STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

September 11, 2007

Stormwater Section
N.C. Division of Water Quality
943 Washington Square Mall
Washington, NC 27889

Attention: Mr. Scott Vinson

Subject: **Stormwater Permit Request for the Widening of US 17 in Bridgeton.** US 17 Widening in Bridgeton. Craven County. State Project No. 8.1171601. Federal Aid Project STPNHF 17(24). TIP No. R-3403A. $420.00 Debit WBS 34538.1.1.

The North Carolina Department of Transportation (NCDOT) proposes to widen US 17 in Craven County, North Carolina. Craven County falls under the jurisdiction of the Coastal Area Management Act (CAMA). The NCDOT is applying for a CAMA Major Development Permit, a Clean Water Act (CWA) §404 Department of the Army Permit, and a North Carolina CWA §401 Water Quality Certification.

A Stormwater Application Form, the Project Scope Narrative, the project plans, Culvert Survey Reports, and the authority to debit $505.00 for the permit application fee are included with this request. Please review this project for authorization by your division.

Thank you for your time and consideration. Please contact Mr. Galen Cail, P.E. at (919) 250-4100 if you have any questions or concerns with the stormwater design. If you have any questions concerning this project, please feel free to contact Mr. Chris Underwood at (919) 715-1451.

Sincerely,

E. R. Lupk

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

CC:

Dr. David Chang, P.E., Hydraulics
Mr. William Wescott, USACE, Washington
Mr. David Wainwright, NCDWQ
Mr. Steve Sollod, NCDCM
Mr. Wade Kirby, Planning Engineer
R-3403A

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794
WEBSITE: WWW.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

OFFICE USE ONLY		
Date Received	Fee Paid	Permit Number

State of North Carolina
Department of Environment and Natural Resources
Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
LINEAR ROADWAY PROJECT

This form may be photocopied for use as an original.

DWQ Stormwater Management Plan Review:
A complete stormwater management plan submittal includes this application form, a supplement form for each BMP proposed (see Section V), design calculations, and plans and specifications showing all road and BMP details.

I. PROJECT INFORMATION

NCDOT Project Number: 34538.1.1 R-3403A County: Craven

Project Name: US 17

Project Location: US 17 from Mills Street to North of SR 1433 (Antioch Road)

Contact Person:_____ Phone:_____ Fax:_____

Receiving Stream Name: Trib. to Neuse River River Basin: Neuse River Class: _____

Proposed linear feet of project: 15200 feet

Proposed Structural BMP and Road Station *(attach a list of station and BMP type if more room is needed)*:

_____

Type of proposed project: *(check all that apply)*:

☐ New ☒Widening ☐2 lane* ☒4 lane* ☐Curb and Gutter ☐Bridge Replacement

☐Other *(Describe)*_____

**2 lane and 4 lane imply that roadside ditches are used unless Curb and Gutter is also checked.*

II. REQUIRED ITEMS CHECKLIST

Initial in the space provided below to indicate the following design requirements have been met and supporting documentation is attached. Supporting documentation shall, at a minimum, consist of a brief narrative description including (1) the scope of the project, (2) how the items below are met, (3) how the proposed best management practices minimize water quality impacts, and (4) any significant constraints and/or justification for not meeting a, b, c and d to the maximum extent practicable.

Designer's Initials

2 MM a. The amount of impervious surface has been minimized as much as possible.

2 MM b. The runoff from the impervious areas has been diverted away from surface waters as much as possible.

2 MM c. Best Management Practices are employed which minimize water quality impacts.

2 MM d. Vegetated roadside ditches are 3:1 slope or flatter.

III. OPERATION AND MAINTENANCE AGREEMENT

I acknowledge and agree by my initials below that the North Carolina Department of Transportation is responsible for the implementation of the four maintenance items listed. I agree to notify DWQ of any operational problems with the BMP's that would impact water quality or prior to making any changes to the system or responsible party.

Maintenance Engineer's Initials

JWR a. BMP's shall be inspected and maintained in good working order.

JWR b. Eroded areas shall be repaired and reseeded as needed.

JWR c. Stormwater collection systems, including piping, inlets, and outlets, shall be maintained to insure proper functioning.

Maintenance Engineer's Name: John Rouse, PE

Title: Division Maintenance Engineer

IV. APPLICATION CERTIFICATION

I, *(print or type name)* _____ of _____ Branch, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans and that the proposed project complies with the requirements of 15A NCAC 2H .1000.

Title: PDEA - NEU Environmental Supervisor

Address: _____

Signature: E. L. Lusk Date: 9.11.07

V. SUPPLEMENT FORMS

The applicable state stormwater management permit supplement form(s) listed below must be submitted for each BMP specified for this project. Contact the Stormwater and General Permits Unit at (919) 733-5083 for the status and availability of these forms.

Form SWU-102	Wet Detention Basin Supplement
Form SWU-103	Infiltration Basin Supplement
Form SWU-104	Low Density Supplement
Form SWU-105	Curb Outlet System Supplement
Form SWU-106	Off-Site System Supplement
Form SWU-107	Underground Infiltration Trench Supplement
Form SWU-108	Neuse River Basin Supplement
Form SWU-109	Innovative Best Management Practice Supplement
Form SWU-110	Extended Dry Detention Basin Supplement

STORMWATER MANAGEMENT PLAN

Project: 34538.1.1 5/29/07
TIP: R-3403A
County: Craven

Hydraulics Project Engineers: W. Henry Wells, Jr., PE and William M. Hines, Jr., P.E. (Sungate Design Group); W. Galen Cail, P.E. (NCDOT Hydraulics Unit)

ROADWAY DESCRIPTION

The project involves the widening of US 17, located in Bridgeton, Craven County, from Mills Street to north of SR 1433 (Antioch Road). The overall length of the project is approximately 2.88 miles. The existing roadway is a predominately 28-foot wide roadway with two 12-foot wide lanes and 2-foot paved shoulders. With Project R-3403A, it is proposed to widen US 17 to a four-lane, shoulder section roadway with a narrow grass median. Concrete curbing is proposed along both sides of the roadway between -L- Station 18+50 and 63+50 (0.85 miles). Curb cuts along the concrete curbing will allow the stormwater to flow into the roadside ditches. The project crosses three streams, one Tributary to the Neuse River and two Tributaries to Mills Branch. The project drainage system consists of cross pipes, grated inlets and associated pipe systems, and side and lateral ditches and swales.

ENVIRONMENTAL DESCRIPTION

The project is located in the Neuse River Basin. The project crosses three streams, one Tributary to the Neuse River and two Tributaries to Mill Creek, one of which is crossed twice. There are six wetland sites that will be impacted by the proposed project. Wetland impacts have been kept to a minimum as much as practicable.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMPs) is to prevent degradation of the states surface waters as a result of the location, construction and operation of the highway system. BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMPs and measures that will be used on this project to reduce stormwater impacts are grassed swales, raised drive-pipes in ditch lines, and a preformed scour hole. On the four stream crossings, there are two box culverts and two large pipes. The two large pipes will be buried 1-foot; however, the box culverts, currently in a perched condition, cannot be buried.

GRASSED SWALES AND RAISED DRIVE-PIPES

Grassed swales are proposed along the majority of the project. These ditches will have a maximum 3:1 side slope and a 0.0 to 0.3 % grade. In addition, the grassed swales along the side of the roadway will be used for stormwater storage and encourage infiltration by raising the drive-pipes 3-inches above the ditch line.

PREFORMED SCOUR HOLE (SITE 1)

A preformed scour hole has been located left of Station 67+10 -L- Left. Unable to use preformed scour holes in other locations due to topography.

BOX CULVERT – STA 66+11 -L- (SITE 1)

The existing 6'x 6' RCBC will be retained and extended. The outlet extension will be buried about 1-foot; however, the inlet extension will not, due to the existing inlet being perched. The stream is a tributary to the Neuse River.

BOX CULVERT – STA 109+36 -L- (SITE 3)

The existing 2 @ 6' x 5' RCBC will be retained and extended. The extensions will not be buried due to the existing inlet and outlet being perched. The stream is a tributary to Mills Branch.

72-INCH PIPE – STA 155+47 -L- (SITE 7)

The existing 4'x 5' RCBC will be extended with a 72-inch RCP that will be buried 1-foot. The stream is a tributary to Mills Branch.

72-INCH PIPE – STA 13+46 -L- (SITE 8)

The existing 42-inch CMP will be replaced with a 72-inch RCP that will be buried 1-foot. The stream is a tributary to Mills Branch.

DITCHING IN BUFFER ZONES AND WETLANDS

BUFFERS

Ditching through all of the Sites with Buffer Zones is required due to topography and the inability to daylight the roadway ditches prior to the Buffer. The median storm system is piped directly to the stream at Sites 1, 3, and 7. All median inlets and roadway ditches that drain directly to the streams meet both of the following requirements: 100 feet of grassed swale per 1.0 acres of drainage and the 2-Year velocity is less than 2 feet per second.

WETLANDS

Ditching through Site 4 and 5 is required due to topography. The 2-Year velocity is less than 2 feet per second in each grassed swale.

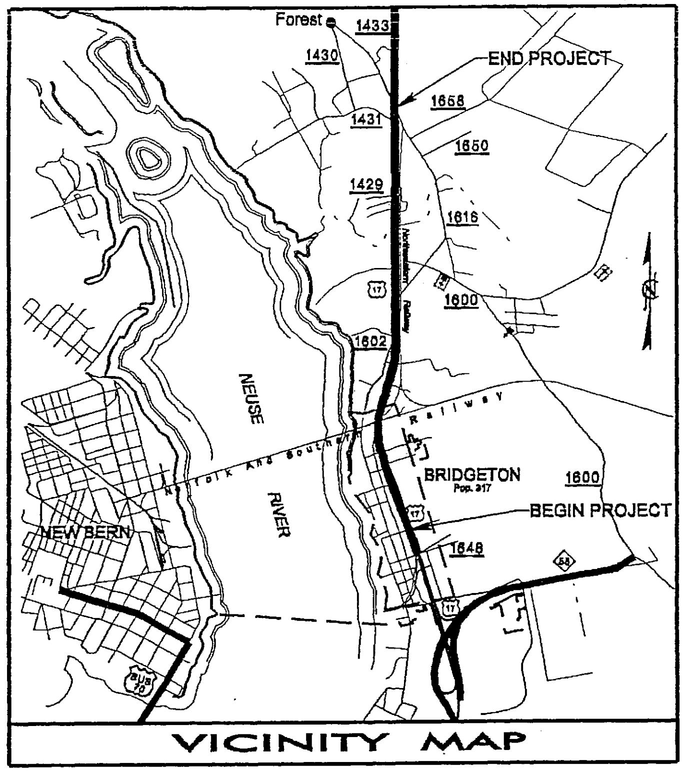
R-3403A

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3403A	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34538.1.1	STPNHF-17(24)	PE
34538.2.2	STPNHF-17(47)	R/W, UTIL

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



This Project is partially within the Municipal Boundaries of Bridgeton

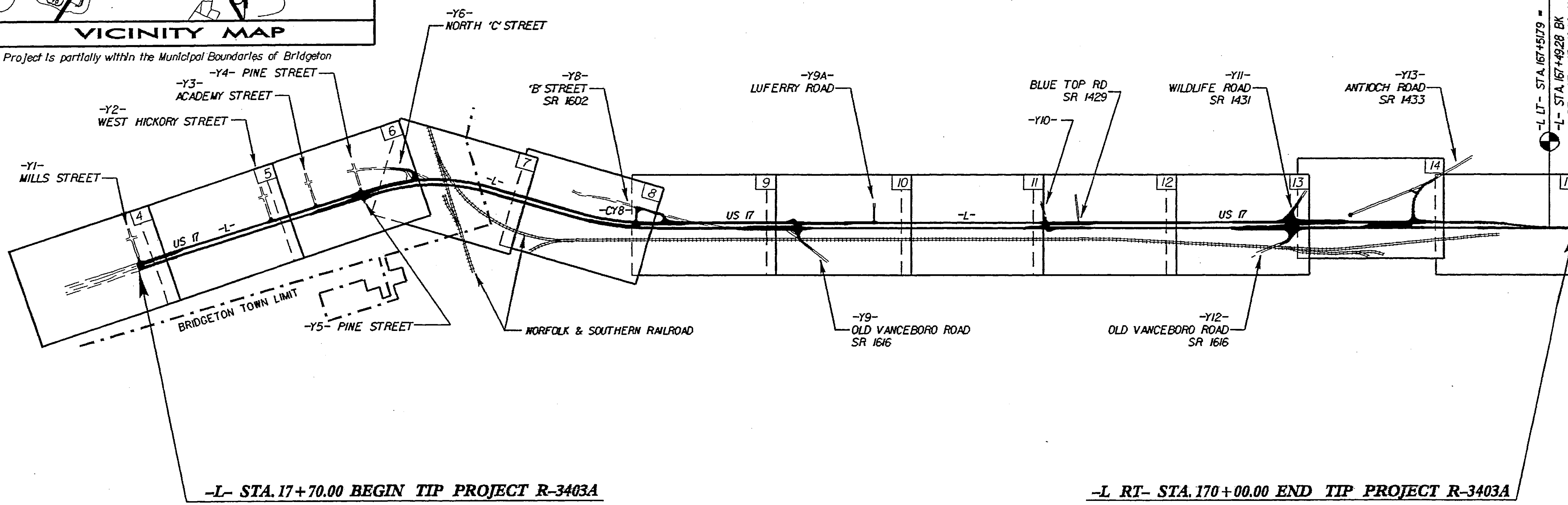
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CRAVEN COUNTY

LOCATION: US 17 FROM MILLS STREET TO NORTH OF SR 1433 (ANTIOCH ROAD)

TYPE OF WORK: GRADING, PAVING, CULVERT EXTENSION, SIGNALS AND DRAINAGE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

GRAPHIC SCALES

50 25 0 50 100 — PLANS

50 25 0 50 100 — PROFILE (HORIZONTAL)

10 5 0 10 20

DESIGN DATA

ADT 2007 = 15,755
ADT 2027 = 25,055
DHV = 10 %
D = 60 %
T = 10 % *
V = 60 MPH
* TTST 5% DUAL 5%
FUNC CLASS = ARTERIAL

PROJECT LENGTH

TOTAL LENGTH OF TIP PROJECT R-3403A = 2.884 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., NC, 27610

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: March 22, 2005

LETTING DATE: July 15, 2008

G. E. BREW, PE
PROJECT ENGINEER

D. WILLIAMS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

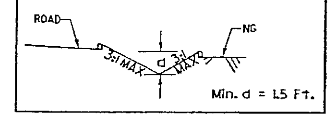
FOR -L- PROFILE SEE SHEET 16

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R3403-4" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 532123.2763(ft) EASTING: 2581086.8260(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987844
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R3403-4" TO -L- STATION IS 17+70.00 S 22° 28' 24.93" E 28997.09 FEET
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

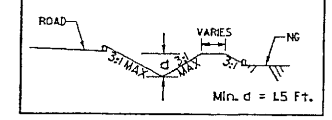
NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT

DETAIL 1
SPECIAL DITCH
(Not to Scale)



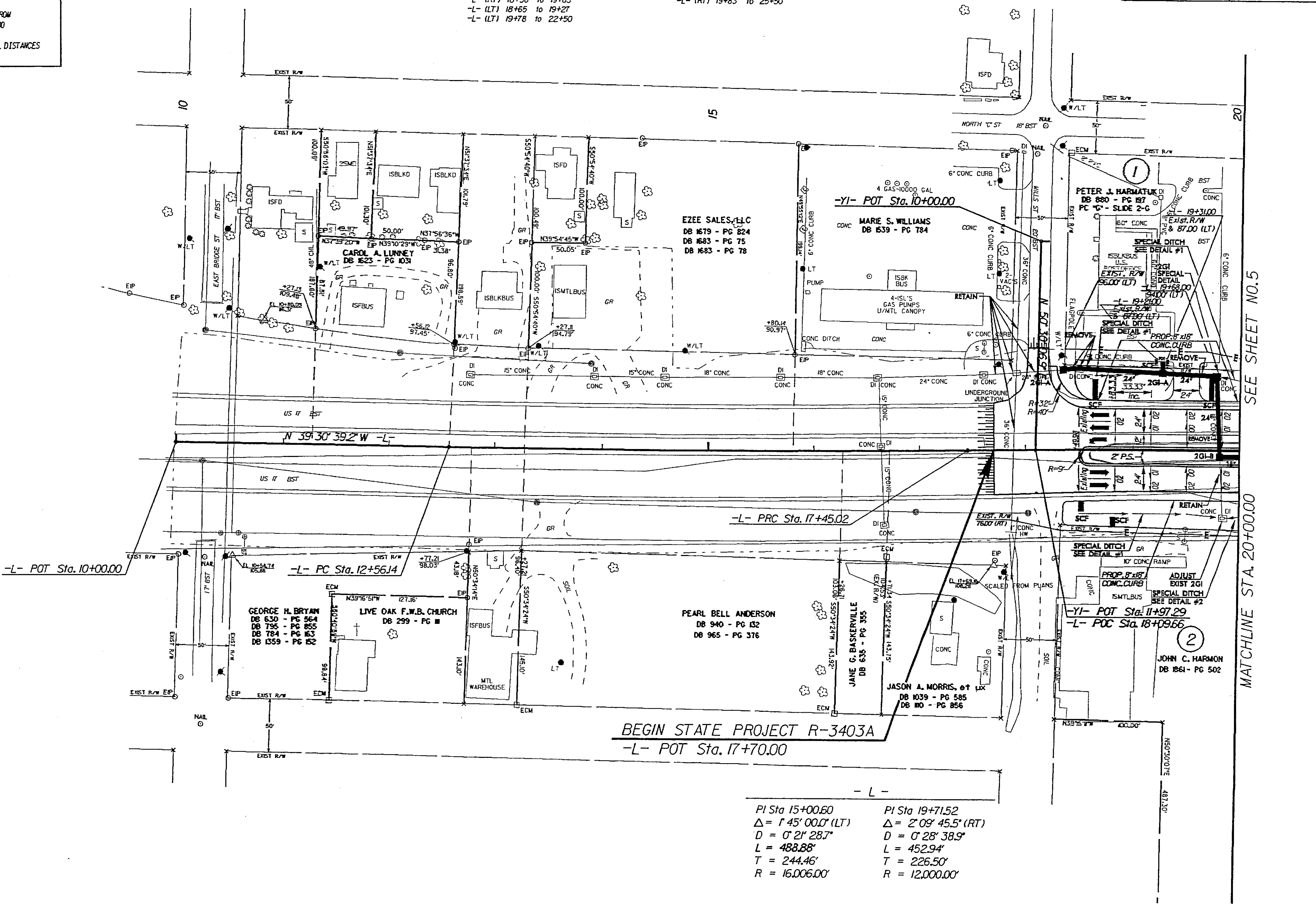
-L- (RT) 18+50 to 19+83
-L- (LT) 18+65 to 19+27
-L- (LT) 19+78 to 22+50

DETAIL 2
SPECIAL DITCH
(Not to Scale)



-L- (RT) 19+83 to 25+50

SCF = SPECIAL CONCRETE FLUME



REVISIONS

8/17/99

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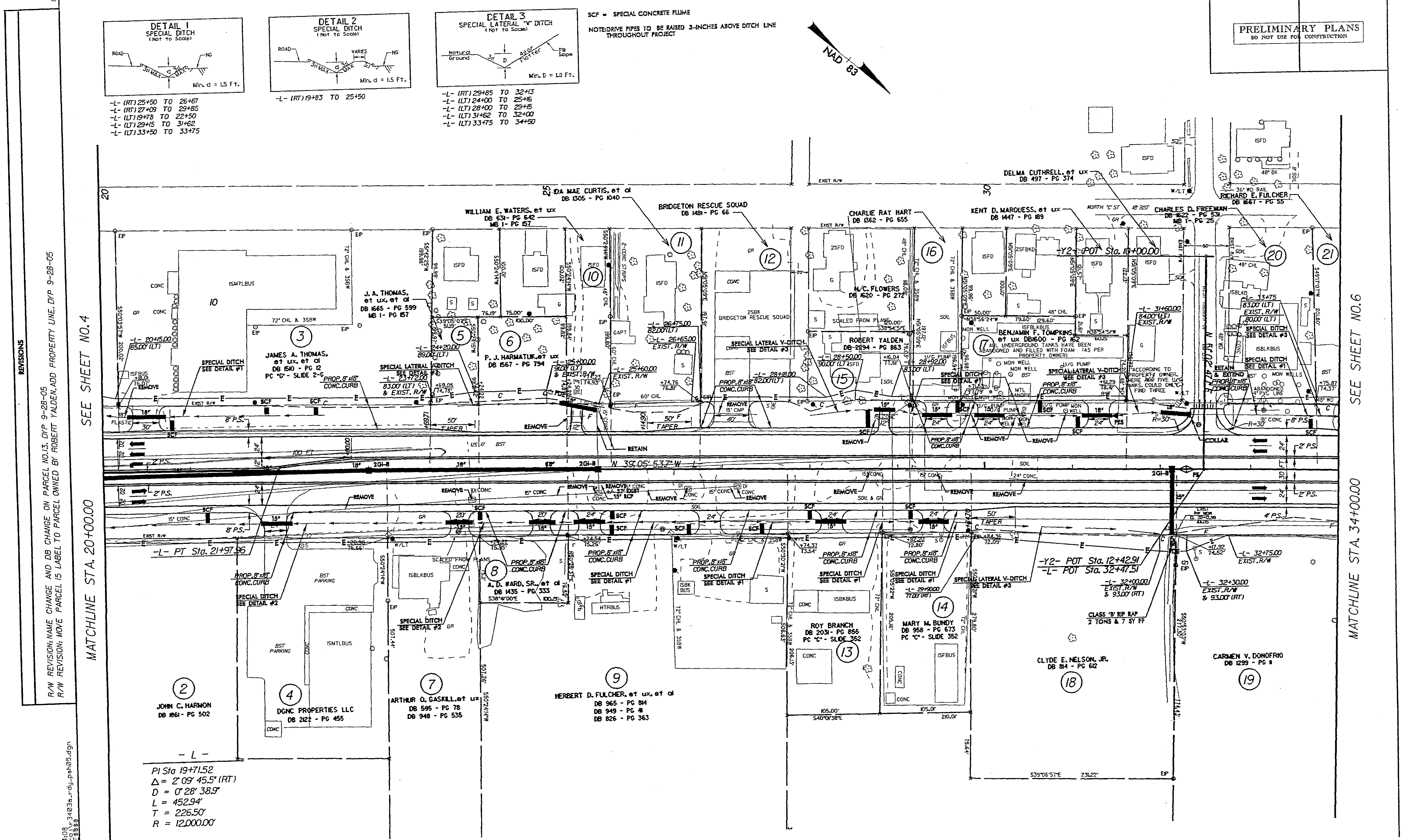
PROJECT REFERENCE NO.	SHEET NO.
R-3403A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 16



8/17/99

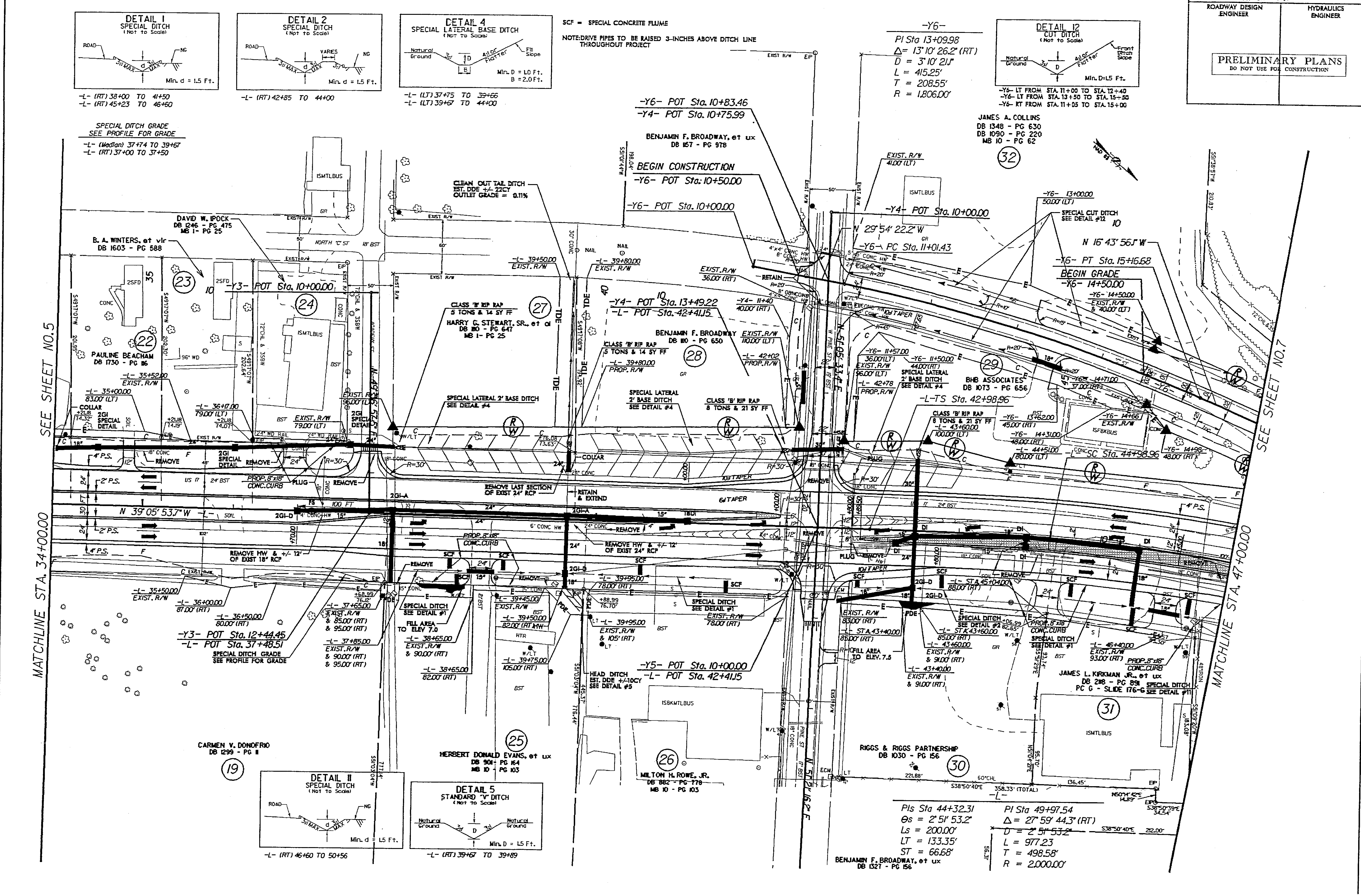
REVISIONS

R/W REVISION: NAME CHANGE ON PARCEL NO.30, DYP 9-28-05

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 17



DETAIL 1
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (RT) 38+00 TO 41+50
-L- (RT) 45+23 TO 46+60
DETAIL 2
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (RT) 42+85 TO 44+00
DETAIL 4
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.0 Ft.
B = 2.0 Ft.
-L- (LT) 37+75 TO 39+66
-L- (LT) 39+67 TO 44+00
SCF = SPECIAL CONCRETE FLUME
NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT
-Y6-
PI Sta 13+09.98
Δ = 13° 10' 26.2" (RT)
D = 3° 10' 21.1"
L = 415.25'
T = 208.55'
R = 1,806.00'
DETAIL 12
CUT DITCH
(Not to Scale)
Min. D=1.5 Ft.
-Y6- LT FROM STA. 11+00 TO STA. 12+40
-Y6- LT FROM STA. 13+50 TO STA. 15+50
-Y6- RT FROM STA. 11+05 TO STA. 15+00
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (Median) 37+74 TO 39+67
-L- (RT) 37+00 TO 37+50
-Y6- POT Sta. 10+83.46
-Y4- POT Sta. 10+75.99
BENJAMIN F. BROADWAY, et ux
DB 1157 - PG 978
BEGIN CONSTRUCTION
-Y6- POT Sta. 10+50.00
-Y6- POT Sta. 10+00.00
JAMES A. COLLINS
DB 1348 - PG 630
DB 1090 - PG 220
MB 10 - PG 62
32
-Y4- POT Sta. 10+00.00
N 29° 54' 22.2" W
-Y6- PC Sta. 11+01.43
N 16° 43' 56.1" W
-Y6- PT Sta. 15+16.68
BEGIN GRADE
-Y6- 14+50.00
DAVID W. IPOCK
DB 1246 - PG 475
MB 1 - PG 25
B. A. WINTERS, et vir
DB 1603 - PG 588
23
24
-Y3- POT Sta. 10+00.00
27
HARRY G. STEWART, SR., et al
DB 1110 - PG 647
MB 1 - PG 25
-Y4- POT Sta. 13+49.22
-L- POT Sta. 42+41.15
BENJAMIN F. BROADWAY
DB 1110 - PG 650
28
22
PAULINE BEACHAM
DB 1730 - PG 116
29
BHB ASSOCIATES
DB 1073 - PG 656
-L-TS Sta. 42+98.96
-L-SC Sta. 44+98.96
SEE SHEET NO. 5
SEE SHEET NO. 7
N 39° 05' 53.7" W
US 17
MATCHLINE STA. 34+00.00
MATCHLINE STA. 47+00.00
-Y3- POT Sta. 12+44.45
-L- POT Sta. 37+48.51
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-Y5- POT Sta. 10+00.00
-L- POT Sta. 42+41.15
JAMES L. KIRKMAN JR., et ux
DB 2118 - PG 891
PC G - SLIDE 176-6
31
CARMEN V. DONOFRIO
DB 1299 - PG 11
19
25
HERBERT DONALD EVANS, et ux
DB 901 - PG 164
MB 10 - PG 103
26
MILTON H. ROWE, JR.
DB 882 - PG 778
MB 10 - PG 103
RIGGS & RIGGS PARTNERSHIP
DB 1030 - PG 156
30
DETAIL 11
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (RT) 46+60 TO 50+56
DETAIL 5
STANDARD 'V' DITCH
(Not to Scale)
Min. D = 1.5 Ft.
-L- (RT) 39+67 TO 39+89
PIs Sta 44+32.31
θs = 2° 51' 53.2"
Ls = 200.00'
LT = 133.35'
ST = 66.68'
PI Sta 49+97.54
Δ = 27° 59' 44.3" (RT)
D = 2° 51' 53.2"
L = 977.23
T = 498.58'
R = 2,000.00'
BENJAMIN F. BROADWAY, et ux
DB 1327 - PG 156

AUG-2007 14:09
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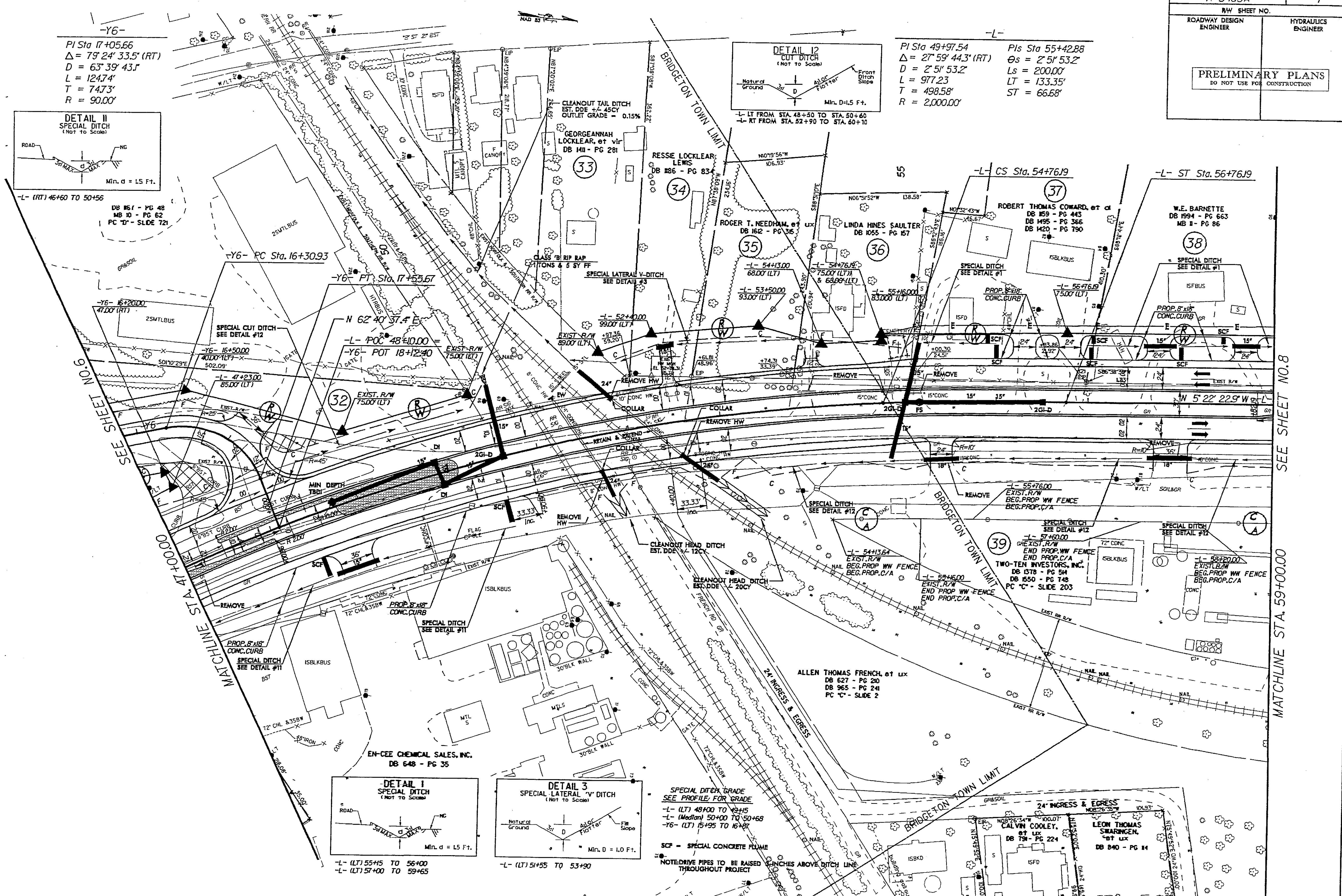
FOR -L- PROFILE SEE SHEET 17

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



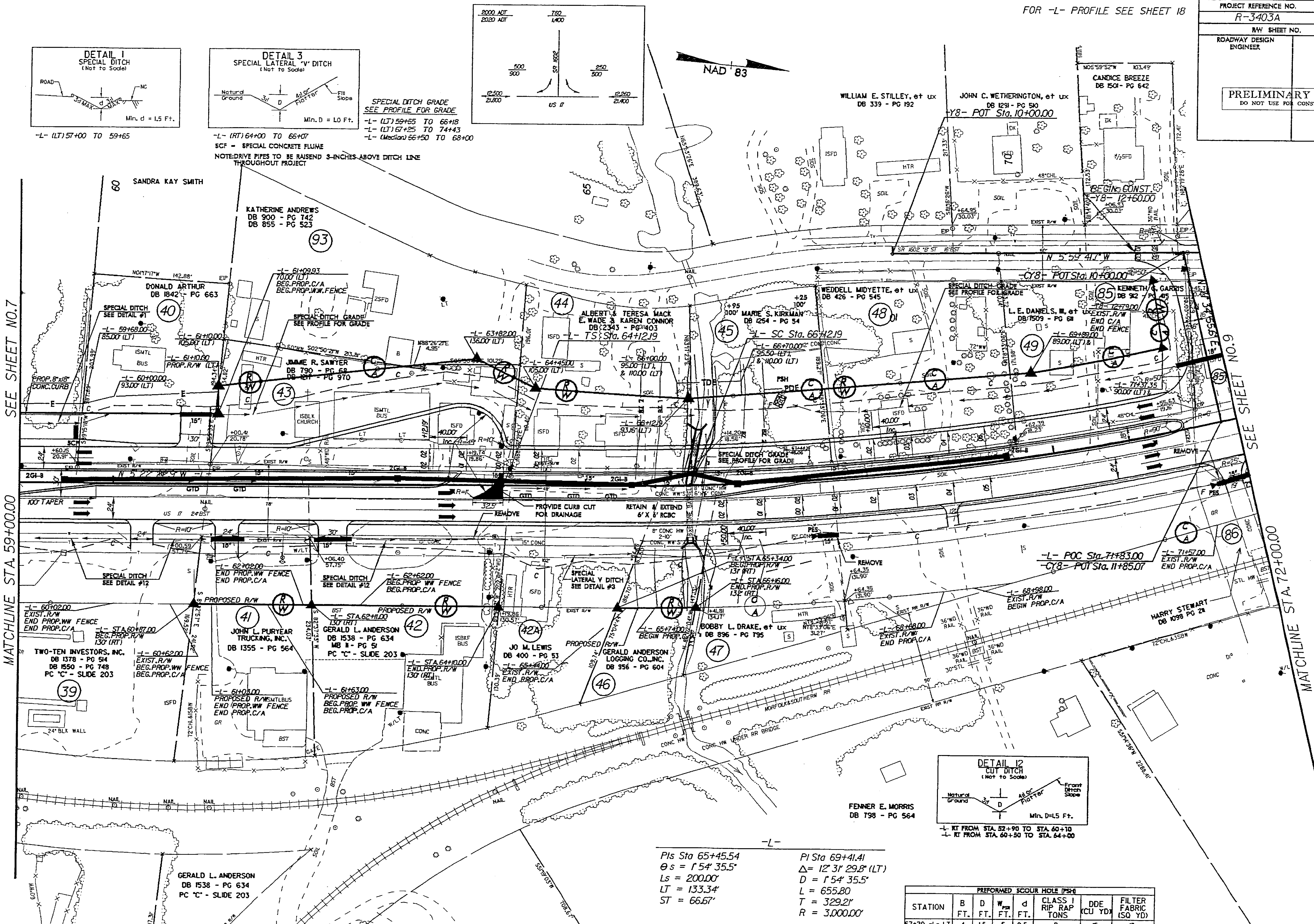
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 18



DETAIL 1
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (LT) 57+00 TO 59+65
DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-L- (RT) 64+00 TO 66+07
SCF = SPECIAL CONCRETE FLUME
NOTE: DRIVE PIPES TO BE RAISEND 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (LT) 59+55 TO 66+18
-L- (LT) 67+25 TO 74+43
-L- (Median) 56+50 TO 68+00
NAD 83
SEE SHEET NO. 7
SEE SHEET NO. 9
MATCHLINE STA. 59+00.00
MATCHLINE STA. 72+00.00
SANDRA KAY SMITH
KATHERINE ANDREWS
DB 900 - PG 742
DB 855 - PG 523
DONALD ARTHUR
DB 1842 - PG 663
JIMMIE R. SAWYER
DB 790 - PG 68
ALBERT & TERESA MACK
E. WADE & KAREN CONNOR
DB 2343 - PG 403
MARIE S. KIRKMAN
DB 1254 - PG 54
WEDDELL MIDYETTE, et ux
DB 426 - PG 545
L. E. DANIELS, III, et ux
DB 1509 - PG 611
KENNETH C. GARRIS
WILLIAM E. STILLEY, et ux
DB 339 - PG 192
JOHN C. WETHERINGTON, et ux
DB 1291 - PG 510
CANDICE BREEZE
DB 1501 - PG 642
-Y8- POT Sta. 10+00.00
BEGIN CONST. -Y8- 12+60.00
-CY8- POT Sta. 10+00.00
-L- TS Sta. 64+12.19
-L- SC Sta. 66+12.19
-L- POC Sta. 71+83.00
-CY8- POT Sta. 11+85.07
TWO-TEN INVESTORS, INC.
DB 1378 - PG 514
DB 1550 - PG 748
PC "C" - SLIDE 203
JOHN L. PURYEAR TRUCKING, INC.
DB 1355 - PG 564
GERALD L. ANDERSON
DB 1538 - PG 634
MB 11 - PG 51
PC "C" - SLIDE 203
JO M. LEWIS
DB 400 - PG 53
GERALD ANDERSON LOGGING CO., INC.
DB 956 - PG 604
BOBBY L. DRAKE, et ux
DB 896 - PG 795
HARRY STEWART
DB 1098 PG 21
FENNER E. MORRIS
DB 798 - PG 564
GERALD L. ANDERSON
DB 1538 - PG 634
PC "C" - SLIDE 203
NORFOLK & SOUTHERN RR
PROVIDE CURB CUT FOR DRAINAGE
RETAIN & EXTEND 6' X 6' RCBC
DETAIL 12
CUT DITCH
(Not to Scale)
Min. D=1.5 Ft.
-L- RT FROM STA. 52+90 TO STA. 60+10
-L- RT FROM STA. 60+50 TO STA. 64+00

-L-

PIs Sta 65+45.54	PI Sta 69+41.41
Θs = 1° 54' 35.5"	Δ = 12° 31' 29.8" (LT)
Ls = 200.00'	D = 1° 54' 35.5"
LT = 133.34'	L = 655.80
ST = 66.67'	T = 329.21'
	R = 3,000.00'

PREFORMED SCOUR HOLE (PSH)							
STATION	B FT.	D FT.	W_{PSH} FT.	d FT.	CLASS I RIP RAP TONS	DDE (CU YD)	FILTER FABRIC (SQ YD)
67+20 -L- LT	4	1.5	5	0.5	9	15	13

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 18

REVISIONS

RW REVISON: REVISED THE ACCESS FOR PARCEL 52, THE TURN LANE, RIGHT OF WAY, AND EASEMENTS WERE ADJUSTED ACCORDINGLY. DYP 12-21-06

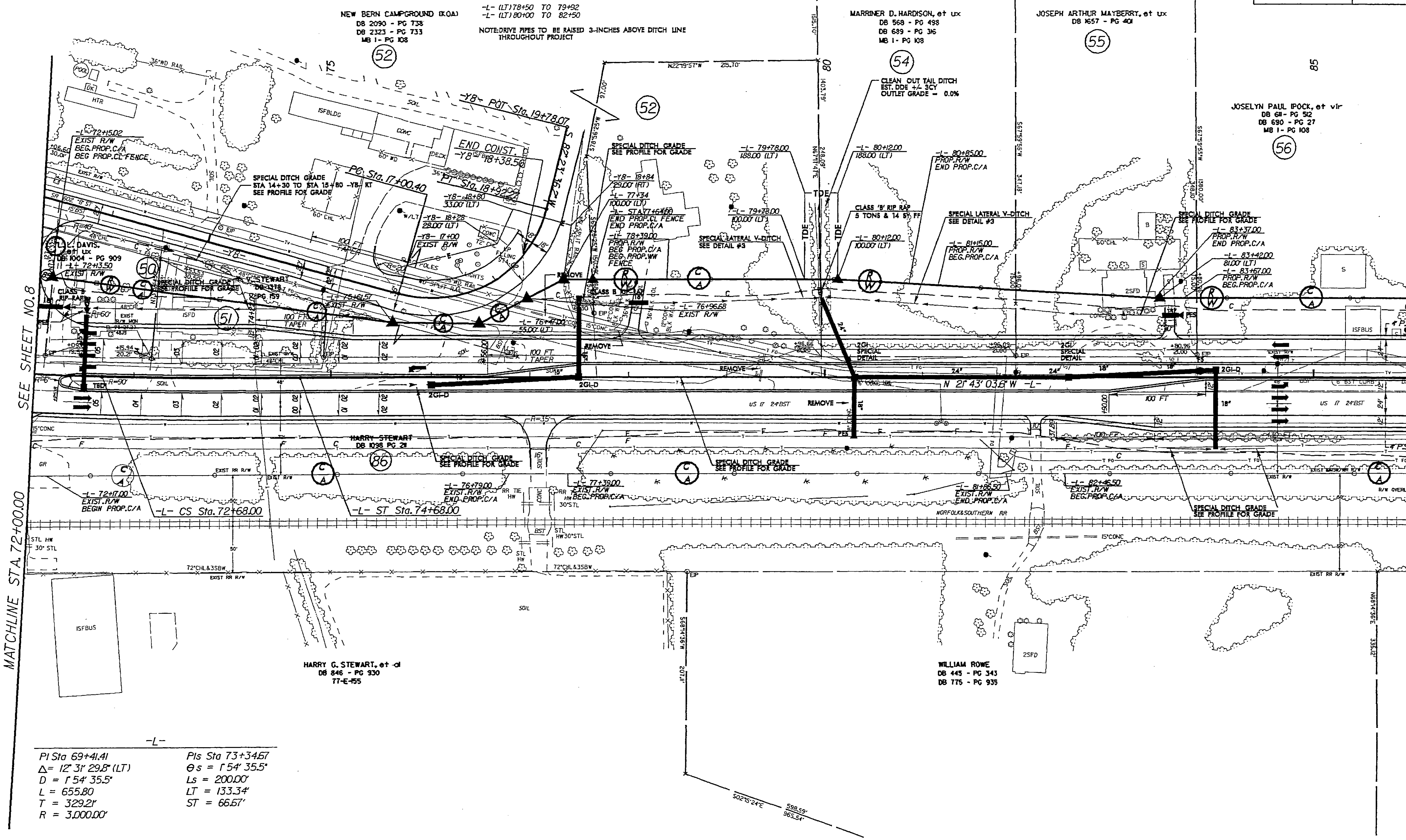
8/17/99

-Y8-
PI Sta 18+23.82
Δ = 91° 36' 42.5" (LT)
D = 47° 44' 47.3"
L = 191.87'
T = 123.42'
R = 120.00'

DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 3:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 1.0 Ft.

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (RT) 83+50 TO 84+50
-L- (LT) 67+25 TO 74+43
-L- (LT) 75+50 TO 78+50
-L- (LT) 82+50 TO 83+50
-L- (MED) 74+50 TO 78+00
-L- (MED) 78+50 TO 80+30
-Y8- (RT) 15+00 TO 16+20
-Y8- (LT) 14+50 TO 16+40
-L- (LT) 78+50 TO 79+92
-L- (LT) 80+00 TO 82+50

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT



-L-

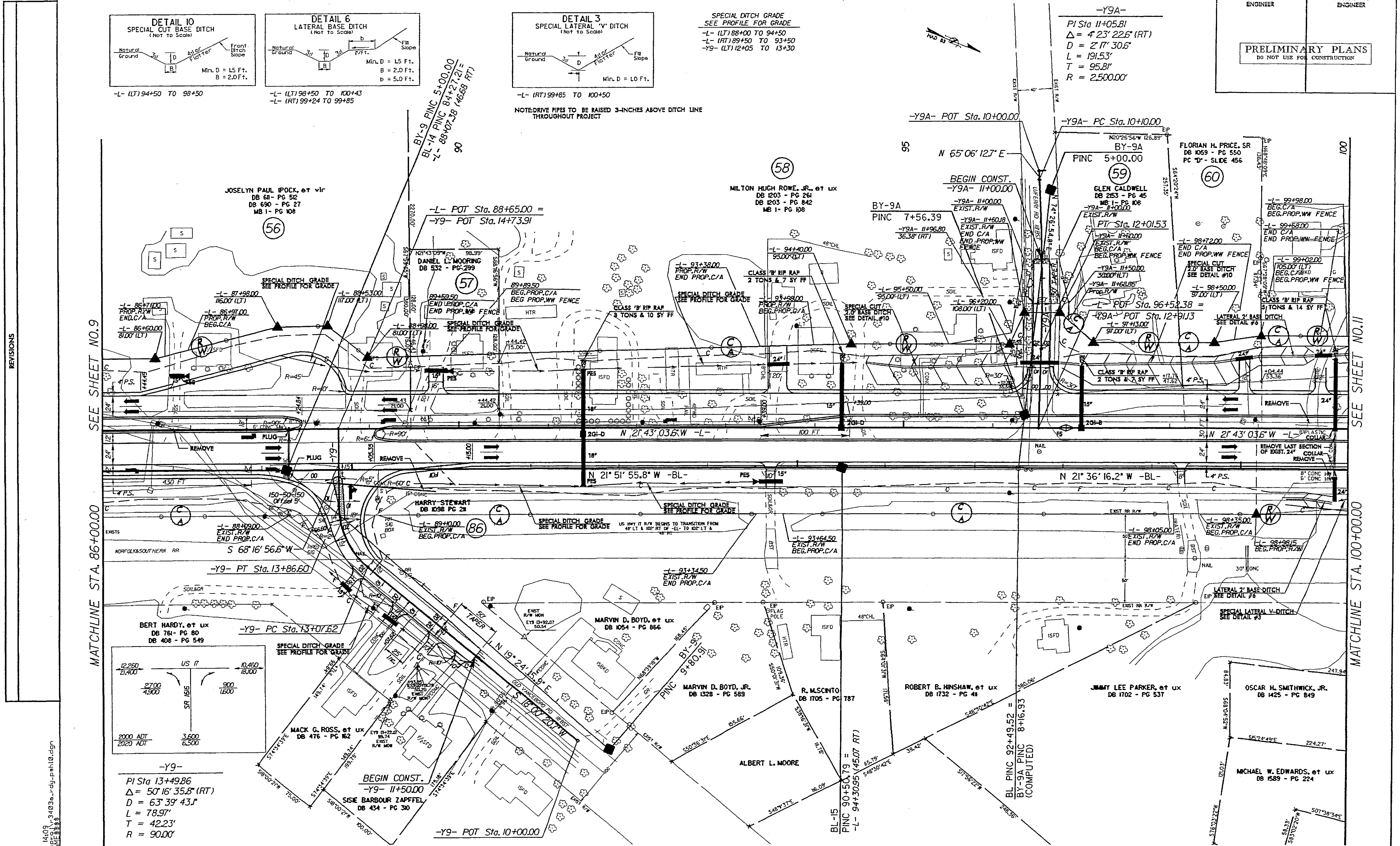
PI Sta 69+41.41	PIs Sta 73+34.67
Δ = 12° 31' 29.8" (LT)	θs = 1° 54' 35.5"
D = 1° 54' 35.5"	Ls = 200.00'
L = 655.80	LT = 133.34'
T = 329.21'	ST = 66.67'
R = 3,000.00'	

30-AUG-2007 16:15

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 19



PROJECT REFERENCE NO.	SHEET NO.
R-3403A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 19

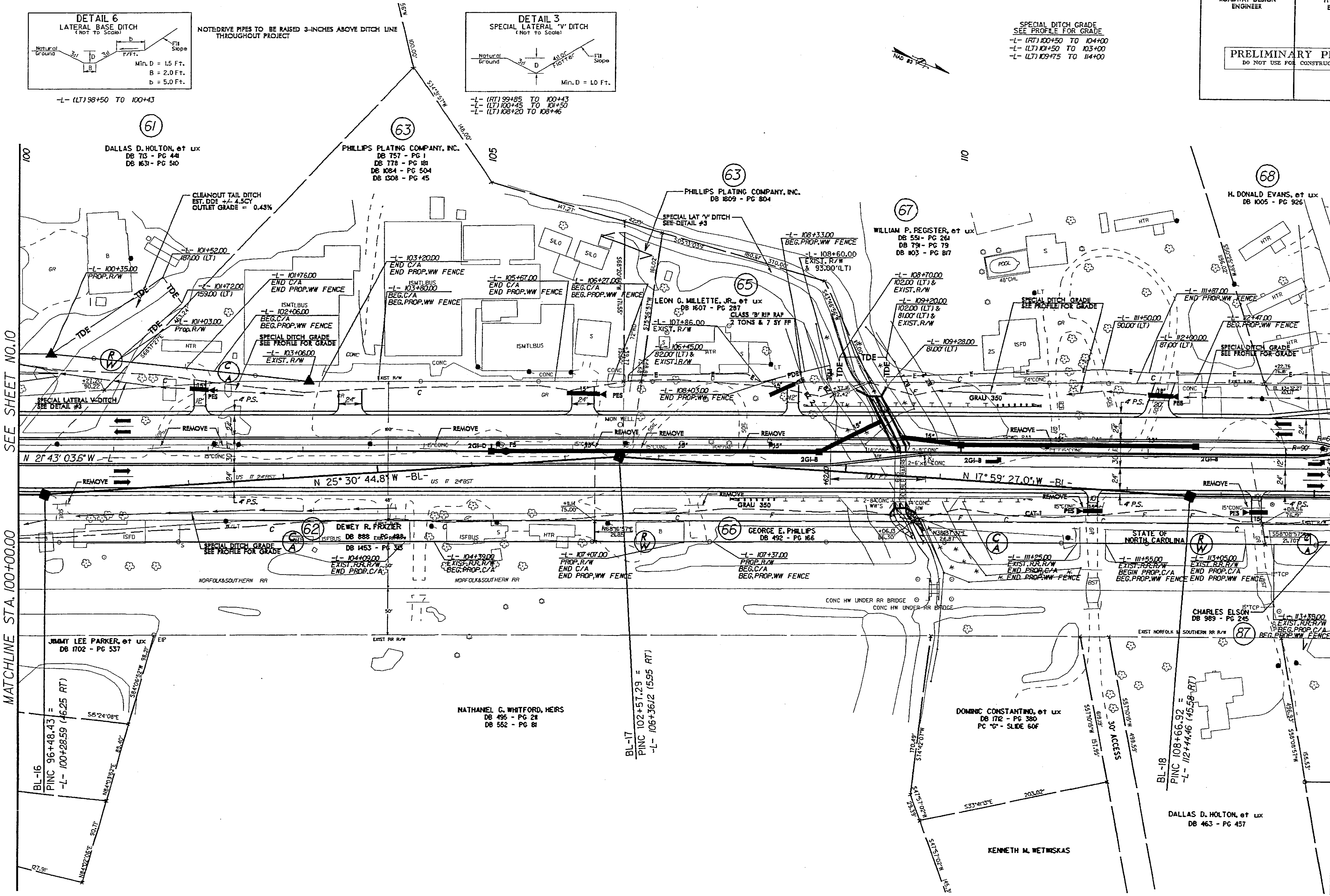
8/17/99

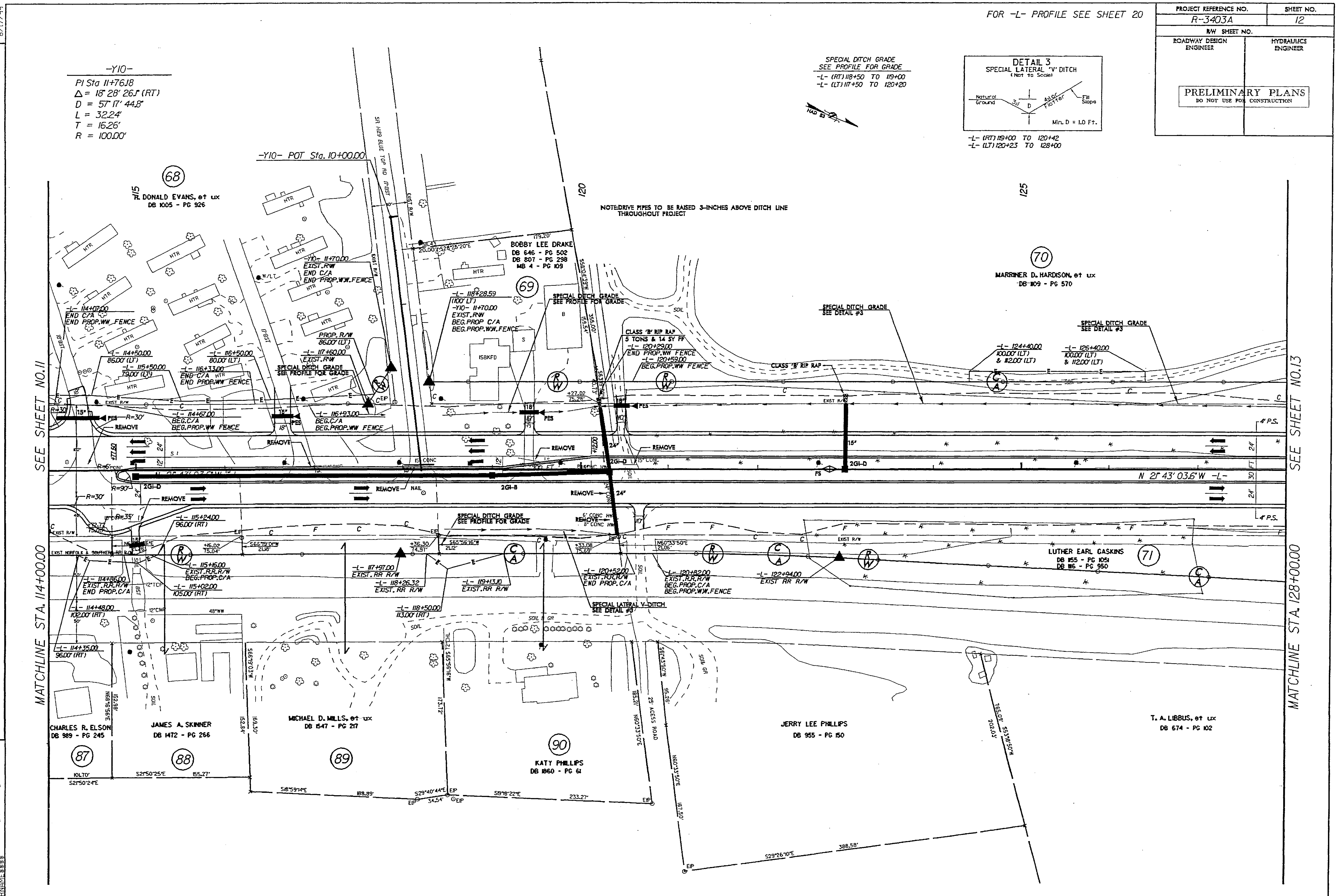
REVISIONS

RW REVISION - CHANGED DRIVEWAY ACCESS TO 3RD DRIVEWAY AND WIDENED DRIVEWAY TO 20 FT. - DYP 4-18-06

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (RT) 100+50 TO 104+00
-L- (LT) 101+50 TO 103+00
-L- (LT) 109+75 TO 114+00





REVISIONS

R/W REVISION - ADD PARCEL LABLE ON PARCEL NO.87.DYP 9-28-05
R/W REVISION - ADD PARCEL LABLE ON PARCEL NO.88.DYP 9-28-05
R/W - ADD PARCEL LABLE ON PARCEL NO.89.DYP 9-28-05
R/W REVISION - ADD PARCEL LABLE,NAME & DB CHANGE ON PARCEL NO.90. DYP 9-28-05

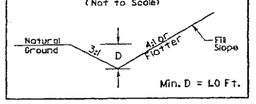
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

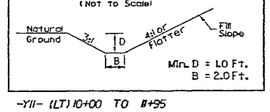
FOR -L- PROFILE SEE SHEET 20

DETAIL 3
SPECIAL LATERAL "V" DITCH
(Not to Scale)



-L- (LT) 128+00 TO 129+50

DETAIL 4
SPECIAL LATERAL BASE DITCH
(Not to Scale)

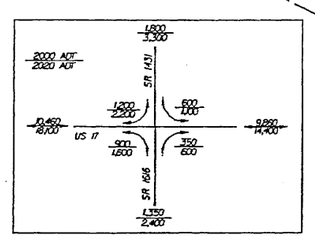


-Y11- (LT) 10+00 TO 11+95

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (LT) 129+50 TO 134+00
-L- (RT) 134+00 TO 140+00
-L- (RT) 141+30 TO 143+50
-Y12- (LT) 14+00 TO 14+95

-Y11-
PI Sta 11+98.24
Δ = 33° 41' 56.9" (LT)
D = 28° 38' 52.4"
L = 117.63'
T = 60.57'
R = 200.00'



NAD 83

REVISIONS
RW Revision – Revised Fencing and Easement area for Parcel 73A ELM 08-07-07

8/17/99

AUG-2007 14:09
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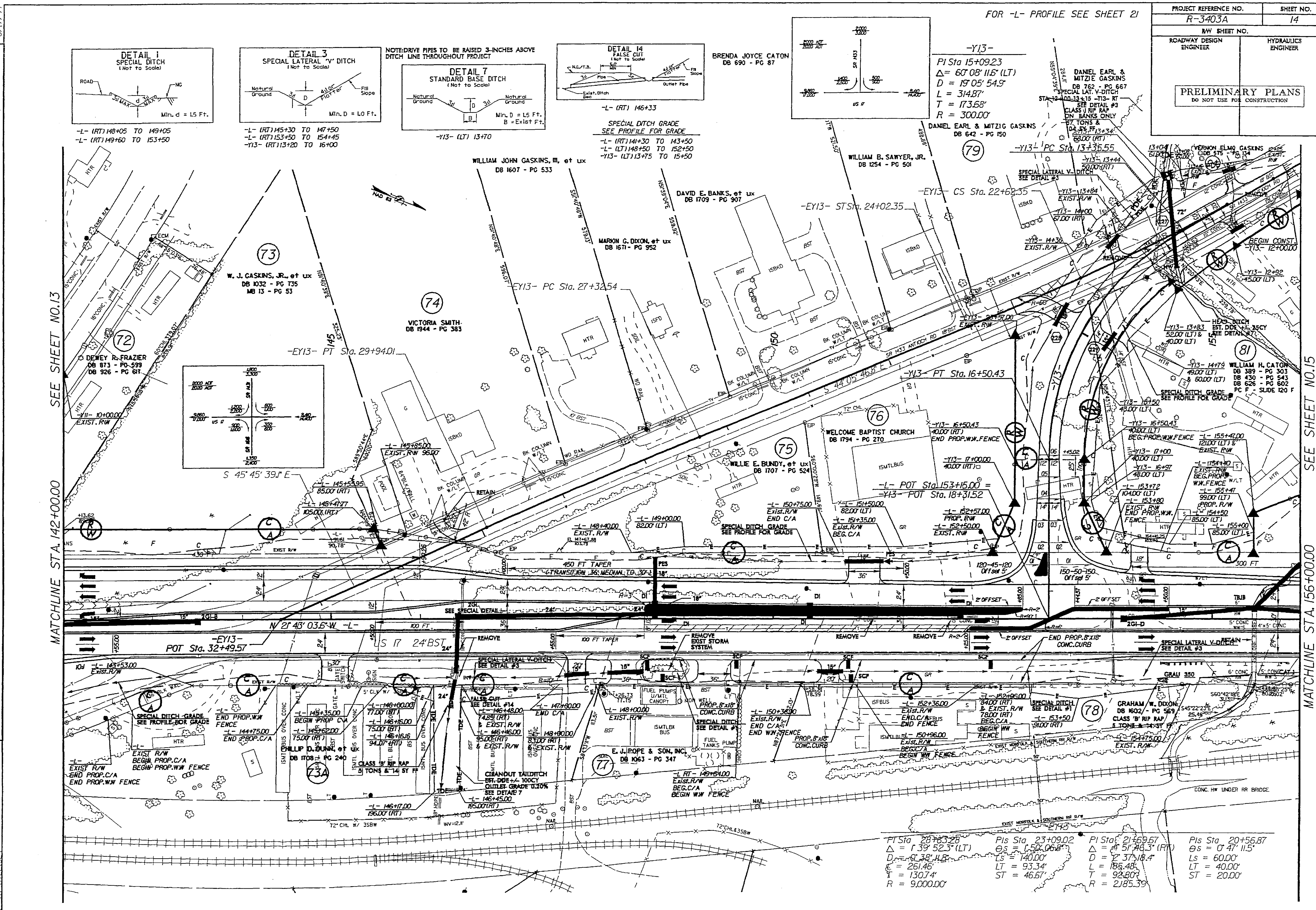
USERNAME(s)$$$

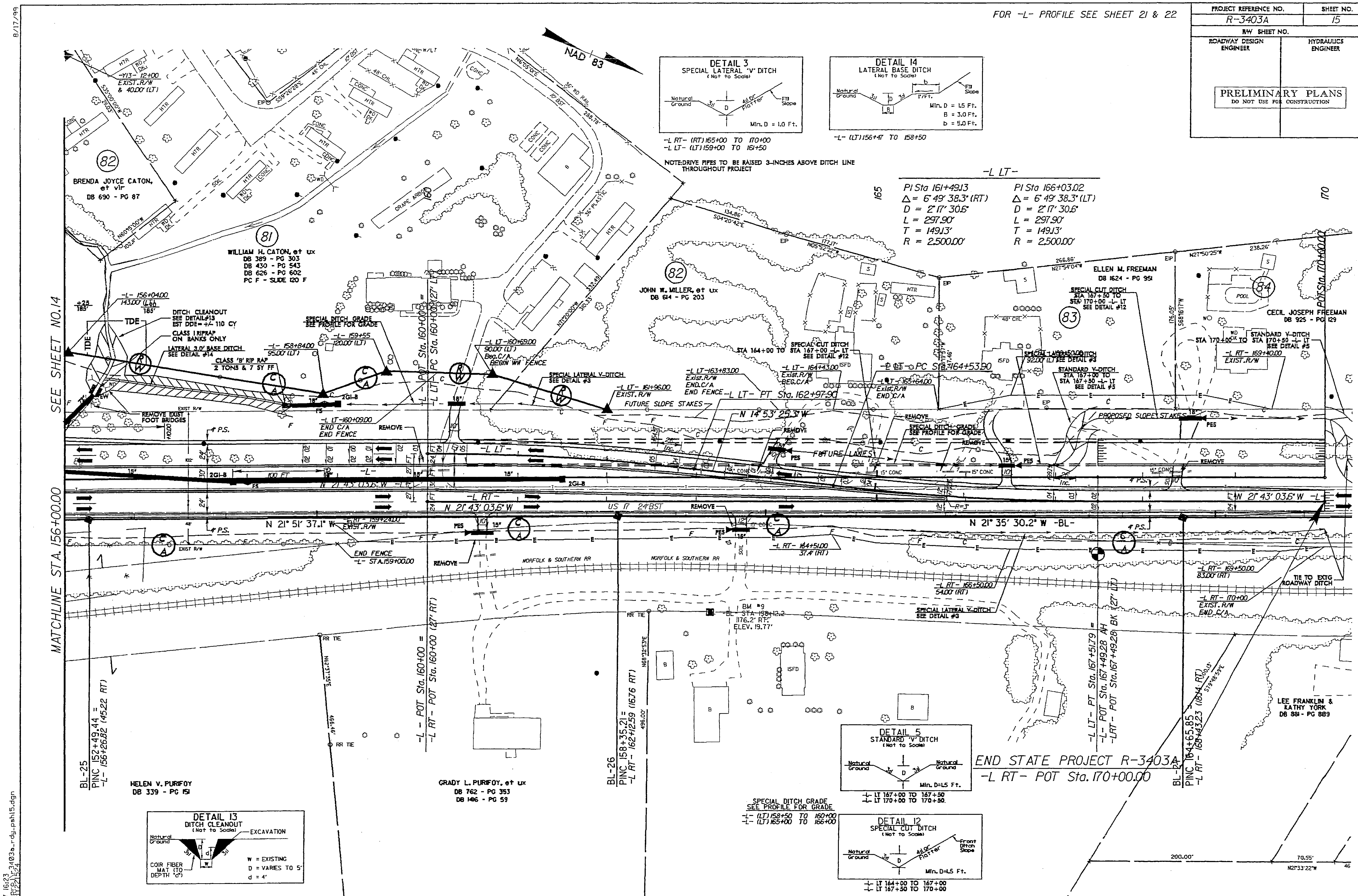
8/17/99

REVISIONS

R/W REVISION - REVISED FENCING AND EASEMENT AREA FOR PARCEL 73A. ELM 8-16-07



10-AUG-2007 16:21
r:\roadway\proj\r3403a_rdy_psh14.dgn


PROJECT REFERENCE NO. R-3403A
SHEET NO. 15
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 21 & 22
NAD 83
DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Min. D = 1.0 Ft.
-L RT- (RT) 165+00 TO 170+00
-L LT- (LT) 159+00 TO 161+50
DETAIL 14
LATERAL BASE DITCH
(Not to Scale)
Min. D = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.
-L- (LT) 156+47 TO 158+50
NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT
-L LT-
PI Sta 161+49.13
Δ = 6° 49' 38.3" (RT)
D = 2° 17' 30.6"
L = 297.90'
T = 149.13'
R = 2,500.00'
PI Sta 166+03.02
Δ = 6° 49' 38.3" (LT)
D = 2° 17' 30.6"
L = 297.90'
T = 149.13'
R = 2,500.00'
BRENDA JOYCE CATON, et vir
DB 690 - PG 87
WILLIAM H. CATON, et ux
DB 389 - PG 303
DB 430 - PG 543
DB 626 - PG 602
PC F - SLIDE 120 F
JOHN W. MILLER, et ux
DB 614 - PG 203
ELLEN M. FREEMAN
DB 1624 - PG 951
CECIL JOSEPH FREEMAN
DB 925 - PG 129
MATCHLINE STA. 156+00.00
SEE SHEET NO. 14
N 21° 43' 03.6" W
N 21° 51' 37.1" W
N 21° 35' 30.2" W -BL-
N 14° 53' 25.3" W
NORFOLK & SOUTHERN RR
US 17 24' BST
BM #9
BL STA. 158+12.2
1176.2' RT.
ELEV. 19.77'
BL-25
PINC 152+49.44 =
-L- 156+26.82 (45.22 RT)
BL-26
PINC 158+35.21 =
-L RT- 162+12.59 (16.76 RT)
-L - POT Sta. 160+00 =
-L RT - POT Sta. 160+00 (27' RT)
-L LT- PT Sta. 167+51.79 =
-L- POT Sta. 167+49.28 AH
-L RT- POT Sta. 167+49.28 BK (27' LT)
END STATE PROJECT R-3403A
-L RT- POT Sta. 170+00.00
HELEN V. PURIFOY
DB 339 - PG 151
GRADY L. PURIFOY, et ux
DB 762 - PG 353
DB 1416 - PG 59
LEE FRANKLIN & KATHY YORK
DB 881 - PG 889
DETAIL 13
DITCH CLEANOUT
(Not to Scale)
EXCAVATION
COIR FIBER MAT (TO DEPTH "d")
W = EXISTING
D = VARIES TO 5'
d = 4'
DETAIL 5
STANDARD 'V' DITCH
(Not to Scale)
Min. D=1.5 Ft.
-L- LT 167+00 TO 167+50
-L- LT 170+00 TO 170+50
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (LT) 158+50 TO 160+00
-L- (LT) 165+00 TO 166+00
DETAIL 12
SPECIAL CUT DITCH
(Not to Scale)
Min. D=1.5 Ft.
-L- LT 164+00 TO 167+00
-L- LT 167+50 TO 170+00
8/17/99

09/28/99

R-3403A

CONTRACT:

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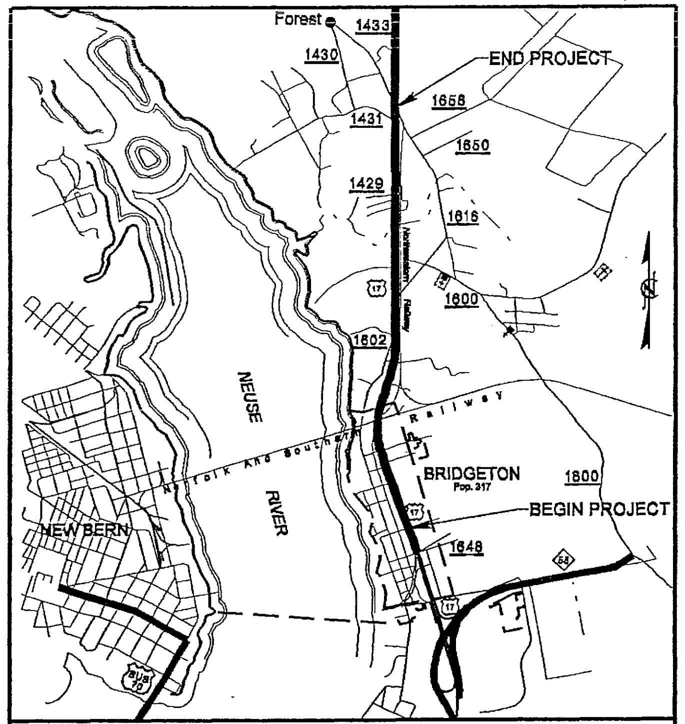
JRYEAR AT RD223220

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



VICINITY MAP

This Project Is partially within the Municipal Boundaries of Bridgeton

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CRAVEN COUNTY

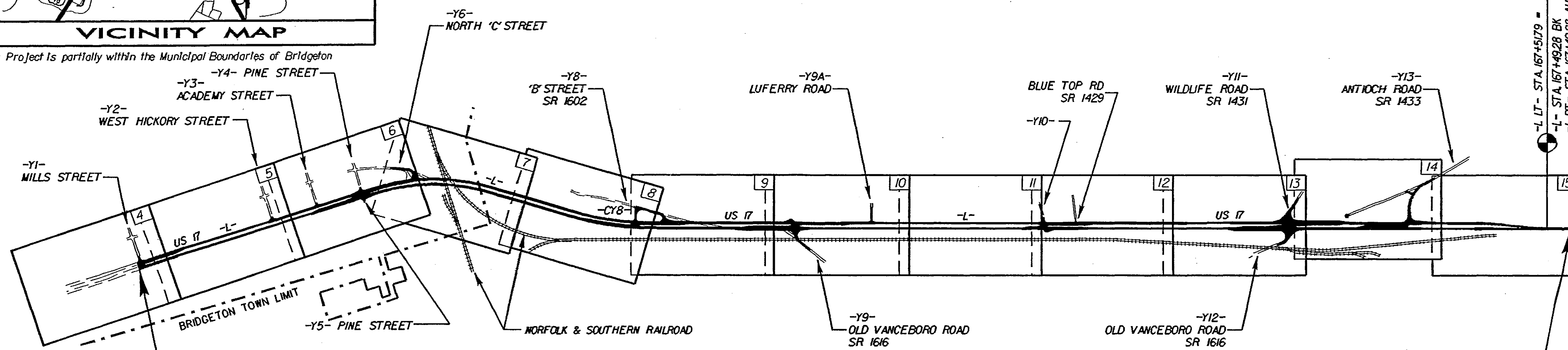
LOCATION: US 17 FROM MILLS STREET TO NORTH OF SR 1433 (ANTIOCH ROAD)

TYPE OF WORK: GRADING, PAVING, CULVERT EXTENSION, SIGNALS AND DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3403A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34538.1.1	STPNHF-17(24)	PE	
34538.2.2	STPNHF-17(47)	R/W, UTIL	

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83



-L- STA. 17+70.00 BEGIN TIP PROJECT R-3403A

-L RT- STA. 170+00.00 END TIP PROJECT R-3403A

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20

DESIGN DATA

ADT 2007 = 15,755
ADT 2027 = 25,055
DHV = 10 %
D = 60 %
T = 10 % *
V = 60 MPH
* TTST 5% DUAL 5%

PROJECT LENGTH

TOTAL LENGTH OF TIP PROJECT R-3403A = 2.884 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., NC, 27610

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
March 22, 2005

LETTING DATE:
July 15, 2008

G. E. BREW, PE
PROJECT ENGINEER

D. WILLIAMS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

8/17/99

REVISIONS

FOR -L- PROFILE SEE SHEET 16

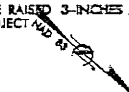
PROJECT REFERENCE NO.	SHEET NO.
R-3403A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

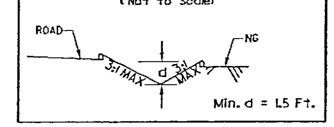
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R3403-4"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 532123.2763(ft) EASTING: 2581086.8260(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987844
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R3403-4" TO -L- STATION IS 17+70.00
S 22° 28' 24.93" E 28,997.09 FEET
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT

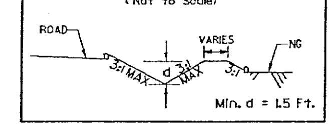


DETAIL 1
SPECIAL DITCH
(Not to Scale)



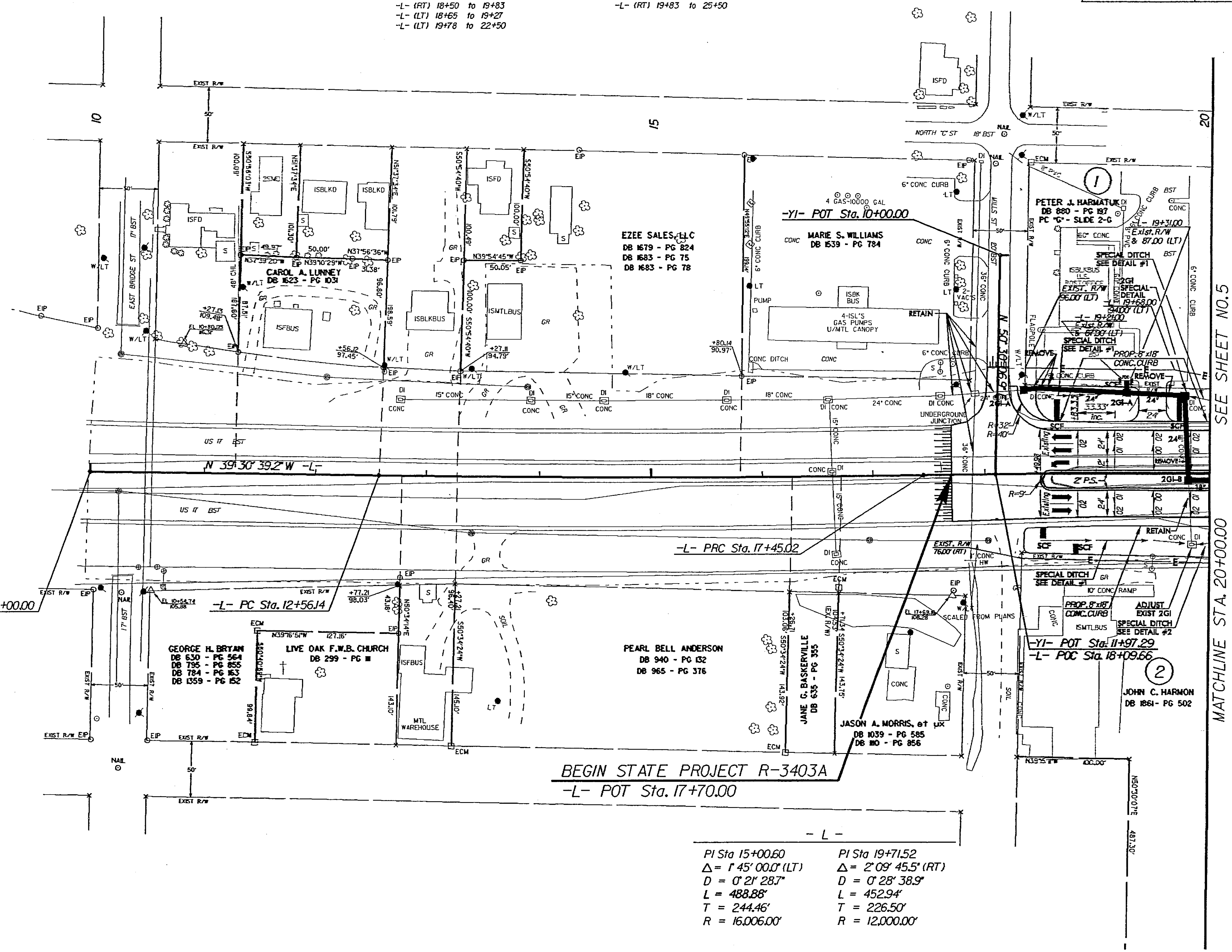
-L- (RT) 18+50 to 19+83
-L- (LT) 18+65 to 19+27
-L- (LT) 19+78 to 22+50

DETAIL 2
SPECIAL DITCH
(Not to Scale)



-L- (RT) 19+83 to 25+50

SCF = SPECIAL CONCRETE FLUME



- L -

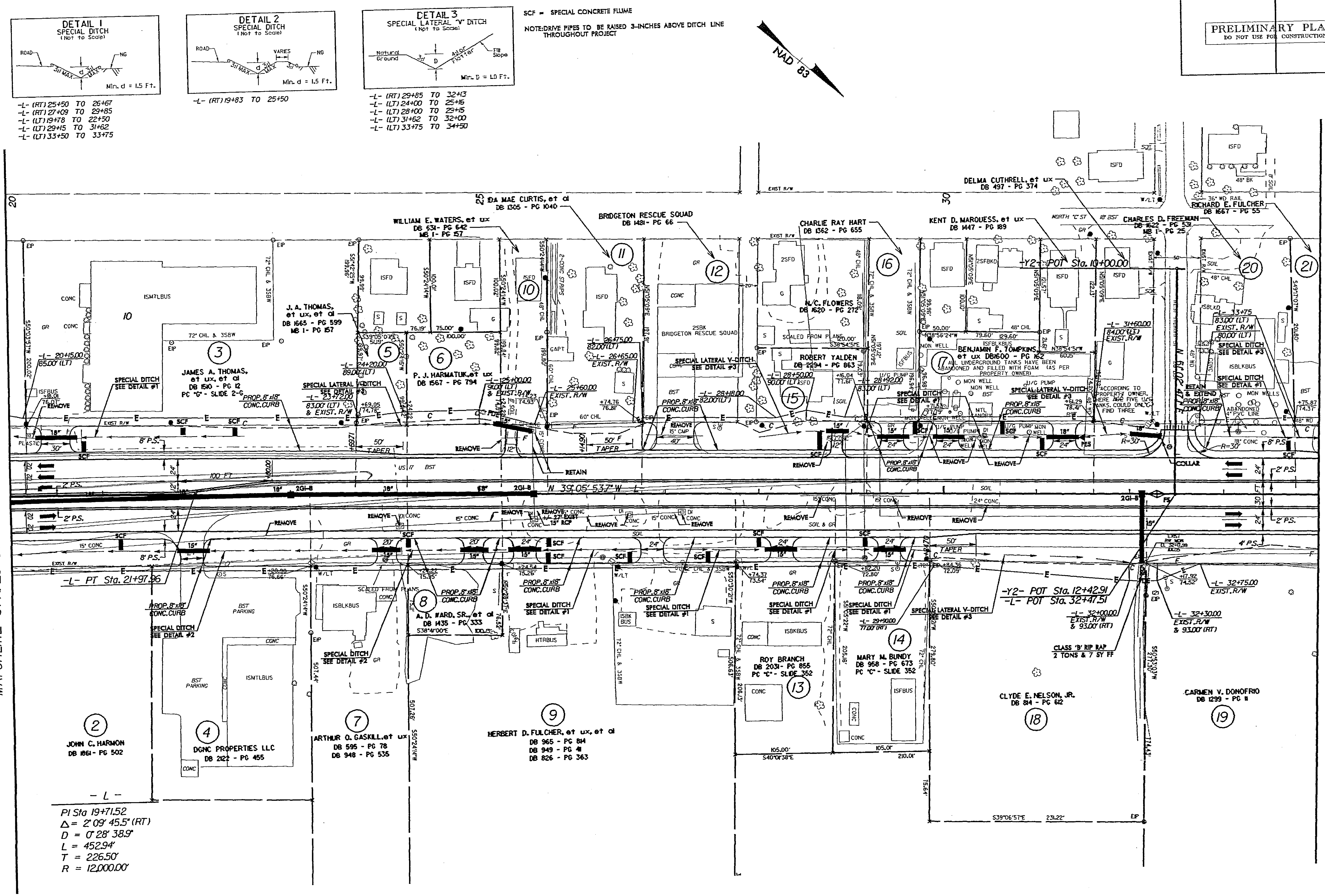
PI Sta 15+00.60	PI Sta 19+71.52
Δ = 1° 45' 00.0" (LT)	Δ = 2° 09' 45.5" (RT)
D = 0° 21' 28.7"	D = 0° 28' 38.9"
L = 488.88'	L = 452.94'
T = 244.46'	T = 226.50'
R = 16,006.00'	R = 12,000.00'

IG-2007 14:08
oadway\proj\r3403a_rdy_psh04.dgn
USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 16



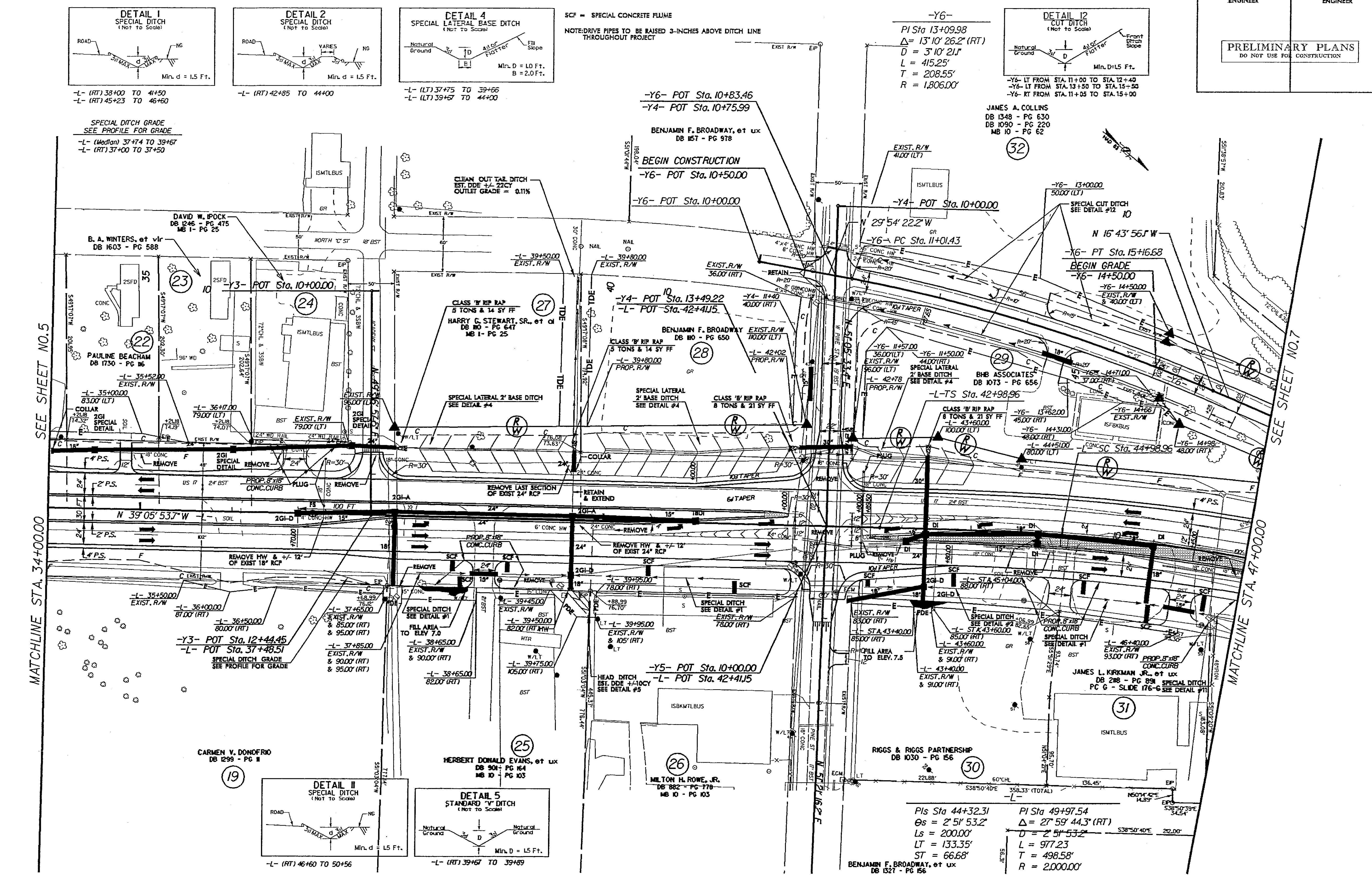
REVISIONS

R/W REVISION: NAME CHANGE AND DB CHANGE ON PARCEL NO.13. DYP 9-28-05
R/W REVISION: MOVE PARCEL 15 LABEL TO PARCEL OWNED BY ROBERT YALDEN. ADD PROPERTY LINE. DYP 9-28-05

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 17



REVISIONS

R/W REVISION: NAME CHANGE ON PARCEL NO.30. DYP 9-28-05

8/17/99

UG-2007 14:09
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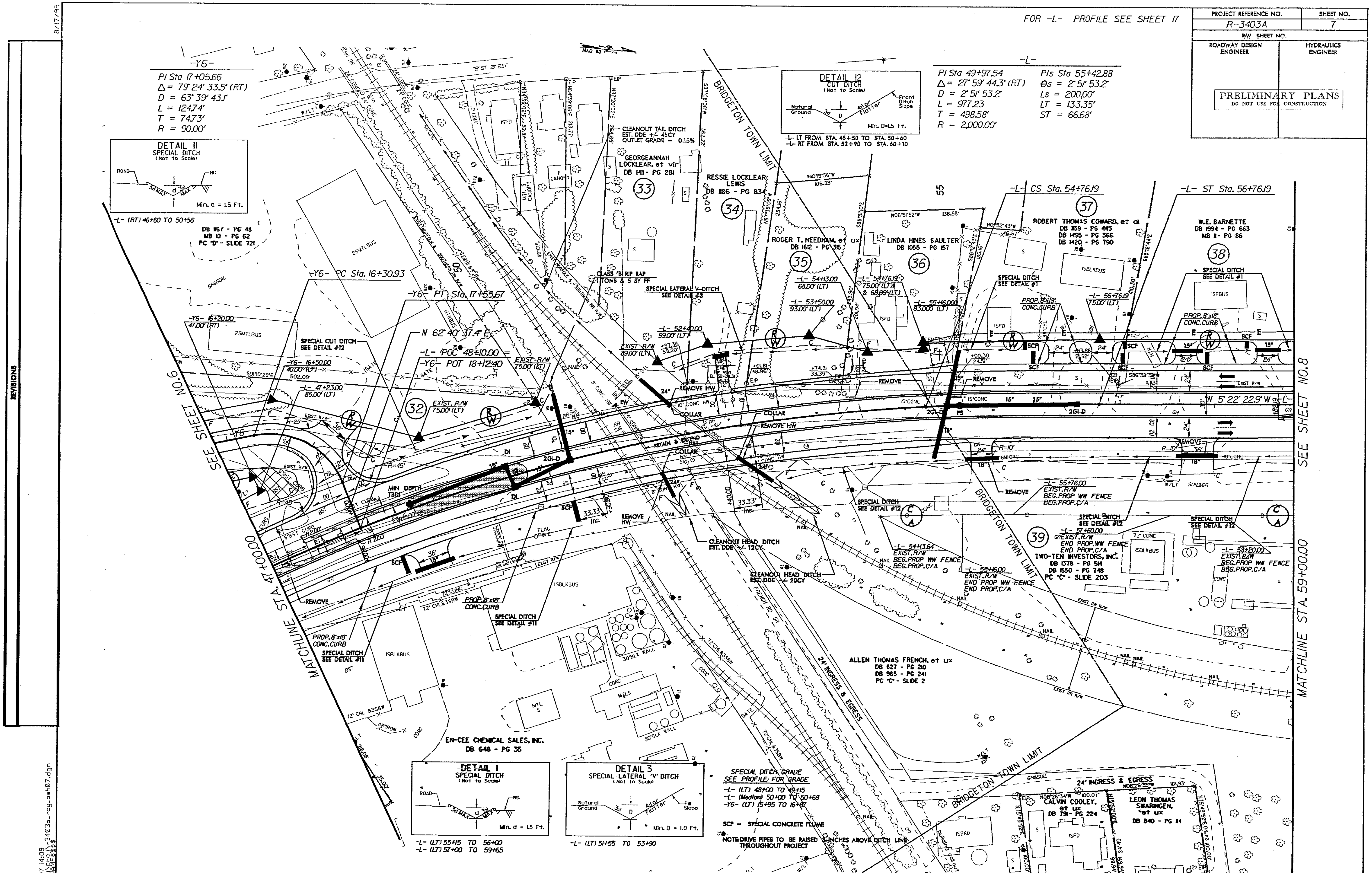
$USERNAME$



PROJECT REFERENCE NO. R-3403A
SHEET NO. 7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 17
-Y6-
PI Sta 17+05.66
Δ = 79° 24' 33.5" (RT)
D = 63° 39' 43.5"
L = 124.74'
T = 74.73'
R = 90.00'
-L-
PI Sta 49+97.54
Δ = 27° 59' 44.3" (RT)
D = 2° 51' 53.2"
L = 977.23
T = 498.58'
R = 2,000.00'
PIs Sta 55+42.88
θs = 2° 51' 53.2"
Ls = 200.00'
LT = 133.35'
ST = 66.68'
DETAIL 11
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (RT) 46+60 TO 50+56
DETAIL 12
CUT DITCH
(Not to Scale)
Min. D=1.5 Ft.
-L- LT FROM STA. 48+50 TO STA. 50+60
-L- RT FROM STA. 52+90 TO STA. 60+10
DETAIL 1
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (LT) 55+15 TO 56+00
-L- (LT) 57+00 TO 59+65
DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-L- (LT) 51+55 TO 53+90
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (LT) 48+00 TO 49+15
-L- (Median) 50+00 TO 50+68
-Y6- (LT) 15+95 TO 16+87
SCF = SPECIAL CONCRETE FLUME
NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT
SEE SHEET NO. 6
SEE SHEET NO. 8
MATCHLINE STA. 47+00.00
MATCHLINE STA. 59+00.00
BRIDGETON TOWN LIMIT
-Y6- PC Sta. 16+30.93
-Y6- PT Sta. 17+55.67
-L- POC 48+10.00 = -Y6- POT 18+12.40
N 62° 40' 37.4" E
N 5° 22' 22.9" W
-L- CS Sta. 54+76.19
-L- ST Sta. 56+76.19
GEORGEANNAH LOCKLEAR, et vir
DB 1411 - PG 281
33
RESSIE LOCKLEAR LEWIS
DB 1186 - PG 834
34
ROGER T. NEEDHAM, et ux
DB 1612 - PG 315
35
LINDA HINES SAULTER
DB 1055 - PG 157
36
ROBERT THOMAS COWARD, et al
DB 1159 - PG 443
DB 1495 - PG 366
DB 1420 - PG 790
37
W.E. BARNETTE
DB 1994 - PG 663
MB 11 - PG 86
38
32
TWO-TEN INVESTORS, INC.
DB 1378 - PG 514
DB 1550 - PG 748
PC "C" - SLIDE 203
39
ALLEN THOMAS FRENCH, et ux
DB 627 - PG 210
DB 965 - PG 241
PC "C" - SLIDE 2
EN-CEE CHEMICAL SALES, INC.
DB 648 - PG 35
CALVIN COOLEY, et ux
DB 791 - PG 224
LEON THOMAS SWARINGEN, et ux
DB 840 - PG 114
DB 1161 - PG 48
MB 10 - PG 62
PC "D" - SLIDE 721
CLEANOUT TAIL DITCH
EST. DDE +/- 45CY
OUTLET GRADE = 0.15%
CLEANOUT HEAD DITCH
EST. DDE +/- 12CY
CLEANOUT HEAD DITCH
EST. DDE +/- 20CY
CLASS 'B' RIP RAP
11 TONS & 5 SY FF
SPECIAL LATERAL V-DITCH
SEE DETAIL #3
SPECIAL CUT DITCH
SEE DETAIL #12
SPECIAL DITCH
SEE DETAIL #1
SPECIAL DITCH
SEE DETAIL #11
PROP. 8"x18" CONC. CURB
24' INGRESS & EGRESS
REMOVE
REMOVE HW
RETAIN & EXTEND
COLLAR
MIN DEPTH TBD
8/17/99
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 18

8/17/99

DETAIL 1
SPECIAL DITCH
(Not to Scale)
Min. d = 1.5 Ft.
-L- (LT) 57+00 TO 59+65

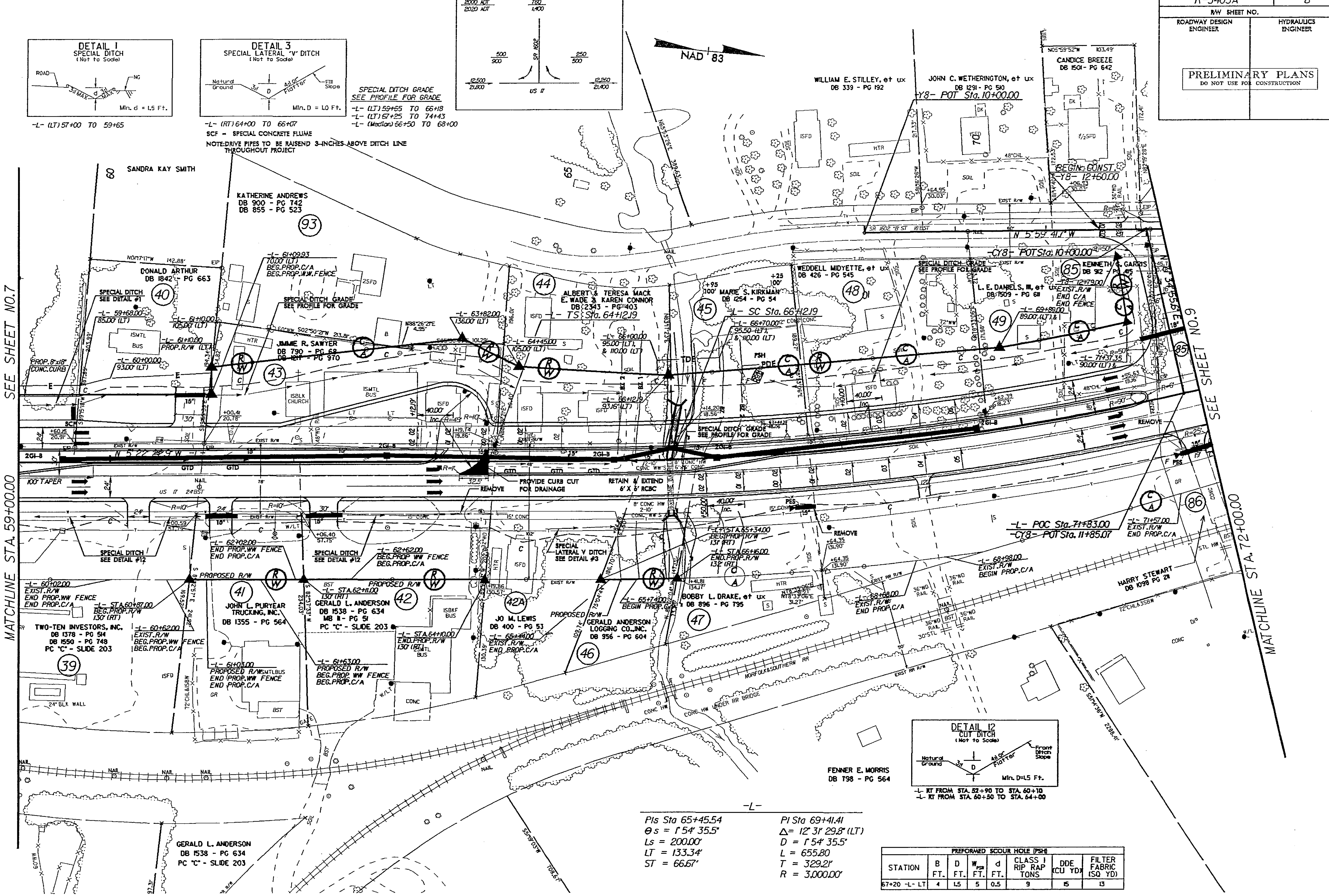
DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D = 1.0 Ft.
-L- (RT) 64+00 TO 66+07

SCF - SPECIAL CONCRETE FLUME

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (LT) 59+55 TO 66+18
-L- (LT) 57+25 TO 74+43
-L- (Median) 56+50 TO 68+00

2000 ADT	760		
2020 ADT	1,400		
500 / 900	SR 1602	250 / 500	
12,500 / 21,800	US 17	12,260 / 21,400	



NAD 83
SEE SHEET NO. 7
MATCHLINE STA. 59+00.00
SEE SHEET NO. 9
MATCHLINE STA. 72+00.00
SANDRA KAY SMITH
KATHERINE ANDREWS DB 900 - PG 742 DB 855 - PG 523
DONALD ARTHUR DB 1842 - PG 663
JIMMIE R. SAWYER DB 790 - PG 68 DB 1217 - PG 970
ALBERT & TERESA MACK E. WADE & KAREN CONNOR DB 2343 - PG 403
MARIE S. KIRKMAN DB 1254 - PG 54
WEDDELL MIDYETTE, et ux DB 426 - PG 545
WILLIAM E. STILLEY, et ux DB 339 - PG 192
JOHN C. WETHERINGTON, et ux DB 1291 - PG 510
CANDICE BREEZE DB 1501 - PG 642
L. E. DANIELS, III, et ux DB 1509 - PG 611
KENNETH C. GARRIS
TWO-TEN INVESTORS, INC. DB 1378 - PG 514 DB 1550 - PG 748 PC "C" - SLIDE 203
JOHN L. PURYEAR TRUCKING, INC. DB 1355 - PG 564
GERALD L. ANDERSON DB 1538 - PG 634 MB 11 - PG 51 PC "C" - SLIDE 203
JO M. LEWIS DB 400 - PG 53
GERALD ANDERSON LOGGING CO., INC. DB 956 - PG 604
BOBBY L. DRAKE, et ux DB 896 - PG 795
HARRY STEWART DB 1098 PG 21
FENNER E. MORRIS DB 798 - PG 564
GERALD L. ANDERSON DB 1538 - PG 634 PC "C" - SLIDE 203
-L- TS Sta. 64+12.19
-L- SC Sta. 66+12.19
-L- POC Sta. 71+83.00
-CY8- POT Sta. 11+85.07
-CY8- POT Sta. 10+00.00
-Y8- POT Sta. 10+00.00
BEGIN CONST. -Y8- 12+60.00
US 17
NORFOLK & SOUTHERN RR
PROVIDE CURB CUT FOR DRAINAGE
RETAIN & EXTEND 6' X 6' RCBC
PROPOSED R/W

DETAIL 12
CUT DITCH
(Not to Scale)
Min. D=1.5 Ft.
-L- RT FROM STA. 52+90 TO STA. 60+10
-L- RT FROM STA. 60+50 TO STA. 64+00

-L-

PIs Sta 65+45.54	PI Sta 69+41.41
θs = 1° 54' 35.5"	Δ = 12° 31' 29.8" (LT)
Ls = 200.00'	D = 1° 54' 35.5"
LT = 133.34'	L = 655.80
ST = 66.67'	T = 329.21'
	R = 3,000.00'

PREFORMED SCOUR HOLE (PSH)							
STATION	B FT.	D FT.	W_{PSR} FT.	d FT.	CLASS I RIP RAP TONS	DDE (CU YD)	FILTER FABRIC (SQ YD)
67+20 -L- LT	4	1.5	5	0.5	9	15	13

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8/17/99

REVISIONS

RW REVISON; REVISED THE ACCESS FOR PARCEL 52,THE TURN LANE,RIGHT OF WAY,AND EASEMENTS WERE ADJUSTED ACCORDINGLY. DYP 12-21-06

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 18

-Y8-

PI Sta 18+23.82
Δ = 91° 36' 42.5" (LT)
D = 47° 44' 47.3"
L = 191.87'
T = 123.42'
R = 120.00'

DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

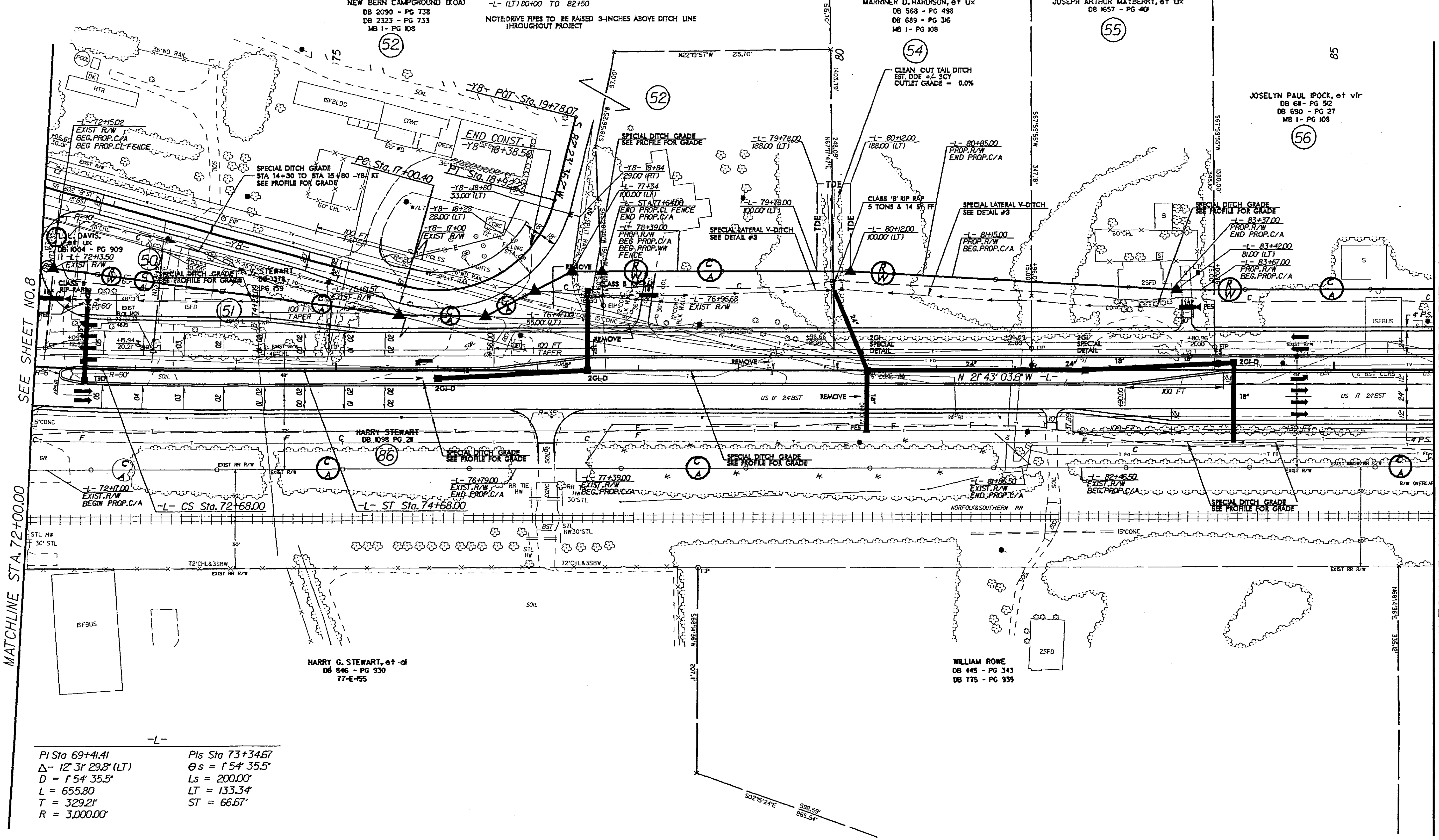
Min. D = 1.0 Ft.

SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE

-L- (RT) 83+50 TO 84+50
-L- (LT) 67+25 TO 74+43
-L- (LT) 75+50 TO 78+50
-L- (LT) 82+50 TO 83+50
-L- (MED) 74+50 TO 78+00
-L- (MED) 78+50 TO 80+30
-Y8- (RT) 15+00 TO 16+20
-Y8- (LT) 14+50 TO 16+40

-L- (LT) 78+50 TO 79+92
-L- (LT) 80+00 TO 82+50

NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT



-L-

PI Sta 69+41.41	PIs Sta 73+34.67
Δ = 12° 31' 29.8" (LT)	θs = 1° 54' 35.5"
D = 1° 54' 35.5"	Ls = 200.00'
L = 655.80	LT = 133.34'
T = 329.21'	ST = 66.67'
R = 3,000.00'	

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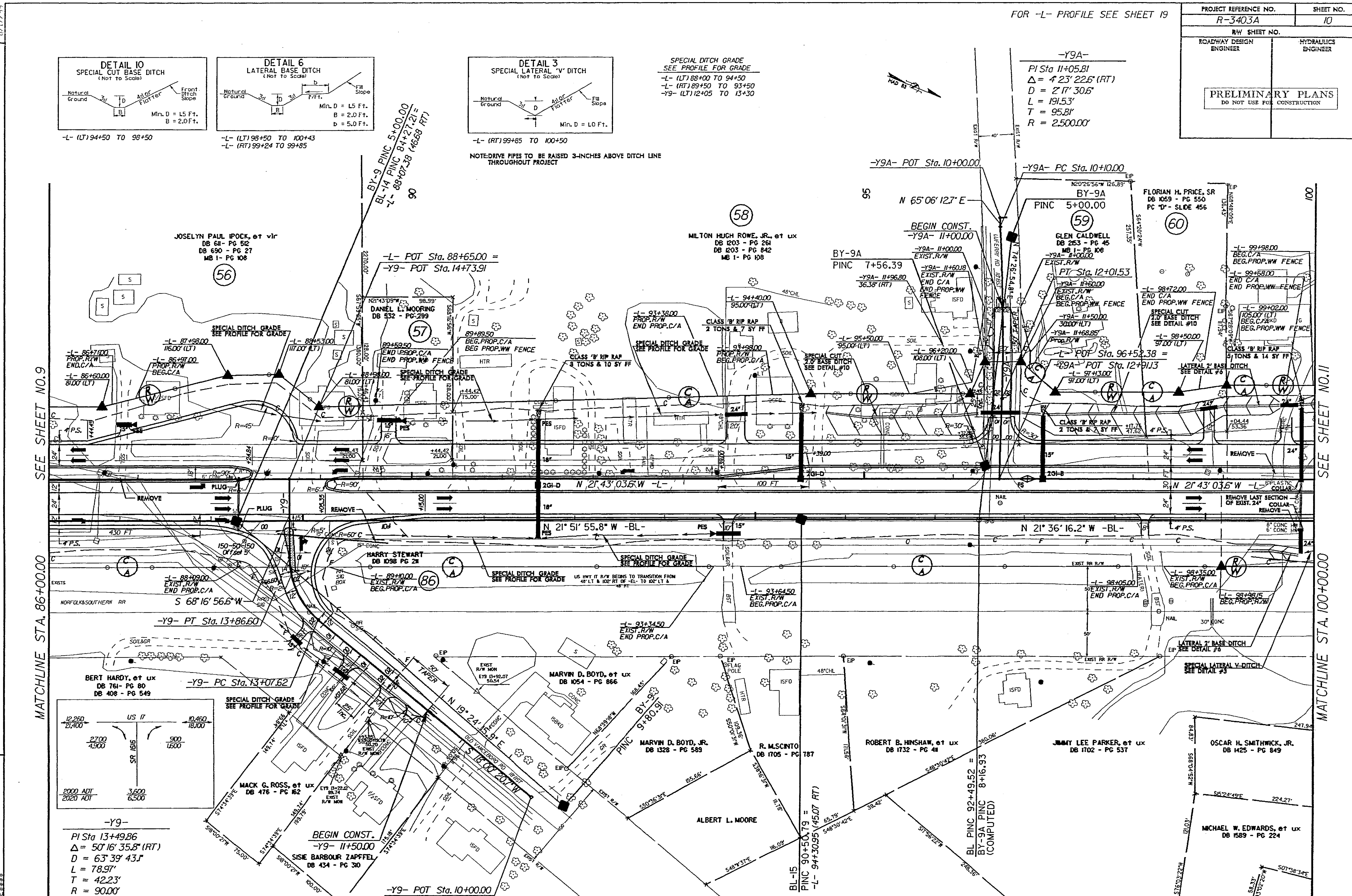
8/17/99

REVISIONS



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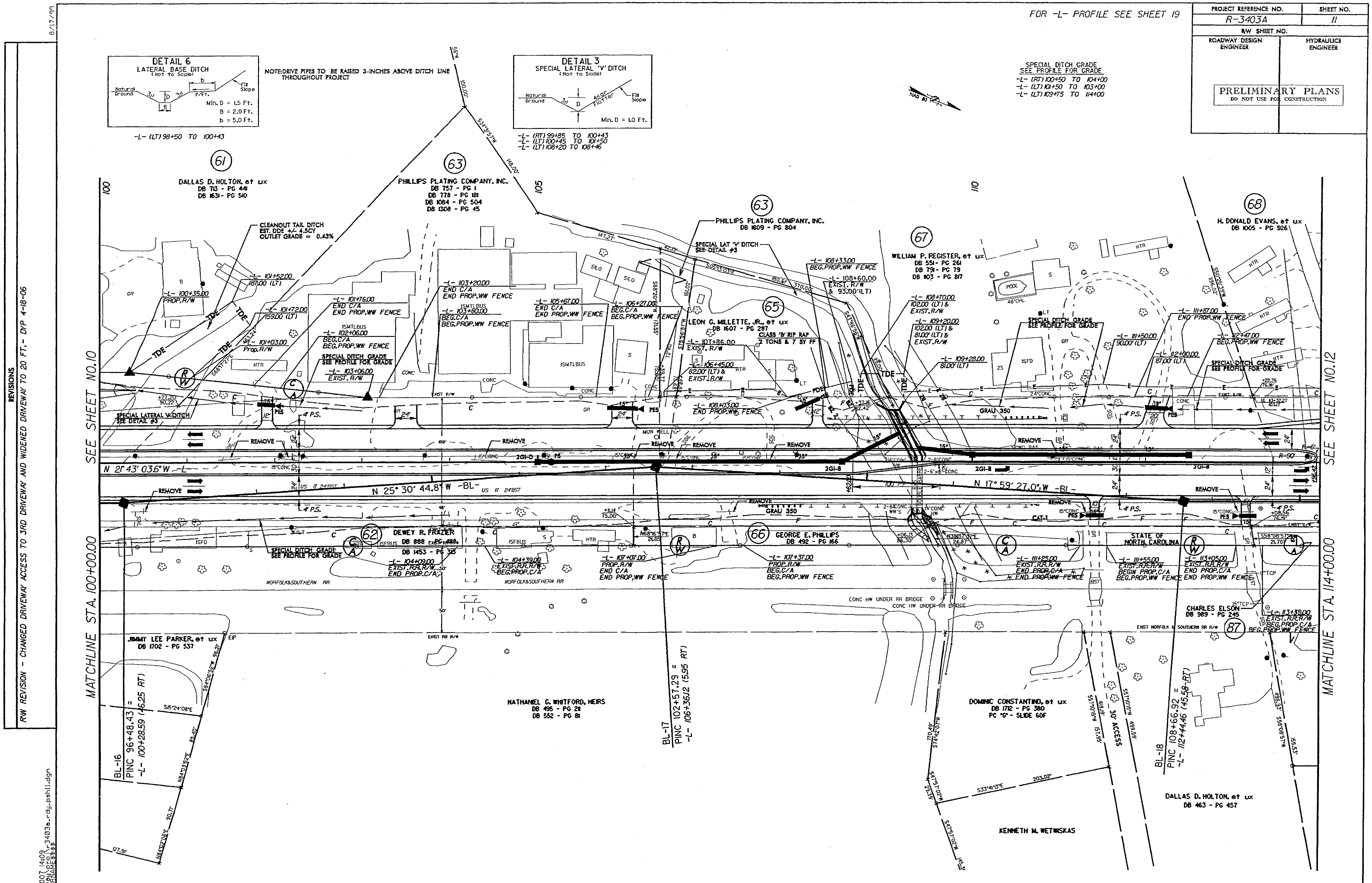
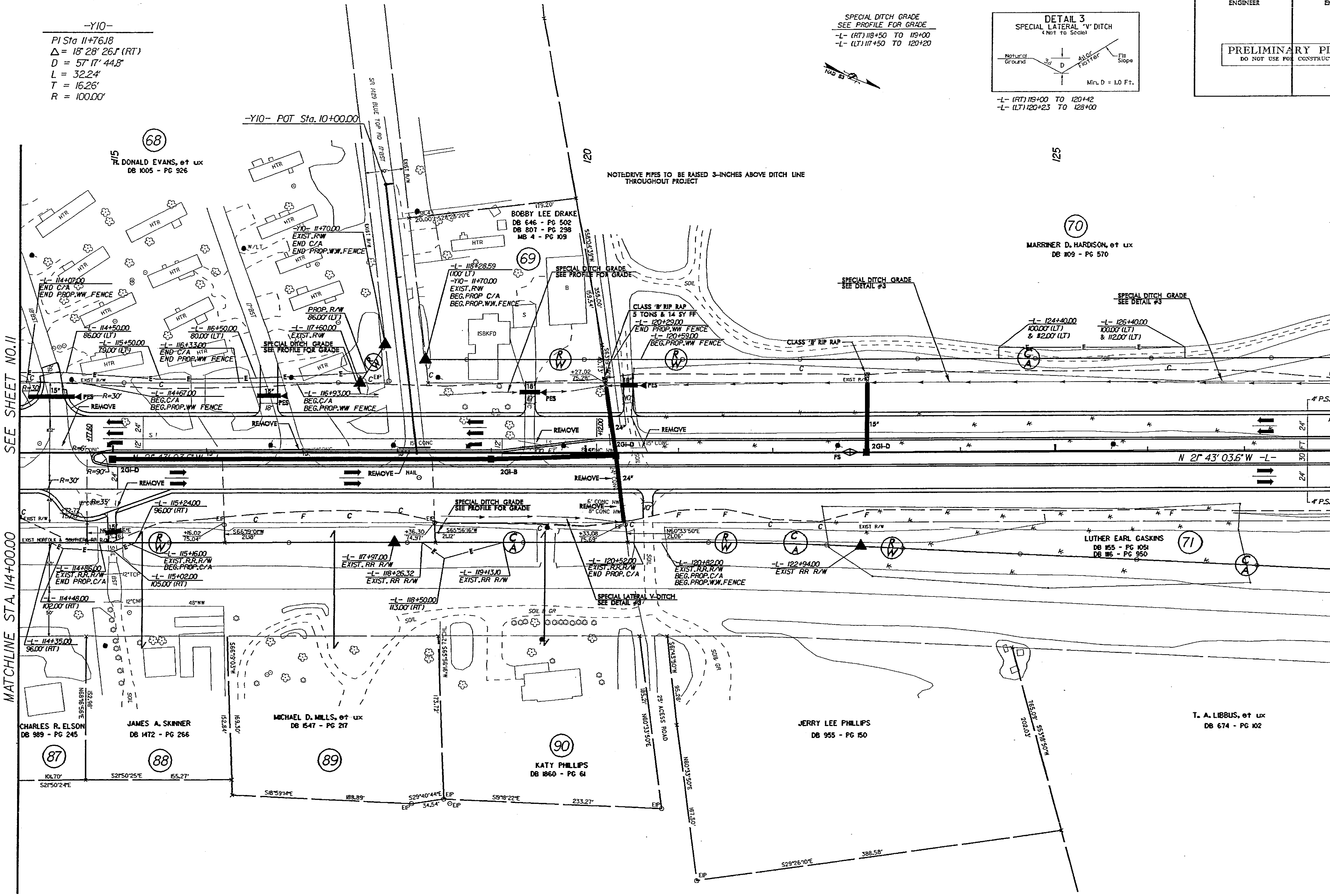


PROJECT REFERENCE NO. R-3403A
SHEET NO. 11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
FOR -L- PROFILE SEE SHEET 19
8/17/99
REVISIONS
RW REVISION - CHANGED DRIVEWAY ACCESS TO 3RD DRIVEWAY AND WIDENED DRIVEWAY TO 20 FT.- DYP 4-18-06
DETAIL 6
LATERAL BASE DITCH
(Not To Scale)
Natural Ground
Fill Slope
Min. D = 1.5 Ft.
B = 2.0 Ft.
b = 5.0 Ft.
-L- (LT) 98+50 TO 100+43
NOTE: DRIVE PIPES TO BE RAISED 3-INCHES ABOVE DITCH LINE THROUGHOUT PROJECT
DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
4:1 or Flatter
Min. D = 1.0 Ft.
-L- (RT) 99+85 TO 100+43
-L- (LT) 100+45 TO 101+50
-L- (LT) 108+20 TO 108+46
SPECIAL DITCH GRADE
SEE PROFILE FOR GRADE
-L- (RT) 100+50 TO 104+00
-L- (LT) 101+50 TO 103+00
-L- (LT) 109+75 TO 114+00
NAD 83
61
DALLAS D. HOLTON, et ux
DB 713 - PG 441
DB 1631 - PG 510
63
PHILLIPS PLATING COMPANY, INC.
DB 757 - PG 1
DB 778 - PG 181
DB 1084 - PG 504
DB 1308 - PG 45
63
PHILLIPS PLATING COMPANY, INC.
DB 1809 - PG 804
65
LEON G. MILLETTE, JR., et ux
DB 1607 - PG 287
67
WILLIAM P. REGISTER, et ux
DB 551 - PG 261
DB 791 - PG 79
DB 1103 - PG 817
68
H. DONALD EVANS, et ux
DB 1005 - PG 926
62
DEWEY R. FRAZIER
DB 888 - PG 488
DB 1453 - PG 315
66
GEORGE E. PHILLIPS
DB 492 - PG 166
STATE OF NORTH CAROLINA
CHARLES ELSON
DB 989 - PG 245
87
JIMMY LEE PARKER, et ux
DB 1702 - PG 537
NATHANIEL G. WHITFORD, HEIRS
DB 495 - PG 211
DB 552 - PG 81
DOMINIC CONSTANTINO, et ux
DB 1712 - PG 380
PC "G" - SLIDE 60F
KENNETH M. WETWISKAS
DALLAS D. HOLTON, et ux
DB 463 - PG 457
CLEANOUT TAIL DITCH
EST. DDE +/- 4.5CY
OUTLET GRADE = 0.43%
SPECIAL LAT 'V' DITCH
SEE DETAIL #3
CLASS 'B' RIP RAP
2 TONS & 7 SY FF
SPECIAL LATERAL V-DITCH
SEE DETAIL #3
-L- 100+35.00 PROP. R/W
-L- 101+52.00 187.00 (LT)
-L- 101+72.00 159.00 (LT)
-L- 101+03.00 Prop. R/W
-L- 101+76.00 END C/A END PROP. WW FENCE
-L- 102+06.00 BEG. C/A BEG. PROP. WW FENCE
-L- 103+06.00 EXIST. R/W
-L- 103+20.00 END C/A END PROP. WW FENCE
-L- 103+80.00 BEG. C/A BEG. PROP. WW FENCE
-L- 105+67.00 END C/A END PROP. WW FENCE
-L- 106+27.00 BEG. C/A BEG. PROP. WW FENCE
-L- 107+86.00 EXIST. R/W
-L- 106+45.00 82.00' (LT) & EXIST. R/W
-L- 108+03.00 END PROP. WW FENCE
-L- 108+33.00 BEG. PROP. WW FENCE
-L- 108+60.00 EXIST. R/W & 93.00' (LT)
-L- 108+70.00 102.00 (LT) & EXIST. R/W
-L- 109+20.00 102.00 (LT) & 81.00' (LT) & EXIST. R/W
-L- 109+28.00 81.00' (LT)
-L- 111+50.00 90.00' (LT)
-L- 111+87.00 END PROP. WW FENCE
-L- 112+00.00 87.00' (LT)
-L- 112+47.00 BEG. PROP. WW FENCE
-L- 104+09.00 EXIST. R.R. R/W END PROP. C/A
-L- 104+39.00 EXIST. R.R. R/W BEG. PROP. C/A
-L- 107+07.00 PROP. R/W END C/A END PROP. WW FENCE
-L- 107+37.00 PROP. R/W BEG. C/A BEG. PROP. WW FENCE
-L- 111+25.00 EXIST. R.R. R/W END PROP. C/A END PROP. WW FENCE
-L- 111+55.00 EXIST. R.R. R/W BEGIN PROP. C/A BEG. PROP. WW FENCE
-L- 113+05.00 EXIST. R.R. R/W END PROP. C/A END PROP. WW FENCE
-L- 113+35.00 EXIST. R.R. R/W BEG. PROP. C/A BEG. PROP. WW FENCE
N 21° 43' 03.6" W -L-
N 25° 30' 44.8" W -BL-
N 17° 59' 27.0" W -BL-
US 17 24' BST
NORFOLK & SOUTHERN RR
EXIST NORFOLK & SOUTHERN RR R/W
CONC HW UNDER RR BRIDGE
30' ACCESS
SEE SHEET NO. 10
SEE SHEET NO. 12
MATCHLINE STA. 100+00.00
MATCHLINE STA. 114+00.00
BL-16
PINC 96+48.43 =
-L- 100+28.59 (46.25 RT)
BL-17
PINC 102+57.29 =
-L- 106+36.12 (5.95 RT)
BL-18
PINC 108+66.92 =
-L- 112+44.46 (45.58 RT)
REMOVE
GRAU 350
2GI-B
2GI-D
PES
4' P.S.

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 20



REVISIONS

R/W REVISION - ADD PARCEL LABLE ON PARCEL NO.87, DYP 9-28-05
R/W REVISION - ADD PARCEL LABLE ON PARCEL NO.88, DYP 9-28-05
R/W REVISION - ADD PARCEL LABLE ON PARCEL NO.89, DYP 9-28-05
R/W REVISION - ADD PARCEL LABLE, NAME & DB CHANGE ON PARCEL NO.90, DYP 9-28-05

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-3403A	13

R/W SHEET NO.

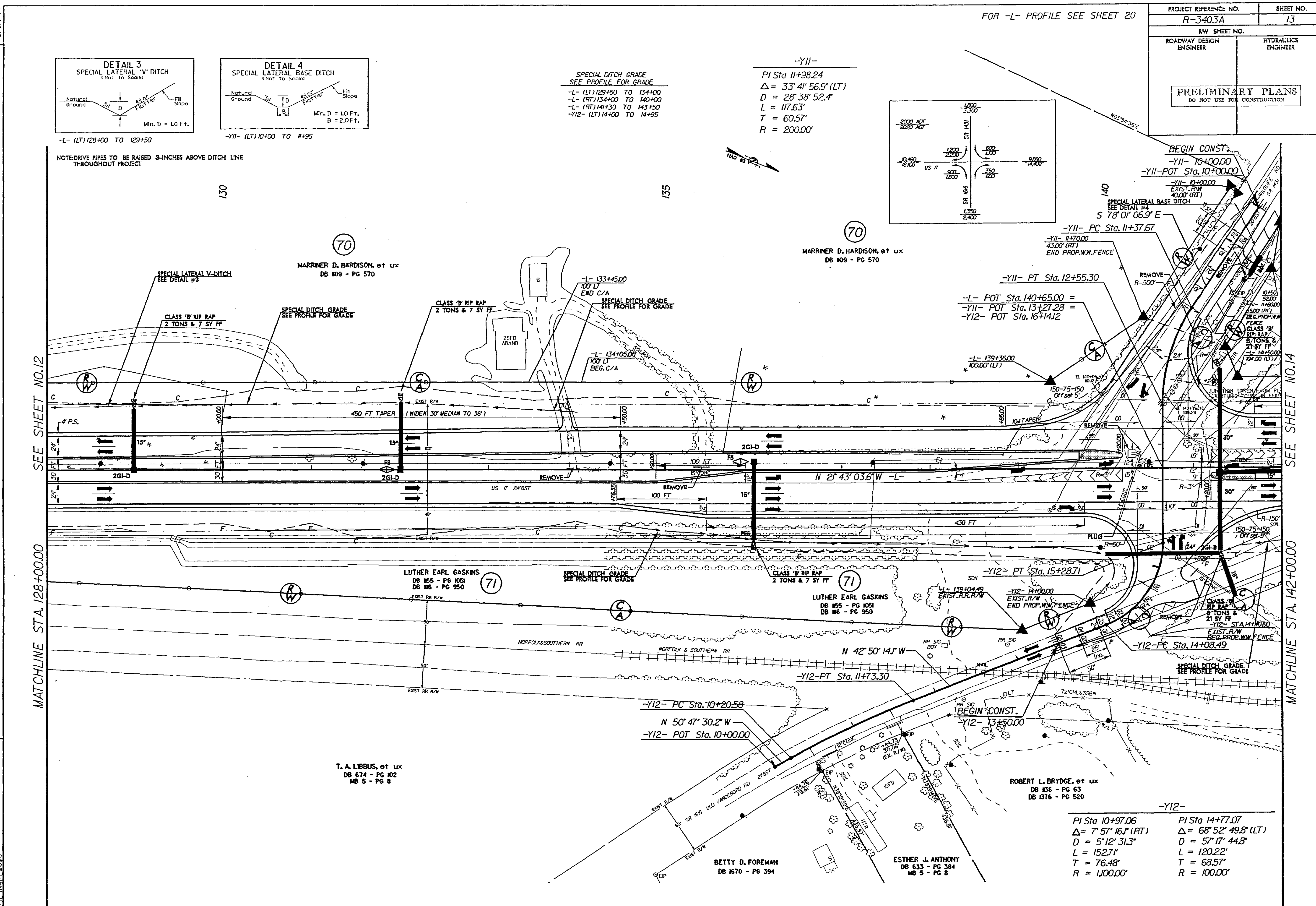
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

RW Revision - Revised Fencing and Easement area for Parcel 73A ELM 08-07-07

8/17/99



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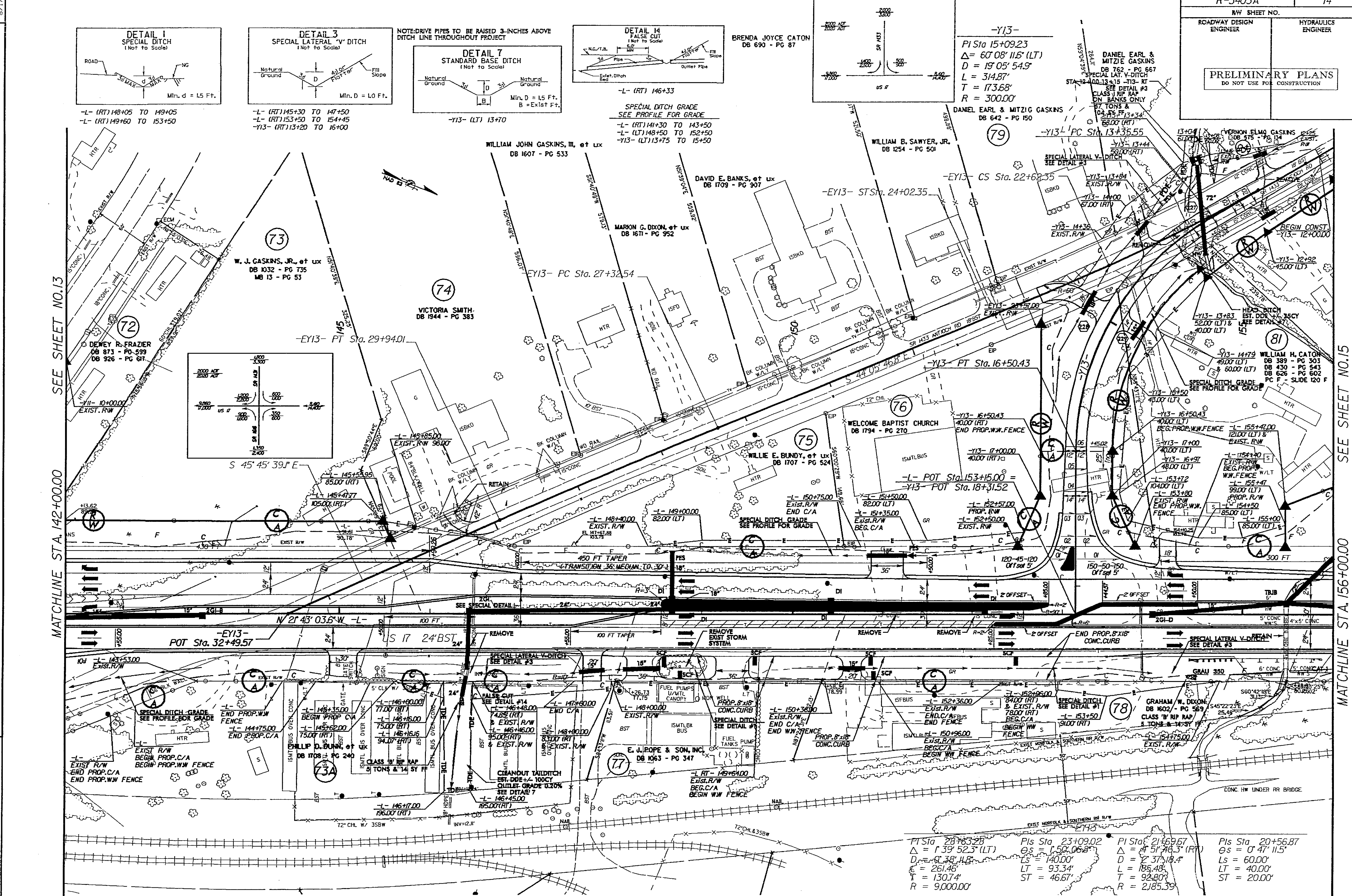
PROJECT REFERENCE NO.	SHEET NO.
R-3403A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

FOR -L- PROFILE SEE SHEET 21



REVISIONS
R/W REVISION - REVISED FENCING AND EASEMENT AREA FOR PARCEL 73A. ELM 8-16-07

8/17/99

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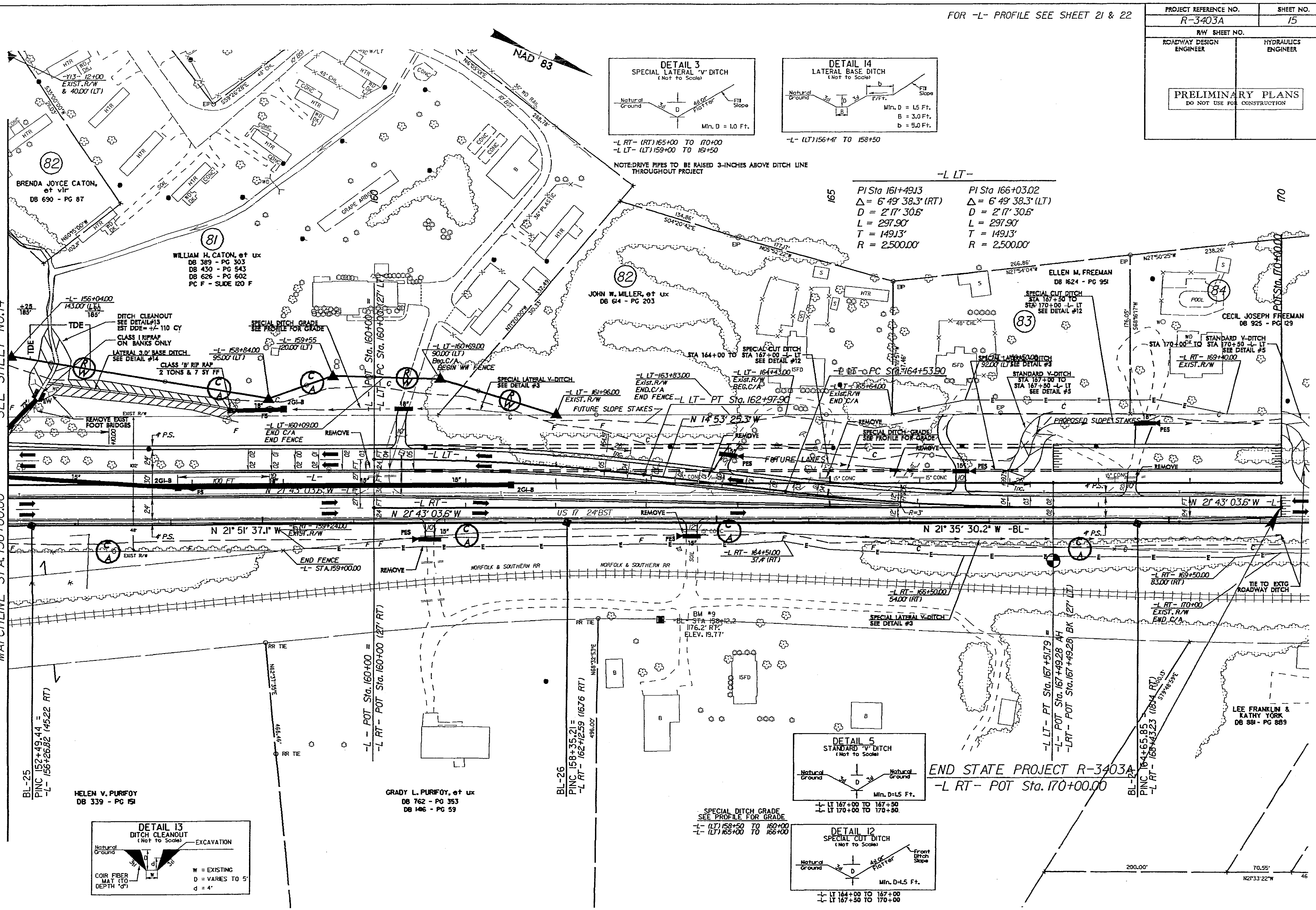
call AT HY221524



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