

TIP PROJECT: U-3344A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WAKE COUNTY

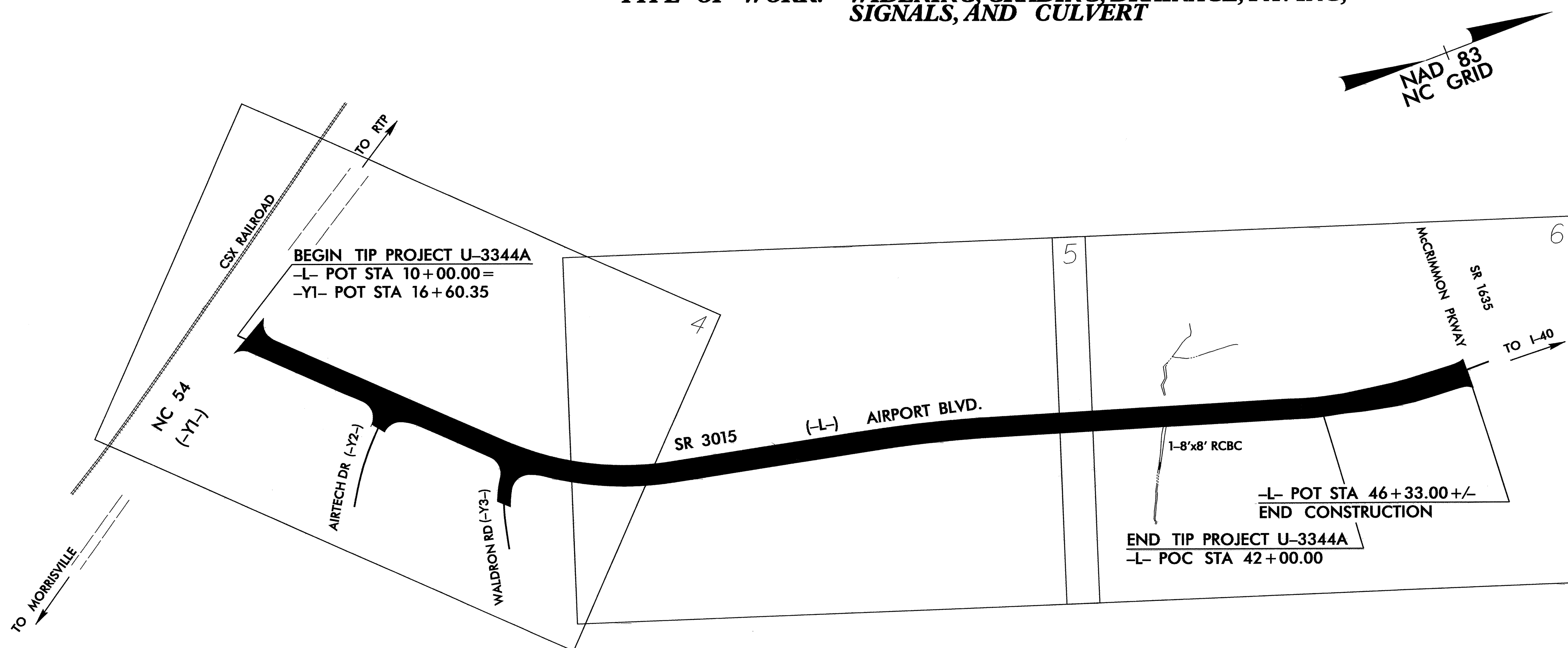
**LOCATION: MORRISVILLE - SR 3015 (AIRPORT BLVD.)
FROM NC 54 TO McCRIMMON PARKWAY**

**TYPE OF WORK: WIDENING, GRADING, DRAINAGE, PAVING,
SIGNALS, AND CULVERT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3344A	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Streambank Reforestation.....	
1630.05	Temporary Silt Ditch.....	
1605.01	Temporary Silt Fence.....	
1606.01	Special Sediment Control Fence.....	
1622.01	Temporary Berms and Slope Drains.....	
1630.01	Riser Basin.....	
1630.02	Silt Basin Type B.....	
1633.01	Temporary Rock Silt Check Type-A.....	
	Temporary Rock Silt Check Type-B.....	
1634.01	Temporary Rock Sediment Dam Type-A.....	
1634.02	Temporary Rock Sediment Dam Type-B.....	
1635.01	Rock Pipe Inlet Sediment Trap Type-A.....	
1635.02	Rock Pipe Inlet Sediment Trap Type-B.....	
1630.04	Stilling Basin.....	
Rock Inlet Sediment Trap:		
1632.01	Type A.....	
1632.02	Type B.....	
1632.03	Type C.....	



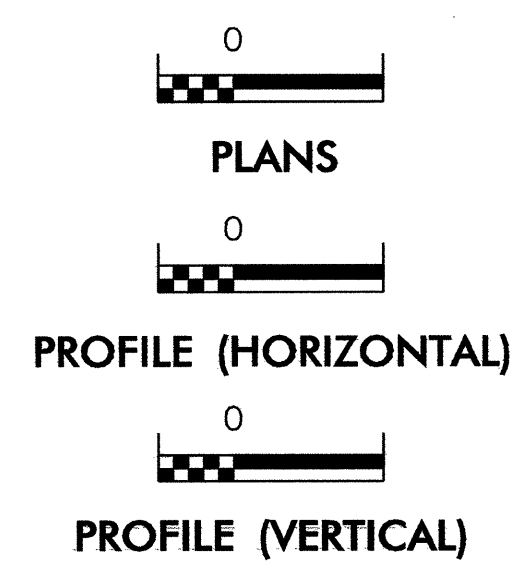
**THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.**

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

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

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

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

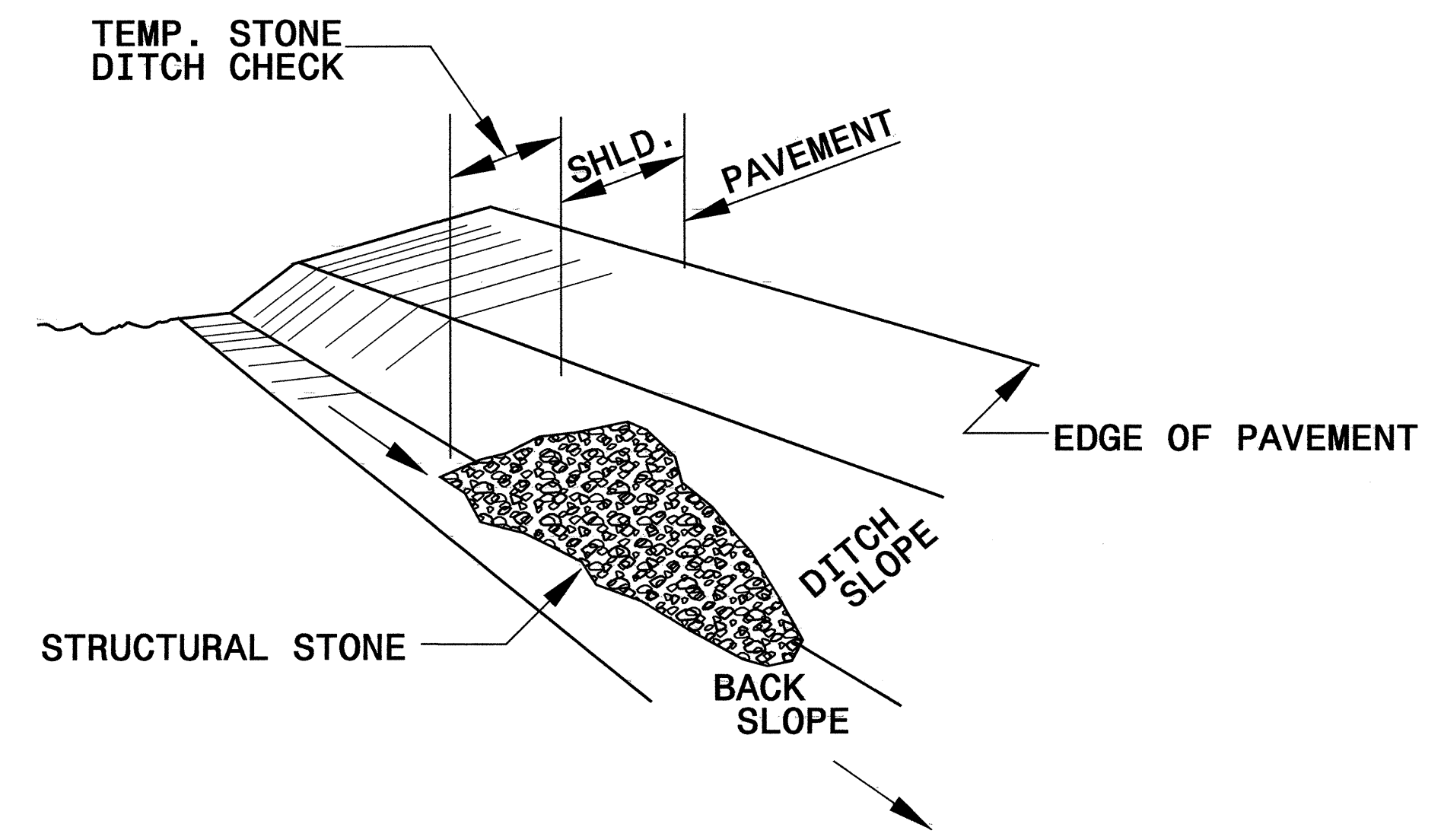
The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated July 18, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1607.01 Gravel Construction Entrance	1632.03 Rock Inlet Sediment Trap Type C
1622.01 Temporary Berms and Slope Drains	1633.01 Temporary Rock Silt Check Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.04 Stilling Basin	
1630.05 Temporary Diversion	

I:\MAY-2006_1042\proj\projects\3344a\design\3344a_rch.ec.dgn
10:42 AM 5/22/06

PROJECT REFERENCE NO. U-3344A	SHEET NO. EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'B' DETAIL

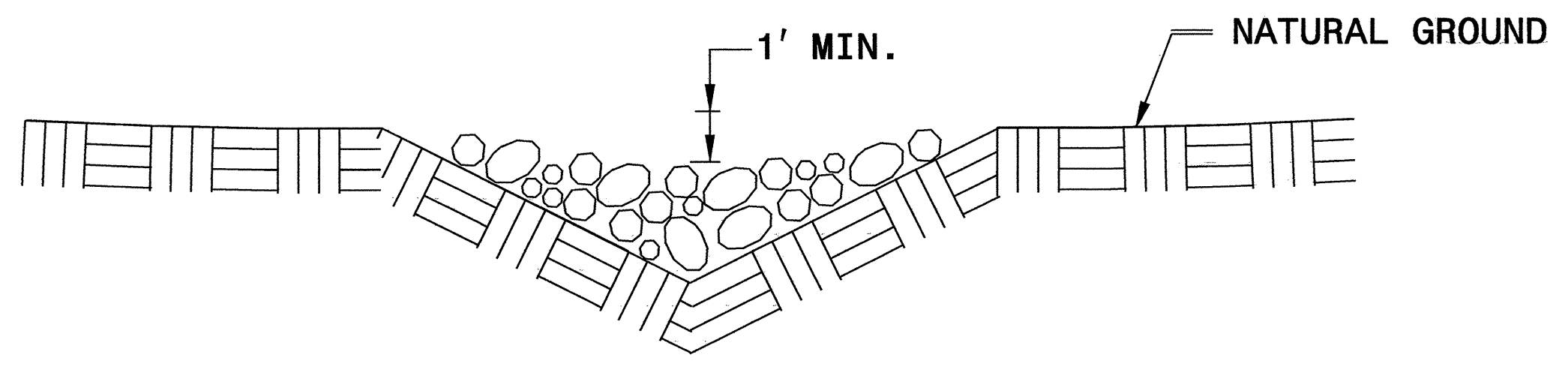


ISOMETRIC VIEW

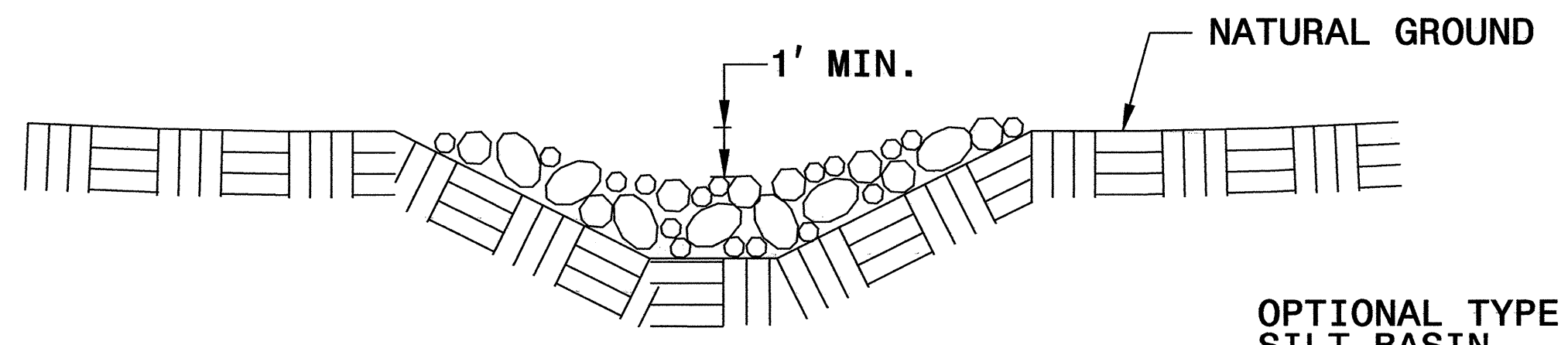
NOTES:

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

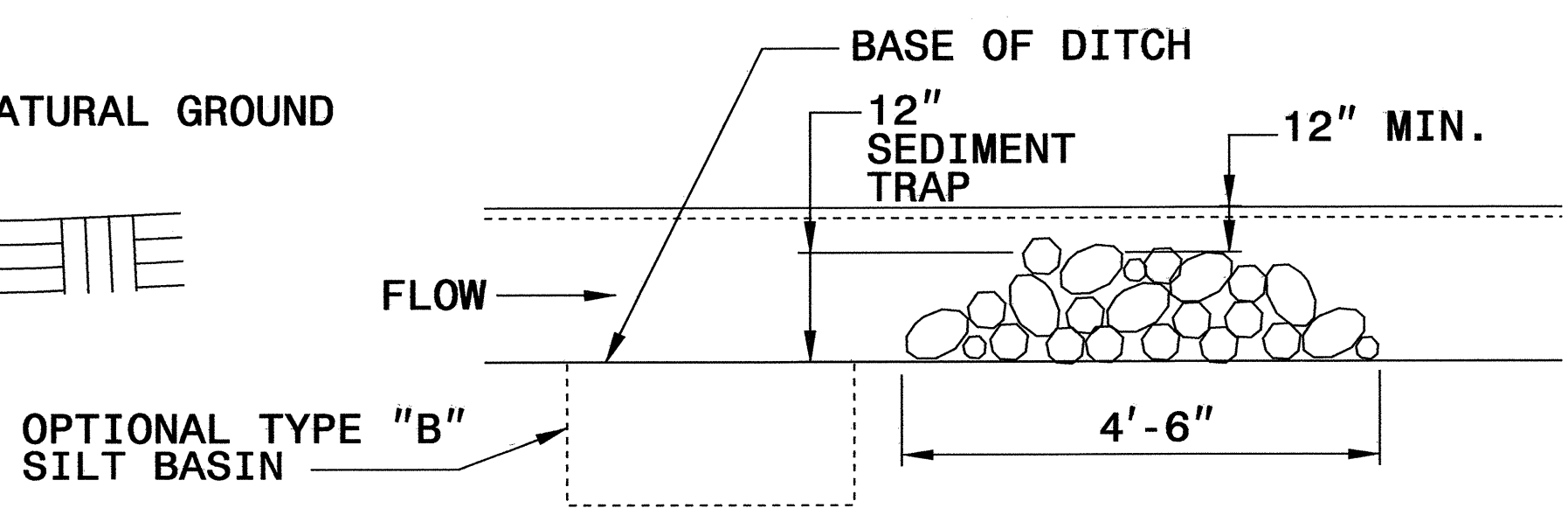
THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH



ELEVATION VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-3344A	EC-4/CONST.4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

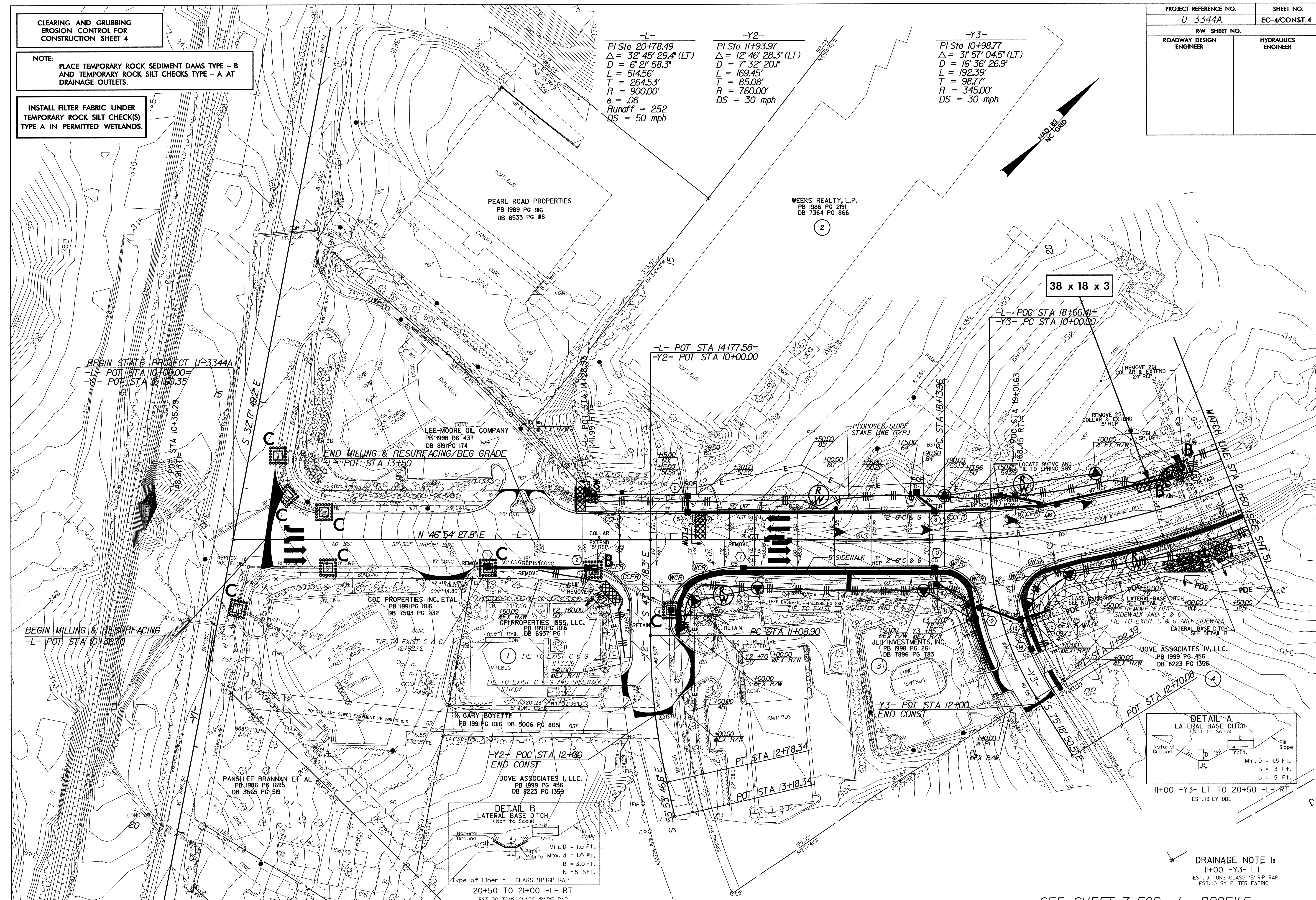
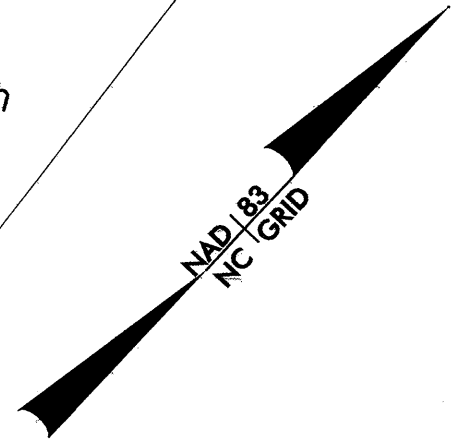
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

INSTALL FILTER FABRIC UNDER
TEMPORARY ROCK SILT CHECK(S)
TYPE A IN PERMITTED WETLANDS.

-L-
PI Sta 20+78.49
 $\Delta = 32' 45" 29.4"$ (LT)
D = 6' 21' 58.3"
L = 514.56'
T = 264.53'
R = 900.00'
e = .06
Runoff = 252
DS = 50 mph

-Y2-
PI Sta 11+93.97
 $\Delta = 12' 46" 28.3"$ (LT)
D = 7' 32' 20.1"
L = 169.45'
T = 85.08'
R = 760.00'
DS = 30 mph

-Y3-
PI Sta 10+98.77
 $\Delta = 31' 57" 04.5"$ (LT)
D = 16' 36' 26.9"
L = 192.39'
T = 98.77'
R = 345.00'
DS = 30 mph



38 x 18 x 3

BEGIN STATE PROJECT U-3344A
-L- POT STA 10+00.00
-Y1- POT STA 10+60.35

BEGIN MILLING & RESURFACING
-L- POT STA 10+56.70

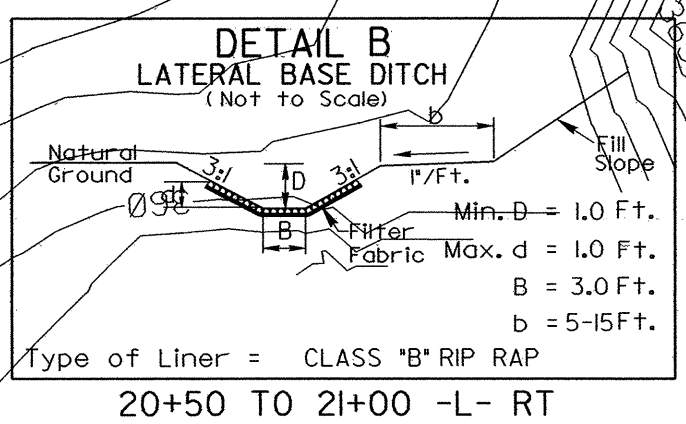
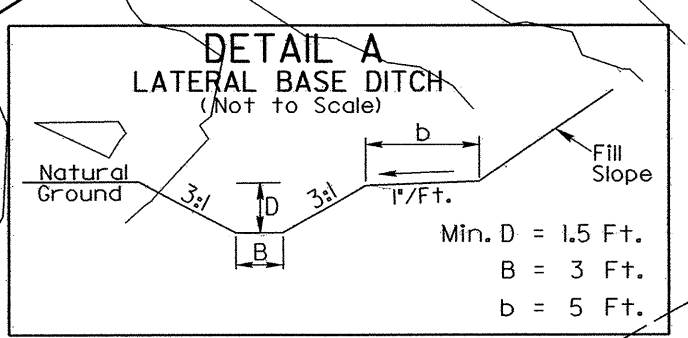
-L- POT STA 14+77.58=
-Y2- POT STA 10+00.00

-L- POC STA 18+66.41=
-Y3- PC STA 10+00.00

END MILLING & RESURFACING/BEG GRADE
-L- POT STA 13+50

-Y2- POC STA 12+00
END CONST

-Y3- POT STA 12+00
END CONST



DRAINAGE NOTE 1:
11+00 -Y3- LT
EST. 3 TONS CLASS 'B' RIP RAP
EST. 10 SY FILTER FABRIC

NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED

SEE SHEET 7 FOR -L- PROFILE
SEE SHEET 8 FOR -Y2- & -Y3- PROFILE

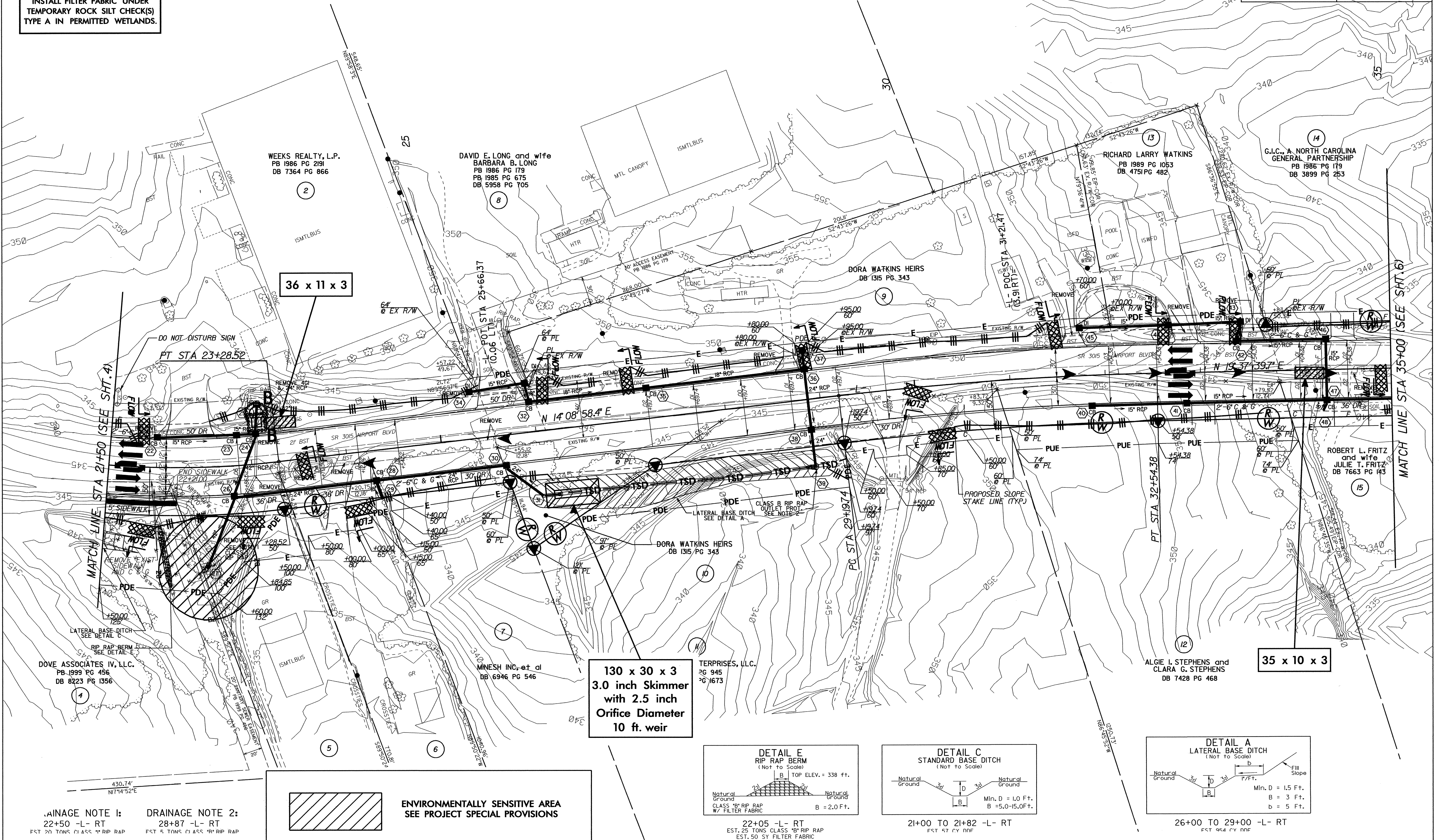
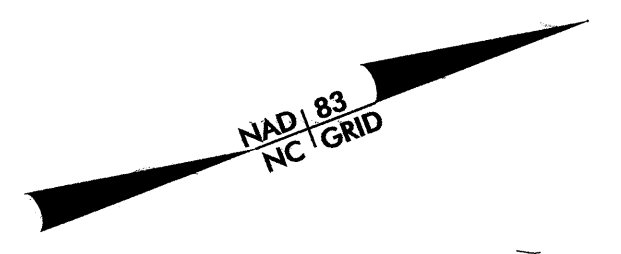
PROJECT REFERENCE NO.	SHEET NO.
U-3344A	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

INSTALL FILTER FABRIC UNDER
TEMPORARY ROCK SILT CHECK(S)
TYPE A IN PERMITTED WETLANDS.

-L-
PI Sta 30+87.19
 $\Delta = 5' 28' 41.3" (RT)$
 $D = 1' 38' 13.3"$
 $L = 334.64'$
 $T = 167.45'$
 $R = 3,500.00'$
 $e = .03$
Runoff = 150
DS = 50 mph



36 x 11 x 3

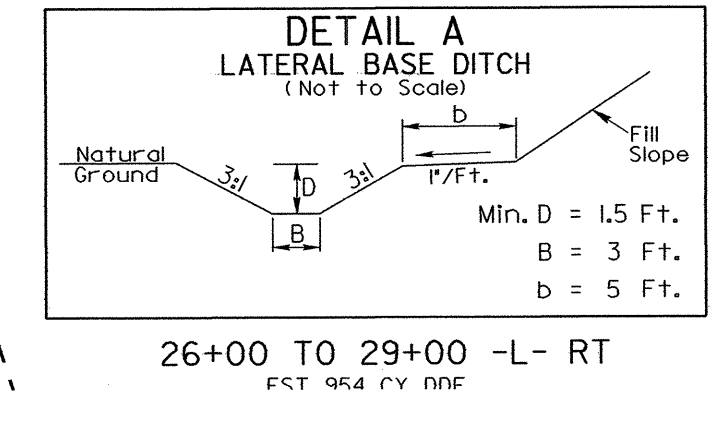
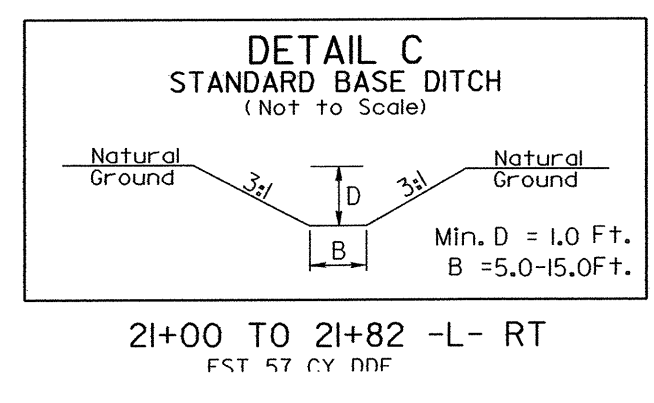
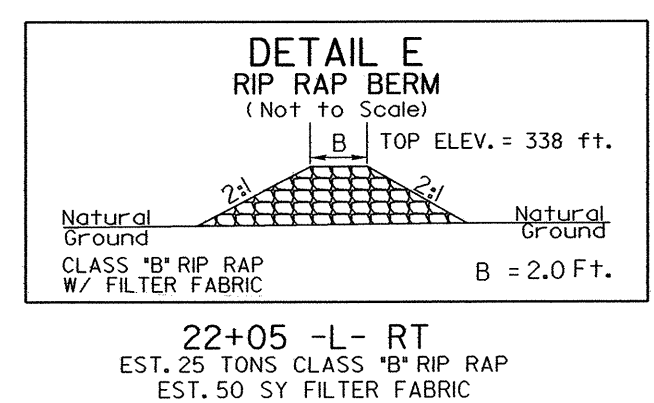
130 x 30 x 3
3.0 inch Skimmer
with 2.5 inch
Orifice Diameter
10 ft. weir

35 x 10 x 3

DRAINAGE NOTE 1:
22+50 -L- RT
EST. 20 TONS CLASS "B" RIP RAP

DRAINAGE NOTE 2:
28+87 -L- RT
EST. 5 TONS CLASS "B" RIP RAP

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

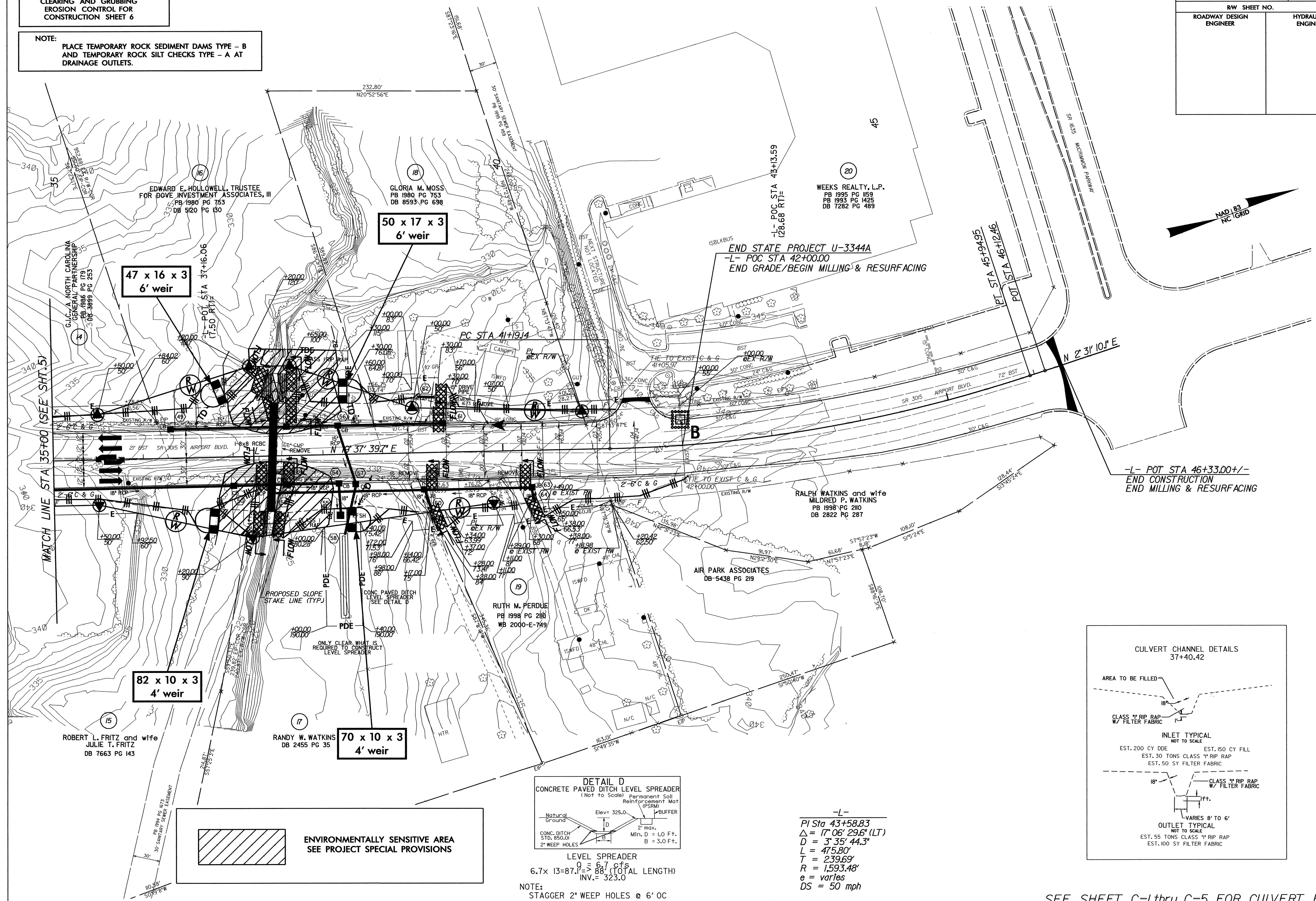


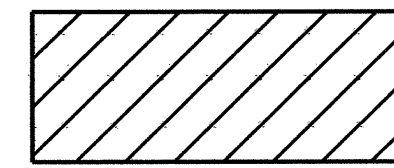
NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED
SEE SHEET 7 FOR -L- PROFILE

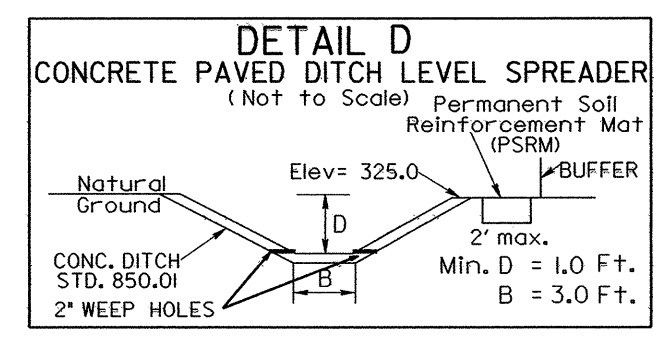
PROJECT REFERENCE NO.	SHEET NO.
U-3344A	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

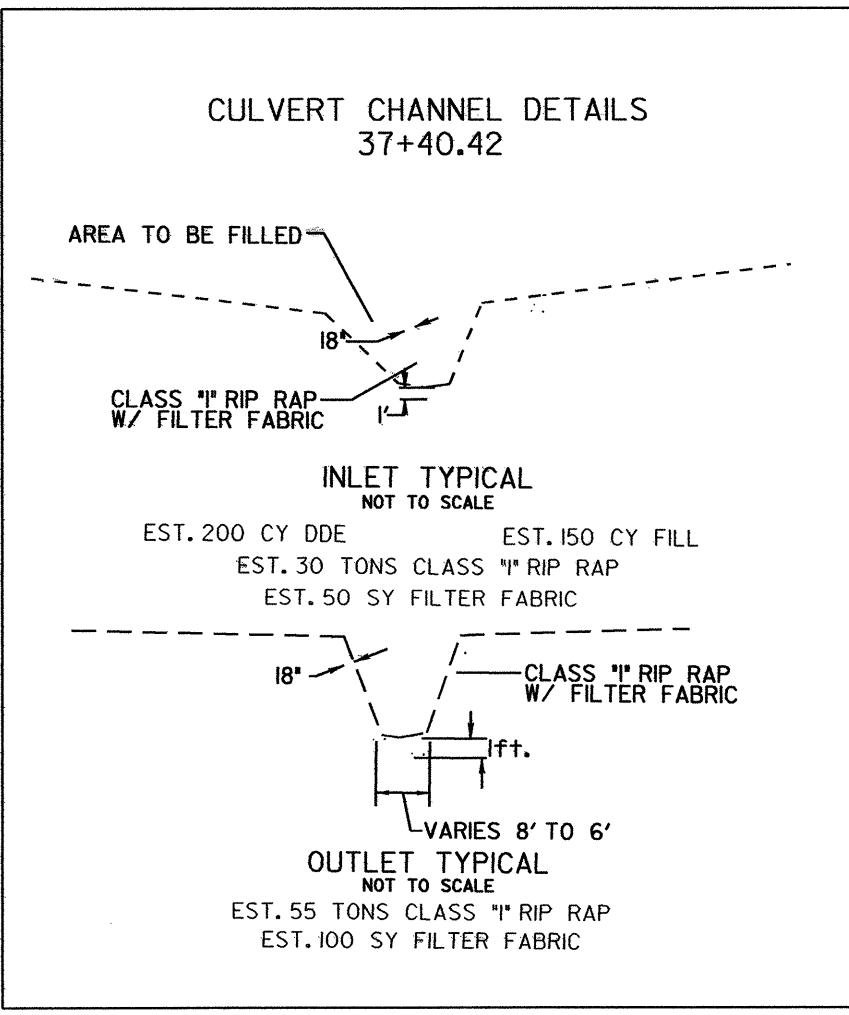


 ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



LEVEL SPREADER
6.7x13=87.1'± (TOTAL LENGTH)
INV. = 323.0
NOTE:
STAGGER 2" WEEP HOLES @ 6' OC

-L-
PI Sta 43+58.83
Δ = 17' 06" 29.6' (LT)
D = 3' 35" 44.3"
L = 475.80'
T = 239.69'
R = 1,593.48'
e = varies
DS = 50 mph



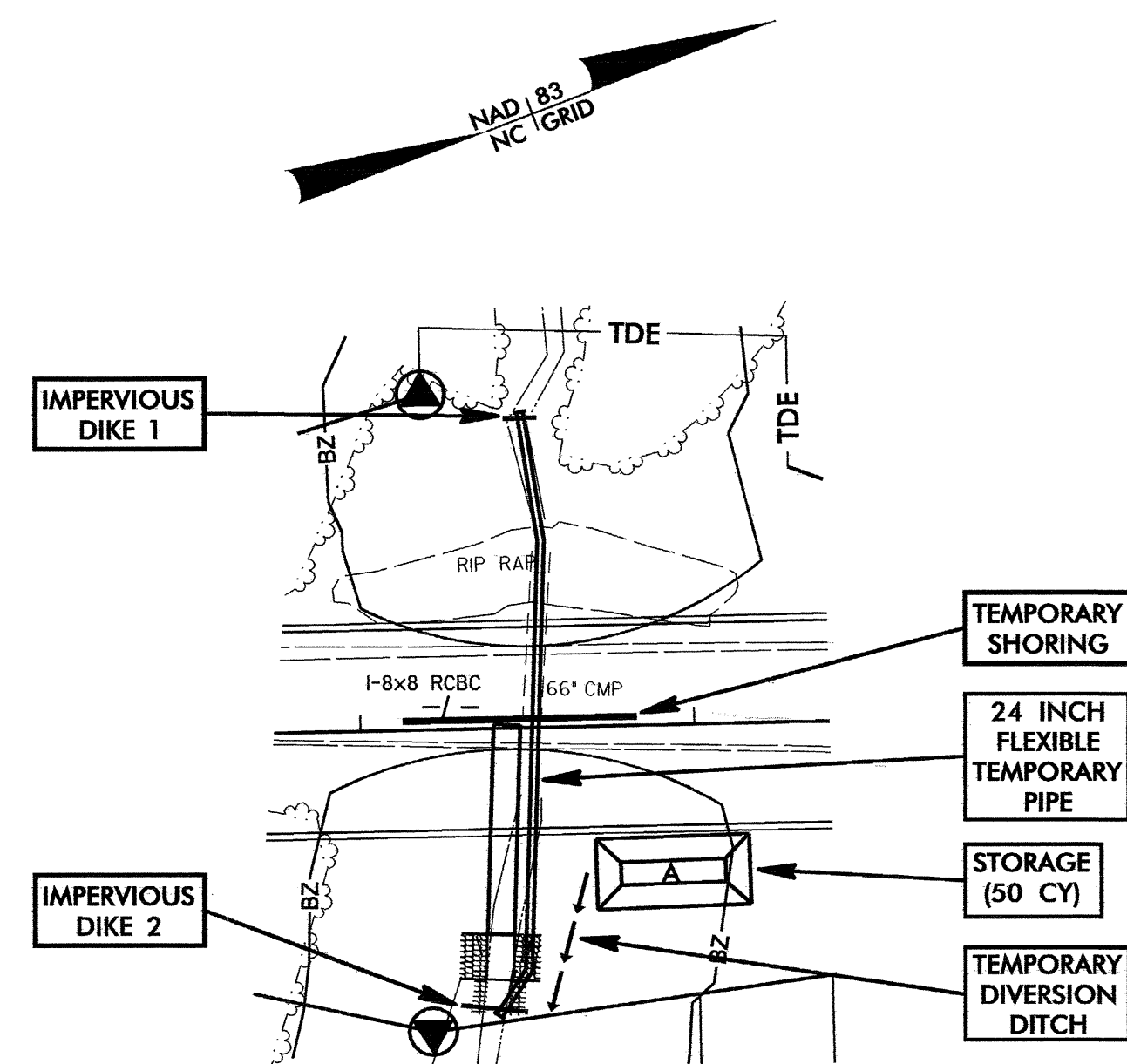
NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED
SEE SHEET C-1 thru C-5 FOR CULVERT PLANS
SEE SHEET 8 FOR -L- PROFILE

CULVERT CONSTRUCTION SEQUENCE STA. 37+40 -L-

PROJECT REFERENCE NO. U-3344A	SHEET NO. EC-7/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

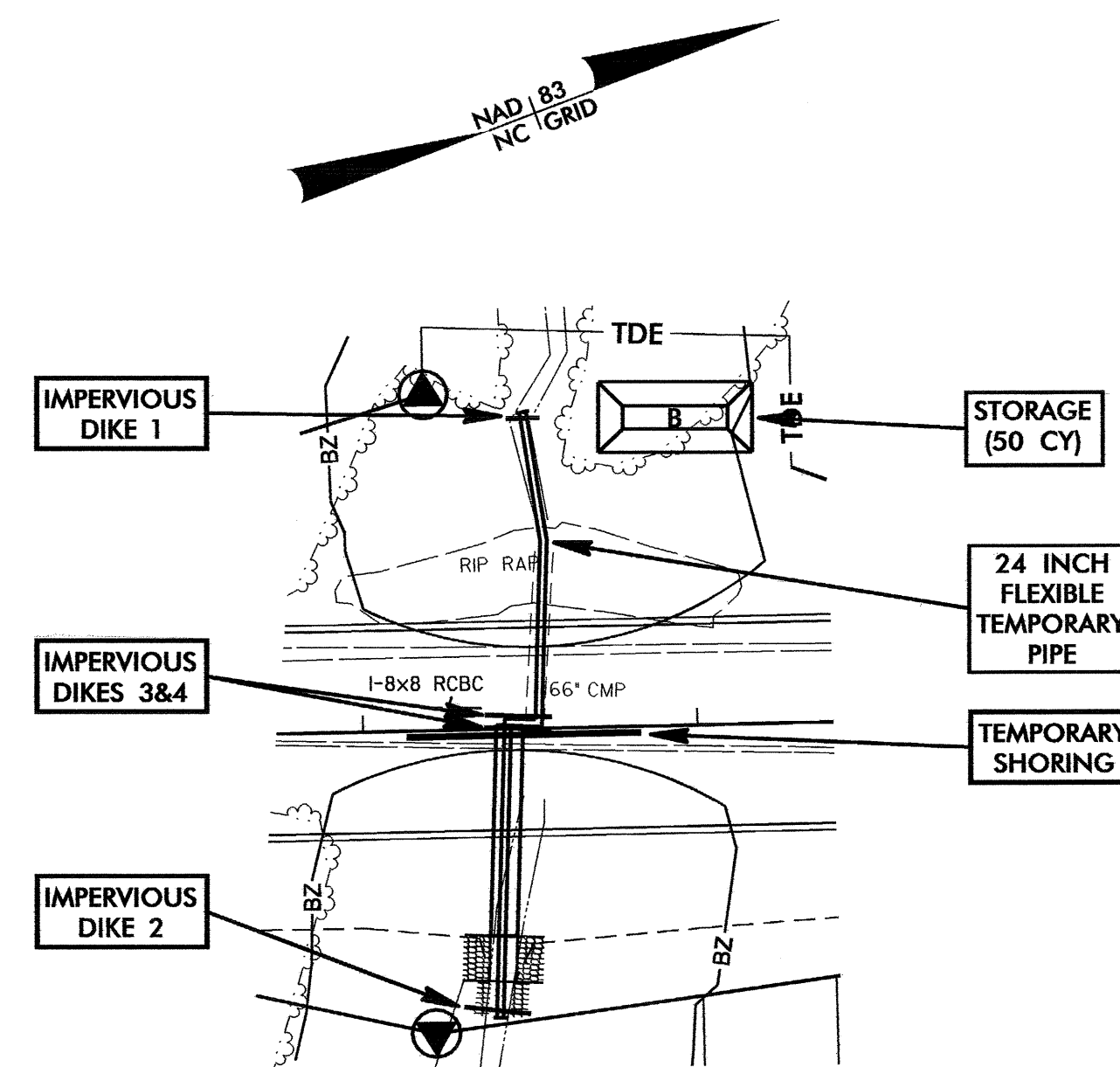
PHASE I

1. CONSTRUCT STILLING BASIN 'A' (50 CY) AND TEMPORARY DIVERSION DITCH.
2. CONSTRUCT TEMPORARY PAVEMENT AND SHIFT TRAFFIC TO LEFT SIDE OF ROADWAY.
3. INSTALL TEMPORARY SHORING AND REMOVE 23 FEET OF 66" CMP ON DOWNSTREAM END.
4. CONSTRUCT IMPERVIOUS DIKES 1 AND 2, AND 24" FLEXIBLE TEMPORARY PIPE.
5. CONSTRUCT 76 FEET OF CULVERT ON DOWNSTREAM END AND OUTLET CHANNEL IMPROVEMENTS.



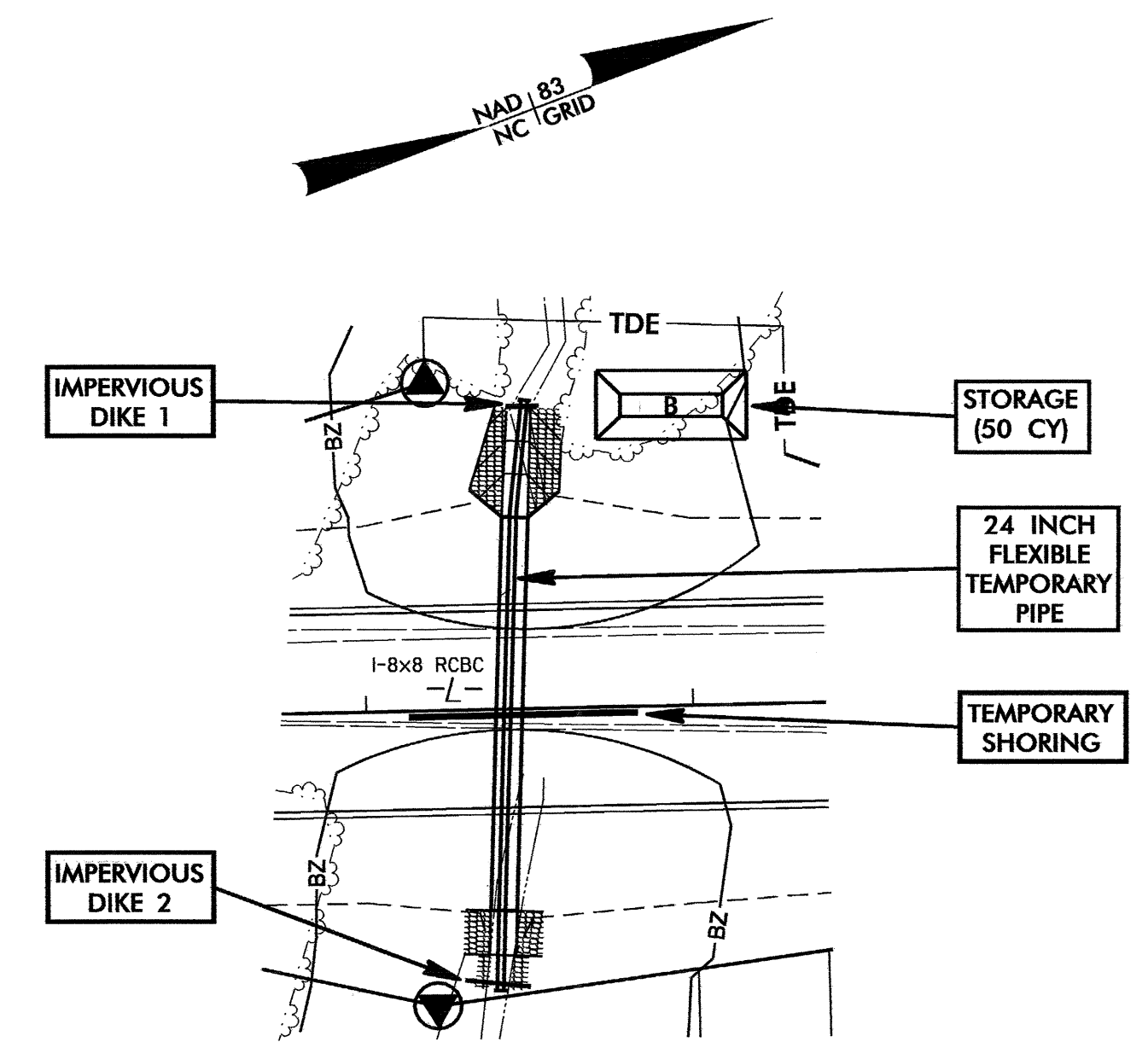
PHASE II

6. CONSTRUCT IMPERVIOUS DIKES 3 AND 4, AND REALIGN 24" FLEXIBLE TEMPORARY PIPE.
7. CONSTRUCT STILLING BASIN 'B' (50 CY), AND REMOVE STILLING BASIN 'A'.
8. CONSTRUCT PROPOSED ROADWAY OVER COMPLETED DOWNSTREAM SECTION OF CULVERT AND SHIFT TRAFFIC.
9. REMOVE TEMPORARY SHORING FROM PHASE I AND CONSTRUCT TEMPORARY SHORING OVER COMPLETED DOWNSTREAM SECTION OF CULVERT.



PHASE III

10. REMOVE IMPERVIOUS DIKES 3 AND 4, AND REALIGN 24" FLEXIBLE TEMPORARY PIPE.
11. REMOVE REMAINDER OF 66" CMP.
12. CONSTRUCT UPSTREAM SECTION OF CULVERT AND INLET CHANNEL IMPROVEMENTS.
13. COMPLETE ROADWAY.



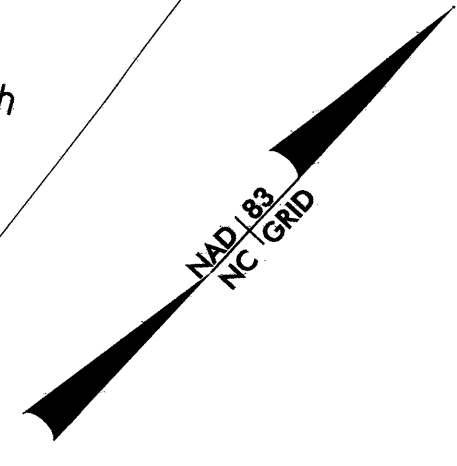
PROJECT REFERENCE NO.	SHEET NO.
U-3344A	EC-8/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INSTALL FILTER FABRIC UNDER TEMPORARY ROCK SILT CHECK(S) TYPE A IN PERMITTED WETLANDS.

-L-
 PI Sta 20+78.49
 $\Delta = 32' 45" 29.4" (LT)$
 $D = 6' 21" 58.3"$
 $L = 514.56'$
 $T = 264.53'$
 $R = 900.00'$
 $e = .06$
 Runoff = 252
 $DS = 50 \text{ mph}$

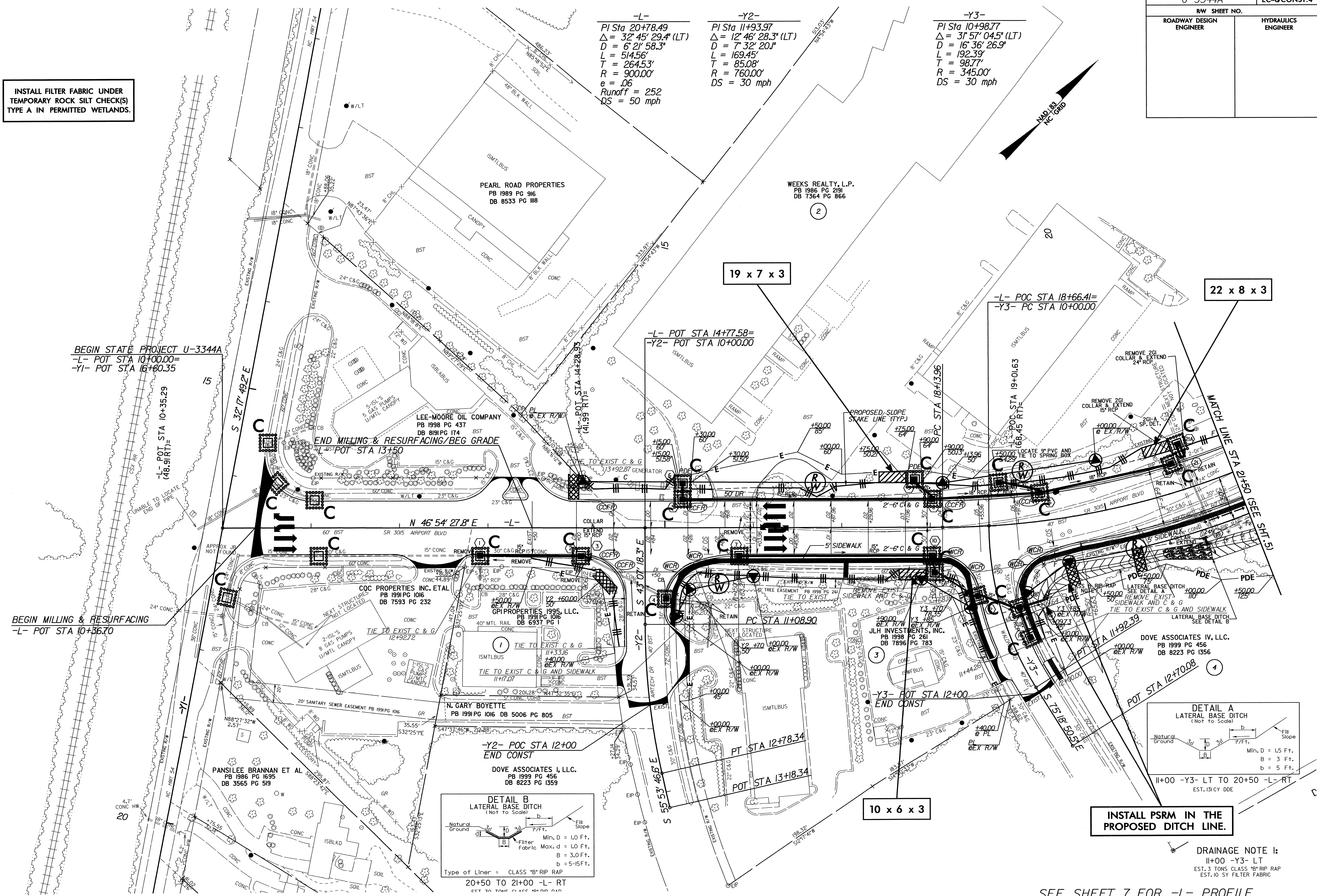
-Y2-
 PI Sta 11+93.97
 $\Delta = 12' 46" 28.3" (LT)$
 $D = 7' 32" 20.1"$
 $L = 169.45'$
 $T = 85.08'$
 $R = 760.00'$
 $DS = 30 \text{ mph}$

-Y3-
 PI Sta 10+98.77
 $\Delta = 31' 57" 04.5" (LT)$
 $D = 16' 36" 26.9"$
 $L = 192.39'$
 $T = 98.77'$
 $R = 345.00'$
 $DS = 30 \text{ mph}$



BEGIN STATE PROJECT U-3344A
 -L- POT STA 10+00.00=
 -Y1- POT STA 16+60.35

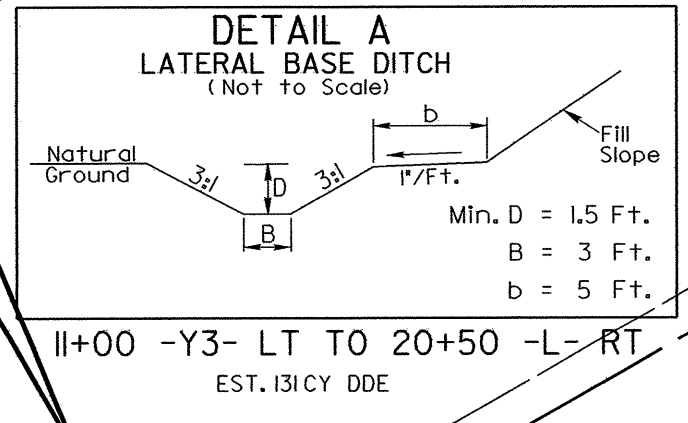
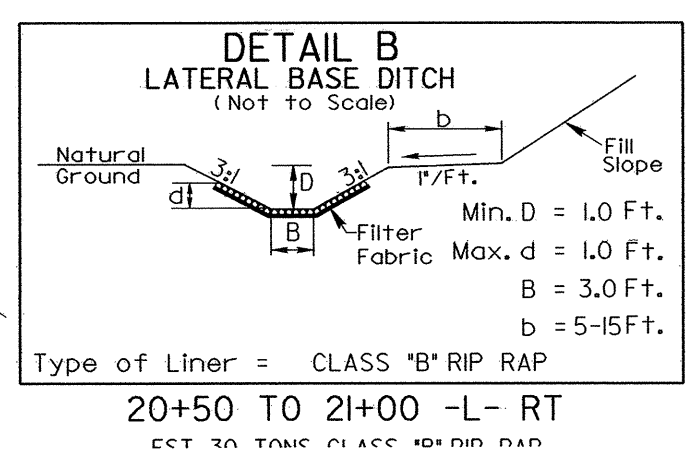
BEGIN MILLING & RESURFACING
 -L- POT STA 10+36.70



19 x 7 x 3

22 x 8 x 3

10 x 6 x 3



INSTALL PSRM IN THE PROPOSED DITCH LINE.

DRAINAGE NOTE 1:
 11+00 -Y3- LT
 EST. 3 TONS CLASS "B" RIP RAP
 EST. 10 SY FILTER FABRIC

NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED

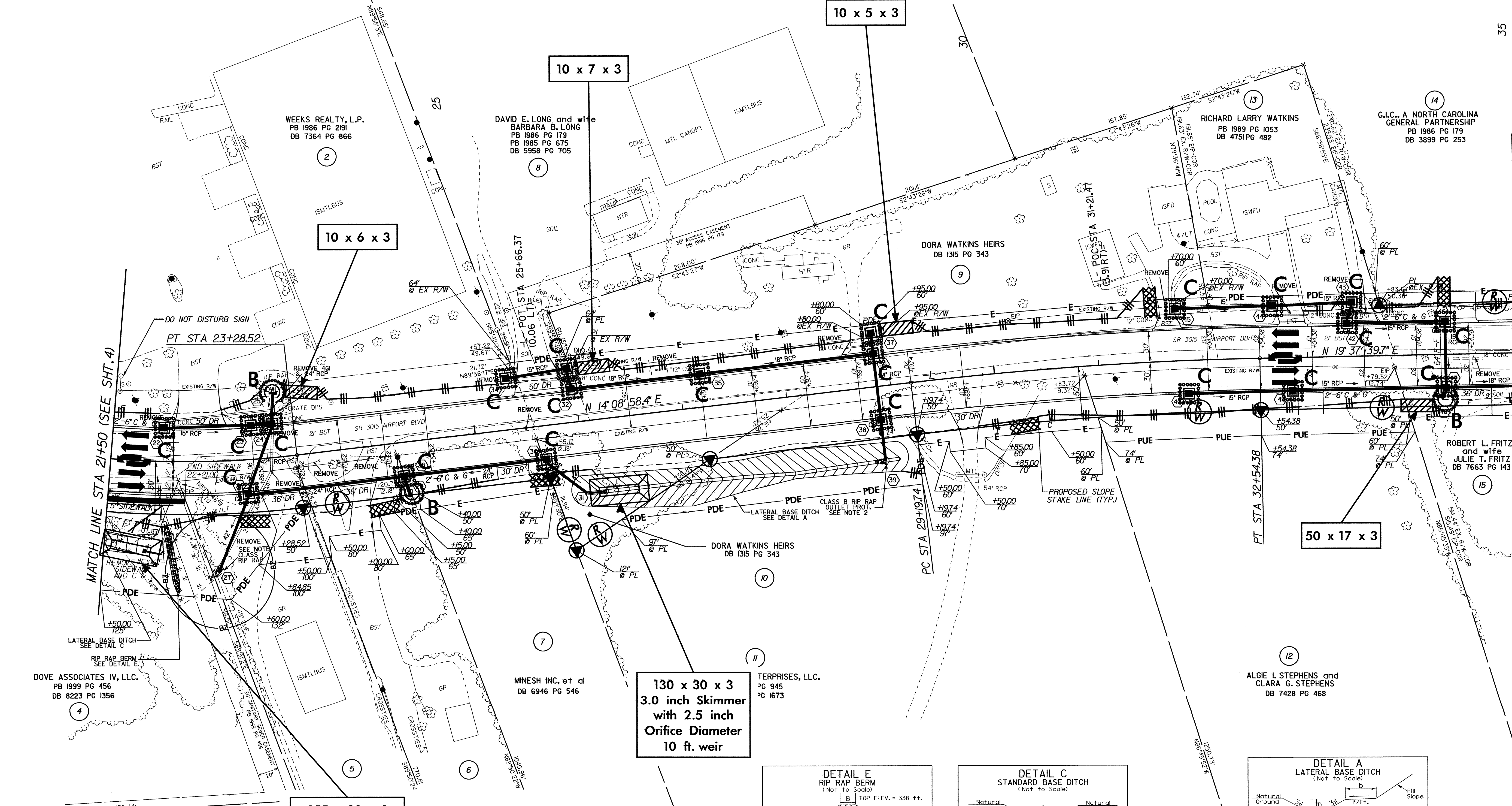
SEE SHEET 7 FOR -L- PROFILE
 SEE SHEET 8 FOR -Y2- & -Y3- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
U-3344A	EC-9/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-
 PI Sta 30+87.19
 $\Delta = 5' 28' 41.3''$ (RT)
 $D = 1' 38' 13.3''$
 $L = 334.64'$
 $T = 167.45'$
 $R = 3,500.00'$
 $e = .03$
 Runoff = 150
 DS = 50 mph



INSTALL FILTER FABRIC UNDER
 TEMPORARY ROCK SILT CHECK(S)
 TYPE A IN PERMITTED WETLANDS.

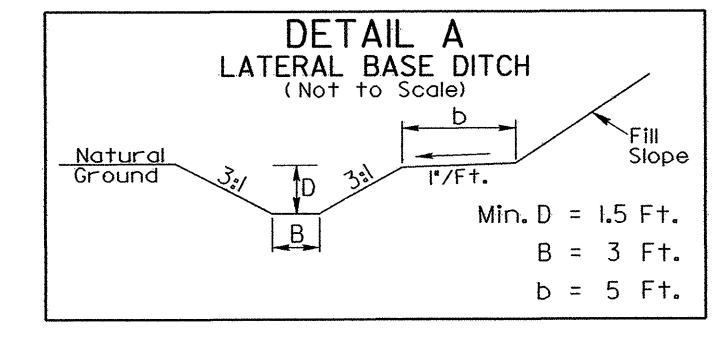
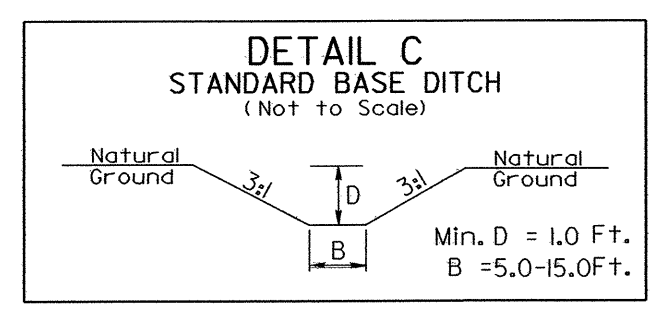
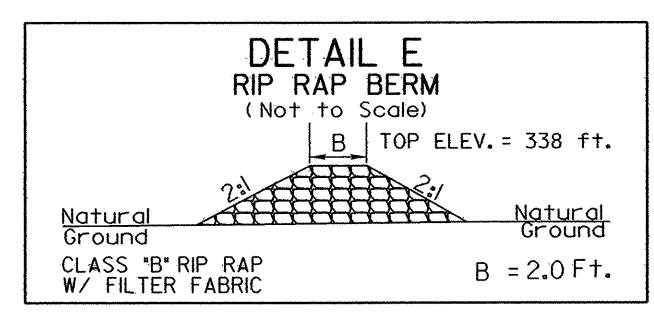


RAINAGE NOTE 1: 22+50 -L- RT
 EST. 20 TONS CLASS "B" RIP RAP

RAINAGE NOTE 2: 28+87 -L- RT
 EST. 5 TONS CLASS "B" RIP RAP

155 x 22 x 3
 3.0 inch Skimmer
 with 2.5 inch
 Orifice Diameter
 10 ft. weir

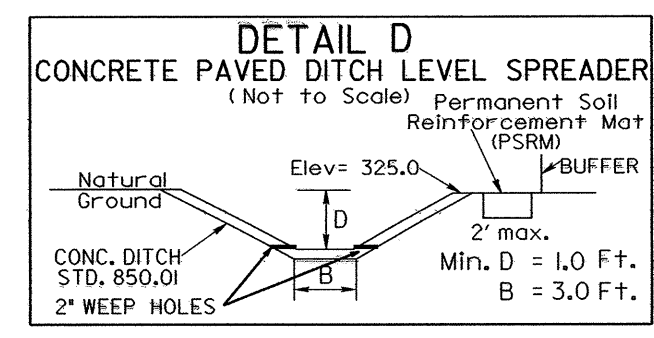
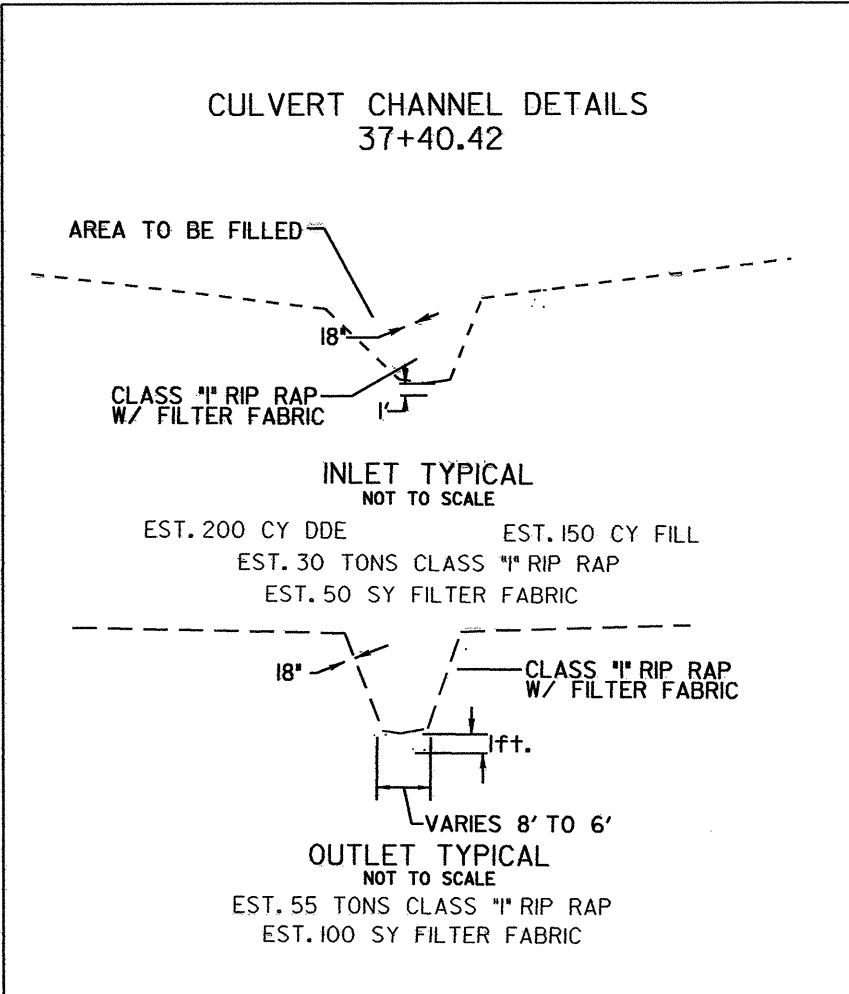
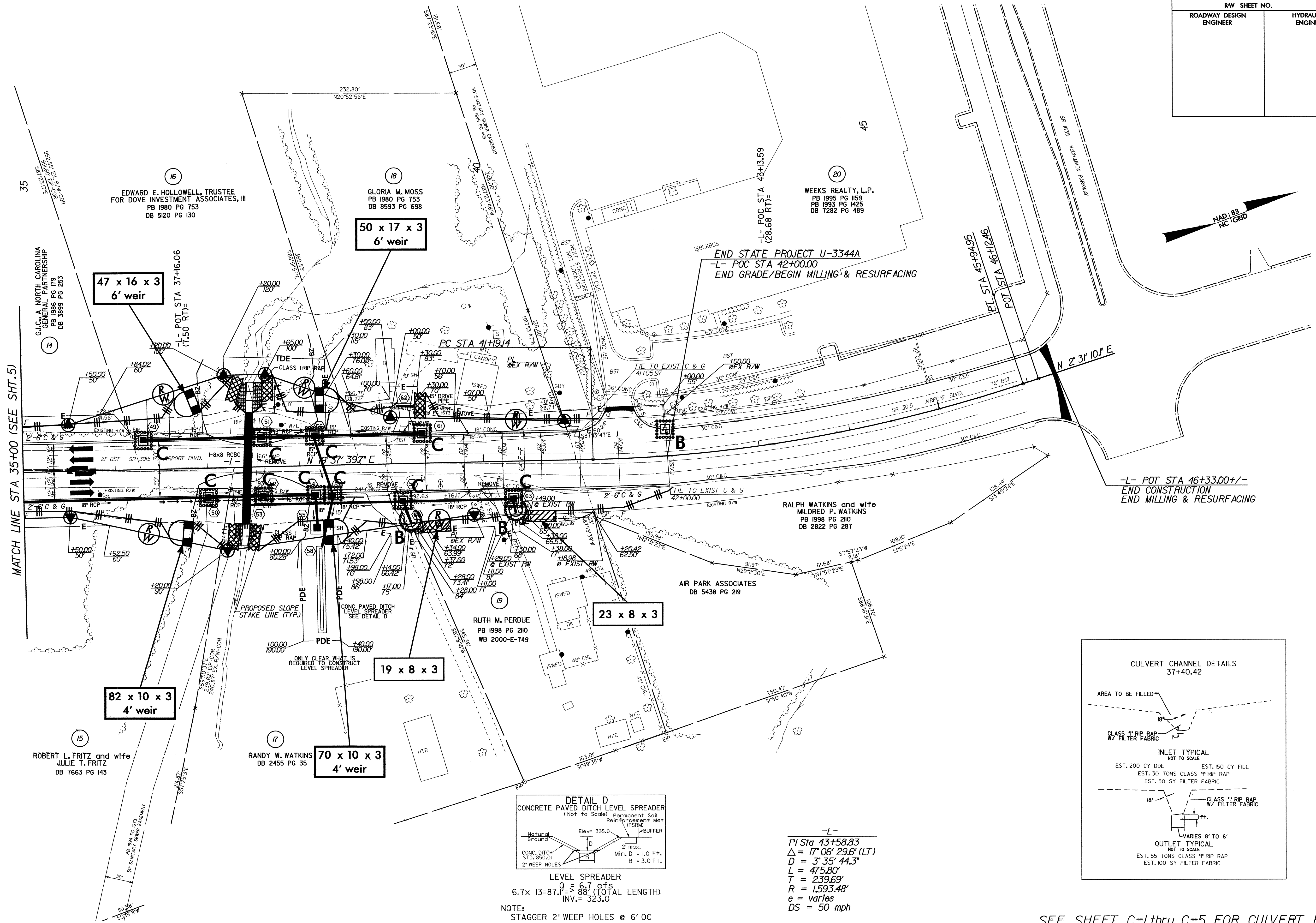
130 x 30 x 3
 3.0 inch Skimmer
 with 2.5 inch
 Orifice Diameter
 10 ft. weir



NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED

SEE SHEET 7 FOR -L- PROFILE

PROJECT REFERENCE NO. U-3344A	SHEET NO. EC-10/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



LEVEL SPREADER
 0 = 6.7' of
 6.7 x 13 = 87.1' = 88' (TOTAL LENGTH)
 INV. = 323.0
 NOTE:
 STAGGER 2" WEEP HOLES @ 6' OC

-L-
 PI Sta 43+58.83
 $\Delta = 17' 06'' 29.6'' (LT)$
 $D = 3' 35'' 44.3''$
 $L = 475.80'$
 $T = 239.69'$
 $R = 1,593.48'$
 $e = \text{varies}$
 $DS = 50 \text{ mph}$

NOTE: ALL DRIVEWAYS ARE 24' UNLESS OTHERWISE NOTED

SEE SHEET C-1 thru C-5 FOR CULVERT PLANS
 SEE SHEET 8 FOR -L- PROFILE