TOTAL AREA = 2.9 ACRES

TOTAL CONTAINMENT NEEDED = 5,220 CF

1 AT AN AVERAGE SIZE OF 220'X 15'X2' = 6,600 CF

2 @ 3'X2'X6' = 72 CF

PERCENT GRADE	RECOMMENDED LINING
0% TO 1%	STRAW AND TACK
1% TO 3%	EROSION CONTROL MATTING
3% TO 5%	SYNTHETIC ROVING
5% AND GREATER	STONE

EROSION CONTROL DETAILS AND SPECIFICATIONS

STD.*	DESCRIPTION	SYMBOL
	EROSION CONTROL MATTING	
	SYNTHETIC ROVING	
	STONE	
1630.03	TEMPORARY SILT DITCH	TSD
1630.05	TEMPORARY DIVERSION	TD
1605.01	TEMPORARY SILT FENCE	
	TEMPORARY SEDIMENT CONTROL FENCE	
1622.01	GUIDE FOR TEMPORARY BERMS & SLOPE DRAINS	
1630.01	SILT BASIN TYPE-A	
1630.02	SILT BASIN TYPE-B	
1633.01	TEMPORARY ROCK SILT CHECK TYPE-A	
1633.02	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	
1636.01	ROCK SILT SCREEN	
1630.04	STILLING BASIN FOR PUMPED EFFLUENT	
	ROCK INLET SEDIMENT PROTECTION	
1632.01	TRAP TYPE-A	A OR A
1632.02	TRAP TYPE-B	B OR B
1632.03	TRAP TYPE-C	C OR C

NARRATIVE

1. SOIL TYPE: ___CLAY X____SAND

2. IS THE PROJECT LOCATED IN A HIGH QUALITY WATER ZONE?
__X__ YES _____ NO

3. ARE THERE ANY WETLANDS ADJOINING THIS PROJECT?
_____ YES __X_____ NO

SITE DESCRIPTION

This project is located in the Village of Pinehurst of Moore County, at the intersection of NC 2 and NC 5.
The area surrounding this project primarily consists of wooded areas, family dwellings, and recreation areas. The drainage consists of roadway ditches and storm sewers that lead to existing ditches and drainage structures.

PROJECT DESCRIPTION

The project will consist of clearing, grubbing, draining, setting up the base and paving. The major land disturbing activites will consist of clearing and grading within the right of way. Temporary and permanent erosion control measures will be installed.

MAINTENANCE SCHEDULE

1. INSPECT WEEKLY AND AFTER EACH RAINFALL USE THE DEPARTMENT OF TRANSPORTATION'S EROSION CONTROL INSPECTION REPORT.

2. MAINTAIN EROSION CONTROL DEVICES AS FOLLOWS:

A. SILT DITCH - REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE - CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED.

B. SILT FENCE - REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE - AVOID UNDERMINING THE FENCE.

C. SLOPE DRAINS - INSPECT THE SLOPE DRAINS AND SUPPORTING DIVERSIONS.

D. SEDIMENT BASIN - REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN DEPTH - CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT - REMOVE ALL TRASH AND OTHER DEBRIS FROM THE RISER AND POOL AREA.

E. CHECK DAM - REMOVE SETTLEMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION - ADD STONE TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

F. ROCK DAM - REMOVE SEDIMENT AND RESTORE ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN VOLUME - CHECK THE STRUCTURE FOR EROSION, PIPING, AND ROCK DISPLACEMENT AFTER EACH SIGNIFICANT RAINSTORM AND REPAIR IMMEDIATELY.

G. DROP INLET PROTECTION (TYPE C) - REMOVE SEDIMENT FROM THE POOL AREAS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN.

H. SEDIMENT TRAP - REMOVE SEDIMENT AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS WHEN SETTLEMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP - CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING TO ENSURE IT IS A MINIMUM OF 1.5 FT. BELOW THE LOW POINT OF THE EMBANKMENT.

NOTE: SEDIMENT SHOULD BE PLACED IN DESIGNATED DISPOSAL AREAS AND NOT ALLOWED TO FLOW INTO STREAMS OR DRAINAGE WAYS DURING STRUCTURE REMOVAL.

WBS ELEMENT	SHEET NO.
38087	ECP-1

ROADWAY DESIGN AND HYDRAULICS ENGINEER

SEAL 24930 ENGINEER DATE 2 JULY 2007

7-9-07

DIVISION DESIGN / CONSTRUCT ENGINEER

GENERAL CONSIDERATIONS

1. THE LAW REQUIRES INSTALLATION AND MAINTENANCE OF SUFFICIENT EROSION CONTROL PRACTICES TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE. IT ALSO REQUIRES THAT SURFACES BE NON EROSIVE AND STABLE WITHIN 21 DAYS CALENDAR DAYS AFTER THE COMPLETION OF ANY PHASE OF GRADING.

2. FIT THE DEVELOPMENT TO THE SITE - FOLLOW THE NATURAL CONTOURS AS MUCH AS POSSIBLE. PRESERVE AND USE NATURAL DRAINAGE SYSTEMS.

3. LIMIT CLEARING AND GRUBBING - CLEARLY DEFINE WORK LIMIT LINES. GRADE TO MINIMIZE CUT-AND-FILL SLOPES, PRESERVE NATURAL BUFFER AREAS, AND LIMIT THE TIME THAT BARE SOIL IS EXPOSED.

4. PROTECT THE SOIL SURFACE - LIMIT THE EXTENT OF DISTURBANCE AND STABILIZE THE SOIL SURFACE IMMEDIATELLY. ONCE THE SURFACE HAS BEEN DISTURBED, IT IS SUBJECT TO ACCELERATED EROSION AND SHOULD BE PROTECTED WITH APPROPRIATE COVER, SUCH AS MULCH OR VEGETATION IN AN EXPEDIENT MANNER.

5. SEDIMENT BASINS AND TRAPS - SELECT SITES AND INSTALL SEDIMENT BASINS AND TRAPS BEFORE OTHER CONSTRUCTION ACTIVITIES ARE STARTED. ALSO CONSIDER LOCATIONS FOR DIVERSIONS, OPEN CHANNELS, AND STORM DRAINS AT THIS TIME SO THAT ALL SEDIMENT-LADEN TO RUN OFF CAN BE DIRECTED TO AN IMPOUNDMENT STRUCTURE BEFORE LEAVING THE CONSTRUCTION SITE. INSTALL ALL MEASURES AND RELEASE POINTS PRIOR TO CLEARING AND GRUBBING.

6. ONCE AN AREA IS DISTURBED, IT IS SUBJECT TO ACCELERATED EROSION. EROSION CONSTROL CAN BE ACHIEVED BY:

* LIMITING THE SIZE OF THE CLEARING AND TIME OF EXPOSURE BY PROPER SCHEDULING.
* REDUCING THE AMOUNT OF RUNOFF OVER THE DISTURBED SURFACE.
* LIMITING GRADES AND LENGTHS OF SLOPES, AND
* RE-ESTABLISHING PROTECTIVE COVER IMMEDIATELY AFTER LAND DUSTURBING ACTIVITIES ARE COMPLETED OR WHEN CONSTRUCTION ACTIVITES ARE DELAYED FOR THIRTY (30) OR MORE WORKING DAYS

7. STABILIZE CONSTRUCTION ACCESS AREAS, CONSTRUCTION ROADS, AND PARKING AREA DURING INITIAL ACTIVITIES. TRY TO KEEP ROAD GRADES TO A MINIMUM GENERALLY NEVER EXCEEDING 12%.

8. CLEAR BORROW AND WASTE DISPOSAL AREAS AS NEEDED AND PROTECT THEM FROM SURFACE RUNOFF. SLOPE ALL AREAS TO PROVIDE POSITIVE DRAINAGE, AND STABILIZE BARE SOIL SURFACES WITH PERMANENT VEGETATION OR MULCH AS SOON AS FINAL GRADES ARE PREPARED. DIRECT ALL RUNOFF THAT CONTAINS SEDIMENT TO A SEDIMENT-TRAPPING DEVICE. IN LARGE BORROW AND DISPOSAL SITES, SHAPE AND DEEPEN THE LOWER END TO FORM AN IN-PLACE SEDIMENT TRAP.

9. ONLY SEDIMENT-FREE RUNOFF MAY BE DISCHARGED FROM CONSTRUCTION SITES DIRECTLY INTO STREAMS. ENSURE THAT ALL OTHER FLOWS ENTER FROM DESILTING POOLS FORMED BY SEDIMENT TRAPS OR BARRIERS.

10. AREAS ADJOINING STREAMS SHOULD BE LEFT UNDISTURBED AS BUFFERS. WHERE NATURAL BUFFERS ARE NOT AVAILABLE, PROVIDE ARTIFICIAL BUFFERS. WHERE WORK IS REQUIRED ALONG A STREAM, PROVIDE MECHANICAL OR ARTIFICIAL BUFFER (25 FEET MINIMUM REQUIRED).

11. BEFORE MOVING TO NEXT JOB SITE, REVIEW ALL MEASURES FOR EFFECTIVENESS; MAKE ANY ADJUSTMENTS, CLEAR-OUTS, OR REPAIR; CALL ROADSIDE ENVIRONMENTAL DEPARTMENT FOR INSTALLATION OF A DITCH LINER AND SEEDING AND MULCHING OF ALL DISTURBED AREAS.

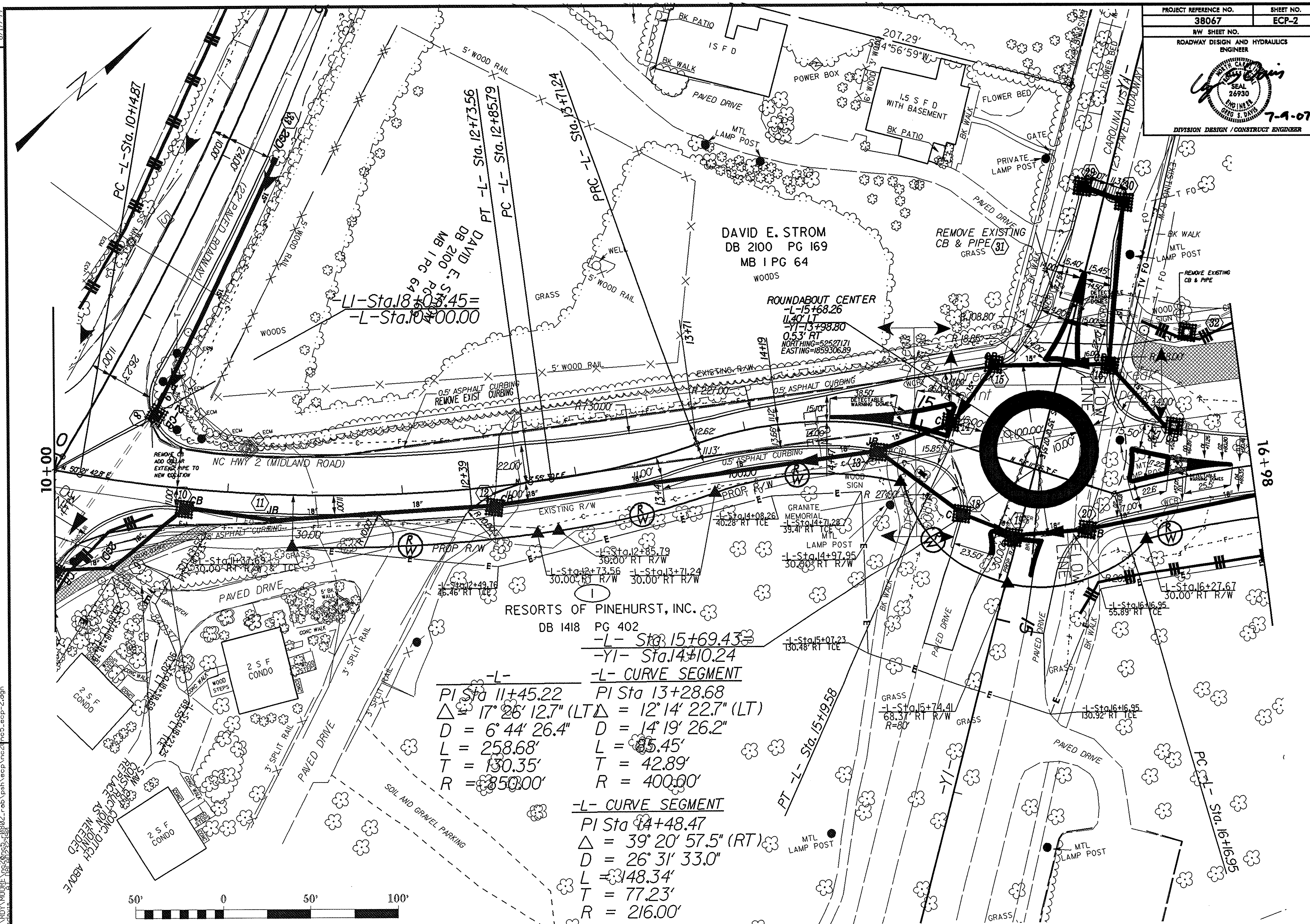
12. CONTINUE TO CHECK AND MAINTAIN ALL MEASURES AFTER EACH SIGNIFICANT RAINFALL UNTIL ALL DISTURBED AREAS BECOME STABILIZED.

13. FILL IN ALL SILT BASINS AND SILT DITCHES. REMOVE ALL SILT FENCES AND SLOPE DRAINS. REDISTRIBUTE ALL STONE FROM SILT CHECKS, SEDIMENT DAMS, AND SILT SCREENS. SEED AND MULCH DISTURBED AREAS.

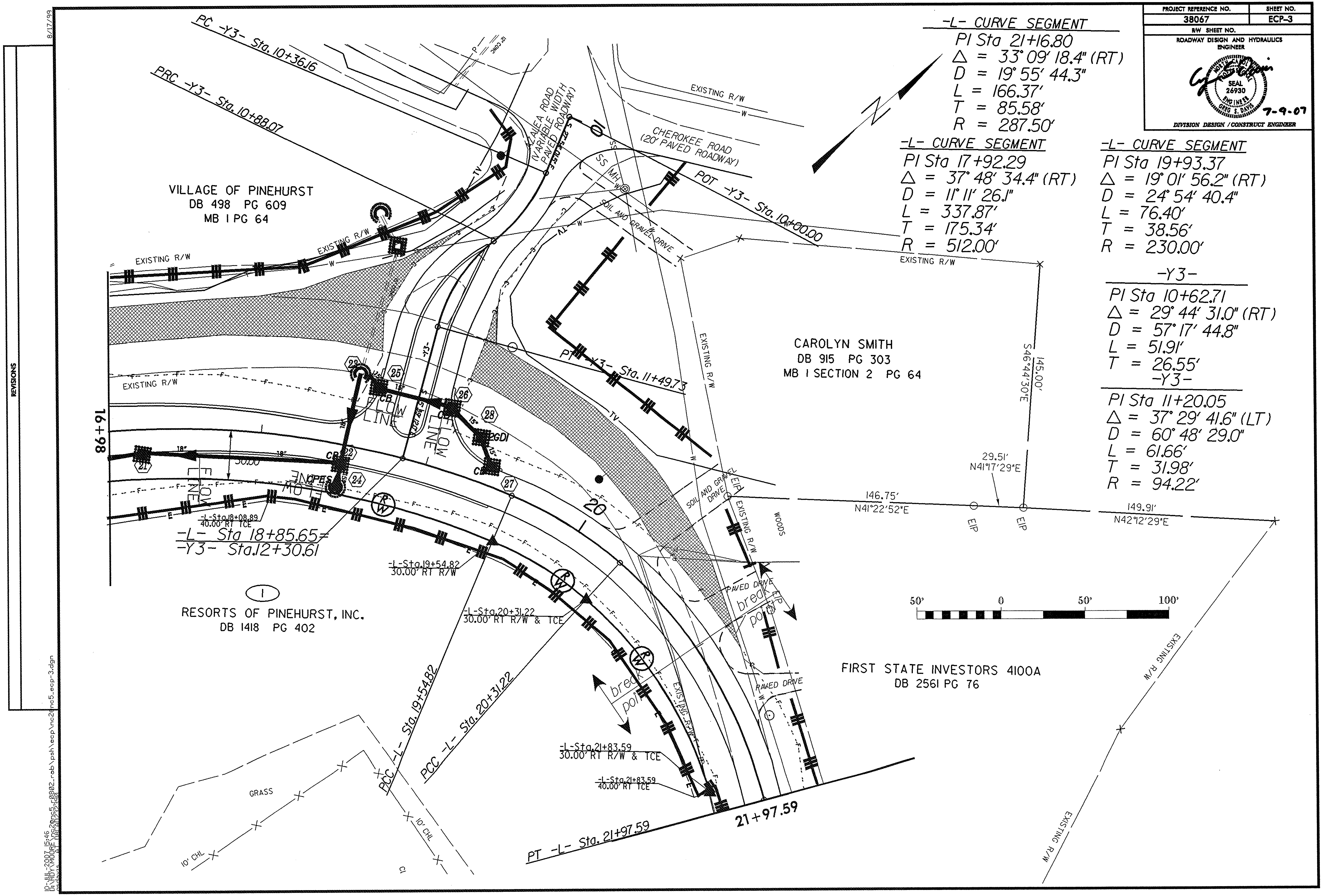
PROJECT REFERENCE NO.	SHEET NO.
38067	ECP-2
R/W SHEET NO.	

ROADWAY DESIGN AND HYDRAULICS ENGINEER

DIVISION DESIGN / CONSTRUCT ENGINEER



NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26930 GREG S. DAVIS
7-9-07
DAVID E. STROM
DB 2100 PG 169
MB 1 PG 64
WOODS
RESORTS OF PINEHURST, INC.
DB 1418 PG 402
NC HWY 2 (MIDLAND ROAD)
CAROLINA VISTA
ROUNDABOUT CENTER
-L-15+68.26
11.40' LT
-Y1-13+98.80
0.53' RT
NORTHING=525271.71
EASTING=1859306.89
-L1-Sta.18+03.45=
-L-Sta.10+00.00
-L- Sta 15+69.43=
-Y1- Sta.14+10.24
-L-
PI Sta 11+45.22
$\triangle$ = 17° 26' 12.7" (LT)
D = 6° 44' 26.4"
L = 258.68'
T = 130.35'
R = 850.00'
-L- CURVE SEGMENT
PI Sta 13+28.68
$\triangle$ = 12° 14' 22.7" (LT)
D = 14° 19' 26.2"
L = 85.45'
T = 42.89'
R = 400.00'
-L- CURVE SEGMENT
PI Sta 14+48.47
$\triangle$ = 39° 20' 57.5" (RT)
D = 26° 31' 33.0"
L = 148.34'
T = 77.23'
R = 216.00'
PC -L- Sta.10+14.87
PT -L- Sta.12+73.56
PC -L- Sta.12+85.79
PRC -L- Sta.13+71.24
PT -L- Sta.15+19.58
PC -L- Sta.16+16.95
REMOVE EXISTING CB & PIPE
SAW CUT CONC. DITCH ABOVE REPLACE CONSTRUCTION JOINT AS NEEDED
SOIL AND GRAVEL PARKING
PAVED DRIVE
2 S F CONDO
1.5 S F D WITH BASEMENT
1 S F D
MTL LAMP POST
50' 0 50' 100'


PROJECT REFERENCE NO. 38067
SHEET NO. ECP-3
R/W SHEET NO.
ROADWAY DESIGN AND HYDRAULICS ENGINEER
SEAL 26930
GREG S. DAVIS
7-9-07
DIVISION DESIGN / CONSTRUCT ENGINEER
-L- CURVE SEGMENT
PI Sta 21+16.80
△ = 33° 09' 18.4" (RT)
D = 19° 55' 44.3"
L = 166.37'
T = 85.58'
R = 287.50'
-L- CURVE SEGMENT
PI Sta 17+92.29
△ = 37° 48' 34.4" (RT)
D = 11° 11' 26.1"
L = 337.87'
T = 175.34'
R = 512.00'
-L- CURVE SEGMENT
PI Sta 19+93.37
△ = 19° 01' 56.2" (RT)
D = 24° 54' 40.4"
L = 76.40'
T = 38.56'
R = 230.00'
-Y3-
PI Sta 10+62.71
△ = 29° 44' 31.0" (RT)
D = 57° 17' 44.8"
L = 51.91'
T = 26.55'
-Y3-
PI Sta 11+20.05
△ = 37° 29' 41.6" (LT)
D = 60° 48' 29.0"
L = 61.66'
T = 31.98'
R = 94.22'
PC -Y3- Sta. 10+36.16
PRC -Y3- Sta. 10+88.07
POT -Y3- Sta. 10+00.00
PT -Y3- Sta. 11+49.73
AZALEA ROAD (VARIABLE WIDTH PAVED ROADWAY)
CHEROKEE ROAD (20' PAVED ROADWAY)
EXISTING R/W
SOIL AND GRAVEL DRIVE
VILLAGE OF PINEHURST
DB 498 PG 609
MB 1 PG 64
CAROLYN SMITH
DB 915 PG 303
MB 1 SECTION 2 PG 64
145.00'
S46°44'30"E
29.51'
N41°17'29"E
146.75'
N41°22'52"E
149.91'
N42°12'29"E
EIP
WOODS
16+98
FLOW LINE
-L- Sta.18+08.89 40.00' RT TCE
-L- Sta 18+85.65= -Y3- Sta.12+30.61
-L-Sta.19+54.82 30.00' RT R/W
-L-Sta.20+31.22 30.00' RT R/W & TCE
RESORTS OF PINEHURST, INC.
DB 1418 PG 402
PAVED DRIVE
break point
50' 0 50' 100'
FIRST STATE INVESTORS 4100A
DB 2561 PG 76
PCC -L- Sta. 19+54.82
PCC -L- Sta. 20+31.22
-L-Sta.21+83.59 30.00' RT R/W & TCE
-L-Sta.21+83.59 40.00' RT TCE
GRASS
10' CHL
PT -L- Sta. 21+97.59
21+97.59
REVISIONS
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
38067	ECP-4
R/W SHEET NO.	

ROADWAY DESIGN AND HYDRAULICS ENGINEER

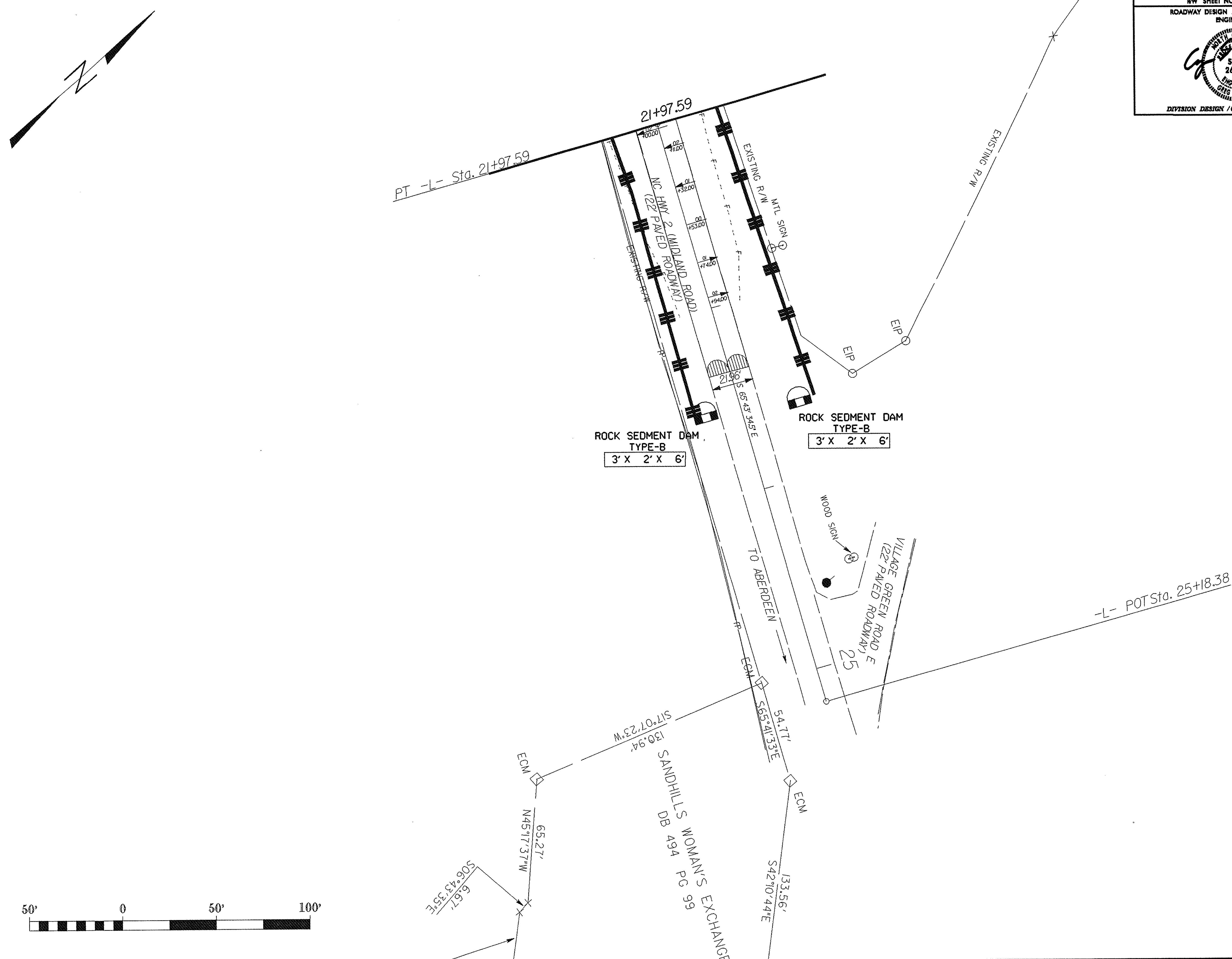
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26930 GREG S. DAVIS

7-9-07

DIVISION DESIGN / CONSTRUCT ENGINEER

REVISIONS

8/17/99



N
21+97.59
PT -L- Sta. 21+97.59
NC HWY 2 (MIDLAND ROAD)
(22' PAVED ROADWAY)
EXISTING R/W
MTL SIGN
EIP
EIP
21.96'
S 65°43'34.5"E
ROCK SEDMENT DAM
TYPE-B
3' X 2' X 6'
ROCK SEDMENT DAM
TYPE-B
3' X 2' X 6'
WOOD SIGN
VILLAGE GREEN ROAD E
(22' PAVED ROADWAY)
25
TO ABERDEEN
-L- POT Sta. 25+18.38
ECM
ECM
ECM
S65°41'33"E
54.77'
S17°07'23"W
130.94'
SANDHILLS WOMAN'S EXCHANGE
DB 494 PG 99
N45°17'37"W
65.27'
S06°43'35"E
6.67'
133.56'
S42°10'44"E
50'
0
50'
100'

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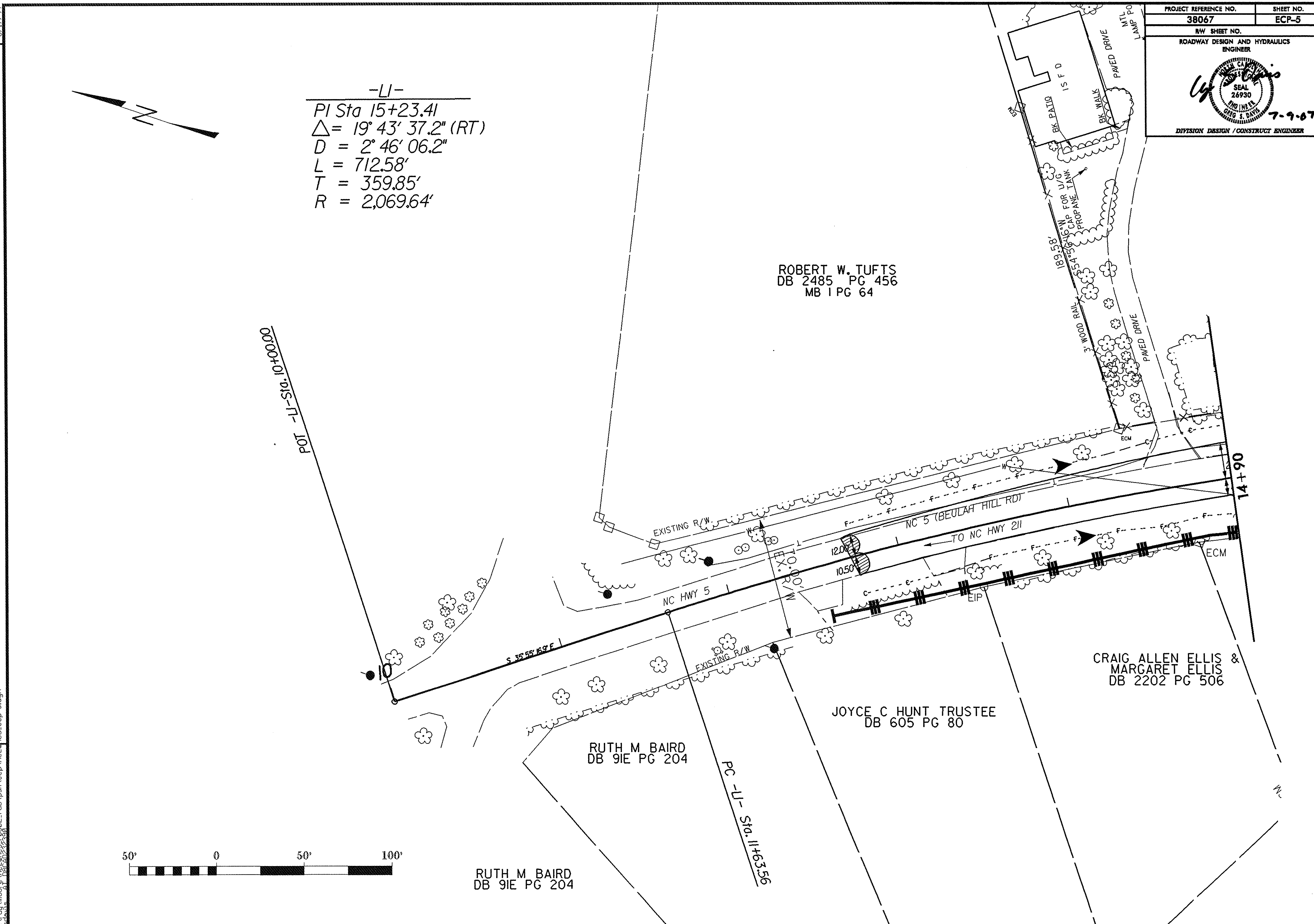
PROJECT REFERENCE NO.
38067
SHEET NO.
ECP-5
R/W SHEET NO.
ROADWAY DESIGN AND HYDRAULICS ENGINEER
SEAL
26930
7-9-07
DIVISION DESIGN / CONSTRUCT ENGINEER
-L1-
PI Sta 15+23.41
△= 19° 43′ 37.2″ (RT)
D = 2° 46′ 06.2″
L = 712.58′
T = 359.85′
R = 2,069.64′
ROBERT W. TUFTS
DB 2485 PG 456
MB 1 PG 64
POT -L1- Sta. 10+00.00
PC -L1- Sta. 11+63.56
S 35°55′16.9″ E
NC HWY 5
NC 5 (BEULAH HILL RD)
TO NC HWY 211
EXISTING R/W
EX. R/W
100.0′
12.00′
10.50′
14+90
ECM
EIP
3′ WOOD RAIL
189.58′
S 54°50′16″W
CAP FOR U/G PROPANE TANK
BK PATIO
BK WALK
1 S F D
PAVED DRIVE
MTL LAMP PO
CRAIG ALLEN ELLIS &
MARGARET ELLIS
DB 2202 PG 506
JOYCE C HUNT TRUSTEE
DB 605 PG 80
RUTH M BAIRD
DB 91E PG 204
RUTH M BAIRD
DB 91E PG 204
50′ 0 50′ 100′

REVISIONS

8/17/99

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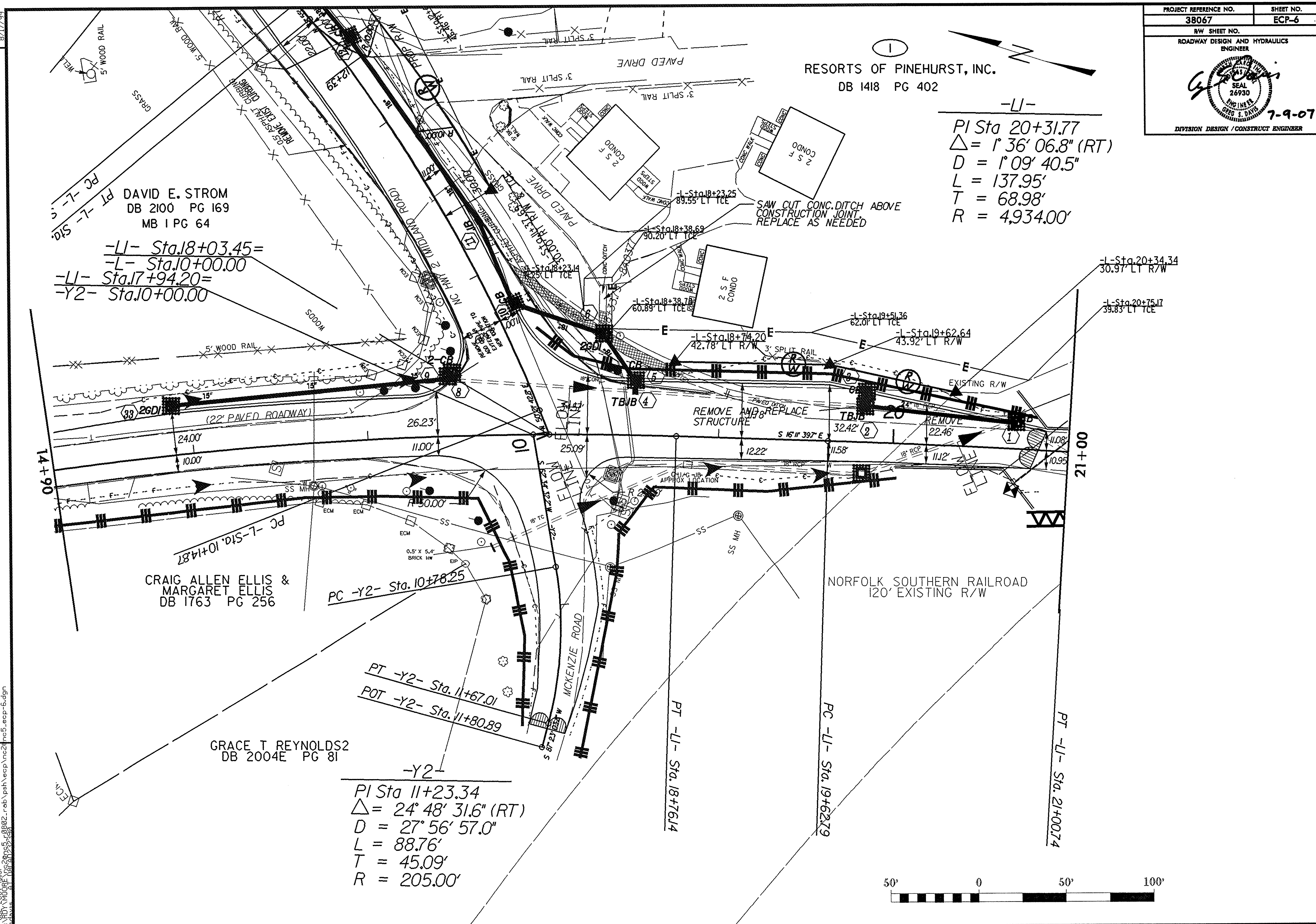
PROJECT REFERENCE NO.	SHEET NO.
38067	ECP-6
R/W SHEET NO.	

ROADWAY DESIGN AND HYDRAULICS ENGINEER

DIVISION DESIGN / CONSTRUCT ENGINEER

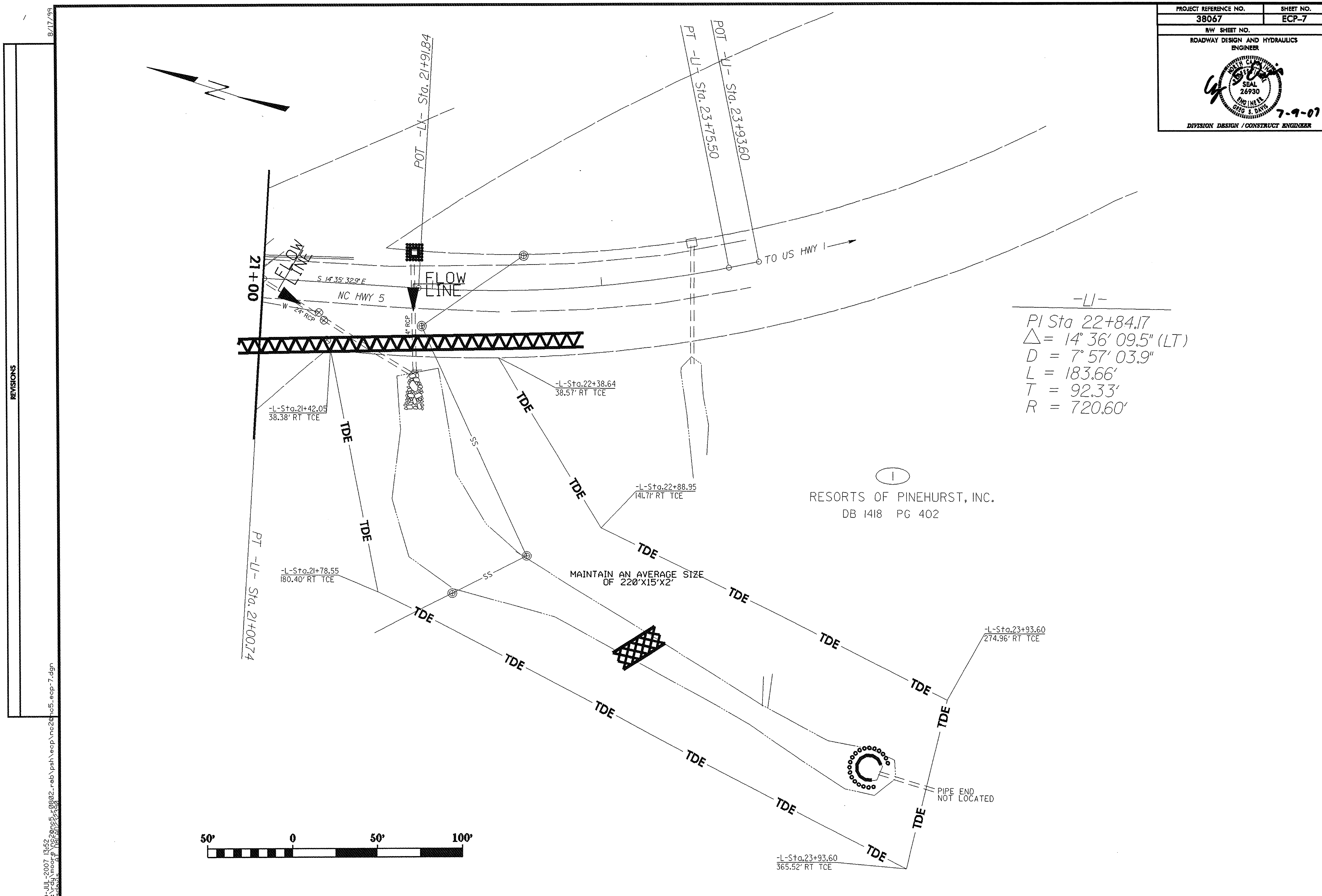
7-9-07



RESORTS OF PINEHURST, INC.
DB 1418 PG 402
-L1-
PI Sta 20+31.77
△= 1° 36' 06.8" (RT)
D = 1° 09' 40.5"
L = 137.95'
T = 68.98'
R = 4,934.00'
DAVID E. STROM
DB 2100 PG 169
MB 1 PG 64
-L1- Sta.18+03.45=
-L- Sta.10+00.00
-L1- Sta.17+94.20=
-Y2- Sta.10+00.00
PAVED DRIVE
3' SPLIT RAIL
5' WOOD RAIL
GRASS
WOODS
2 S F CONDO
SAW CUT CONC. DITCH ABOVE
CONSTRUCTION JOINT.
REPLACE AS NEEDED
-L-Sta.18+23.25
89.55' LT TCE
-L-Sta.18+38.69
90.20' LT TCE
-L-Sta.18+23.14
-L-Sta.18+38.78
60.89' LT TCE
-L-Sta.18+74.20
42.78' LT R/W
-L-Sta.19+51.36
62.01' LT TCE
-L-Sta.19+62.64
43.92' LT R/W
-L-Sta.20+34.34
30.97' LT R/W
-L-Sta.20+75.17
39.83' LT TCE
EXISTING R/W
(22' PAVED ROADWAY)
REMOVE AND REPLACE
STRUCTURE
REMOVE
NC HWY 2 (MIDLAND ROAD)
MCKENZIE ROAD
14+90
21+00
CRAIG ALLEN ELLIS &
MARGARET ELLIS
DB 1763 PG 256
PC -L-Sta. 10+14.87
PC -Y2- Sta. 10+78.25
PT -Y2- Sta. 11+67.01
POT -Y2- Sta. 11+80.89
GRACE T REYNOLDS2
DB 2004E PG 81
-Y2-
PI Sta 11+23.34
△= 24° 48' 31.6" (RT)
D = 27° 56' 57.0"
L = 88.76'
T = 45.09'
R = 205.00'
NORFOLK SOUTHERN RAILROAD
120' EXISTING R/W
PT -L1- Sta. 18+76.14
PC -L1- Sta. 19+62.79
PT -L1- Sta. 21+00.74
SS MH
50' 0 50' 100'

8/17/99

REVISIONS



PROJECT REFERENCE NO.
38067
SHEET NO.
ECP-7
R/W SHEET NO.
ROADWAY DESIGN AND HYDRAULICS ENGINEER
SEAL
26930
GREG S. DAVIS
7-9-07
DIVISION DESIGN / CONSTRUCT ENGINEER
POT -LI- Sta. 21+91.84
PT -LI- Sta. 23+75.50
POT -LI- Sta. 23+93.60
21+00
FLOW LINE
FLOW LINE
S 14°35' 32.9" E
NC HWY 5
24" RCP
TO US HWY 1
-L-Sta.21+42.05
38.38' RT TCE
-L-Sta.22+38.64
38.57' RT TCE
-L-Sta.22+88.95
141.71' RT TCE
-L-Sta.21+78.55
180.40' RT TCE
-L-Sta.23+93.60
274.96' RT TCE
-L-Sta.23+93.60
365.52' RT TCE
TDE
SS
MAINTAIN AN AVERAGE SIZE OF 220'X15'X2'
PIPE END NOT LOCATED
PT -LI- Sta. 21+00.74
-LI-
PI Sta 22+84.17
△= 14° 36' 09.5" (LT)
D = 7° 57' 03.9"
L = 183.66'
T = 92.33'
R = 720.60'
1
RESORTS OF PINEHURST, INC.
DB 1418 PG 402
50' 0 50' 100'
REVISIONS
8/17/99
10-JUL-2007 13:52