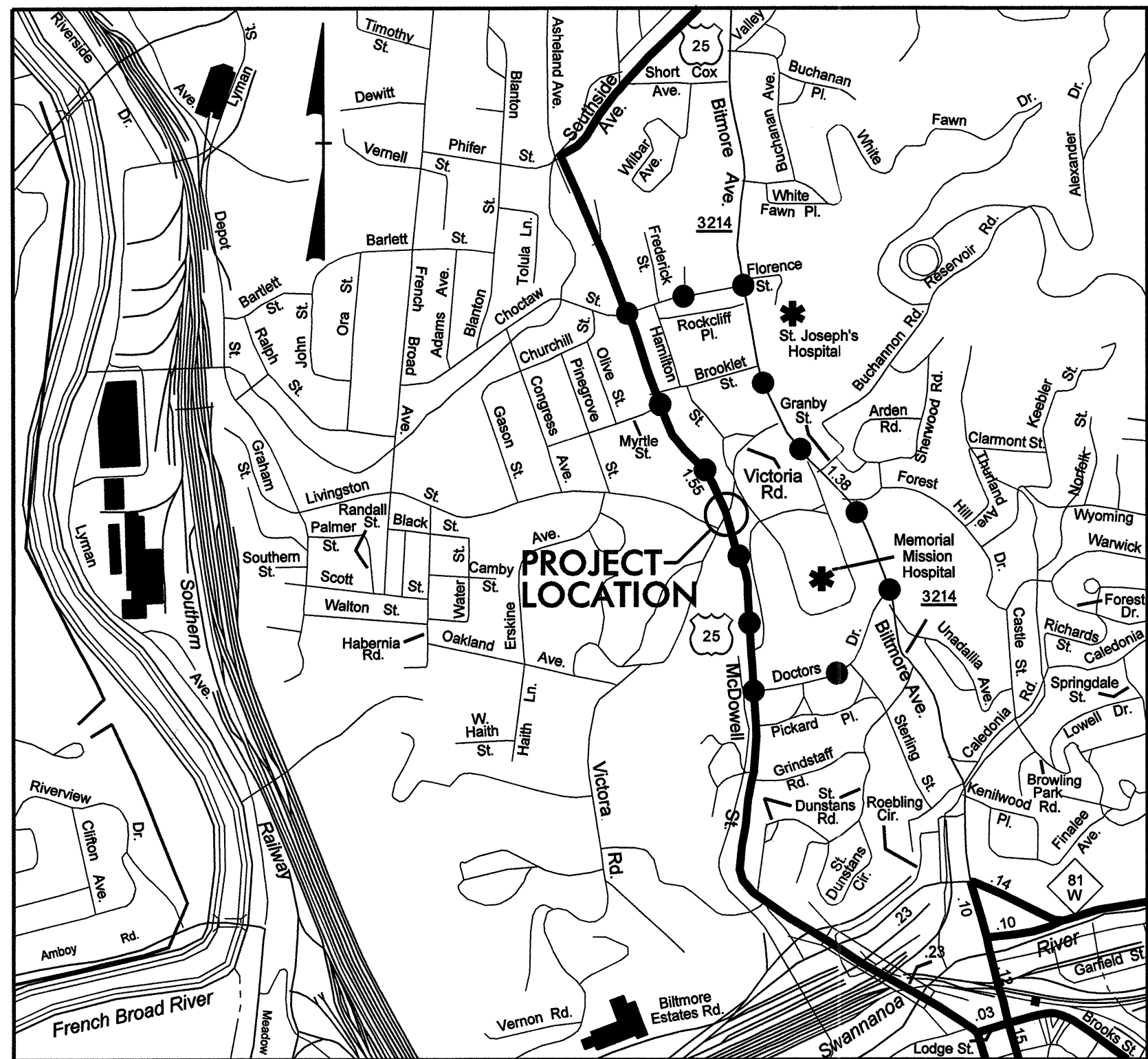


09/08/09

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



VICINITY MAP

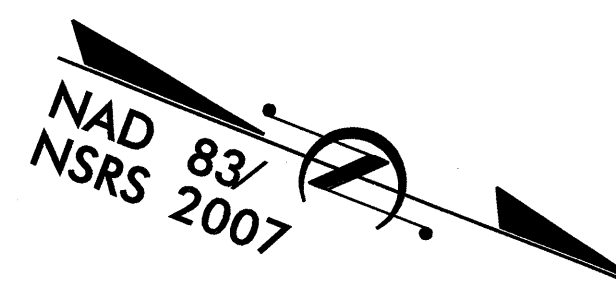
●-●-●- OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**BUNCOMBE COUNTY**

**LOCATION: US 25 (McDOWELL STREET) TUNNEL  
UNDER VICTORIA ROAD IN ASHEVILLE**

**TYPE OF WORK: CONCRETE REPAIRS, WINGWALL EXTENSIONS,  
STONE VENEER, AND LIGHTING**



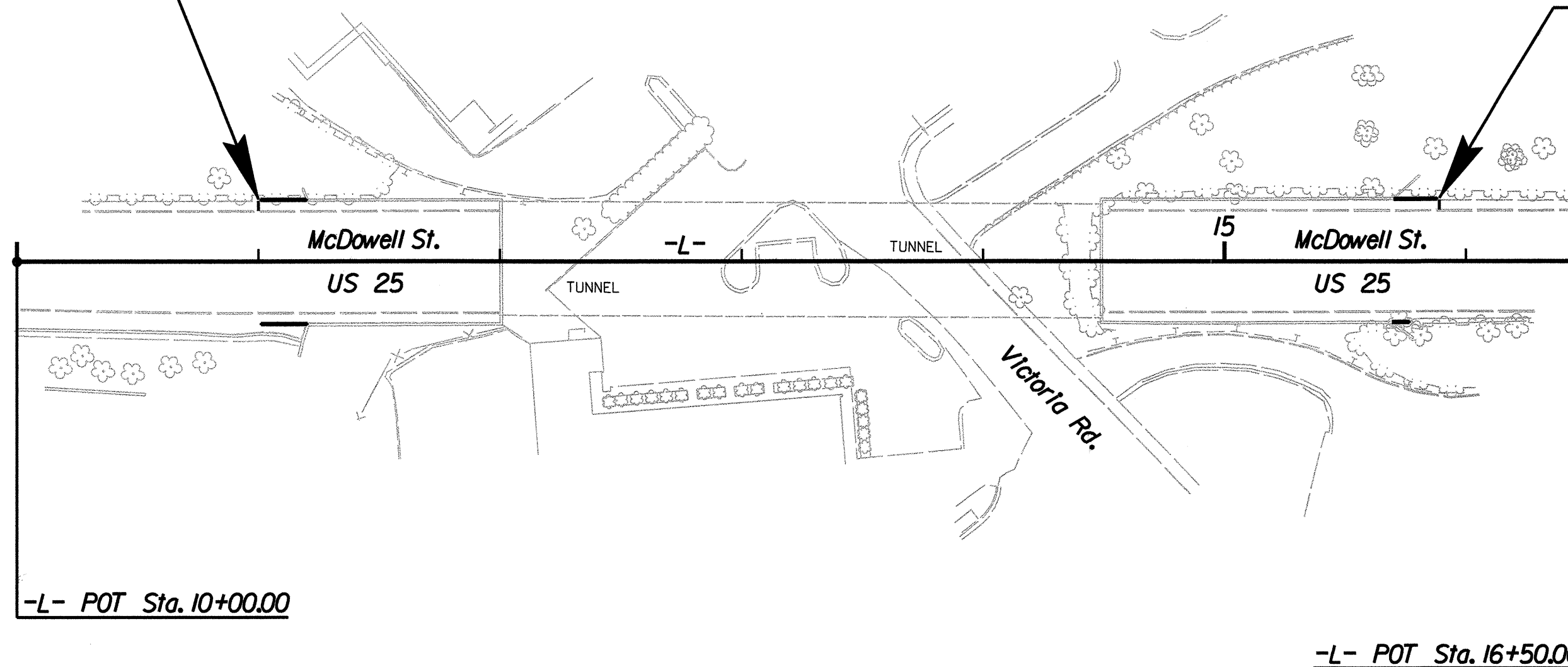
BEGIN STATE PROJECT U-4014

-L- STA. POT 11+00.00

END STATE PROJECT U-4014

-L- STA. POT 15+89.00

← TO I-40



**HDR** HDR Engineering, Inc. of the Carolinas  
3733 National Drive, Suite 207 Raleigh, N.C. 27612  
N.C.B.E.L.S. License Number: F-0116

TIP PROJECT: U-4014

CONTRACT: C202085

9/5/2012 1:39:14 PM

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4014	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39044.1.1		PE	
39044.2.1		ROW-UTIL.	
39044.3.1		CONST.	

**DESIGN DATA**  
**US 25**

ADT 2010 =	23,000
ADT	
DHV =	%
D =	%
T =	12 %
V =	35 MPH
FUNC CLASS =	PRINCIPAL URBAN ARTERIAL

**PROJECT LENGTH**

LENGTH OF TUNNEL PROJECT U-4014 = 0.093 MILES

**DIVISION OF HIGHWAYS**  
55 Orange St., Asheville, NC 28801

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 26, 2011	DOMINIC WAINWRIGHT, PE PROJECT ENGINEER
LETTING DATE: DECEMBER 18, 2012	RODNEY MONEY, PE PROJECT DESIGN ENGINEER
NCDOT CONTACT:	MIKE CALLOWAY DIVISION PROJECT MANAGER

**STRUCTURAL ENGINEER**

*Rodney E. Money*  
SIGNATURE: Rodney E. Money 9/4/12

**ROADWAY DESIGN ENGINEER**

*Dominic M. Wainwright*  
SIGNATURE: Dominic M. Wainwright 9/18/12

**DIVISION OF HIGHWAYS**  
**STATE OF NORTH CAROLINA**



09/08/00

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	□
Parcel/Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	---WLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	⊕
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	⊕
Dam	▬

### HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊗
Proposed Lateral, Tail, Head Ditch	▬
False Sump	◇

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

### RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite Marker	○
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	---E---
Proposed Temporary Construction Easement	---E---
Proposed Temporary Drainage Easement	---TDE---
Proposed Permanent Drainage Easement	---PDE---
Proposed Permanent Drainage / Utility Easement	---DUE---
Proposed Permanent Utility Easement	---PUE---
Proposed Temporary Utility Easement	---TUE---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	---C---
Proposed Slope Stakes Fill	---F---
Proposed Wheel Chair Ramp	⊕
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗
VEGETATION:	
Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	⊕
Vineyard	⊕

### EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-----

### UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊕
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

### TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

### WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊕
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

### TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

### GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

### SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

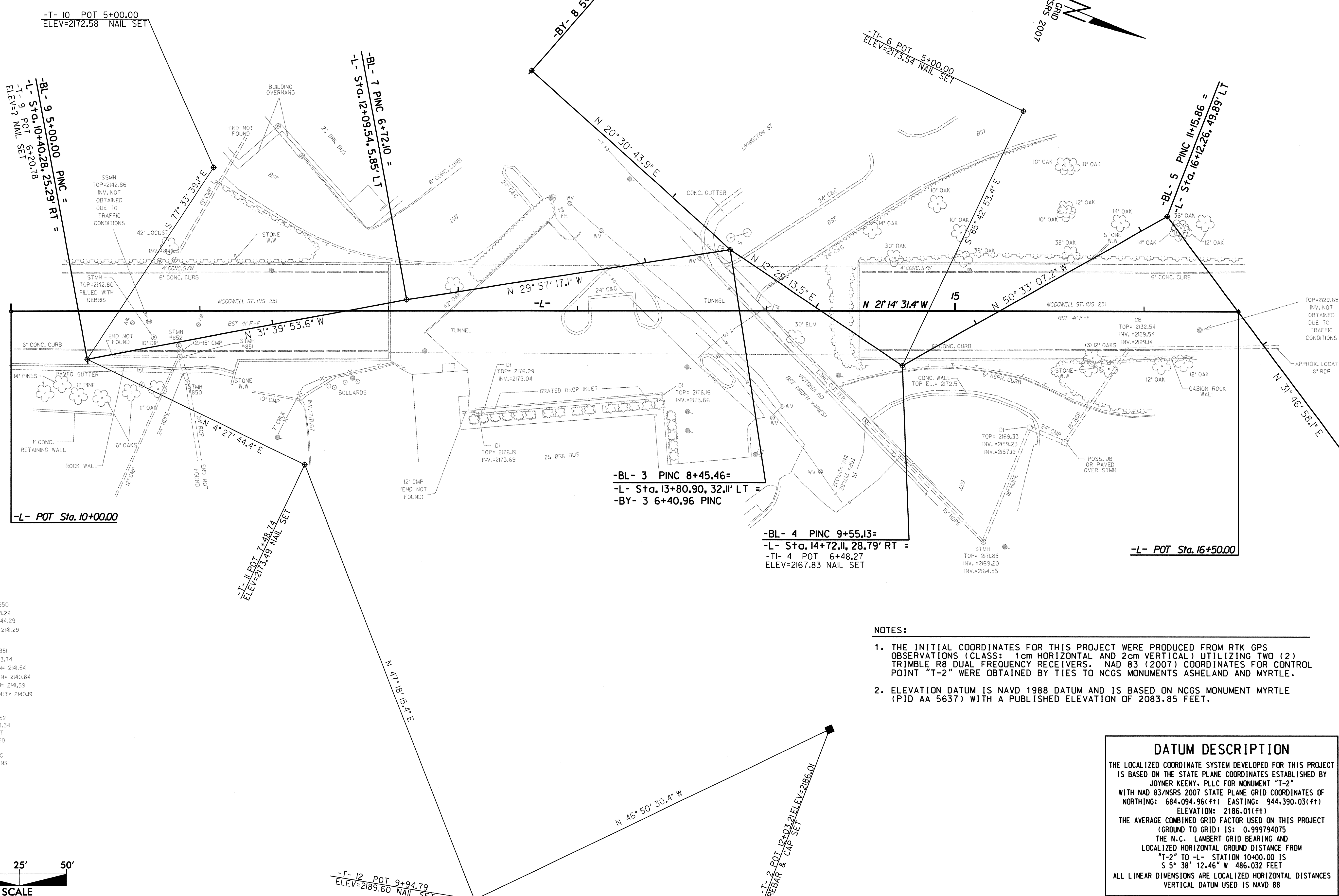
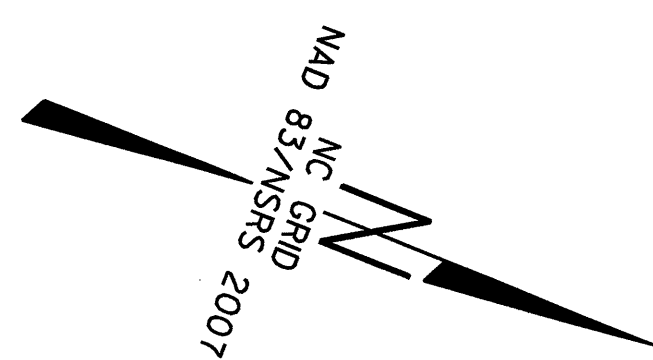
### MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



# SURVEY CONTROL SHEET U-4014

PROJECT REFERENCE NO. U-4014	SHEET NO. 1-C
---------------------------------	------------------

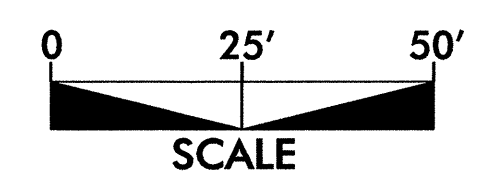


REVISIONS

STMH #850  
TOP= 2148.29  
INV. IN= 2144.29  
INV. OUT= 2141.29

STMH #851  
TOP= 2143.74  
12" CMP INV. IN= 2141.54  
24" HDPE INV. IN= 2140.84  
6" DIP INV. IN= 2141.59  
(2) 15" RCP INV. OUT= 2140.19

STMH #852  
TOP= 2143.34  
INV. NOT OBTAINED DUE TO TRAFFIC CONDITIONS



**NOTES:**

1. THE INITIAL COORDINATES FOR THIS PROJECT WERE PRODUCED FROM RTK GPS OBSERVATIONS (CLASS: 1cm HORIZONTAL AND 2cm VERTICAL) UTILIZING TWO (2) TRIMBLE R8 DUAL FREQUENCY RECEIVERS. NAD 83 (2007) COORDINATES FOR CONTROL POINT "T-2" WERE OBTAINED BY TIES TO NCGS MONUMENTS ASHESLAND AND MYRTLE.
2. ELEVATION DATUM IS NAVD 1988 DATUM AND IS BASED ON NCGS MONUMENT MYRTLE (PID AA 5637) WITH A PUBLISHED ELEVATION OF 2083.85 FEET.

**DATUM DESCRIPTION**

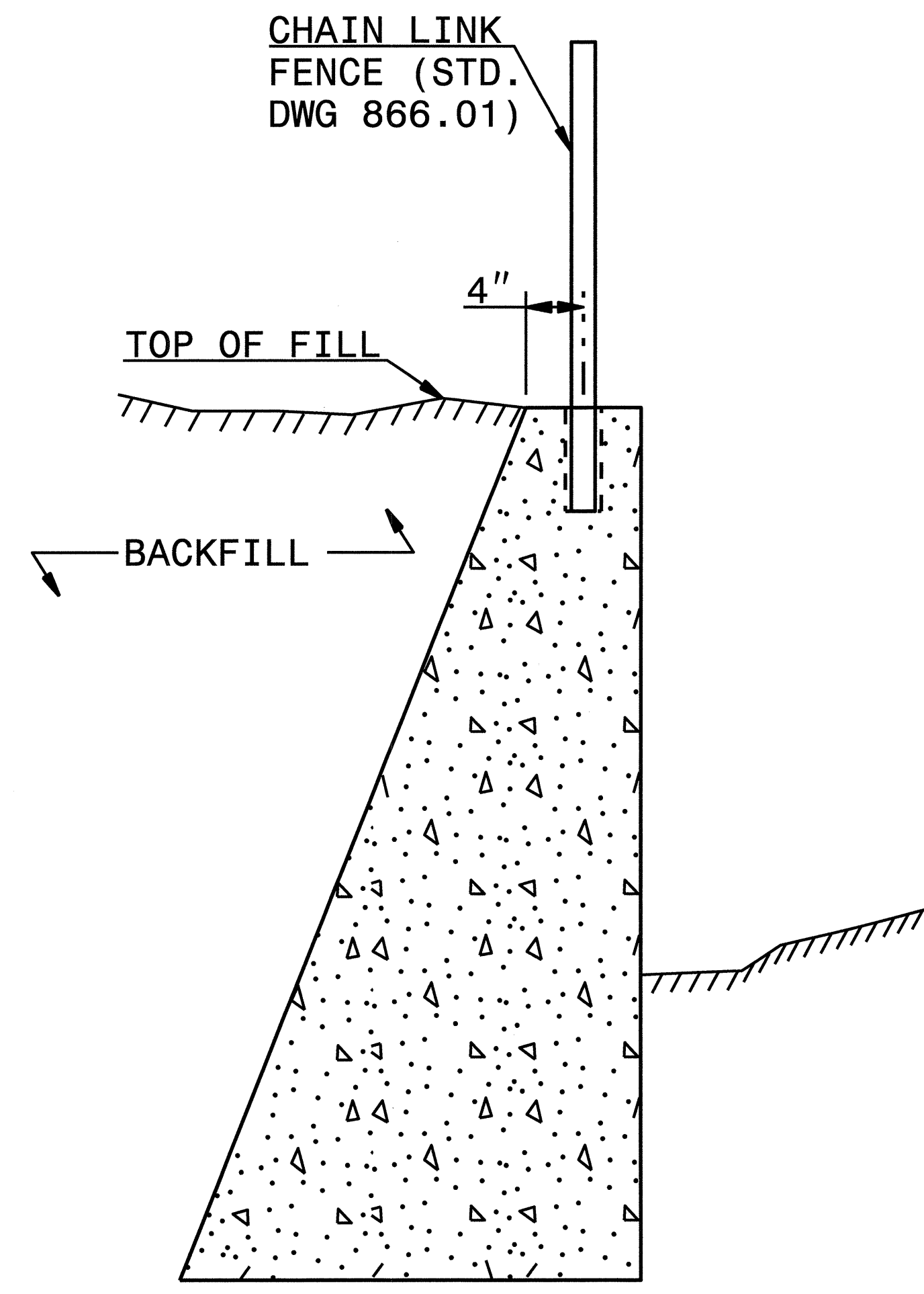
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY JOYNER KEENEY, PLLC FOR MONUMENT "T-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 684,094.96(ft) EASTING: 944,390.03(ft) ELEVATION: 2186.01(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999794075

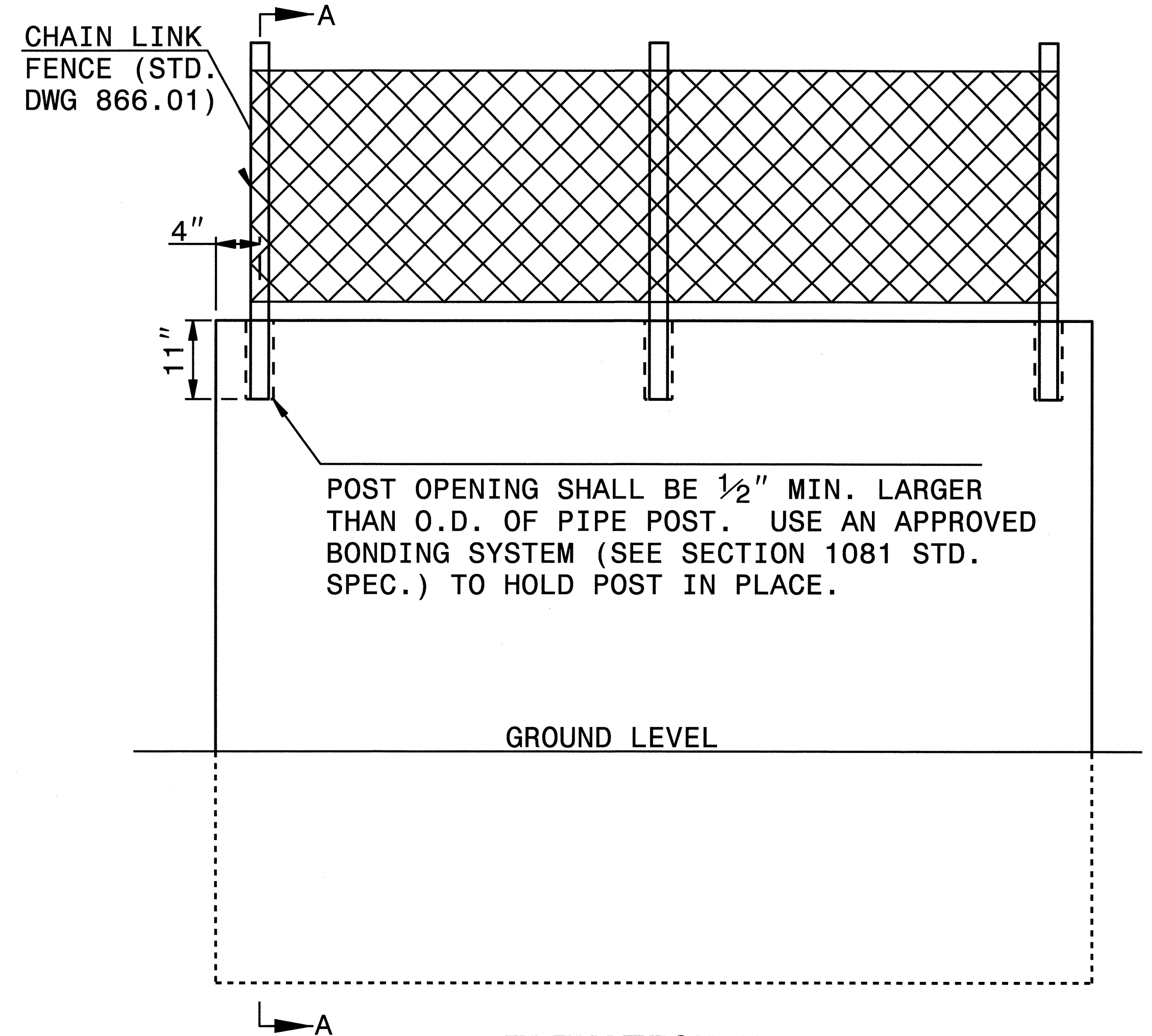
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "T-2" TO L- STATION 10+00.00 IS S 5° 38' 12.46" W 486.032 FEET

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

5/14/99  
9/5/2018  
3470\U4014\_SCS-1C.dgn

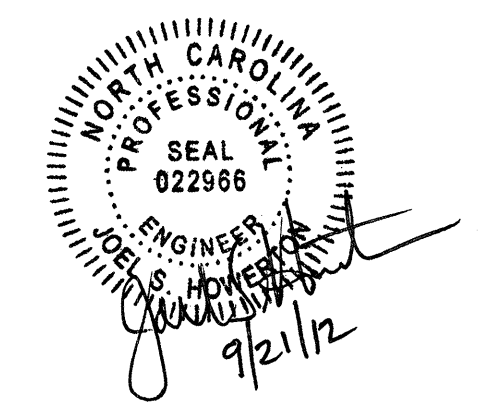


**SECTION A-A  
CONCRETE RETAINING WALL**



**ELEVATION VIEW  
OF RETAINING WALL**

EMBED CHAIN LINK FENCE 11" INTO PROPOSED WALL WITH EPOXY OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER. PRE-MEASURE AND CENTER THE PROPOSED FENCE ON TOP OF WALL FOR POST SPACINGS. USE A ROTARY DRILL TO DRILL HOLES IN THE CONCRETE. NO IMPACT DRILLS WILL BE ALLOWED, TO ELIMINATE ANY POSSIBILITY OF STRUCTURAL DAMAGES TO THE PROPOSED WALL.



CONTRACT STANDARDS & DEVELOPMENT UNIT  
STANDARDS AND SPECIAL DESIGN  
Office 919-707-6950 FAX 919-250-4119

**CHAIN LINK FENCE ON  
RETAINING WALL**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: nbritt DATE: 05-11-04  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC.: details\nbritt\metric\220\modified\lume.dgn

SYSTEMS DESIGN  
 SUBMITTALS  
 6/10/08

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SUMMARY OF QUANTITIES**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202085

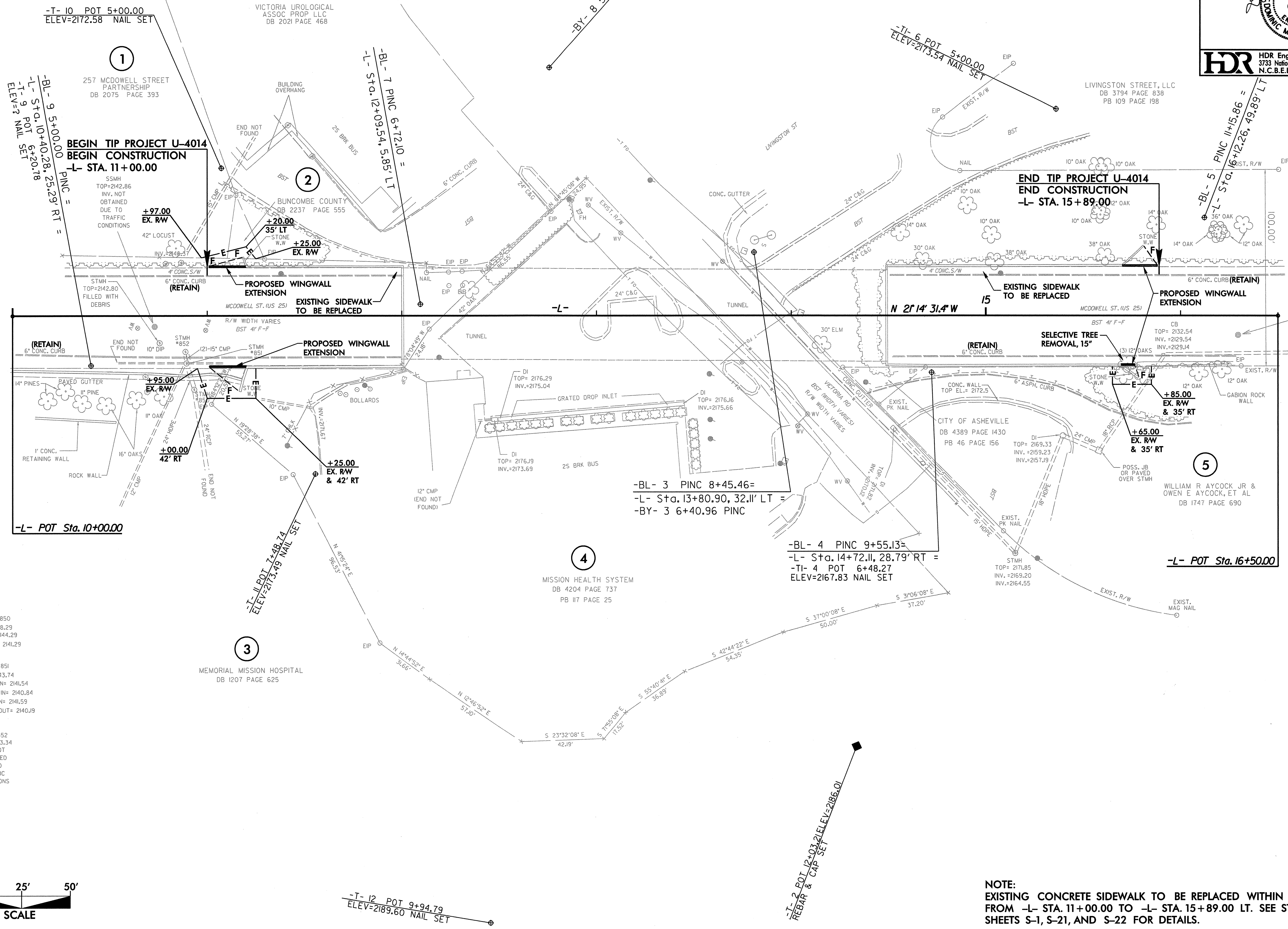
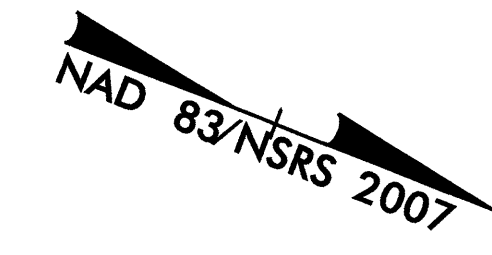
ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
0000950000-E	SP	19,800	SF	GENERIC MISCELLANEOUS ITEM GRAFFITI RESISTANT COATING
1220000000-E	545	20	TON	INCIDENTAL STONE BASE
2738000000-E	SP	205	SY	GENERIC PAVING ITEM REMOVE AND REPLACE 4" CONC SIDEWALK
3524000000-E	SP	583	LF	VINYL COATED CHAIN LINK FENCE, *** FABRIC (48")
3984000000-E	SP	9,000	SF	GENERIC WALL ITEM ANCHORED VENEER
4400000000-E	1110	450	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	48	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	140	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	1	EA	FLASHING ARROW BOARD
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	20	EA	DRUMS
4445000000-E	1145	150	LF	BARRICADES (TYPE III)
4480000000-N	1165	1	EA	TMA
5145000000-N	1408	1	EA	LIGHT CONTROL EQUIPMENT, TYPE RW ***** (120/240V)
5260000000-N	SP	Lump Sum		GENERIC LIGHTING ITEM CIRCUITRY
5270000000-N	SP	28	EA	GENERIC LIGHTING ITEM LUMINAIRE MOUNTING BRACKET
5270000000-N	SP	28	EA	GENERIC LIGHTING ITEM TUNNEL/WINGWALL LUMINAIRE
6000000000-E	1605	100	LF	TEMPORARY SILT FENCE
6075000000-E	1651	1	EA	SELECTIVE TREE REMOVAL, *** (15')
6078000000-E	1651	0.15	ACR	SELECTIVE UNDERGROWTH REMOVAL
6084000000-E	1660	0.25	ACR	SEEDING & MULCHING
8096000000-E	450	98	LF	PILE EXCAVATION IN SOIL

ItemNumber	Sec #	Quantity	Unit	Description
8097000000-E	450	20.5	LF	PILE EXCAVATION NOT IN SOIL
8121000000-N	412	Lump Sum		UNCLASSIFIED STRUCTURE EXCAVATION AT STATION ***** (13+25)
8203000000-E	420	66.5	CY	CLASS A CONCRETE (RETAINING WALL)
8252000000-E	425	9,003	LB	REINFORCING STEEL (RETAINING WALL)
8664000000-E	SP	587	CF	SHOTCRETE REPAIRS
8678000000-E	SP	146	LF	EPOXY RESIN INJECTION
8802014000-E	SP	435	SF	SOLDIER PILE RETAINING WALLS

**RIGHT OF WAY AREA DATA**

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE. (SQ. FT.)	PERM. DRAIN. EASE.	TEMP. DRAIN. EASE.
1	257 MCDOWELL STREET PARTNERSHIP	1.08				24		
2	BUNCOMBE COUNTY	0.01				60		
3	MEMORIAL MISSION HOSPITAL	25.34				157		
4	MISSION HEALTH SYSTEM	1.26				264		
5	WILLIAM R AYCOCK JR & OWEN E AYCOCK, ET AL	0.84				184		



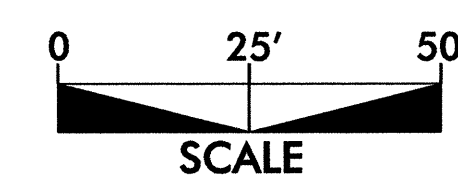


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(2) 15' RCP INV. OUT= 2140.19

STMH #852  
TOP= 2143.34  
INV. NOT OBTAINED DUE TO TRAFFIC CONDITIONS



**NOTE:**  
EXISTING CONCRETE SIDEWALK TO BE REPLACED WITHIN PROJECT LIMITS FROM -L- STA. 11+00.00 TO -L- STA. 15+89.00 LT. SEE STRUCTURES PLAN SHEETS S-1, S-21, AND S-22 FOR DETAILS.

9/5/2012 3:34:10 PM 3470\U4014\_rdy\_psh.dgn