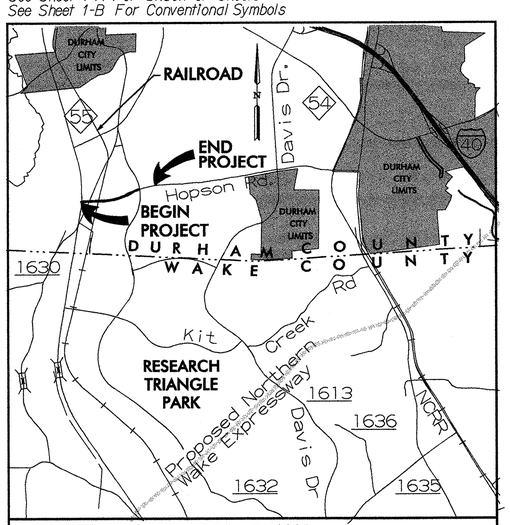
TIP PROJECT: U-4410DB

CONTRACT: C201642

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP
(NOT TO SCALE)

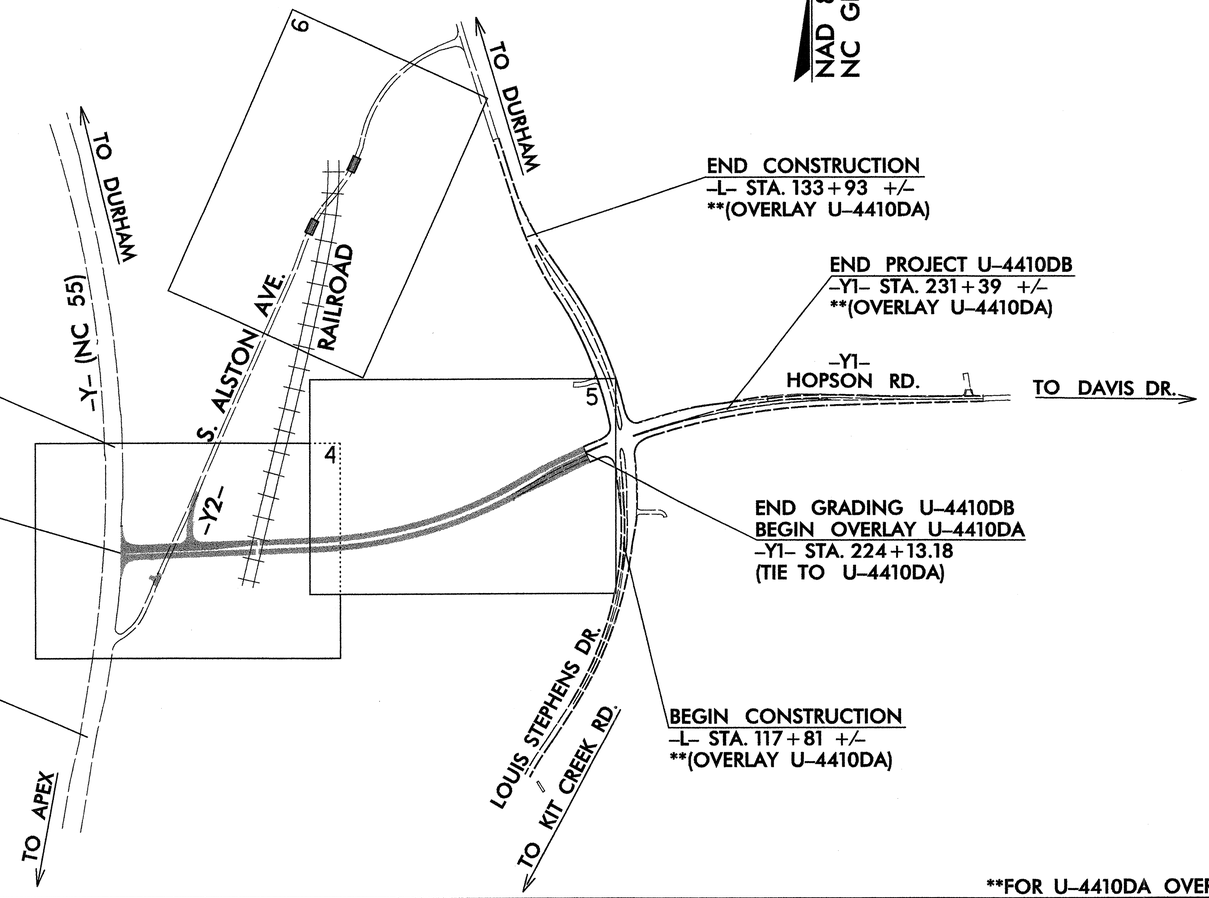
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DURHAM COUNTY

LOCATION: HOPSON ROAD FROM NC 55 TO LOUIS STEPHENS DRIVE
TYPE OF WORK: GRADING, PAVING, DRAINAGE, CURB AND GUTTER, TRAFFIC SIGNALS AND RETAINING WALL

	RESEARCH TRIANGLE FOUNDATION PROJECT	SHEET NO.	TOTAL SHEETS
	U-4410DB	EC-1	
PROJ. NO.		DESCRIPTION	
35021.2.1		PE	
35021.3.2		R/W, UTL.	
35021.1.8		CONST	

NAD 83
NC GRID



END CONSTRUCTION
-L- STA. 133+93 +/-
**(OVERLAY U-4410DA)

END PROJECT U-4410DB
-Y1- STA. 231+39 +/-
**(OVERLAY U-4410DA)

END CONSTRUCTION
-Y- STA. 508+37 +/-
(TIE TO R-2906)

BEGIN PROJECT U-4410DB
-Y1- STA. 200+38.31

END GRADING U-4410DB
BEGIN OVERLAY U-4410DA
-Y1- STA. 224+13.18
(TIE TO U-4410DA)

BEGIN CONSTRUCTION
-Y- STA. 494+20 +/-
(TIE TO R-2906)

BEGIN CONSTRUCTION
-L- STA. 117+81 +/-
**(OVERLAY U-4410DA)

INDEX OF SHEETS

**FOR U-4410DA OVERLAY DETAIL SEE SHEET 2-B

GRAPHIC SCALE

25' 0 50'
PLANS

25' 0 50'
PROFILE (HORIZONTAL)

5' 0 10'
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH ROADWAY PROJECT U-4410DB = 0.450 MILES
LENGTH STRUCTURE PROJECT U-4410DB = 0.000 MILES
TOTAL LENGTH STATE PROJECT U-4410DB = 0.450 MILES

RTF CONTACT : LIZ ROOKS
PROJECT MANAGER

NCDOT CONTACT : CHRIS HAIRE
ROADWAY DESIGN PROJECT ENGINEER

Prepared In the Office of:
MULKEY
ENGINEERS & CONSULTANTS

2006 STANDARD SPECIFICATIONS

LETTING DATE:
JULY 17, 2007

JONATHAN SCARCE, P.E.
EROSION CONTROL DESIGN ENGINEER

3/2/2007 7:48:18 AM R:\hydro\erosion control\EC-1 TITLE.dgn

EROSION CONTROL DETAILS

MULKEY
ENGINEERS & CONSULTANTS
PO Box 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-2
R/W SHEET NO.	

EROSION AND SEDIMENT CONTROL MEASURES

DESCRIPTION	SYMBOL
SILT FENCE	
ROCK PIPE INLET SEDIMENT TRAP TYPE 'C'	
TEMPORARY ROCK SILT CHECK TYPE 'B'	
SILT BASIN TYPE-B	
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'	
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'	
TEMPORARY DIVERSION	TD TD

CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT.
2. INSTALL TEMPORARY DIVERSIONS, SILT FENCING, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN.
3. ALL "CLEAN WATER" DIVERSIONS, SUCH AS TEMPORARY DIVERSIONS, ARE TO BE STABILIZED IMMEDIATELY WITH VEGETATION AND TEMPORARY CHANNEL LINERS, AFTER THEIR CONSTRUCTION.
4. CONTACT LOCAL SOIL EROSION AUTHORITY FOR ON SITE INSPECTION BY ENVIRONMENTAL INSPECTOR AND OBTAIN CERTIFICATE OF COMPLIANCE.
5. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. MAINTAIN TEMPORARY DIVERSION DITCHES DURING CONSTRUCTION. IF DEVICES ARE TO BE PHASED OUT DUE TO GRADING OPERATIONS, ONLY DO SO AFTER ALL CONTRIBUTING UPGRADIENT AREAS ARE STABILIZED.
6. INSTALL STORM SEWER AND PROTECTION INLETS WITH SILT FENCING SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION BUILDING, ROADWAY, WIDENING, ETC.
7. TEMPORARY GROUND COVER MUST BE ESTABLISHED FOR ALL EXPOSED SLOPES WITHIN 15 WORKING OR 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE GRADING, WHICHEVER COMES FIRST. PERMANENT GROUND COVER MUST BE ESTABLISHED FOR ALL EXPOSED SLOPES WITHIN 21 CALENDER DAYS. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC.
8. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL FOR INSPECTION BY ENVIRONMENTAL INSPECTOR.
9. TEMPORARY PERIMETER CONTROLS MAY NOT BE REMOVED UNTIL ALL CONTRIBUTING UPGRADIENT AREAS ARE STABILIZED.
10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCING, SEDIMENT BASINS, ETC., AND SEED OUT OR PAVE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES (SUCH AS VELOCITY DISSIPATORS) SHOULD BE INSTALLED NOW.
11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR FINAL SITE INSPECTION BY ENVIRONMENTAL INSPECTOR.

SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO 6" INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW•).
5. CONTINUE TILLAGE UNTIL WELL PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUPIMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZER AFTER PERMANENT COVER IS ESTABLISHED.

• APPLY: AGRICULTURAL LIMESTONE - 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER - 1000 LBS/ACRE - 10-10-10
SUPERPHOSPHATE - 500 LBS./ACRE - 20% ANALYSIS
MULCH - 2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR ASPHALT EMULSION @ 300 GALS./ACRE

SEEDING SCHEDULE
FOR
SHOULDERS, SIDE DITCHES, SLOPES
(Maximum 3:1)

Date	Type+	Planting Rate
Aug 15 - Nov 1	Tall Fescue or Hard Fescue	300 lb./ac
Nov 1 - Mar 1	Tall Fescue and Abruzzi Rye or Annual Rye	300 lb./ac
Mar 1 - Apr 15	Tall Fescue or Hard Fescue	300 lb./ac
Apr 15 - June 30	Hulled Common Bermuda grass, Weeping Love Grass	25 lb./ac
June 30 - Aug 15	Tall Fescue and ***Browntop Millet ***or Sorghum-Sudan Hybrids	25 lb./ac

Consult Erosion Control Officer or NRCS for additional alternatives for vegetating denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

***Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing to keep fescue from being shaded out.

+Bahia grass shall not be used in Town maintained areas.

SEEDING SCHEDULE
FOR
SHOULDERS, SIDE DITCHES, SLOPES
Slopes (3:1 and 2:1) (not mowed)

Date	Type+	Planting Rate
Mar 1 - June 1	Sericea Lespedeza (scarified)	50 lb./ac
	and	
Mar 1 - Apr 15	Add Tall Fescue	120 lb./ac
	or	
Mar 1 - June 30	Add Weeping Lovegrass	10 lb./ac
	or	
Mar 1 - June 30	Add Hulled Common Bermuda grass	25 lb./ac
June 1 - Sept 1	***Tall Fescue	120 lb./ac
	***Browntop Millet	35 lb./ac
	***or Sorghum-Sudan Hybrids	30 lb./ac
Sept 1 - Mar 1	Sericea Lespedeza (unhulled/unscarified)	70 lb./ac
	and Tall Fescue	120 lb./ac
	Add Abruzzi Rye or Annual Rye	25 lb./ac

Consult Erosion Control officer or NRCS for additional alternatives for vegetating denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

***Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing to keep fescue from being shaded out.

+Bahia grass shall not be used in Town maintained areas.

EROSION CONTROL DETAILS

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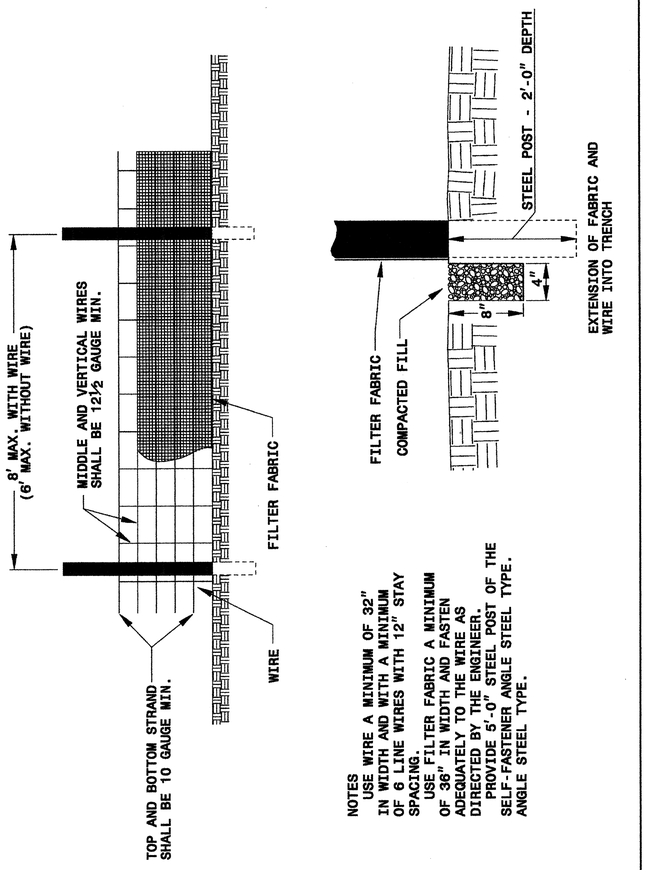
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-3
RW SHEET NO.	

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

ENGLISH STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1 **1605.01**



NOTES
USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
USE FILTER FABRIC A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.
ANGLE STEEL TYPE.

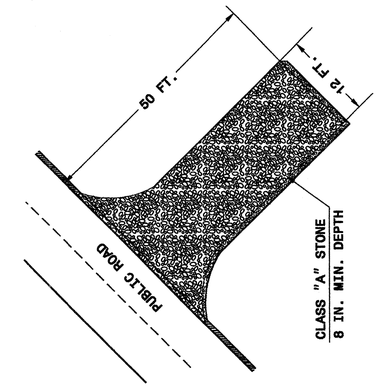
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1 **1607.01**

NOTES:
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCE(S) 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. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.

NOTE: PLACE FILTER FABRIC BENEATH STONE



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

ENGLISH STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1 **1607.01**

EROSION CONTROL DETAILS

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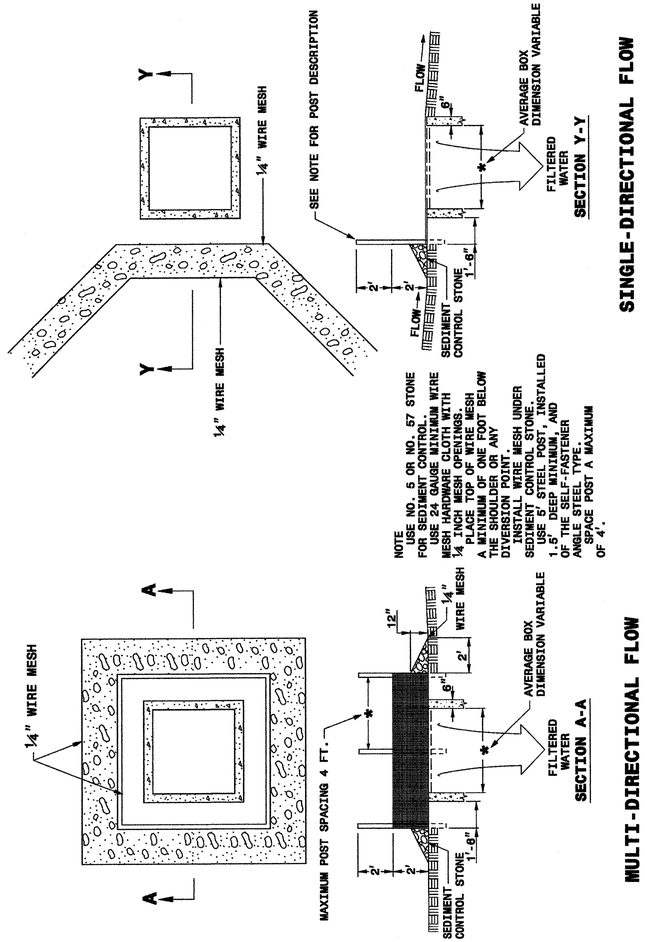
PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-3A
R/W SHEET NO.	

ENGLISH STANDARD DRAWING FOR
ROCK INLET SEDIMENT TRAP TYPE 'C'
SHEET 1 OF 1 — 1632.03

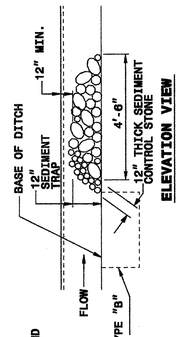
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
7-06

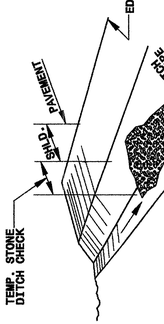


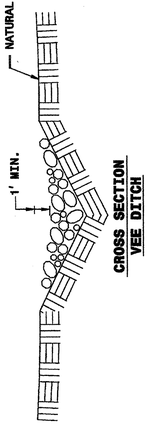
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
7-06

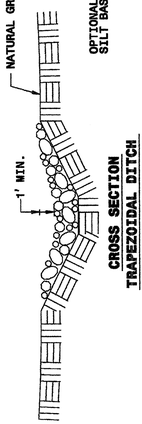
ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE 'B'
SHEET 1 OF 1 — 1633.02

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%.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL. PLACE SEDIMENT CONTROL STONE AS DIRECTED BY THE ENGINEER.









EROSION CONTROL DETAILS

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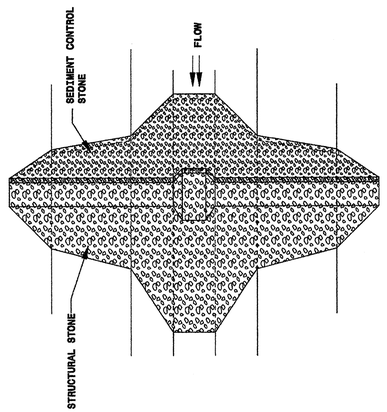
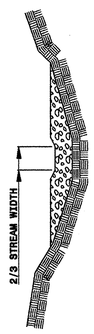
PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-3B
R/W SHEET NO.	

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'
SHEET 1 OF 1 — 1634.01

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. — 1-02





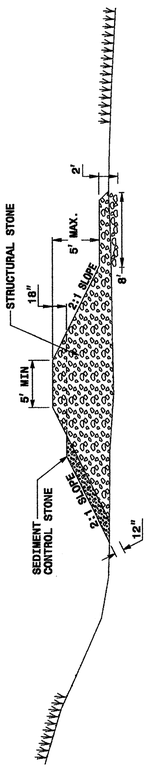
NOTE
USE CLASS I RIP RAP FOR STRUCTURAL STONE AND PAY FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD OR PER TON
PLAIN RIP RAP, CLASS I.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL AND PAY FOR AT THE CONTRACT UNIT PRICE PER TON
SEDIMENT CONTROL STONE.
DO NOT USE SEDIMENT DAM IN A LIVE STREAM.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. — 1-02

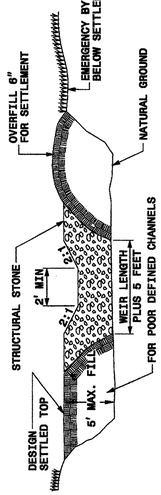
ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'
SHEET 1 OF 1 — 1634.01

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SEDIMENT DAM TYPE 'B'
SHEET 1 OF 1 — 1634.02

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. — 7-06



PROFILE SECTION



CROSS SECTION

NOTES:
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
DIKE MAY EXTEND ALONG MORE THAN ONE SIDE OF THE TRAP AREA. PROVIDE A TOTAL SEDIMENT STORAGE VOLUME OF 1800± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY OTHER UP OR DOWNSTREAM CONTROLS.
AN UNDERLAY OF STRUCTURAL STONE WITH FILTER FABRIC MAY BE REQUIRED BY THE ENGINEER.

DRAINAGE AREA (ACRES)	WEIR LENGTH (FT)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. — 7-06

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SEDIMENT DAM TYPE 'B'
SHEET 1 OF 1 — 1634.02

EROSION CONTROL DETAILS

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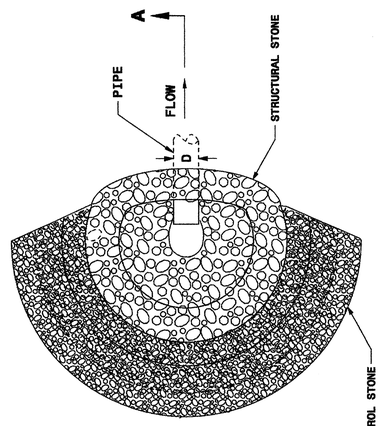
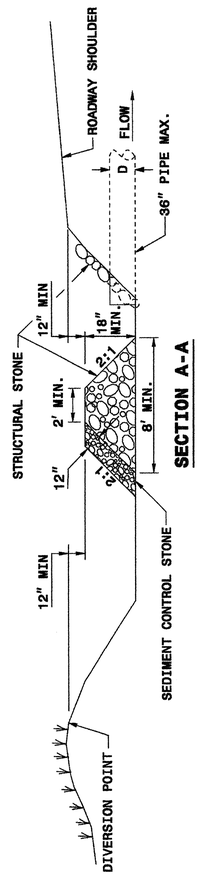
PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-3C
R/W SHEET NO.	

ENGLISH STANDARD DRAWING FOR
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
SHEET 1 OF 1 — 1635.01

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06



PLAN



SECTION A-A

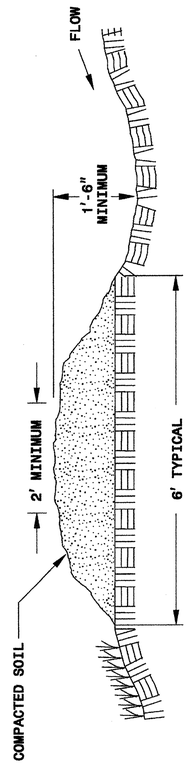
NOTE:
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL.
CONSTRUCT TOP OF BERM A MINIMUM OF ONE FOOT BELOW THE SHOULDER OR DIVERSION POINT.
PROVIDE A TOTAL SEDIMENT TRAP VOLUME OF 1800± CUBIC FEET PER ACRE OF DISTURBED AREA. SOME OF THE REQUIRED VOLUME MAY BE PROVIDED BY UP OR DOWNSTREAM CONTROLS.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

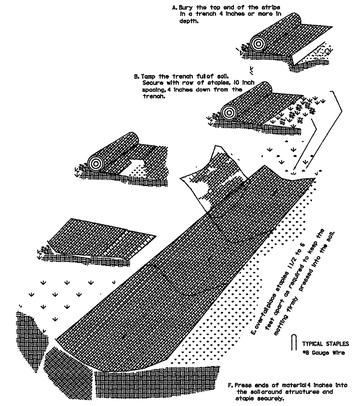
ENGLISH STANDARD DRAWING FOR
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
SHEET 1 OF 1 — 1635.01

ENGLISH STANDARD DRAWING FOR
TEMPORARY DIVERSION
SHEET 1 OF 1 — 1630.05

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06



CROSS SECTIONAL VIEW



TYPICAL JUTE MAT, STRAW WITH NET, & FIBERGLASS ROVING DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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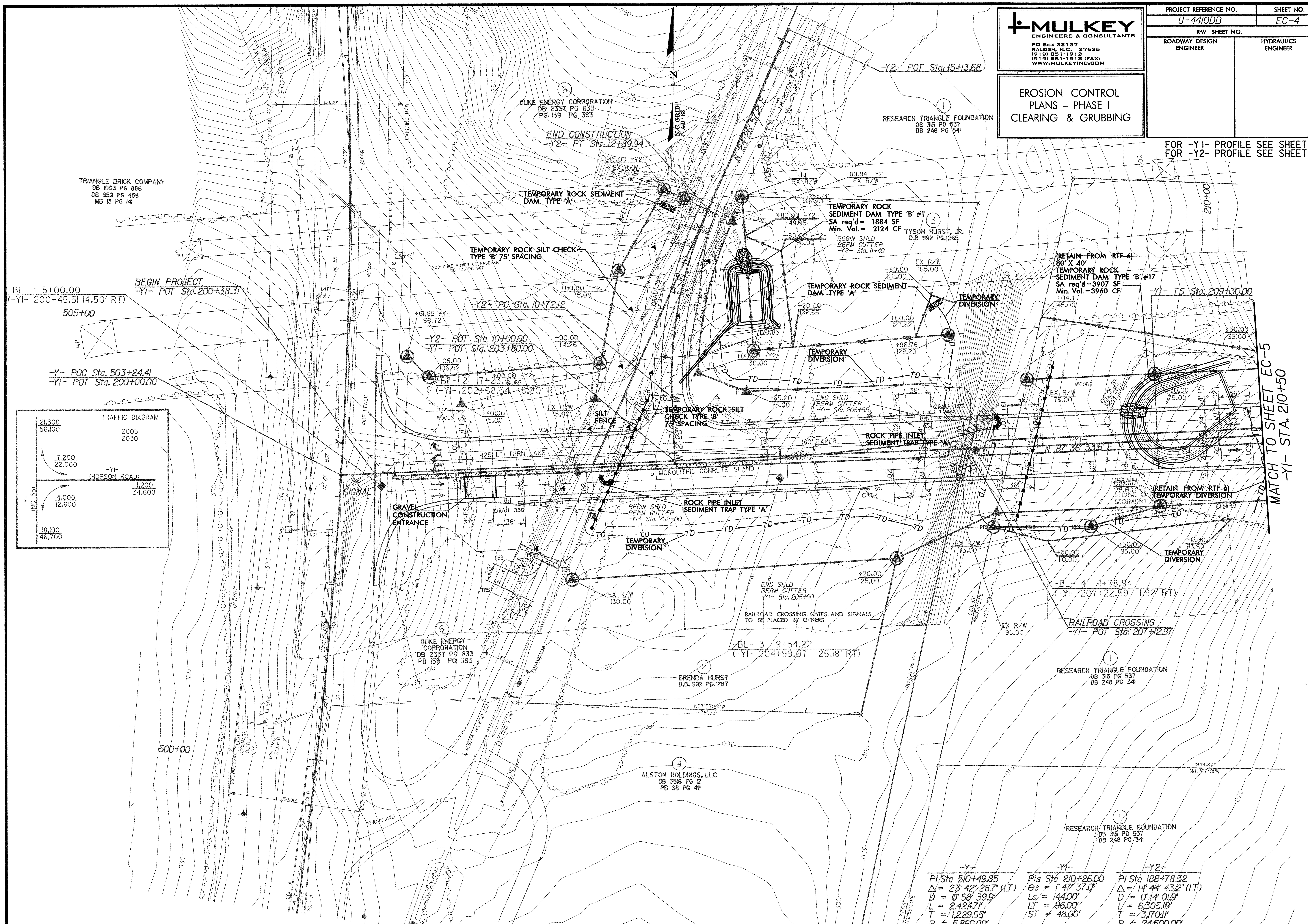
EROSION CONTROL PLANS – PHASE I CLEARING & GRUBBING

FOR -Y1- PROFILE SEE SHEET 7
FOR -Y2- PROFILE SEE SHEET 8


TRIANGLE BRICK COMPANY
DB 1003 PG 886
DB 959 PG 458
MB 13 PG 141
DUKE ENERGY CORPORATION
DB 2337 PG 833
PB 159 PG 393
END CONSTRUCTION
-Y2- PT Sta. 12+89.94
RESEARCH TRIANGLE FOUNDATION
DB 315 PG 537
DB 248 PG 341
-Y2- POT Sta. 15+13.68
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'
TEMPORARY ROCK SEDIMENT DAM TYPE 'B' #1
SA req'd = 1884 SF
Min. Vol. = 2124 CF
TYSON HURST, JR.
D.B. 992 PG. 265
TEMPORARY ROCK SILT CHECK TYPE 'B' 75' SPACING
BEGIN PROJECT
-Y1- POT Sta. 200+38.31
-BL- 1 5+00.00
(-Y1- 200+45.51 14.50' RT)
-Y2- PC Sta. 10+72.12
-Y2- POT Sta. 10+00.00
-Y1- POT Sta. 203+80.00
-Y- POC Sta. 503+24.41
-Y1- POT Sta. 200+00.00
-BL- 2 7+20.65
(-Y1- 202+68.54 8.80' RT)
(RETAIN FROM RTF-6)
80' X 40'
TEMPORARY ROCK SEDIMENT DAM TYPE 'B' #17
SA req'd = 3907 SF
Min. Vol. = 3960 CF
-Y1- TS Sta. 209+30.00
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'
TEMPORARY DIVERSION
SILT FENCE
TEMPORARY ROCK SILT CHECK TYPE 'B' 75' SPACING
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
425' LT TURN LANE
5' MONOLITHIC CONRETE ISLAND
180' TAPER
N 87° 36' 33.6" E
SIGNAL
GRAVEL CONSTRUCTION ENTRANCE
BEGIN SHLD BERM GUTTER -Y1- Sta. 202+00
END SHLD BERM GUTTER -Y1- Sta. 206+55
END SHLD BERM GUTTER -Y1- Sta. 205+90
(RETAIN FROM RTF-6) TEMPORARY DIVERSION
MATCH TO SHEET EC-5
-Y1- STA. 210+50
TRAFFIC DIAGRAM
2005
2030
21,300
56,100
7,200
22,000
-Y1- (HOPSON ROAD)
11,200
34,600
-Y- (NC 55)
4,000
12,600
18,100
46,700
-BL- 4 11+78.94
(-Y1- 207+22.59 1.92' RT)
RAILROAD CROSSING, GATES, AND SIGNALS TO BE PLACED BY OTHERS.
RAILROAD CROSSING
-Y1- POT Sta. 207+12.97
-BL- 3 9+54.22
(-Y1- 204+99.07 25.18' RT)
DUKE ENERGY CORPORATION
DB 2337 PG 833
PB 159 PG 393
BRENDA HURST
D.B. 992 PG. 267
ALSTON HOLDINGS, LLC
DB 3516 PG 12
PB 68 PG 49
505+00
500+00
205+00
210+00

-Y-	-Y1-	-Y2-
PI Sta 510+49.85	PIs Sta 210+26.00	PI Sta 188+78.52
Δ = 23° 42' 26.7" (LT)	θs = 1° 47' 37.0"	Δ = 14° 44' 43.2" (LT)
D = 0° 58' 39.9"	Ls = 144.00'	D = 0° 14' 01.9"
L = 2,424.71'	LT = 96.00'	L = 6,305.19'
T = 1,229.95'	ST = 48.00'	T = 3,170.11'
R = 5,860.00'		R = 24,500.00'

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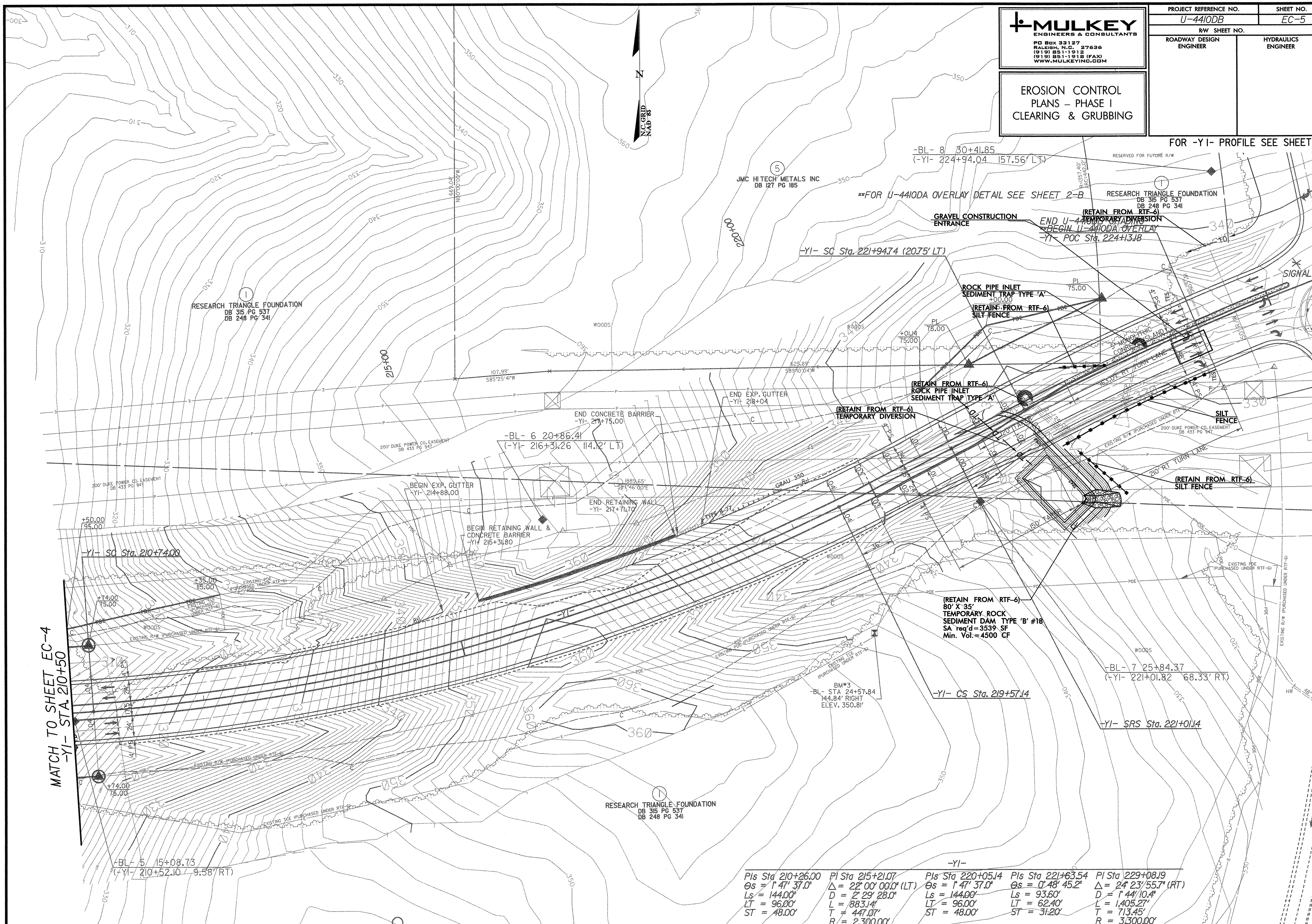
PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL
PLANS – PHASE I
CLEARING & GRUBBING

FOR -Y1- PROFILE SEE SHEET 7



N
N.C. GRID NAD 83
MATCH TO SHEET EC-4
-Y1- STA. 210+50
RESEARCH TRIANGLE FOUNDATION
DB 315 PG 537
DB 248 PG 341
JMC HI TECH METALS INC
DB 127 PG 185
**FOR U-4410DA OVERLAY DETAIL SEE SHEET 2-B
-BL- 8 30+41.85
(-Y1- 224+94.04 157.56' LT)
RESERVED FOR FUTURE R/W
GRAVEL CONSTRUCTION ENTRANCE
(RETAIN FROM RTF-6) TEMPORARY DIVERSION
END U-4410DB GRADING
**BEGIN U-4410DA OVERLAY
-Y1- POC Sta. 224+13.18
-Y1- SC Sta. 221+94.74 (20.75' LT)
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
(RETAIN FROM RTF-6) SILT FENCE
SIGNAL
(RETAIN FROM RTF-6) ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
(RETAIN FROM RTF-6) TEMPORARY DIVERSION
SILT FENCE
200' DUKE POWER CO. EASEMENT DB 433 PG 947
210' RT TURN LANE
(RETAIN FROM RTF-6) SILT FENCE
END EXP. GUTTER -Y1- 218+04
END CONCRETE BARRIER -Y1- 217+75.00
-BL- 6 20+86.41
(-Y1- 216+31.26 114.12' LT)
BEGIN EXP. GUTTER -Y1- 214+88.00
END RETAINING WALL -Y1- 217+71.70
BEGIN RETAINING WALL & CONCRETE BARRIER -Y1- 215+31.80
-Y1- SC Sta. 210+74.00
(RETAIN FROM RTF-6)
80' X 35'
TEMPORARY ROCK SEDIMENT DAM TYPE 'B' #18
SA req'd=3539 SF
Min. Vol.=4500 CF
BM#3
-BL- STA 24+57.84
144.84' RIGHT
ELEV. 350.81'
-Y1- CS Sta. 219+57.14
-Y1- SRS Sta. 221+01.14
-BL- 7 25+84.37
(-Y1- 221+01.82 68.33' RT)
-BL- 5 15+08.73
(-Y1- 210+52.10 9.58' RT)
WOODS
EXISTING R/W (PURCHASED UNDER RTF-6)
EXISTING PDE (PURCHASED UNDER RTF-6)

-Y1-

PIs Sta 210+26.00	PI Sta 215+21.07	PIs Sta 220+05.14	PIs Sta 221+63.54	PI Sta 229+08.19
Θs = 1° 47' 37.0"	Δ = 22° 00' 00.0" (LT)	Θs = 1° 47' 37.0"	Θs = 0° 48' 45.2"	Δ = 24° 23' 55.7" (RT)
Ls = 144.00'	D = 2° 29' 28.0"	Ls = 144.00'	Ls = 93.60'	D = 1° 44' 10.4"
LT = 96.00'	L = 883.14'	LT = 96.00'	LT = 62.40'	L = 1,405.27'
ST = 48.00'	T = 447.07'	ST = 48.00'	ST = 31.20'	T = 713.45'
	R = 2,300.00'			R = 3,300.00'

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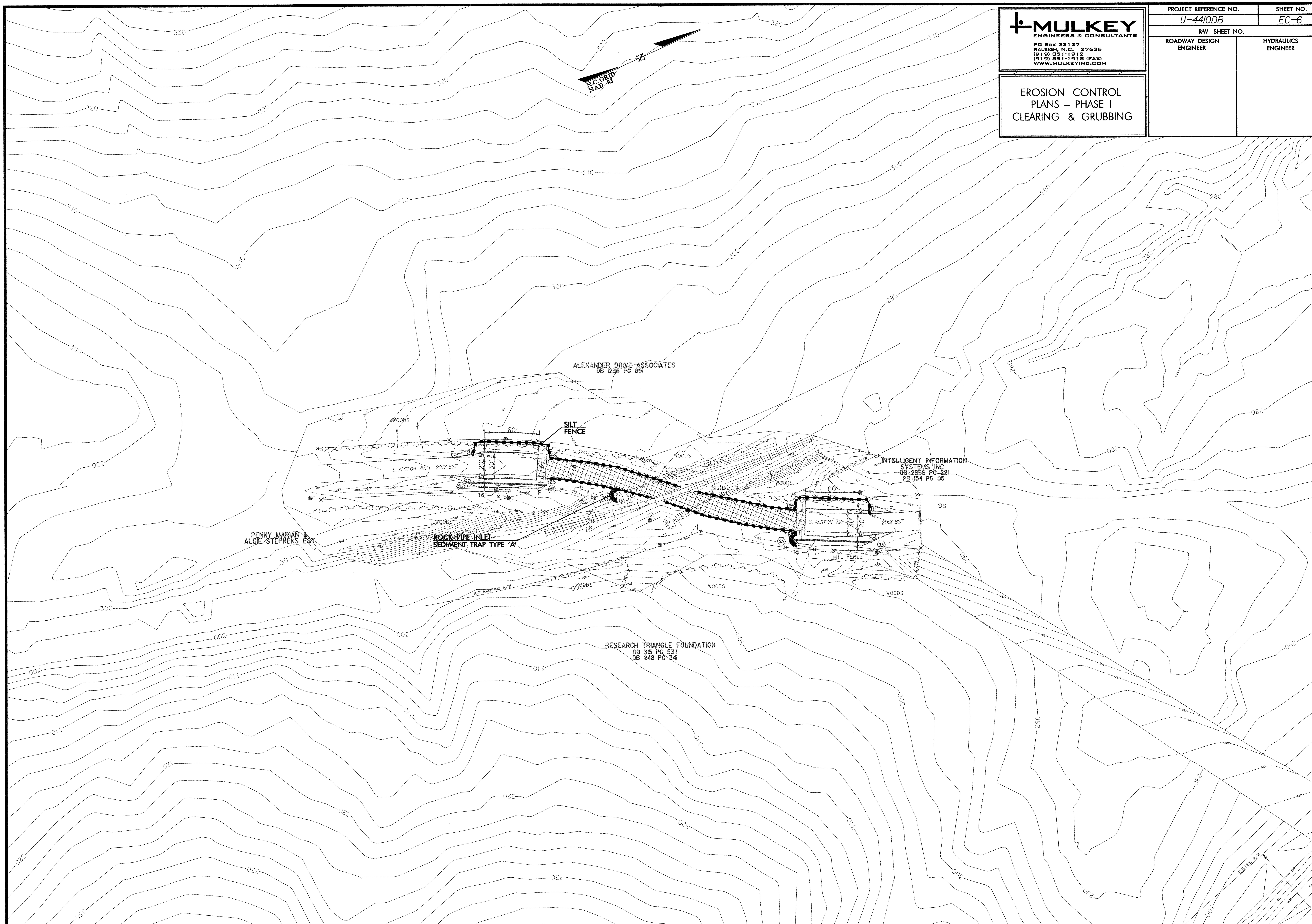
PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PLANS – PHASE I CLEARING & GRUBBING



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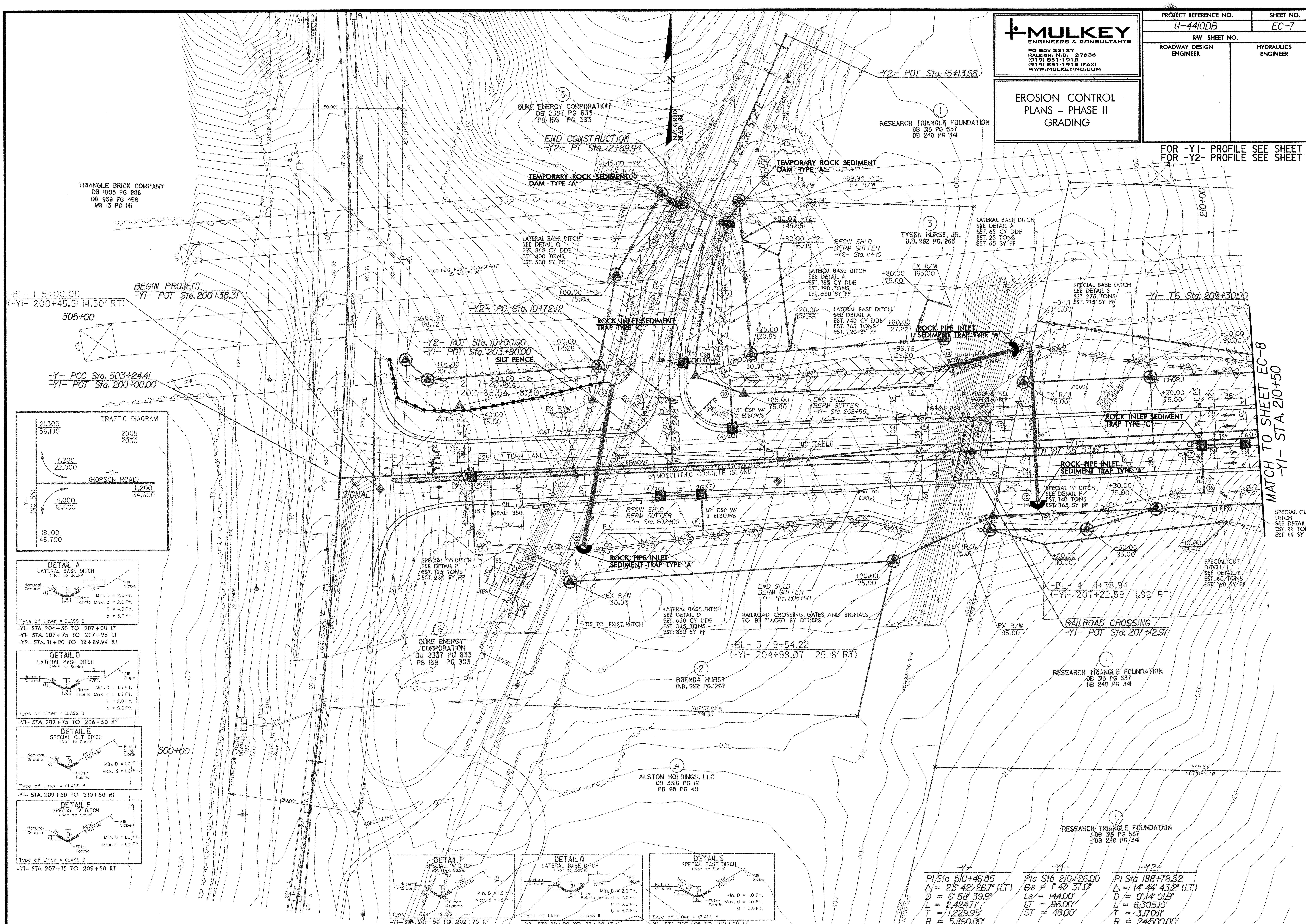
PROJECT REFERENCE NO. U-4410DB
SHEET NO. EC-7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
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EROSION CONTROL PLANS – PHASE II GRADING
FOR -Y1- PROFILE SEE SHEET 7
FOR -Y2- PROFILE SEE SHEET 8
MATCH TO SHEET EC-8
-Y1- STA. 210+50
-Y2- POT Sta. 15+13.68
END CONSTRUCTION -Y2- PT Sta. 12+89.94
BEGIN PROJECT -Y1- POT Sta. 200+38.31
-BL-1 5+00.00 (-Y1- 200+45.51 14.50' RT)
-Y2- PC Sta. 10+72.12
-Y2- POT Sta. 10+00.00
-Y1- POT Sta. 203+80.00
-Y- POC Sta. 503+24.41
-Y1- POT Sta. 200+00.00
-Y1- TS Sta. 209+30.00
-BL-4 11+78.94 (-Y1- 207+22.59 1.92' RT)
-BL-3 9+54.22 (-Y1- 204+99.07 25.18' RT)
RAILROAD CROSSING -Y1- POT Sta. 207+12.97
RAILROAD CROSSING, GATES, AND SIGNALS TO BE PLACED BY OTHERS.
TEMPORARY ROCK SEDIMENT DAM TYPE 'A'
ROCK INLET SEDIMENT TRAP TYPE 'C'
ROCK PIPE INLET SEDIMENT TRAP TYPE 'A'
SILT FENCE
TRIANGLE BRICK COMPANY DB 1003 PG 886 DB 959 PG 458 MB 13 PG 141
DUKE ENERGY CORPORATION DB 2337 PG 833 PB 159 PG 393
RESEARCH TRIANGLE FOUNDATION DB 315 PG 537 DB 248 PG 341
TYSON HURST, JR. D.B. 992 PG. 265
BRENDA HURST D.B. 992 PG. 267
ALSTON HOLDINGS, LLC DB 3516 PG 12 PB 68 PG 49
TRAFFIC DIAGRAM
-Y1- (HOPSON ROAD)
-Y- (NC 55)
DETAIL A LATERAL BASE DITCH (Not to Scale)
-Y1- STA. 204+50 TO 207+00 LT
-Y1- STA. 207+75 TO 207+95 LT
-Y2- STA. 11+00 TO 12+89.94 RT
DETAIL D LATERAL BASE DITCH (Not to Scale)
-Y1- STA. 202+75 TO 206+50 RT
DETAIL E SPECIAL CUT DITCH (Not to Scale)
-Y1- STA. 209+50 TO 210+50 RT
DETAIL F SPECIAL 'V' DITCH (Not to Scale)
-Y1- STA. 207+15 TO 209+50 RT
DETAIL P SPECIAL 'V' DITCH
-Y1- STA. 201+50 TO 202+75 RT
DETAIL Q LATERAL BASE DITCH (Not to Scale)
-Y2- STA. 10+90 TO 12+90 LT
DETAIL S SPECIAL BASE DITCH (Not to Scale)
-Y1- STA. 207+95 TO 212+00 LT
-Y- PI Sta 510+49.85 Δ = 23° 42' 26.7" (LT) D = 0° 58' 39.9" L = 2,424.71' T = 1,229.95' R = 5,860.00'
-Y1- PIs Sta 210+26.00 θs = 1° 47' 37.0" Ls = 144.00' LT = 96.00' ST = 48.00'
-Y2- PI Sta 188+78.52 Δ = 14° 44' 43.2" (LT) D = 0° 14' 01.9" L = 6,305.19' T = 3,170.11' R = 24,500.00'

PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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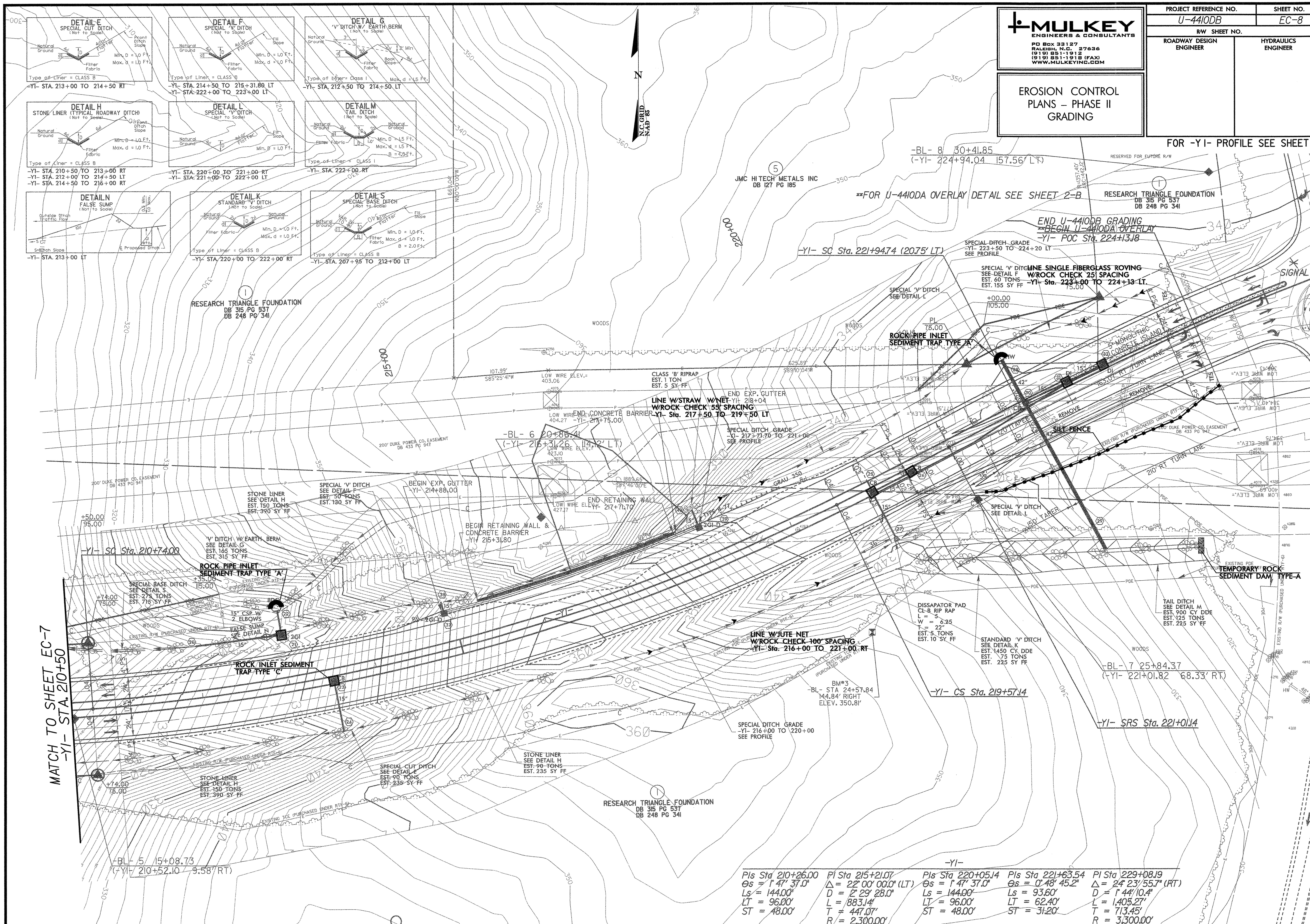
EROSION CONTROL PLANS – PHASE II GRADING

FOR -Y1- PROFILE SEE SHEET 7



PROJECT REFERENCE NO.	SHEET NO.
U-4410DB	EC-9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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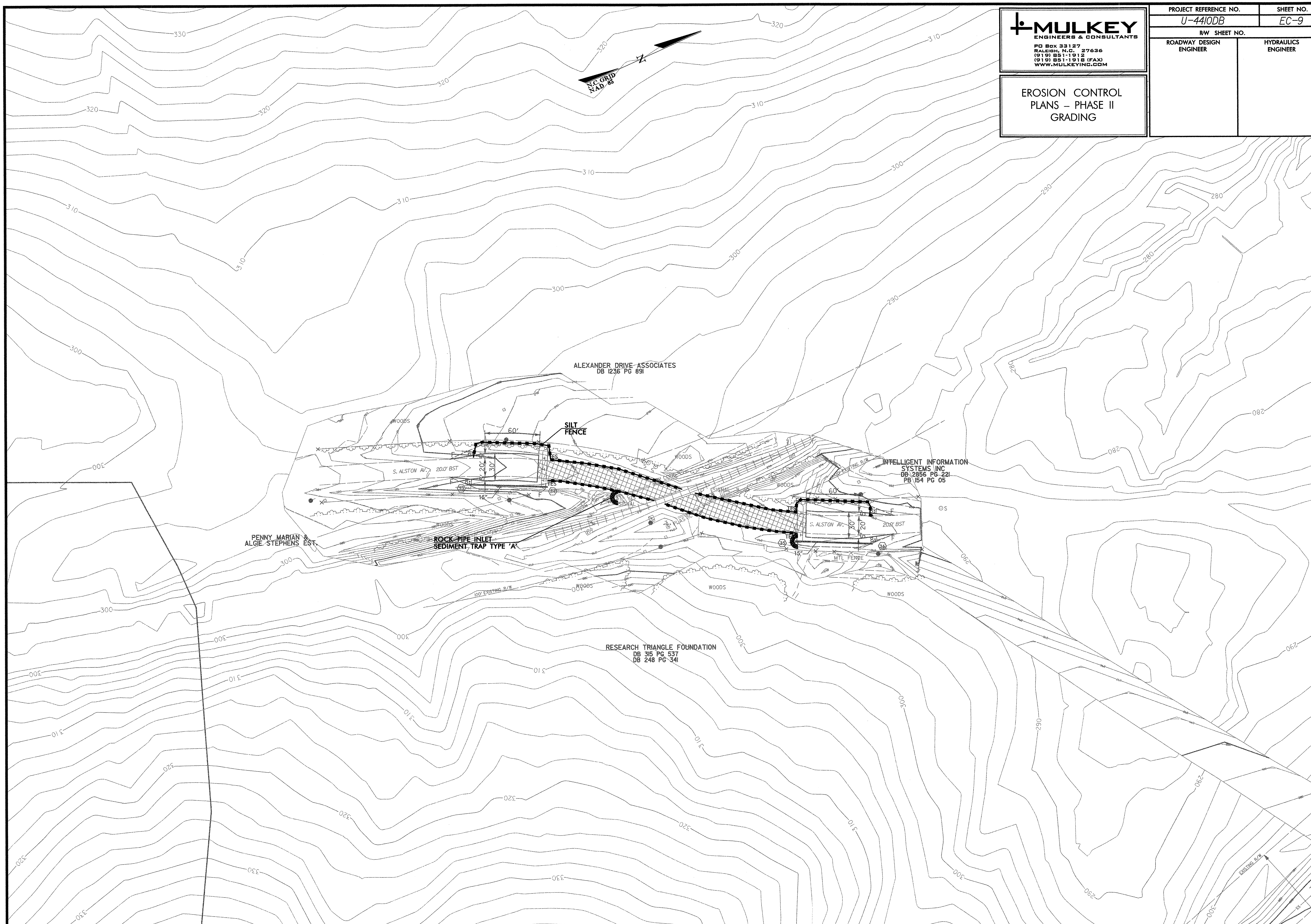
EROSION CONTROL PLANS – PHASE II GRADING



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