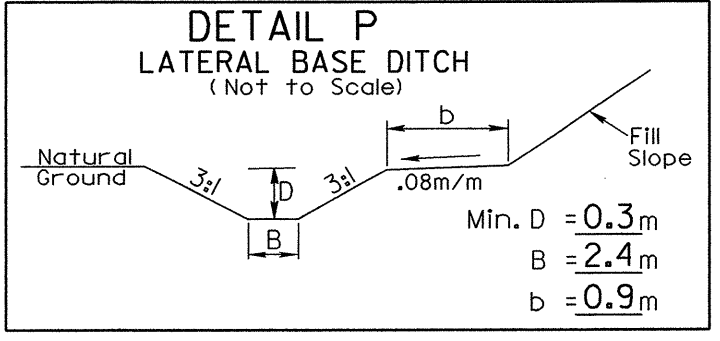
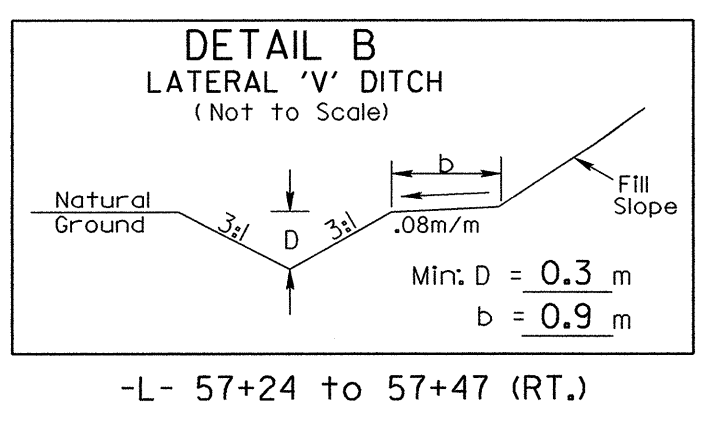
MATCHLINE -L- STA. 55 + 60.000

SEE SHEET NO. 6

SEE SHEET NO. 8

MATCHLINE -L- STA. 59 + 00.000

PL-07-DEC-2000 09:09 m:\projects\2414b\ec\plan97.dgn



**38 mm Skimmer
with 25 mm
Orifice Diameter
5 m weir width
0.6 m weir height
ID 7.1C&G
(See Earthen Dam
with Skimmer Detail)**

(23)
A & S
PROPERTIES, LLC
DB 157, PG 769

(22)
RICKY L. EDWARDS
& SHEILA R. EDWARDS
DB 142, PG 536

(25)
CAMDEN COUNTY
DB 31, PG 419
MB 18, PG 551A
DB 35, PG 511
DB 62, PG 15
DB 83, PG 451
DB 143, PG 441
DB 163, PG 762
DB 129, PG 705
PC-3, SL 91A (PLAT)

(24)
BLUE SKY DEVELOPMENT, LLC
DB 138, PG 109
PC-3, SL 77-B (PLAT)

(26A)
CHARLES H.
HODGES, ET UX
DB 59, PG 507

(26)
HOWARD S.
STEVENS, HEIRS
C/O
F. W. STEVENS
DB 62, PG 640
DB 15, PG 536

(24A)
CAMDEN REALTY GROUP, LLC
DB 231, PG 837

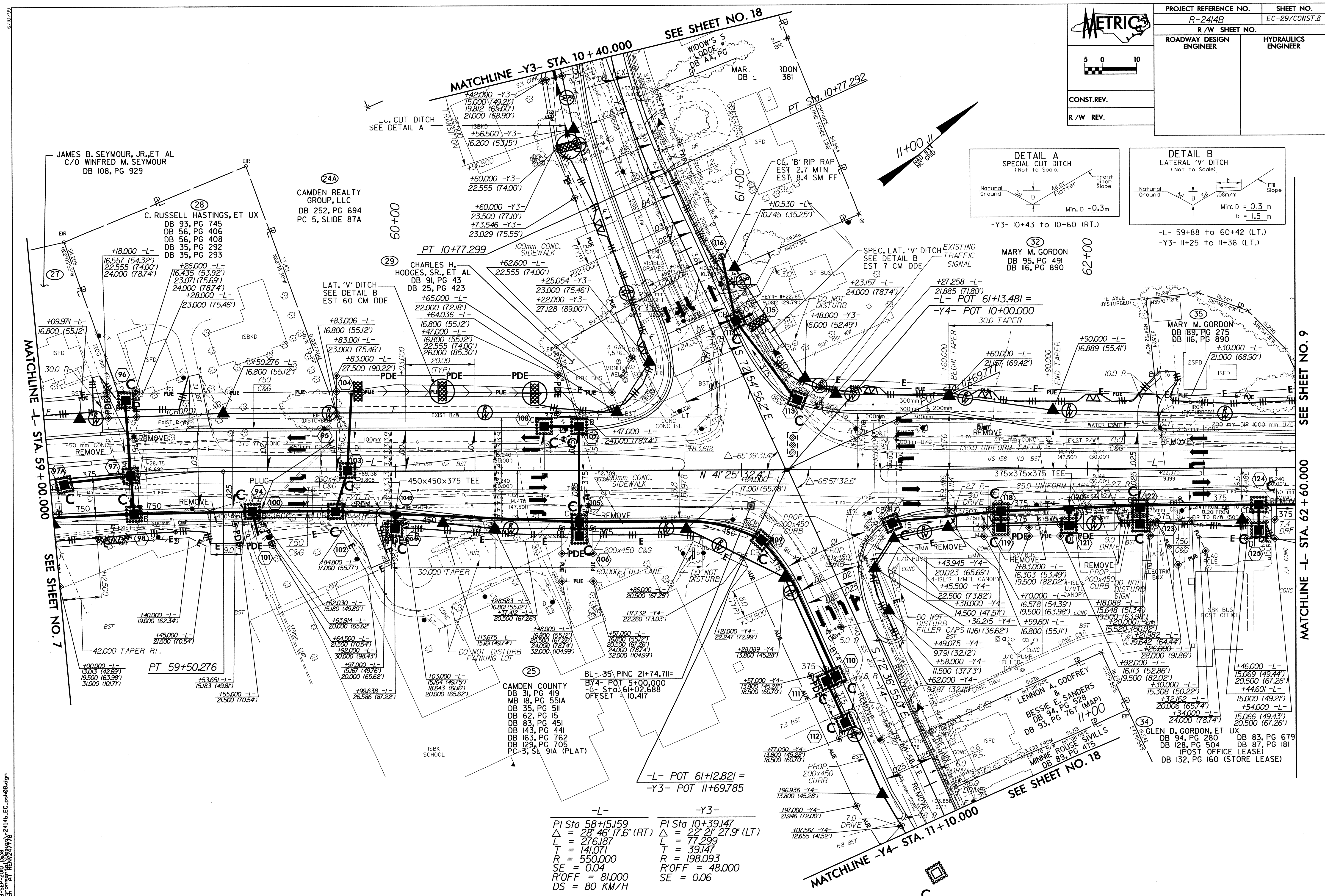
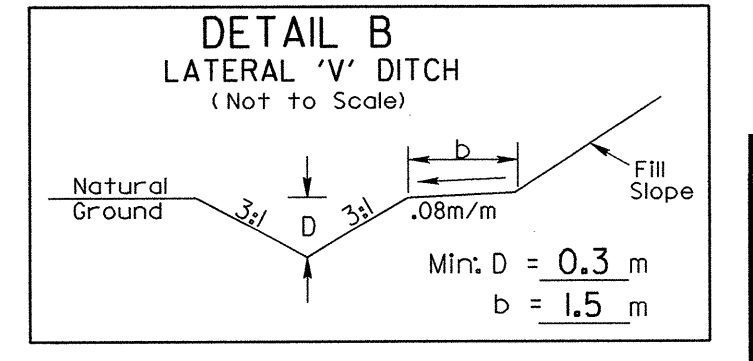
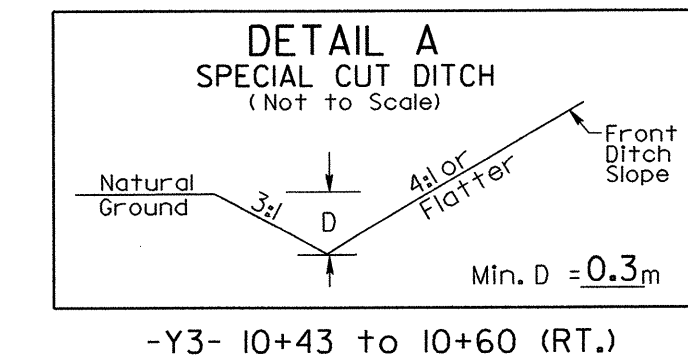
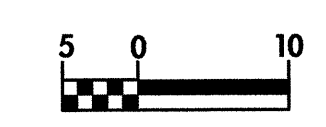
(26)
CHARLES B. STEVENS
WILL 96-E-15 (ITEM 26)
DB 15, PG 537

(27)
JAMES B. SEYMOUR, JR., ET AL.
C/O WINFRED M. SEYMOUR
DB 108, PG 929

(25)
CAMDEN COUNTY
DB 31, PG 419
MB 18, PG 551A
DB 35, PG 511
DB 62, PG 15
DB 83, PG 451
DB 143, PG 441
DB 163, PG 762
DB 129, PG 705
PC-3, SL 91A (PLAT)



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-29/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST.REV.	
R/W REV.	



-L-	-Y3-
PI Sta 58+15.159	PI Sta 10+39.147
Δ = 28' 46" 17.6' (RT)	Δ = 22' 21" 27.9' (LT)
L = 276.187	L = 77.299
T = 141.071	T = 39.147
R = 550.000	R = 198.093
SE = 0.04	R'OFF = 48.000
R'OFF = 81.000	SE = 0.06
DS = 80 KM/H	



6.10.23

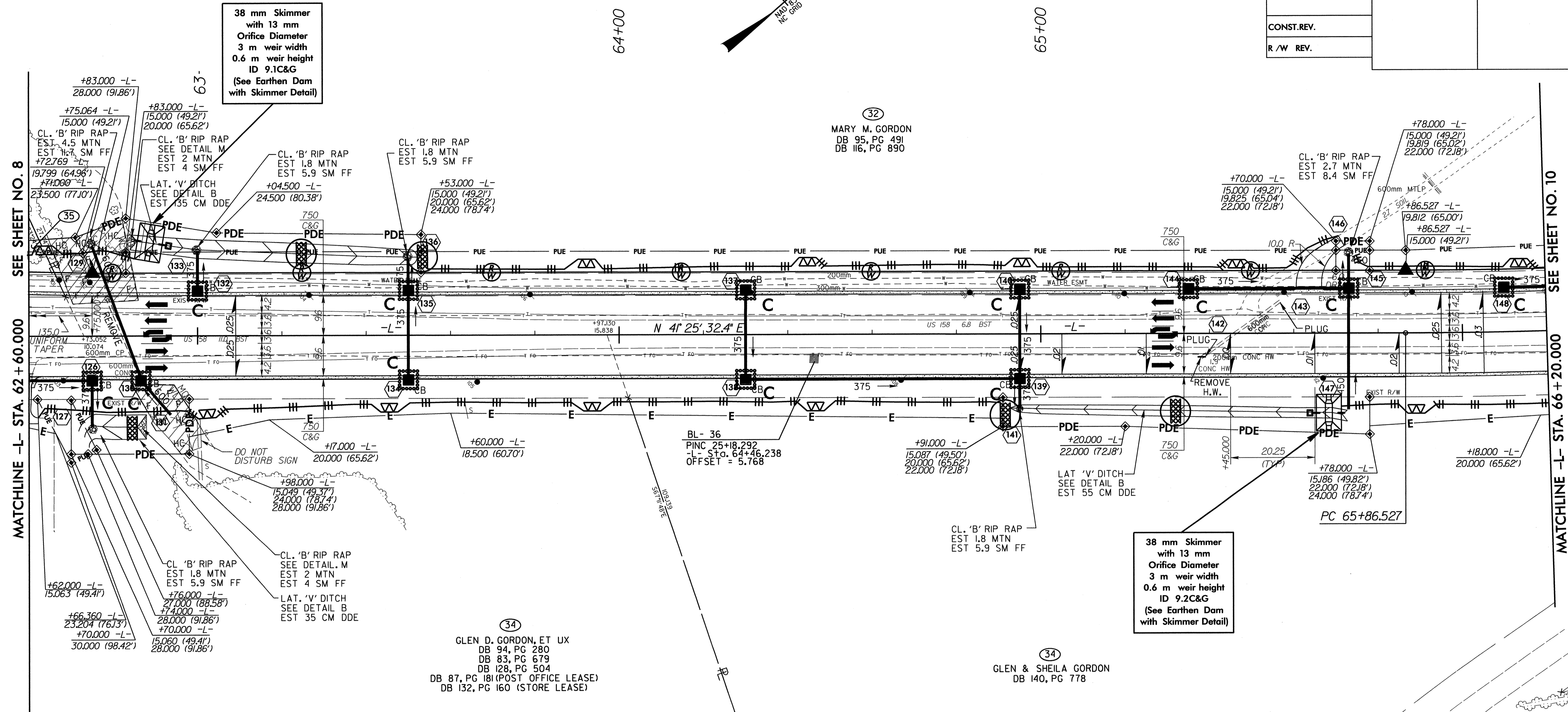
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R:\S\2414B\CONST\2414B_EC-29\DWG\2414B_EC-29_08.dwg
m

SEE SHEET NO. 9

MATCHLINE -L- STA. 62 + 60.000

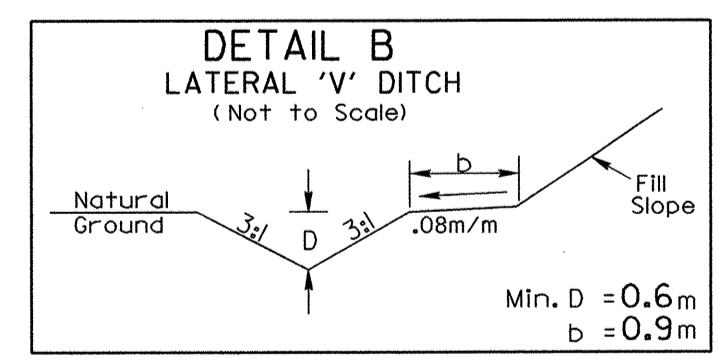
SEE SHEET NO. 18

	PROJECT REFERENCE NO.	SHEET NO.
	R-2414B	EC-30/CONST.9
	R/W SHEET NO.	HYDRAULICS ENGINEER
	ROADWAY DESIGN ENGINEER	
CONST. REV.		
R/W REV.		

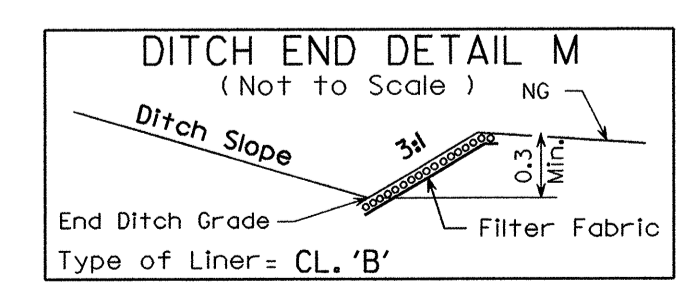


38 mm Skimmer with 13 mm Orifice Diameter
 3 m weir width
 0.6 m weir height
 ID 9.1C&G
 (See Earthen Dam with Skimmer Detail)

38 mm Skimmer with 13 mm Orifice Diameter
 3 m weir width
 0.6 m weir height
 ID 9.2C&G
 (See Earthen Dam with Skimmer Detail)



- L- 62+84 to 63+50 (LT.)
- L- 62+75 to 62+88 (RT.)
- L- 64+94 to 65+73 (RT.)

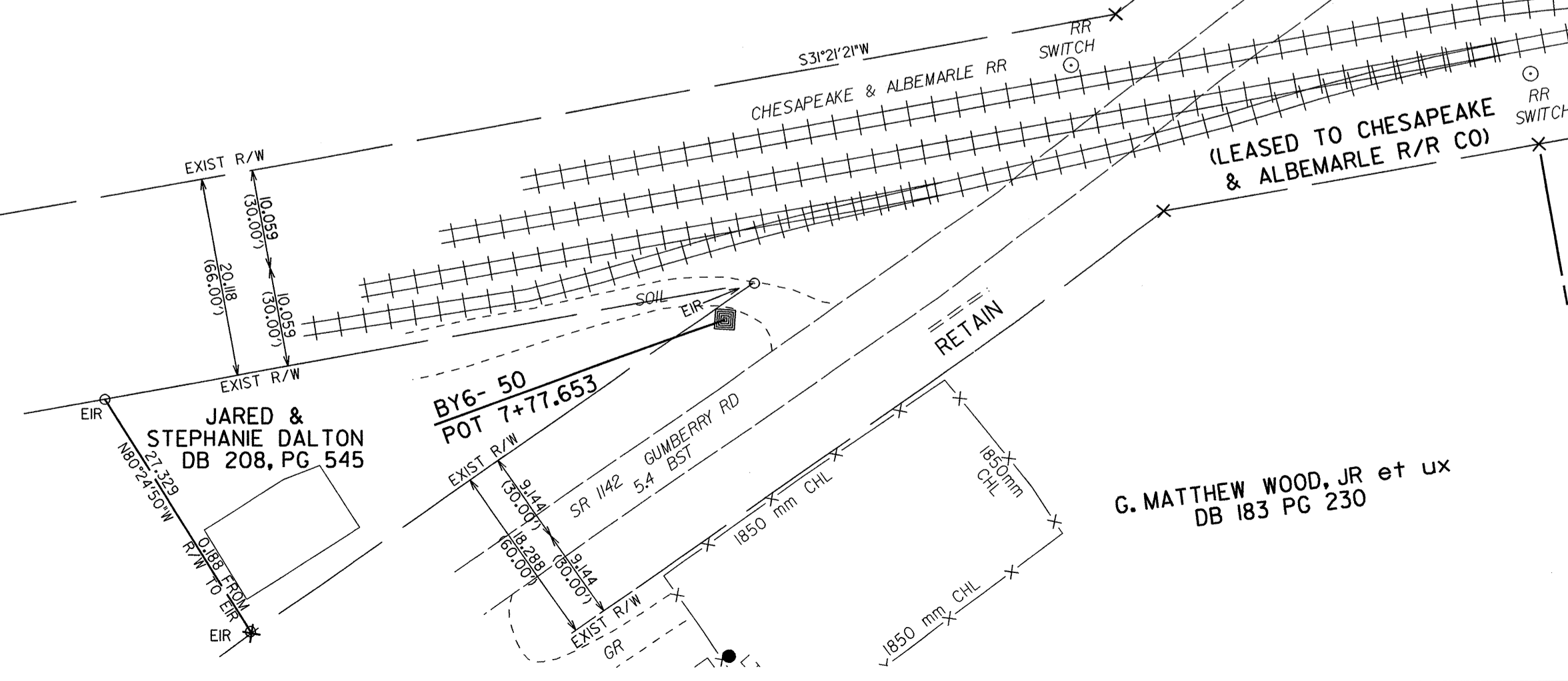


- L- 62+88 (LT.)
- L- 62+88 (RT.)

-L-
 PI Sta 66+25.744
 $\Delta = 3^{\circ} 44' 37.0''$ (LT.)
 L = 78.406
 T = 39.217
 R = 1,200.000
 SE = 0.03
 R'OFF = 60.750
 DS = 80 KM/H


-Y6-
 PI Sta 10+19.890
 $\Delta = 2^{\circ} 55' 37.3''$ (LT.)
 L = 39.770
 T = 19.890
 R = 778.495
 SE = EX.
 BK = N 6^{\circ} 28' 25.4'' E

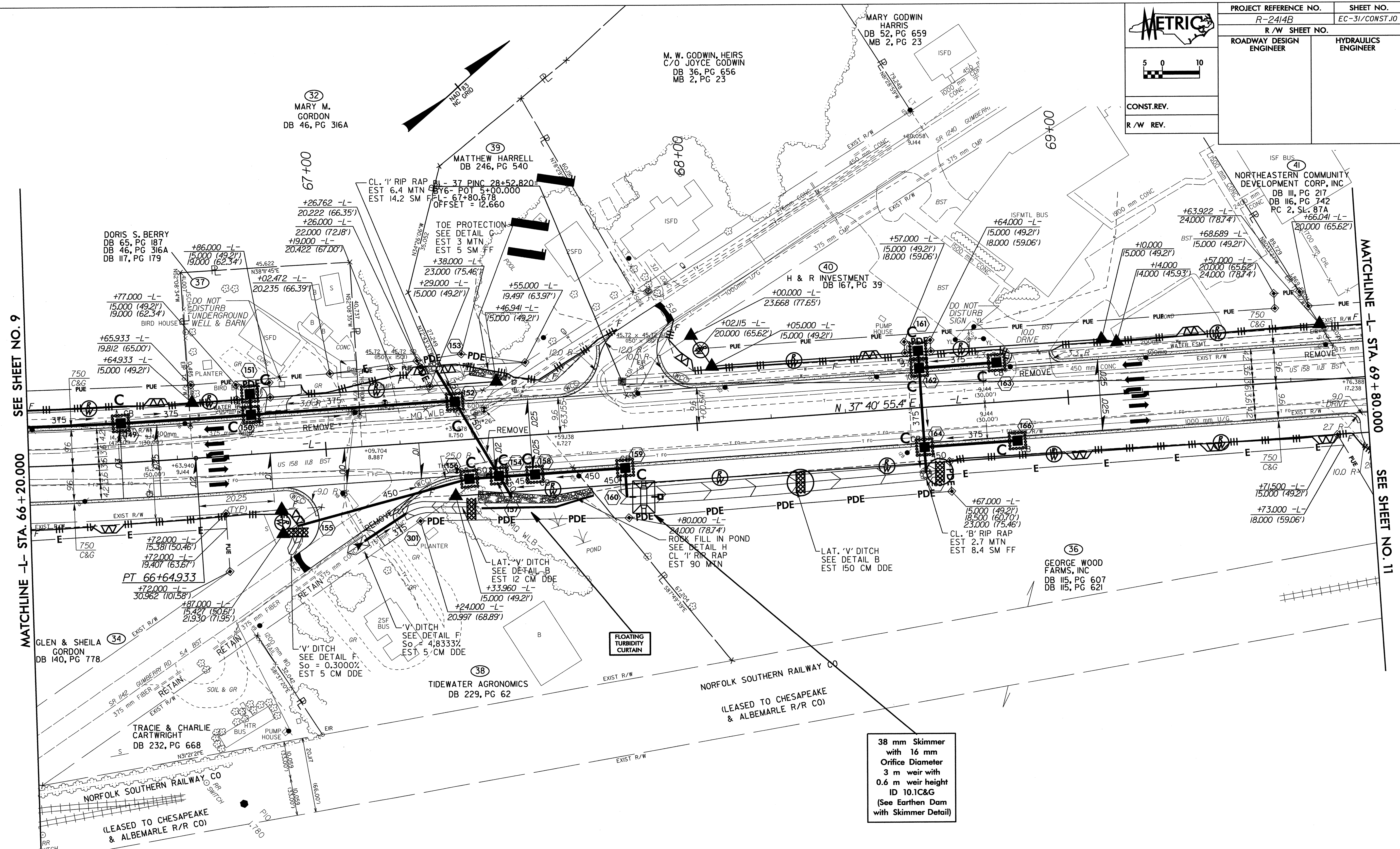
-Y6-
 PI Sta 10+59.540
 $\Delta = 2^{\circ} 26' 50.5''$ (RT.)
 L = 39.533
 T = 19.769
 R = 925.512
 SE = EX.
 AH = N 5^{\circ} 59' 38.6'' E



6/10/23
 09-SEP-2000 13:40
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6/10/2019
 09-SEP-2010 14:43
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 m:\bushman

 5 0 10 CONST. REV. R/W REV.	PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-31/CONST.10
	R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	



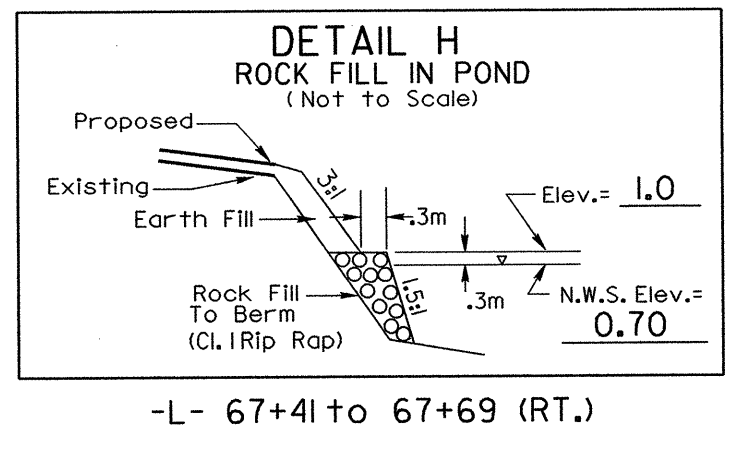
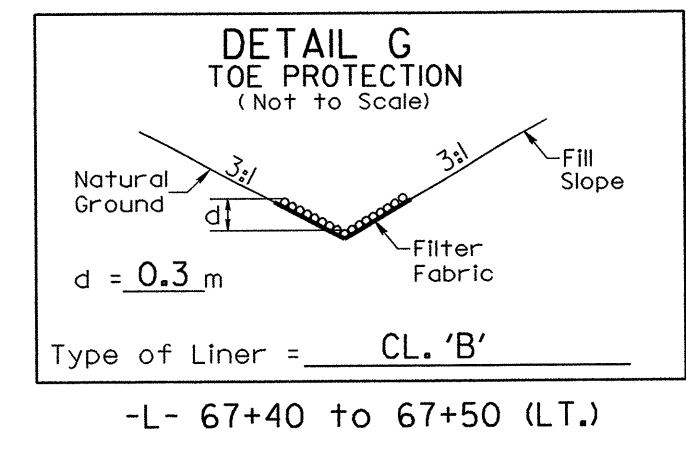
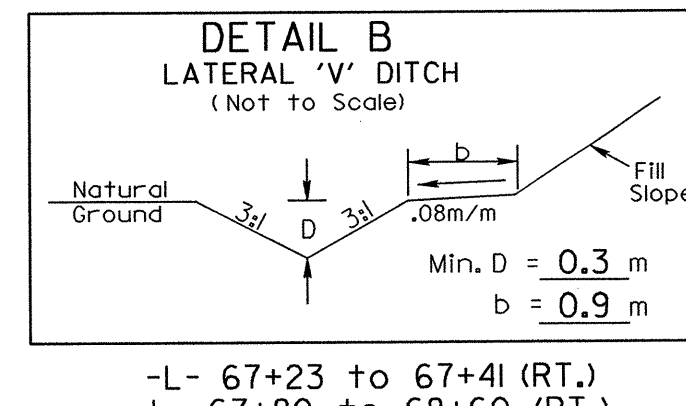
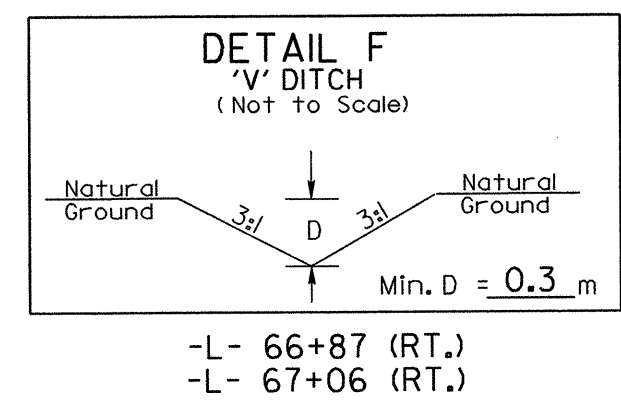
SEE SHEET NO. 9
 MATCHLINE -L- STA. 66 + 20.000

MATCHLINE -L- STA. 69 + 80.000
 SEE SHEET NO. 11

-L-
 PI Sta 66+25.744
 $\Delta = 3^{\circ}44'37.0''$ (LT)
 $L = 78.406$
 $T = 39.217$
 $R = 1,200.000$
 $SE = 0.03$
 $R/OFF = 60.750$
 $DS = 80$ KM/H

(36) GEORGE WOOD FARMS, INC
 DB 115, PG 607
 DB 115, PG 621

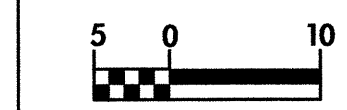
38 mm Skimmer
 with 16 mm
 Orifice Diameter
 3 m weir with
 0.6 m weir height
 ID 10.1C&G
 (See Earthen Dam
 with Skimmer Detail)





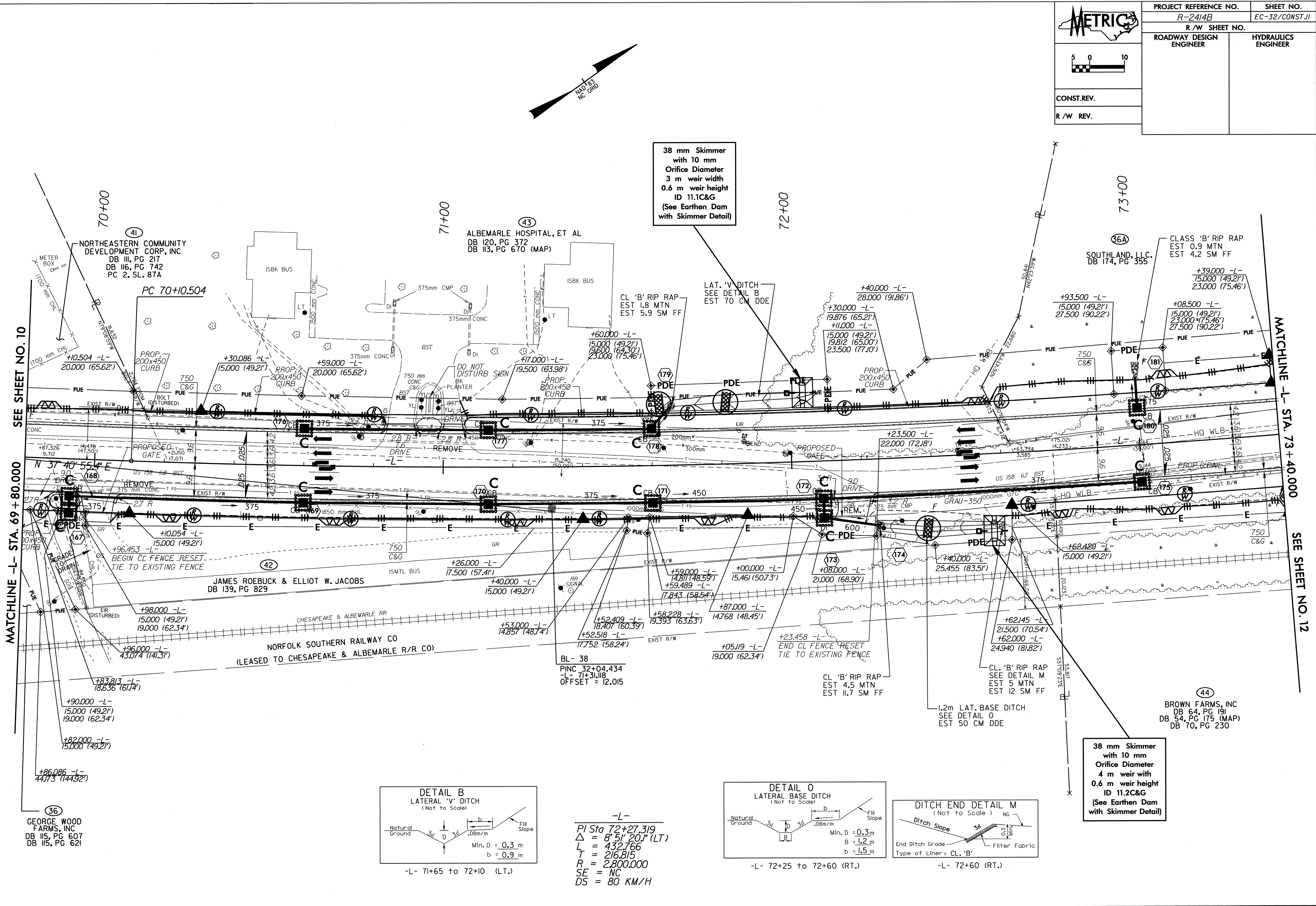
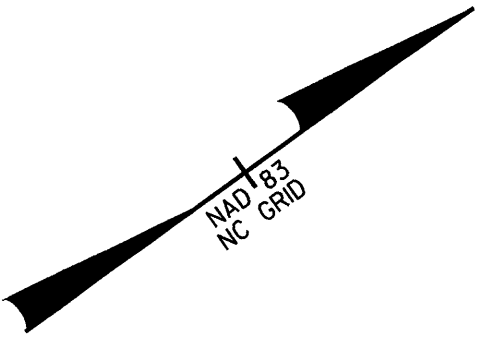
PROJECT REFERENCE NO.	SHEET NO.
R-2414B	EC-32/CONST.II

R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CONST. REV.

R/W REV.

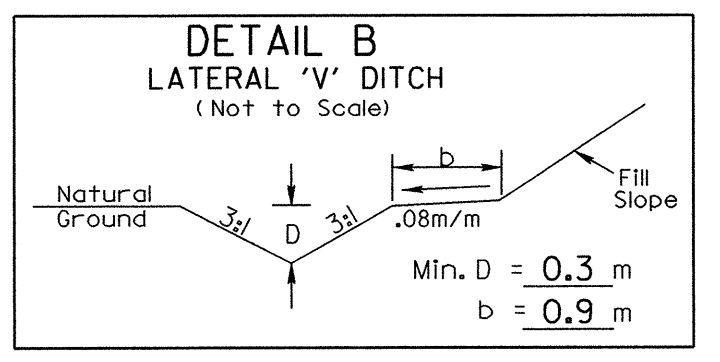


SEE SHEET NO. 10

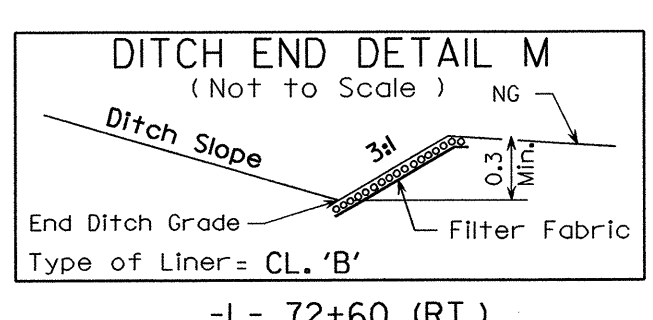
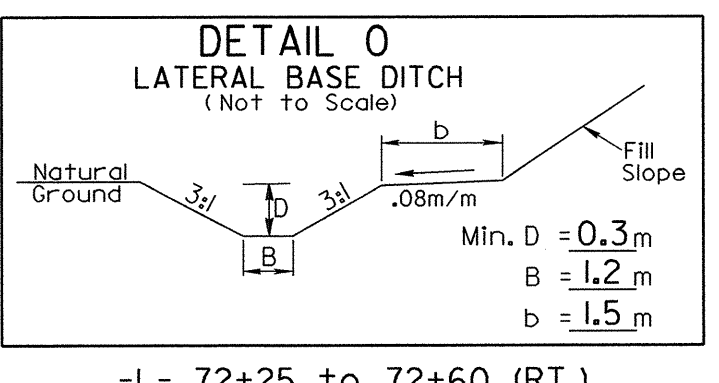
MATCHLINE -L- STA. 69 + 80.000

MATCHLINE -L- STA. 73 + 40.000

SEE SHEET NO. 12



-L-
PI Sta 72+27.319
Δ = 8' 51" 20" (LT)
L = 432.766
T = 216.815
R = 2,800.000
SE = NC
DS = 80 KM/H



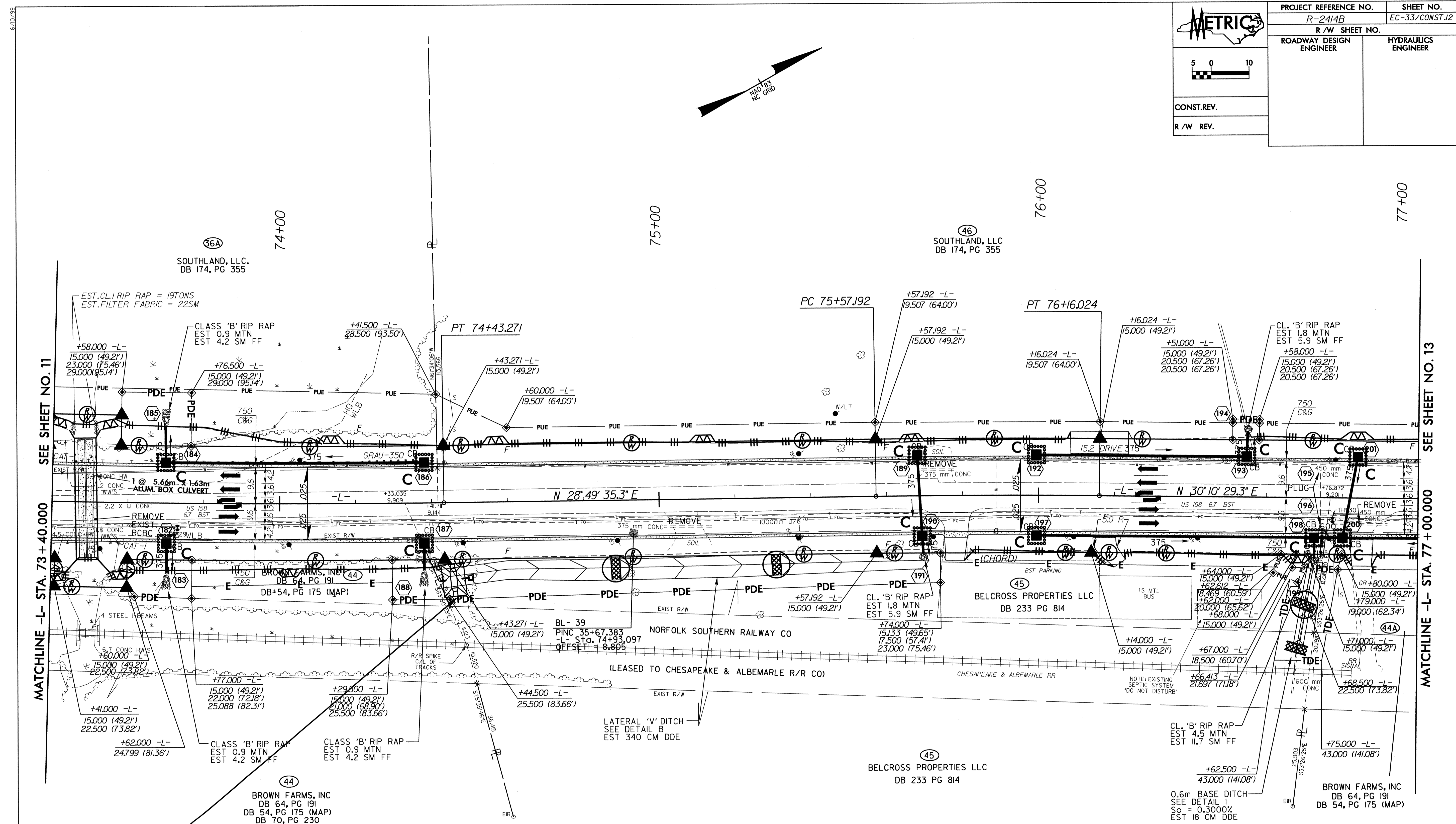
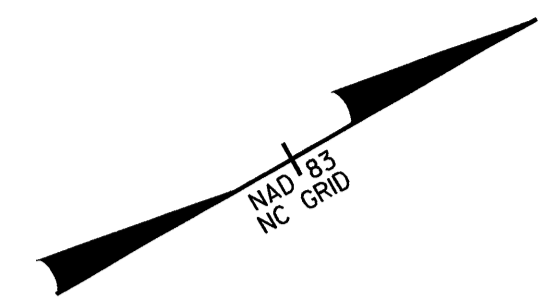
38 mm Skimmer with 10 mm Orifice Diameter
4 m weir with 0.6 m weir height
ID 11.2C&G
(See Earthen Dam with Skimmer Detail)

44
BROWN FARMS, INC
DB 64, PG 191
DB 54, PG 175 (MAP)
DB 70, PG 230

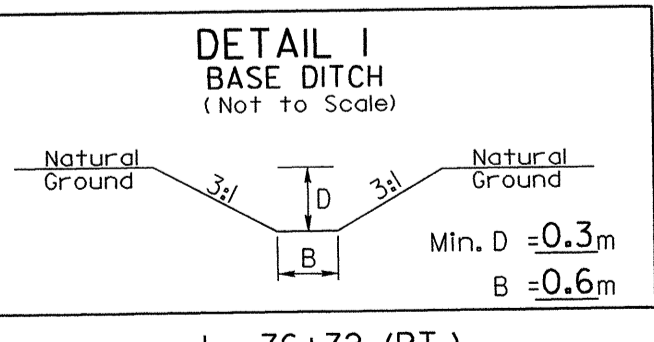
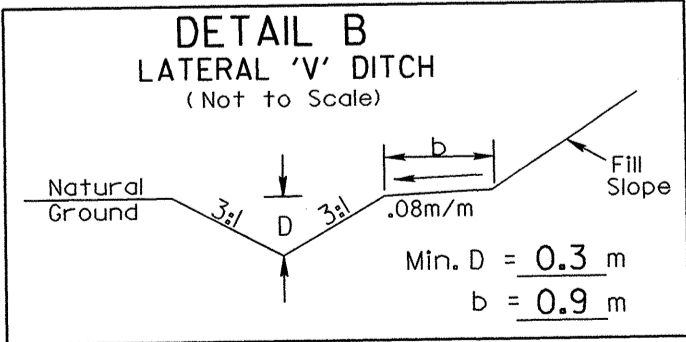
36
GEORGE WOOD FARMS, INC
DB 115, PG 607
DB 115, PG 621

6/20/99

	PROJECT REFERENCE NO.	SHEET NO.
	R-2414B	EC-33/CONST.12
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
CONST.REV.		
R/W REV.		



38 mm Skimmer
with 19 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 12.1C&G
(See Earthen Dam
with Skimmer Detail)



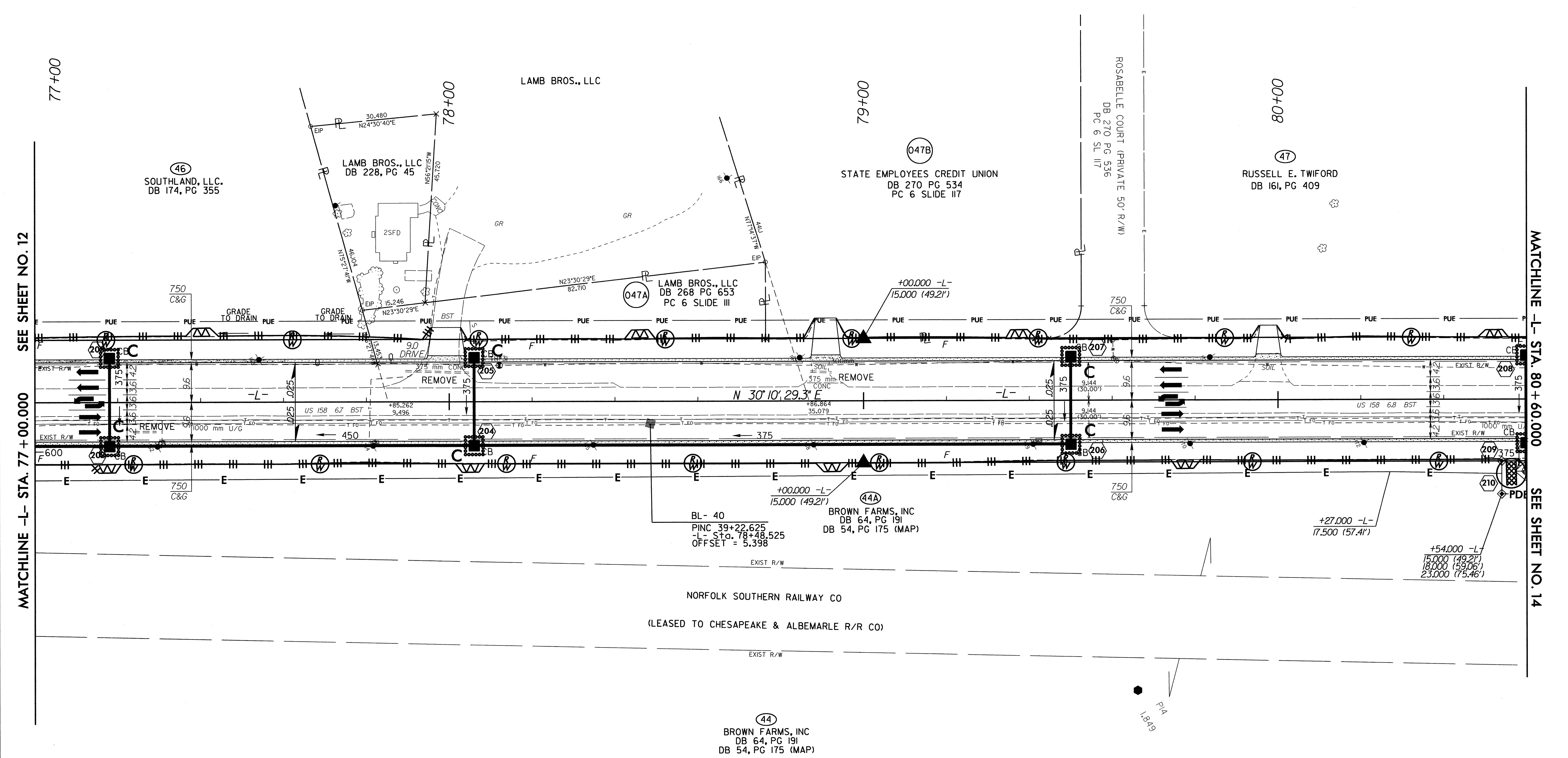
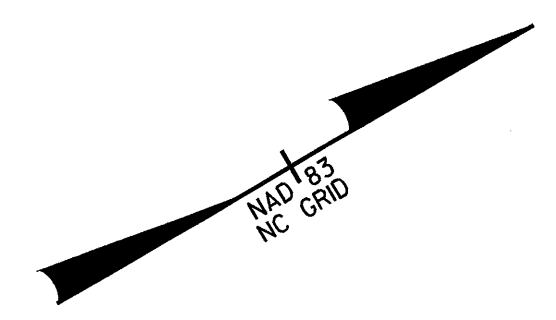
-L-
PI Sta 72+27.319
Δ = 8° 51' 20.1" (LT)
L = 432.766
T = 216.815
R = 2,800.000
SE = NC
DS = 80 KM/H

-L-
PI Sta 75+86.610
Δ = 1° 20' 54.0" (RT)
L = 58.832
T = 29.418
R = 2,500.000
SE = NC
DS = 80 KM/H

07-DEC-2010 13:35
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6/10/2013

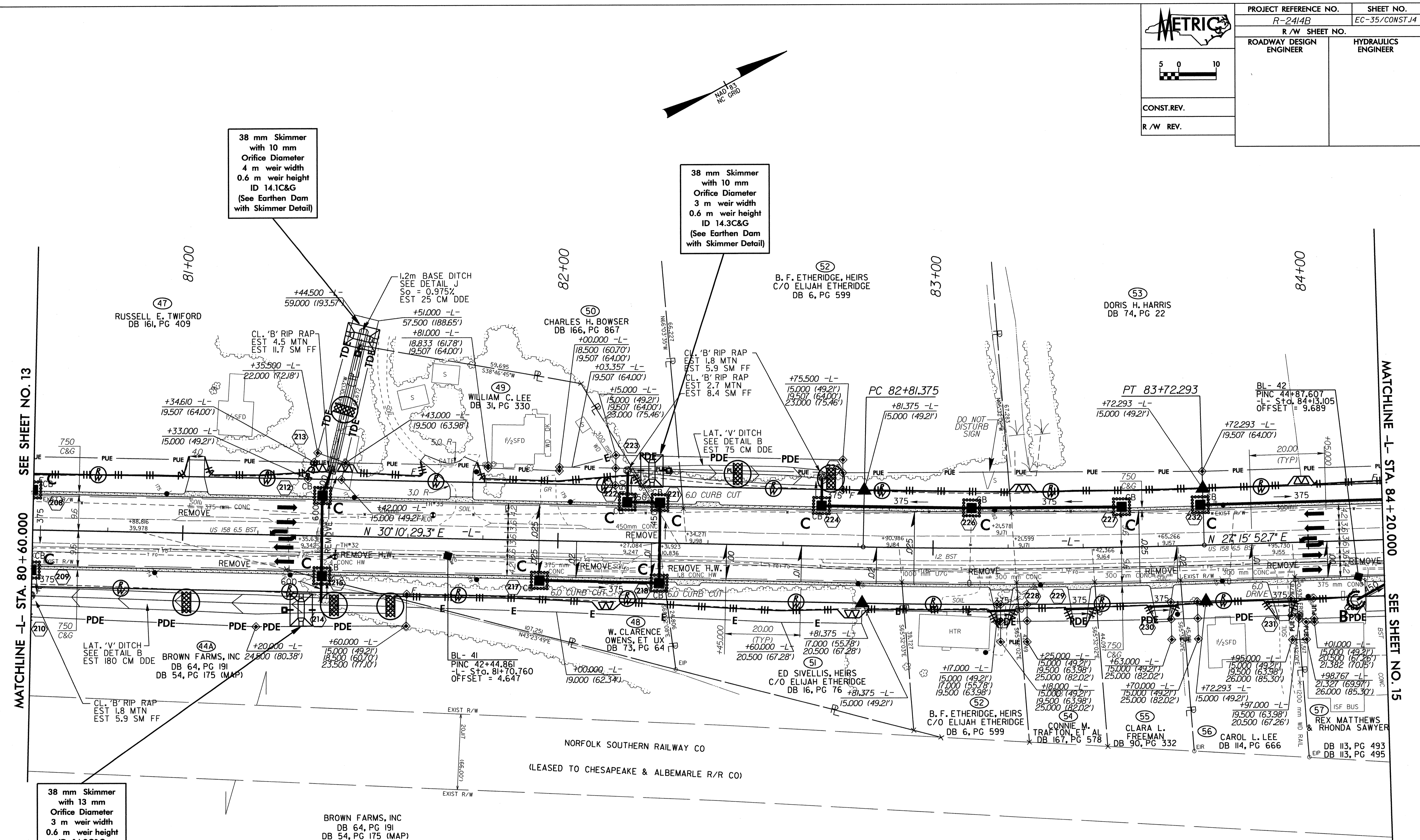
	PROJECT REFERENCE NO.	R-2414B	SHEET NO.	EC-34/CONST J3
	R/W SHEET NO.			
	ROADWAY DESIGN ENGINEER			
	HYDRAULICS ENGINEER			
CONST. REV.				
R/W REV.				



SEE SHEET NO. 12
MATCHLINE -L- STA. 77 + 00.000

MATCHLINE -L- STA. 80 + 60.000
SEE SHEET NO. 14

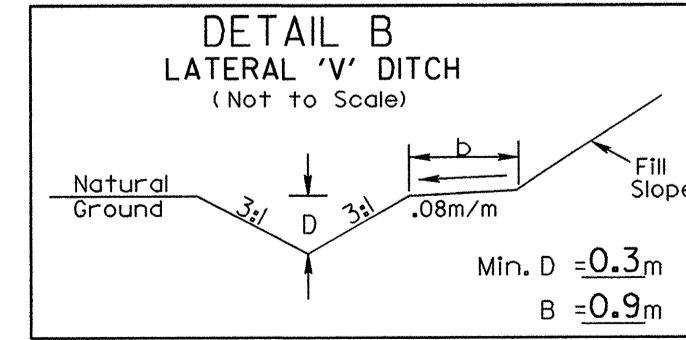
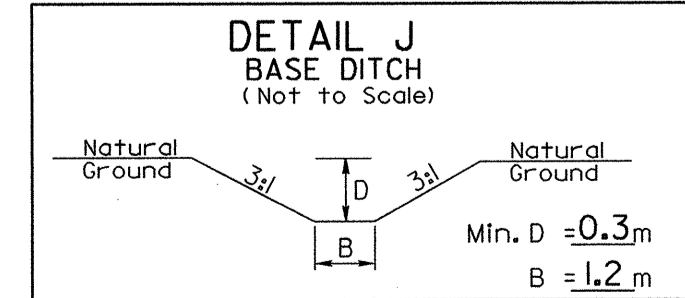
05-SEP-2010 13:50
R:\Projects\2010\1360\1360.dwg
m:\p\p\1360\1360.dwg
2414b_EC.pml\13.dgn



38 mm Skimmer with 10 mm Orifice Diameter
4 m weir width
0.6 m weir height
ID 14.1C&G
(See Earthen Dam with Skimmer Detail)

38 mm Skimmer with 10 mm Orifice Diameter
3 m weir width
0.6 m weir height
ID 14.3C&G
(See Earthen Dam with Skimmer Detail)

38 mm Skimmer with 13 mm Orifice Diameter
3 m weir width
0.6 m weir height
ID 14.2C&G
(See Earthen Dam with Skimmer Detail)



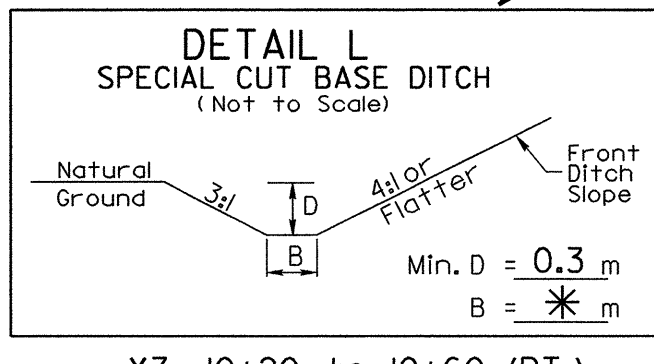
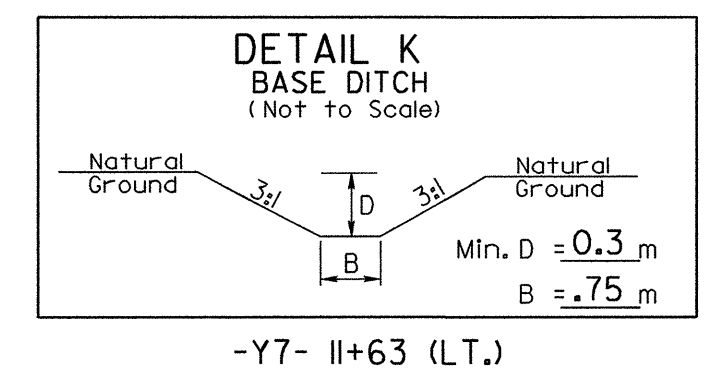
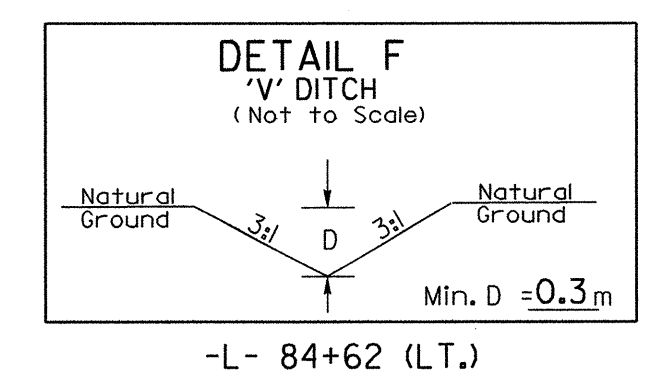
-L-

PI Sta 83+26.844
Δ = 2' 54" 36.6" (LT)
L = 90.918
T = 45.469
R = 1,790.000
SE = 0.025
R'OFF = 50.625
DS = 80 KM/H

FILE 09-SEP-2006 14:52
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 6/10/06



PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-36/CONST.15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.	
R/W REV.	

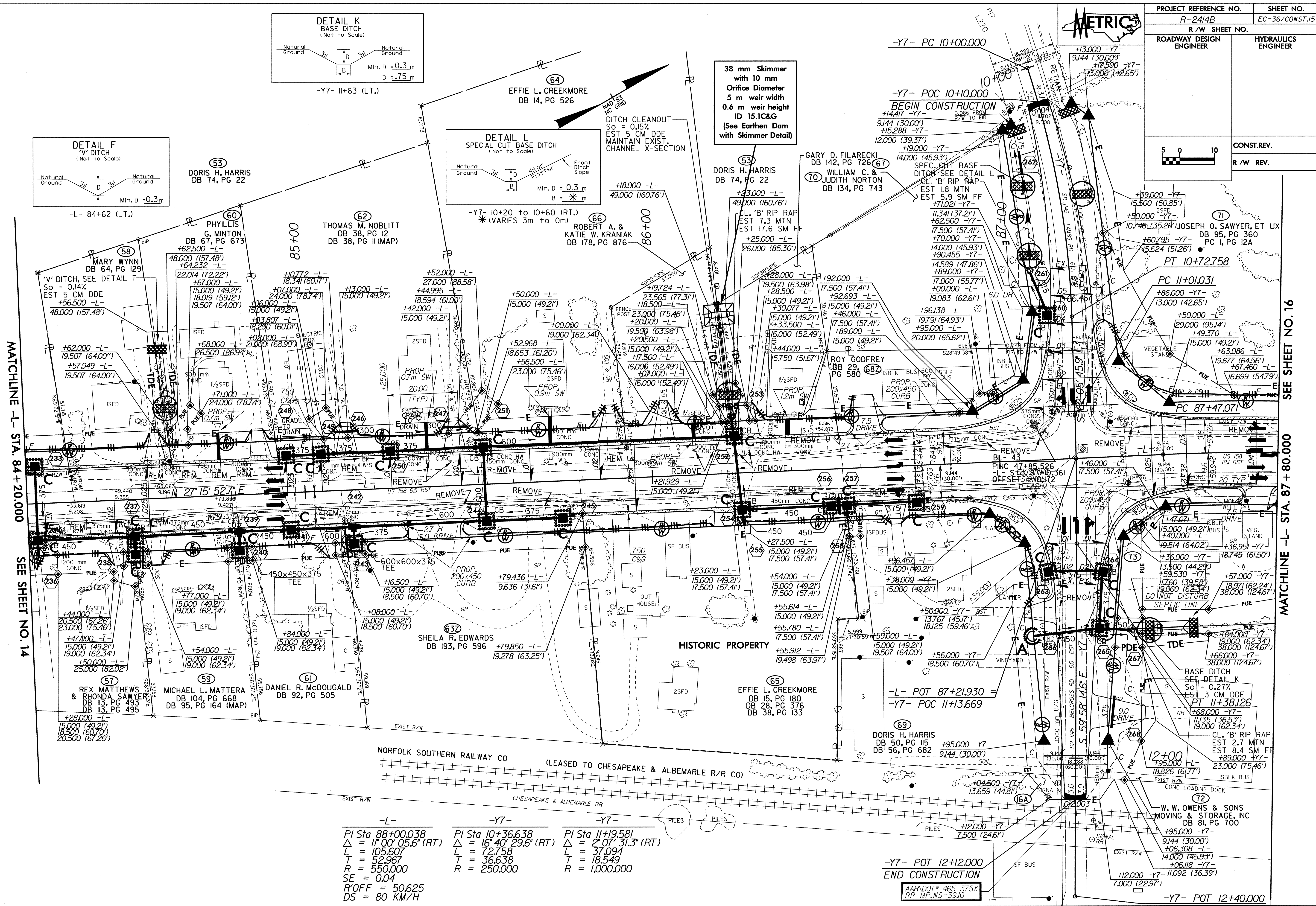


38 mm Skimmer
with 10 mm
Orifice Diameter
5 m weir width
0.6 m weir height
ID 15.1C&G
(See Earthen Dam
with Skimmer Detail)

DITCH CLEANOUT
So = 0.15%
EST 5 CM DDE
MAINTAIN EXIST.
CHANNEL X-SECTION

MATCHLINE -L- STA. 84 + 20.000
SEE SHEET NO. 14

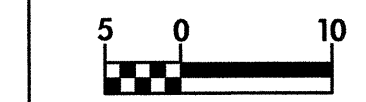
SEE SHEET NO. 16
MATCHLINE -L- STA. 87 + 80.000



-L-	-Y7-	-Y7-
PI Sta 88+00.038	PI Sta 10+36.638	PI Sta 11+19.581
$\Delta = 11^{\circ} 00' 05.6''$ (RT)	$\Delta = 16^{\circ} 40' 29.6''$ (RT)	$\Delta = 2^{\circ} 07' 31.3''$ (RT)
L = 105.607	L = 72.758	L = 37.094
T = 52.967	T = 36.638	T = 18.549
R = 550.000	R = 250.000	R = 1,000.000
SE = 0.04		
R'OFF = 50.625		
DS = 80 KM/H		

-Y7- POT 12+12.000
END CONSTRUCTION

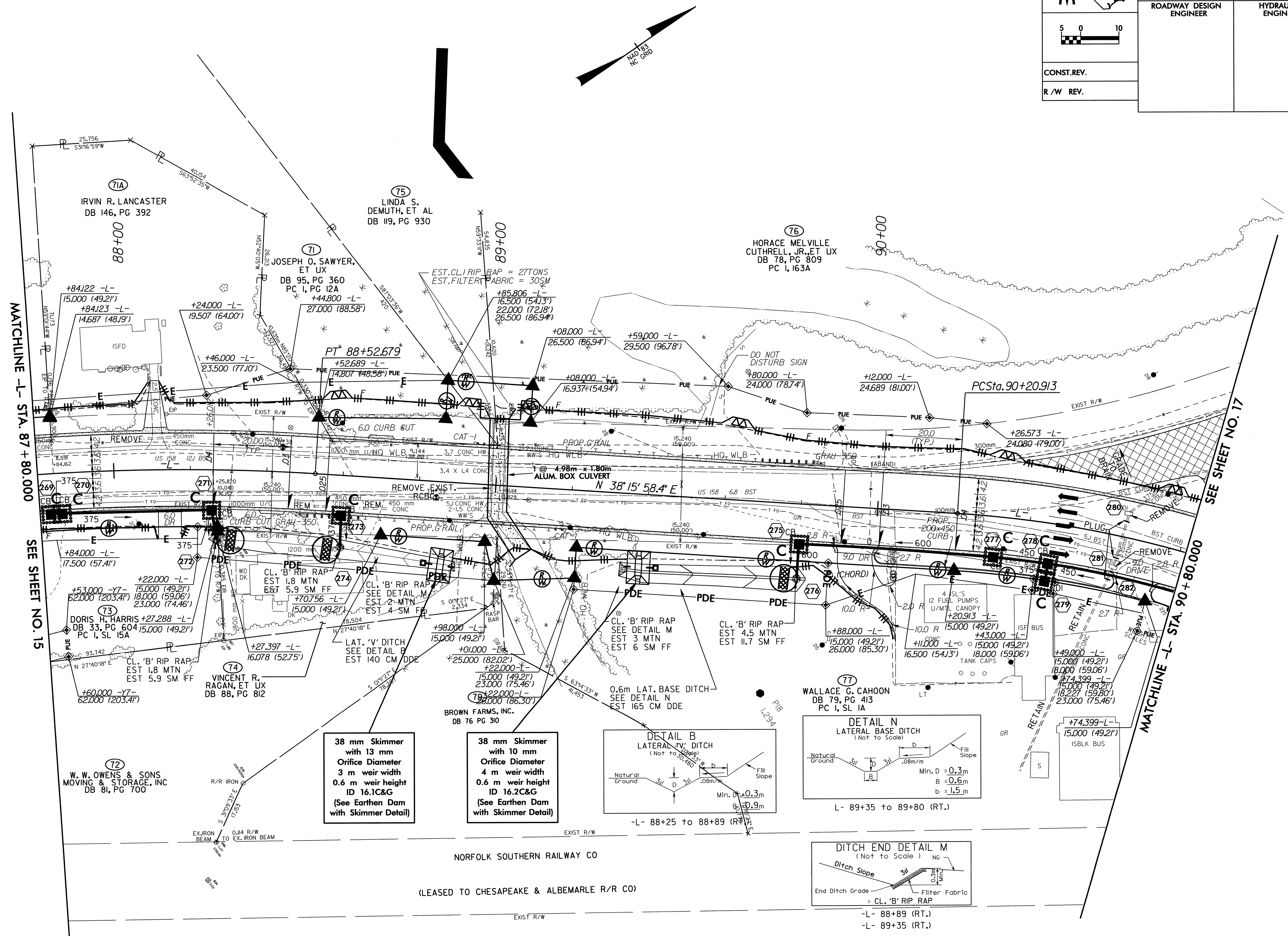
AARDOT # 465 375X
RR MP.NS-39J0



CONST. REV.
R/W REV.

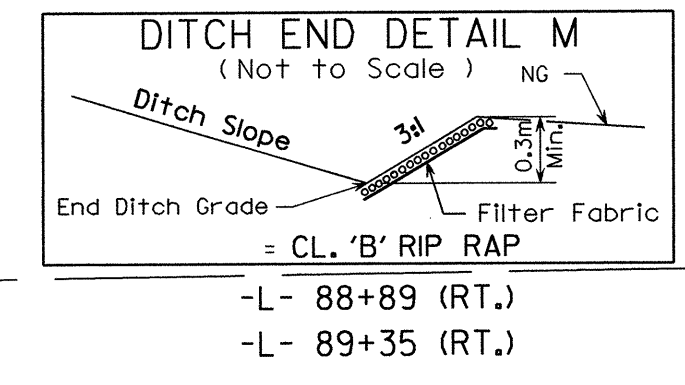
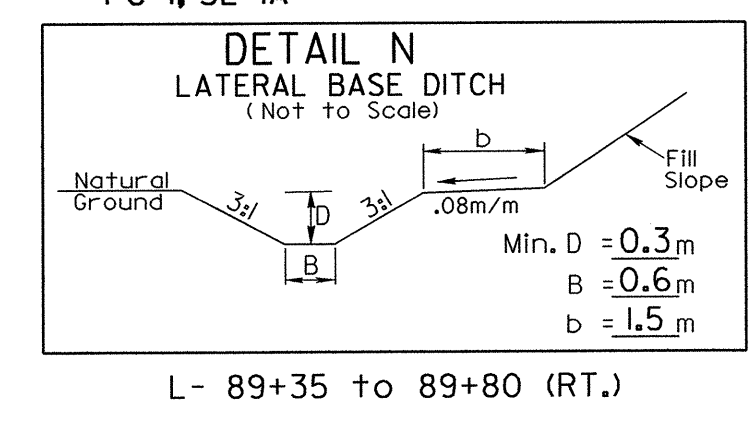
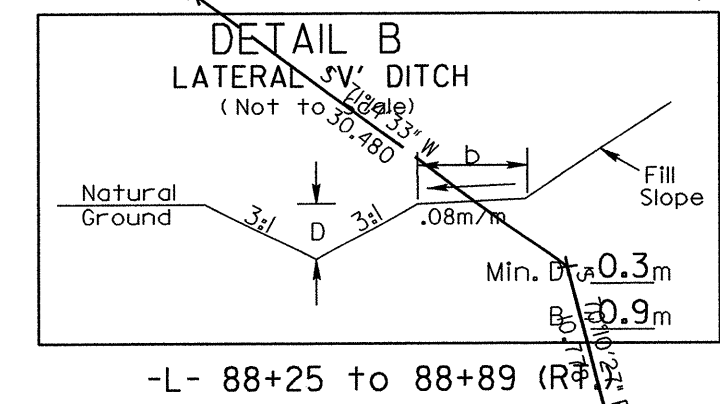
PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-37/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

6/10/09
07-DEC-2000 09:27
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m:\eng\16.dgn




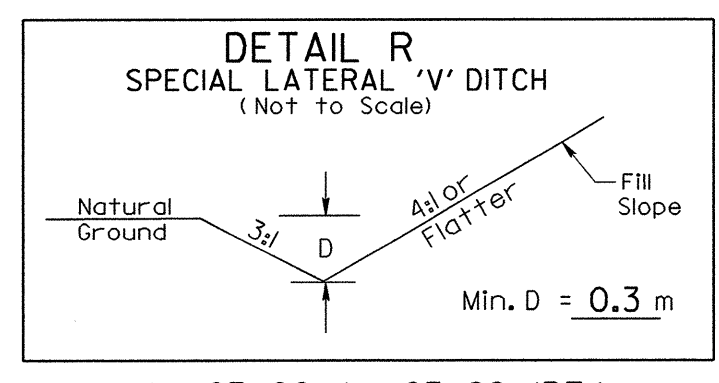
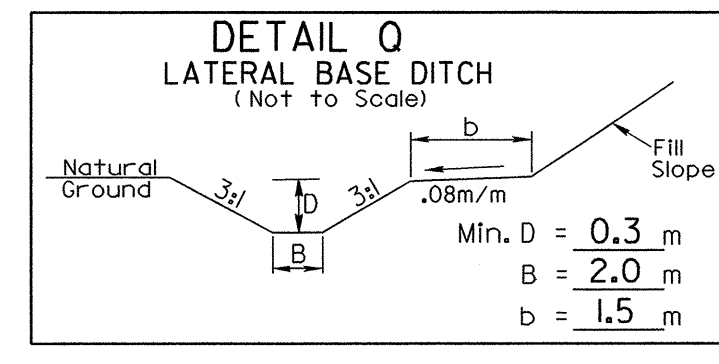
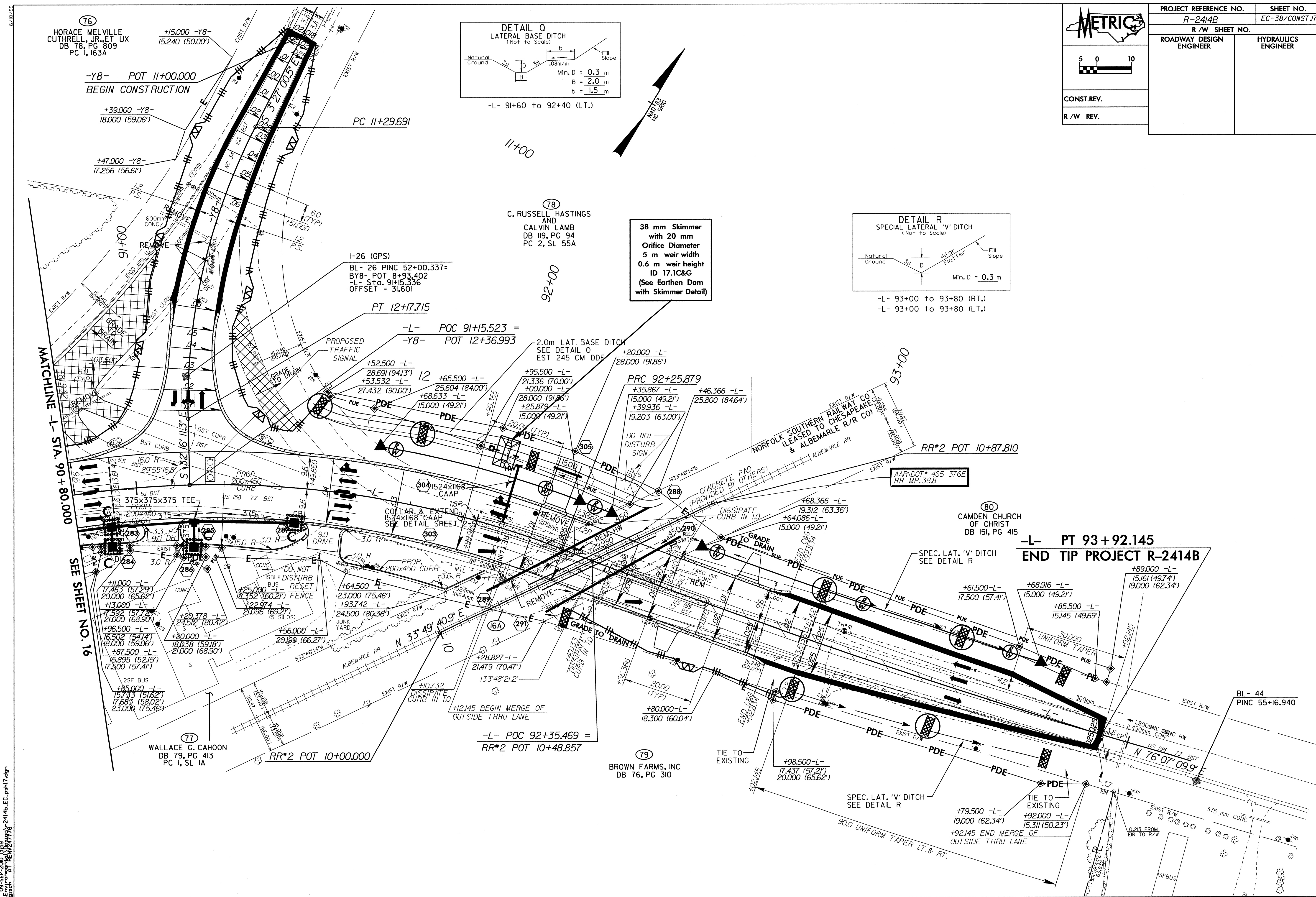
**38 mm Skimmer
with 10 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 16.1C&G
(See Earthen Dam
with Skimmer Detail)**

**38 mm Skimmer
with 13 mm
Orifice Diameter
3 m weir width
0.6 m weir height
ID 16.2C&G
(See Earthen Dam
with Skimmer Detail)**



NORFOLK SOUTHERN RAILWAY CO
(LEASED TO CHESAPEAKE & ALBEMARLE R/R CO)

 5 0 10	PROJECT REFERENCE NO.	SHEET NO.
	R-2414B	EC-38/CONST.17
CONST. REV. R/W REV.	R/W SHEET NO.	ROADWAY DESIGN ENGINEER
		HYDRAULICS ENGINEER



38 mm Skimmer
with 20 mm
Orifice Diameter
5 m weir width
ID 17.1C&G
(See Earthen Dam
with Skimmer Detail)

(76)
HORACE MELVILLE
CUTHRELL, JR., ET UX
DB 78, PG 309
PC 1, 163A

(78)
C. RUSSELL HASTINGS
AND
CALVIN LAMB
DB 119, PG 94
PC 2, SL 55A

(77)
WALLACE G. CAHOON
DB 79, PG 413
PC 1, SL 1A

(79)
BROWN FARMS, INC
DB 76, PG 310

(80)
CAMDEN CHURCH
OF CHRIST
DB 151, PG 415

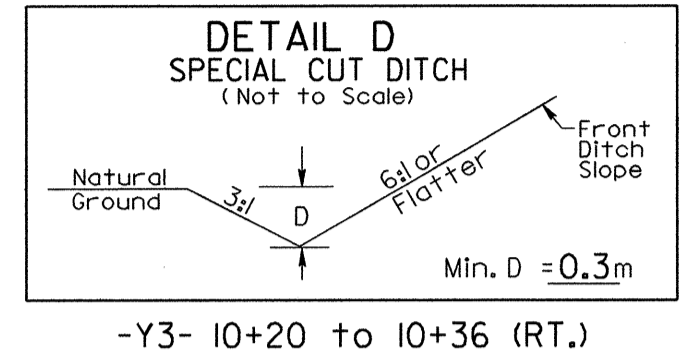
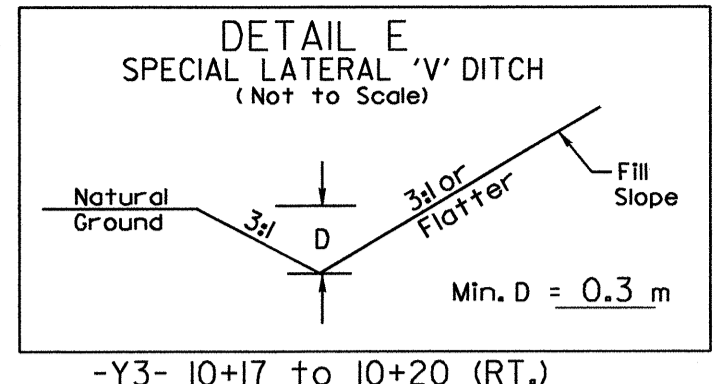
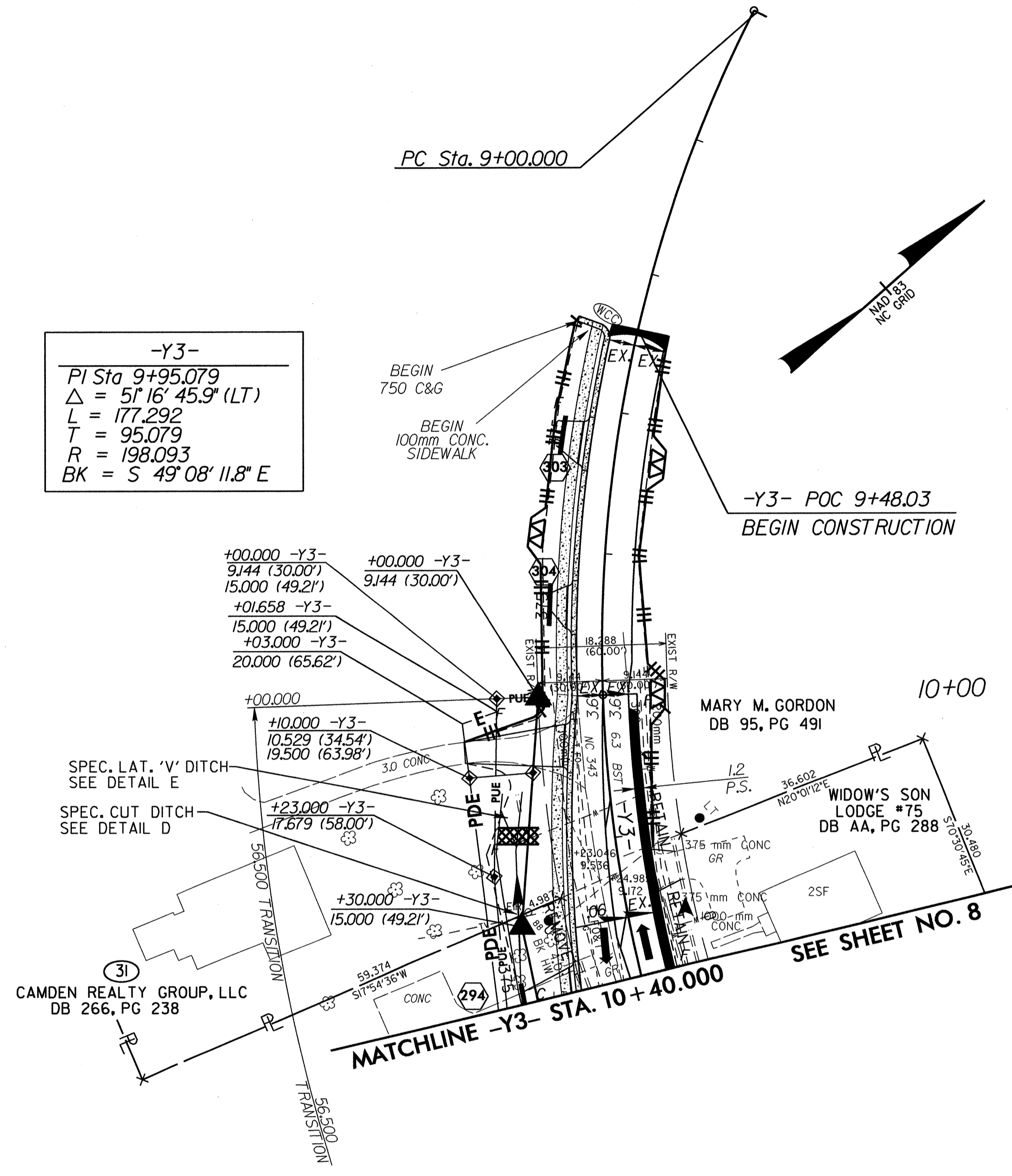
BL- 44
PINC 55+16.940

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6/10/99

09-SEP-2000 14:45
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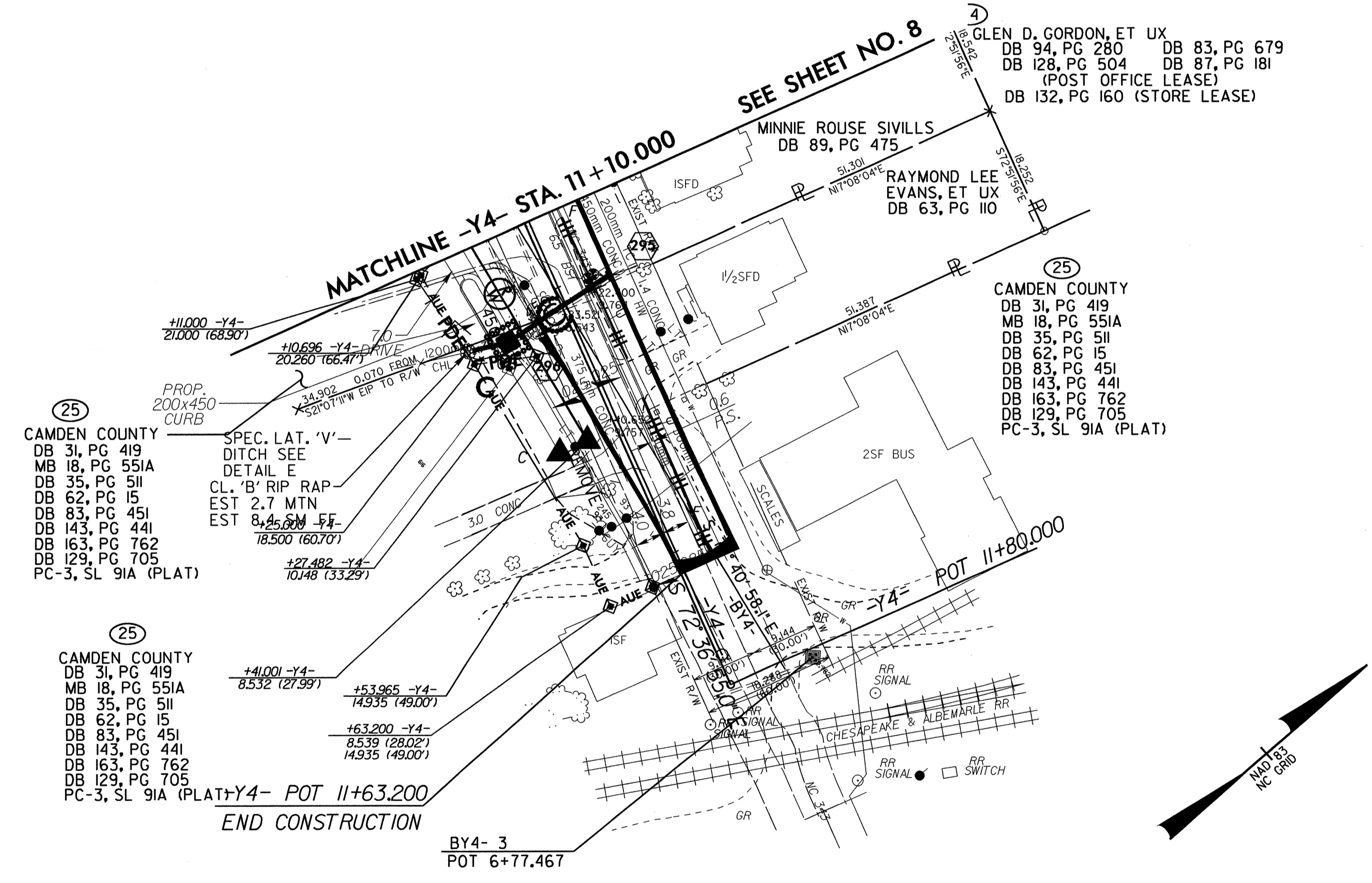
-Y3-
 PI Sta 9+95.079
 $\Delta = 51' 16" 45.9" (LT)$
 $L = 177.292$
 $T = 95.079$
 $R = 198.093$
 $BK = S 49' 08" 11.8" E$



METRIC

CONST. REV.
 R / W REV.

PROJECT REFERENCE NO. R-2414B	SHEET NO. EC-39/CONST.18
R / W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-Y4-
 PI Sta 11+63.200
 $\Delta = 51' 16" 45.9" (LT)$
 $L = 177.292$
 $T = 95.079$
 $R = 198.093$
 $BK = S 49' 08" 11.8" E$

GLEN D. GORDON, ET UX
 DB 94, PG 280 DB 83, PG 679
 DB 128, PG 504 DB 87, PG 181
 (POST OFFICE LEASE)
 DB 132, PG 160 (STORE LEASE)

MINNIE ROUSE SIVILLS
 DB 89, PG 475

RAYMOND LEE EVANS, ET UX
 DB 63, PG 110

(25) CAMDEN COUNTY
 DB 31, PG 419
 MB 18, PG 551A
 DB 35, PG 511
 DB 62, PG 15
 DB 83, PG 451
 DB 143, PG 441
 DB 163, PG 762
 DB 129, PG 705
 PC-3, SL 91A (PLAT)

BY4- 3
 POT 6+77.467