

TIP PROJECT: U-2810B

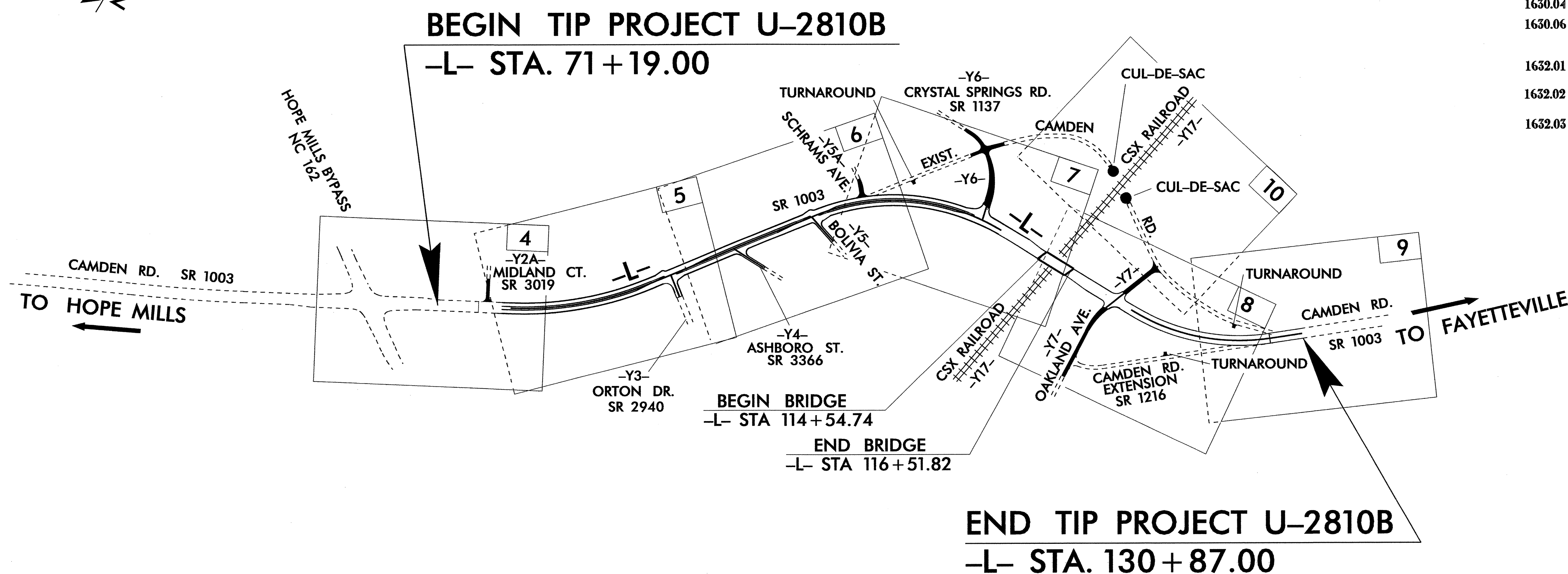
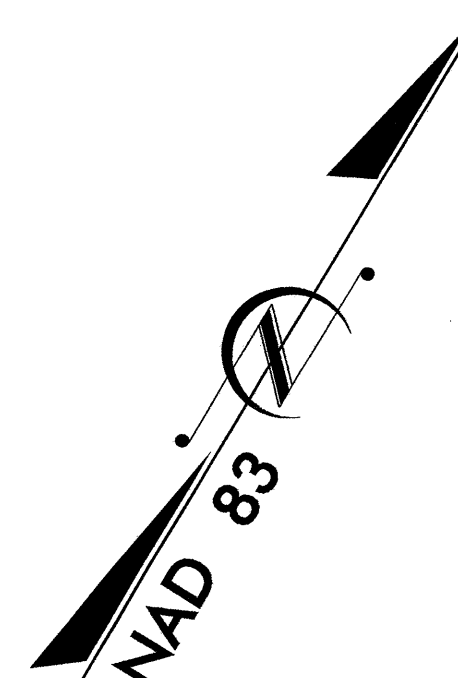
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CUMBERLAND COUNTY

**LOCATION: SR 1003 (CAMDEN ROAD) FROM HOPE MILLS BYPASS
TO EAST OF OAKLAND AVENUE**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURE,
WIDENING, RESURFACING, CURB & GUTTER,
AND SIGNALS**

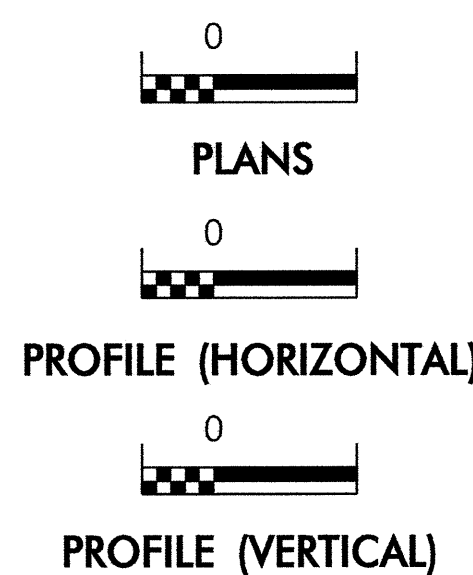


EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.05	Temporary Silt Ditch	--- TSD ---
1630.05	Temporary Diversion	--- TD ---
1605.01	Temporary Silt Fence	--- TFF ---
1606.01	Special Sediment Control Fence	--- SSF ---
1622.01	Temporary Berms and Slope Drains	--- TBSD ---
1630.02	Silt Basin Type B	--- SB B ---
1633.01	Temporary Rock Silt Check Type-A	--- TRSC A ---
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	--- TRSC A PAM ---
1633.02	Temporary Rock Silt Check Type-B	--- TRSC B ---
	Wattle / Coir Fiber Wattle	--- W ---
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	--- W PAM ---
1634.01	Temporary Rock Sediment Dam Type-A	--- TRSD A ---
1634.02	Temporary Rock Sediment Dam Type-B	--- TRSD B ---
1635.01	Rock Pipe Inlet Sediment Trap Type-A	--- RPIS T A ---
1635.02	Rock Pipe Inlet Sediment Trap Type-B	--- RPIS T B ---
1630.04	Stilling Basin	--- SB ---
1630.06	Special Stilling Basin	--- SSB ---
	Rock Inlet Sediment Trap:	
1632.01	Type A	--- RIS T A ---
1632.02	Type B	--- RIS T B ---
1632.03	Type C	--- RIS T C ---
	Skimmer Basin	--- SKB ---
	Tiered Skimmer Basin	--- TSKB ---
	Infiltration Basin	--- IB ---

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

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

**THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.**

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
2012 STANDARD SPECIFICATIONS

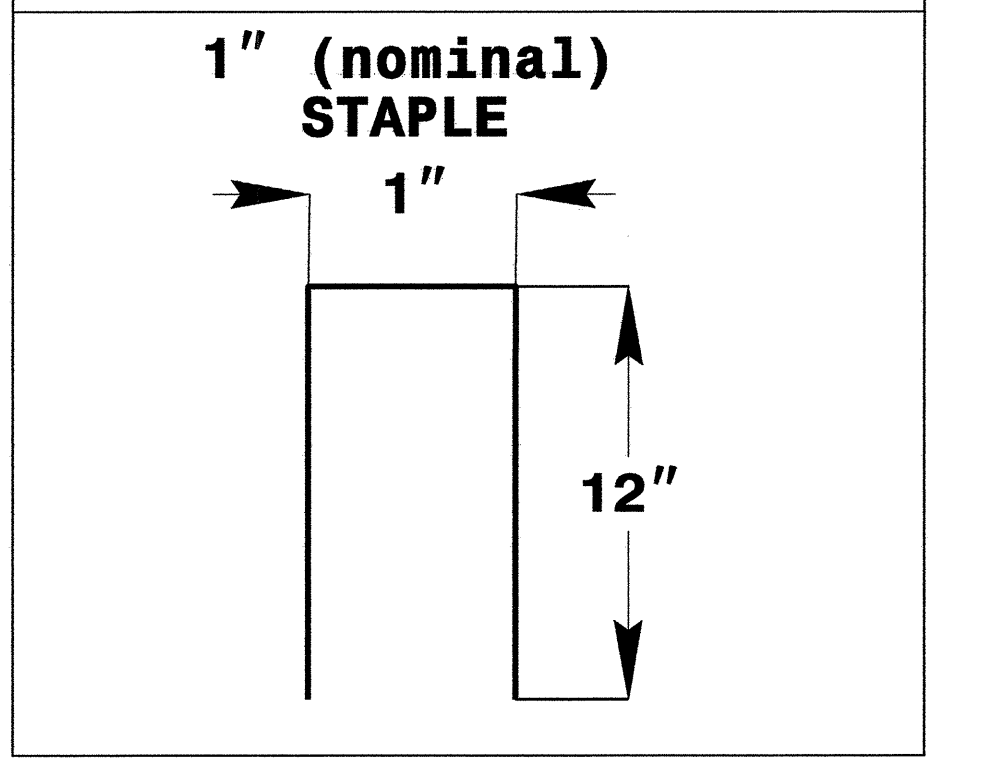
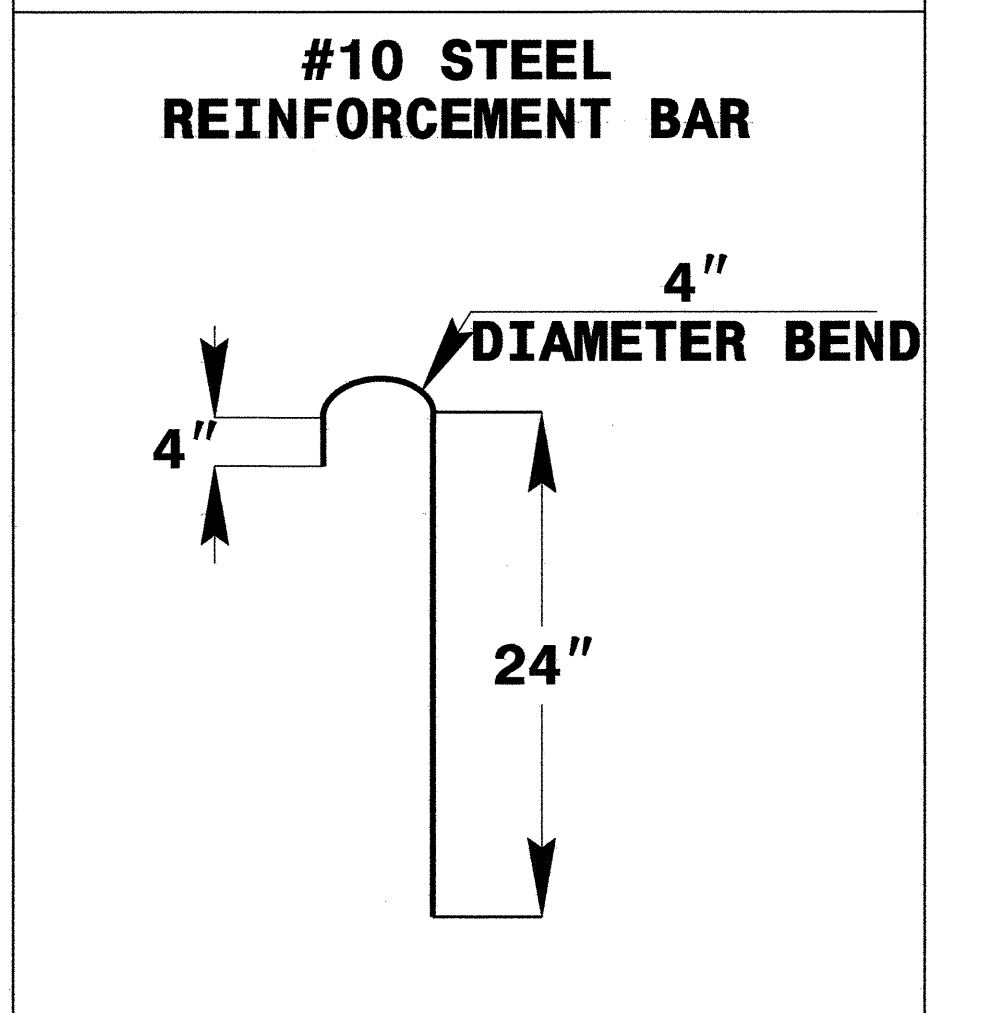
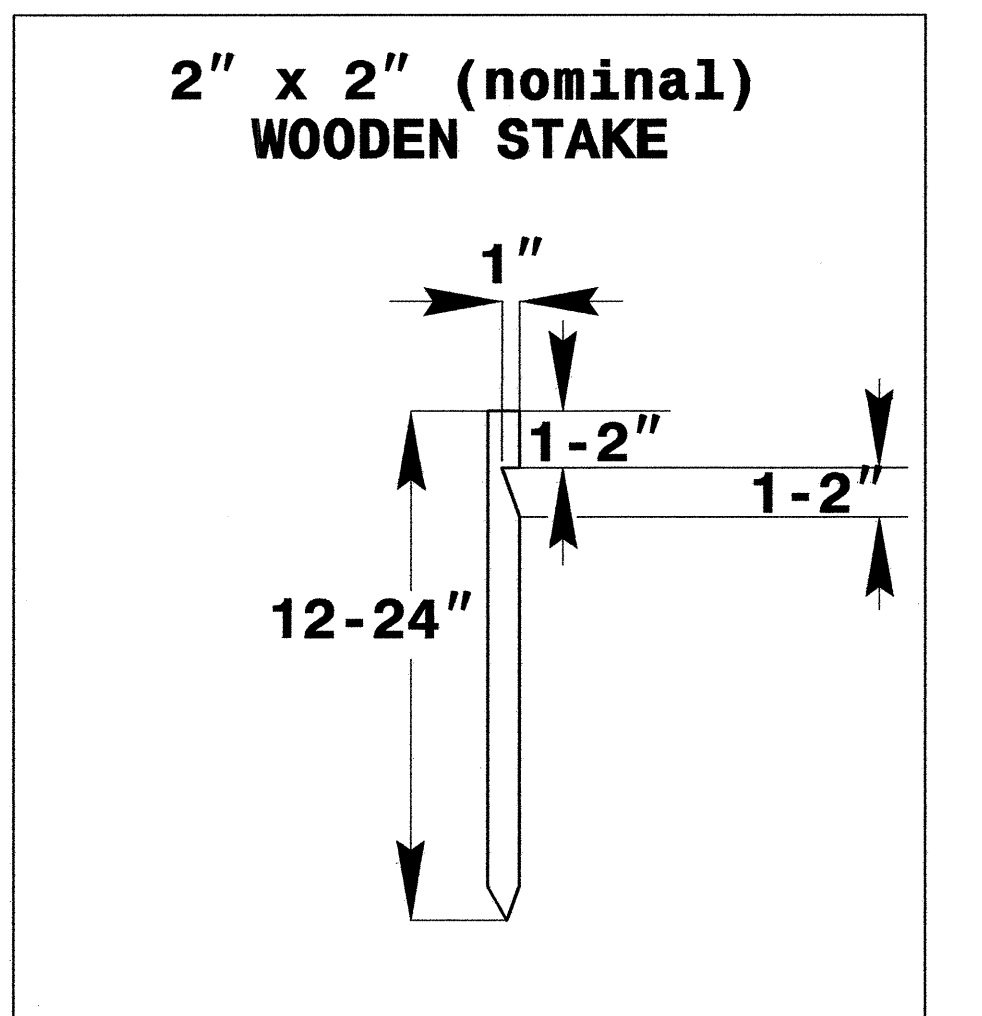
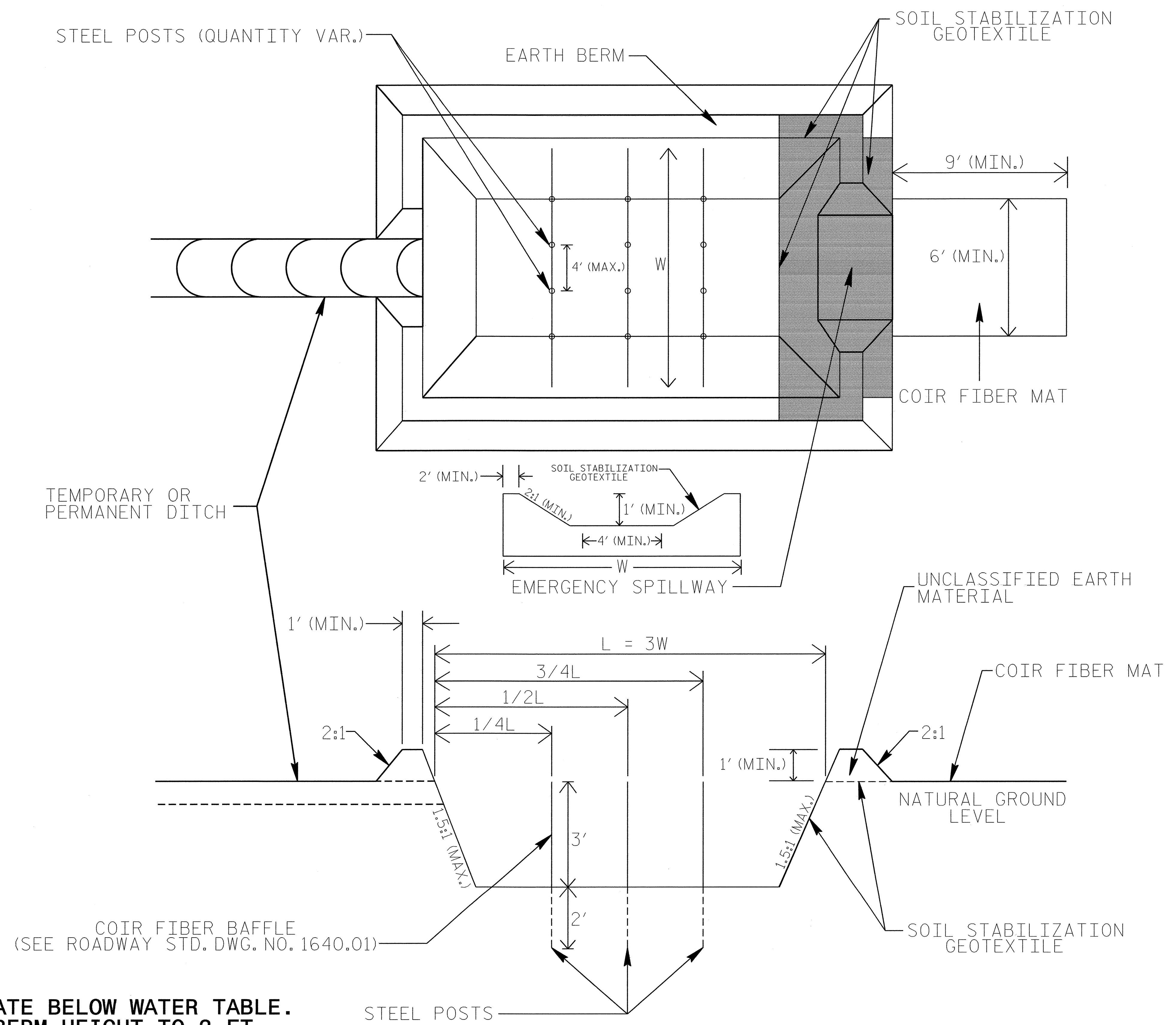
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. U-2810B	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

BORROW PIT DEWATERING BASIN DETAIL

PROJECT REFERENCE NO. U-2810B	SHEET NO. EC-2B
RW 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 IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 1640.01 AND WITH MATERIAL THAT MEETS THE SPECIFICATIONS OF ROADWAY STANDARD 1060-14.

PROVIDE 5' STEEL POSTS OF THE SELF-FASTENER ANGLE STEEL TYPE. INSTALL STEEL POSTS WITH NO MORE THAN 3' 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 12" STAPLES.

INSTALL TYPE 2 GEOTEXTILE 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.

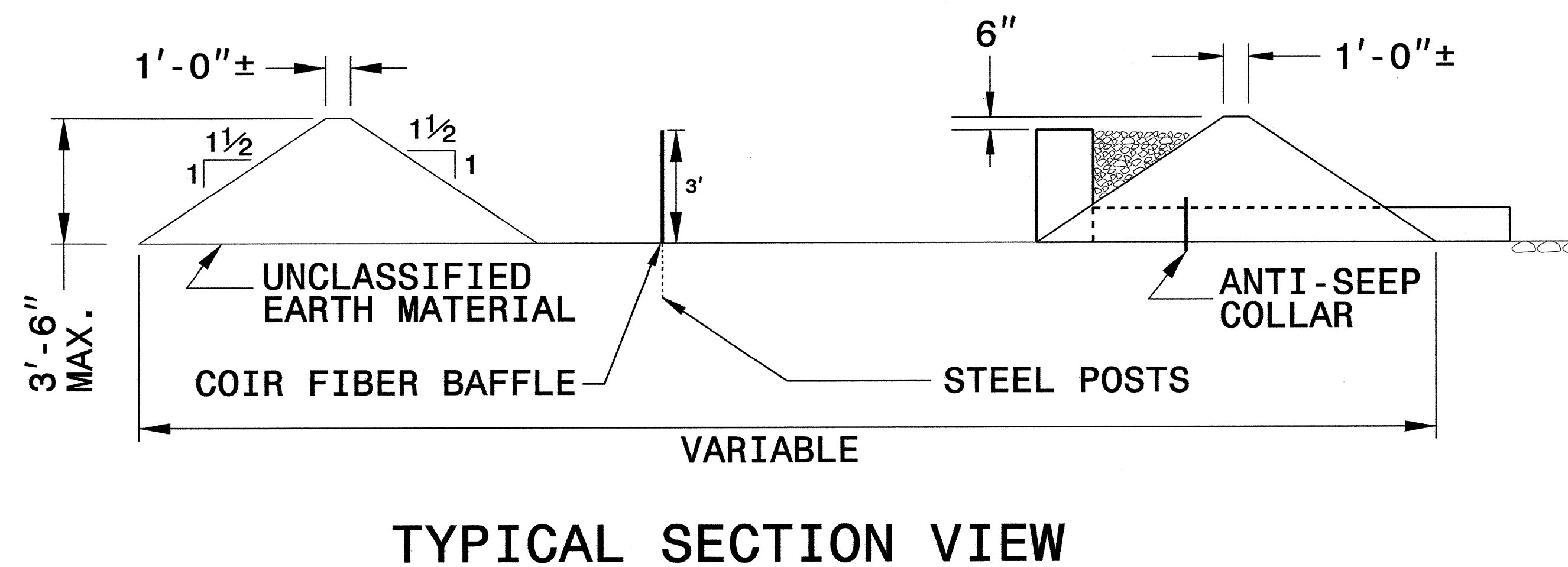
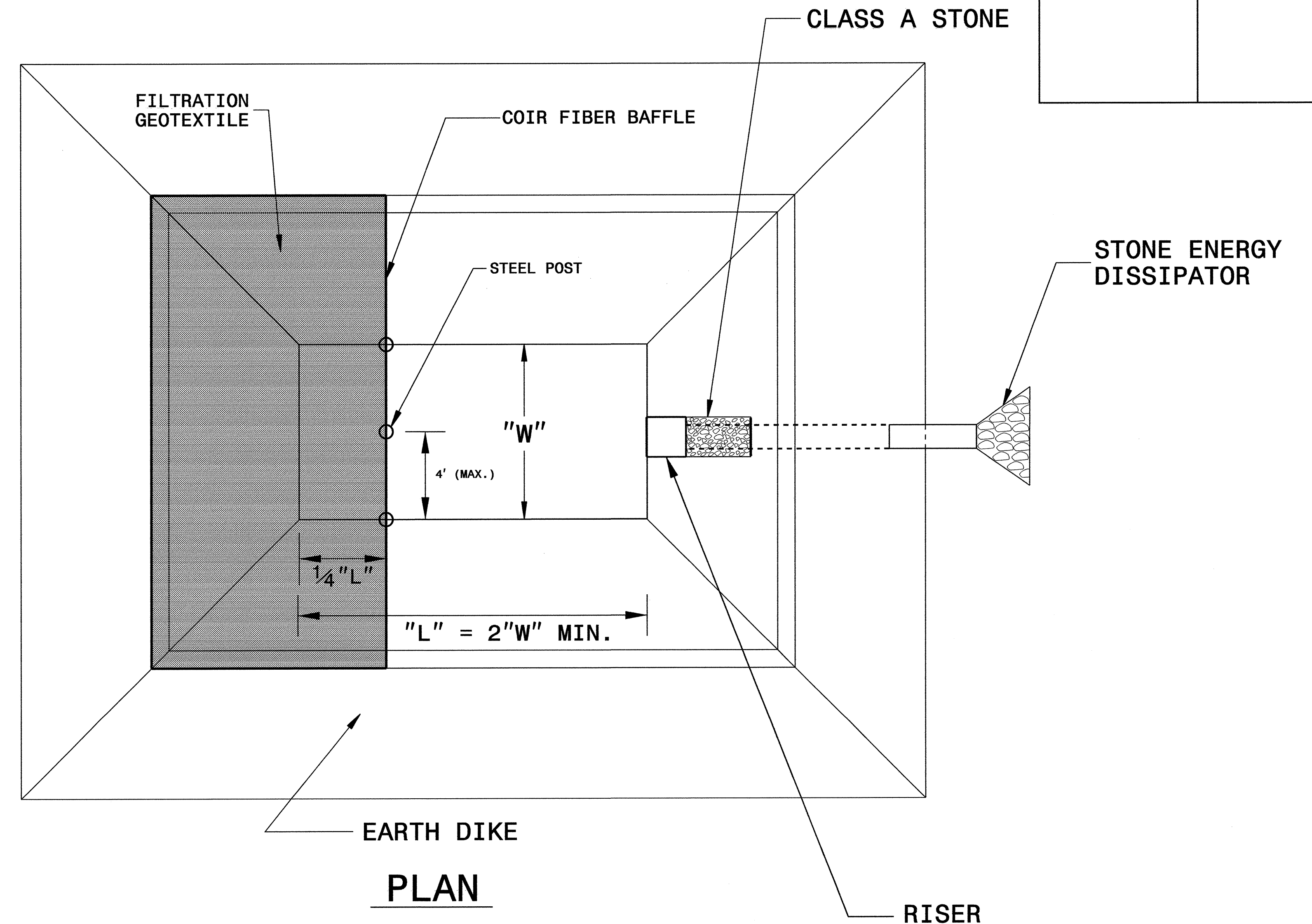
DO NOT EXCEED 3½ FT. IN HEIGHT FOR THE EARTH DIKES REQUIRED FOR BORROW PIT DEWATERING BASIN.

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 6 IN. BELOW TOP OF EARTH DIKE.

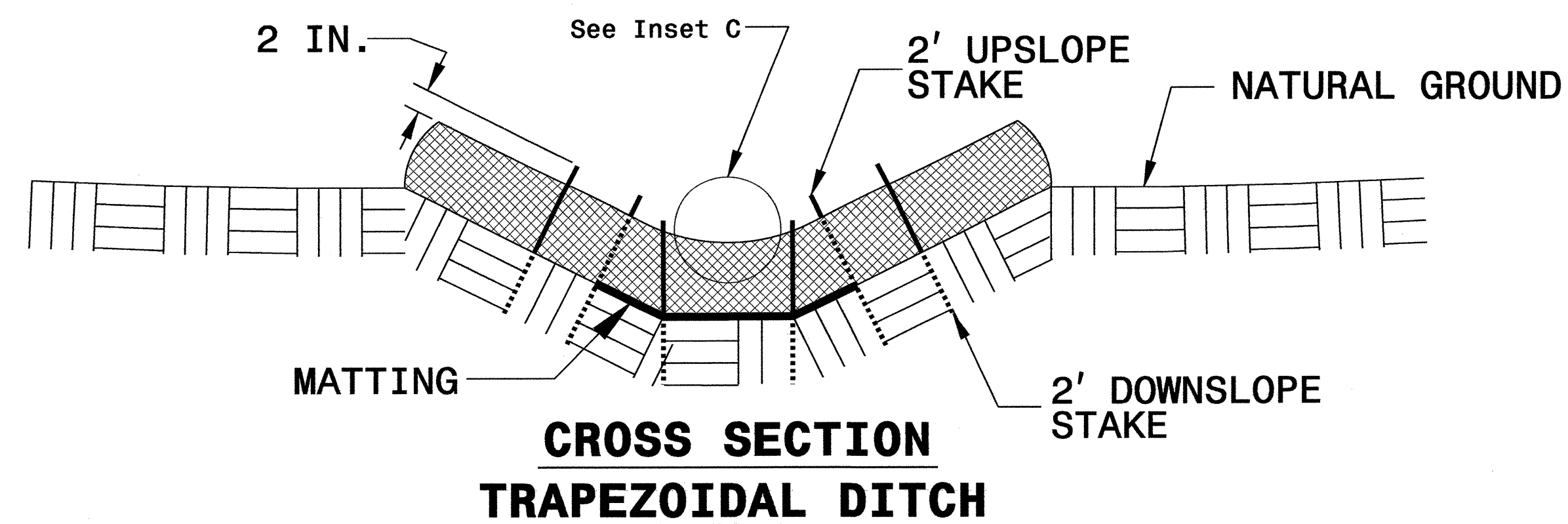
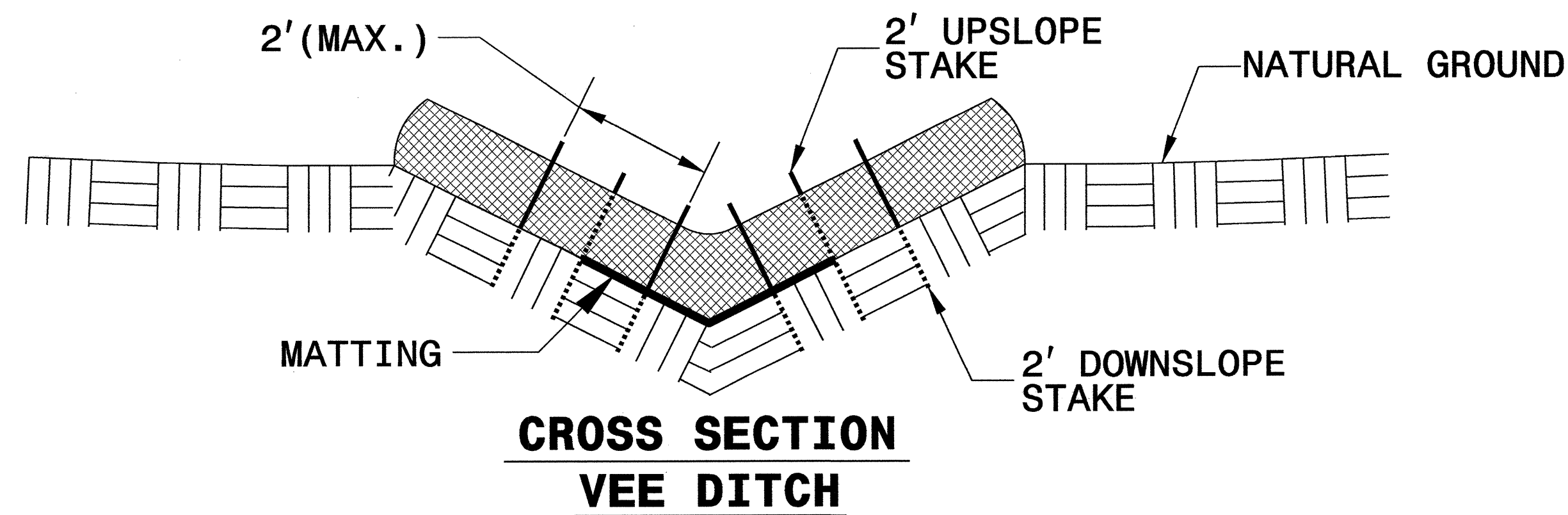
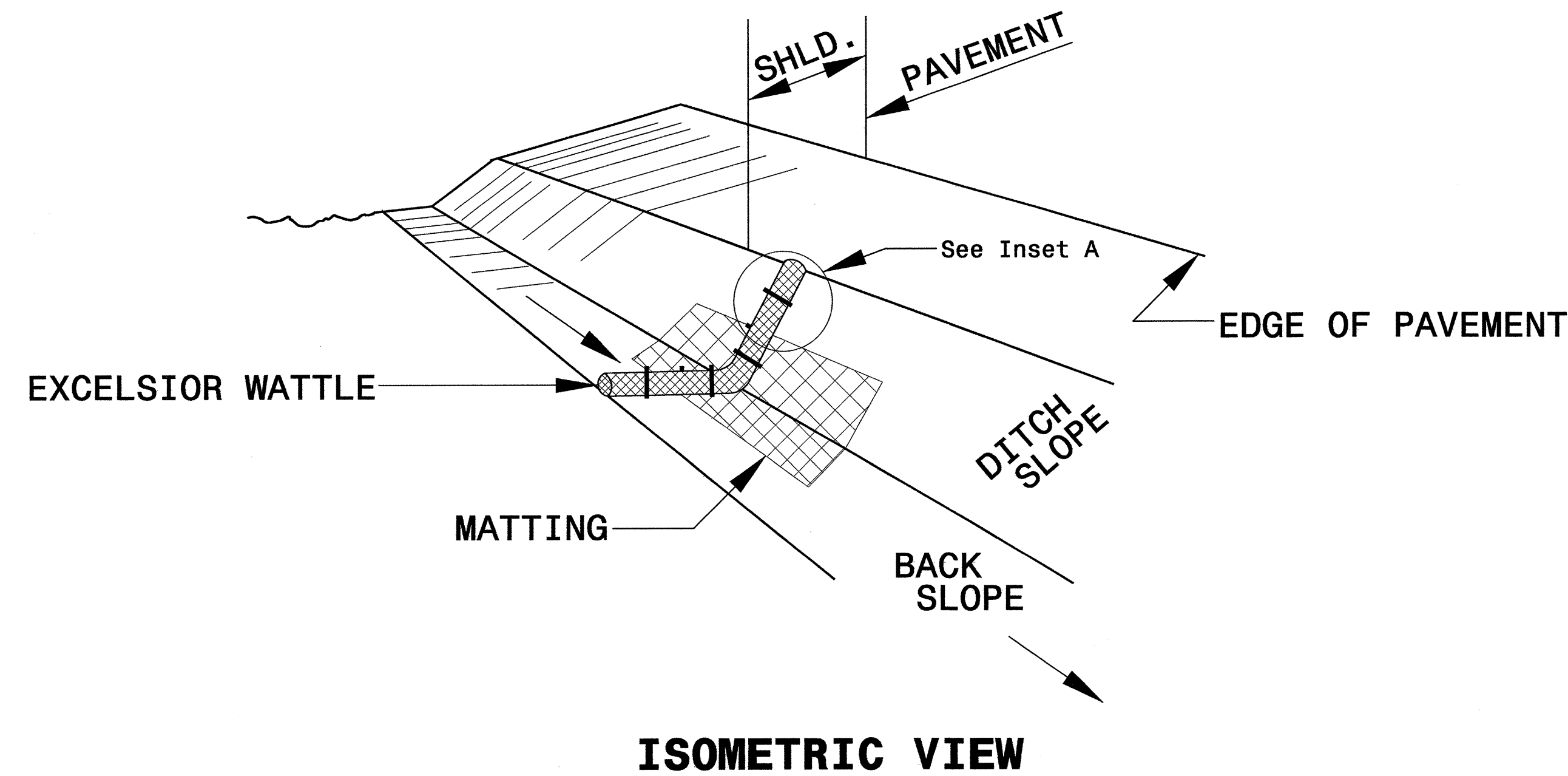
PROVIDE A STONE ENERGY DISSIPATOR PAD AT THE OUTLET OF THE PUMP DISCHARGE HOSE AND OUTLET OF THE RISER BARREL IN ACCORDANCE WITH ROADWAY STANDARD DRAWING 876.02 FOR OUTLET W/O DITCH.



NOT TO SCALE

PROJECT REFERENCE NO. U-2810B	SHEET NO. EC-2C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. 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.

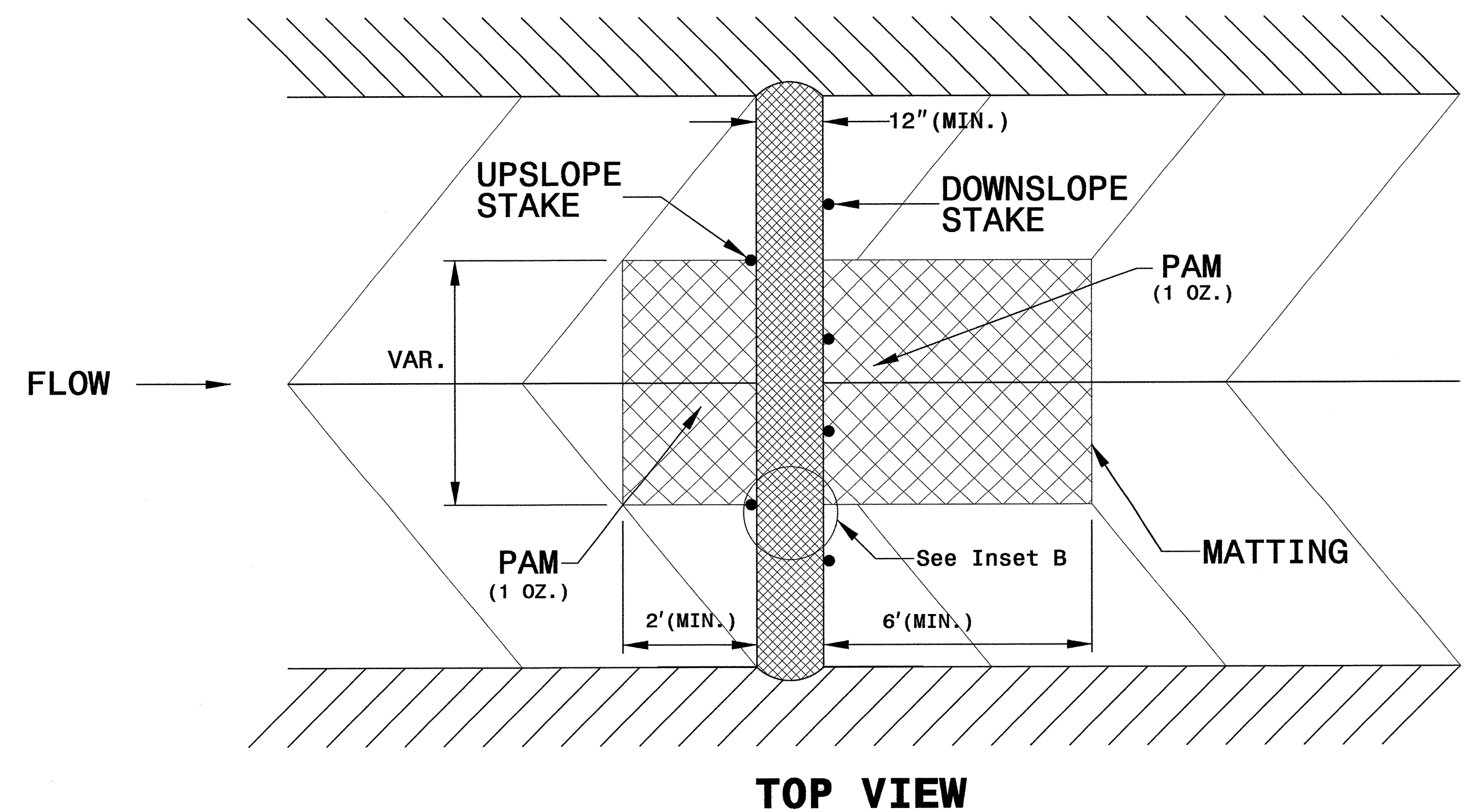
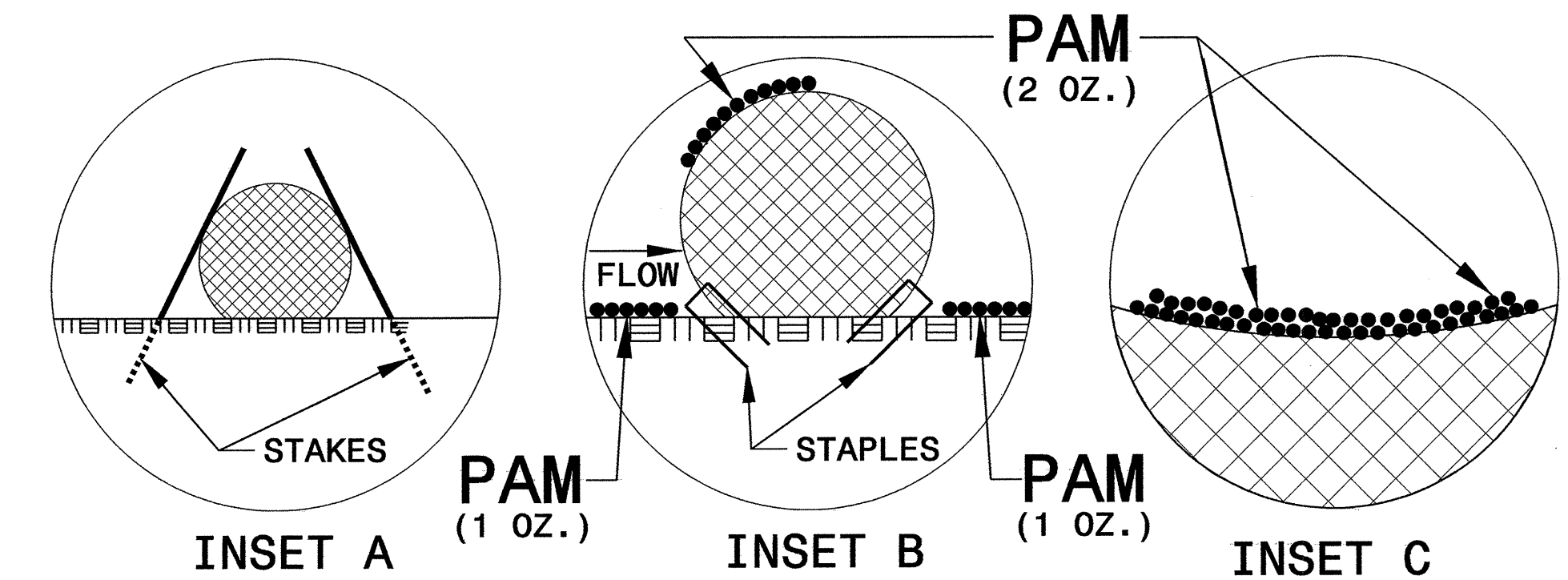
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

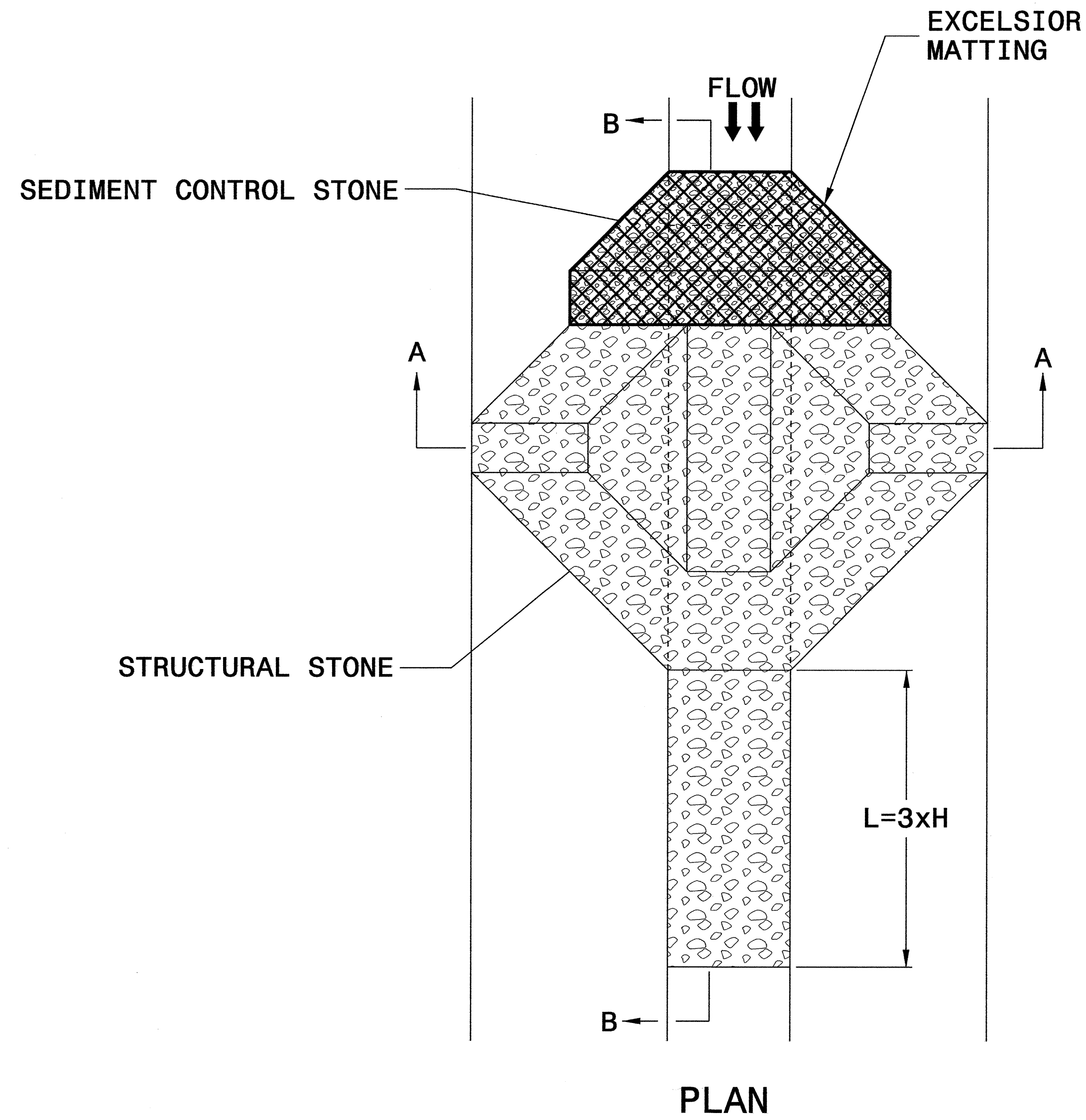
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. U-2810B	SHEET NO. EC-2D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

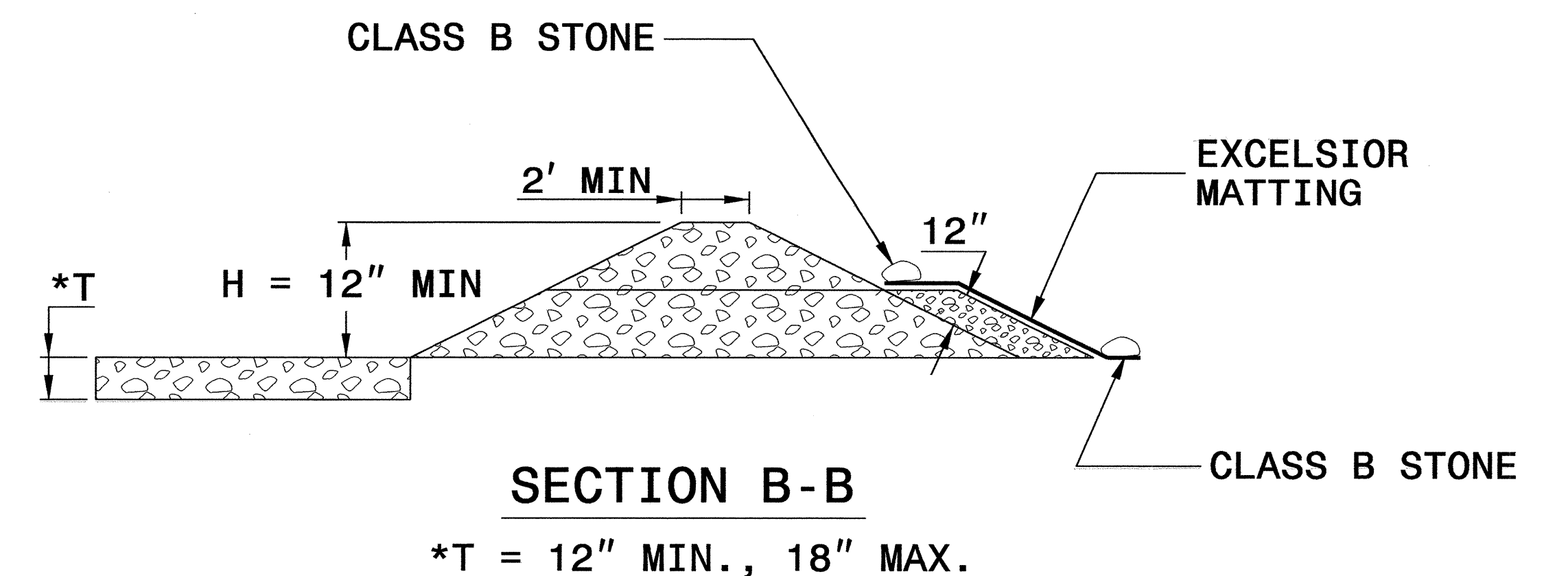
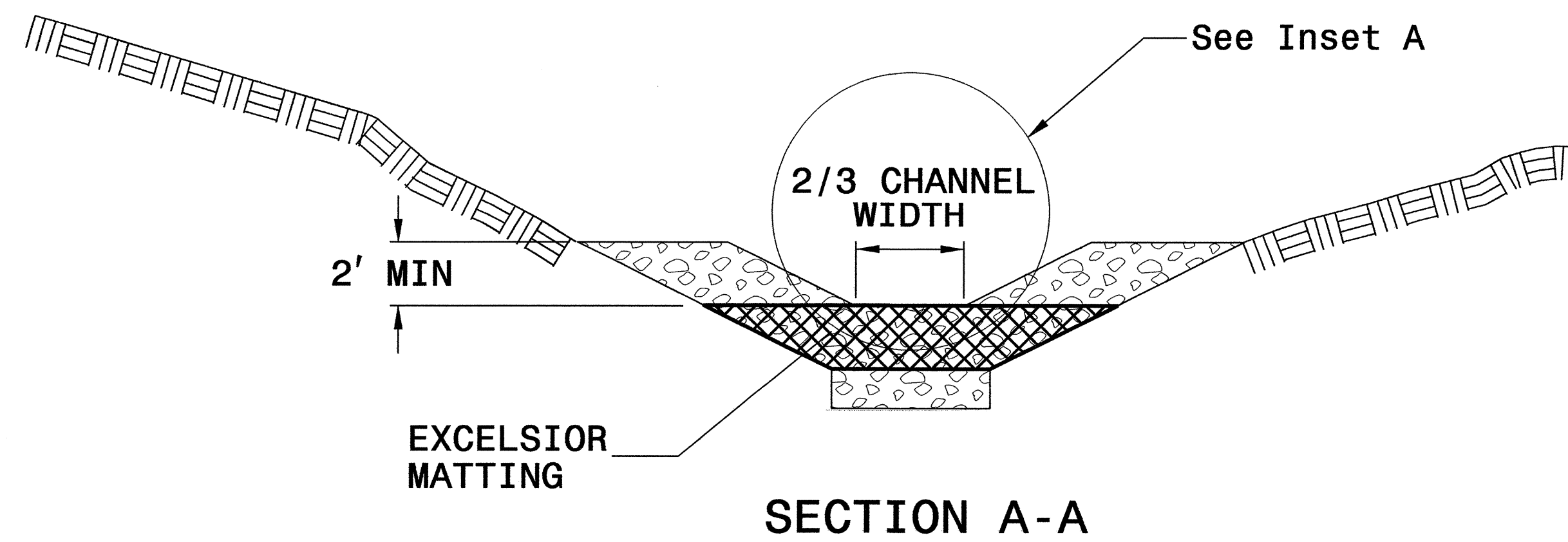
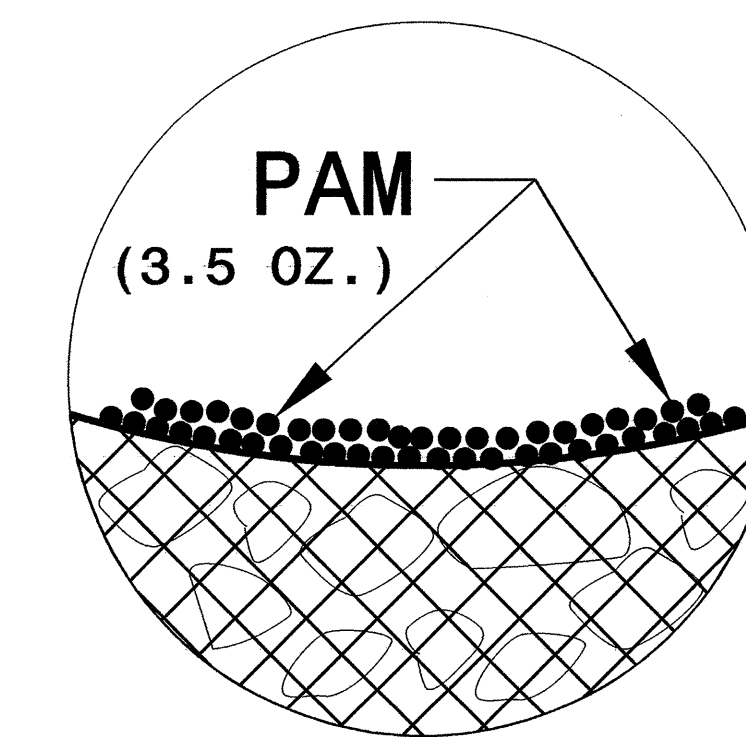


NOTES

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 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>U-2810B</i>	SHEET NO. <i>EC-3A</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

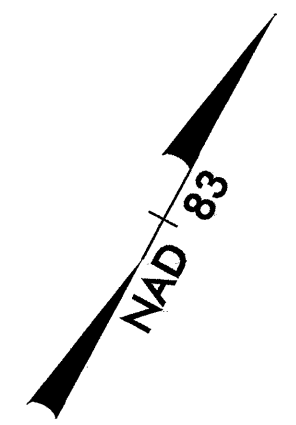
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-4/CONST.4
R/W SHEET NO.	8 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

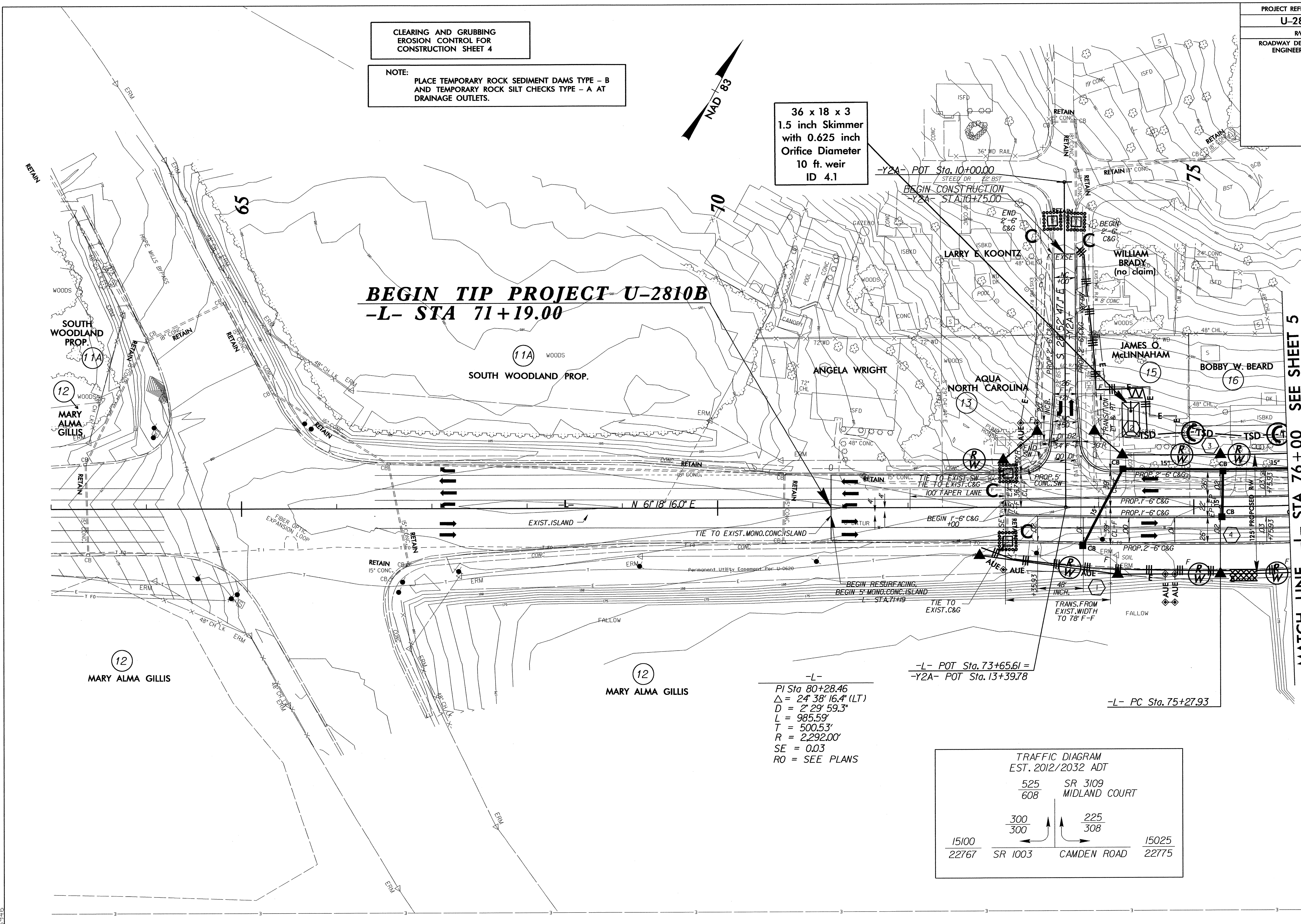
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

36 x 18 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
10 ft. weir
ID 4.1

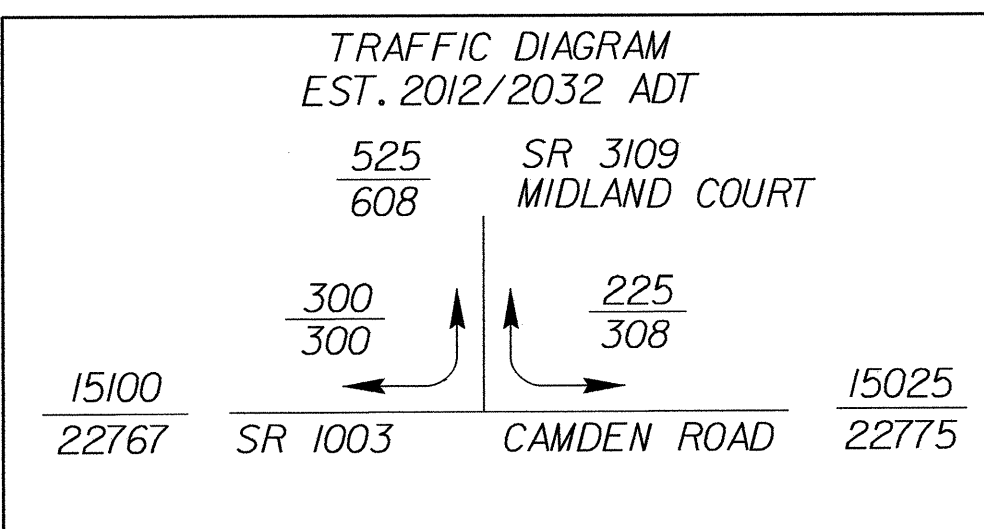


BEGIN TIP PROJECT U-2810B
-L- STA 71+19.00



MATCH LINE -L- STA. 76+00 SEE SHEET 5

-L-
PI Sta 80+28.46
 $\Delta = 24^\circ 38' 16.4" (LT)$
 $D = 2^\circ 29' 59.3"$
 $L = 985.59'$
 $T = 500.53'$
 $R = 2,292.00'$
 $SE = 0.03$
 $RO = \text{SEE PLANS}$



SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 14 FOR -Y2A- PROFILE

8/17/99

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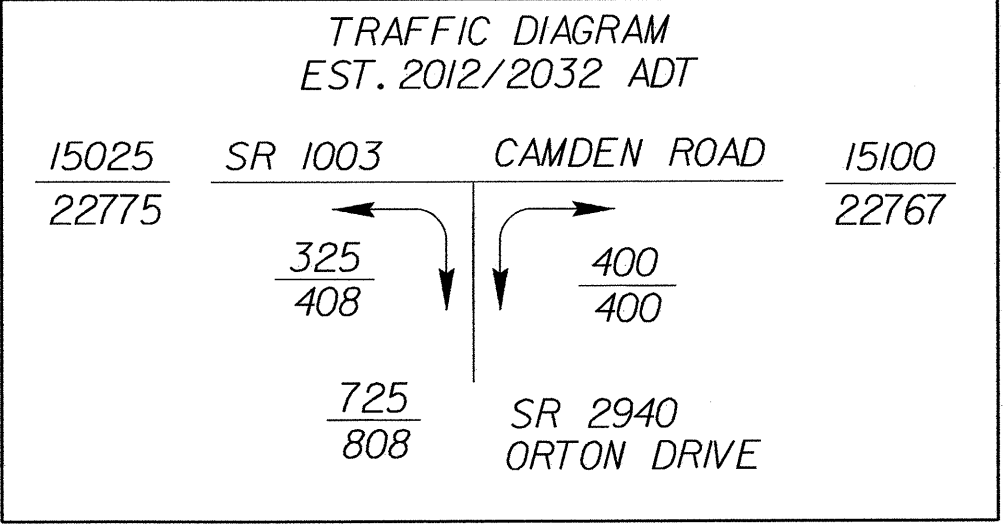
170' CP&L EASEMENT

170' CP&L EASEMENT

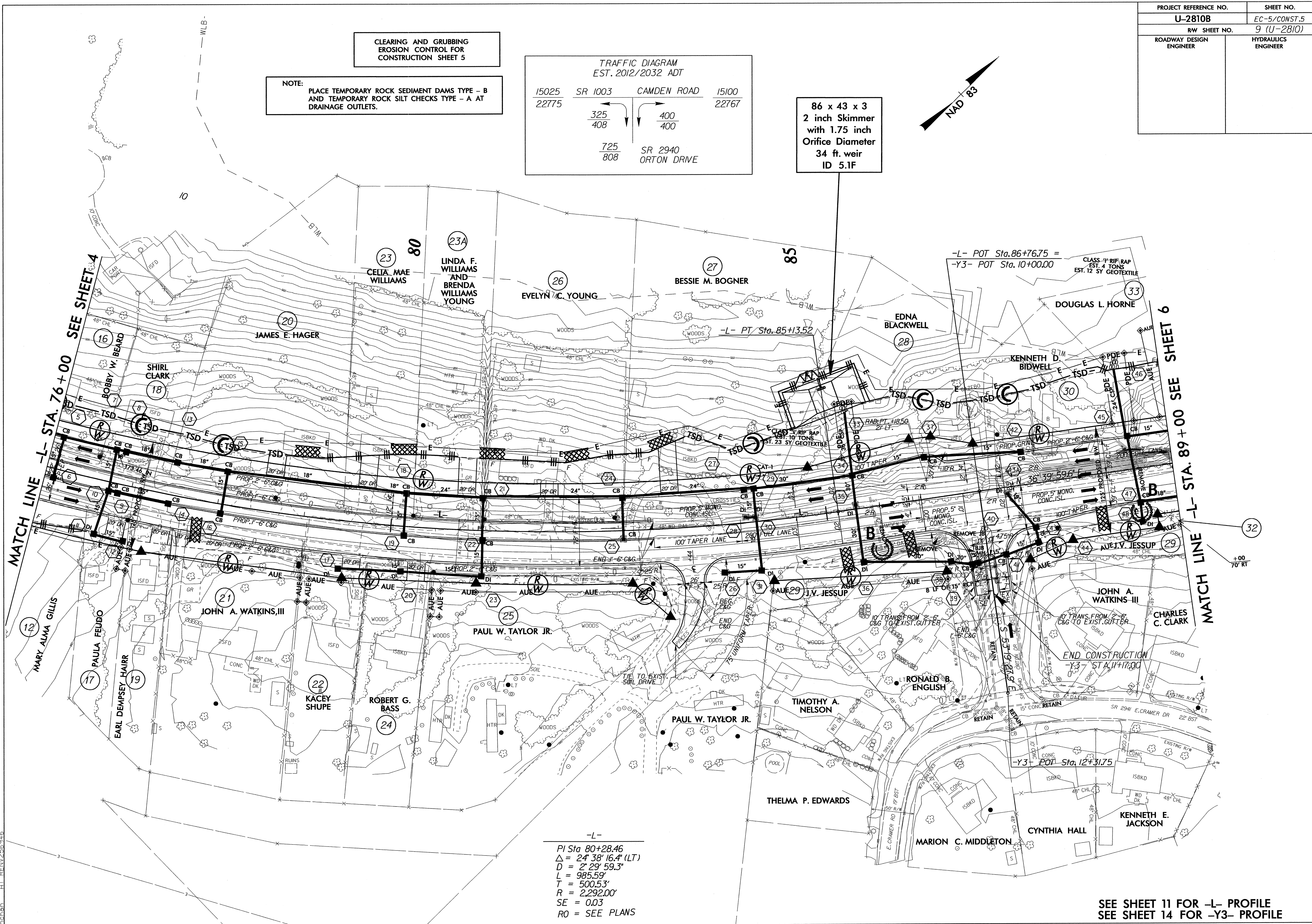
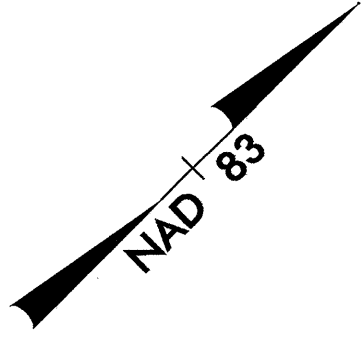
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U-2810B	EC-5/CONST.5
RW SHEET NO.	9 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



86 x 43 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
34 ft. weir
ID 5.1F



-L-
PI Sta 80+28.46
Δ = 24° 38' 16.4" (LT)
D = 2' 29' 59.3"
L = 985.59
T = 500.53
R = 2,292.00'
SE = 0.03
RO = SEE PLANS

SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 14 FOR -Y3- PROFILE

8/17/99
3-AUG-2012 11:02
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nchan AT BREN255346

8/17/99

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.

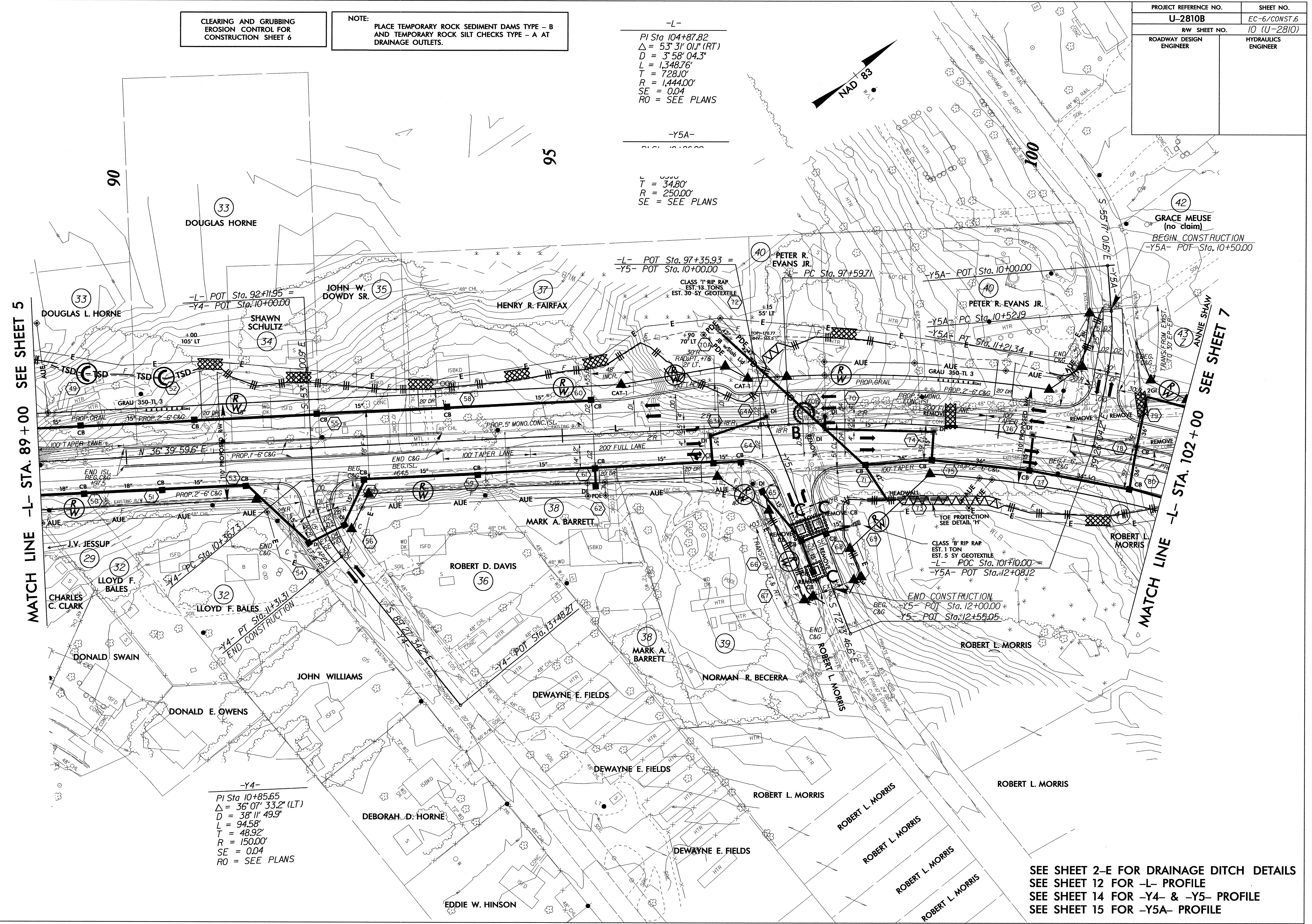
-L-
PI Sta 104+87.82
 $\Delta = 53^{\circ} 31' 01.1''$ (RT)
D = 3' 58" 04.3"
L = 1,348.76'
T = 728.10'
R = 1,444.00'
SE = 0.04
RO = SEE PLANS

-Y5A-
L = 3390'
T = 34.80'
R = 250.00'
SE = SEE PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-6/CONST.6
RAW SHEET NO.	10 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCH LINE -L- STA. 89+00 SEE SHEET 5

MATCH LINE -L- STA. 102+00 SEE SHEET 7



-Y4-
PI Sta 10+85.65
 $\Delta = 36^{\circ} 07' 33.2''$ (LT)
D = 38' 11" 49.9"
L = 94.58'
T = 48.92'
R = 150.00'
SE = 0.04
RO = SEE PLANS

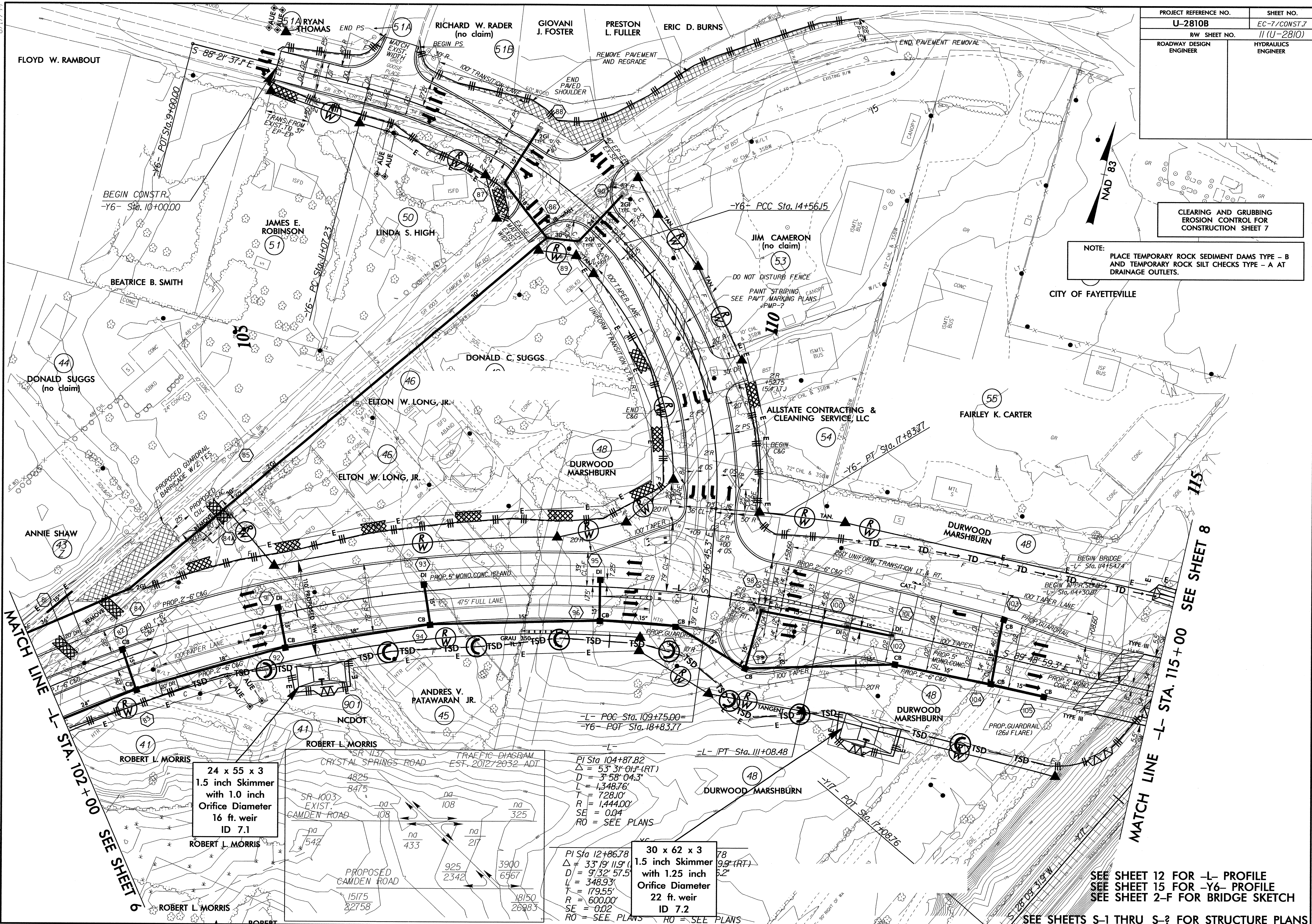
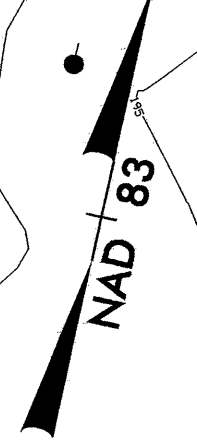
SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS
SEE SHEET 12 FOR -L- PROFILE
SEE SHEET 14 FOR -Y4- & -Y5- PROFILE
SEE SHEET 15 FOR -Y5A- PROFILE

31-AUG-2012 11:04
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Action AT BENV2810B

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-7/CONST.7
RW SHEET NO.	11 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.



24 x 55 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
16 ft. weir
ID 7.1

PI Sta 104+87.82
 $\Delta = 53^{\circ} 31' 01''$ (RT)
 $D = 3^{\circ} 58' 04.3''$
 $L = 1,348.76'$
 $T = 728.10'$
 $R = 1,444.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

30 x 62 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
22 ft. weir
ID 7.2

PI Sta 12+86.78
 $\Delta = 33^{\circ} 19' 11.9''$ (RT)
 $D = 9^{\circ} 32' 57.5''$
 $L = 348.93'$
 $T = 179.55'$
 $R = 600.00'$
 $SE = 0.02$
 $RO = \text{SEE PLANS}$

SEE SHEET 12 FOR -L- PROFILE
SEE SHEET 15 FOR -Y6- PROFILE
SEE SHEET 2-F FOR BRIDGE SKETCH

SEE SHEETS S-1 THRU S-2 FOR STRUCTURE PLANS

31-AUG-2012 11:07
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Author: BT

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-B/CONST.B
RW SHEET NO.	12 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8

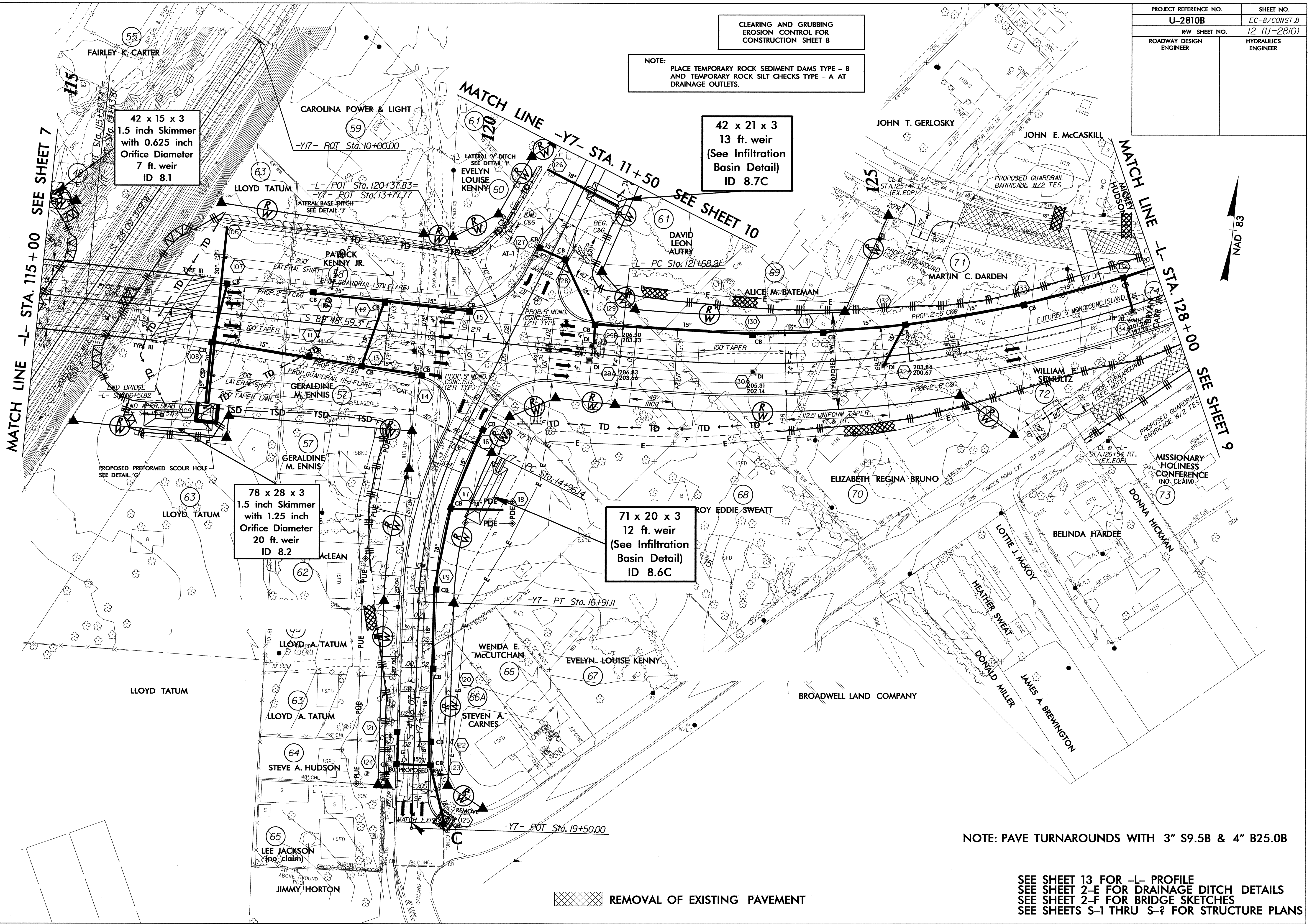
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

42 x 21 x 3
13 ft. weir
(See Infiltration
Basin Detail)
ID 8.7C

42 x 15 x 3
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
7 ft. weir
ID 8.1

78 x 28 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
20 ft. weir
ID 8.2

71 x 20 x 3
12 ft. weir
(See Infiltration
Basin Detail)
ID 8.6C



MATCH LINE -L- STA. 115+00 SEE SHEET 7

MATCH LINE -Y7- STA. 11+50 SEE SHEET 10

MATCH LINE -L- STA. 128+00 SEE SHEET 9

NOTE: PAVE TURNAROUNDS WITH 3" S9.5B & 4" B25.0B

SEE SHEET 13 FOR -L- PROFILE
SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS
SEE SHEET 2-F FOR BRIDGE SKETCHES
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REMOVAL OF EXISTING PAVEMENT

8/17/09
 3-AUG-2012 11:00
 R:\Enviro\Projects\U-2810B-EC-ps-h.s8.dgn
 naban AT BENV256946

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

PERCY A. JOHNSON

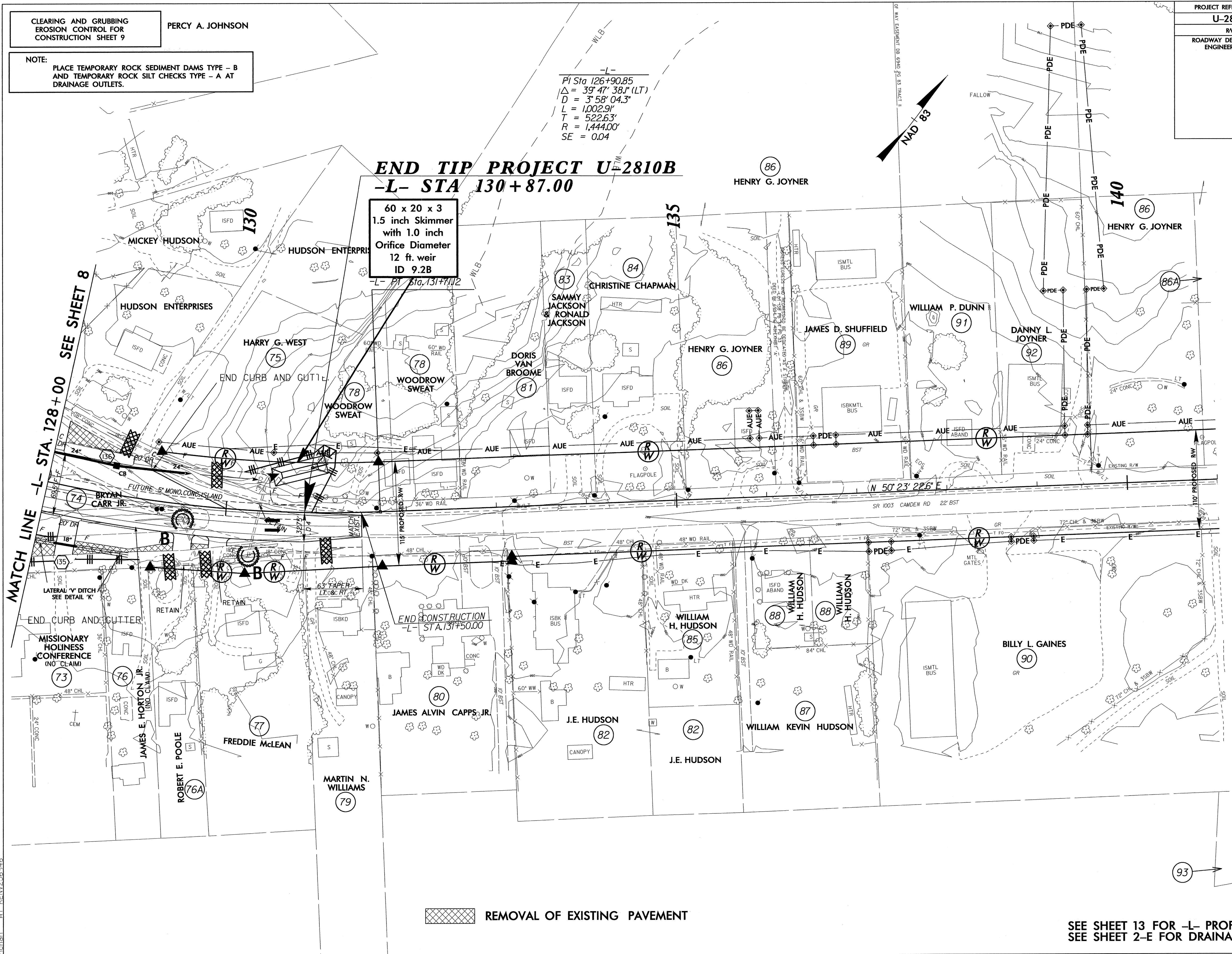
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

-L-
PI Sta 126+90.85
 $\Delta = 39^{\circ} 47' 38.1''$ (LT)
D = 3' 58" 04.3"
L = 1,002.9'
T = 522.63'
R = 1,444.00'
SE = 0.04

END TIP PROJECT U-2810B
-L- STA 130+87.00

60 x 20 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
12 ft. weir
ID 9.2B

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-9/CONST.9
R/W SHEET NO.	13 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REMOVAL OF EXISTING PAVEMENT

SEE SHEET 13 FOR -L- PROFILE
SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS

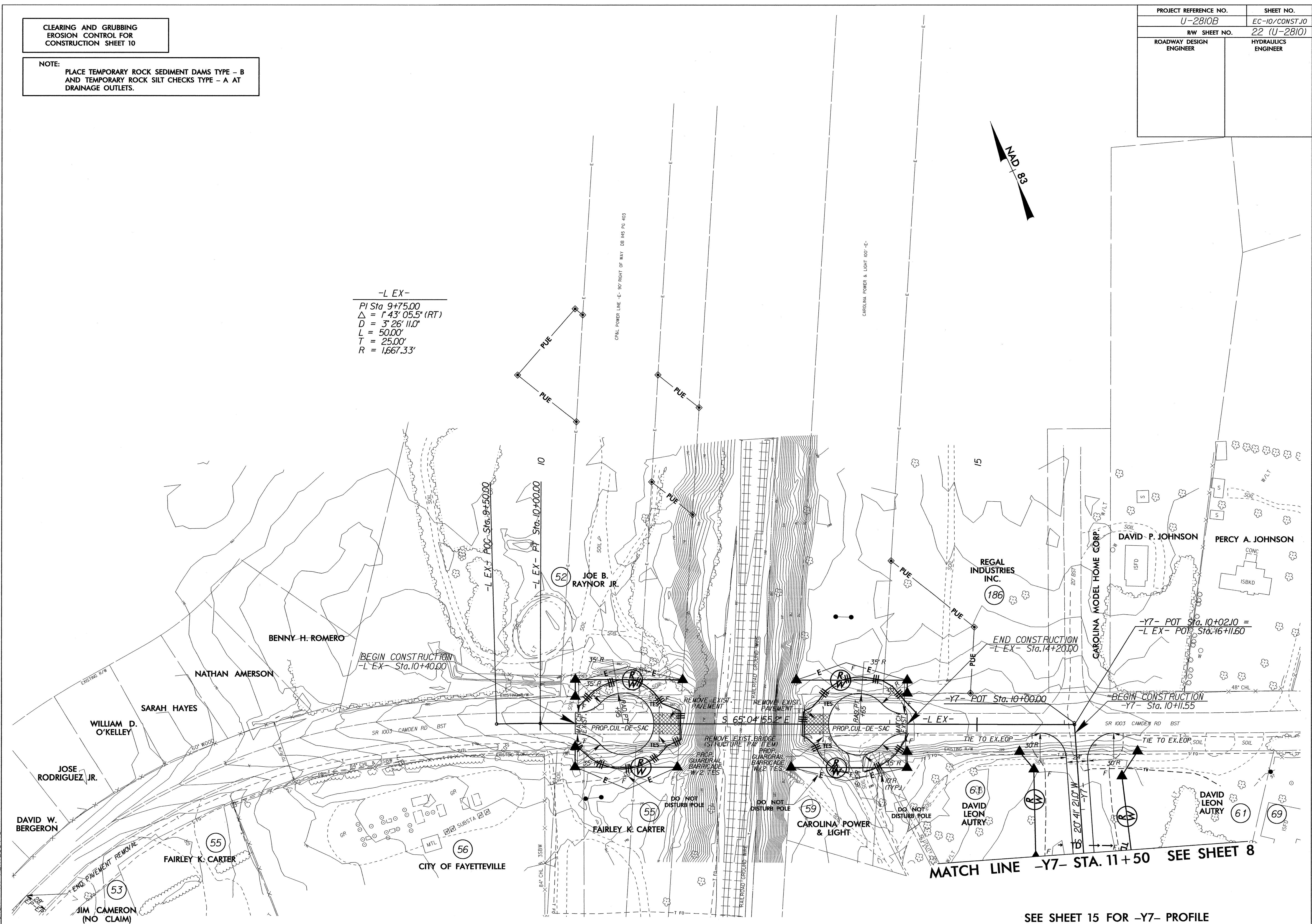
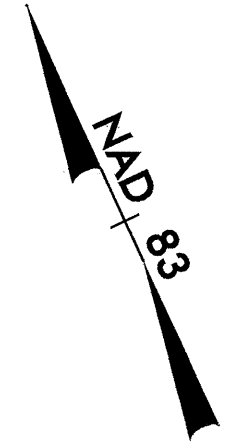
8/17/99
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 nchan AT PENN255945

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-10/CONST.10
R/W SHEET NO.	22 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 10

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

-L EX-
PI Sta 9+75.00
 $\Delta = 1^{\circ}43'05.5" (RT)$
 $D = 3^{\circ}26'11.0"$
 $L = 50.00'$
 $T = 25.00'$
 $R = 1,667.33'$



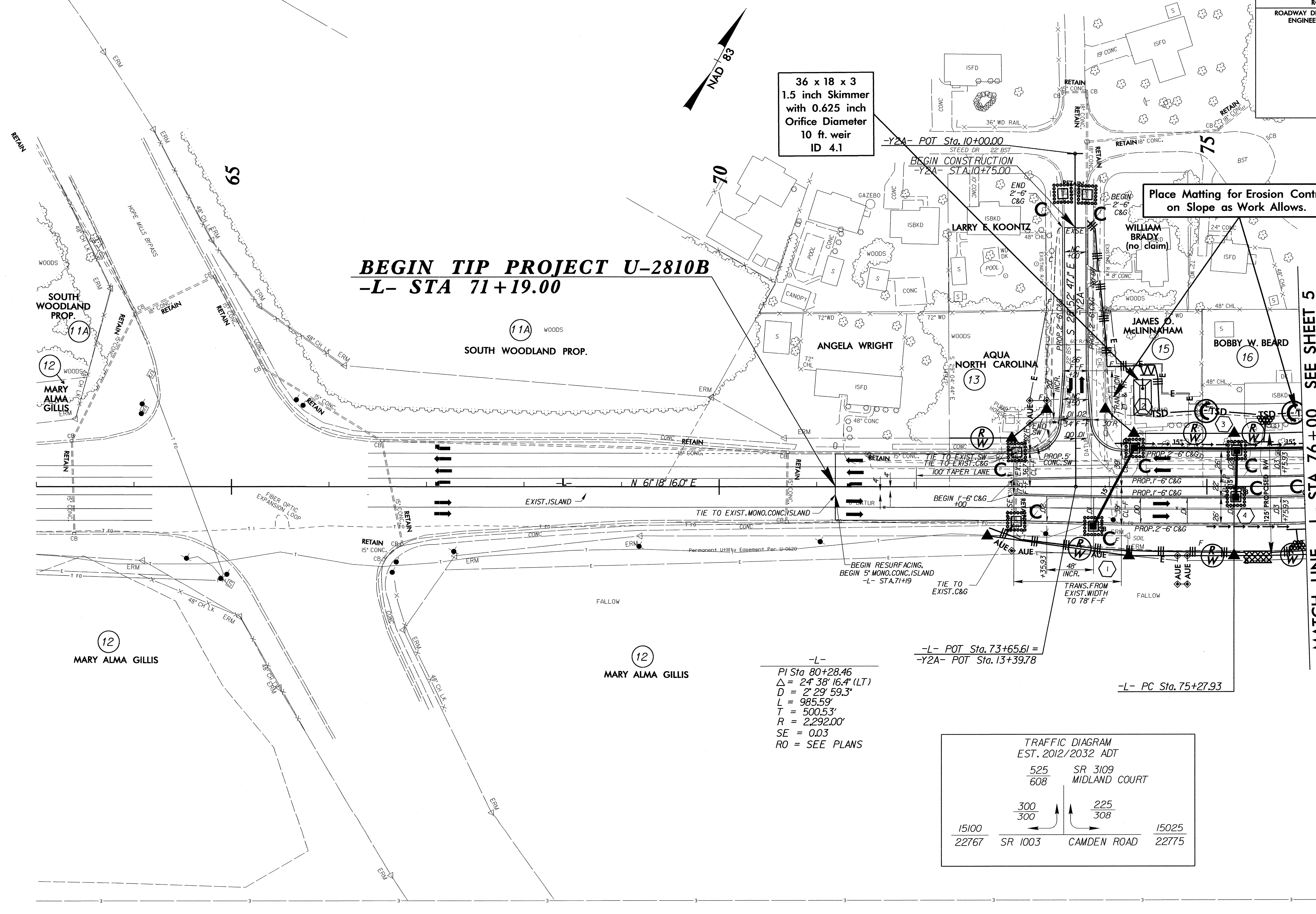
8/17/99
 31-AUG-2012 11:44
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 chohan - R1 REV 25/246

MATCH LINE -Y7- STA. 11+50 SEE SHEET 8

SEE SHEET 15 FOR -Y7- PROFILE

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-II/CONST.4
R/W SHEET NO.	8 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN TIP PROJECT U-2810B
-L- STA 71+19.00

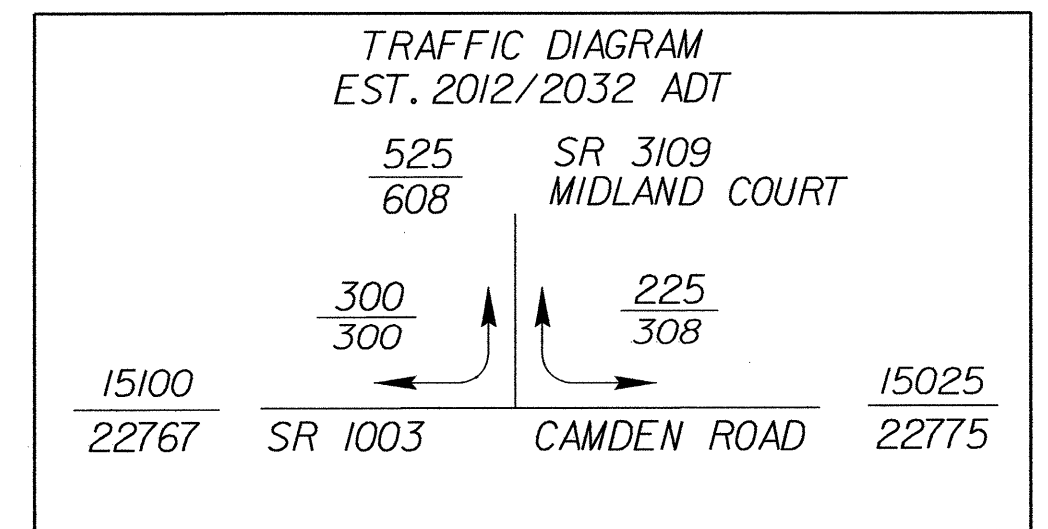
36 x 18 x 3
 1.5 inch Skimmer
 with 0.625 inch
 Orifice Diameter
 10 ft. weir
 ID 4.1

Place Matting for Erosion Control
 on Slope as Work Allows.

-L-
 PI Sta 80+28.46
 $\Delta = 24^\circ 38' 16.4" (LT)$
 $D = 2^\circ 29' 59.3"$
 $L = 985.59'$
 $T = 500.53'$
 $R = 2,292.00'$
 $SE = 0.03$
 RO = SEE PLANS

-L- POT Sta. 73+65.61 =
 -Y2A- POT Sta. 13+39.78

-L- PC Sta. 75+27.93



MATCH LINE -L- STA. 76+00 SEE SHEET 5

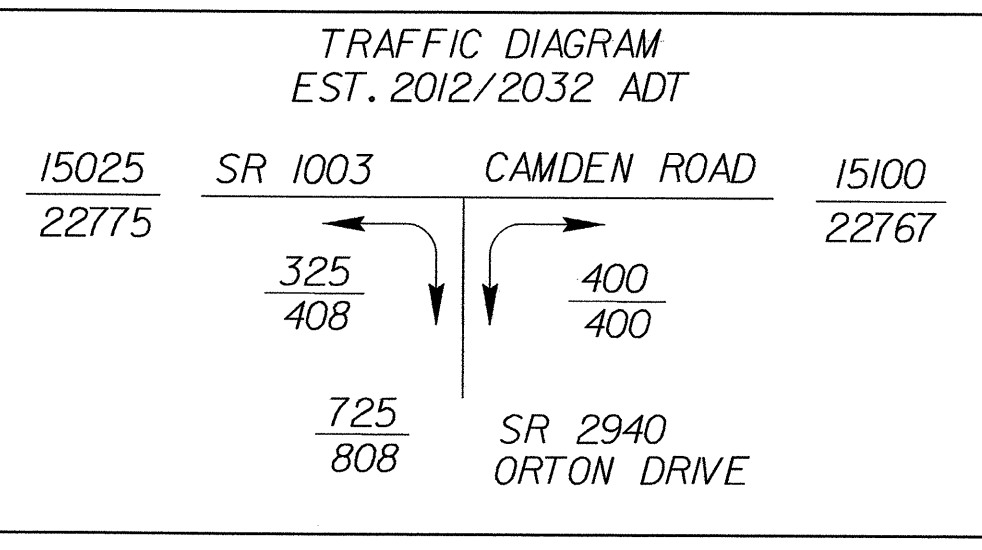
31-AUG-2012 11:01
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 ncban AT RENV256346

170' CP&L EASEMENT

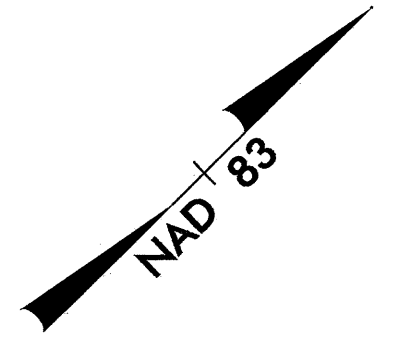
170' CP&L EASEMENT

SEE SHEET 11 FOR -L- PROFILE
 SEE SHEET 14 FOR -Y2A- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-12/CONST.5
R/W SHEET NO.	9 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

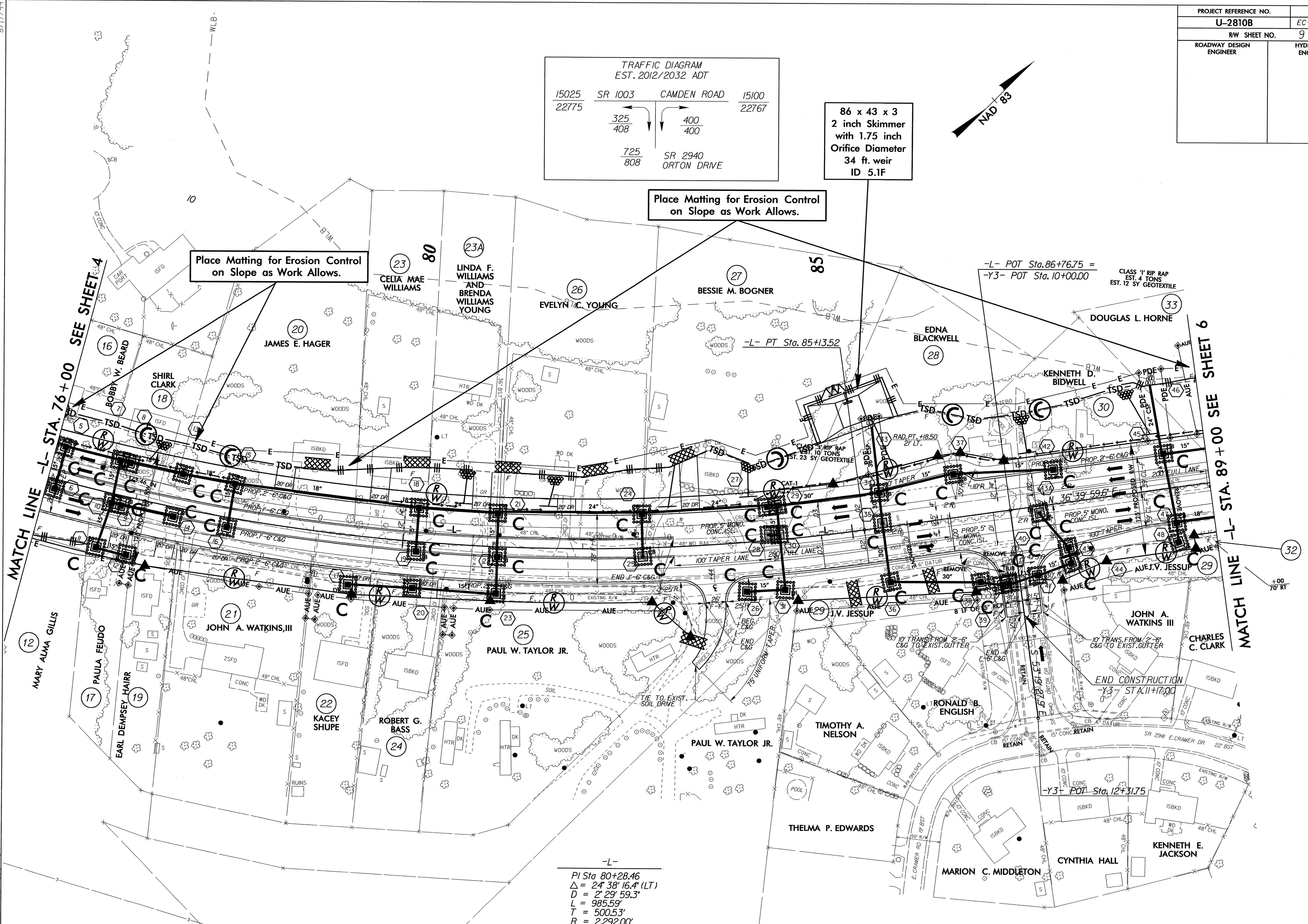


86 x 43 x 3
2 inch Skimmer
with 1.75 inch
Orifice Diameter
34 ft. weir
ID 5.1F



Place Matting for Erosion Control
on Slope as Work Allows.

Place Matting for Erosion Control
on Slope as Work Allows.



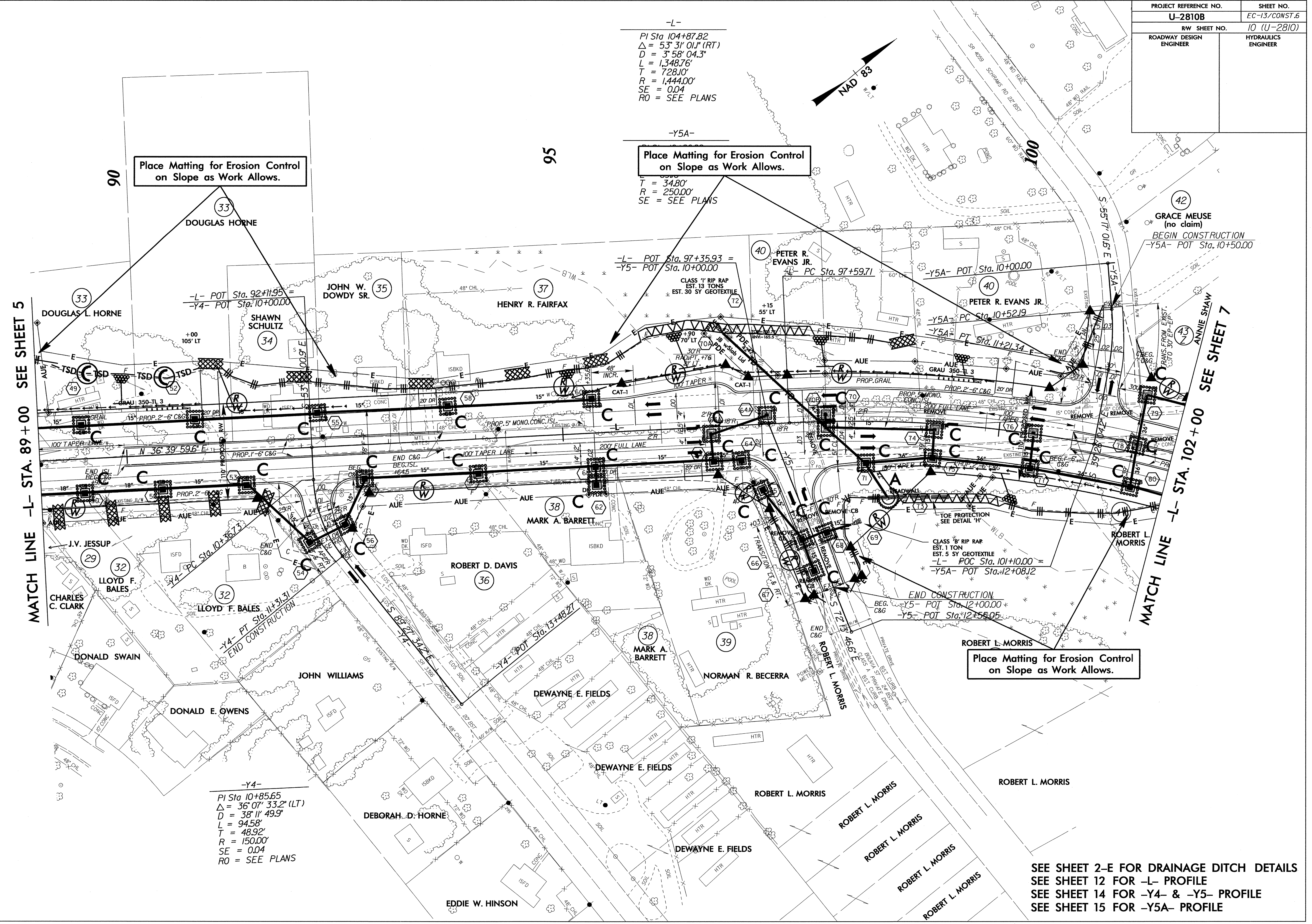
-L-
PI Sta 80+28.46
Δ = 24° 38' 16.4\"/>

SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 14 FOR -Y3- PROFILE

8/17/09
3-AUG-2012 14:03
R:\Environment\Design\2810b_EC_pah.s5.dgn
Revision 25/26

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-13/CONST.6
R/W SHEET NO.	10 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-
 PI Sta. 104+87.82
 $\Delta = 53^\circ 31' 01''$ (RT)
 $D = 3^\circ 58' 04.3''$
 $L = 1,348.76'$
 $T = 728.10'$
 $R = 1,444.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

-Y5A-
 $T = 34.80'$
 $R = 250.00'$
 $SE = \text{SEE PLANS}$

Place Matting for Erosion Control
 on Slope as Work Allows.

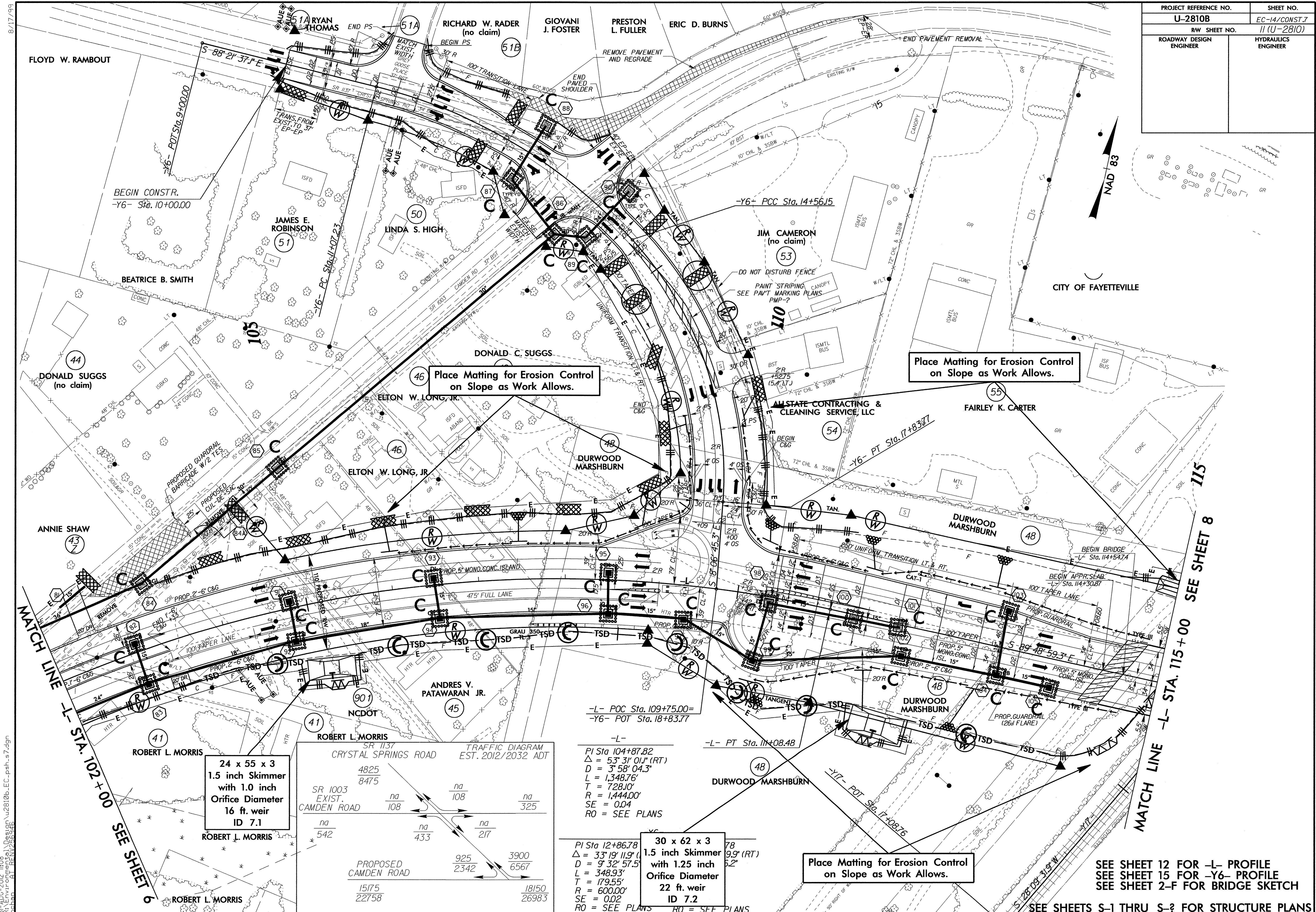
Place Matting for Erosion Control
 on Slope as Work Allows.

Place Matting for Erosion Control
 on Slope as Work Allows.

-Y4-
 PI Sta. 10+85.65
 $\Delta = 36^\circ 07' 33.2''$ (LT)
 $D = 38^\circ 11' 49.9''$
 $L = 94.58'$
 $T = 48.92'$
 $R = 150.00'$
 $SE = 0.04$
 $RO = \text{SEE PLANS}$

SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS
 SEE SHEET 12 FOR -L- PROFILE
 SEE SHEET 14 FOR -Y4- & -Y5- PROFILE
 SEE SHEET 15 FOR -Y5A- PROFILE

31-AUG-2012 11:05
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 daban AT BENV256946



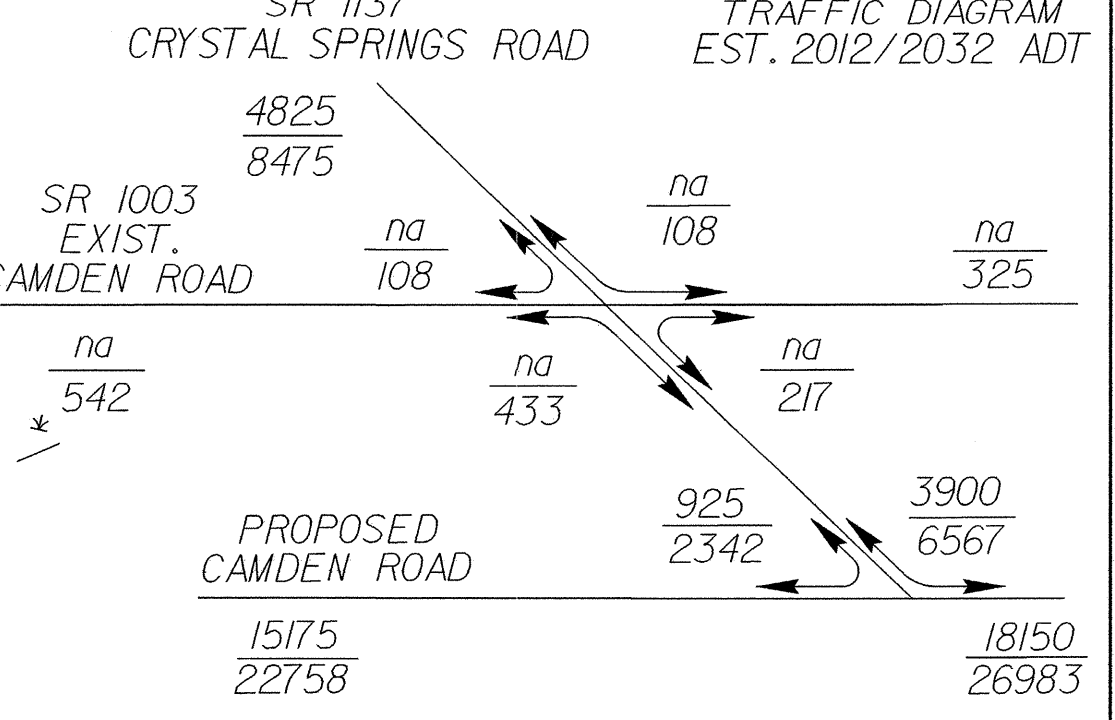
Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

Place Matting for Erosion Control on Slope as Work Allows.

24 x 55 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
16 ft. weir
ID 7.1

30 x 62 x 3
1.5 inch Skimmer
with 1.25 inch
Orifice Diameter
22 ft. weir
ID 7.2



-L- POC Sta. 109+75.00=
-Y6- POT Sta. 18+83.77

-L-
PI Sta 104+87.82
 $\Delta = 53^{\circ} 31' 01.1''$ (RT)
D = 3' 58" 04.3"
L = 1,348.76'
T = 728.10'
R = 1,444.00'
SE = 0.04
RO = SEE PLANS

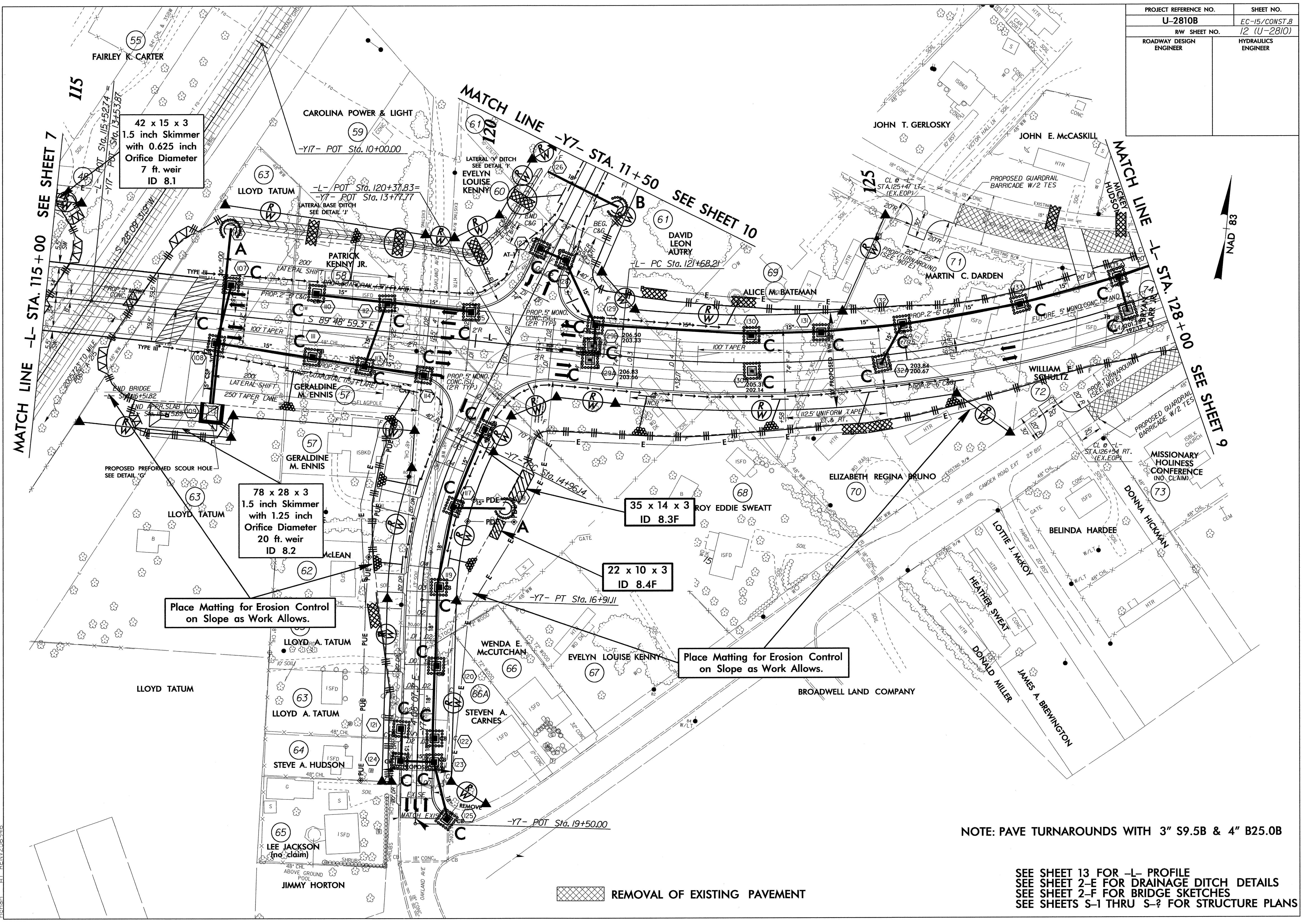
-L- PT Sta. 111+08.48

-L-
PI Sta 12+86.78
 $\Delta = 33^{\circ} 19' 11.9''$ (RT)
D = 9' 32" 57.5"
L = 348.93'
T = 179.55'
R = 600.00'
SE = 0.02
RO = SEE PLANS

SEE SHEET 12 FOR -L- PROFILE
SEE SHEET 15 FOR -Y6- PROFILE
SEE SHEET 2-F FOR BRIDGE SKETCH
SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

8/17/99
31-AUG-2012 11:08
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User: jlm

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-15/CONST.B
RW SHEET NO.	12 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

31-AUG-2002 11:11
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 AT RENY256346

NOTE: PAVE TURNAROUNDS WITH 3" S9.5B & 4" B25.0B

SEE SHEET 13 FOR -L- PROFILE
 SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS
 SEE SHEET 2-F FOR BRIDGE SKETCHES
 SEE SHEETS S-1 THRU S-? FOR STRUCTURE PLANS

REMOVAL OF EXISTING PAVEMENT

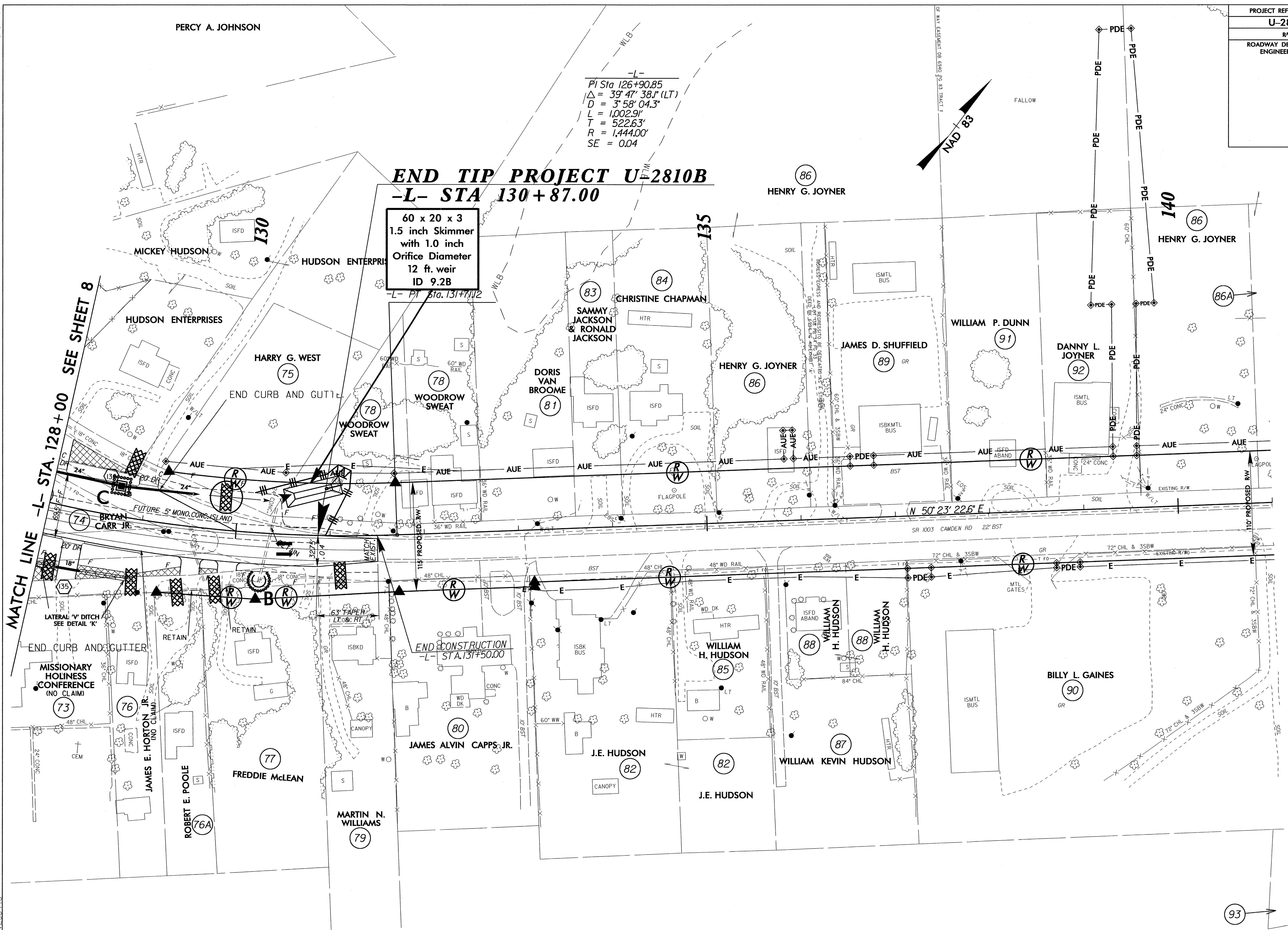
PERCY A. JOHNSON

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-16/CONST.9
R/W SHEET NO.	13 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 126+90.85
 $\Delta = 39^{\circ} 47' 38.1''$ (LT)
 $D = 3^{\circ} 58' 04.3''$
 $L = 1,002.91'$
 $T = 522.63'$
 $R = 1,444.00'$
 $SE = 0.04$

END TIP PROJECT U-2810B
-L- STA 130+87.00

60 x 20 x 3
 1.5 inch Skimmer
 with 1.0 inch
 Orifice Diameter
 12 ft. weir
 ID 9.2B



MATCH LINE -L- STA. 128+00 SEE SHEET 8

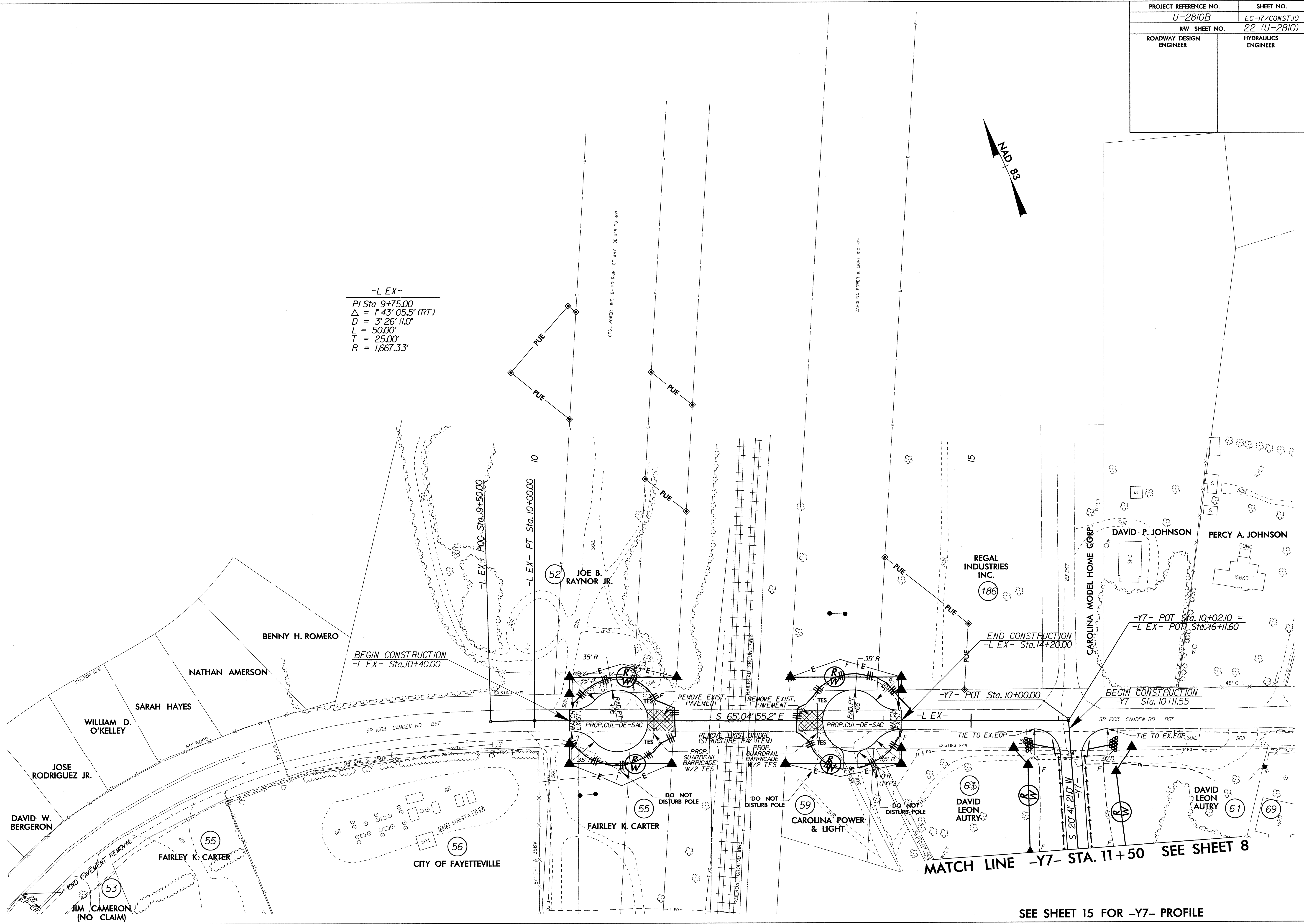
END CONSTRUCTION -L- STA. 131+50.00

REMOVAL OF EXISTING PAVEMENT

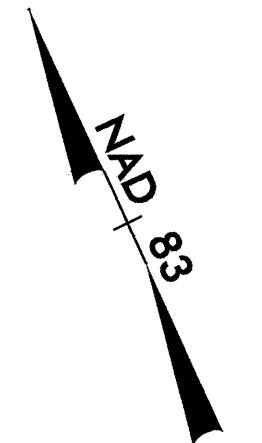
SEE SHEET 13 FOR -L- PROFILE
 SEE SHEET 2-E FOR DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-2810B	EC-17/CONST.10
R/W SHEET NO.	22 (U-2810)
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99
 31-AUG-2012 11:47
 R:\Environment\Design\2810b-EC.psh.s10.dgn
 nchan AT RENY255946



-L EX-
 PI Sta 9+75.00
 $\Delta = 1' 43'' 05.5''$ (RT)
 $D = 3' 26'' 11.0''$
 $L = 50.00'$
 $T = 25.00'$
 $R = 1,667.33'$



MATCH LINE -Y7- STA. 11+50 SEE SHEET 8

SEE SHEET 15 FOR -Y7- PROFILE