



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

June 3, 2005

U. S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue Room 208
Asheville, North Carolina 28801-5006

Attention: Mr. Steve Lund
NCDOT Coordinator

Subject: **Request for Permit Modification** for TIP No. U-2404 A, Catawba
County, Newton/Conover Loop; State Project No. 8.1792401; Federal Aid
Project No. MA-STP-16(2), Division 12.

Reference: Individual Permit, USACE Action ID No. 200331233, issued on
December 4, 2003. Major Certification, DWQ Project No. 031048, issued
on October 8, 2003.

Dear Sir:

The U.S. Army Corps of Engineers (USACE) issued a Section 404 Individual Permit (IP) to the North Carolina Department of Transportation (NCDOT) on December 4, 2003 for construction of the Newton-Conover Eastern Loop, from NC Highway 16 north to SR 1739 (Emanuel Church Road) east of Newton, Catawba County. The purpose of this letter is to request a modification of Permit Site Nos. 1, 3, & 5.

Permit Site No. 5 is located at the headwaters of an unnamed tributary to McLin Creek. The area originally consisted of two ponds in a series which were fed by springs, seeps, and storm water runoff. During construction of the subject road project, one pond was filled and the second pond is currently being used as a sediment basin. Plans indicate (see attached construction plan sheet number 13) that after construction the remaining pond is to be "graded to drain," however, the original streambed below the existing pond is incised with eroding stream banks. It is anticipated that upon project completion, and removal of the existing pond, that the stream will head cut due to soil type and additional storm flow from the road project. It is therefore proposed that rock cross vanes be

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

installed to act as grade control and coconut fiber matting be used to stabilize the stream banks.

The stream length, from end of pipe to edge of temporary drainage easement is 240 feet. The change in elevation is 7.8 feet, which puts the stream slope at 3.2%. It is proposed that the cross vanes be constructed in accordance with Rosgen's principles of stream morphology. There is natural rock of the appropriate size and quantity available on site for the construction of the vanes.

During a 401 Permit Compliance Inspection conducted by DWQ on December 13 & 17, 2004, it was requested that rock cross vanes be installed at Permit Site Nos. 1 & 3. The cross vanes are to be used for grade control to stop head cutting.

At Permit Site No. 1 it appears that rip-rap has fallen into the stream from the bank armoring the outlet end of the pipe. There is an approximate one foot grade change from the end of the pipe to a hard bend approximately 20 feet downstream which is creating the head-cut.

At Permit Site No. 3 rip-rap has fallen into the stream from the adjacent rip-rap lined ditch located at the inlet end of the culvert. Also, the bank of the stream has sloughed off and deposited sediment into the stream. As a result, there is a large head-cut forming upstream. We plan to remove the rip-rap and sediment from the stream, stabilize the sloughed bank, and install a cross vane to prevent further damage.

The revised design does not compromise NCDOT's compliance with the existing permit conditions. The new impact site has been evaluated for compliance with the avoidance/minimization criteria and is in compliance with all previous Individual Permit conditions, including:

- Protected Species
- Cultural Resources
- Aquatic Life passage
- FEMA compliance
- Utilities

Mitigation Strategy

Based upon the agreements stipulated in the "Memorandum of Agreement among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, it is understood that the North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP), will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for NCDOT projects that are listed in Exhibit 1 of the subject MOA during the EEP transition period which ends on June 30, 2005.

Since the subject project is listed in Exhibit 1, the necessary compensatory mitigation to offset unavoidable impacts to waters that are jurisdictional under the federal Clean Water Act will be provided by the EEP. The offsetting mitigation will derive from an inventory

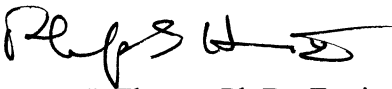
of assets already in existence within the same 8-digit cataloguing unit. The Department of Transportation has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. Mitigation was provided for when the original Individual Permit was issued.

Regulatory Approval

The NCDOT respectfully requests that the referenced 404 Individual Permit and 401 Major Water Quality Certification be modified to reflect the revisions outlined in this letter. In compliance with Section 143-215.3 of the NCAC, we will provide \$475.00 to act as payment for processing the Section 401 permit modification previously noted in the application (see Subject line).

If you have any questions about this request, please contact Megan Willis of my staff at (919) 715-1341.

Sincerely,

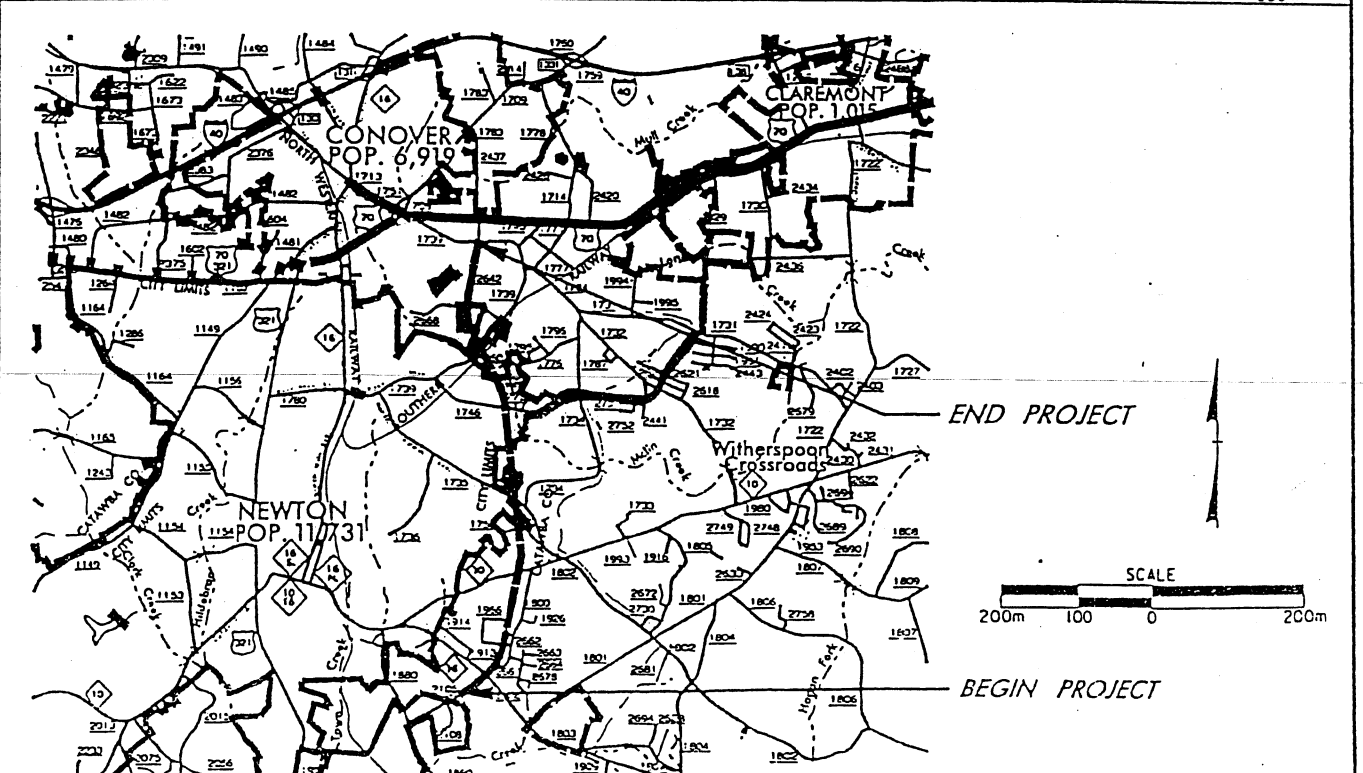
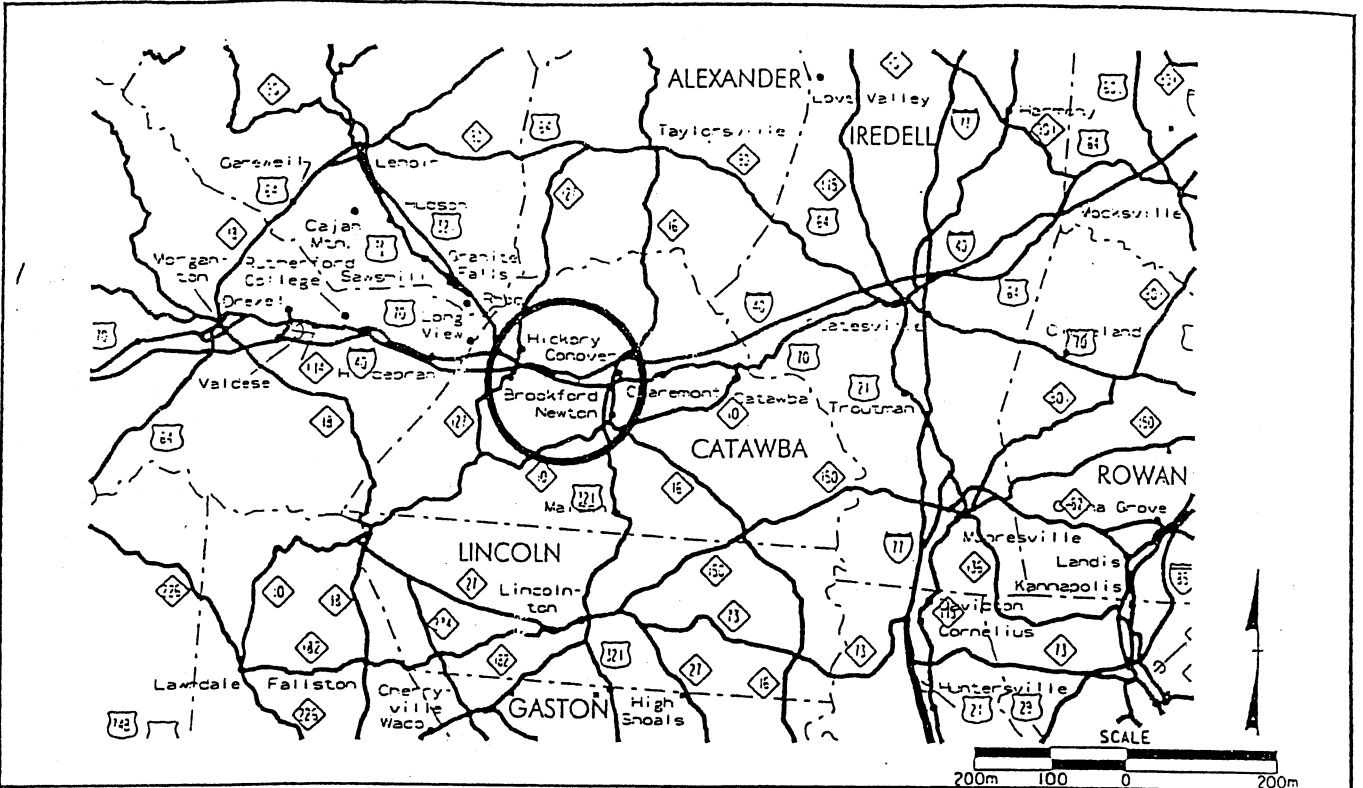

Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

cc: w/attachment

Mr. John Hennessy, NCDWQ (7 copies)
Ms. Marla Chambers, NCWRC
Ms. Becky Fox, USEPA
Mr. Ronald Mikulak, USEPA
Ms. Marella Buncick, USFWS
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. M.L. Holder, P.E. Division Engineer
Ms. Trish Simon, DEO
Mr. Mark Staley, Roadside Environmental

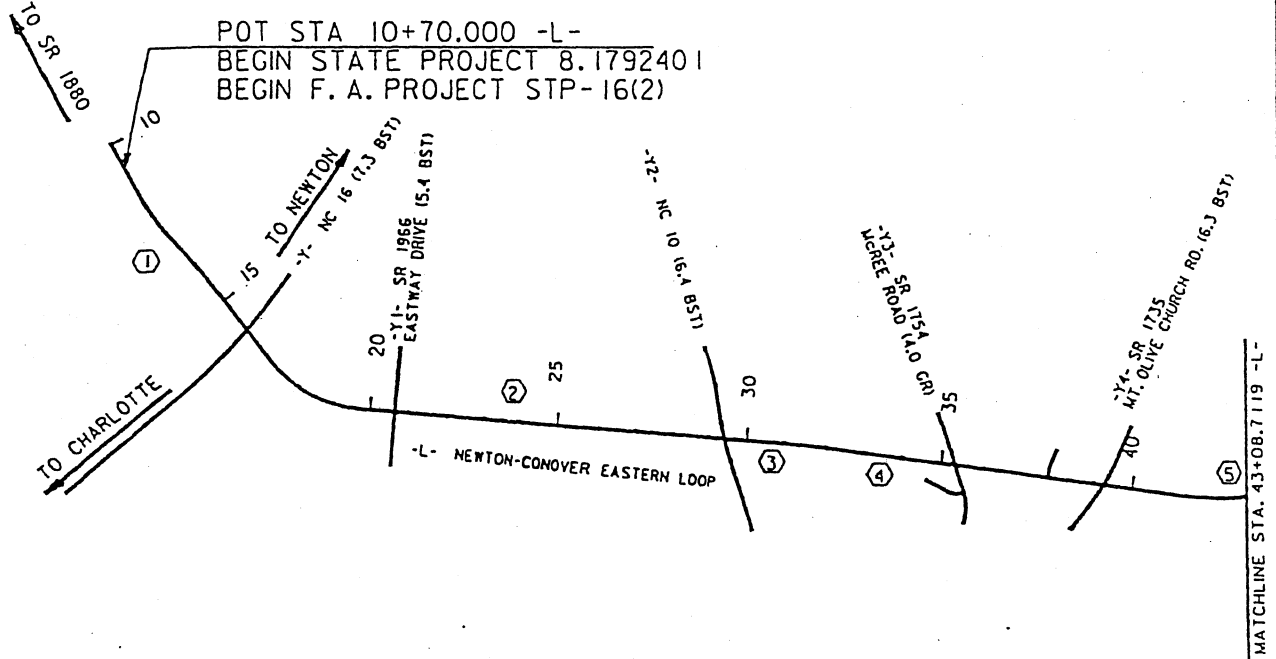
w/o attachment

Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. David Franklin, USACE
Ms. Beth Harmon, EEP
Ms. Jennifer Harris, PDEA Engineer

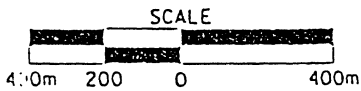


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 CATAWBA COUNTY
 B.1792401 U-2404A
 PROPOSED GRADING, STRUCTURE, CULVERTS, PAVING,
 CURB AND GUTTER, DRAINAGE, LONG-LIFE PAVEMENT
 MARKINGS, SNOWPLOWABLE PAVEMENT MARKERS,
 SIGNALS AND TRACKWORK.
 SCALE AS SHOWN
 SHEET 1 OF 18 APRIL 13, 2000

VICINITY
 MAPS



SITE MAP



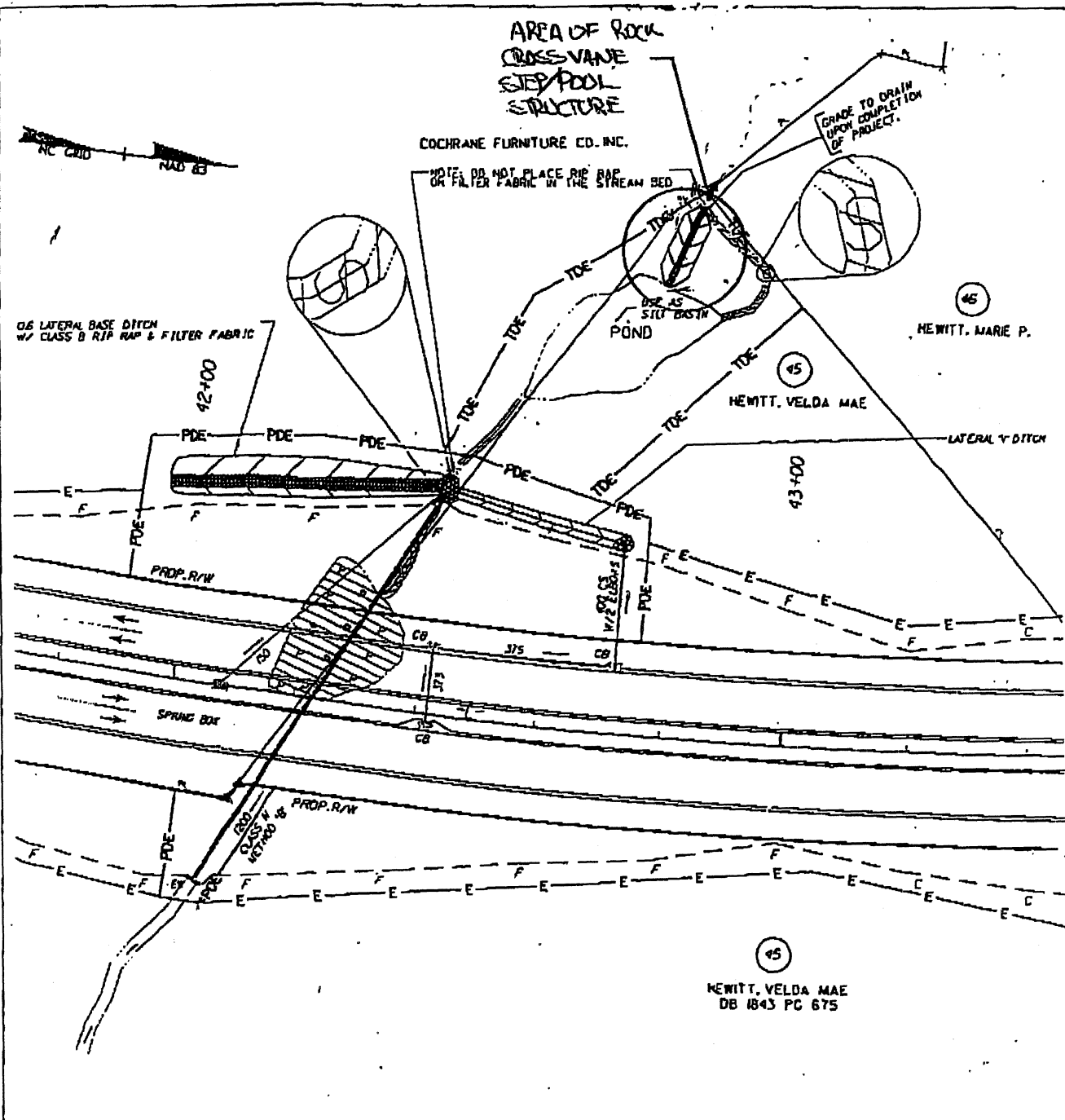
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 CATAWBA COUNTY

8.179240 I U-2404A

PROPOSED GRADING, STRUCTURE, CULVERTS, PAVING,
 CURB AND GUTTER, DRAINAGE, LONG-LIFE PAVEMENT
 MARKINGS, SNOWPLOWABLE PAVEMENT MARKERS,
 SIGNALS AND TRACKWORK.

SCALE AS SHOWN

SHEET 2 OF 18 APRIL 13, 2000



SITE #5

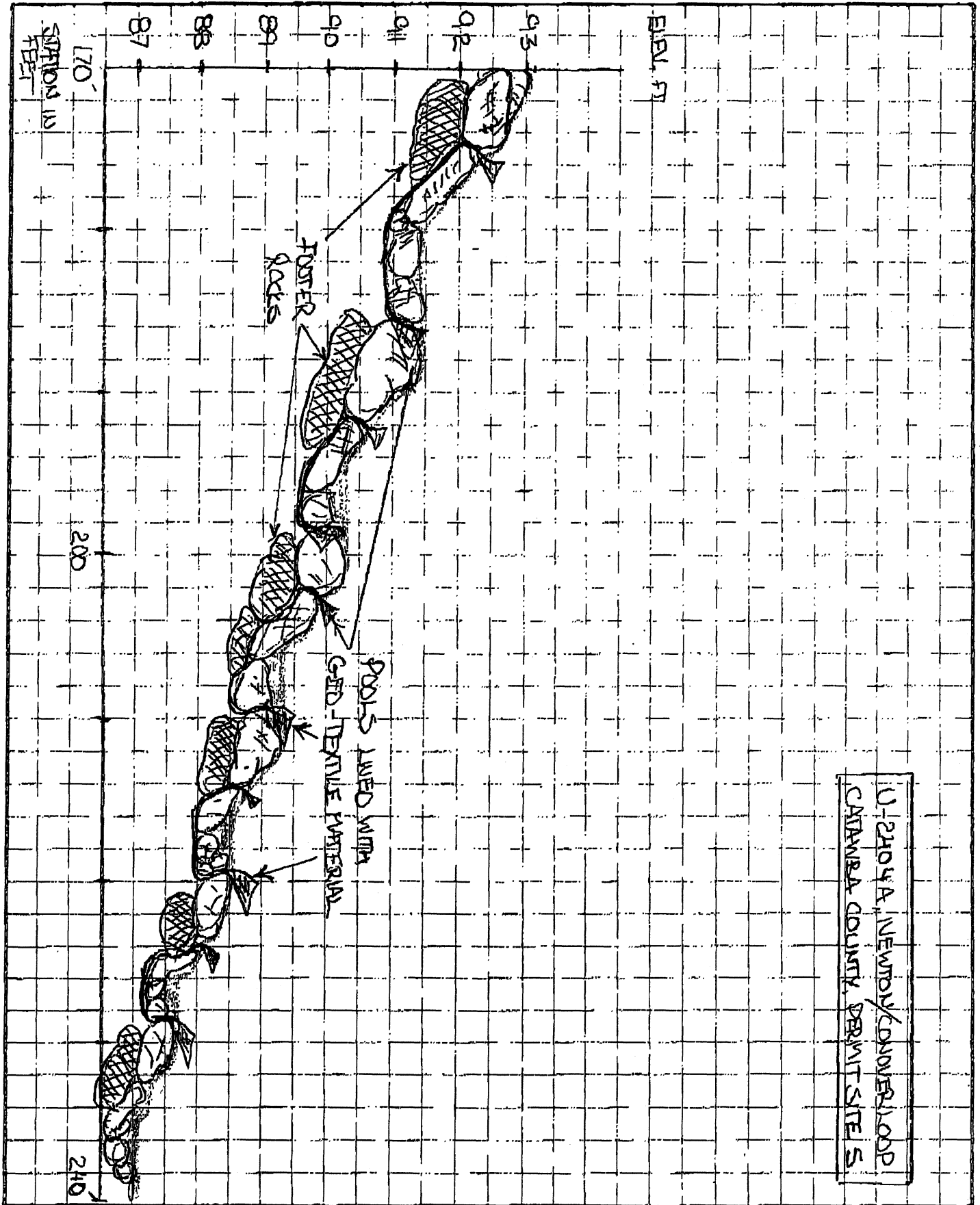
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 CATAWBA COUNTY

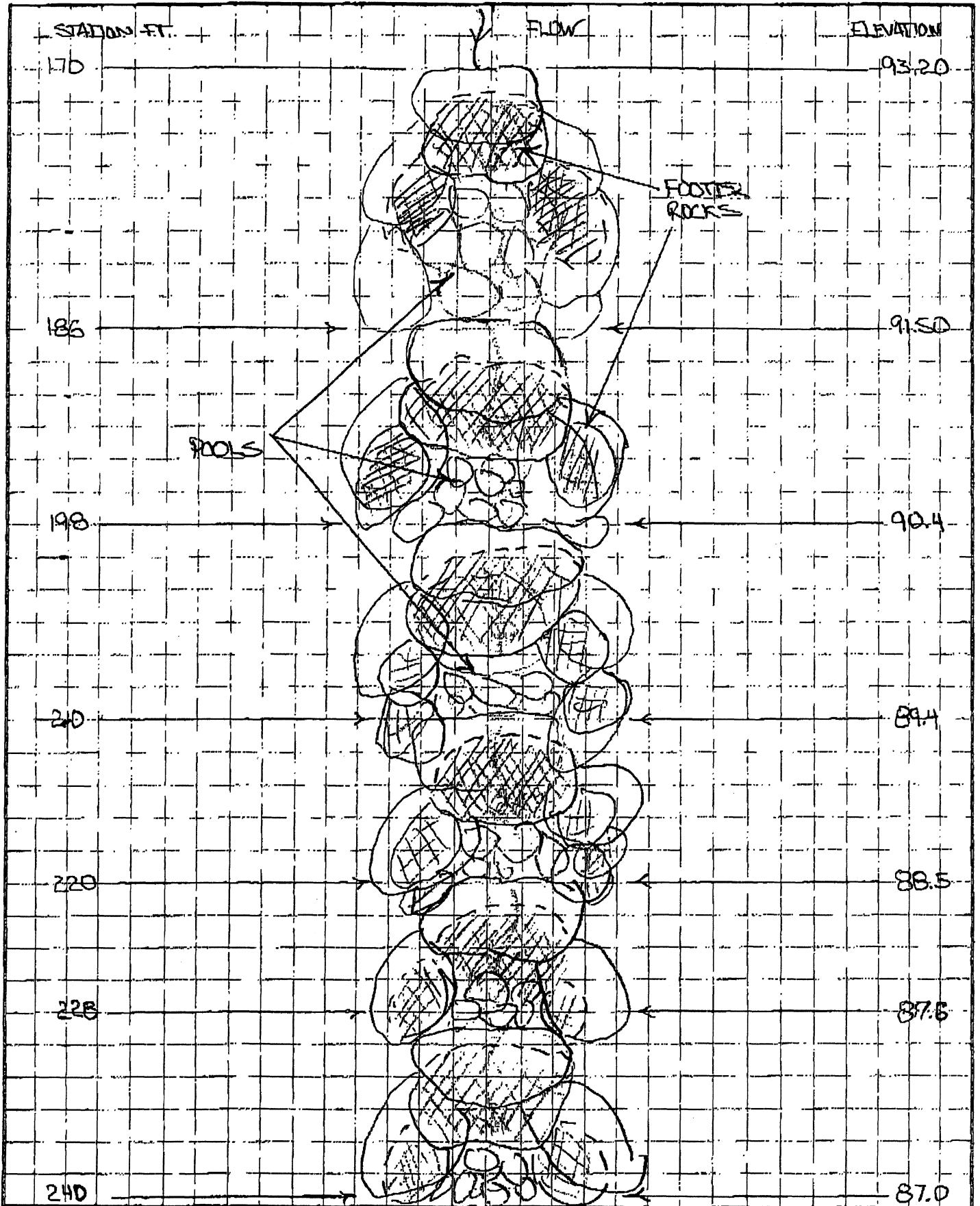
B.1792401 **U-2404A**

PROPOSED GRADING, STRUCTURE, CULVERTS, PAVING,
 CURB AND GUTTER, DRAINAGE, LONG-LIFE PAYMENT
 MARKINGS, SNOWPLOWABLE PAVEMENT MARKERS,
 SIGNALS AND TRACKWORK.



 DENOTES FILL IN SURFACE WATER





WV
 P.O. BOX 2664
 CHARLOTTE, NORTH CAROLINA 28215

REVISIONS

METRIC

PROJECT REFERENCE NO. U-2404A
 R/W SHEET NO. 13

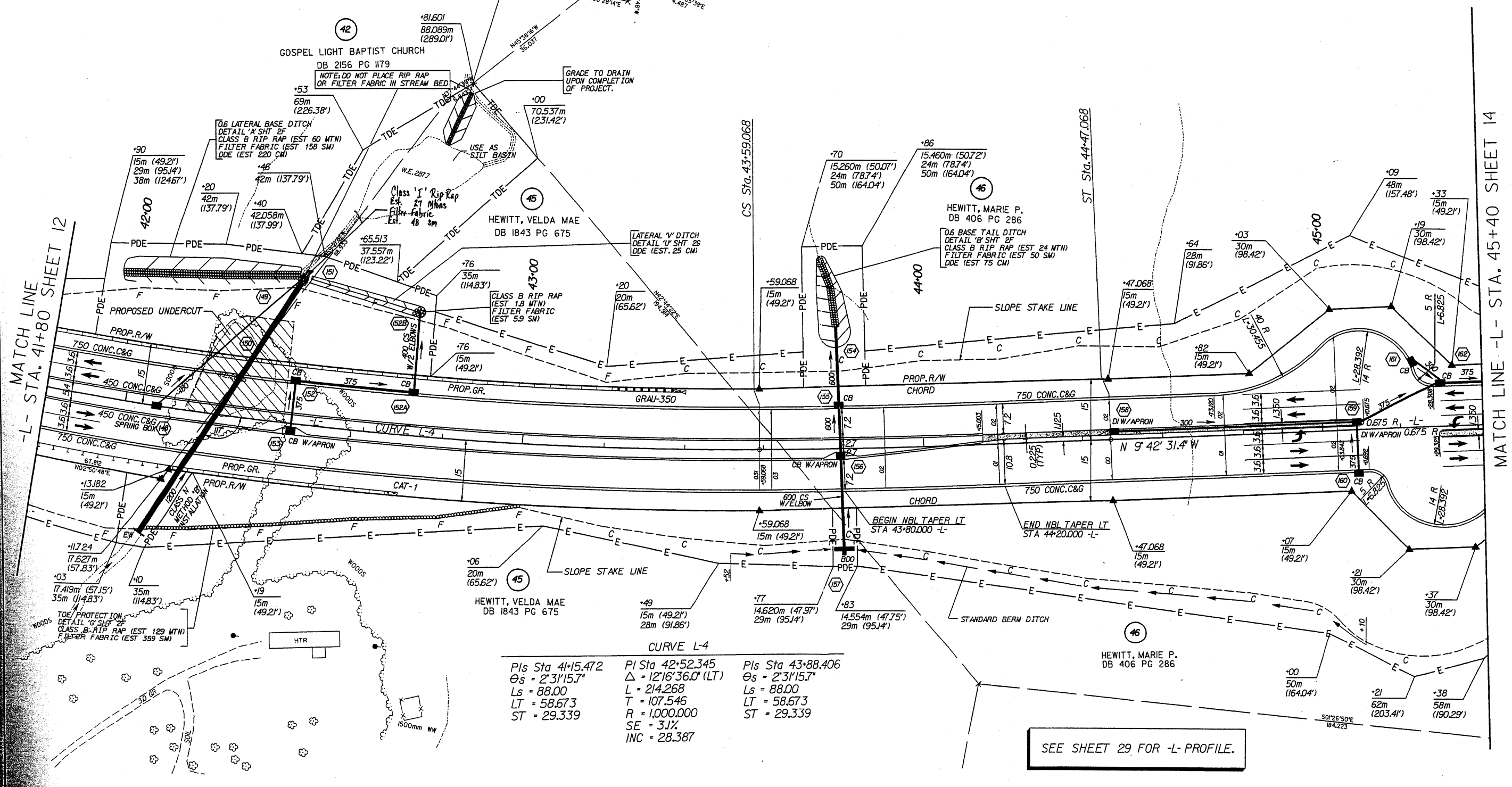
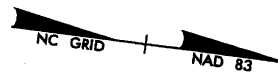
ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

CONST. REV.
 R/W REV.

10-8-03

10/18/03

125mm MONOLITHIC ISLAND
 FULL DEPTH PAVED SHOULDER
 PAVEMENT REMOVAL



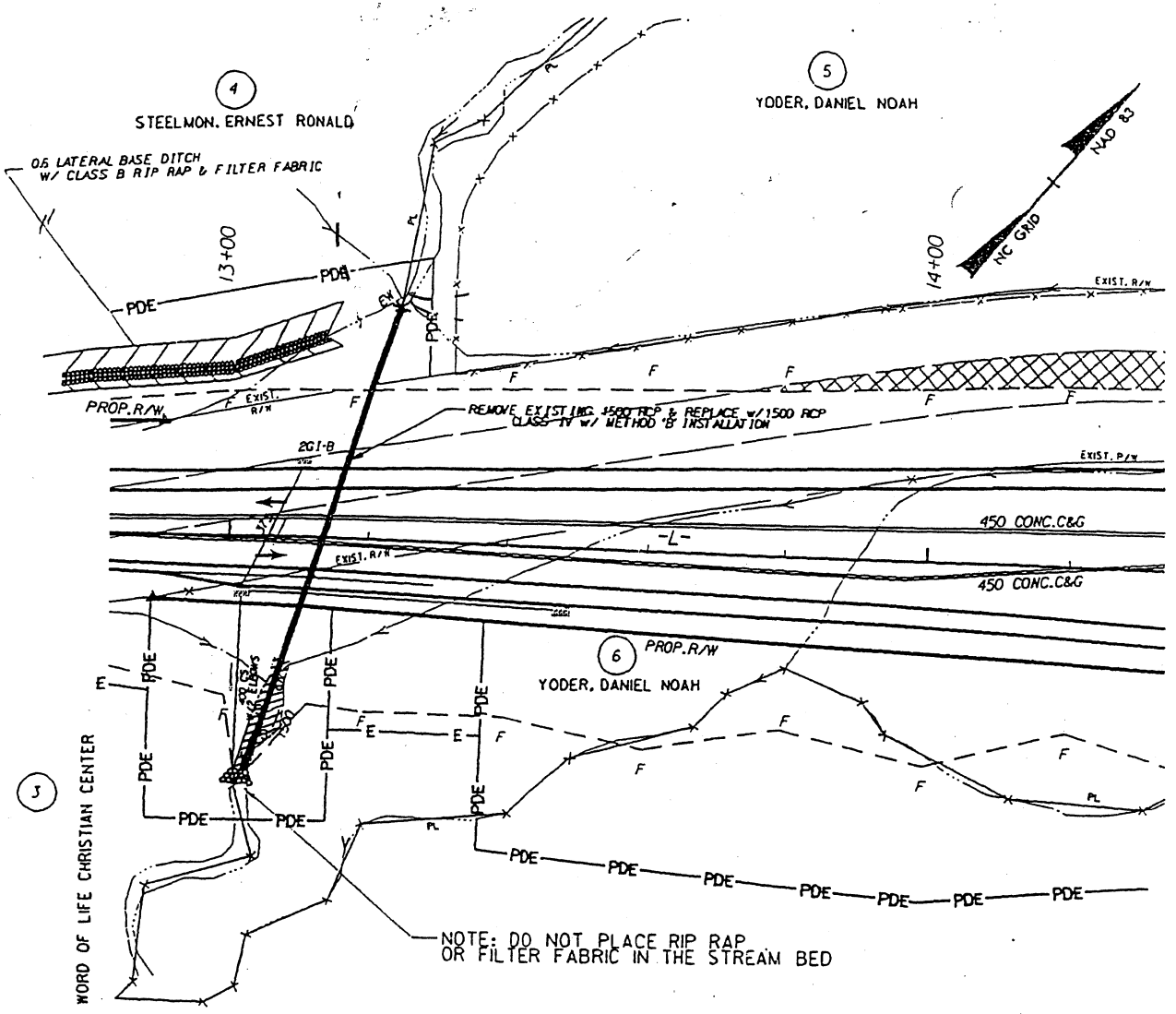
MATCH LINE -L- STA. 41+80 SHEET 12

MATCH LINE -L- STA. 45+40 SHEET 14

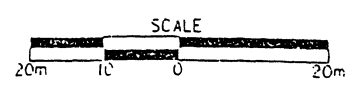
CURVE L-4

PI Sta 41+15.472	PI Sta 42+52.345	PI Sta 43+88.406
$\theta_s = 2'31'15.7''$	$\Delta = 12'16'36.0''$ (LT)	$\theta_s = 2'31'15.7''$
$L_s = 88.00$	$L = 214.268$	$L_s = 88.00$
$LT = 58.673$	$T = 107.546$	$LT = 58.673$
$ST = 29.339$	$R = 1,000.000$	$ST = 29.339$
	$SE = 3.1\%$	
	$INC = 28.387$	

SEE SHEET 29 FOR -L- PROFILE.

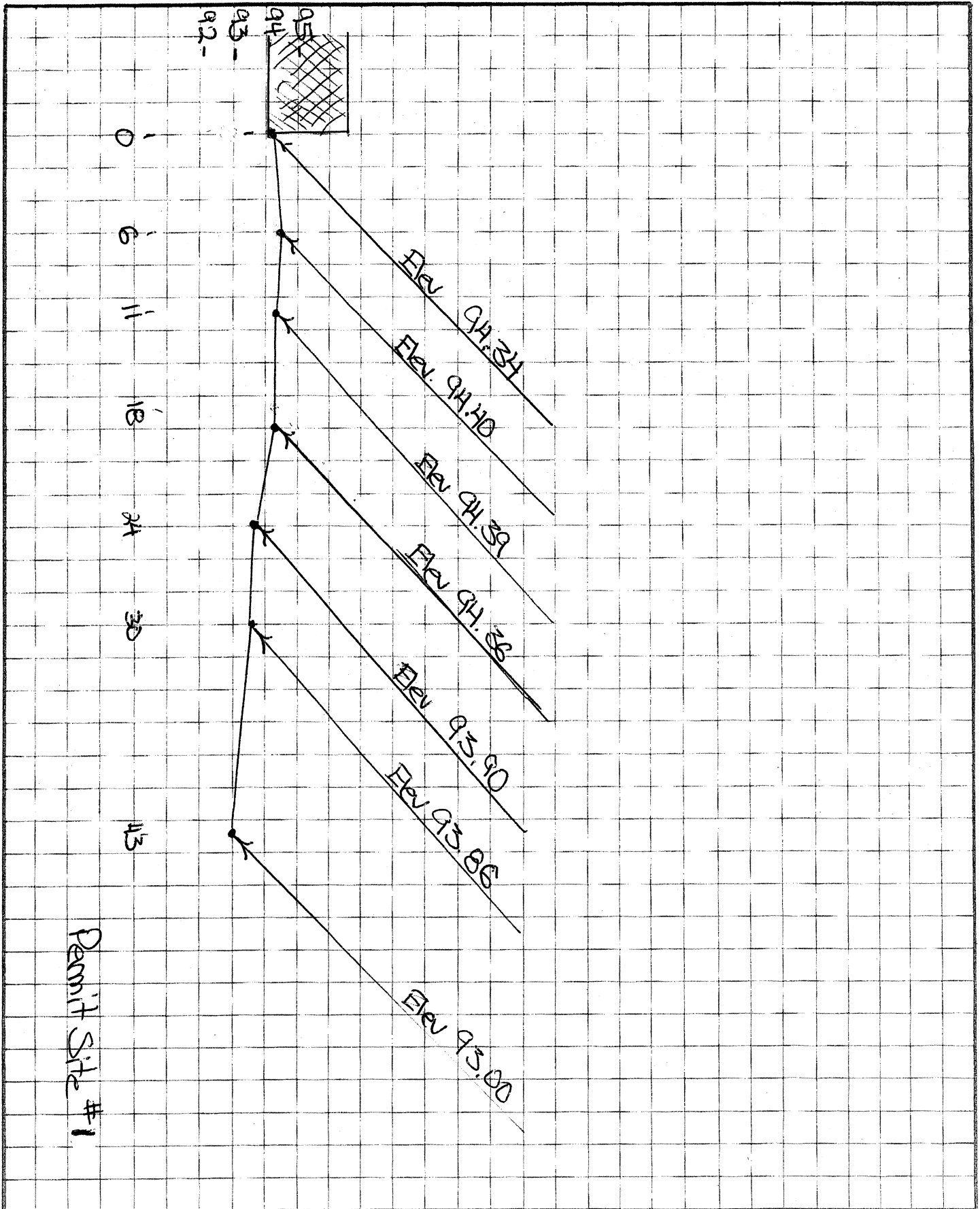


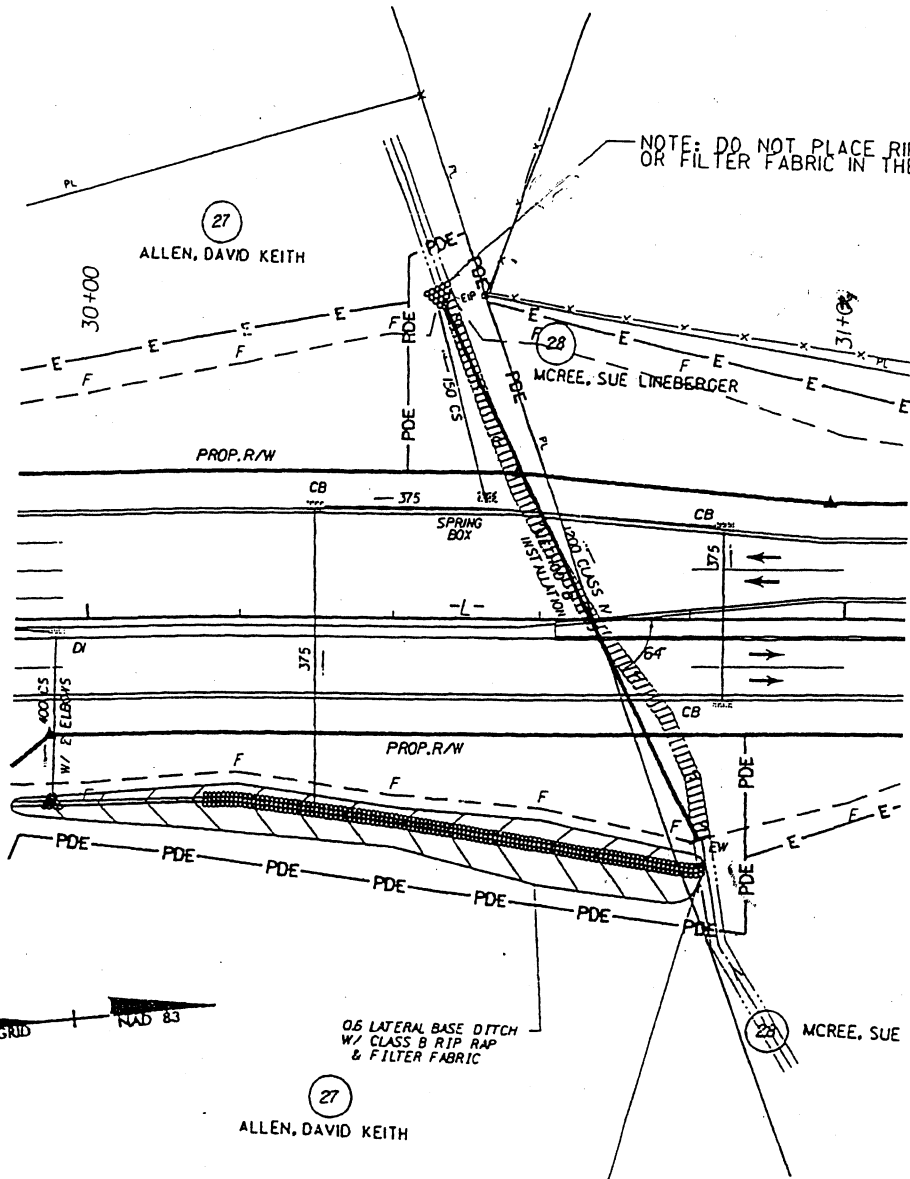
SITE # 1



 DENOTES FILL IN SURFACE WATER

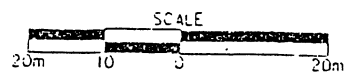
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 CATAWBA COUNTY
 8.1792401 TIP U-2404A
 PROPOSED GRADING, STRUCTURE, CULVERTS, PAVING,
 CURB AND CUTTER, DRAINAGE, LONG-LIFE PAVEMENT
 MARKINGS, SNOWPLOWABLE PAVEMENT MARKERS,
 SIGNALS AND TRACKWORK.
 SCALE AS SHOWN
 SHEET 3 OF 18 August, 2005

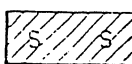




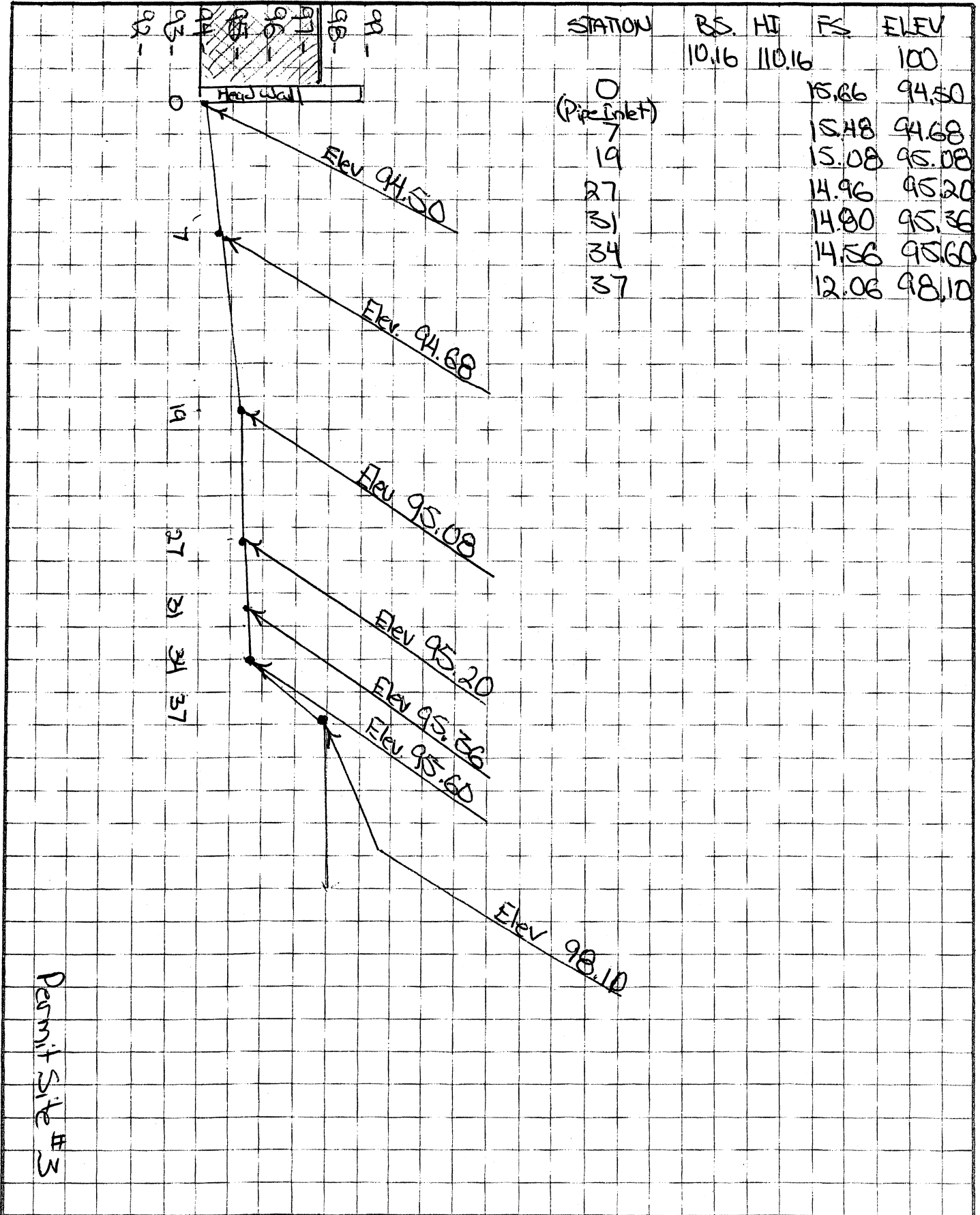
NOTE: DO NOT PLACE RIP RAP OR FILTER FABRIC IN THE STREAM BED

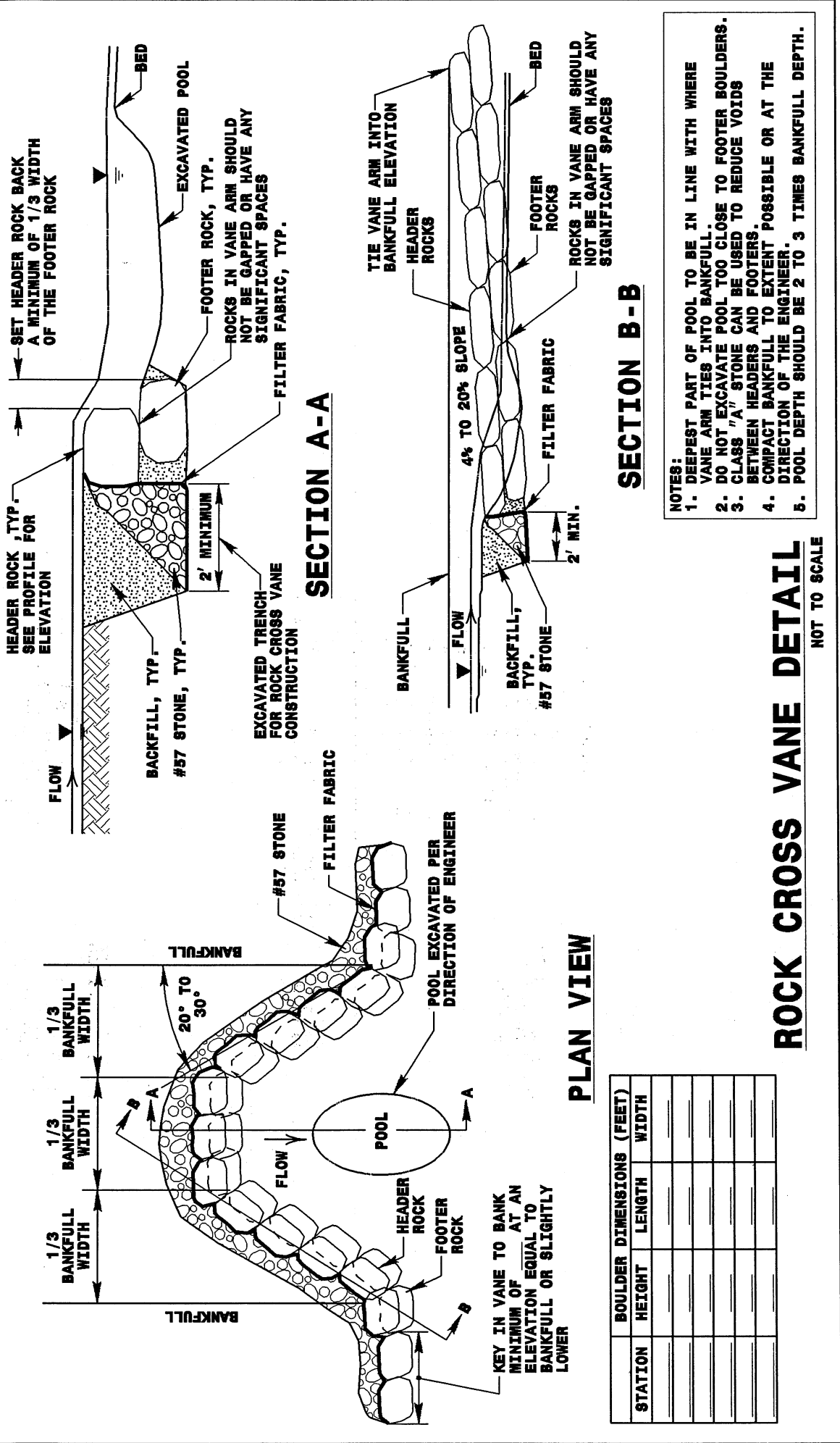
SITE #3



 DENOTES FILL IN SURFACE WATER

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 CATAWBA COUNTY
 8.1792401 TIP U-2404A
 PROPOSED GRADING, STRUCTURE, CULVERTS, PAVING,
 CURB AND GUTTER, DRAINAGE, LONG-LIFE PAVEMENT
 MARKINGS, SNOWPLOWABLE PAVEMENT MAKERS,
 SIGNALS AND TRACKWORK.
 SCALE AS SHOWN
 SHEET 7 OF 18
 August, 2003





HEADER ROCK, TYP.
SEE PROFILE FOR
ELEVATION

SET HEADER ROCK BACK
A MINIMUM OF 1/3 WIDTH
OF THE FOOTER ROCK

BACKFILL, TYP.
#57 STONE, TYP.

2' MINIMUM

EXCAVATED TRENCH
FOR ROCK CROSS VANE
CONSTRUCTION

EXCAVATED POOL
FOOTER ROCK, TYP.
ROCKS IN VANE ARM SHOULD
NOT BE GAPPED OR HAVE ANY
SIGNIFICANT SPACES
FILTER FABRIC, TYP.

SECTION A-A

#57 STONE

FILTER FABRIC

POOL EXCAVATED PER
DIRECTION OF ENGINEER

HEADER ROCK

FOOTER ROCK

KEY IN VANE TO BANK
MINIMUM OF
ELEVATION EQUAL TO
BANKFULL OR SLIGHTLY
LOWER

TIE VANE ARM INTO
BANKFULL ELEVATION

HEADER
ROCKS

BANKFULL

BACKFILL,
TYP.
#57 STONE

2' MIN.

4% TO 20% SLOPE

FILTER FABRIC

FOOTER
ROCKS

BED

PLAN VIEW

STATION	BOULDER DIMENSIONS (FEET)	
	HEIGHT	WIDTH

SECTION B-B

NOTES:
1. DEEPEST PART OF POOL TO BE IN LINE WITH WHERE
VANE ARM TIES INTO BANKFULL.
2. DO NOT EXCAVATE POOL TOO CLOSE TO FOOTER BOULDERS.
3. CLASS "A" STONE CAN BE USED TO REDUCE VOIDS
BETWEEN HEADERS AND FOOTERS.
4. COMPACT BANKFULL TO EXTENT POSSIBLE OR AT THE
DIRECTION OF THE ENGINEER.
5. POOL DEPTH SHOULD BE 2 TO 3 TIMES BANKFULL DEPTH.

ROCK CROSS VANE DETAIL

NOT TO SCALE

WV
 WASHINGTON STATE
 P.O. BOX 3484
 CHARLOTTE, NORTH CAROLINA 28215

METRIC

PROJECT REFERENCE NO. U-2404A SHEET NO. 5
 R/W SHEET NO. 5
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

CONST. REV.
 R/W REV.

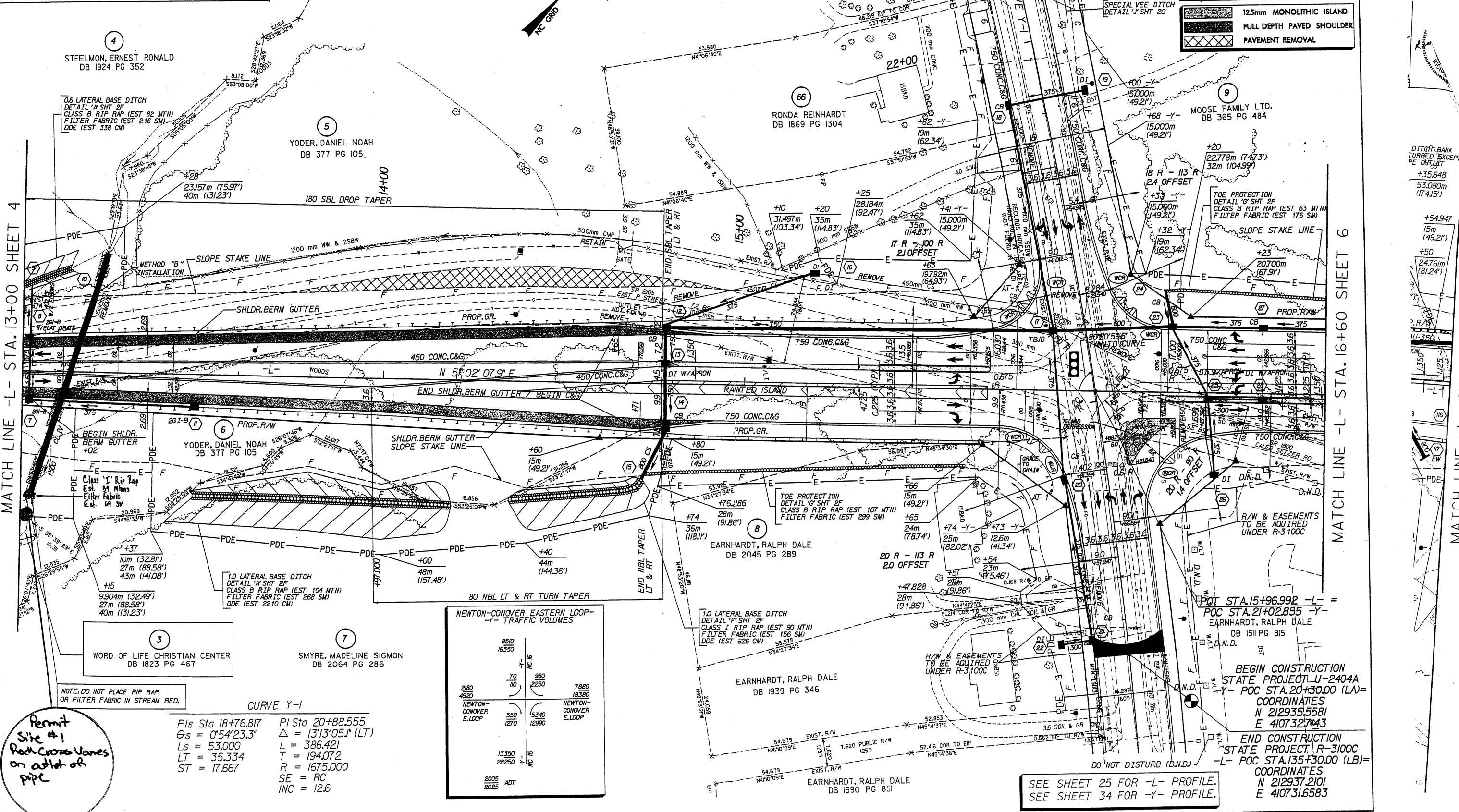
SEAL 22115
 JOHN N. JOHNSON
 10/23/03

SEAL 6982
 RICHARD N. STARKS
 10/28/03

125mm MONOLITHIC ISLAND
 FULL DEPTH PAVED SHOULDER
 PAVEMENT REMOVAL

REVISIONS

1		
2		
3		
4		



MATCH LINE -L- STA. 13+00 SHEET 4

MATCH LINE -L- STA. 16+60 SHEET 6

MATCH LINE -L- STA. 34+60 SHEET 11

Permit
 Site #1
 Rock Cross Vanes
 on outlet of
 pipe

CURVE Y-1

Pis Sta 18+76.817 PI Sta 20+88.555
 Os = 0°54'23.3" Δ = 13°13'05.1" (LT)
 Ls = 53.000 Δ = 386.421
 LT = 35.334 T = 194.072
 R = 1675.000 SE = RC
 ST = 17.667 INC = 12.6

NEWTON-CONOVER EASTERN LOOP -Y- TRAFFIC VOLUMES

8510 16350	70 110	980 2250	7880 18380
2180 4520	550 1270	5340 12990	NEWTON-CONOVER E. LOOP
13350 28250	16 16		

2005 ADT

SEE SHEET 25 FOR -L- PROFILE.
 SEE SHEET 34 FOR -Y- PROFILE.

POT STA. 15+96.992 -L- =
 POC STA. 21+02.855 -Y-
 EARNHARDT, RALPH DALE
 DB 1511 PG 815
 D.N.D.

BEGIN CONSTRUCTION
 STATE PROJECT U-2404A
 -Y- POC STA. 20+30.00 (LA)=
 COORDINATES
 N 212935.5581
 E 410732.7443

END CONSTRUCTION
 STATE PROJECT R-3100C
 -L- POC STA. 135+30.00 (LB)=
 COORDINATES
 N 212937.2101
 E 410731.6583

DITCH BANK
 TURBED EXCEPT
 PE OUTLET

+35.648
 53.080m
 (174.15')

+54.947
 15m
 (49.21')

+50
 24.761m
 (81.24')

CHARLOTTE, NORTH CAROLINA 28203

REVISIONS

METRIC

PROJECT REFERENCE NO. U-2404A SHEET NO. 9
 R/W SHEET NO. 9

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

SEAL 22115
 JOHN N. JOHNSON

SEAL 6982
 RICHARD N. SCARY

CONST. REV.
 R/W REV.

SCALE: 1" = 10'

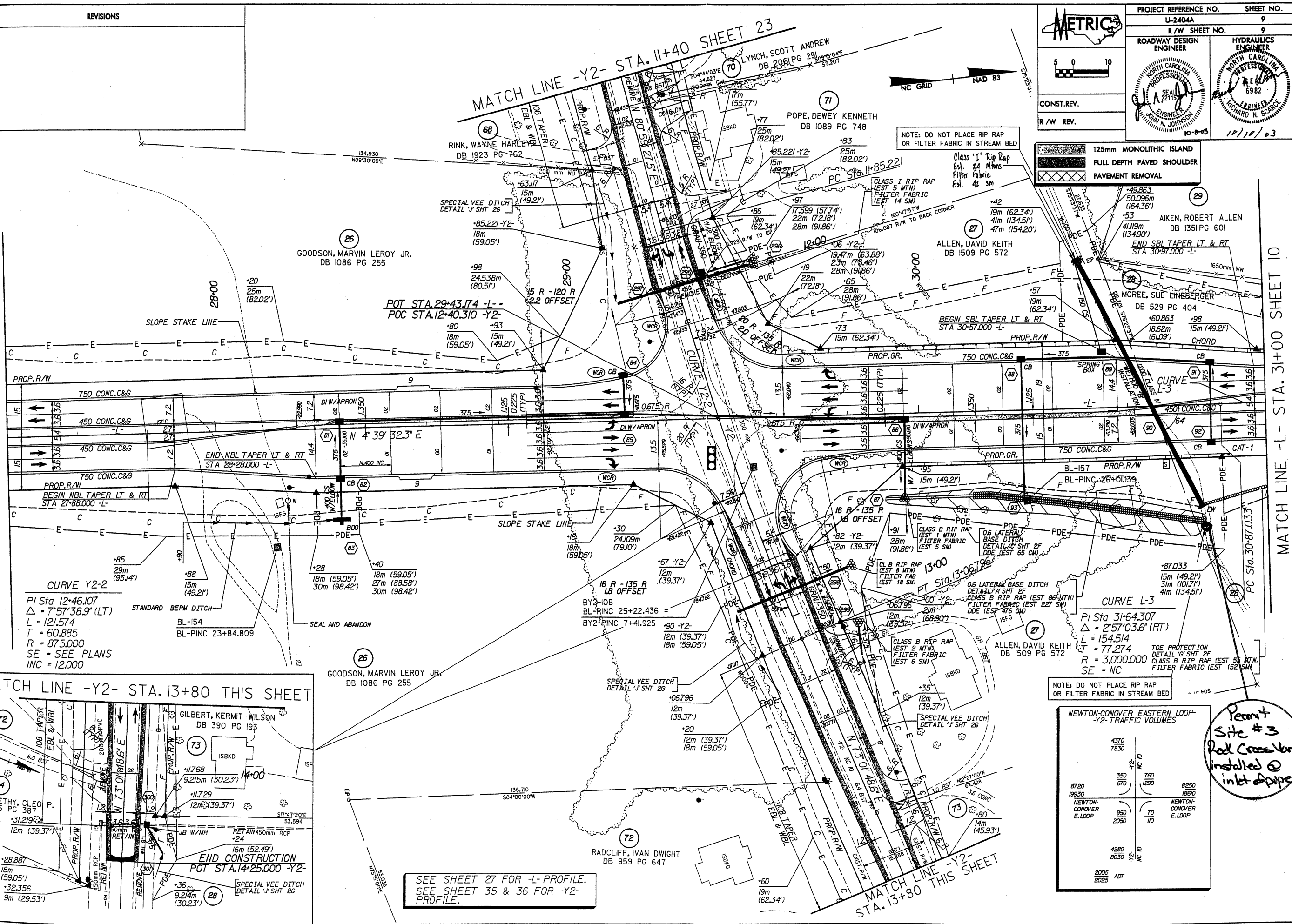
NC GRID NAD 83

MATCH LINE -Y2- STA. 11+40 SHEET 23

MATCH LINE -L- STA. 27+40 SHEET 8

MATCH LINE -L- STA. 31+00 SHEET 10

MATCH LINE -L- STA. 34+60 SHEET 11

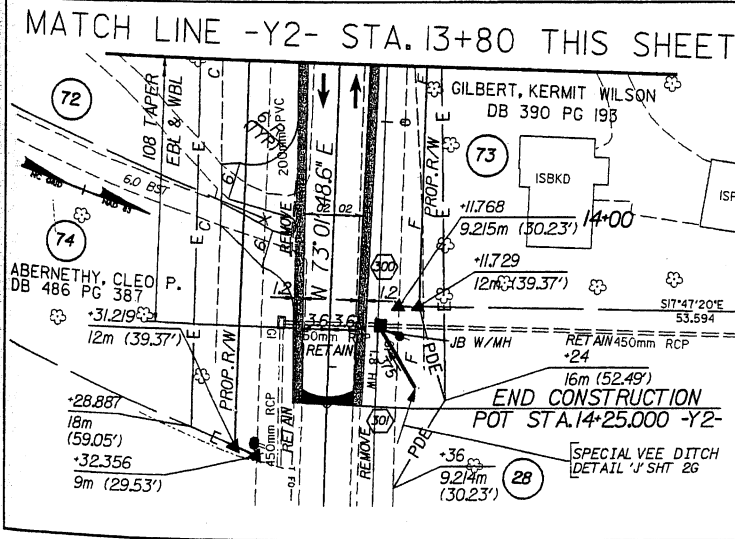


CURVE Y2-2
 PI Sta 12+46.107
 $\Delta = 7^{\circ}57'38.9"$ (LT)
 L = 121.574
 T = 60.885
 R = 875.000
 SE = SEE PLANS
 INC = 12.000

CURVE L-3
 PI Sta 31+64.307
 $\Delta = 2^{\circ}57'03.6"$ (RT)
 L = 154.514
 T = 77.274
 R = 3,000.000
 SE = NC

Permit Site #3
 Red Cross Lane installed @ inlet pipe

SEE SHEET 27 FOR -L- PROFILE.
 SEE SHEET 35 & 36 FOR -Y2- PROFILE.



DITCH BANK TURBED EXCEPT PE OUTLET

+35.648
 53.080m (174.15')

+54.947
 15m (49.21')

+50
 24.761m (81.24')

AL-350

P.R.W.

AL-350

PDE

PDE

PDE

PDE

PDE

PDE

PDE

PDE

PDE

PDE