



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

November 8, 2017

Addendum No. 3

RE: Contract # C203980

WBS # 40191.3.2

STATE FUNDED

New Hanover County (U-4751)

SR-1409 (MILITARY CUTOFF ROAD EXTENSION) FROM SR-1409 TO
US-17 IN WILMINGTON

November 21, 2017 Letting

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Roadway plans:

Sheet No.	Revisions
1-A	Revised to show New Sheet No. 2G-5 among the Geotechnical details
2C-22	Revised to add additional curb ramp detail for use at multi-use path
2G-5	New sheet to include the Standard Rock Plating detail
4 thru 34	Revised to include wetland boundary delineations (Note: Only Sheets 4-10, 15-23, 21A, 25-27 and 30-34 have wetlands on them)

Please void the above listed sheets in your plans and staple the revised sheets thereto.

Please staple the new Sheet No. 2G-5 after existing Sheet No. 2G-4.

The following revisions have been made to the Structure plans:

Sheet No.	Revisions
S1-1	Revised to remove "Temporary Shoring For Maintenance of Traffic"
S1-4	Revised to remove the note concerning "Temporary Shoring"

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

W-1, W-2, W-8 and W-9	Revised to make some slight changes to the stations to account for changes to the location of the moment slab. Also W-8 was revised to add information (Note 4) concerning the minimum reinforcement length
New W-14	New sheet was added to include details for the "Concrete Barrier Rail With Moment Slab"

Please void the above listed sheets in your plans and staple the revised sheets thereto. Please staple New Sheet No. W-14 after existing Sheet No. W-13.

The following revisions have been made to the proposal:

Page No.	Revisions
Proposal Cover	Note added that reads "Includes Addendum No. 3 Dated 11-8-2017".
G-38	Revised the project special provision entitled "Notes To Contractor" to provide locations of known wellheads
R-8	Deleted the project special provision entitled "Rock and Broken Pavement Fills"
New GT-6.1 and GT-6.2	New Pages added to include the project special provision entitled "Concrete Barrier Rail with Moment Slab"
UbO-1 thru UbO-3	Revised the project special entitled "Utilities By Others" to be more descriptive of when utilities will be moved in certain areas

Please void the above listed pages in your proposal and staple the revised pages thereto. Please add new Page Nos. GT-6.1 and GT-6.2 after existing Page No. GT-5.3.

On the item sheets the following pay item has been added:

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
421-8839000000-E-SP	Concrete Barrier Rail With Moment Slab	NEW ITEM	1,149.79 LF

The contract will be prepared accordingly.

Please ensure that you download and begin with the EBS file listed for the November 21, 2017 letting. The Expedite Addendum File has been updated to reflect the above noted revision. This is the second EBS addendum file. Please download the Expedite Addendum File and follow the instructions for applying the addendums. **Bid Express will not accept your bid unless the EBS file associated with the November 21, 2017 letting is used and both EBS addendum files have been applied.**

The contract times were reexamined to consider the changes outlined in all of the addendums for this project and the Department has determined that the completion dates will remain the same.

U-4751 (C203980)

New Hanover County

Sincerely,

DocuSigned by:

Ronald E. Davenport, Jr.

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Ronald. E. Davenport, Jr., PE
State Contract Officer

RED/jag
Attachments

cc: Mr. Lamar Sylvester, PE
Ms. Karen Collette, PE
Mr. Chris Werner, PE
Mr. Jon Weathersbee, PE
Mr. Ken Kennedy, PE
Mr. Mitchell Dixon
Project File (2)

Mr. Ray Arnold, PE
Ms. Theresa Canales, PE
Mr. Mike Gwyn
Ms. Lori Strickland
Ms. Jaci Kincaid
Ms. Penny Higgins

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH, N.C.

PROPOSAL

INCLUDES ADDENDUM No. 3 DATED 11-08-2017
INCLUDES ADDENDUM No.2 DATED 10-19-2017
INCLUDES ADDENDUM No.1 DATED 09-12-2017

DATE AND TIME OF BID OPENING: **November 21, 2017 AT 2:00 PM**

CONTRACT ID C203980
WBS 40191.3.2

FEDERAL-AID NO. STATE FUNDED
COUNTY NEW HANOVER
T.I.P. NO. U-4751
MILES 4.156
ROUTE NO. SR 1409
LOCATION SR-1409 (MILITARY CUTOFF ROAD EXTENSION) FROM SR-1409 TO
 US-17 IN WILMINGTON.

TYPE OF WORK GRADING, DRAINAGE, PAVING, RETAINING WALL AND STRUCTURES.

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

BIDS WILL BE RECEIVED AS SHOWN BELOW:

THIS IS A ROADWAY & STRUCTURE PROPOSAL

5% BID BOND OR BID DEPOSIT REQUIRED

Page 1-20, Subarticle 102-15(O), delete and replace with the following:

(O) Failure to restrict a former Department employee as prohibited by Article 108-5.

Page 1-65, Article 108-5 Character of Workmen, Methods, and Equipment, line 32, delete all of line 32, the first sentence of the second paragraph and the first word of the second sentence of the second paragraph.

STATE HIGHWAY ADMINISTRATOR TITLE CHANGE:

(9-18-12)

SP1 G185

Revise the *2012 Standard Specifications* as follows:

Replace all references to “State Highway Administrator” with “Chief Engineer”.

SUBLETTING OF CONTRACT:

(11-18-2014)

108-6

SP1 G186

Revise the *2012 Standard Specifications* as follows:

Page 1-66, Article 108-6 Subletting of Contract, line 37, add the following as the second sentence of the first paragraph:

All requests to sublet work shall be submitted within 30 days of the date of availability or prior to expiration of 20% of the contract time, whichever date is later, unless otherwise approved by the Engineer.

Page 1-67, Article 108-6 Subletting of Contract, line 7, add the following as the second sentence of the fourth paragraph:

Purchasing materials for subcontractors is not included in the percentage of work required to be performed by the Contractor. If the Contractor sublets items of work but elects to purchase material for the subcontractor, the value of the material purchased will be included in the total dollar amount considered to have been sublet.

NOTES TO CONTRACTOR:

Areas within 750 feet of Cape Fear Public Utility Authority (CFPUA) wellheads shall be considered environmentally sensitive areas during construction. The Contractor shall use orange fencing and post signs to identify these areas as environmentally sensitive. Staging areas and refueling will not be permitted within the environmentally sensitive areas. The Contractor shall educate its employees that project construction occurs within a wellhead protection area. The Contractor shall have a mobile response spill kit on site during construction. At the end of project construction the kit shall be transferred to the Cape Fear Public Utility Authority. Wellheads known to be in proximity to this project are: 232-28M, 232-29N, 232-30O, 232-8P, all in the Ogden Park area and 232-22B located within the 100' well buffer shown on Plan Sheet 14. These wellheads are listed for information purposes only and are not meant to be a complete list. The Contractor shall conduct his own investigation as to which wellheads fall under the requirements of this special provision. The Contractor is responsible for following these requirements for any wellhead that is within the stated proximity to the project whether that wellhead has been listed in this special provision or not.

No separate measurement or payment will be made for trash racks for masonry drainage structures, as the cost of such shall be included in the price bid for “*Masonry Drainage Structures*”.

placing and compacting fill material around gauges, adding pipes and couplers until embankment monitoring ends and any incidentals necessary to monitor settlement. No payment will be made for interfering with the Contractor's operations due to embankment monitoring or damaged settlement gauges as determined by the Engineer.

Payment will be made under:

Pay Item

Embankment Settlement Gauges

Pay Unit

Each

CONCRETE BARRIER RAIL WITH MOMENT SLAB

(1-17-12)

1.0 GENERAL

Construct concrete barrier rail connected to moment slabs to resist traffic impact above retaining walls. Construct concrete barrier rail with moment slab in accordance with the contract and accepted submittals.

2.0 MATERIALS

Refer to Division 10 of the *Standard Specifications*.

Item	Section
Barrier Delineators	1088-2
Portland Cement Concrete	1000
Reinforcing Steel	1070

Use Class AA concrete for concrete barrier rail and Class A concrete for moment slabs. Provide epoxy coated reinforcing steel that meets Article 1070-7 of the *Standard Specifications* for concrete barrier rail.

3.0 CONSTRUCTION METHODS

Construct concrete barrier rail with moment slab in accordance with the plans and accepted submittals. Construct cast-in-place reinforced concrete moment slabs in accordance with Section 420 of the *Standard Specifications* and concrete barrier rail in accordance with Subarticle 460-3(C) of the *Standard Specifications*. Do not remove forms until concrete attains a compressive strength of at least 2,400 psi.

4.0 MEASUREMENT AND PAYMENT

Concrete Barrier Rail with Moment Slab will be measured and paid in linear feet. Concrete barrier rail with moment slab will be measured as the length of concrete barrier rail above retaining walls. The contract unit price for *Concrete Barrier Rail with Moment Slab* will be full compensation for submittals, labor, tools, equipment and concrete barrier rail with moment slab materials, excavating, backfilling, hauling and removing excavated materials and supplying any incidentals necessary to construct concrete barrier rail with moment slab.

Payment will be made under:

Pay Item	Pay Unit
Concrete Barrier Rail with Moment Slab	Linear Foot

U-4751

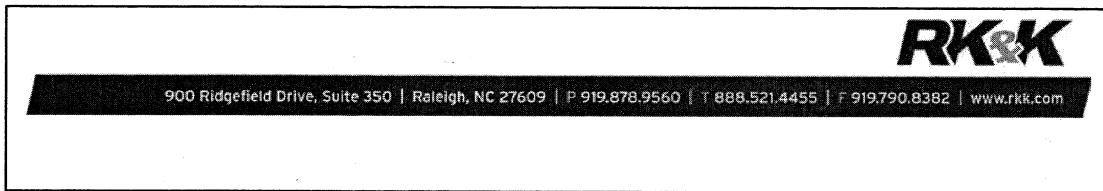
GT-6.2

New Hanover County



DocuSigned by:
David Stutts
A4A2999A8BC64F2...
10/27/2017

PROJECT SPECIAL PROVISIONS
Utilities by Others

**General:**

The following utility companies have facilities that will be in conflict with the construction of this project:

- A. Duke Energy Progress – Power (Transmission)
- B. Duke Energy Progress – Power (Distribution)
- C. AT&T Telephone – Telephone (Local)
- D. AT&T Legacy – Telephone (Toll)
- E. Level 3 – Telecommunications Fiber Optic
- F. Charter Communications – Cable TV
- G. MCNC – Telecommunications Fiber Optic
- H. Time Warner Cable – Cable TV
- I. Spirit Communications – Telecommunications Fiber Optic
- J. Piedmont Natural Gas – Natural Gas
- K. CenturyLink- Telecommunications Fiber Optic

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105-8 of the 2012 Standard Specifications.

Utilities Requiring Adjustment:

Utility relocations are shown on the Utilities by Others Plans.

- A) Duke Energy Progress – Power (Transmission)
 - 1) Duke Energy Progress has power transmission crossing near –L- 70+00. Two transmission towers will be removed with two taller towers installed outside the C/A to provide the minimum vertical clearance over the roadway. The towers will be relocated as shown on the Utilities by Others Plans by July 1, 2018.
 - 2) Contact person for Duke Energy Progress is Mr. Jamie Loy at (919) 604-9543.

PROJECT SPECIAL PROVISIONS

Utilities by Others

- B) Duke Energy Progress – Power (Distribution)
- 1) Duke Energy Progress will remove existing poles and overhead lines and build a new pole line within the project limits at the locations shown on the Utility by Others Plans. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1. All relocation work outside of Area 1 will be completed by the Date of Availability of the project.
 - 2) Contact person for Duke Energy Progress is Mr. Josiah Shackleton at (919) 917-5015.
- C) AT&T – Telephone (Local)
- 1) AT&T has underground and overhead facilities throughout the project. AT&T will joint-use attach to Duke power poles throughout the project. A new fiber optic cable will be bored along the south of Market Street from Loop D to east of Middle Sound Loop. Old overhead cables will be removed once the new fiber cables are spliced over. AT&T intends to maintain underground cables and manholes during construction. AT&T needs two weeks' notice and estimates 3 days of work at each drainage conflict if cables need to be adjusted (see Utilities by Others Plans). Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1. All relocation work outside of Area 1 will be completed by the Date of Availability of the project.
 - 2) Contact persons for AT&T are Mrs. Chrissy Coston at (910) 341-7664 and Mr. James Batson at (910) 341-1621.
- D) AT&T – Telephone (Toll)
- 1) AT&T has a toll fiber optic cable within a 10' easement as shown on the Utilities by Others Plans. AT&T will lower the existing fiber cable and encase it within a PVC duct. This relocation work has been completed.
 - 2) Contact person for AT&T (Toll) is Mr. Homer Marona at (910) 638-1798.
- E) Level 3 Communications – Telecommunications Fiber Optic
- 1) Level 3 has an overhead cable attached to Duke power poles along Military Cutoff Road and Market Street. Level 3 will attach a new cable to new Duke power poles as shown on the Utilities by Others Plans. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1. All relocation work outside of Area 1 will be completed by the Date of Availability of the project.
 - 2) Contact person for Level 3 is Mr. Brian Walker at (919) 710-8893.
- F) Charter Communications – Cable TV
- 1) Charter has overhead cable attached to Duke power poles along Market Street only. Charter will attach new cable to new Duke power poles. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1. All relocation work outside of Area 1 will be completed by the Date of Availability of the project.
 - 2) Contact person for Charter is Mr. Steve Barnette at (910) 772-5755.

PROJECT SPECIAL PROVISIONS
Utilities by Others

- G) MCNC – Telecommunications Fiber Optic
- 1) MCNC has an underground fiber optic on Market Street from Gordon Road heading east beyond the –Y1- project limits. The existing fiber is on the NW side of Market Street. MCNC will install new fiber below the existing fiber optic cable. The existing cable will be abandoned once the new fiber is spliced over. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1.
 - 2) Contact person for MCNC is Mr. Scott Williford at (336) 937-1743.
- H) Time Warner Cable – Cable TV
- 1) Time Warner Cable has underground facilities throughout the project and will install underground fiber throughout the project. The existing cable will be abandoned once the new fiber is spliced over. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1. All relocation work outside of Area 1 will be completed by the Date of Availability of the project.
 - 2) Contact person for Time Warner Cable is Mr. Steve Barnette at (910) 772-5755.
- I) Spirit Communications – Telecommunications Fiber Optic
- 1) Spirit has an underground fiber optic cable along the south side of Market Street from the beginning of the –Y1- project limits to Station Road, where it crosses to the north side and continues to Gordon Road. The fiber turns west on Gordon and continues through the project limits. Spirit will install new fiber below the existing fiber optic cable. The existing cable will be abandoned once the new fiber is spliced over. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1.
 - 2) Contact person for Spirit is Mr. Scott Williford at (336) 937-1743.
- J) Piedmont Natural Gas – Natural Gas
- 1) Piedmont Natural Gas has gas mains along Military Cutoff Road, Market Street, Gordon Road and Lendire Road. The existing gas mains will be lowered in place for drainage as shown on the Utilities by Others Plans. Piedmont Natural Gas will coordinate with the roadway contractor on when to lower the gas mains and requests a two-week notice. Each location is expected to take 3 days.
 - 2) Contact person for Piedmont Natural Gas is Mr. Dennis Medeiros at (910) 251-2815.
- K) CenturyLink- Telecommunications Fiber Optic
- 1) CenturyLink has underground fiber optic along Market Street. Relocation work within Area 1 will be completed by the end of the 365-day Delay of Entry for Area 1.
 - 2) Contact person for Centurylink is Mr. Richard Schans at (252) 670-9098.

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0001000000-E	200	CLEARING & GRUBBING .. ACRE(S)	Lump Sum	L.S.	
0004	0008000000-E	200	SUPPLEMENTARY CLEARING & GRUB- BING	5 ACR		
0005	0022000000-E	225	UNCLASSIFIED EXCAVATION	100,000 CY		
0006	0029000000-N	SP	REINFORCED BRIDGE APPROACH FILL, STATION ***** (225+92.26 -L-)	Lump Sum	L.S.	
0007	0029000000-N	SP	REINFORCED BRIDGE APPROACH FILL, STATION ***** (35+12.05 -Y8- RPDB)	Lump Sum	L.S.	
0008	0029000000-N	SP	REINFORCED BRIDGE APPROACH FILL, STATION ***** (62+99.10 -L-)	Lump Sum	L.S.	
0009	0036000000-E	225	UNDERCUT EXCAVATION	150,000 CY		
0010	0106000000-E	230	BORROW EXCAVATION	2,310,000 CY		
0011	0127000000-N	SP	EMBANKMENT SETTLEMENT GAUGES	14 EA		
0012	0134000000-E	240	DRAINAGE DITCH EXCAVATION	41,460 CY		
0013	0156000000-E	250	REMOVAL OF EXISTING ASPHALT PAVEMENT	26,400 SY		
0014	0177000000-E	250	BREAKING OF EXISTING ASPHALT PAVEMENT	7,800 SY		
0015	0192000000-N	260	PROOF ROLLING	90 HR		
0016	0195000000-E	265	SELECT GRANULAR MATERIAL	49,000 CY		
0017	0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZA- TION	42,800 SY		
0018	0220000000-E	SP	ROCK EMBANKMENTS	11,750 TON		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0019	0222000000-E	SP	GEOTEXTILE FOR ROCK EMBANKMENTS	1,930 SY		
0020	0223000000-E	275	ROCK PLATING	660 SY		
0021	0225000000-E	SP	REINFORCED SOIL SLOPES	2,250 SY		
0022	0255000000-E	SP	GENERIC GRADING ITEM HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL	200 TON		
0023	0318000000-E	300	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	4,810 TON		
0024	0320000000-E	300	FOUNDATION CONDITIONING GEOTEXTILE	15,120 SY		
0025	0342000000-E	310	*** SIDE DRAIN PIPE (12")	44 LF		
0026	0342000000-E	310	*** SIDE DRAIN PIPE (30")	1,128 LF		
0027	0342000000-E	310	*** SIDE DRAIN PIPE (36")	532 LF		
0028	0343000000-E	310	15" SIDE DRAIN PIPE	4,200 LF		
0029	0344000000-E	310	18" SIDE DRAIN PIPE	652 LF		
0030	0345000000-E	310	24" SIDE DRAIN PIPE	480 LF		
0031	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (24", V)	48 LF		
0032	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (30", V)	272 LF		
0033	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (36", V)	492 LF		
0034	0354000000-E	310	**** RC PIPE CULVERTS, CLASS ***** (42", V)	340 LF		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0035	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (12")	248	LF	
0036	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (48")	1,196	LF	
0037	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (54")	104	LF	
0038	0448000000-E	310	***** RC PIPE CULVERTS, CLASS IV (60")	1,204	LF	
0039	0448200000-E	310	15" RC PIPE CULVERTS, CLASS IV	17,436	LF	
0040	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	7,016	LF	
0041	0448400000-E	310	24" RC PIPE CULVERTS, CLASS IV	6,148	LF	
0042	0448500000-E	310	30" RC PIPE CULVERTS, CLASS IV	4,348	LF	
0043	0448600000-E	310	36" RC PIPE CULVERTS, CLASS IV	4,644	LF	
0044	0448700000-E	310	42" RC PIPE CULVERTS, CLASS IV	1,844	LF	
0045	0546000000-E	310	*** CAA PIPE CULVERTS, ***** THICK (15", 0.064")	1,608	LF	
0046	0546000000-E	310	*** CAA PIPE CULVERTS, ***** THICK (18", 0.064")	48	LF	
0047	0564000000-E	310	*** CAA PIPE ELBOWS, ***** THICK (15", 0.064")	12	EA	
0048	0564000000-E	310	*** CAA PIPE ELBOWS, ***** THICK (18", 0.064")	2	EA	
0049	0995000000-E	340	PIPE REMOVAL	11,789	LF	
0050	0996000000-N	350	PIPE CLEAN-OUT	42	EA	

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0051	1011000000-N	500	FINE GRADING	Lump Sum	L.S.	
0052	1077000000-E	SP	#57 STONE	570 TON		
0053	1099500000-E	505	SHALLOW UNDERCUT	500 CY		
0054	1099700000-E	505	CLASS IV SUBGRADE STABILIZATION	950 TON		
0055	1111000000-E	SP	CLASS IV AGGREGATE STABILIZATION	10,000 TON		
0056	1121000000-E	520	AGGREGATE BASE COURSE	141,000 TON		
0057	1220000000-E	545	INCIDENTAL STONE BASE	300 TON		
0058	1275000000-E	600	PRIME COAT	110,323 GAL		
0059	1297000000-E	607	MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2")	102,500 SY		
0060	1330000000-E	607	INCIDENTAL MILLING	3,220 SY		
0061	1489000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0B	7,060 TON		
0062	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	25,220 TON		
0063	1498000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B	12,990 TON		
0064	1503000000-E	610	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C	65,520 TON		
0065	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	19,130 TON		
0066	1523000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	57,730 TON		
0067	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	9,775 TON		
0068	1693000000-E	654	ASPHALT PLANT MIX, PAVEMENT REPAIR	250 TON		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0069	1840000000-E	665	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	34,160 LF		
0070	2022000000-E	815	SUBDRAIN EXCAVATION	336 CY		
0071	2026000000-E	815	GEOTEXTILE FOR SUBSURFACE DRAINS	1,000 SY		
0072	2036000000-E	815	SUBDRAIN COARSE AGGREGATE	168 CY		
0073	2044000000-E	815	6" PERFORATED SUBDRAIN PIPE	1,000 LF		
0074	2070000000-N	815	SUBDRAIN PIPE OUTLET	2 EA		
0075	2077000000-E	815	6" OUTLET PIPE	12 LF		
0076	2190000000-N	828	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE	19 EA		
0077	2209000000-E	838	ENDWALLS	90.9 CY		
0078	2220000000-E	838	REINFORCED ENDWALLS	43.6 CY		
0079	2253000000-E	840	PIPE COLLARS	12.72 CY		
0080	2264000000-E	840	PIPE PLUGS	0.188 CY		
0081	2275000000-E	SP	FLOWABLE FILL	5 CY		
0082	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	475 EA		
0083	2297000000-E	840	MASONRY DRAINAGE STRUCTURES	9.5 CY		
0084	2308000000-E	840	MASONRY DRAINAGE STRUCTURES	219 LF		
0085	2364000000-N	840	FRAME WITH TWO GRATES, STD 840.16	76 EA		
0086	2364200000-N	840	FRAME WITH TWO GRATES, STD 840.20	31 EA		
0087	2365000000-N	840	FRAME WITH TWO GRATES, STD 840.22	24 EA		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0088	2366000000-N	840	FRAME WITH TWO GRATES, STD 840.24	4 EA		
0089	2367000000-N	840	FRAME WITH TWO GRATES, STD 840.29	24 EA		
0090	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	52 EA		
0091	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	116 EA		
0092	2374000000-N	840	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	111 EA		
0093	2396000000-N	840	FRAME WITH COVER, STD 840.54	33 EA		
0094	2440000000-N	852	CONCRETE TRANSITIONAL SECTION FOR CATCH BASIN	1 EA		
0095	2451000000-N	852	CONCRETE TRANSITIONAL SECTION FOR DROP INLET	60 EA		
0096	2462000000-E	SP	*** SLUICE GATE (8")	1 EA		
0097	2535000000-E	846	***X *** CONCRETE CURB (8" X 12")	190 LF		
0098	2538000000-E	846	***_*** CONCRETE CURB & GUTTER (2'-0")	1,380 LF		
0099	2538000000-E	846	***_*** CONCRETE CURB & GUTTER (2'-9")	5,070 LF		
0100	2542000000-E	846	1'-6" CONCRETE CURB & GUTTER	19,160 LF		
0101	2549000000-E	846	2'-6" CONCRETE CURB & GUTTER	46,560 LF		
0102	2556000000-E	846	SHOULDER BERM GUTTER	4,500 LF		
0103	2580000000-E	846	CONCRETE VALLEY GUTTER	405 LF		
0104	2591000000-E	848	4" CONCRETE SIDEWALK	5,470 SY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0105	2605000000-N	848	CONCRETE CURB RAMP	110 EA		
0106	2612000000-E	848	6" CONCRETE DRIVEWAY	720 SY		
0107	2655000000-E	852	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	9,730 SY		
0108	2703000000-E	854	CONCRETE BARRIER, TYPE ***** (T)	230 LF		
0109	2724000000-E	857	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED	13,029 LF		
0110	2752000000-E	SP	GENERIC PAVING ITEM 1'-6" CONCRETE CURB & GUTTER (SPECIAL)	583 LF		
0111	2759000000-N	SP	GENERIC PAVING ITEM CONCRETE FLUME	2 EA		
0112	2759000000-N	SP	GENERIC PAVING ITEM EMERGENCY VEHICLE ACCESS	1 EA		
0113	2759000000-N	SP	GENERIC PAVING ITEM HINGED BOLLARDS	3 EA		
0114	2800000000-N	858	ADJUSTMENT OF CATCH BASINS	3 EA		
0115	2815000000-N	858	ADJUSTMENT OF DROP INLETS	2 EA		
0116	2830000000-N	858	ADJUSTMENT OF MANHOLES	13 EA		
0117	2845000000-N	858	ADJUSTMENT OF METER BOXES OR VALVE BOXES	8 EA		
0118	3000000000-N	SP	IMPACT ATTENUATOR UNIT, TYPE 350	7 EA		
0119	3030000000-E	862	STEEL BM GUARDRAIL	10,737.5 LF		
0120	3105000000-N	862	STEEL BM GUARDRAIL TERMINAL SECTIONS	4 EA		
0121	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	10 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0122	3210000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE CAT-1	18 EA		
0123	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	27 EA		
0124	3317000000-N	862	GUARDRAIL ANCHOR UNITS, TYPE B-77	25 EA		
0125	3360000000-E	863	REMOVE EXISTING GUARDRAIL	496 LF		
0126	3365000000-E	863	REMOVE EXISTING GUIDERAIL	682 LF		
0127	3380000000-E	862	TEMPORARY STEEL BM GUARDRAIL	575 LF		
0128	3389150000-N	SP	TEMPORARY GUARDRAIL END UNITS, TYPE ***** (TL-3)	4 EA		
0129	3389400000-E	865	DOUBLE FACED CABLE GUIDERAIL	2,350 LF		
0130	3389500000-N	865	ADDITIONAL GUIDERAIL POSTS	10 EA		
0131	3389600000-N	865	CABLE GUIDERAIL ANCHOR UNITS	6 EA		
0132	3503000000-E	866	WOVEN WIRE FENCE, 47" FABRIC	24,730 LF		
0133	3509000000-E	866	4" TIMBER FENCE POSTS, 7'-6" LONG	1,580 EA		
0134	3515000000-E	866	5" TIMBER FENCE POSTS, 8'-0" LONG	341 EA		
0135	3533000000-E	866	CHAIN LINK FENCE, *** FABRIC (72")	4,636 LF		
0136	3536000000-E	866	CHAIN LINK FENCE, 48" FABRIC	17,565 LF		
0137	3539000000-E	866	METAL LINE POSTS FOR *** CHAIN LINK FENCE (72")	389 EA		
0138	3542000000-E	866	METAL LINE POSTS FOR 48" CHAIN LINK FENCE	1,472 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0139	3545000000-E	866	METAL TERMINAL POSTS FOR *** CHAIN LINK FENCE (72")	25 EA		
0140	3548000000-E	866	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE	106 EA		
0141	3551000000-E	866	METAL GATE POSTS FOR *** CHAIN LINK FENCE, SINGLE GATE (48")	2 EA		
0142	3554000000-E	866	METAL GATE POSTS FOR *** CHAIN LINK FENCE, DOUBLE GATE (72")	4 EA		
0143	3557000000-E	866	ADDITIONAL BARBED WIRE	1,000 LF		
0144	3564000000-E	866	SINGLE GATES, *** HIGH, *** WIDE, *** OPENING (48", 12', 12')	1 EA		
0145	3565000000-E	866	DOUBLE GATES, *** HIGH, *** WIDE, *** OPENING (72", 12', 24')	2 EA		
0146	3572000000-E	867	CHAIN LINK FENCE RESET	915 LF		
0147	3575000000-E	SP	GENERIC FENCING ITEM HANDRAIL ON RETAINING WALL	102 LF		
0148	3628000000-E	876	RIP RAP, CLASS I	1,225 TON		
0149	3635000000-E	876	RIP RAP, CLASS II	210 TON		
0150	3642000000-E	876	RIP RAP, CLASS A	550 TON		
0151	3649000000-E	876	RIP RAP, CLASS B	1,860 TON		
0152	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	7,310 SY		
0153	4048000000-E	902	REINFORCED CONCRETE SIGN FOUN- DATIONS	17 CY		
0154	4054000000-E	902	PLAIN CONCRETE SIGN FOUNDA- TIONS	2 CY		
0155	4057000000-E	SP	OVERHEAD FOOTING	165 CY		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0156	4060000000-E	903	SUPPORTS, BREAKAWAY STEEL BEAM	18,086 LB		
0157	4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	5,185 LF		
0158	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (167+50 -L-)	Lump Sum	L.S.	
0159	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (23+50 -Y8- RPDB)	Lump Sum	L.S.	
0160	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (40+50 -L- LT)	Lump Sum	L.S.	
0161	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (42+50 -Y1-)	Lump Sum	L.S.	
0162	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (50+50 -Y1- LT)	Lump Sum	L.S.	
0163	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (55+50 -L- LT)	Lump Sum	L.S.	
0164	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (82+00 -L- LT)	Lump Sum	L.S.	
0165	4082100000-N	SP	SUPPORTS, OVERHEAD SIGN STRUCTURE AT STA ***** (93+50 -Y8- LT)	Lump Sum	L.S.	
0166	4096000000-N	904	SIGN ERECTION, TYPE D	3 EA		
0167	4102000000-N	904	SIGN ERECTION, TYPE E	256 EA		
0168	4108000000-N	904	SIGN ERECTION, TYPE F	30 EA		
0169	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (A)	19 EA		
0170	4110000000-N	904	SIGN ERECTION, TYPE *** (GROUND MOUNTED) (B)	8 EA		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0171	4116100000-N	904	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (D)	9	EA	
0172	4149000000-N	907	DISPOSAL OF SIGN SYSTEM, OVER- HEAD	1	EA	
0173	4152000000-N	907	DISPOSAL OF SIGN SYSTEM, STEEL BEAM	2	EA	
0174	4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U- CHANNEL	69	EA	
0175	4192000000-N	907	DISPOSAL OF SUPPORT, U-CHANNEL	11	EA	
0176	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	722	SF	
0177	4405000000-E	1110	WORK ZONE SIGNS (PORTABLE)	384	SF	
0178	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	73	SF	
0179	4415000000-N	1115	FLASHING ARROW BOARD	2	EA	
0180	4422000000-N	1120	PORTABLE CHANGEABLE MESSAGE SIGN (SHORT TERM)	60	DAY	
0181	4430000000-N	1130	DRUMS	680	EA	
0182	4435000000-N	1135	CONES	50	EA	
0183	4445000000-E	1145	BARRICADES (TYPE III)	840	LF	
0184	4455000000-N	1150	FLAGGER	300	DAY	
0185	4465000000-N	1160	TEMPORARY CRASH CUSHIONS	5	EA	
0186	4470000000-N	1160	RESET TEMPORARY CRASH CUSHION	4	EA	
0187	4485000000-E	1170	PORTABLE CONCRETE BARRIER	16,150	LF	
0188	4500000000-E	1170	RESET PORTABLE CONCRETE BAR- RIER	3,900	LF	
0189	4510000000-N	SP	LAW ENFORCEMENT	180	HR	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0190	4516000000-N	1180	SKINNY DRUM	150	EA	
0191	4600000000-N	SP	GENERIC TRAFFIC CONTROL ITEM SEQUENTIAL FLASHING WARNING LIGHTS	40	EA	
0192	4650000000-N	1251	TEMPORARY RAISED PAVEMENT MARKERS	1,270	EA	
0193	4721000000-E	1205	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS)	44	EA	
0194	4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	316	EA	
0195	4810000000-E	1205	PAINT PAVEMENT MARKING LINES (4")	57,725	LF	
0196	4815000000-E	1205	PAINT PAVEMENT MARKING LINES (6")	98,550	LF	
0197	4820000000-E	1205	PAINT PAVEMENT MARKING LINES (8")	800	LF	
0198	4825000000-E	1205	PAINT PAVEMENT MARKING LINES (12")	3,800	LF	
0199	4835000000-E	1205	PAINT PAVEMENT MARKING LINES (24")	330	LF	
0200	4840000000-N	1205	PAINT PAVEMENT MARKING CHARAC- TER	20	EA	
0201	4845000000-N	1205	PAINT PAVEMENT MARKING SYMBOL	27	EA	
0202	4847000000-E	1205	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE ELEMENTS)	1,176	LF	
0203	4847100000-E	1205	POLYUREA PAVEMENT MARKING LINES (6", *****) (HIGHLY REFLECTIVE ELEMENTS)	1,228	LF	
0204	4847110000-E	1205	POLYUREA PAVEMENT MARKING LINES (8", *****) (HIGHLY REFLECTIVE ELEMENTS)	97	LF	
0205	4850000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (4")	42,175	LF	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0206	4855000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (6")	36,585	LF	
0207	4860000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (8")	3,000	LF	
0208	4870000000-E	1205	REMOVAL OF PAVEMENT MARKING LINES (24")	250	LF	
0209	4875000000-N	1205	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS	33	EA	
0210	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 12", 120 MILS (HRM)	2,378	LF	
0211	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 12", 90 MILS (HRM)	8,120	LF	
0212	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 24", 120 MILS (HRM)	3,573	LF	
0213	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 4", 120 MILS (HRM)	42,925	LF	
0214	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 4", 90 MILS (HRM)	60,163	LF	
0215	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 6", 120 MILS (HRM)	10,729	LF	
0216	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 6", 90 MILS (HRM)	69,462	LF	
0217	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 8", 120 MILS (HRM)	2,946	LF	
0218	4890000000-E	SP	GENERIC PAVEMENT MARKING ITEM THERMOPLASTIC PAVEMENT MARKING LINES, 8", 90 MILS (HRM)	12,077	LF	
0219	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	55	EA	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0220	4905000000-N	1253	SNOWPLOWABLE PAVEMENT MARKERS	3,615 EA		
0221	4915000000-E	1264	7' U-CHANNEL POSTS	12 EA		
0222	4935000000-N	1267	FLEXIBLE DELINEATORS (CRYSTAL)	138 EA		
0223	4940000000-N	1267	FLEXIBLE DELINEATORS (YELLOW)	52 EA		
0224	4955000000-N	1264	OBJECT MARKERS (END OF ROAD)	12 EA		
0226	5325800000-E	1510	8" WATER LINE	5,295 LF		
0227	5326000000-E	1510	10" WATER LINE	268 LF		
0228	5326200000-E	1510	12" WATER LINE	3,212 LF		
0229	5326600000-E	1510	16" WATER LINE	1,498 LF		
0230	5327400000-E	1510	24" WATER LINE	1,881 LF		
0231	5546000000-E	1515	8" VALVE	17 EA		
0232	5552000000-E	1515	10" VALVE	3 EA		
0233	5558000000-E	1515	12" VALVE	11 EA		
0234	5571800000-E	1515	8" TAPPING VALVE	5 EA		
0235	5643100000-E	1515	3/4" WATER METER	25 EA		
0236	5648000000-N	1515	RELOCATE WATER METER	35 EA		
0237	5649000000-N	1515	RECONNECT WATER METER	2 EA		
0238	5666000000-E	1515	FIRE HYDRANT	7 EA		
0239	5672000000-N	1515	RELOCATE FIRE HYDRANT	4 EA		
0240	5691300000-E	1520	8" SANITARY GRAVITY SEWER	802 LF		
0241	5691600000-E	1520	16" SANITARY GRAVITY SEWER	3,046 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0242	5775000000-E	1525	4' DIA UTILITY MANHOLE	21 EA		
0244	5781000000-E	1525	UTILITY MANHOLE WALL, 4' DIA	57 LF		
0245	5782000000-E	1525	UTILITY MANHOLE WALL, 5' DIA	7 LF		
0246	5801000000-E	1530	ABANDON 8" UTILITY PIPE	5,652 LF		
0247	5802000000-E	1530	ABANDON 10" UTILITY PIPE	496 LF		
0248	5804000000-E	1530	ABANDON 12" UTILITY PIPE	2,760 LF		
0249	5810000000-E	1530	ABANDON 16" UTILITY PIPE	2,937 LF		
0250	5811000000-E	1530	ABANDON 18" UTILITY PIPE	100 LF		
0251	5813000000-E	1530	ABANDON 24" UTILITY PIPE	1,787 LF		
0252	5814000000-E	1530	ABANDON 30" UTILITY PIPE	490 LF		
0253	5815000000-N	1530	REMOVE WATER METER	36 EA		
0254	5815500000-N	1530	REMOVE FIRE HYDRANT	8 EA		
0255	5828000000-N	1530	REMOVE UTILITY MANHOLE	11 EA		
0256	5835700000-E	1540	16" ENCASEMENT PIPE	327 LF		
0257	5835800000-E	1540	18" ENCASEMENT PIPE	231 LF		
0258	5835900000-E	1540	20" ENCASEMENT PIPE	113 LF		
0259	5836000000-E	1540	24" ENCASEMENT PIPE	189 LF		
0260	6000000000-E	1605	TEMPORARY SILT FENCE	241,000 LF		
0261	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	500 TON		
0262	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	37,000 TON		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0263	6012000000-E	1610	SEDIMENT CONTROL STONE	26,500 TON		
0264	6015000000-E	1615	TEMPORARY MULCHING	240 ACR		
0265	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	10,900 LB		
0266	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	55.5 TON		
0267	6024000000-E	1622	TEMPORARY SLOPE DRAINS	30,040 LF		
0268	6029000000-E	SP	SAFETY FENCE	45,000 LF		
0269	6030000000-E	1630	SILT EXCAVATION	40,200 CY		
0270	6036000000-E	1631	MATTING FOR EROSION CONTROL	30,200 SY		
0271	6037000000-E	SP	COIR FIBER MAT	54,550 SY		
0272	6042000000-E	1632	1/4" HARDWARE CLOTH	24,400 LF		
0273	6043000000-E	SP	LOW PERMEABILITY GEOTEXTILE	250 SY		
0274	6045000000-E	SP	*** TEMPORARY PIPE (30")	790 LF		
0275	6045000000-E	SP	*** TEMPORARY PIPE (36")	210 LF		
0276	6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	50 LF		
0277	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	2,655 SY		
0278	6070000000-N	1639	SPECIAL STILLING BASINS	10 EA		
0279	6071012000-E	SP	COIR FIBER WATTLE	11,720 LF		
0280	6071020000-E	SP	POLYACRYLAMIDE (PAM)	915 LB		
0281	6071030000-E	1640	COIR FIBER BAFFLE	23,700 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0282	6071050000-E	SP	*** SKIMMER (1-1/2")	8	EA	
0283	6071050000-E	SP	*** SKIMMER (2")	1	EA	
0284	6071050000-E	SP	*** SKIMMER (2-1/2")	1	EA	
0285	6071050000-E	SP	*** SKIMMER (3")	1	EA	
0286	6084000000-E	1660	SEEDING & MULCHING	300	ACR	
0287	6087000000-E	1660	MOWING	150	ACR	
0288	6090000000-E	1661	SEED FOR REPAIR SEEDING	2,350	LB	
0289	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	12.5	TON	
0290	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	7,675	LB	
0291	6108000000-E	1665	FERTILIZER TOPDRESSING	230	TON	
0292	6111000000-E	SP	IMPERVIOUS DIKE	1,122	LF	
0293	6114500000-N	1667	SPECIALIZED HAND MOWING	55	MHR	
0294	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	100	EA	
0295	6120000000-E	SP	CULVERT DIVERSION CHANNEL	4,012	CY	
0296	6123000000-E	1670	REFORESTATION	17	ACR	
0297	6132000000-N	SP	GENERIC EROSION CONTROL ITEM CONCRETE WASHOUT STRUCTURE	8	EA	
0298	7048500000-E	1705	PEDESTRIAN SIGNAL HEAD (16", 1 SECTION W/COUNTDOWN)	26	EA	
0299	7060000000-E	1705	SIGNAL CABLE	26,330	LF	
0300	7120000000-E	1705	VEHICLE SIGNAL HEAD (12", 3 SECTION)	111	EA	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0301	7132000000-E	1705	VEHICLE SIGNAL HEAD (12", 4 SECTION)	27 EA		
0302	7144000000-E	1705	VEHICLE SIGNAL HEAD (12", 5 SECTION)	7 EA		
0303	7204000000-N	1705	LOUVER	9 EA		
0304	7252000000-E	1710	MESSENGER CABLE (1/4")	859 LF		
0305	7264000000-E	1710	MESSENGER CABLE (3/8")	2,520 LF		
0306	7279000000-E	1715	TRACER WIRE	12,238 LF		
0307	7288000000-E	1715	PAVED TRENCHING (***** (1, 2")	320 LF		
0308	7288000000-E	1715	PAVED TRENCHING (***** (3, 2")	50 LF		
0309	7300000000-E	1715	UNPAVED TRENCHING (***** (1, 2")	4,515 LF		
0310	7300000000-E	1715	UNPAVED TRENCHING (***** (2, 2")	12,658 LF		
0311	7300000000-E	1715	UNPAVED TRENCHING (***** (3, 2")	20 LF		
0312	7300000000-E	1715	UNPAVED TRENCHING (***** (4, 2")	60 LF		
0313	7300000000-E	1715	UNPAVED TRENCHING (***** (5, 2")	60 LF		
0314	7300100000-E	1715	UNPAVED TRENCHING FOR TEMP- ORARY LEAD-IN	2,250 LF		
0315	7301000000-E	1715	DIRECTIONAL DRILL (***** (1, 2")	1,070 LF		
0316	7301000000-E	1715	DIRECTIONAL DRILL (***** (2, 2")	2,434 LF		
0317	7301000000-E	1715	DIRECTIONAL DRILL (***** (3, 2")	3,460 LF		

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0318	7324000000-N	1716	JUNCTION BOX (STANDARD SIZE)	81	EA	
0319	7348000000-N	1716	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)	32	EA	
0320	7360000000-N	1720	WOOD POLE	17	EA	
0321	7372000000-N	1721	GUY ASSEMBLY	32	EA	
0322	7408000000-E	1722	1" RISER WITH WEATHERHEAD	7	EA	
0323	7420000000-E	1722	2" RISER WITH WEATHERHEAD	17	EA	
0324	7430000000-N	1722	HEAT SHRINK TUBING RETROFIT KIT	3	EA	
0325	7432000000-E	1722	2" RISER WITH HEAT SHRINK TUBING	5	EA	
0326	7444000000-E	1725	INDUCTIVE LOOP SAWCUT	16,900	LF	
0327	7456000000-E	1726	LEAD-IN CABLE (*****) (14-2)	47,250	LF	
0328	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (12)	4,905	LF	
0329	7516000000-E	1730	COMMUNICATIONS CABLE (**FIBER) (24)	10,726	LF	
0330	7540000000-N	1731	SPLICE ENCLOSURE	9	EA	
0331	7541000000-N	1731	MODIFY SPLICE ENCLOSURE	4	EA	
0332	7552000000-N	1731	INTERCONNECT CENTER	18	EA	
0333	7564000000-N	1732	FIBER-OPTIC TRANSCEIVER, DROP & REPEAT	3	EA	
0334	7575142060-N	SP	MODIFY RADIO INSTALLATION	1	EA	
0335	7575160000-E	1734	REMOVE EXISTING COMMUNICATIONS CABLE	142	LF	

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Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0336	7588000000-N	SP	METAL POLE WITH SINGLE MAST ARM	28 EA		
0337	7613000000-N	SP	SOIL TEST	28 EA		
0338	7614100000-E	SP	DRILLED PIER FOUNDATION	336 CY		
0339	7631000000-N	SP	MAST ARM WITH METAL POLE DE- SIGN	28 EA		
0340	7636000000-N	1745	SIGN FOR SIGNALS	25 EA		
0341	7642100000-N	1743	TYPE I POST WITH FOUNDATION	5 EA		
0342	7642200000-N	1743	TYPE II PEDESTAL WITH FOUND- ATION	20 EA		
0343	7684000000-N	1750	SIGNAL CABINET FOUNDATION	13 EA		
0344	7696000000-N	1751	CONTROLLER WITH CABINET (***** (2070E BASE MTD)	13 EA		
0345	7696000000-N	1751	CONTROLLER WITH CABINET (***** (2070E POLE MTD)	1 EA		
0346	7708000000-N	1751	DETECTOR CARD (***** (2070E)	84 EA		
0347	7901000000-N	1753	CABINET BASE EXTENDER	13 EA		
0348	7960000000-N	SP	METAL POLE FOUNDATION REMOVAL	11 EA		
0349	7972000000-N	SP	METAL POLE REMOVAL	11 EA		
0350	7980000000-N	SP	GENERIC SIGNAL ITEM CARD CAGE	1 EA		
0351	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CABINET	3 EA		
0352	7980000000-N	SP	GENERIC SIGNAL ITEM CCTV CAMERA ASSEMBLY	4 EA		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0353	7980000000-N	SP	GENERIC SIGNAL ITEM DIGITAL HARDWARE VIDEO DECODER	3 EA		
0354	7980000000-N	SP	GENERIC SIGNAL ITEM ETHERNET EDGE SWITCH	16 EA		
0355	7980000000-N	SP	GENERIC SIGNAL ITEM MANAGED ETHERNET CORE SWITCH	1 EA		
0356	7980000000-N	SP	GENERIC SIGNAL ITEM POWDER COAT FOR SINGLE MAST ARM POLE	2 EA		
0357	7990000000-E	SP	GENERIC SIGNAL ITEM BACKPULL FIBER-OPTIC CABLE	619 LF		
0406	5606000000-E	1515	2" BLOW OFF	1 EA		
0407	5778000000-E	1525	8' DIA UTILITY MANHOLE	1 EA		
0408	5784000000-E	1525	UTILITY MANHOLE WALL, 8' DIA	7 LF		
0409	5836200000-E	1540	30" ENCASEMENT PIPE	185 LF		
0410	5814000000-E	1530	ABANDON 30" UTILITY PIPE	490 LF		
0411	5835000000-E	1540	*** ENCASEMENT PIPE (60")	288 LF		
0412	5692000000-E	1520	30" SANITARY GRAVITY SEWER	590 LF		
0413	5777000000-E	1525	6' DIA UTILITY MANHOLE	1 EA		
0414	5783000000-E	1525	UTILITY MANHOLE WALL, 6' DIA	7 LF		
0415	5800000000-E	1530	ABANDON 6" UTILITY PIPE	291 LF		
0416	5558600000-E	1515	16" VALVE	2 EA		
0417	5329000000-E	SP	DUCTILE IRON WATER PIPE FITTINGS	25,095 LB		
0418	5559400000-E	1515	24" VALVE	2 EA		
0419	5572200000-E	1515	12" TAPPING VALVE	1 EA		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0420	5606800000-E	1515	8" BLOW OFF	1 EA		

CULVERT ITEMS

0358	8126000000-N	414	CULVERT EXCAVATION, STA ***** (117+49.00 -L-)	Lump Sum	L.S.	
0359	8126000000-N	414	CULVERT EXCAVATION, STA ***** (138+59.00 -L-)	Lump Sum	L.S.	
0360	8126000000-N	414	CULVERT EXCAVATION, STA ***** (151+41.00 -L-)	Lump Sum	L.S.	
0361	8126000000-N	414	CULVERT EXCAVATION, STA ***** (42+78.00 -Y8RPDB-)	Lump Sum	L.S.	
0362	8133000000-E	414	FOUNDATION CONDITIONING MATERIAL, BOX CULVERT	1,085 TON		
0363	8196000000-E	420	CLASS A CONCRETE (CULVERT)	1,364.3 CY		
0364	8245000000-E	425	REINFORCING STEEL (CULVERT)	209,766 LB		
0365	8804000000-N	SP	GENERIC CULVERT ITEM PLACEMENT OF NATURAL STREAM BED MATERIAL	Lump Sum	L.S.	

WALL ITEMS

0366	8801000000-E	SP	MSE RETAINING WALL NO **** (1)	15,100 SF		
0367	8801000000-E	SP	MSE RETAINING WALL NO **** (2)	13,900 SF		
0368	8801000000-E	SP	MSE RETAINING WALL NO **** (3)	5,200 SF		
0369	8801000000-E	SP	MSE RETAINING WALL NO **** (4)	9,250 SF		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0370	8801000000-E	SP	MSE RETAINING WALL NO **** (5)	1,500 SF		
0371	8801000000-E	SP	MSE RETAINING WALL NO **** (6)	4,250 SF		
0372	8801000000-E	SP	MSE RETAINING WALL NO **** (7)	700 SF		
0373	8847000000-E	SP	GENERIC RETAINING WALL ITEM ARCHITECTURAL SURFACE TREATMENT	285,348 SF		
0374	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW10-	10,701 SF		
0375	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW11-	20,769 SF		
0376	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW13-	44,952 SF		
0377	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW14-	16,142 SF		
0378	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW1A-	4,345 SF		
0379	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW1B-	3,653 SF		
0380	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW6-	11,435 SF		
0381	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW7-	25,447 SF		
0382	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW8-	27,473 SF		
0383	8847000000-E	SP	GENERIC RETAINING WALL ITEM SOUND BARRIER WALL NO -NW9-	5,661 SF		
0421	8839000000-E	SP	GENERIC RETAINING WALL ITEM CONCRETE BARRIER RAIL WITH MOMENT SLAB	1,149.79 LF		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
STRUCTURE ITEMS						
0384	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1, 225+92.26 -L-)	Lump Sum	L.S.	
0385	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (1, 38+94.20 -L-)	Lump Sum	L.S.	
0386	8091000000-N	410	FOUNDATION EXCAVATION FOR BENT ** AT STATION ***** (99+67.11 -Y8-)	Lump Sum	L.S.	
0387	8112730000-N	450	PDA TESTING	5 EA		
0388	8147000000-E	420	REINFORCED CONCRETE DECK SLAB	50,148 SF		
0389	8161000000-E	420	GROOVING BRIDGE FLOORS	49,881 SF		
0390	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	1,054.6 CY		
0391	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (225+92.26 -L-)	Lump Sum	L.S.	
0392	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (38+94.20 -L-)	Lump Sum	L.S.	
0393	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (62+99.10 -L-)	Lump Sum	L.S.	
0394	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** (99+67.11 -Y8-)	Lump Sum	L.S.	
0395	8217000000-E	425	REINFORCING STEEL (BRIDGE)	156,969 LB		
0396	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	5,639 LB		
0397	8274000000-E	430	MODIFIED 63" PRESTRESSED CONC GIRDERS	1,817.1 LF		
0398	8277000000-E	430	MODIFIED 72" PRESTRESSED CONC GIRDERS	2,960.2 LF		

County : New Hanover

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0399	8328200000-E	SP	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES (HP 12 X 53)	202	EA	
0400	8364000000-E	450	HP12X53 STEEL PILES	12,920	LF	
0401	8393000000-N	450	PILE REDRIVES	76	EA	
0402	8503000000-E	460	CONCRETE BARRIER RAIL	1,607.4	LF	
0403	8531000000-E	462	4" SLOPE PROTECTION	3,610.1	SY	
0404	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0405	8706000000-N	SP	EXPANSION JOINT SEALS	Lump Sum	L.S.	

0832/Nov08/Q5944370.898/D1974893254060/E419

Total Amount Of Bid For Entire Project :

8/17/09

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-9	SURVEY CONTROL SHEETS
2A-1 THRU 2A-11	TYPICAL SECTIONS
2B-1 THRU 2B-4	STRUCTURE DETAILS
2B-5 THRU 2B-7	INTERSECTION DETAILS
2B-8 THRU 2B-9	ALIGNMENT CURVE DATA SHEETS
2B-10 THRU 2B-11	SHEAR POINT DETAILS
2B-12	TEMPORARY PAVEMENT DETAIL
2C-1 THRU 2C-7	ROADWAY SPECIAL DETAILS
2C-8 THRU 2C-13	GUARDRAIL PLACEMENT DETAILS
2C-14 THRU 2C-17	GUARDRAIL INSTANTLATION DETAILS
2C-18 THRU 2C-21	STRUCTURE ANCHOR UNIT DETAILS
2C-22 THRU 2C-26	CURB RAMP DETAILS
2C-27 THRU 2C-28	SPECIAL CURB DETAILS
2C-29	COAL COMBUSTION PRODUCT PLACEMENT DETAIL
2C-30 THRU 2C-32	DRAINAGE STRUCTURE DETAILS
2D-1 THRU 2D-4	DRAINAGE DETAILS
2G-1 THRU 2G-5	GEOTECHNICAL DETAILS
2H-1	STOCKPILE CONTAINMENT DETAIL
2N-1 THRU 2N-14	NOISE WALL ENVELOPES
3B-1 THRU 3B-4	EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL, GUIDERAIL, SHOULDER BERM GUTTER, AND FENCING SUMMARY SHEETS
3D-1 THRU 3D-28	DRAINAGE SUMMARY SHEETS
3G-1	GEOTECHNICAL SUMMARIES
3P-1 THRU 3P-2	PARCEL INDEX SHEETS
4 THRU 34	PLAN SHEETS
35 THRU 67	PROFILE SHEETS
TMP-1 THRU TMP-34	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-39	PAVEMENT MARKING PLANS
EC-1 THRU EC-61	EROSION CONTROL PLANS
RF-1	REFORESTATION PLAN
SIGN-1 THRU SIGN-24	SIGNING PLANS
SIG.1.0 THRU SIG.16.5	SIGNAL PLANS
SIG.M1 THRU SIG.M8	METAL POLE DETAILS
SCP-1 THRU SCP-52	SIGNAL COMMUNICATIONS PLANS
UC-1 THRU UC-29	UTILITY CONSTRUCTION PLANS
UD-1 THRU UD-34	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION INDEX OF SHEETS
X-1B THRU X-1H	CROSS SECTION EW SUMMARY SHEETS
X-1 THRU X-278	CROSS SECTIONS
S1-1 THRU S1-36	STRUCTURE PLANS (-L- OVER -Y1)
S2-1 THRU S2-30	STRUCTURE PLANS (-L- OVER -Y2)
S3-1 THRU S3-36	STRUCTURE PLANS (-L- OVER -Y8)
S4-1 THRU S4-36	STRUCTURE PLANS (-Y8RPDB- OVER -Y8-)
C1-1 THRU C1-6	CULVERT PLANS
C2-1 THRU C2-4	CULVERT PLANS
C3-1 THRU C3-7	CULVERT PLANS
C4-1 THRU C4-4	CULVERT PLANS
W-1 THRU W-13	RETAINING WALL PLANS
NW-1 THRU NW-17	NOISE WALL PLANS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 01-24-2017

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:
ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE DRAINS:
SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:
WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 900 MM RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES

STREET TURNOUT:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:
THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE CAPE FEAR PUBLIC UTILITY AUTHORITY, DUKE ENERGY PROGRESS, AT&T, LEVEL 3, CHARTER COMMUNICATIONS, MCNC, SPIRIT COMMUNICATIONS, PIEDMONT NATURAL GAS, TIME WARNER CABLE, AND CENTURY LINK. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:
ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

STANDARD DRAWINGS

2012 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-17-2012
REV. 05-24-2017

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.04	Method of Obtaining Superlevation - Two Lane Pavement
225.05	Method of Obtaining Superlevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
225.07	Grading for False Cut at Grade Separations
225.09	Guide for Shoulder and Ditch Transition at Grade Separations



PROJECT REFERENCE NO. U-4751	SHEET NO. 1A
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

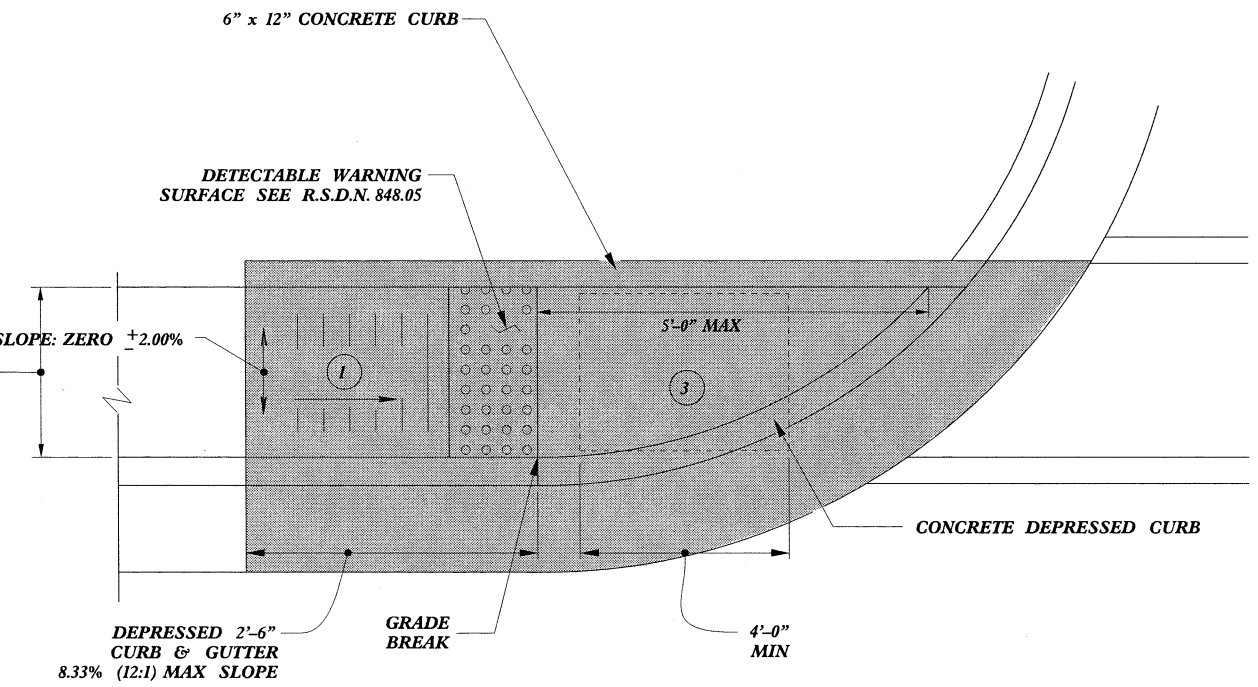
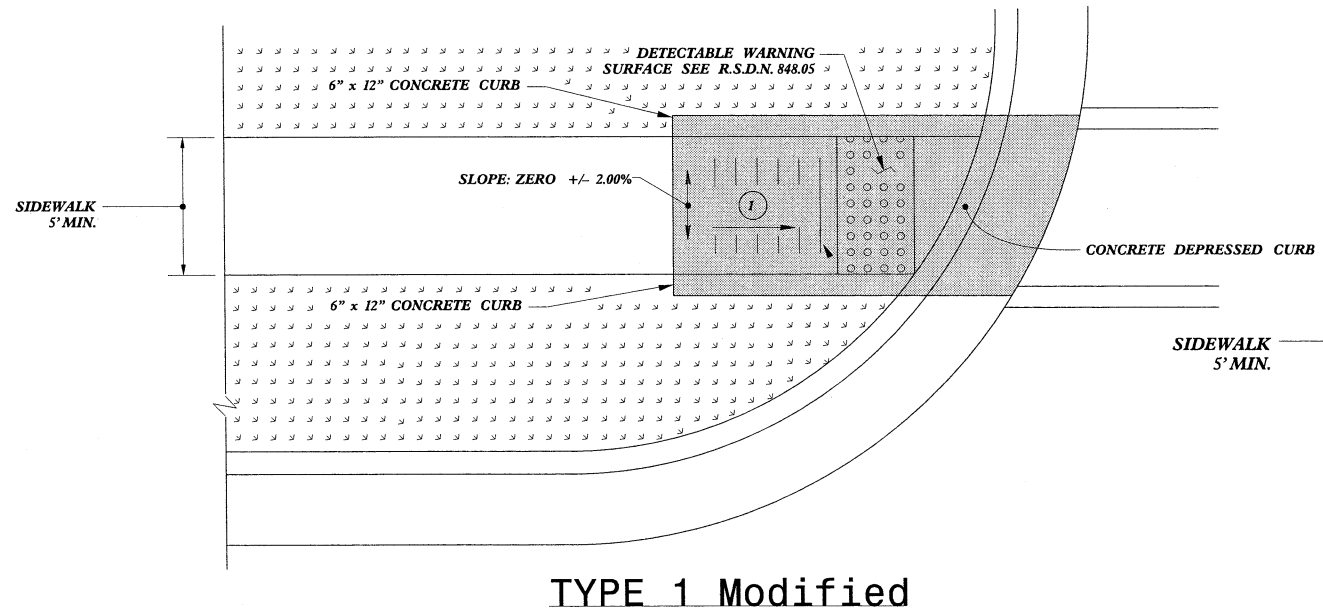
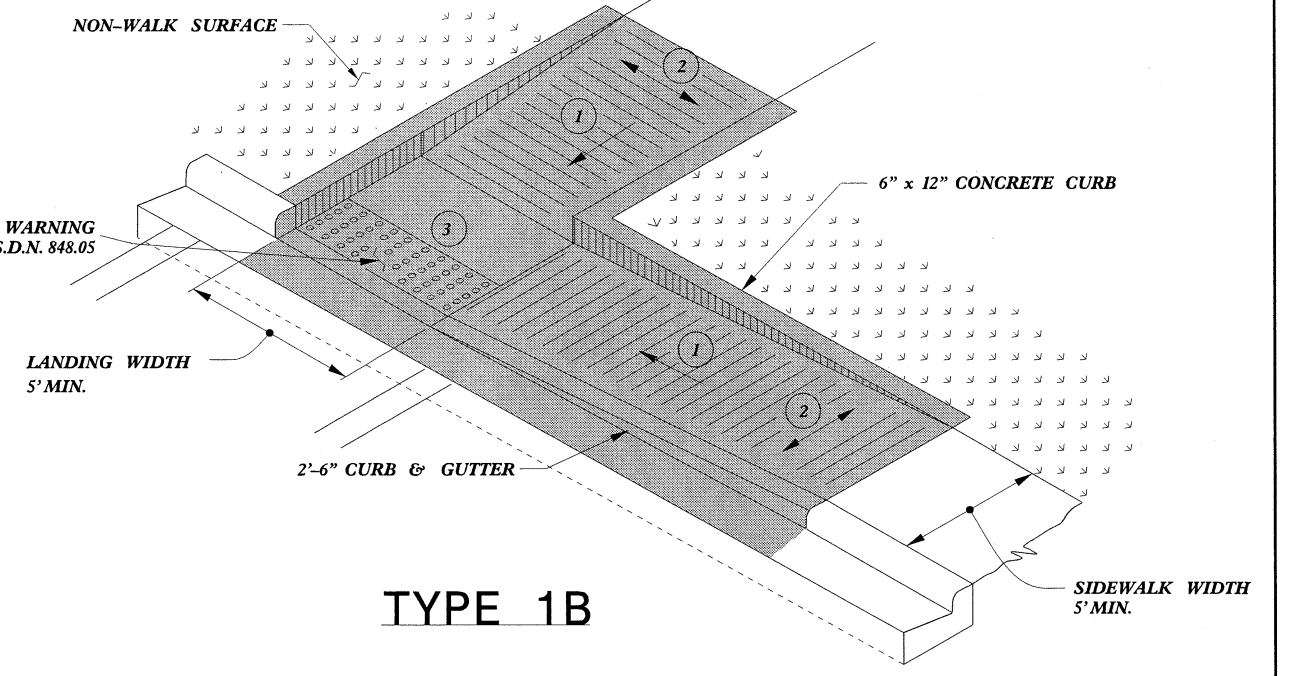
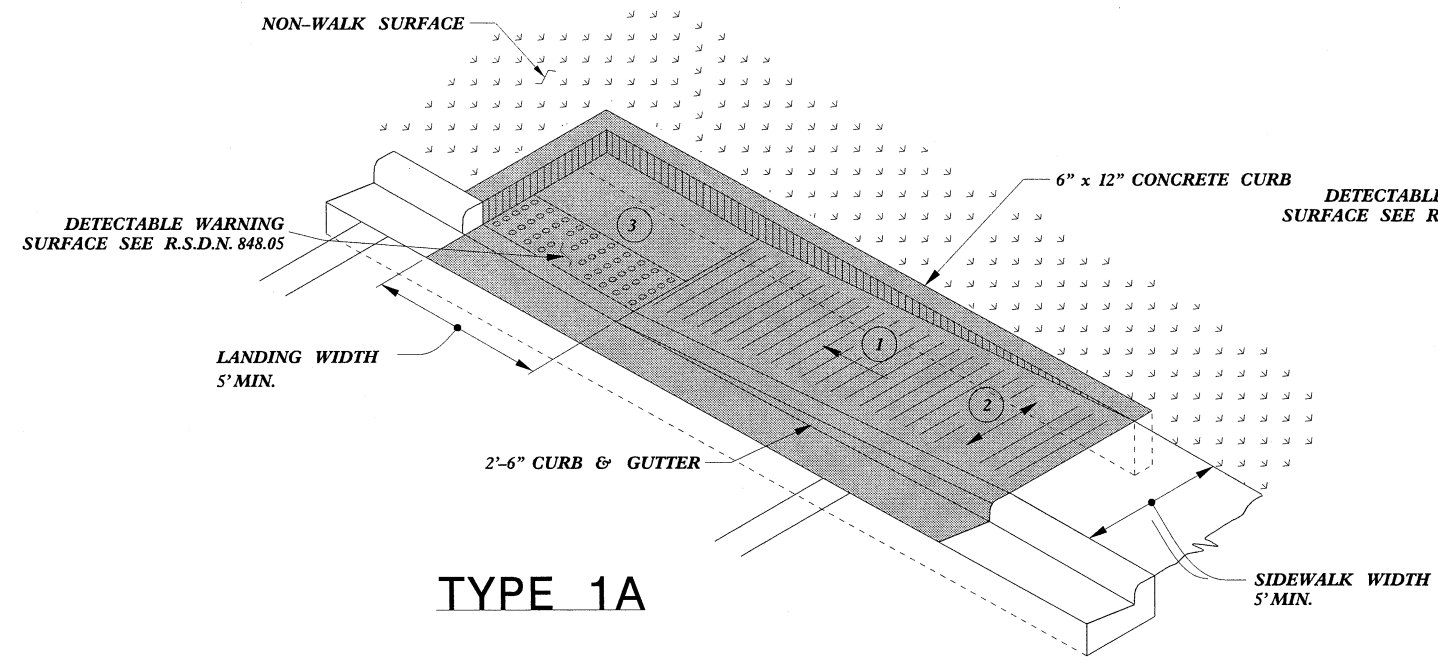
STANDARD DRAWINGS (CONT.)

DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II (Sheet 2 of 3 is no longer applicable)
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
665.01	Asphalt Shoulders - Milled Rumble Strips
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.21	Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew
838.27	Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.51	Reinforced Brick Endwall - for Single 54" Pipe 90 Skew
838.57	Reinforced Brick Endwall - for Single 60" Pipe 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.51	Brick Manhole - 12" thru 36" Pipe
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction - with Curb and Gutter
854.02	Double Faced Concrete Barrier - Types 'T', 'T1' and 'T2'
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
865.01	Cable Guiderail
866.01	Chain Link Fence - 4', 5' and 6' High Fence
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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5/14/99

PROJECT REFERENCE NO. U-4751	SHEET NO. 2C-22
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- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES



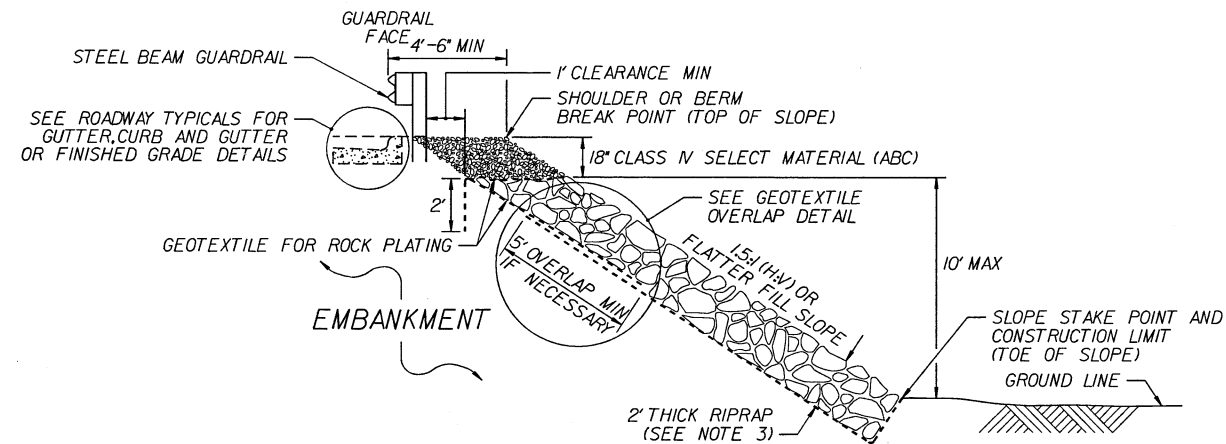
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CURB RAMPS	
Directional Ramps	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC: stds/2012CurbRamp/CurbRampDetails.dgn	

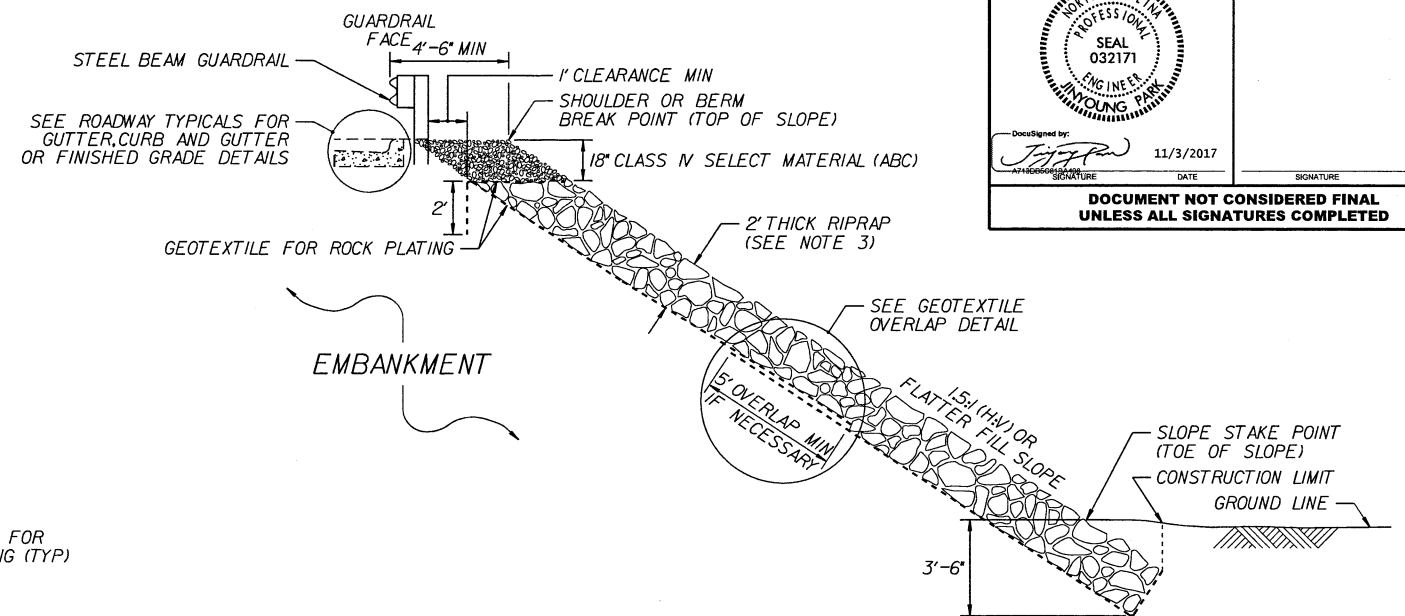
*****SYSTEMS*****
*****SUBSCRIBER*****



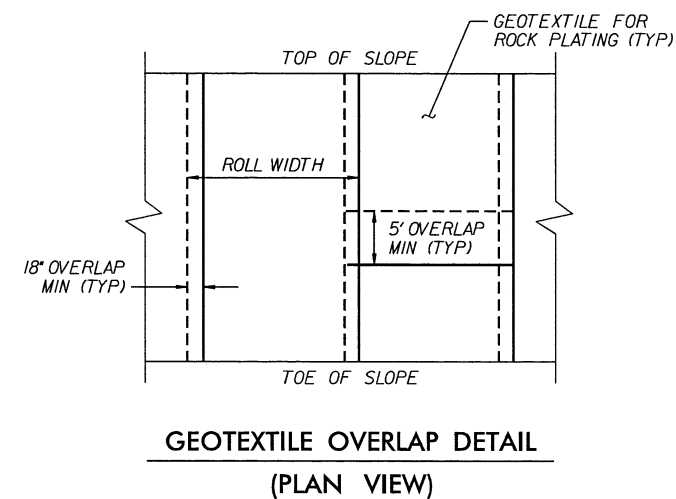
ENGINEER
 DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



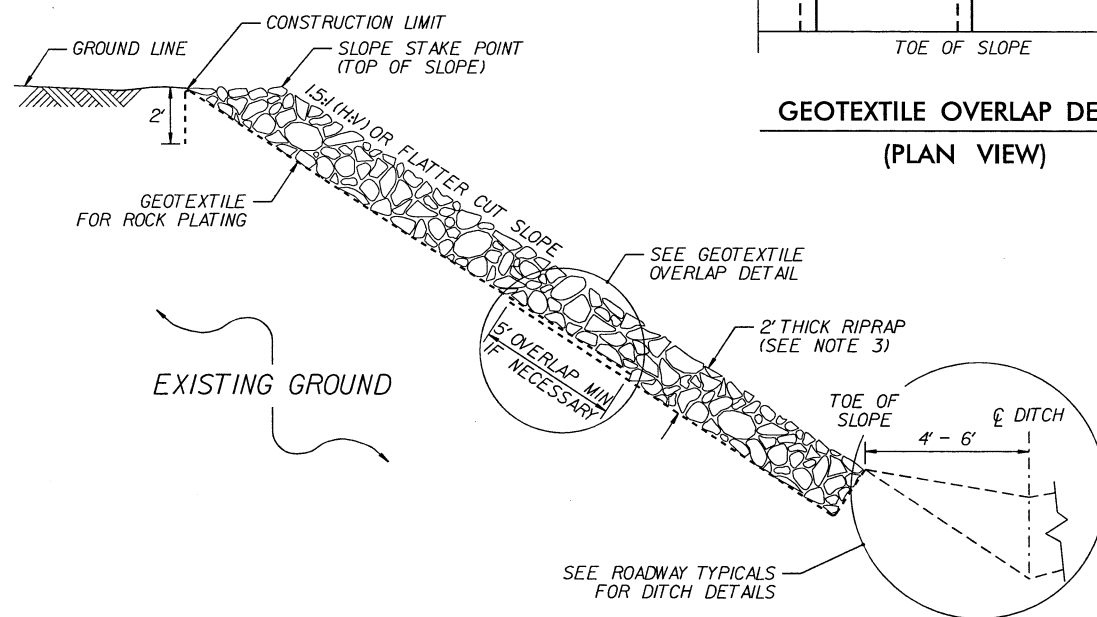
ROCK PLATING DETAIL NO. 1 - TYPICAL SECTION



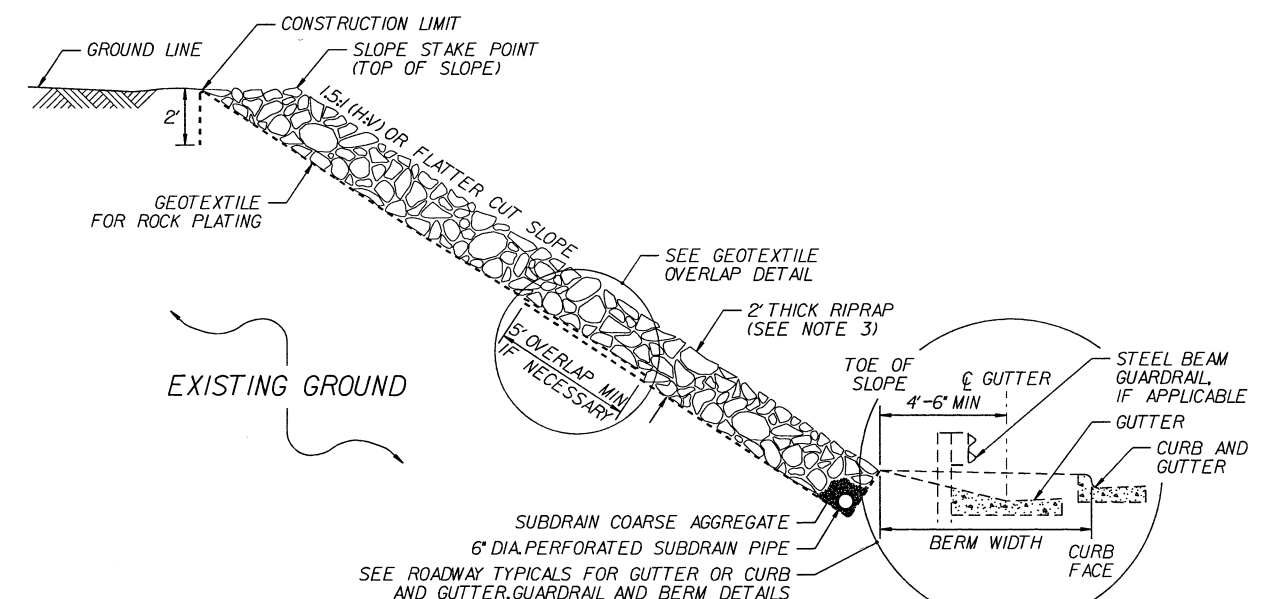
ROCK PLATING DETAIL NO. 2 - TYPICAL SECTION



GEOTEXTILE OVERLAP DETAIL
(PLAN VIEW)



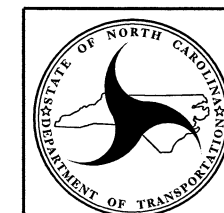
ROCK PLATING DETAIL NO. 3 - TYPICAL SECTION



ROCK PLATING DETAIL NO. 4 - TYPICAL SECTION

NOTES:

1. SEE ROADWAY PLANS AND SUMMARY SHEETS FOR ROCK PLATING LOCATIONS.
2. FOR STANDARD ROCK PLATING, SEE SECTION 275 OF THE STANDARD SPECIFICATIONS.
3. USE CLASS 1,2 OR B RIPRAP UNLESS REQUIRED OTHERWISE IN THE ROADWAY SUMMARY SHEETS.


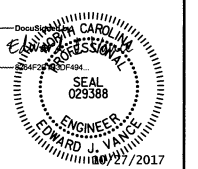


NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

GEOTECHNICAL
 ENGINEERING UNIT

STANDARD DETAIL NO. 1802.01

STANDARD
 ROCK PLATING

PROJECT REFERENCE NO. U-4751		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

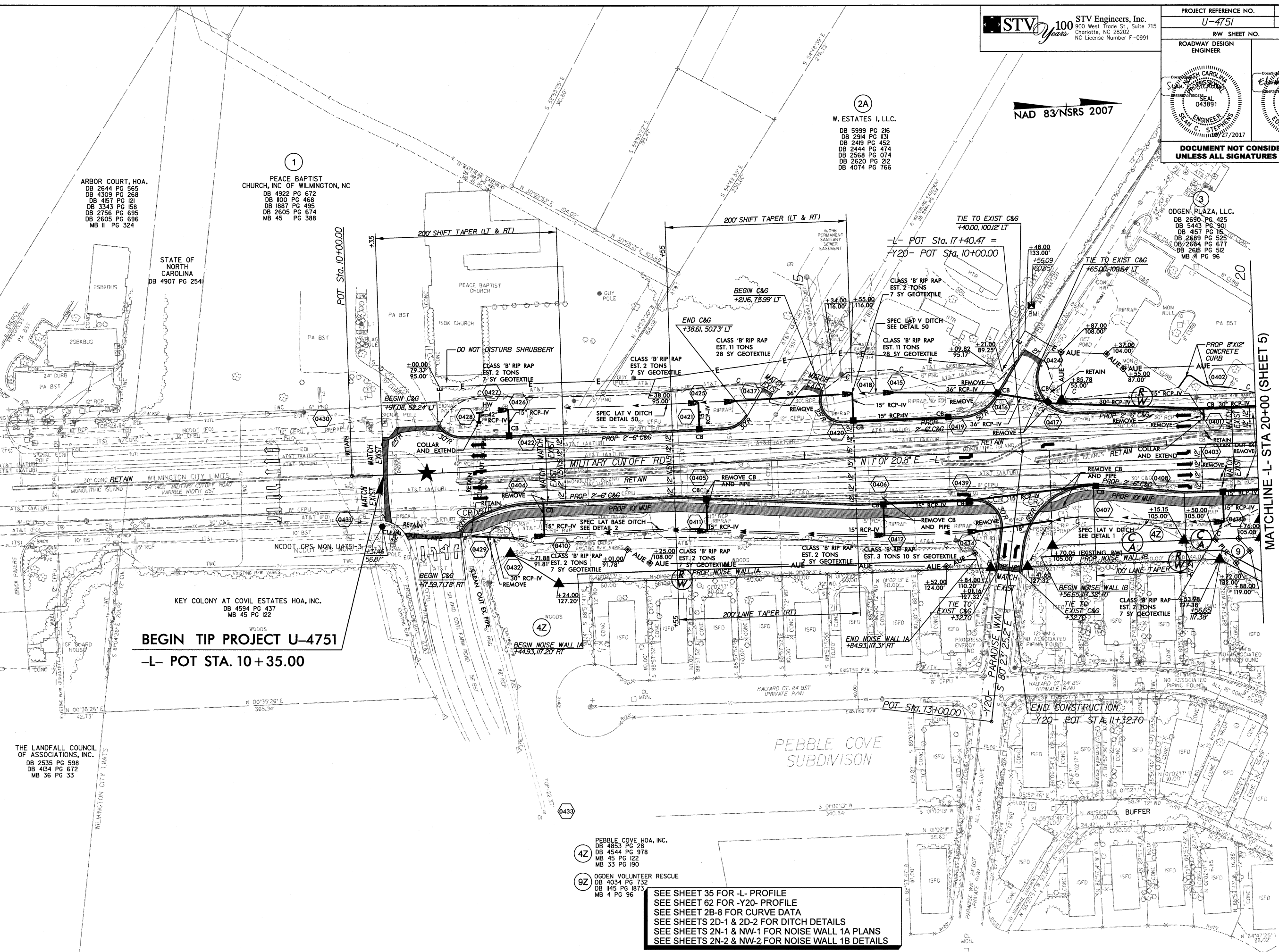
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 DB 4074 PG 766

NAD 83/NSRS 2007

ARBOR COURT HOA.
 DB 2644 PG 565
 DB 4309 PG 268
 DB 4157 PG 121
 DB 3343 PG 158
 DB 2756 PG 695
 DB 2605 PG 696
 MB 11 PG 324

PEACE BAPTIST
 CHURCH, INC OF WILMINGTON, NC
 DB 4922 PG 672
 DB 1100 PG 468
 DB 1887 PG 495
 DB 2605 PG 674
 MB 45 PG 388

ODGEN PLAZA, LLC.
 DB 2690 PG 425
 DB 5443 PG 901
 DB 4157 PG 115
 DB 2689 PG 525
 DB 2684 PG 617
 DB 2666 PG 512
 MB 4 PG 96



BEGIN TIP PROJECT U-4751
 -L- POT STA. 10+35.00

THE LANDFALL COUNCIL
 OF ASSOCIATIONS, INC.
 DB 2535 PG 598
 DB 4134 PG 672
 MB 36 PG 33

4Z
 PEBBLE COVE HOA, INC.
 DB 4853 PG 28
 DB 4544 PG 978
 MB 45 PG 122
 MB 33 PG 190

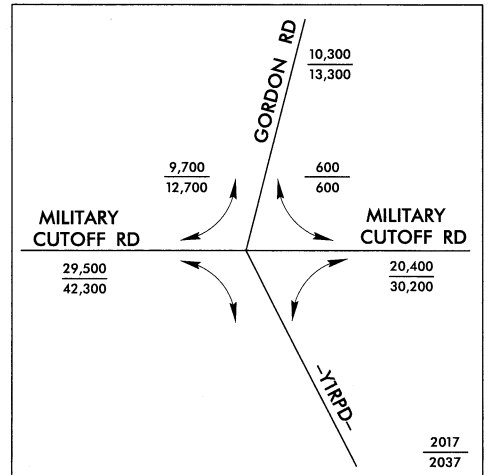
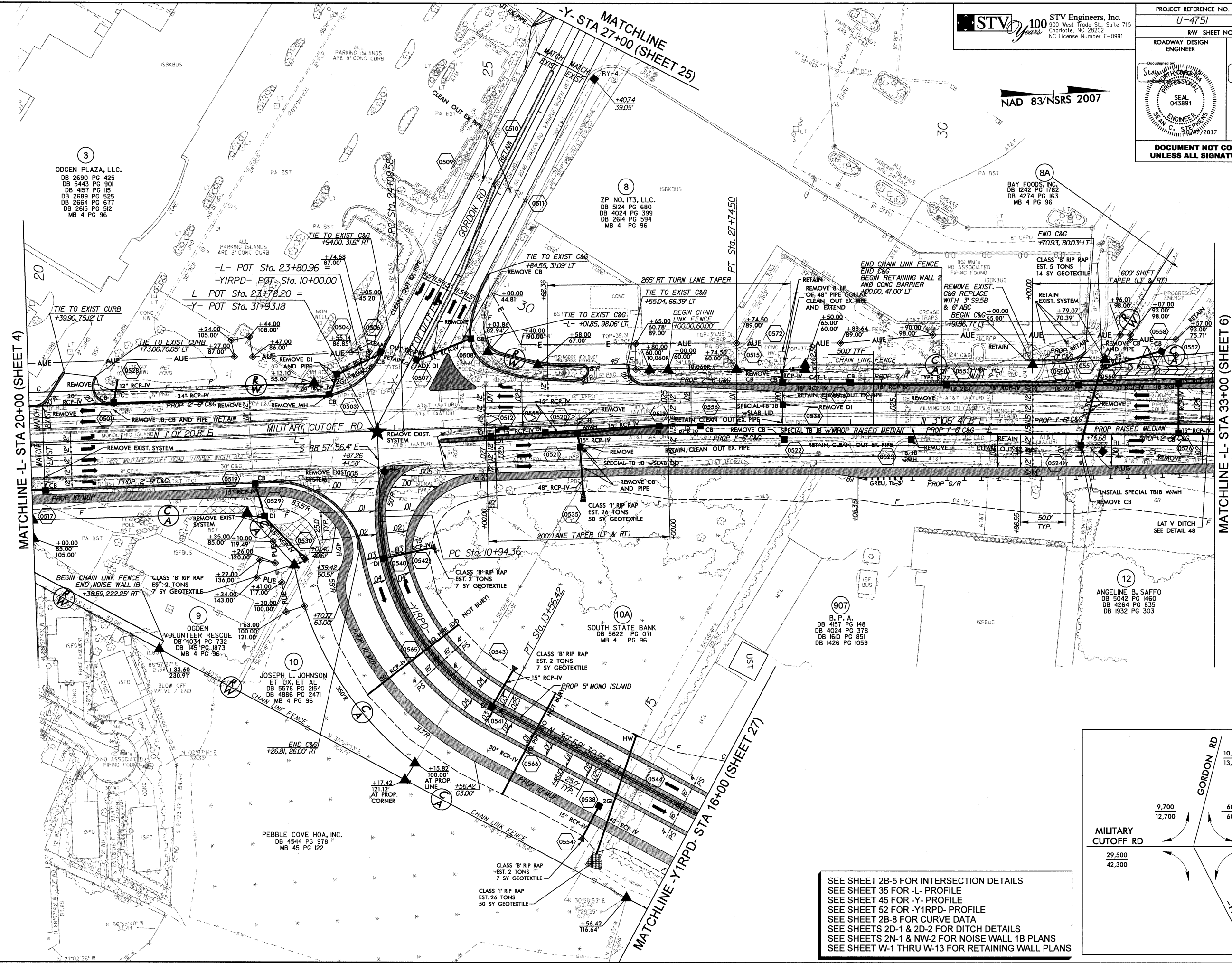
9Z
 OGDEN VOLUNTEER RESCUE
 DB 4034 PG 732
 DB 1145 PG 1873
 MB 4 PG 96

SEE SHEET 35 FOR -L- PROFILE
 SEE SHEET 62 FOR -Y20- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS 2N-1 & NW-1 FOR NOISE WALL 1A PLANS
 SEE SHEETS 2N-2 & NW-2 FOR NOISE WALL 1B DETAILS

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PROJECT REFERENCE NO. U-4751		SHEET NO. 5	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83/NSRS 2007

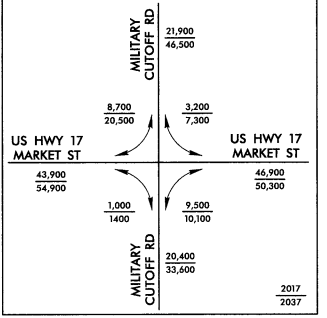
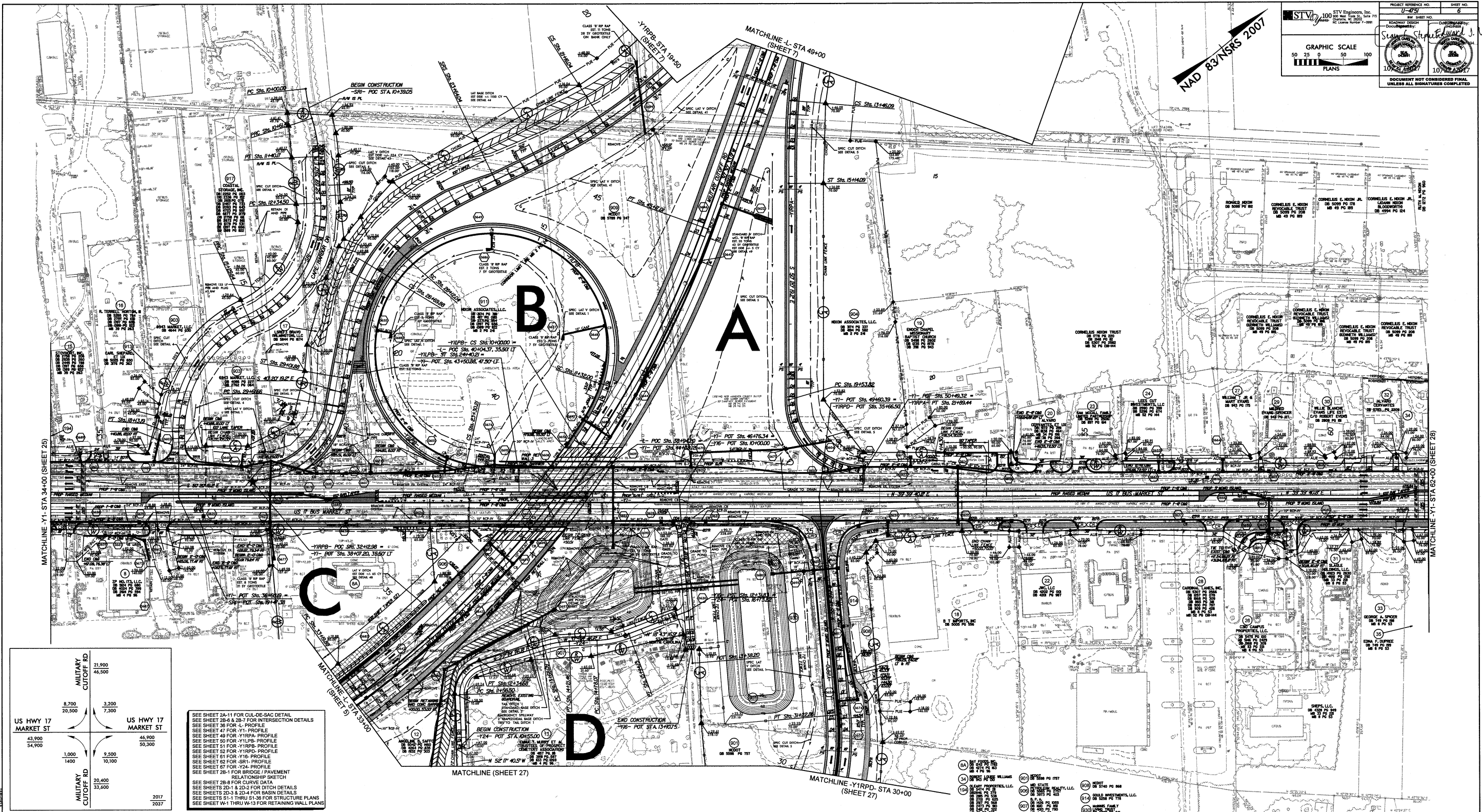


SEE SHEET 2B-5 FOR INTERSECTION DETAILS
 SEE SHEET 35 FOR -L- PROFILE
 SEE SHEET 45 FOR -Y- PROFILE
 SEE SHEET 52 FOR -Y1RPD- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS 2N-1 & NW-2 FOR NOISE WALL 1B PLANS
 SEE SHEET W-1 THRU W-13 FOR RETAINING WALL PLANS

10/27/2017
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PROJECT REFERENCE NO.	U-475
SHEET NO.	5
GRAPHIC SCALE	50 25 0 50 100 PLANS
STV 100 STV Engineers, Inc.	10000000000
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10000000000	10000000000

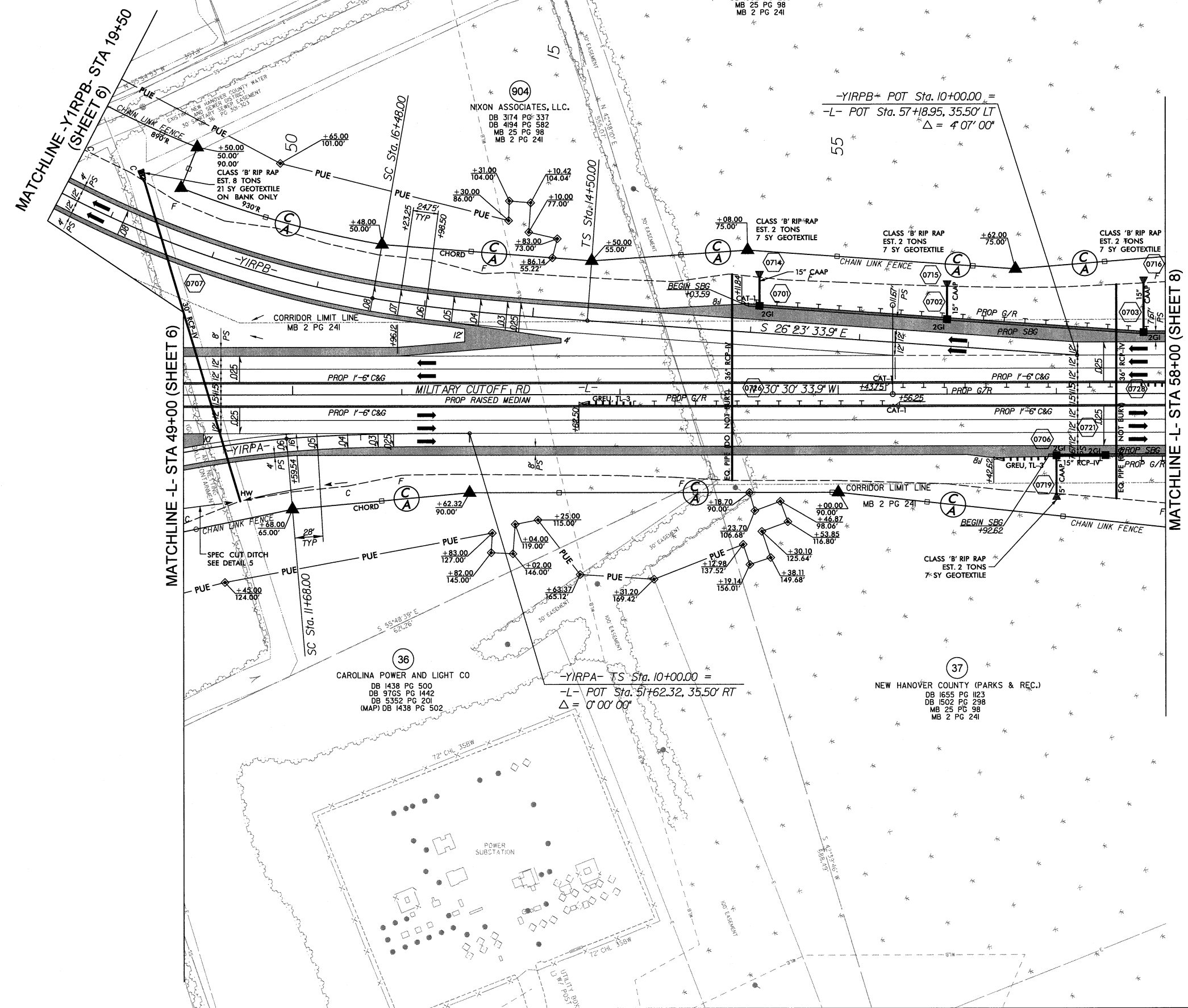
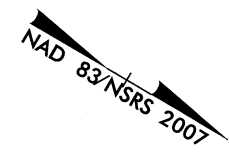
NAD 83/NRS 2007



- SEE SHEET 2A-11 FOR CUL-DE-SAC DETAIL
- SEE SHEET 2B-6 & 2B-7 FOR INTERSECTION DETAILS
- SEE SHEET 30 FOR L-P PROFILE
- SEE SHEET 40 FOR Y1-RP-A PROFILE
- SEE SHEET 50 FOR Y1-RP-B PROFILE
- SEE SHEET 51 FOR Y1-RP-B PROFILE
- SEE SHEET 52 FOR Y1-RP-D PROFILE
- SEE SHEET 61 FOR Y1-B PROFILE
- SEE SHEET 62 FOR S1-1 PROFILE
- SEE SHEET 67 FOR Y1-A PROFILE
- SEE SHEET 2B-1 FOR BRIDGE / PAVEMENT RELATIONSHIP SKETCH
- SEE SHEET 2B-8 FOR CURVE DATA
- SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
- SEE SHEETS 2D-3 & 2D-4 FOR BASIN DETAILS
- SEE SHEETS S1-1 THRU S1-38 FOR STRUCTURE PLANS
- SEE SHEET W-1 THRU W-13 FOR RETAINING WALL PLANS

- 80
- 81
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- 98
- 99
- 100

DATE: 02/27/07
DRAWN: J. VAUGHAN
CHECKED: J. VAUGHAN



G&I VICAPE HARBOR LP
 DB 5287 PG 2790
 DB 1528 PG 459

NEW HANOVER COUNTY (PARKS & REC.)
 DB 1655 PG 1123
 DB 1502 PG 238
 MB 25 PG 98
 MB 2 PG 241

NIXON ASSOCIATES, LLC.
 DB 3174 PG 337
 DB 4194 PG 582
 MB 25 PG 98
 MB 2 PG 241

CAROLINA POWER AND LIGHT CO
 DB 1438 PG 500
 DB 9705 PG 1442
 DB 5352 PG 201
 (MAP) DB 1438 PG 502

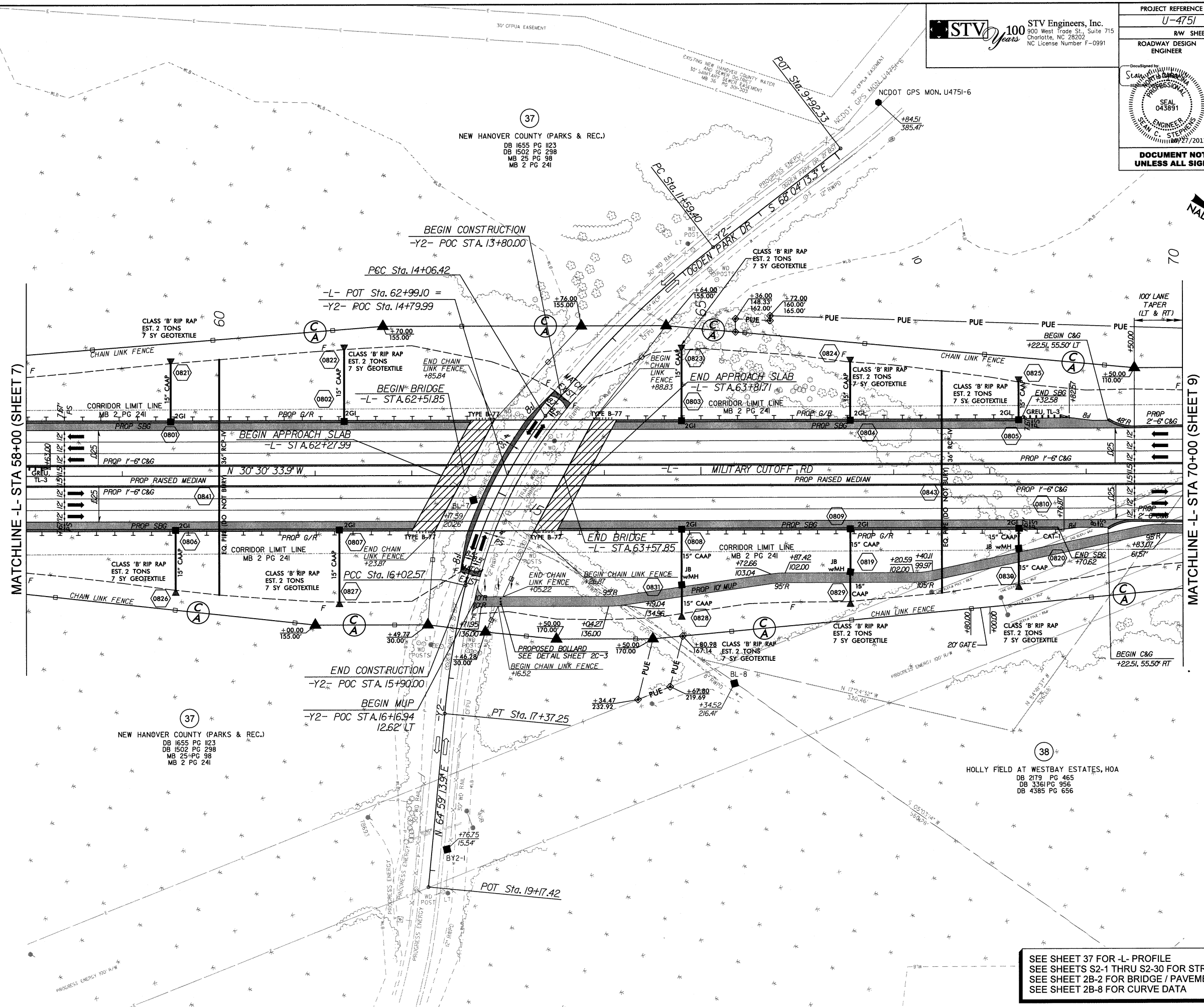
-YIRPB+ POT Sta. 10+00.00 =
 -L- POT Sta. 57+18.95, 35.50' LT
 $\Delta = 4'07''00''$

-YIRPA- TS Sta. 10+00.00 =
 -L- POT Sta. 51+62.32, 35.50' RT
 $\Delta = 0'00''00''$

NEW HANOVER COUNTY (PARKS & REC.)
 DB 1655 PG 1123
 DB 1502 PG 238
 MB 25 PG 98
 MB 2 PG 241

SEE SHEET 36 FOR -L- PROFILE
 SEE SHEET 49 FOR -YIRPA- PROFILE
 SEE SHEET 51 FOR -YIRPB- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

10/27/2017
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 stephens

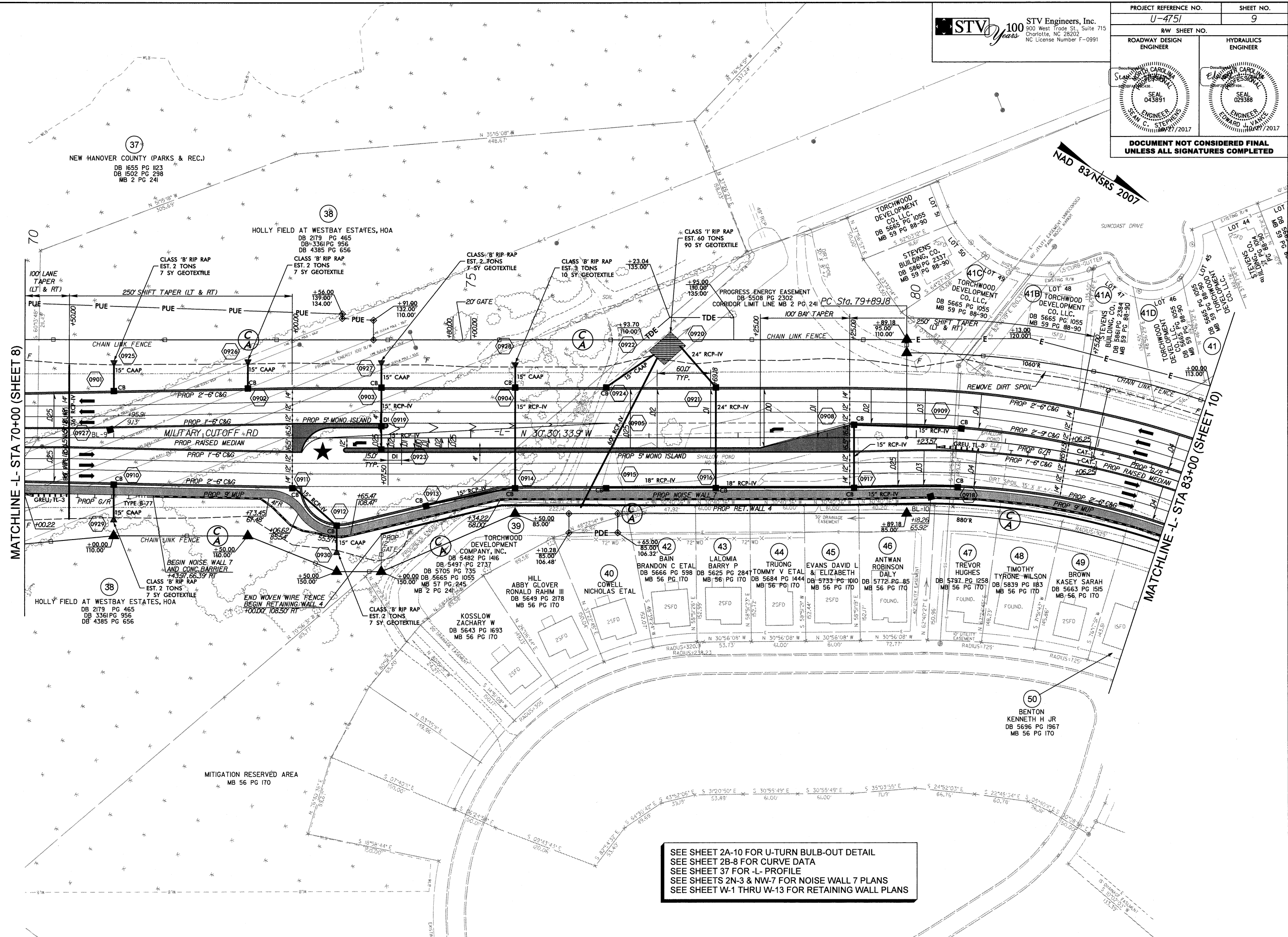


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MATCHLINE -L- STA 70+00 (SHEET 9)

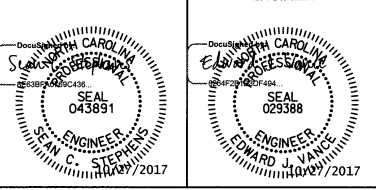
SEE SHEET 37 FOR -L- PROFILE
 SEE SHEETS S2-1 THRU S2-30 FOR STRUCTURE PLANS
 SEE SHEET 2B-2 FOR BRIDGE / PAVEMENT RELATIONSHIP
 SEE SHEET 2B-8 FOR CURVE DATA

05/17/2017 P:\proj\U4751\RDY_psh08.dgn



SEE SHEET 2A-10 FOR U-TURN BULB-OUT DETAIL
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEET 37 FOR -L- PROFILE
 SEE SHEETS 2N-3 & NW-7 FOR NOISE WALL 7 PLANS
 SEE SHEET W-1 THRU W-13 FOR RETAINING WALL PLANS

10/27/2017
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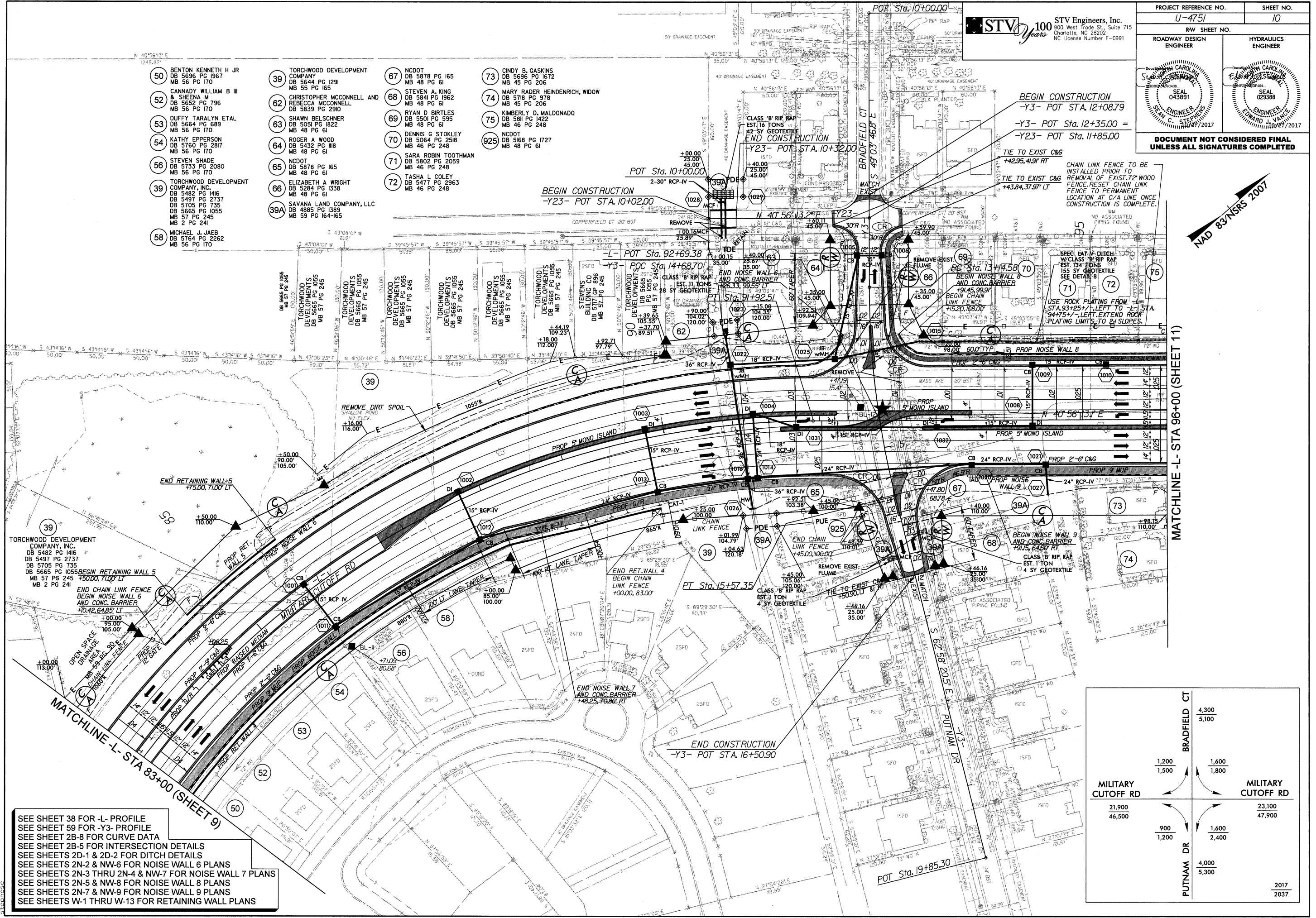


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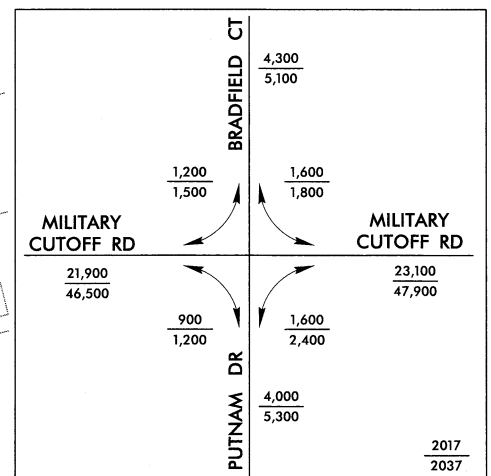


STV 100 Years
 STV Engineers, Inc.
 300 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

- 50 BENTON KENNETH H JR
DB 5696 PG 1967
MB 56 PG 170
- 52 CANNADY WILLIAM B III
& SHEENA M
DB 5652 PG 796
MB 56 PG 170
- 53 DUFFY TARALYN ETAL
DB 5664 PG 689
MB 56 PG 170
- 54 KATHY EPPERSON
DB 5760 PG 2817
MB 56 PG 170
- 56 STEVEN SHADE
DB 5733 PG 2080
MB 56 PG 170
- 39 TORCHWOOD DEVELOPMENT
COMPANY, INC.
DB 5482 PG 1416
DB 5497 PG 2737
DB 5705 PG 735
DB 5665 PG 1055
MB 57 PG 245
MB 2 PG 241
- 58 MICHAEL J. JAEB
DB 5764 PG 2262
MB 56 PG 170
- 39 TORCHWOOD DEVELOPMENT
COMPANY, INC.
DB 5644 PG 1291
MB 55 PG 165
- 62 CHRISTOPHER MCCONNELL AND
REBECCA MCCONNELL
DB 5839 PG 2910
- 63 SHAWN BELSCHNER
DB 5051 PG 1822
MB 48 PG 61
- 64 ROGER A WOOD
DB 5432 PG 1118
MB 48 PG 61
- 65 NCDOT
DB 5878 PG 165
MB 48 PG 61
- 66 ELIZABETH A WRIGHT
DB 5284 PG 1338
MB 48 PG 61
- 39A SAVANA LAND COMPANY, LLC
DB 4885 PG 1389
MB 59 PG 164-165
- 67 NCDOT
DB 5878 PG 165
MB 48 PG 61
- 68 STEVEN A. KING
DB 5841 PG 1962
MB 48 PG 61
- 69 RYAN D BIRTLES
DB 5501 PG 595
MB 46 PG 61
- 70 DENNIS G STOKLEY
DB 5064 PG 2518
MB 46 PG 248
- 71 SARA ROBIN TOOTHMAN
DB 5802 PG 2059
MB 46 PG 248
- 72 TASHA L COLEY
DB 5477 PG 2963
MB 46 PG 248
- 73 CINDY B. GASKINS
DB 5696 PG 1672
MB 45 PG 206
- 74 MARY RADER HEINDENRICH, WIDOW
DB 5718 PG 978
MB 45 PG 206
- 75 KIMBERLY D. MALDONADO
DB 5811 PG 1422
MB 46 PG 248
- 925 NCDOT
DB 5168 PG 1727
MB 48 PG 61



SEE SHEET 38 FOR -L- PROFILE
 SEE SHEET 59 FOR -Y3- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEET 2B-5 FOR INTERSECTION DETAILS
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS 2N-2 & NW-6 FOR NOISE WALL 6 PLANS
 SEE SHEETS 2N-3 THRU 2N-4 & NW-7 FOR NOISE WALL 7 PLANS
 SEE SHEETS 2N-5 & NW-8 FOR NOISE WALL 8 PLANS
 SEE SHEETS 2N-7 & NW-9 FOR NOISE WALL 9 PLANS
 SEE SHEETS W-1 THRU W-13 FOR RETAINING WALL PLANS



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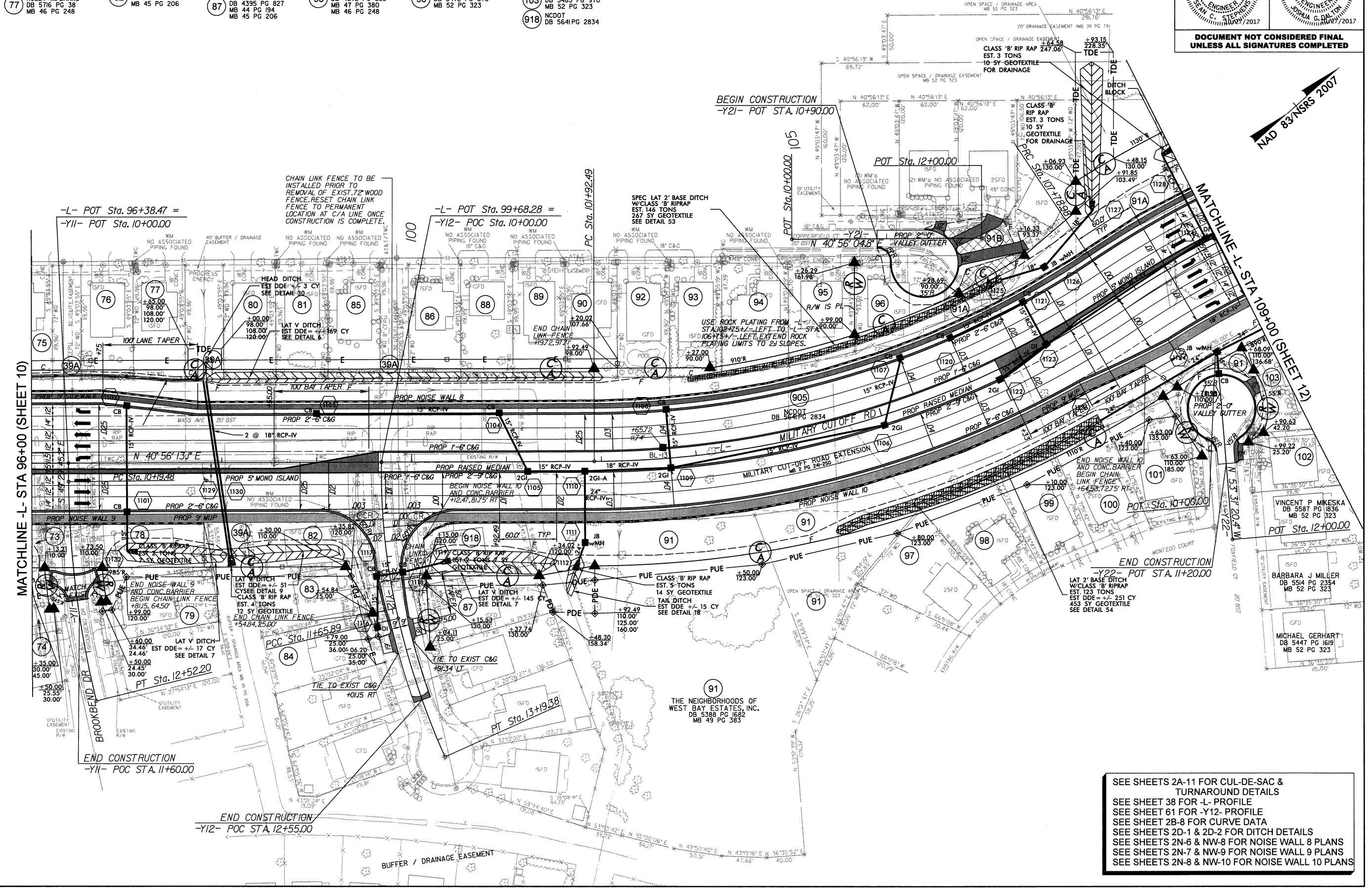
- 73 CINDY B. GASKINS
DB 5696 PG 1672
MB 45 PG 206
- 74 MARY ELLEN DOSS
DB 4895 PG 386
MB 45 PG 206
- 75 KIMBERLY D. MALDONADO
DB 5818 PG 1422
MB 46 PG 248
- 76 C. ROBERT STROUD JR
DB 5207 PG 1831
MB 46 PG 248
- 77 HOLLY M. BANKS
DB 5716 PG 38
MB 46 PG 248
- 78 EDWARD E. BENTON, SR
DB 4930 PG 2279
MB 45 PG 206
- 79 MARY ELLEN DOSS
DB 4895 PG 386
MB 45 PG 206
- 80 DANA L. BRITTELL
DB 4768 PG 861
MB 46 PG 248
- 81 JOYCE E. KAYLOR
DB 5490 PG 2446
MB 46 PG 248
- 82 CHERI HUNT STAMM
DB 5655 PG 187
MB 45 PG 206
- 83 NOAH S. BOATRIGHT
DB 5127 PG 126
MB 47 PG 206
- 84 KENNETH R. CURLEY
DB 4915 PG 145
MB 44 PG 194
- 85 ROBERT HARRISON
DB 5490 PG 2146
MB 46 PG 248
- 86 WESLEY R. SLAYTON
DB 5181 PG 458
MB 46 PG 248
- 87 THOMAS P. MACNEISH
DB 4395 PG 827
MB 44 PG 194
- 88 FRANKLIN H. PHILLIPS III
DB 5379 PG 2473
MB 46 PG 248
- 89 MATTHEW M. HAYDEN
DB 4701 PG 665
MB 46 PG 248
- 90 AMERICAN RESIDENTIAL
LEASING COMPANY, LLC
DB 5786 PG 180
MB 52 PG 323
- 91 DANIEL W. PATTERSON
DB 4942 PG 1864
MB 46 PG 248
- 92 JOSEPH M. VADINO
DB 4872 PG 698
MB 47 PG 380
- 93 JEREMY AKIN
DB 5444 PG 1484
MB 52 PG 323
- 94 BONITA ROWLEY, WIDOW
DB 5450 PG 1884
MB 52 PG 323
- 95 DERRICK SAUL
DB 5452 PG 1614
MB 52 PG 323
- 96 CHARLES S. LINDSEY
DB 5468 PG 2497
MB 52 PG 323
- 97 CARRIE L. CHEATHAM
DB 5472 PG 678
MB 52 PG 323
- 98 NCDOT
DB 5641 PG 2834
- 99 AMERICAN RESIDENTIAL
LEASING COMPANY, LLC
DB 5751 PG 2050
MB 52 PG 323
- 100 TIMOTHY L. ALLENSWORTH
DB 5478 PG 375
MB 52 PG 323
- 101 SANTOS MURGUIA III
DB 5888 PG 2965
MB 52 PG 323
- 102 LESLIE HOWARD PARRIS
DB 5762 PG 553
MB 52 PG 323
- 103 CHRISTOPHER M. SMITH
DB 5485 PG 370
MB 52 PG 323
- 104 NCDOT
DB 5641 PG 2834
- 91A THE NEIGHBORHOODS OF
WEST BAY ESTATES, INC
DB 4885 PG 1389
- 91B SAVANA LAND COMPANY, LLC
DB 4885 PG 1389
- 39A SAVANA LAND COMPANY, LLC
DB 4885 PG 1389
MB 59 PG 164-165



STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

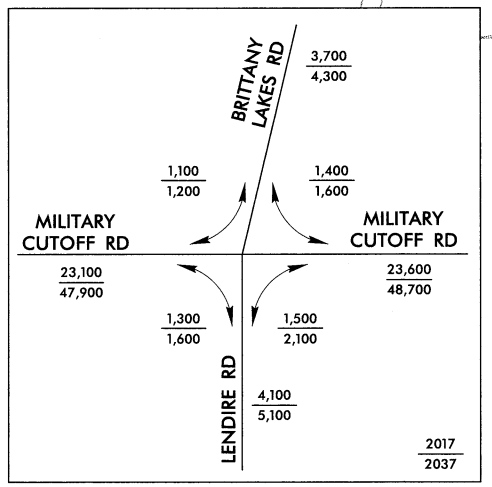
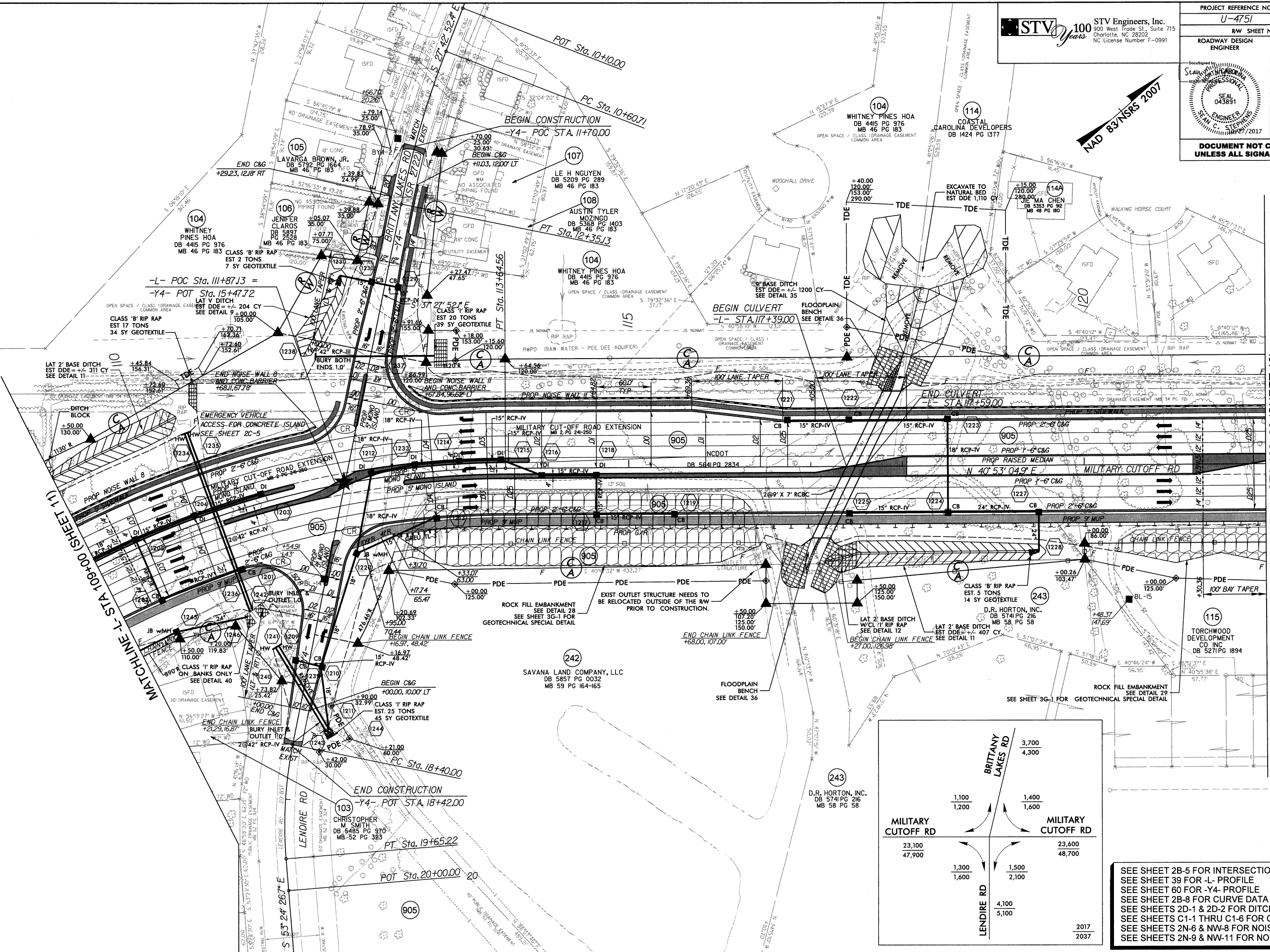
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SEAL 045891	SEAL 26971
DATE 09/29/2017	DATE 09/29/2017

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UNLESS ALL SIGNATURES COMPLETED



SEE SHEETS 2A-11 FOR CUL-DE-SAC & TURNAROUND DETAILS
SEE SHEET 38 FOR -L- PROFILE
SEE SHEET 61 FOR -Y12- PROFILE
SEE SHEET 2B-8 FOR CURVE DATA
SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
SEE SHEETS 2N-6 & NW-8 FOR NOISE WALL 8 PLANS
SEE SHEETS 2N-7 & NW-9 FOR NOISE WALL 9 PLANS
SEE SHEETS 2N-8 & NW-10 FOR NOISE WALL 10 PLANS

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SEE SHEET 2B-5 FOR INTERSECTION DETAILS
 SEE SHEET 39 FOR -L- PROFILE
 SEE SHEET 60 FOR -Y4- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS C1-1 THRU C1-6 FOR CULVERT PLANS
 SEE SHEETS 2N-6 & NW-8 FOR NOISE WALL 8 PLANS
 SEE SHEETS 2N-9 & NW-11 FOR NOISE WALL 11 PLANS

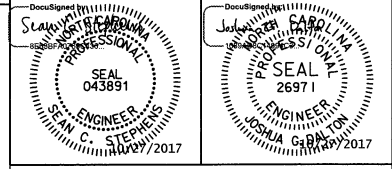
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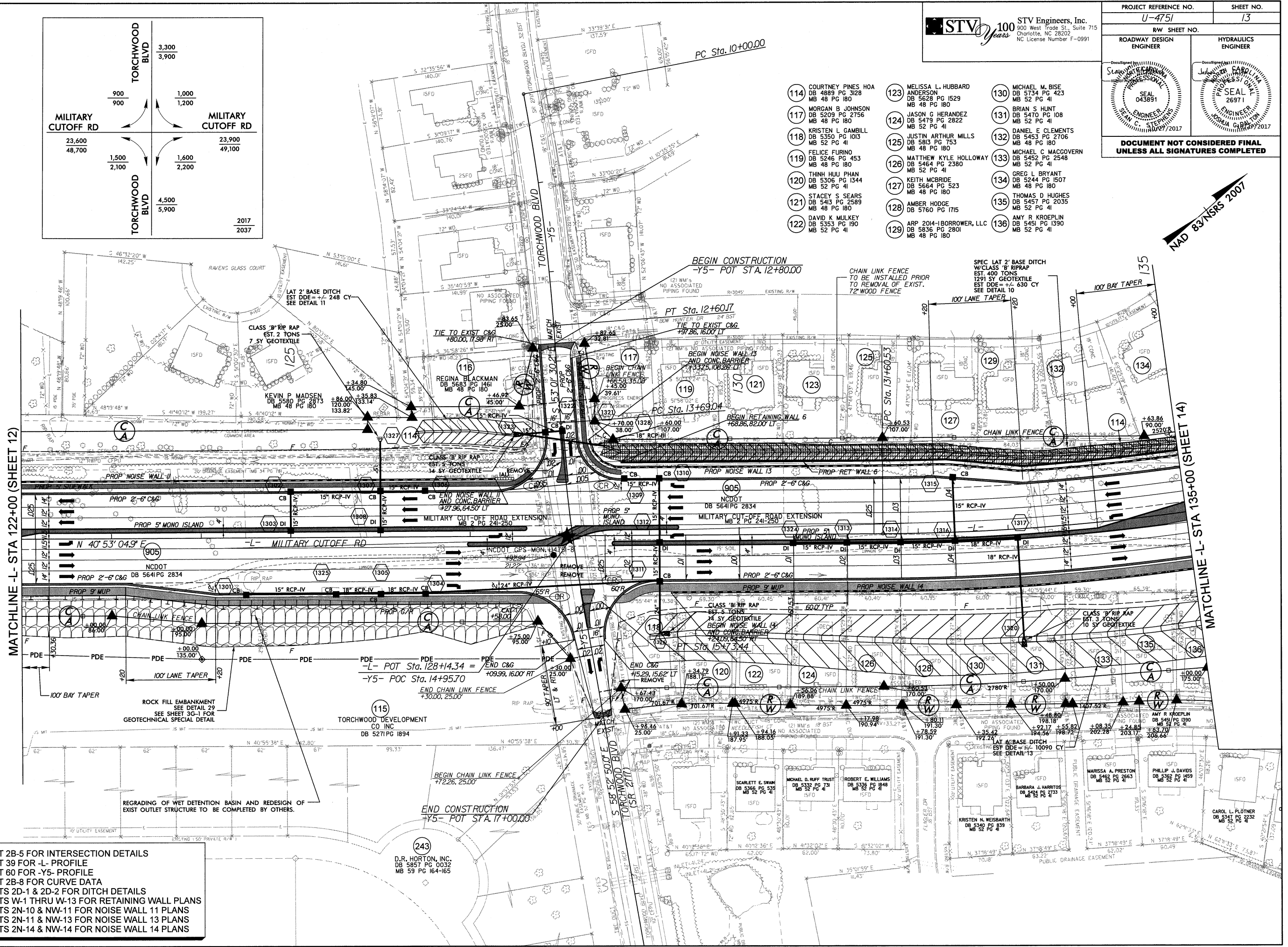
MATCHLINE-L- STA 109+00 (SHEET 11)

TORCHWOOD BLVD		3,300	1,000	TORCHWOOD BLVD	
MILITARY CUTOFF RD		900	1,200	MILITARY CUTOFF RD	
23,600	1,500	2,100	1,600	23,900	2,200
48,700					49,100
TORCHWOOD BLVD		4,500	5,900	TORCHWOOD BLVD	
2017					
2037					

- 114 COURTNEY PINES HOA DB 4889 PG 3128 MB 48 PG 180
- 117 MORGAN B. JOHNSON DB 5209 PG 2756 MB 48 PG 180
- 118 KRISTEN L. GAMBILL DB 5350 PG 1013 MB 52 PG 41
- 119 FELICE FURINO DB 5246 PG 453 MB 48 PG 180
- 120 THINH HUU PHAN DB 5306 PG 1344 MB 52 PG 41
- 121 STACEY S. SEARS DB 5413 PG 2589 MB 48 PG 180
- 122 DAVID K. MULKEY DB 5353 PG 190 MB 52 PG 41
- 123 MELISSA L. HUBBARD DB 5628 PG 1529 MB 48 PG 180
- 124 JASON G. HERNANDEZ DB 5479 PG 2822 MB 52 PG 41
- 125 JUSTIN ARTHUR MILLS DB 5813 PG 753 MB 48 PG 180
- 126 MATTHEW KYLE HOLLOWAY DB 5464 PG 2380 MB 52 PG 41
- 127 KEITH MCBRIDE DB 5664 PG 523 MB 48 PG 180
- 128 AMBER HODGE DB 5760 PG 1715 MB 48 PG 180
- 129 ARP 2014-BORROWER, LLC DB 5836 PG 2801 MB 48 PG 180
- 130 MICHAEL M. BISE DB 5734 PG 423 MB 52 PG 41
- 131 BRIAN S. HUNT DB 5470 PG 108 MB 52 PG 41
- 132 DANIEL E. CLEMENTS DB 5453 PG 2706 MB 48 PG 180
- 133 MICHAEL C. MACGOVERN DB 5452 PG 2548 MB 52 PG 41
- 134 GREG L. BRYANT DB 5244 PG 1507 MB 48 PG 180
- 135 THOMAS D. HUGHES DB 5457 PG 2035 MB 52 PG 41
- 136 AMY R. KROEPLIN DB 5451 PG 1390 MB 52 PG 41



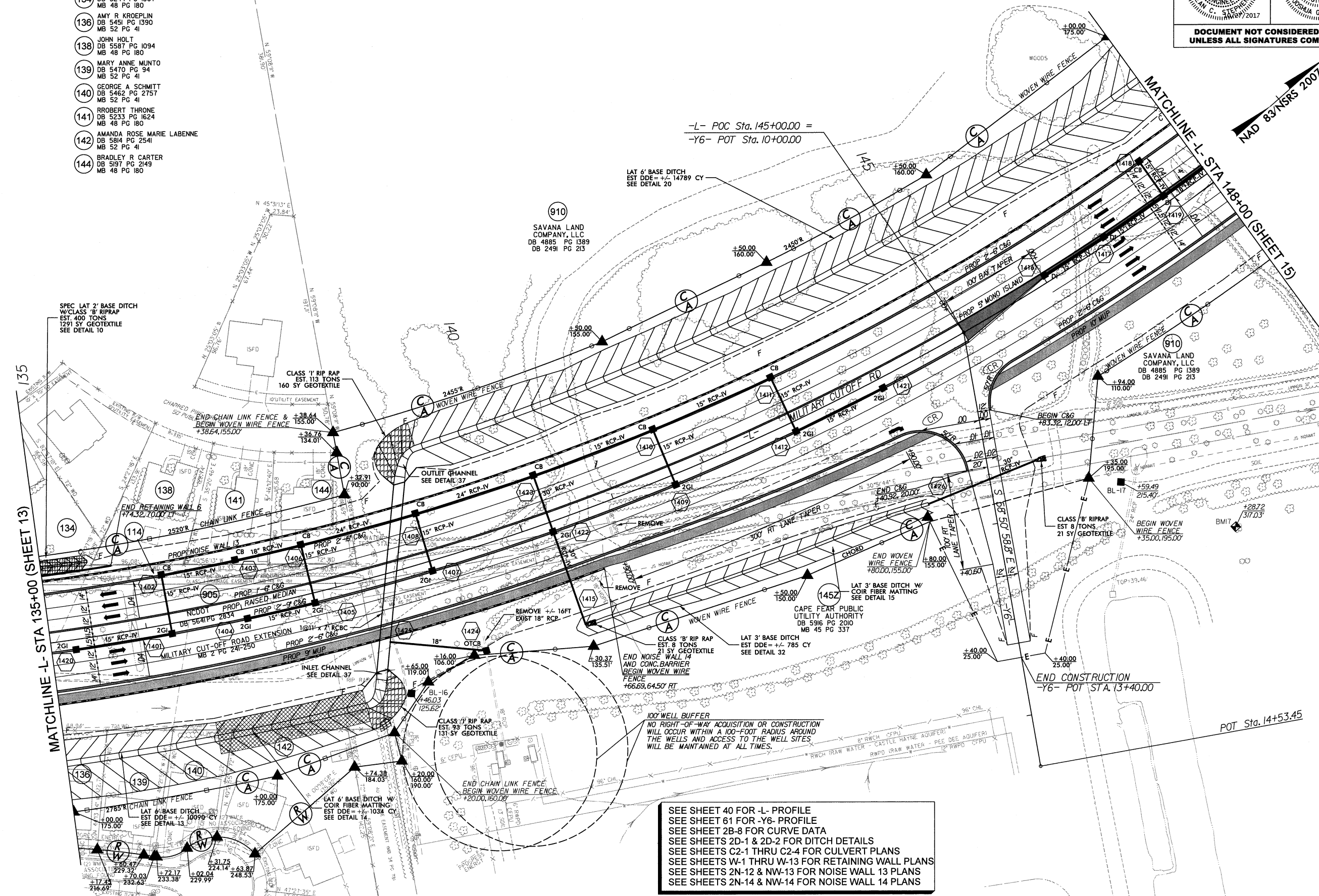
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SEE SHEET 2B-5 FOR INTERSECTION DETAILS
 SEE SHEET 39 FOR -L- PROFILE
 SEE SHEET 60 FOR -Y5- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS W-1 THRU W-13 FOR RETAINING WALL PLANS
 SEE SHEETS 2N-10 & NW-11 FOR NOISE WALL 11 PLANS
 SEE SHEETS 2N-11 & NW-13 FOR NOISE WALL 13 PLANS
 SEE SHEETS 2N-14 & NW-14 FOR NOISE WALL 14 PLANS

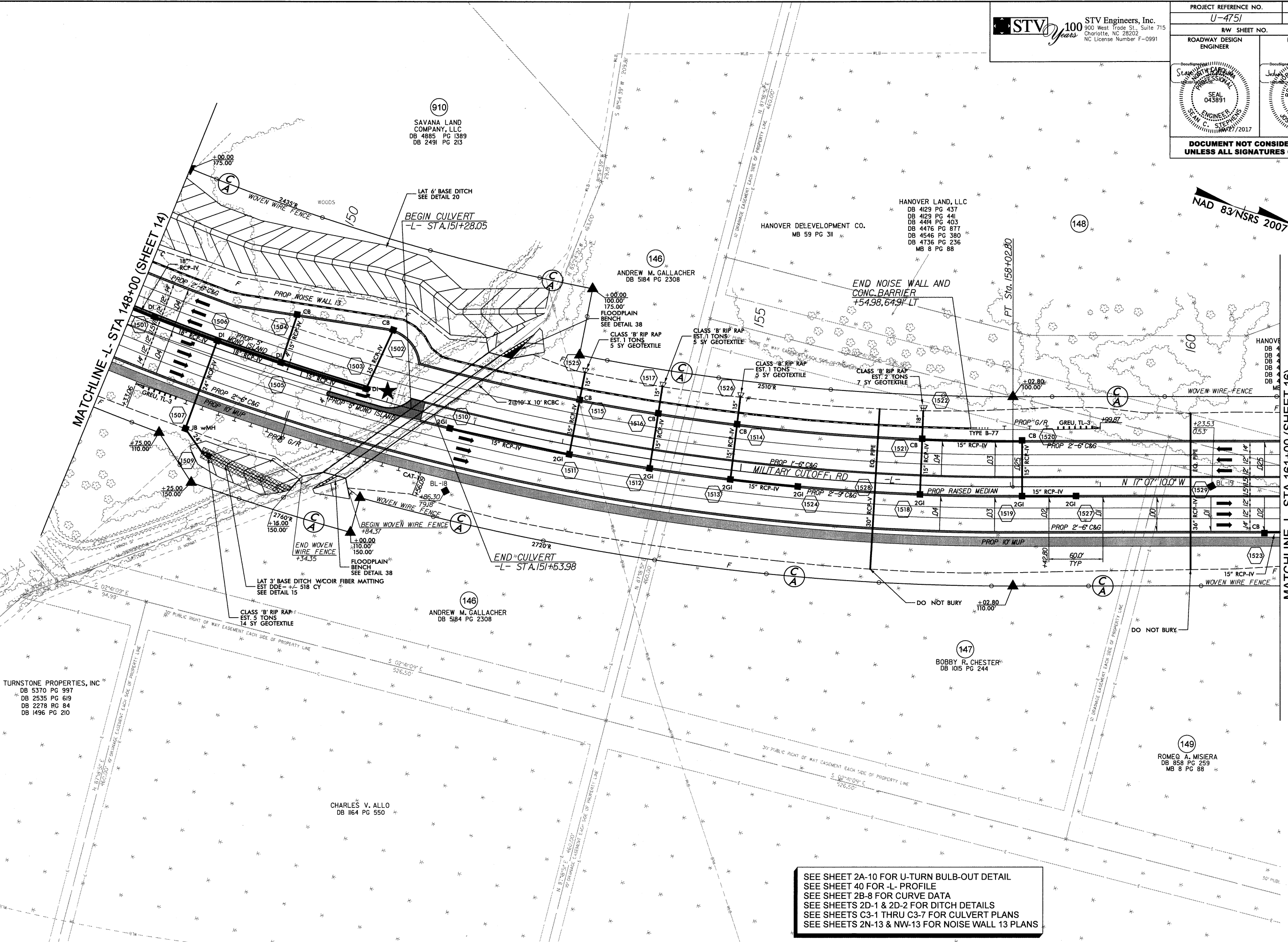
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- (114) COURTNEY PINES HOA
DB 4889 PG 3128
MB 48 PG 180
- (134) GREG L BRYANT
DB 5244 PG 1507
MB 48 PG 180
- (136) AMY R KROEPLIN
DB 5451 PG 1390
MB 52 PG 41
- (138) JOHN HOLT
DB 5587 PG 1094
MB 48 PG 180
- (139) MARY ANNE MUNTO
DB 5470 PG 94
MB 52 PG 41
- (140) GEORGE A SCHMITT
DB 5462 PG 2757
MB 52 PG 41
- (141) RROBERT THRONE
DB 5233 PG 1624
MB 48 PG 180
- (142) AMANDA ROSE MARIE LABENNE
DB 5814 PG 2541
MB 52 PG 41
- (144) BRADLEY R CARTER
DB 5197 PG 2149
MB 48 PG 180



SEE SHEET 40 FOR -L- PROFILE
 SEE SHEET 61 FOR -Y6- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS C2-1 THRU C2-4 FOR CULVERT PLANS
 SEE SHEETS W-1 THRU W-13 FOR RETAINING WALL PLANS
 SEE SHEETS 2N-12 & NW-13 FOR NOISE WALL 13 PLANS
 SEE SHEETS 2N-14 & NW-14 FOR NOISE WALL 14 PLANS

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TURNSTONE PROPERTIES, INC
 DB 5370 PG 997
 DB 2535 PG 619
 DB 2278 PG 84
 DB 1496 PG 210

CHARLES V. ALLO
 DB 1164 PG 550

910
 SAVANA LAND
 COMPANY, LLC
 DB 4885 PG 1389
 DB 2491 PG 213

146
 ANDREW M. GALLACHER
 DB 5184 PG 2308

146
 ANDREW M. GALLACHER
 DB 5184 PG 2308

HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4444 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

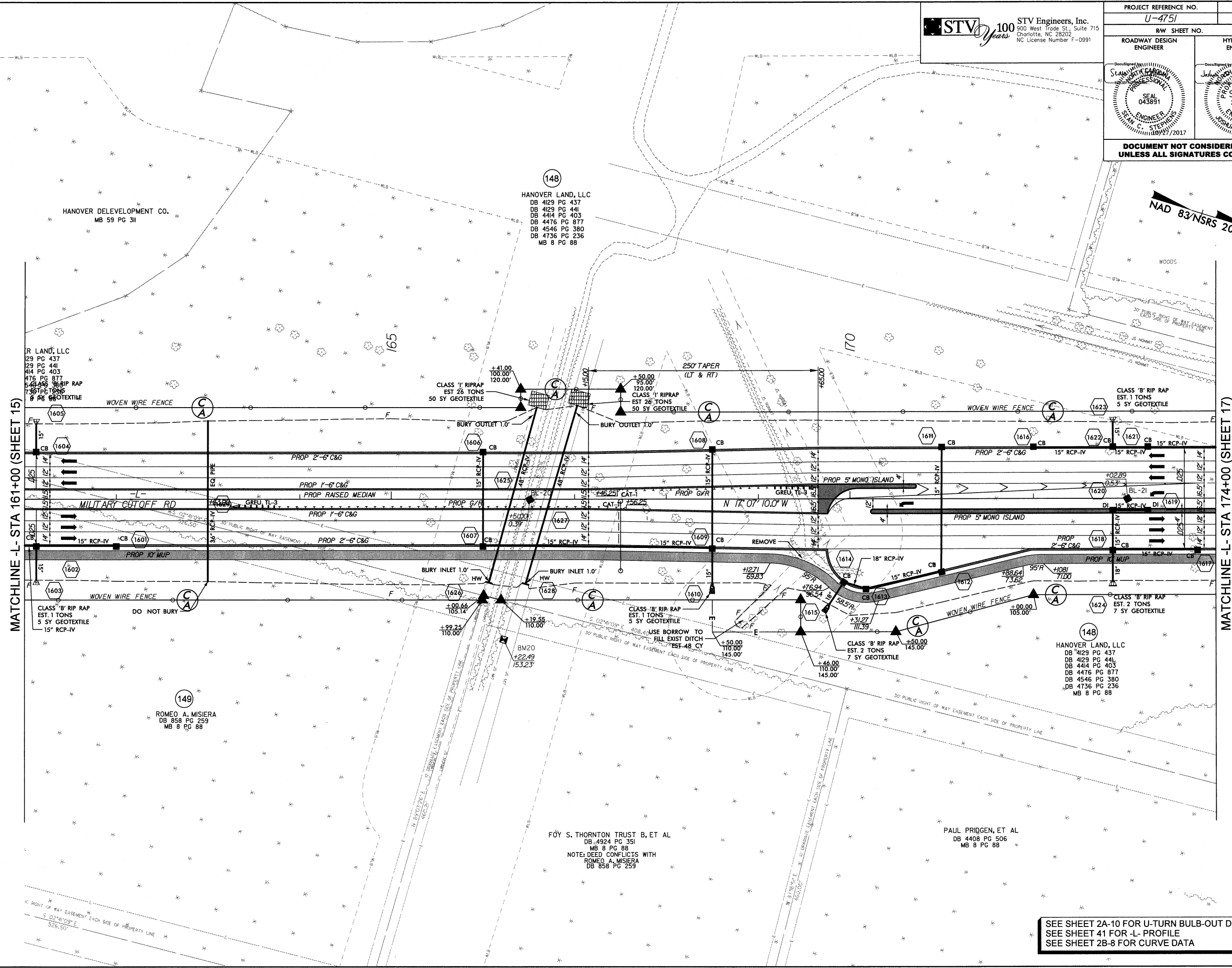
147
 BOBBY R. CHESTER
 DB 1015 PG 244

149
 ROMEO A. MISIERA
 DB 858 PG 259
 MB 8 PG 88

SEE SHEET 2A-10 FOR U-TURN BULB-OUT DETAIL
 SEE SHEET 40 FOR -L- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEETS C3-1 THRU C3-7 FOR CULVERT PLANS
 SEE SHEETS 2N-13 & NW-13 FOR NOISE WALL 13 PLANS

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MATCHLINE -L- STA 161+00 (SHEET 15)

MATCHLINE -L- STA 174+00 (SHEET 17)

HANOVER DEVELOPMENT CO.
 MB 59 PG 311

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

R LAND, LLC
 29 PG 437
 29 PG 441
 414 PG 403
 476 PG 877
 546 PG 380
 736 PG 236
 8 PG 88

CLASS 'B' RIP RAP
 EST. 1 TONS
 5 SY GEOTEXTILE
 15" RCP-IV

149
 ROMEO A. MISIERA
 DB 858 PG 259
 MB 8 PG 88

FÓY S. THORNTON TRUST B, ET AL
 DB 4924 PG 351
 MB 8 PG 88
 NOTE: DEED CONFLICTS WITH
 ROMEO A. MISIERA
 DB 858 PG 259

PAUL PRIQGEN, ET AL
 DB 4408 PG 506
 MB 8 PG 88

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

SEE SHEET 2A-10 FOR U-TURN BULB-OUT DETAIL
 SEE SHEET 41 FOR -L- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA

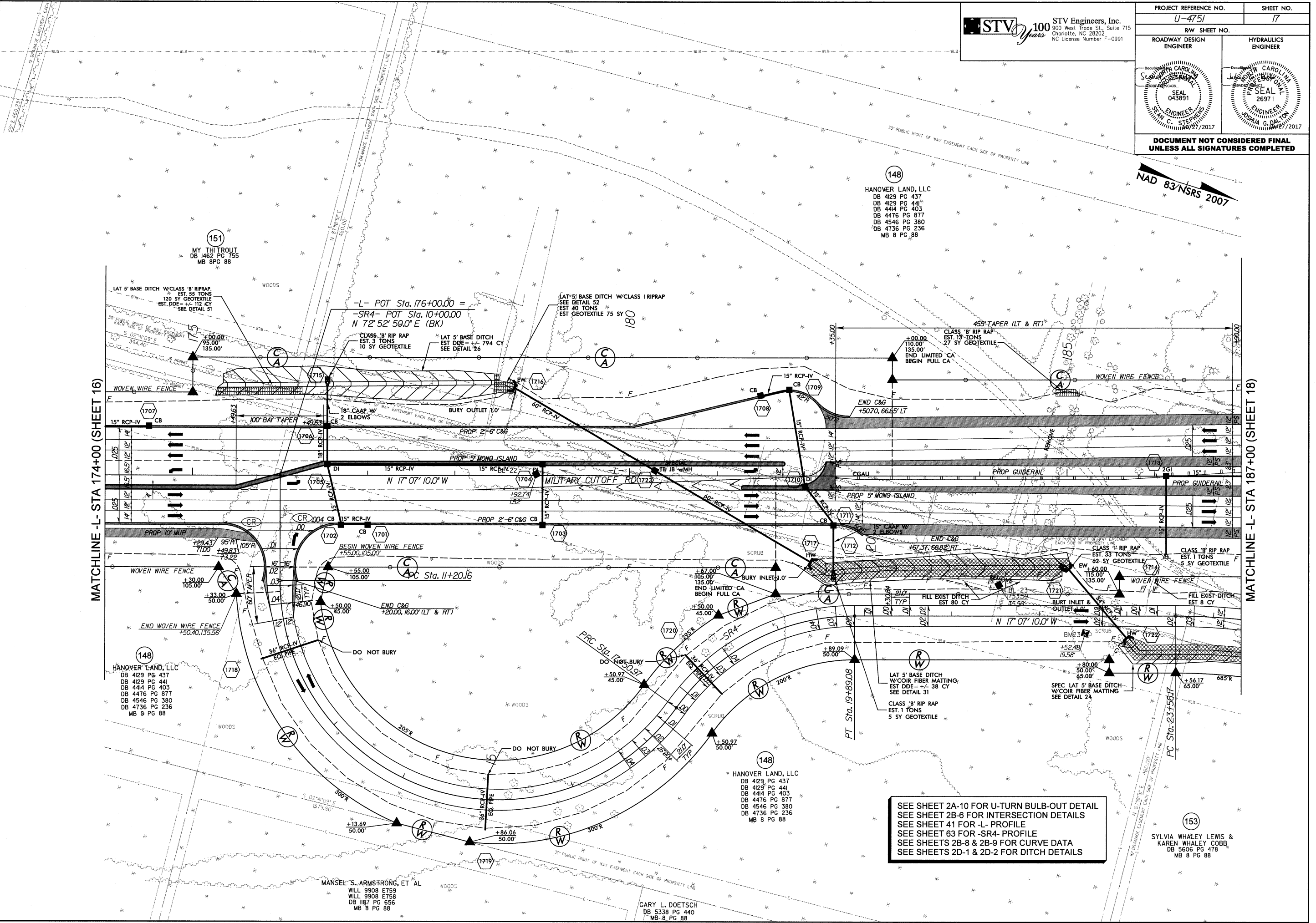
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 stephano

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NAD 83/NSRS 2007

MATCHLINE L- STA 174+00 (SHEET 16)

MATCHLINE L- STA 187+00 (SHEET 18)



151
 MY THI TROUT
 DB 1462 PG 755
 MB 8 PG 88

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

153
 SYLVIA WHALEY LEWIS &
 KAREN WHALEY COBB
 DB 5606 PG 478
 MB 8 PG 88

SEE SHEET 2A-10 FOR U-TURN BULB-OUT DETAIL
 SEE SHEET 2B-6 FOR INTERSECTION DETAILS
 SEE SHEET 41 FOR -L- PROFILE
 SEE SHEET 63 FOR -SR4- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

10/27/2017
 R:\Roadway\Proj\SHU4751\RDY_psh17.dgn
 stepless

MANSEL S. ARMSTRONG, ET AL
 WILL 9908 E759
 WILL 9908 E758
 DB 1187 PG 656
 MB 8 PG 88

GARY L. DOETSCH
 DB 5338 PG 440
 MB 8 PG 88

SEE SHEET 2A-10 FOR TURNAROUND DETAILS
 SEE SHEET 42 FOR -L- PROFILE
 SEE SHEET 62 FOR -Y18- PROFILE
 SEE SHEET 63 FOR -SR4- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

148
 HANOVER LAND, LLC
 DB 4129 PG 437
 DB 4129 PG 441
 DB 4414 PG 403
 DB 4476 PG 877
 DB 4546 PG 380
 DB 4736 PG 236
 MB 8 PG 88

NAD 83/NSRS 2007

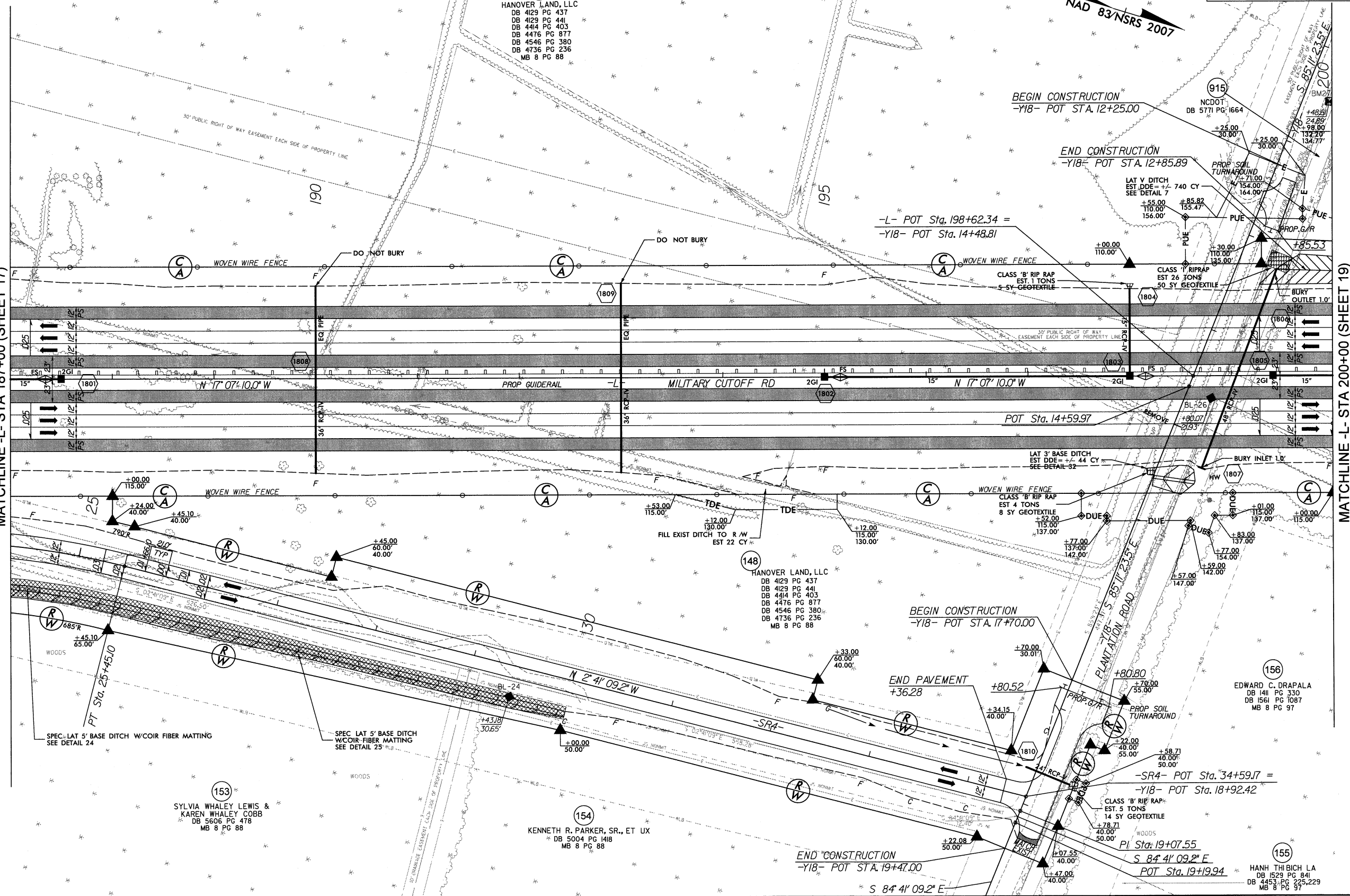
BEGIN CONSTRUCTION
 -Y18- POT STA. 12+25.00

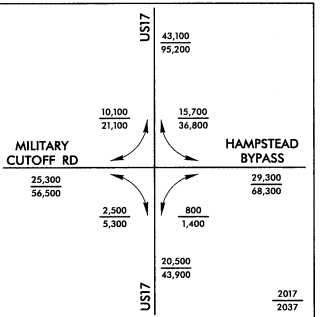
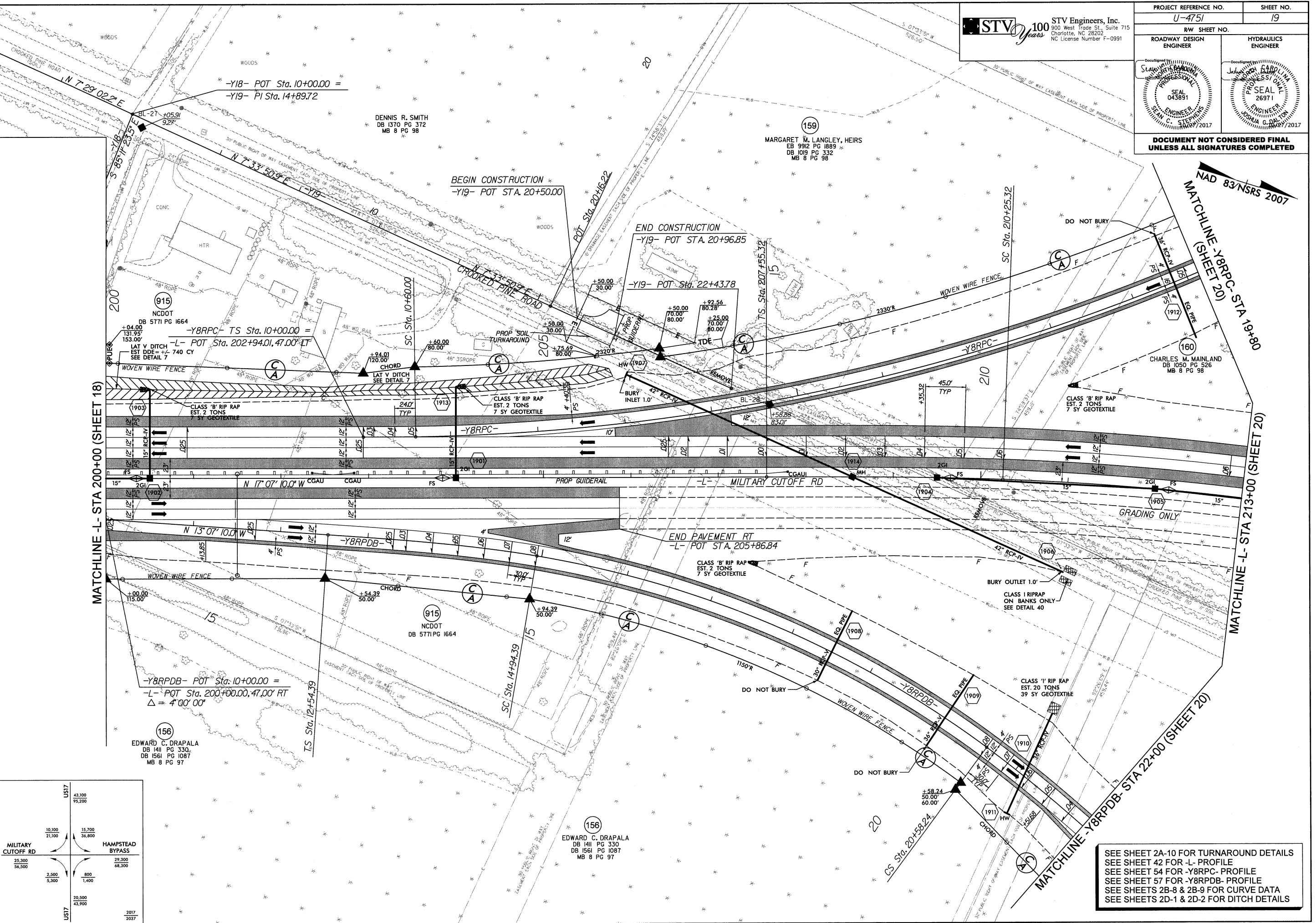
END CONSTRUCTION
 -Y18- POT STA. 12+85.89

-L- POT Sta. 198+62.34 =
 -Y18- POT Sta. 14+48.81

MATCHLINE L- STA 187+00 (SHEET 17)

MATCHLINE L- STA 200+00 (SHEET 19)





SEE SHEET 2A-10 FOR TURNAROUND DETAILS
 SEE SHEET 42 FOR -L- PROFILE
 SEE SHEET 54 FOR -Y8RPC- PROFILE
 SEE SHEET 57 FOR -Y8RPDB- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

10/17/2017 P:\proj\U4751\A\SH\U4751_L\RDY_psh19.dgn

STV 100 STV Engineers, Inc.
 100 West 42nd St., 7th Fl.
 New York, NY 10018
 Phone: (212) 850-8800
 Fax: (212) 850-8801
 E-mail: info@stve.com

PROJECT REFERENCE NO. U-4751
 SHEET NO. 20

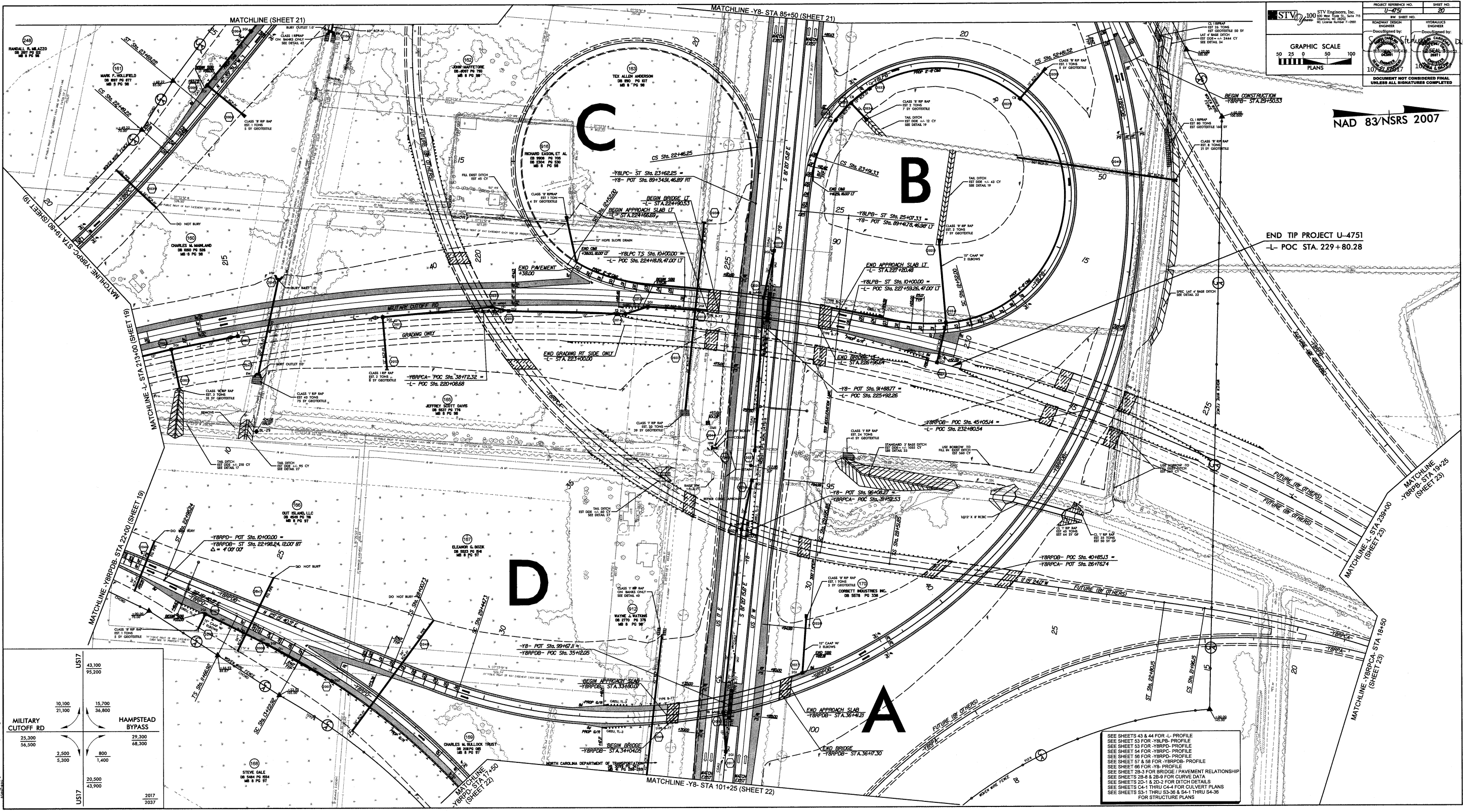
DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 10/20/07

GRAPHIC SCALE
 50 25 0 50 100
 PLANS

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007

END TIP PROJECT U-4751
 -L- POC STA. 229+80.28

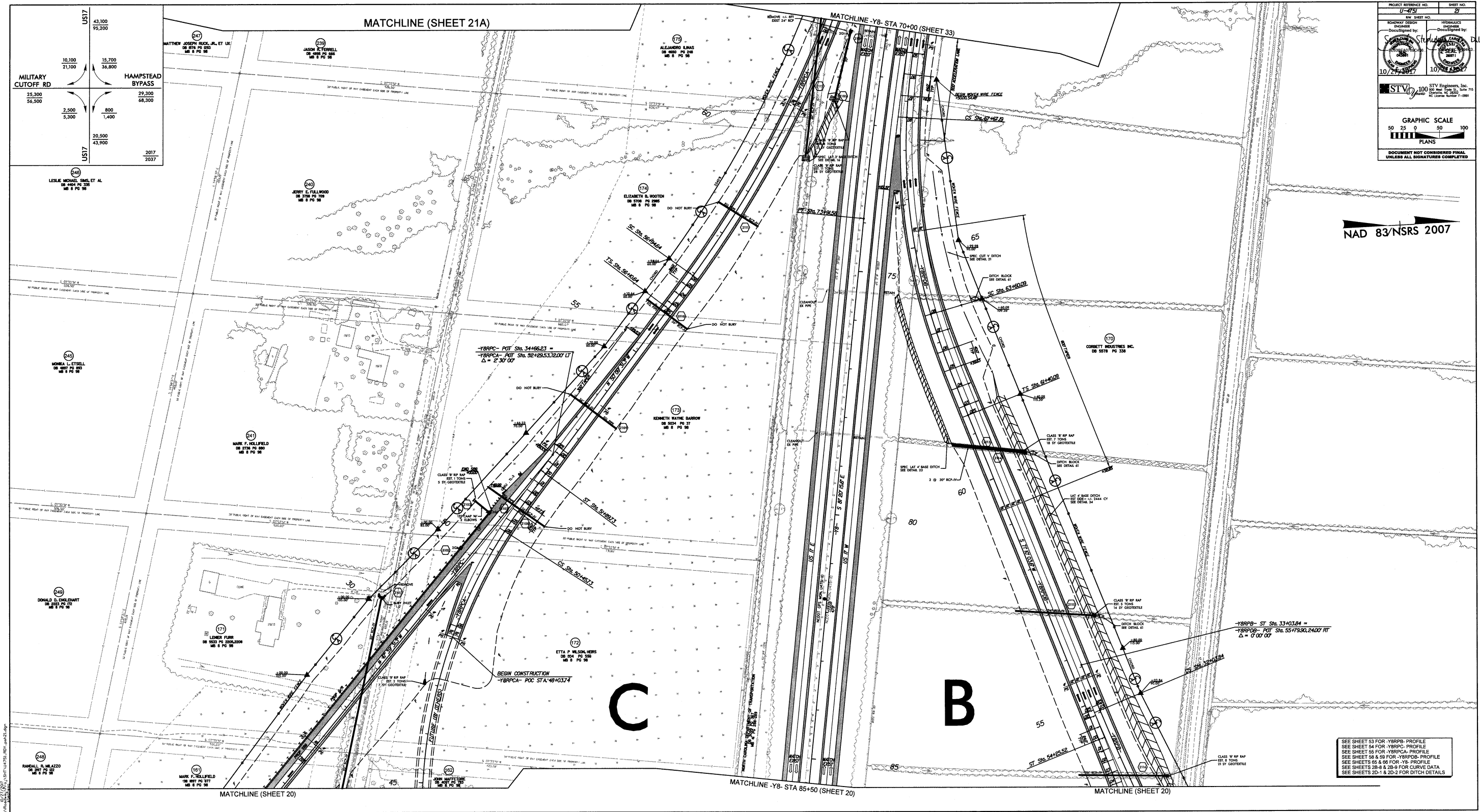


	US 17	43,100	
		93,200	
		10,100	15,700
		21,100	36,800
MILITARY CUTOFF RD		25,300	29,300
		54,500	68,300
		2,500	800
		5,300	1,400
	HAMPSTEAD BYPASS		
		20,500	43,900
		2017	
		2037	

SEE SHEETS 43 & 44 FOR -L- PROFILE
 SEE SHEET 53 FOR -YB-LP- PROFILE
 SEE SHEET 53 FOR -YB-RP- PROFILE
 SEE SHEET 54 FOR -YB-PC- PROFILE
 SEE SHEET 56 FOR -YB-PD- PROFILE
 SEE SHEET 57 & 58 FOR -YB-RPDB- PROFILE
 SEE SHEET 58 FOR -YB- PROFILE
 SEE SHEET 28-3 FOR BRIDGE / PAVEMENT RELATIONSHIP
 SEE SHEETS 28-4 & 28-9 FOR CURVE DATA
 SEE SHEETS 20-1 & 20-2 FOR DITCH DETAILS
 SEE SHEETS C4-1 THRU C4-4 FOR CULVERT PLANS
 SEE SHEETS S3-1 THRU S3-6 & S4-1 THRU S4-6
 FOR STRUCTURE PLANS

PROJECT REFERENCE NO.	U-475
SHEET NO.	21
ROADWAY DESIGN ENGINEER	STV Engineers, Inc.
HYDRAULICS ENGINEER	STV Engineers, Inc.
DATE	10/27/2007
SCALE	AS SHOWN
GRAPHIC SCALE	0 25 50 100
PLANS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

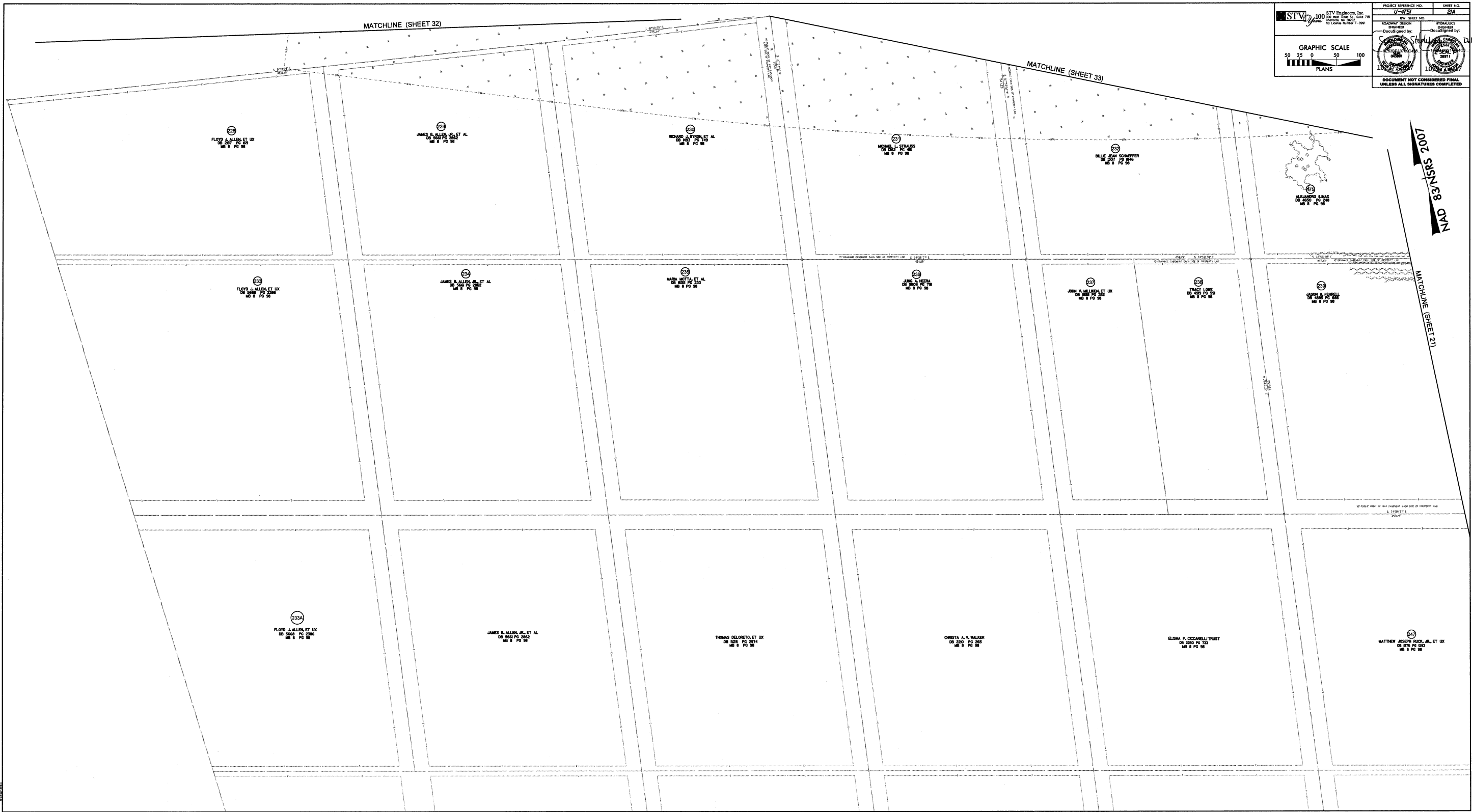
NAD 83/NSRS 2007



SEE SHEET 53 FOR -YBRPB- PROFILE
 SEE SHEET 54 FOR -YBRPC- PROFILE
 SEE SHEET 55 FOR -YBRPCA- PROFILE
 SEE SHEET 58 & 59 FOR -YBRPDB- PROFILE
 SEE SHEETS 65 & 66 FOR -Y8- PROFILE
 SEE SHEETS 28-8 & 28-9 FOR CURVE DATA
 SEE SHEETS 20-1 & 20-2 FOR DITCH DETAILS

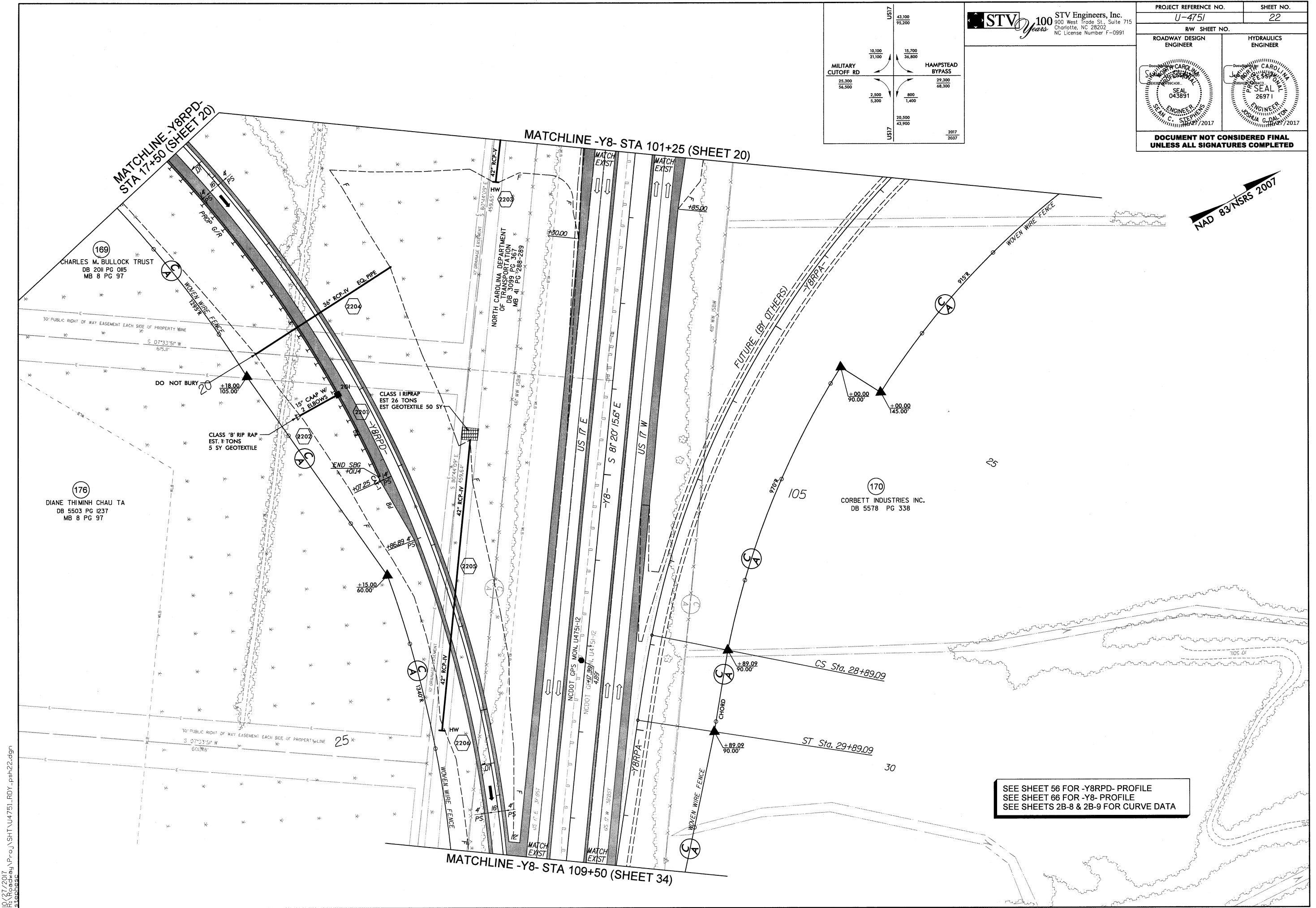
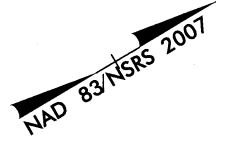
10/27/07 10:00 AM
 C:\Users\jstevens\Documents\2007\U-475\21.dwg
 jstevens

PROJECT REFERENCE NO. U-25		SHEET NO. 2/A	
STV 100 STV Engineers, Inc. 300 West 10th St., Suite 110 Chicago, Illinois 60607-7-098		HYDRAULICS ENGINEER DocuSigned by: [Signature]	
ROADWAY DESIGN ENGINEER DocuSigned by: [Signature]		HYDRAULICS ENGINEER DocuSigned by: [Signature]	
GRAPHIC SCALE 50 25 0 50 100 PLANS		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



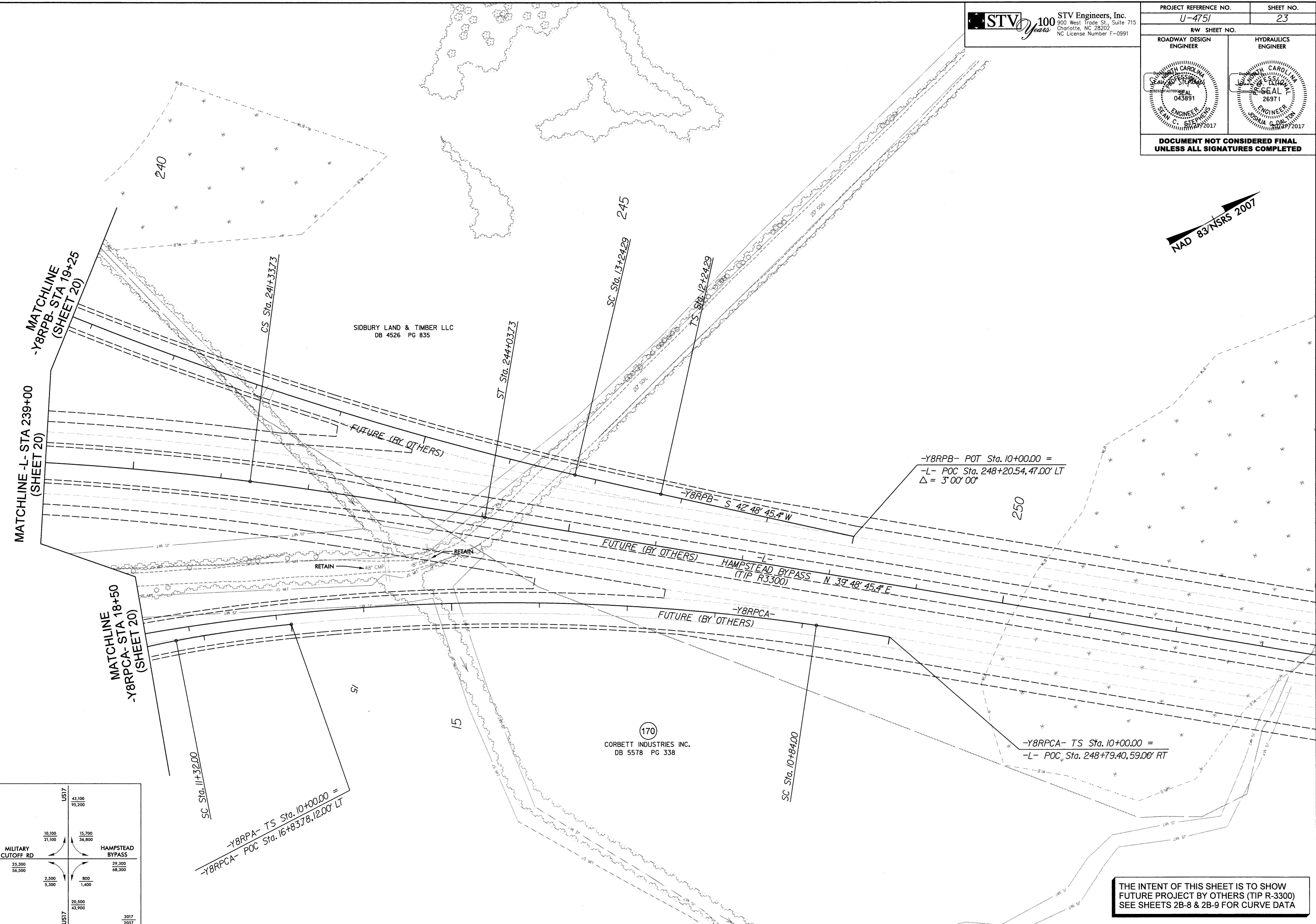
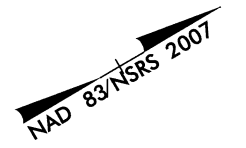
10/27/2017 10:00 AM
 10/27/2017 10:00 AM
 10/27/2017 10:00 AM

	US17	43,100	93,300
MILITARY CUTOFF RD	10,100	21,100	15,700
			36,800
	25,300	54,500	29,300
			68,300
	2,500	5,300	800
			1,400
	20,500	43,900	2017
			2037



SEE SHEET 56 FOR -Y8RPD- PROFILE
 SEE SHEET 66 FOR -Y8- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA

10/27/2017
 R:\Roadway\Proj\SHU4751\RDY_psh22.dgn
 stephsc



-Y8RPB- POT Sta. 10+00.00 =
 -L- POC Sta. 248+20.54, 47.00' LT
 $\Delta = 3' 00' 00''$

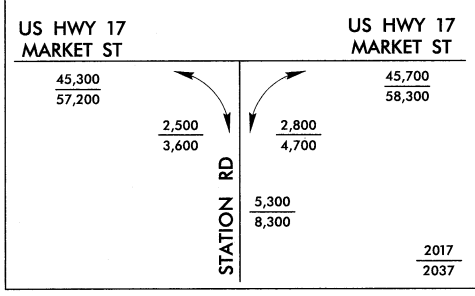
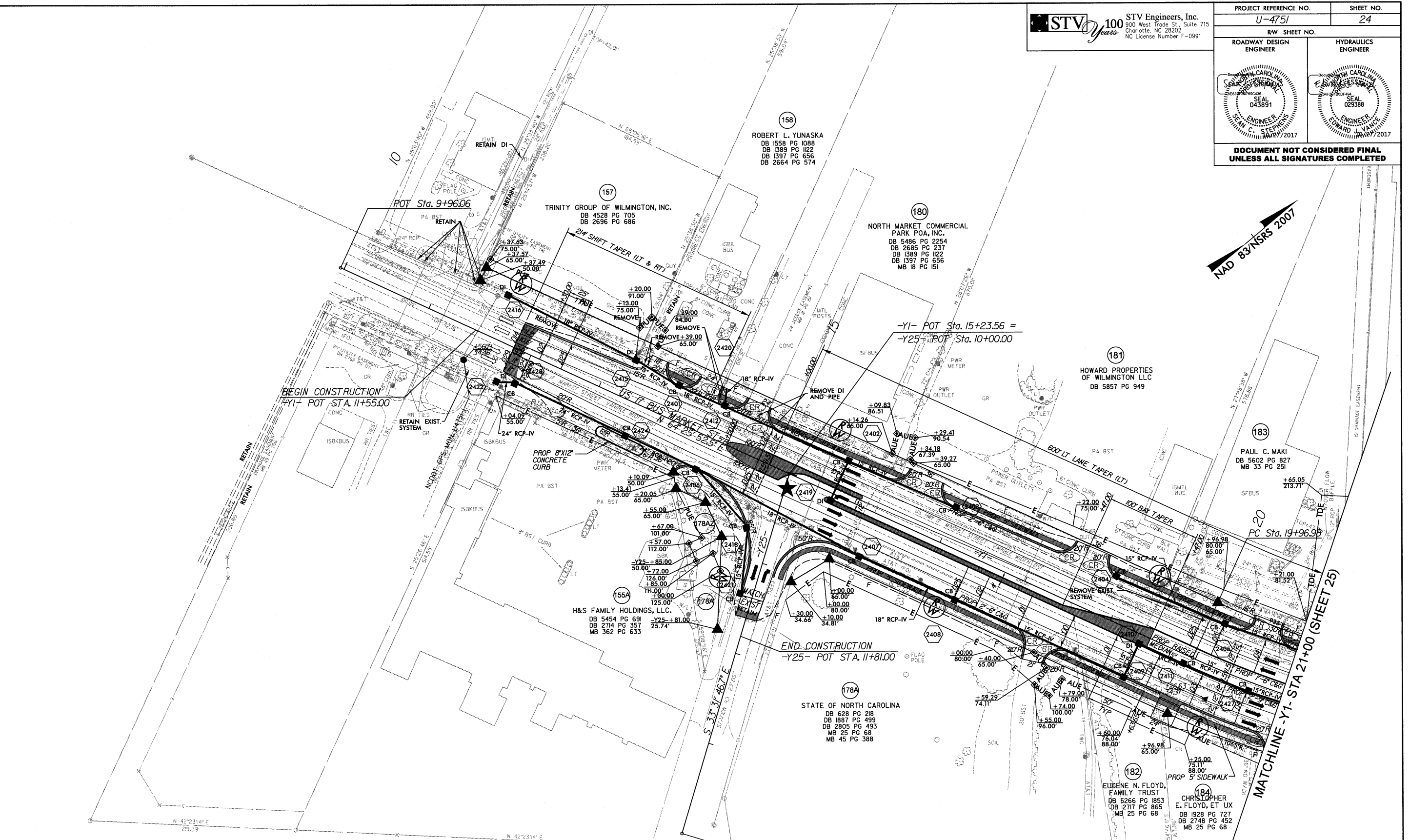
-Y8RPCA- TS Sta. 10+00.00 =
 -L- POC Sta. 248+79.40, 59.00' RT

-Y8RPA- TS Sta. 10+00.00 =
 -Y8RPCA- POC Sta. 16+83.78, 12.00' LT

THE INTENT OF THIS SHEET IS TO SHOW
 FUTURE PROJECT BY OTHERS (TIP R-3300)
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA

10/27/2017
 R:\Roadway\Proj\SH\U4751\RDY_psh23.dgn
 stephasc

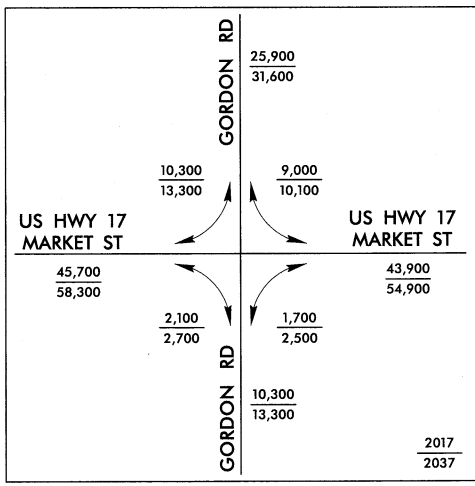
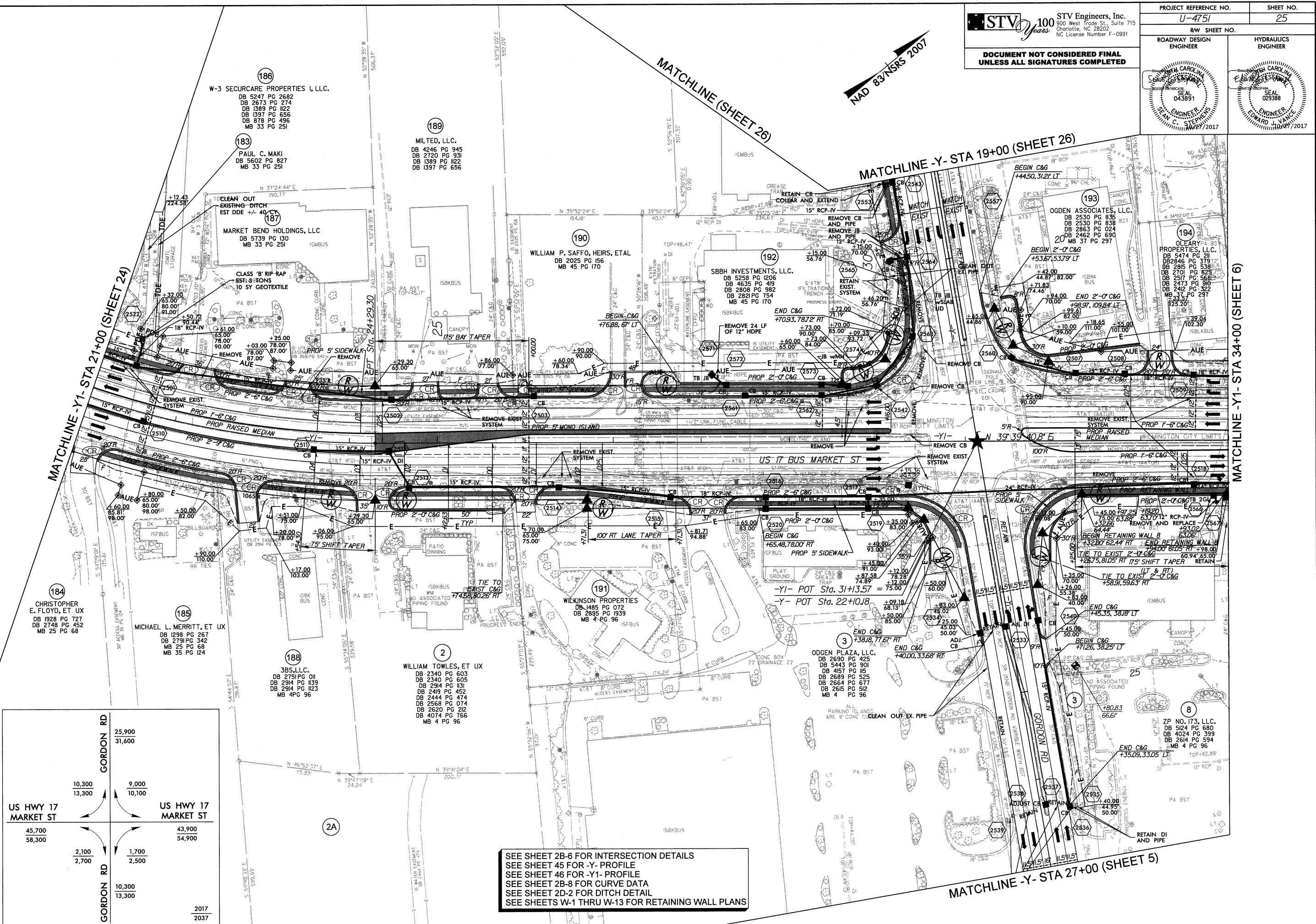
	US17	43,100	95,200
	10,100	15,700	36,800
	25,300	29,300	68,300
	56,500	56,500	68,300
	2,500	800	
	5,300	1,400	
	20,500	43,900	
	US17	2017	2037



SEE SHEET 2B-6 FOR INTERSECTION DETAILS
 SEE SHEET 46 FOR -Y1- PROFILE
 SEE SHEET 67 FOR -Y25- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA

I:\06\2017\06\01\Projects\U4751\RDY_psh24.dgn
 11/21/2017 10:58:14 AM

NAD 83/NSRS 2007



SEE SHEET 2B-6 FOR INTERSECTION DETAILS
 SEE SHEET 45 FOR -Y- PROFILE
 SEE SHEET 46 FOR -Y1- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEET 2D-2 FOR DITCH DETAIL
 SEE SHEETS W-1 THRU W-13 FOR RETAINING WALL PLANS

MATCHLINE -Y1- STA 21+00 (SHEET 24)

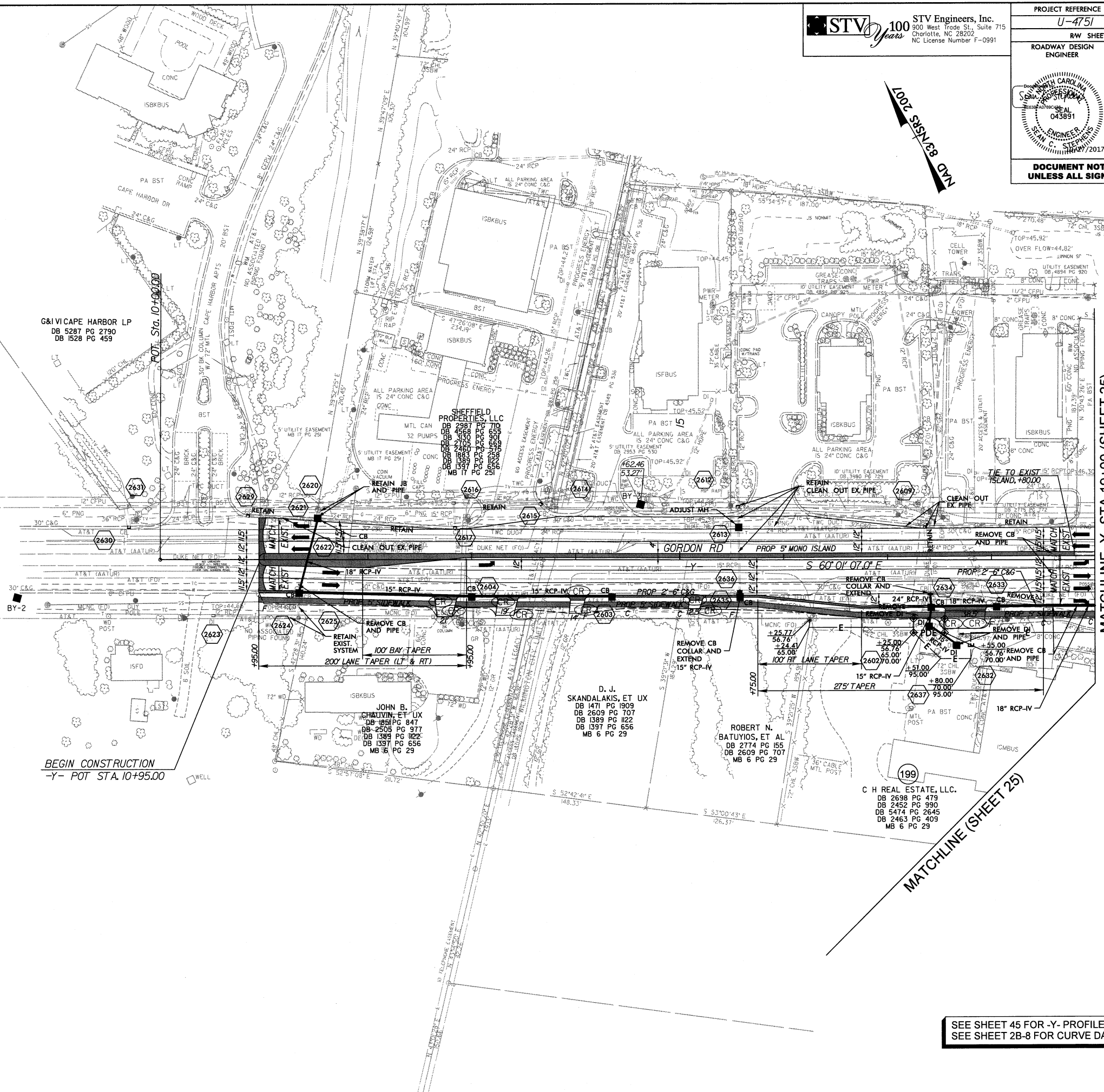
MATCHLINE (SHEET 26)

MATCHLINE -Y- STA 19+00 (SHEET 26)

MATCHLINE -Y1- STA 34+00 (SHEET 6)

MATCHLINE -Y- STA 27+00 (SHEET 5)

10/16/2017 10:00 AM Proj: U-4751-SHT U4751-RD1 -psh25.dgn
 10/16/2017 10:00 AM Proj: U-4751-SHT U4751-RD1 -psh25.dgn



G&V I CAPE HARBOR LP
 DB 5287 PG 2790
 DB 1528 PG 459

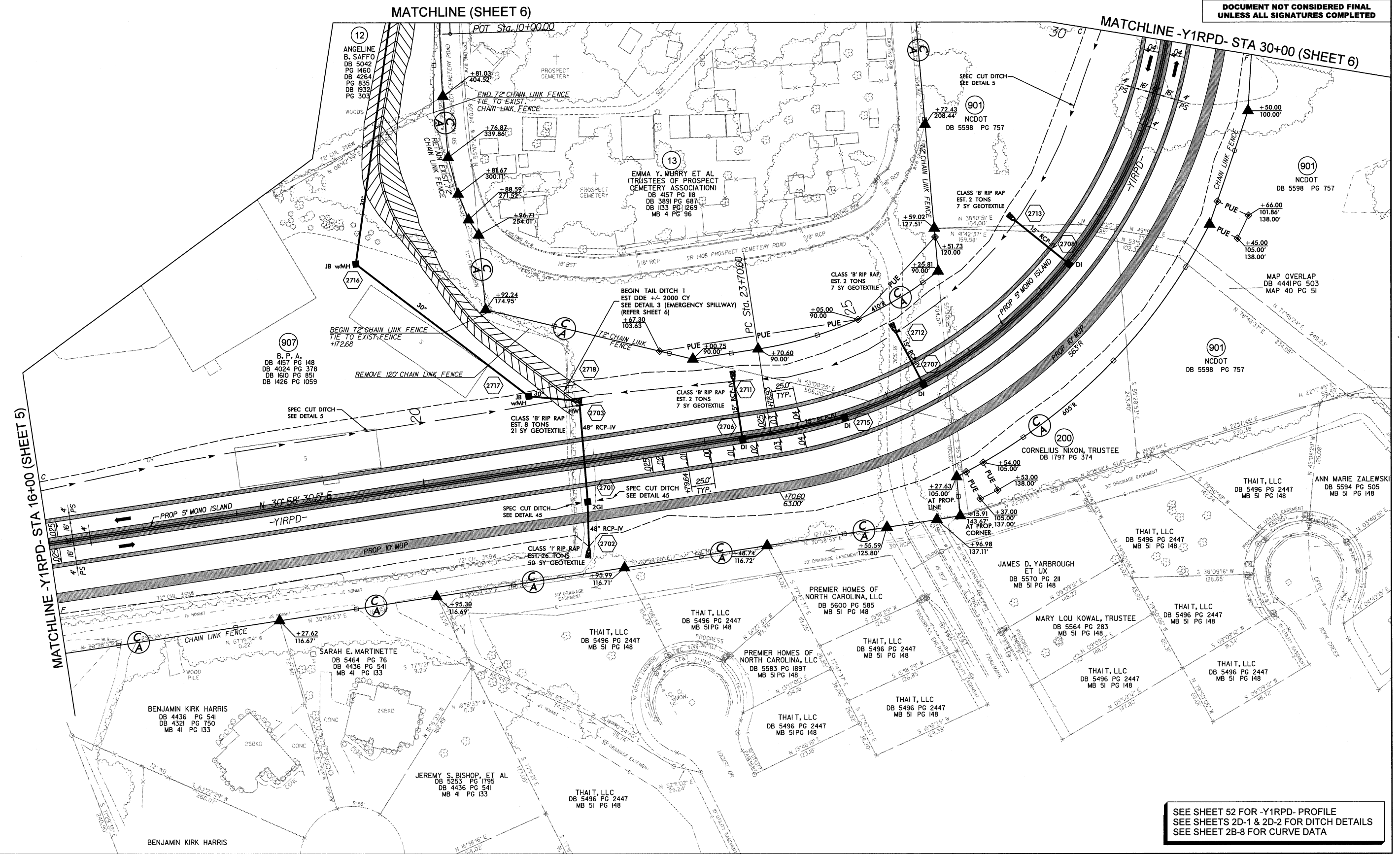
BEGIN CONSTRUCTION
 -Y- POT STA. 10+95.00

MATCHLINE -Y- STA 19+00 (SHEET 25)

MATCHLINE (SHEET 25)

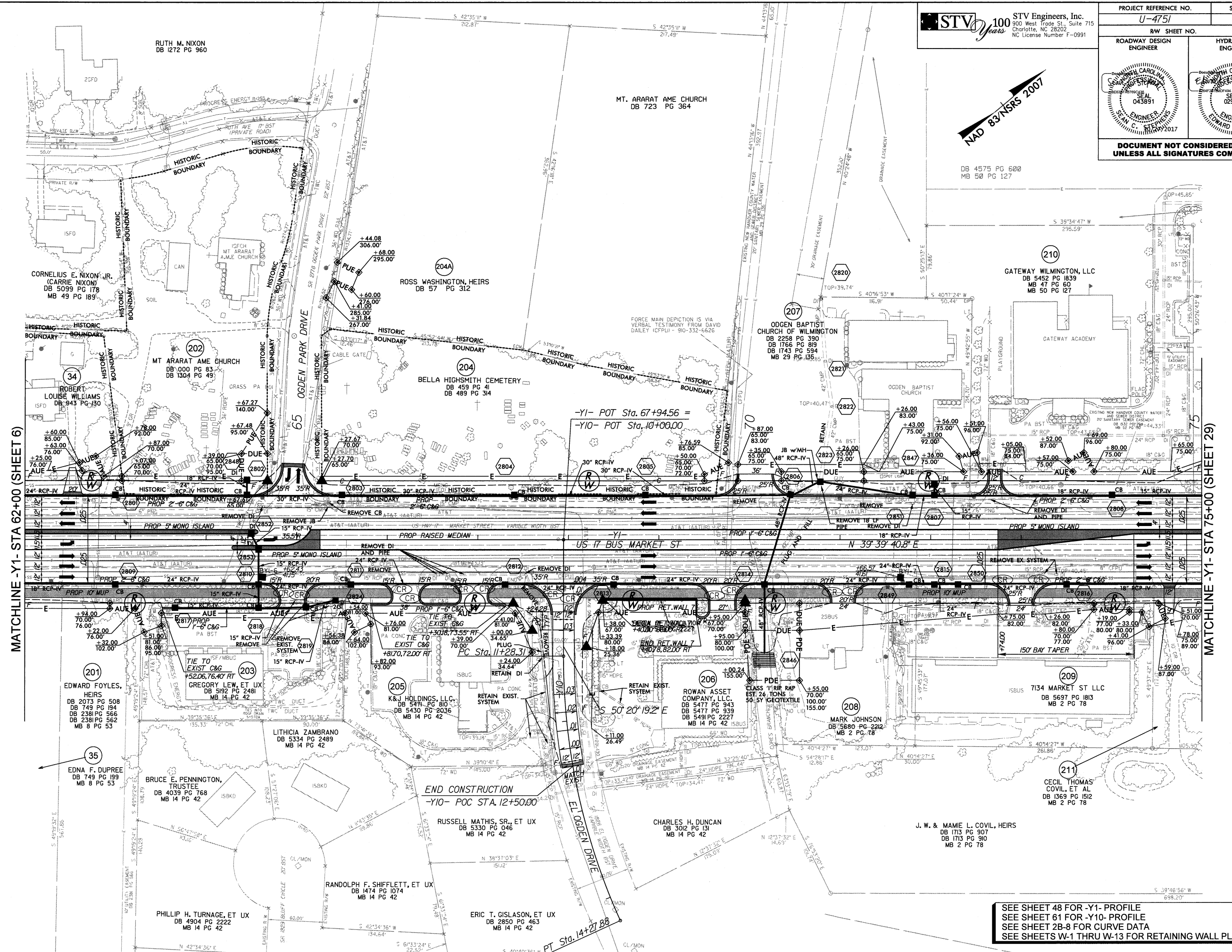
SEE SHEET 45 FOR -Y- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA

NAD 83 NSRS 2007



SEE SHEET 52 FOR -Y1RPD- PROFILE
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS
 SEE SHEET 2B-8 FOR CURVE DATA

10/26/2017
 R:\Roadway\Proj\SH\U4751\RDY_psh27.dgn
 stephens



MATCHLINE -Y1- STA 62+00 (SHEET 6)

MATCHLINE -Y1- STA 75+00 (SHEET 29)

SEE SHEET 48 FOR -Y1- PROFILE
 SEE SHEET 61 FOR -Y10- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS W-1 THRU W-13 FOR RETAINING WALL PLANS

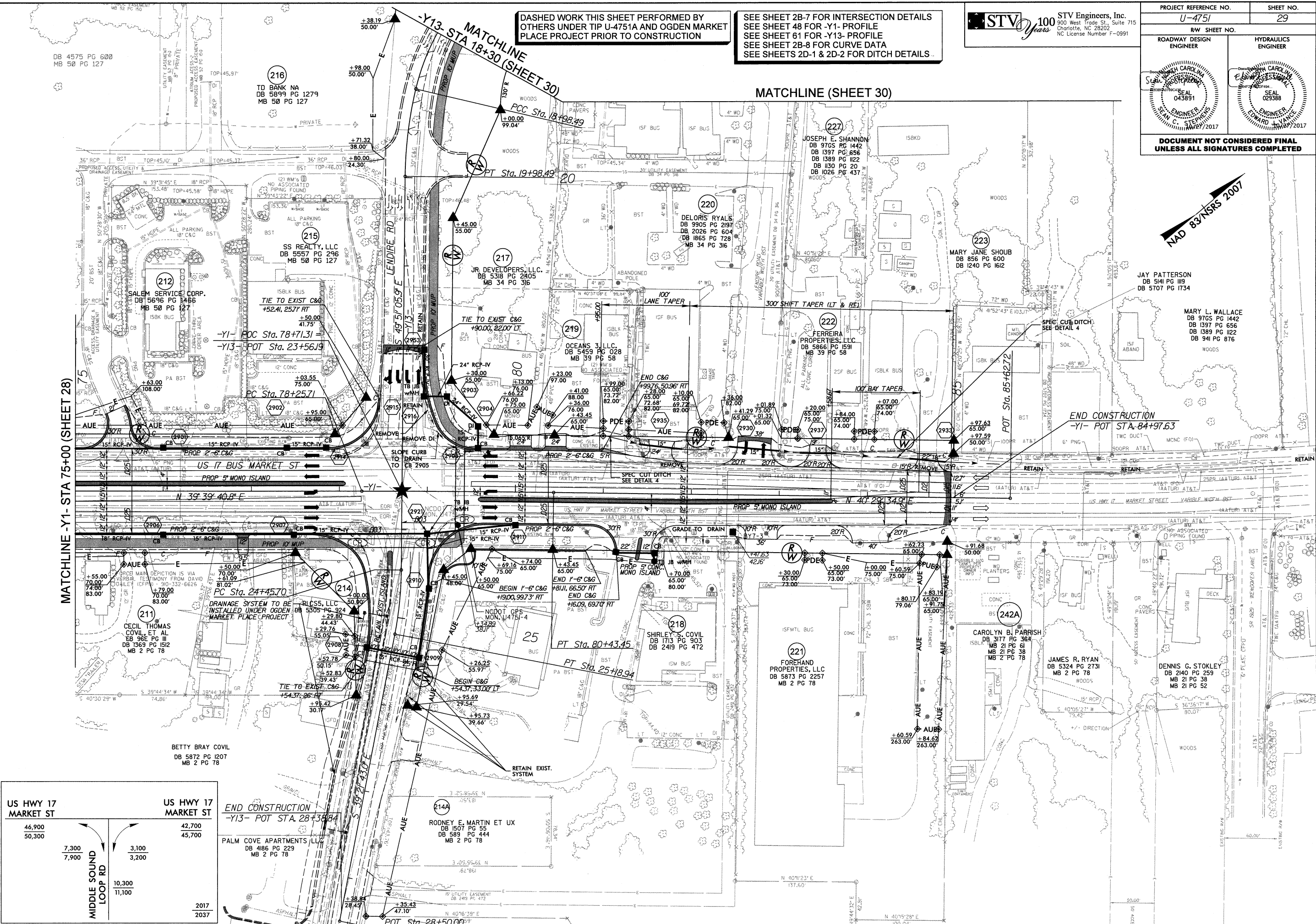
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 slebsch

DASHED WORK THIS SHEET PERFORMED BY OTHERS UNDER TIP U-4751A AND OGDEN MARKET PLACE PROJECT PRIOR TO CONSTRUCTION

SEE SHEET 2B-7 FOR INTERSECTION DETAILS
 SEE SHEET 48 FOR -Y1- PROFILE
 SEE SHEET 61 FOR -Y13- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA
 SEE SHEETS 2D-1 & 2D-2 FOR DITCH DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007



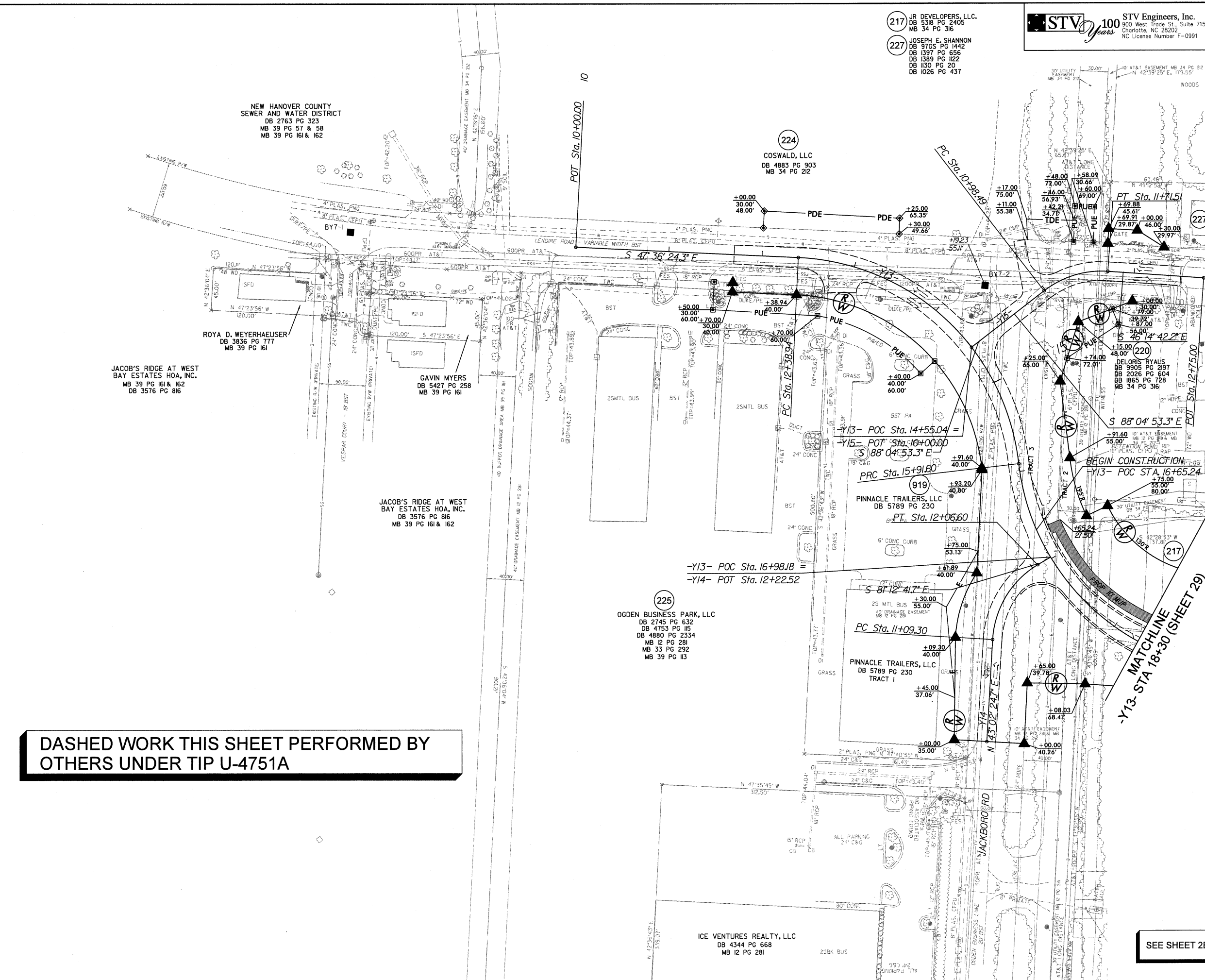
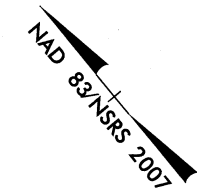
US HWY 17 MARKET ST	
46,900	42,700
50,300	45,700
MIDDLE SOUND LOOP RD	
7,300	3,100
7,900	3,200
POT STA. 28+50.00	
10,300	11,100
2017	
2037	

END CONSTRUCTION -Y13- POT STA. 28+33.84
 PALM COVE APARTMENTS, LLC
 DB 4186 PG 229
 MB 2 PG 78

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ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER
--------------------------------	----------------------------

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



**DASHED WORK THIS SHEET PERFORMED BY
 OTHERS UNDER TIP U-4751A**

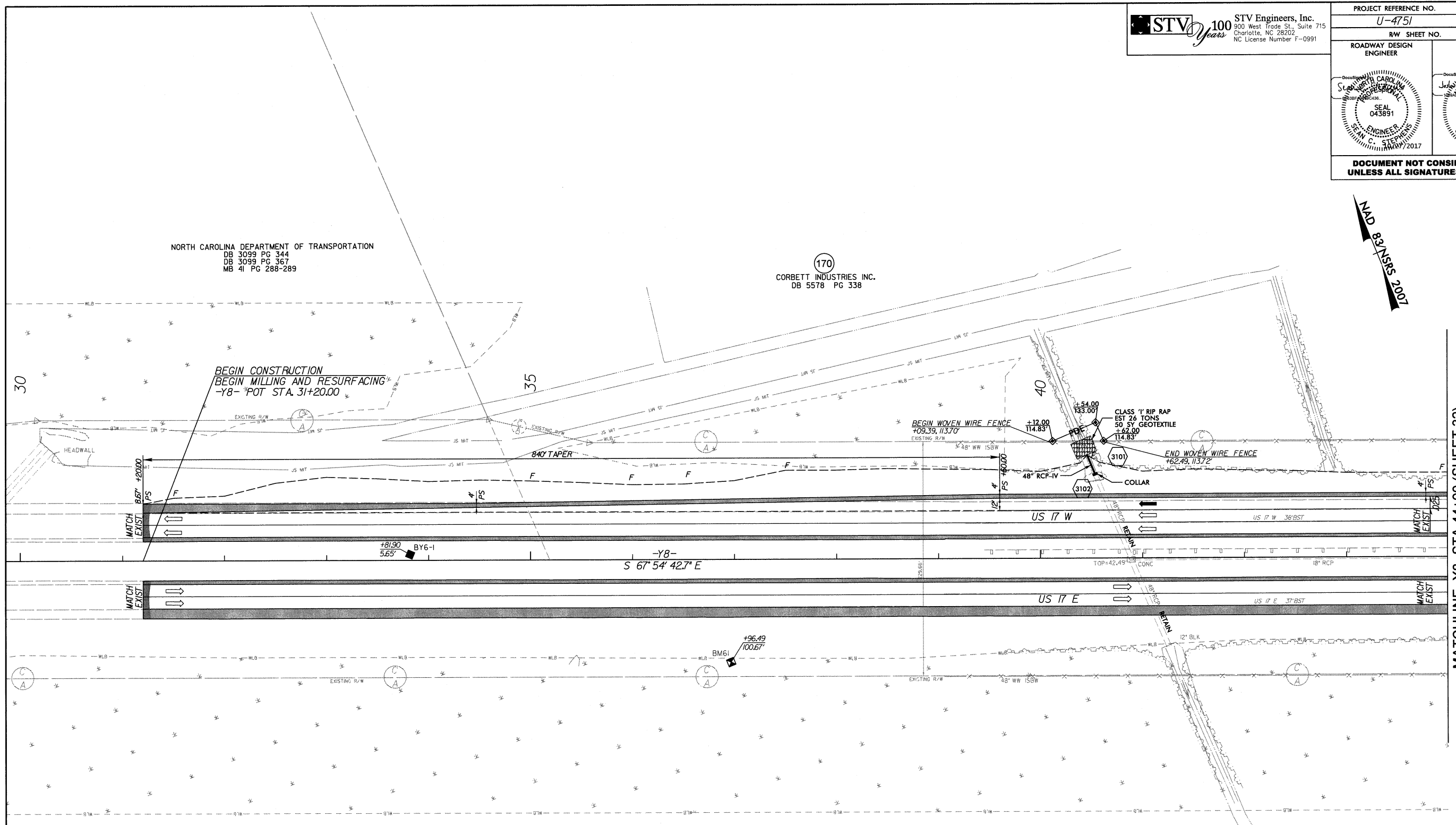
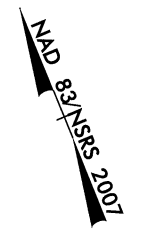
SEE SHEET 2B-8 FOR CURVE DATA

10/16/2017
 P:\001\Projects\U-4751\RDY_psh30.dgn
 STV

PROJECT REFERENCE NO. U-4751		SHEET NO. 31	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DB 3099 PG 344
 DB 3099 PG 367
 MB 41 PG 288-289

170
 CORBETT INDUSTRIES INC.
 DB 5578 PG 338



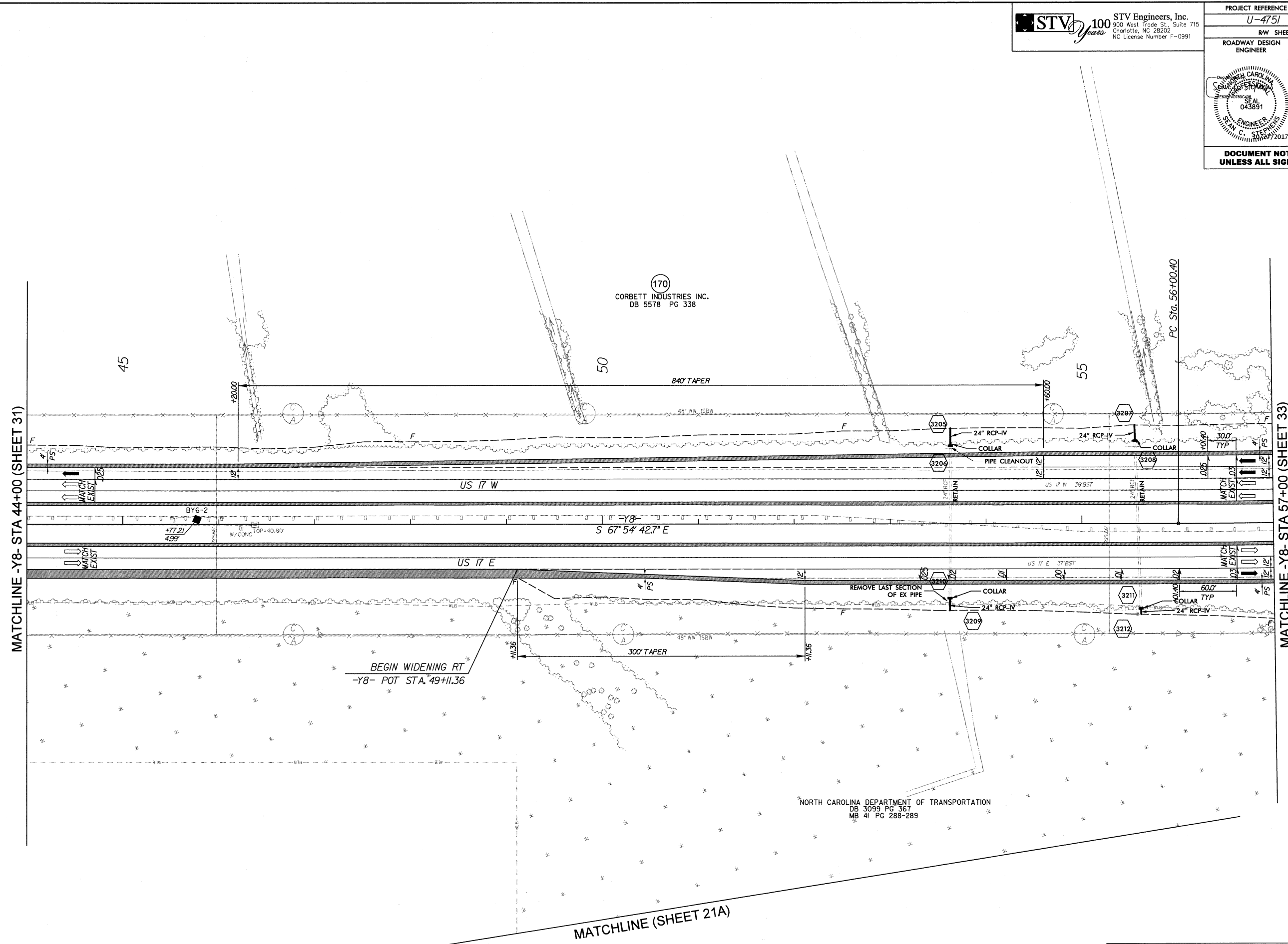
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DB 3099 PG 367
 MB 41 PG 288-289

SEE SHEET 64 FOR -Y8- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA

10/27/2017
 C:\Users\rdy\OneDrive\Projects\U4751\RDY_psh31.dgn
 stc02asc

MATCHLINE -Y8- STA 44+00 (SHEET 32)

MAD 8/21/15
 8/21/15



170
 CORBETT INDUSTRIES INC.
 DB 5578 PG 338

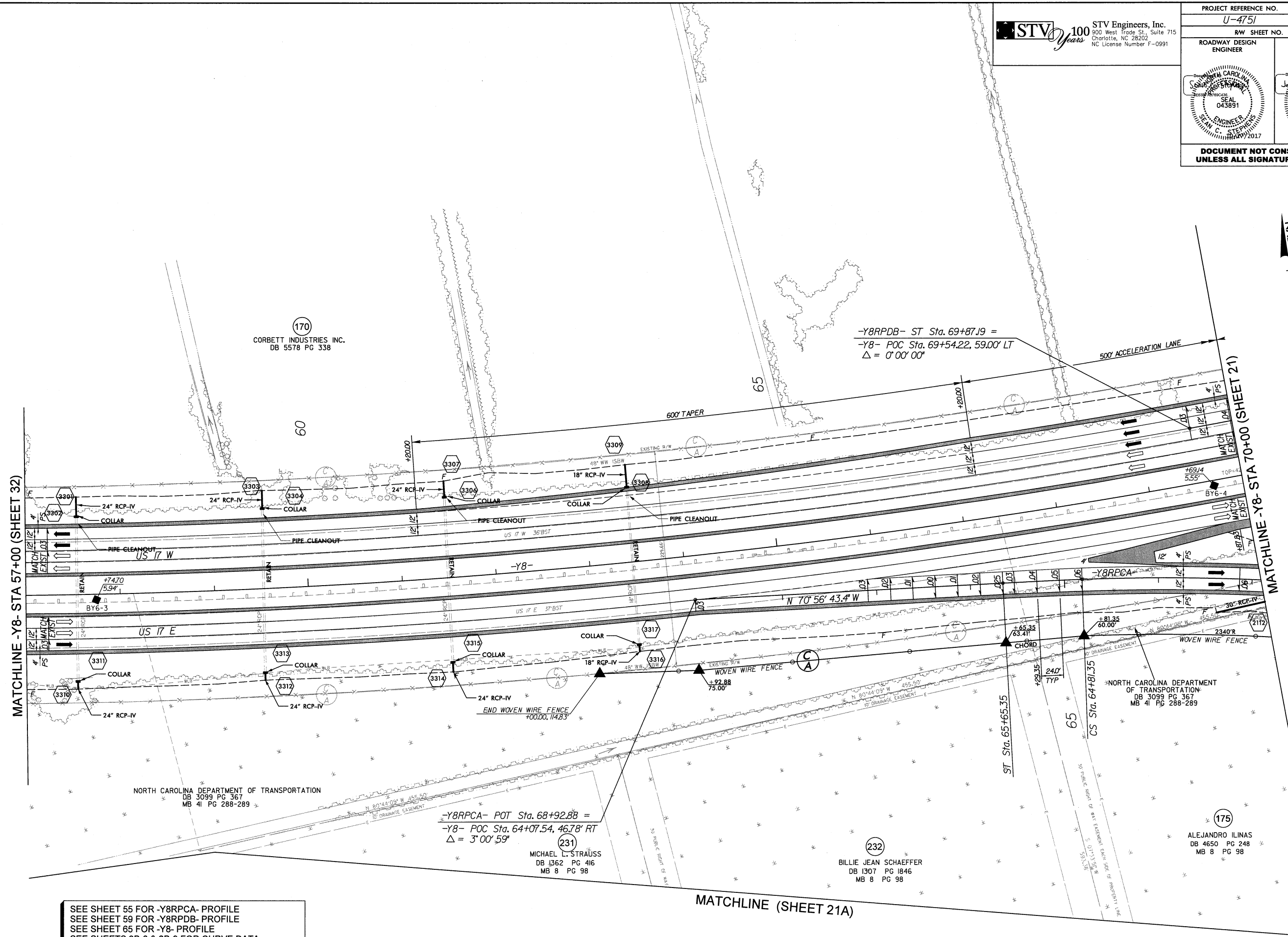
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DB 3099 PG 367
 MB 41 PG 288-289

SEE SHEET 64 FOR -Y8- PROFILE
 SEE SHEET 2B-8 FOR CURVE DATA

10/27/2017
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 stephenc

PROJECT REFERENCE NO. U-4751		SHEET NO. 33	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83/NSRS 2007

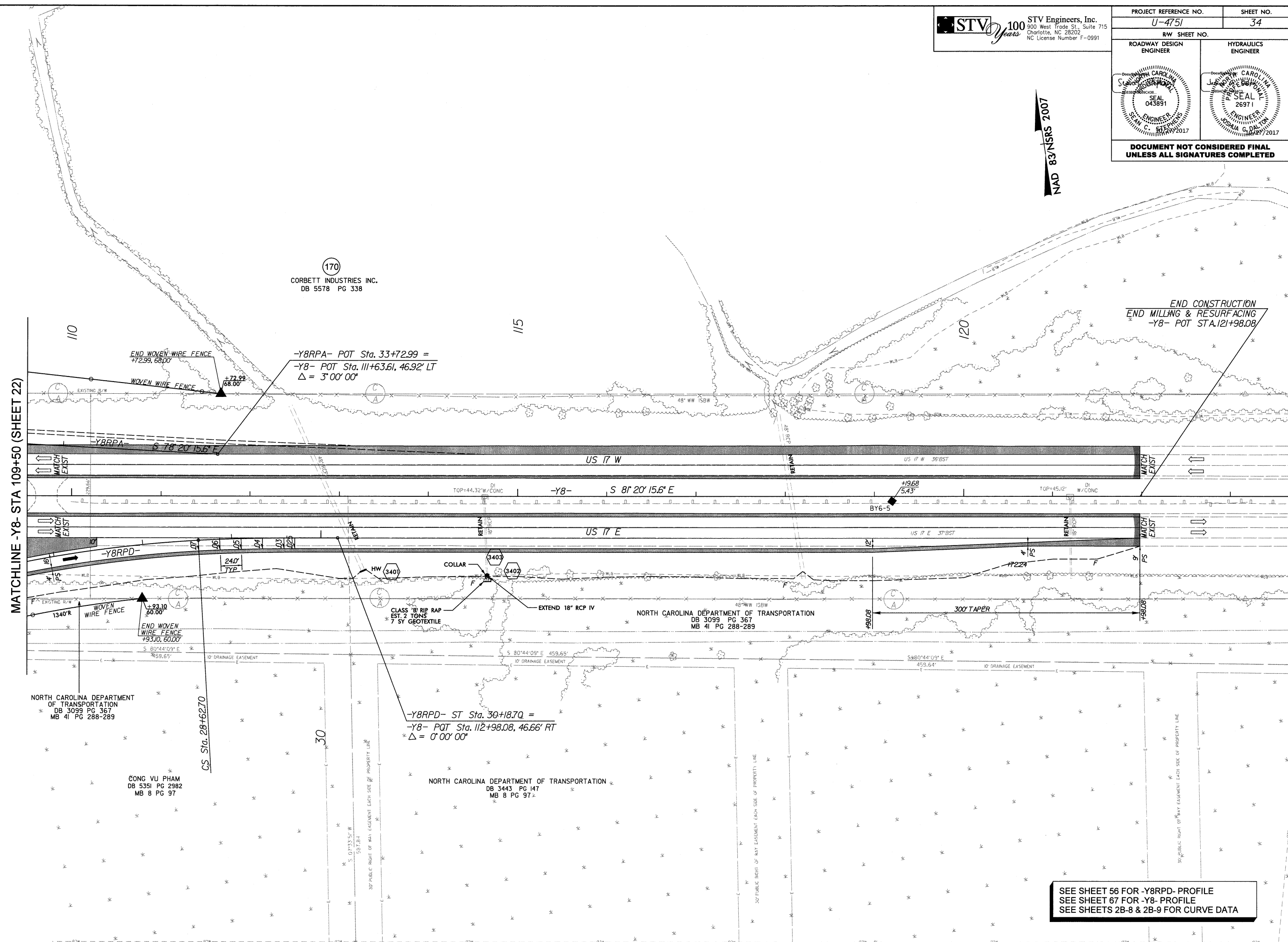


SEE SHEET 55 FOR -Y8RPCA- PROFILE
 SEE SHEET 59 FOR -Y8RPDB- PROFILE
 SEE SHEET 65 FOR -Y8- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA

10/27/2017
 R:\Projects\4751\4751_SHT\U4751_RDY_psh33.dgn
 stephase

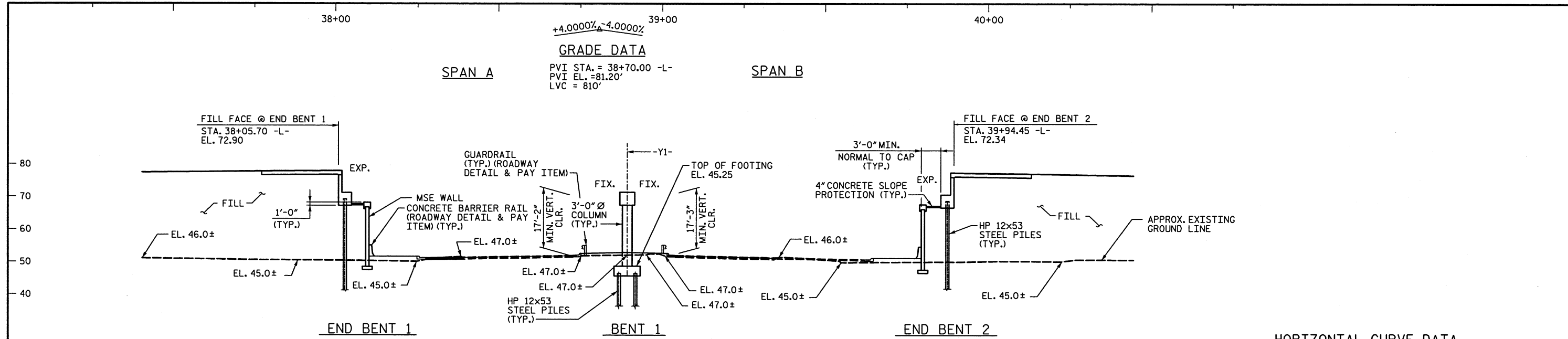
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/NSRS 2007

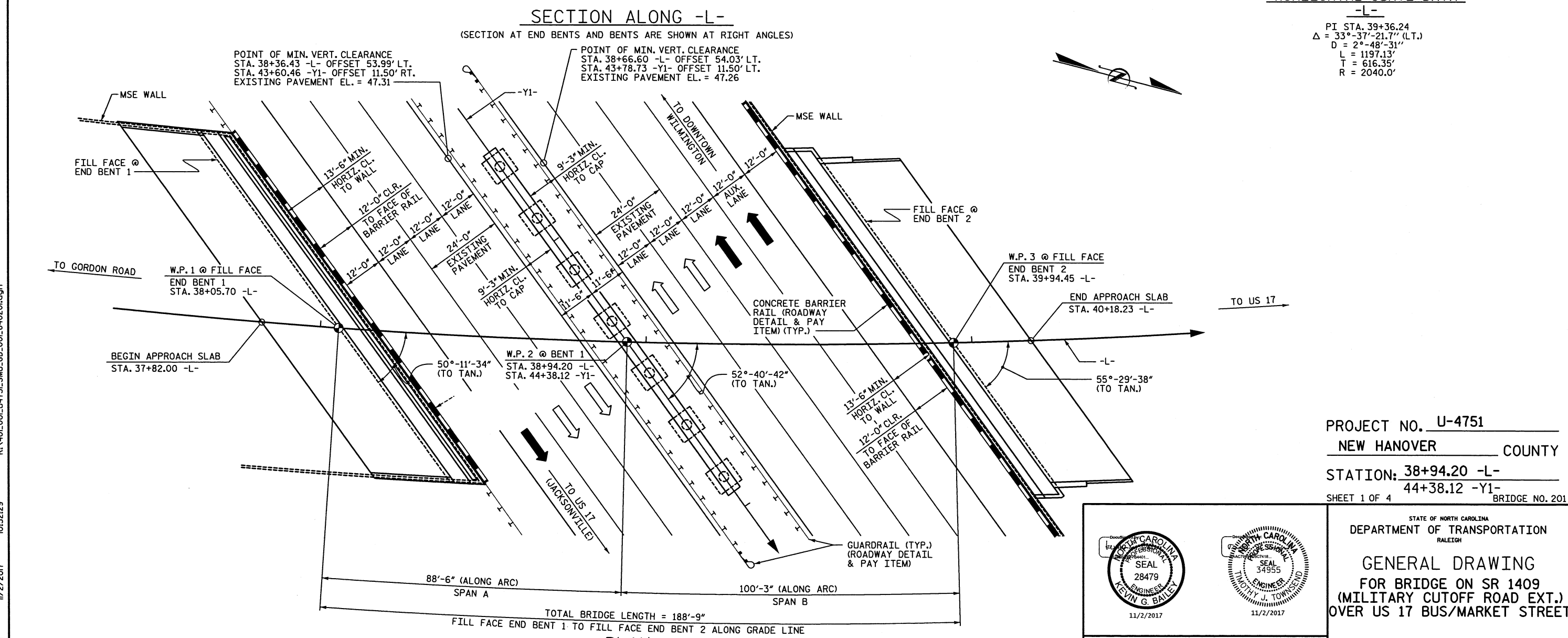


SEE SHEET 56 FOR -Y8RPD- PROFILE
 SEE SHEET 67 FOR -Y8- PROFILE
 SEE SHEETS 2B-8 & 2B-9 FOR CURVE DATA

10/27/2017
 R:\Roadway\Proj\SH\U4751_R0Y_pah34.dgn
 stp0153



HORIZONTAL CURVE DATA
 -L-
 PI STA. 39+36.24
 $\Delta = 33^\circ-37'-21.7''$ (LT.)
 $D = 2^\circ-48'-31''$
 $L = 1197.13'$
 $T = 616.35'$
 $R = 2040.0'$



PROJECT NO. U-4751
 NEW HANOVER COUNTY
 STATION: 38+94.20 -L-
44+38.12 -Y1-
 SHEET 1 OF 4 BRIDGE NO. 201

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
FOR BRIDGE ON SR 1409
(MILITARY CUTOFF ROAD EXT.)
OVER US 17 BUS/MARKET STREET

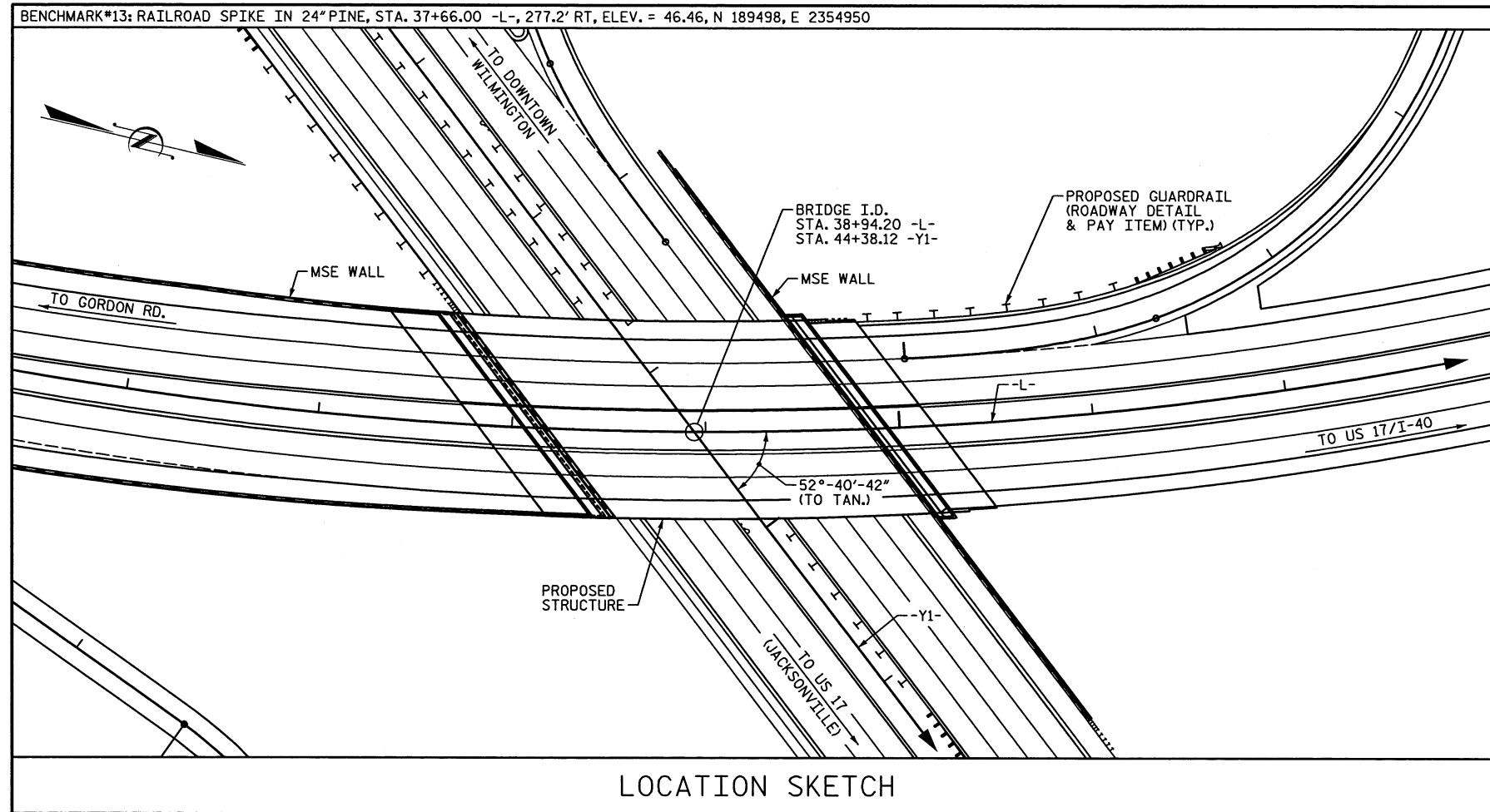
SEAL
 28479
 KEVIN G. BAILEY
 11/2/2017

SEAL
 34955
 JUDITH J. TOWNSEND
 11/2/2017

DRAWN BY : VMW	DATE : 4-17	DESIGN ENGINEER OF RECORD : V. WU	DATE : 5-17
CHECKED BY : TJT	DATE : 4-17		

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED						REVISIONS			SHEET NO. S1-1
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 36			
1			3						
2			4						

R:\401_001_U4751-SMJ_GD_001_640201.dgn
 11/2/2017 10:52:29
 +townsend



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

GENERAL NOTES:

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- THE ELEVATION AND CLEARANCE SHOWN ON THE PLANS AT THE POINT OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATION ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.
- FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.
- REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- FOR FOUNDATION NOTES, SEE "FOUNDATION LAYOUT" SHEET.
- FOR PLACING LOAD ON STRUCTURE MEMBERS, SEE SPECIAL PROVISIONS.
- FOR EMBEDDED CLIPS FOR PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.
- FOR MSE WALLS, SEE GEOTECHNICAL SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	FOUNDATION EXCAVATION FOR BENT	PDA TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	MODIFIED 63" PRESTRESSED CONCRETE GIRDERS	PILE DRIVING EQUIP. SETUP FOR HP 12x53 STEEL PILES	HP 12x53 STEEL PILES	PILE REDRIVES	CONCRETE BARRIER RAIL	4" SLOPE PROTECTION	ELASTOMERIC BEARINGS	EXPANSION JOINT SEALS
	LUMP SUM	EA.	SQ. FT.	SQ. FT.	CU. YD.	LUMP SUM	LBS.	LBS.	NO. LIN. FT.	EA.	NO. LIN. FT.	EA.	LIN. FT.	SQ. YD.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE			19,078	16,915		LUMP SUM			20 1,817.1				444.5		LUMP SUM	LUMP SUM
END BENT 1					123.9		16,467			19	19 1,140	9		31.6		
BENT 1	LUMP SUM				170.3		31,398	2,743		42	42 2,730	21				
END BENT 2					131.0		17,359			20	20 1,200	10		31.5		
TOTAL	LUMP SUM	1	19,078	16,915	425.2	LUMP SUM	65,224	2,743	20 1,817.1	81	81 5,070	40	444.5	63.1	LUMP SUM	LUMP SUM

PROJECT NO. U-4751
NEW HANOVER COUNTY
 STATION: 38+94.20 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**GENERAL DRAWING
 LOCATION SKETCH, GENERAL
 NOTES AND TOTAL BILL
 OF MATERIAL**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO. S1-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 36
2			4			

STV ENGINEERS, INC.
 900 West Trade Street, Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

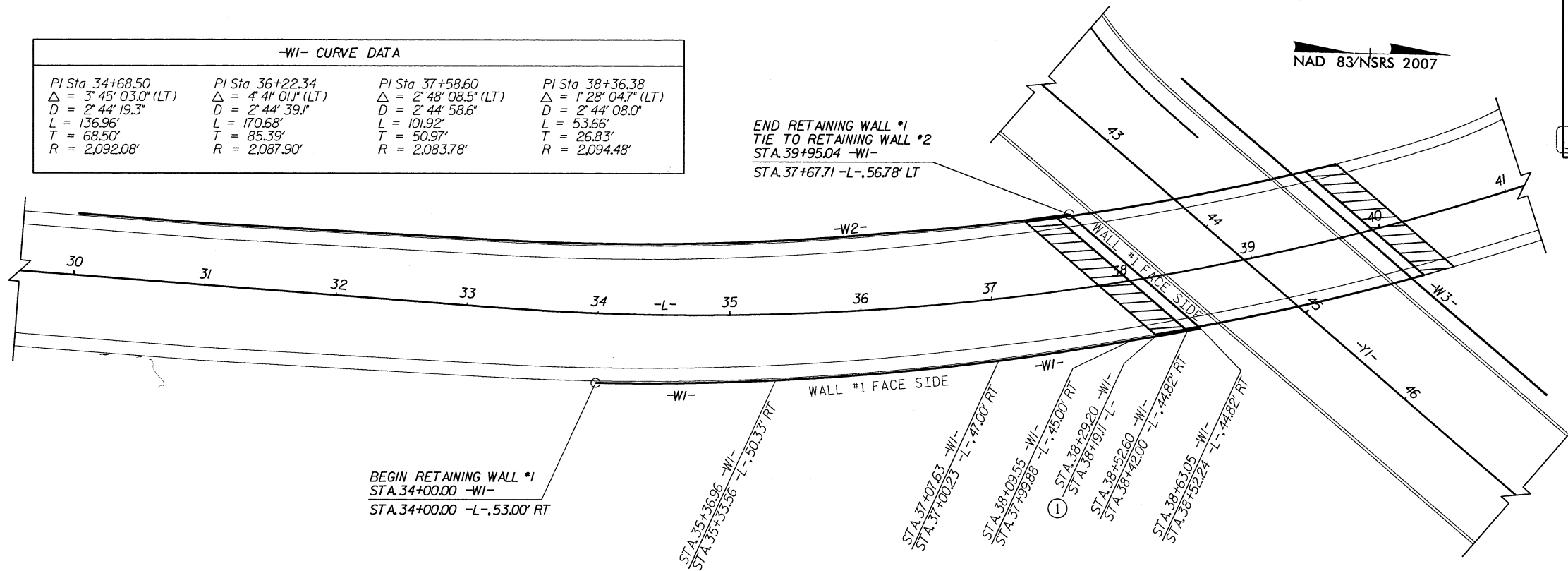
STR. #1

R:\V401_007_U4751_SMU_GD_004_640201.dgn 11/2/2017 10:52:32

DRAWN BY: VMW DATE: 4-17 DESIGN ENGINEER OF RECORD: V. WU DATE: 5-17
 CHECKED BY: AJP DATE: 5-17

-WI- CURVE DATA			
PI Sta 34+68.50	PI Sta 36+22.34	PI Sta 37+58.60	PI Sta 38+36.38
$\Delta = 3^{\circ} 45' 03.0''$ (LT)	$\Delta = 4^{\circ} 41' 01.1''$ (LT)	$\Delta = 2^{\circ} 48' 08.5''$ (LT)	$\Delta = 1^{\circ} 28' 04.7''$ (LT)
D = 2' 44' 19.3"	D = 2' 44' 39.1"	D = 2' 44' 58.6"	D = 2' 44' 08.0"
L = 136.96'	L = 170.68'	L = 101.92'	L = 53.66'
T = 68.50'	T = 85.39'	T = 50.97'	T = 26.83'
R = 2,092.08'	R = 2,087.90'	R = 2,083.78'	R = 2,094.48'

END RETAINING WALL #1
TIE TO RETAINING WALL #2
STA.39+95.04 -WI-
STA.37+67.71 -L-, 56.78' LT



GEOTECHNICAL ENGINEER

ENGINEER

SEAL 032171

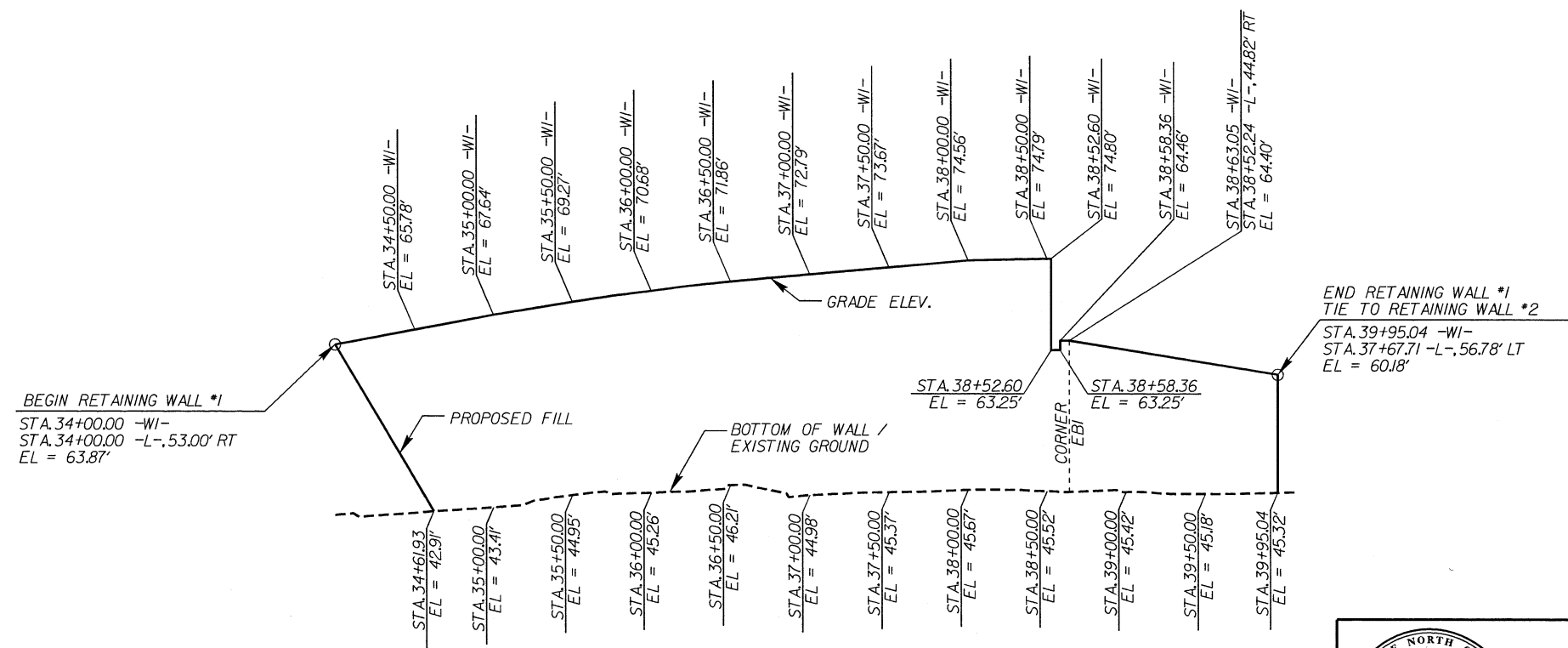
10/27/2017

DATE

SIGNATURE

DATE

ESTIMATED MSE WALL QUANTITY	
MSE RETAINING WALL NO. 1	15,100 SF



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.: U-4751

NEW HANOVER COUNTY

STATION: 34+00.00 -L-

SHEET 1 OF 13

MSE RETAINING WALL NO. 1 PLAN VIEW AND WALL ENVELOPE					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	J. PARK	10/2017	3		
2			4		

SHEET NO. W-1

PREPARED BY: J. PARK	DATE: 06/2017
REVIEWED BY: J. BATTS	DATE: 06/2017

GEOTECHNICAL ENGINEER

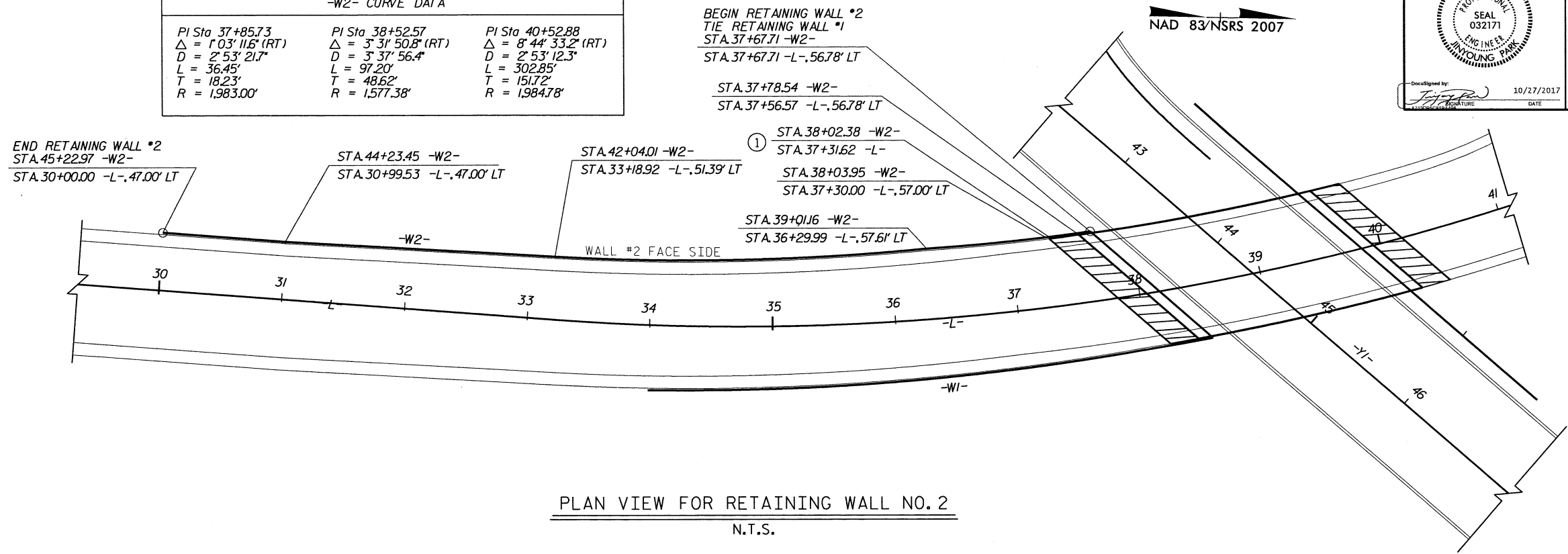
ENGINEER

NORTH CAROLINA
PROFESSIONAL
SEAL
032171
ENGINEER
JAYOUNG PARK

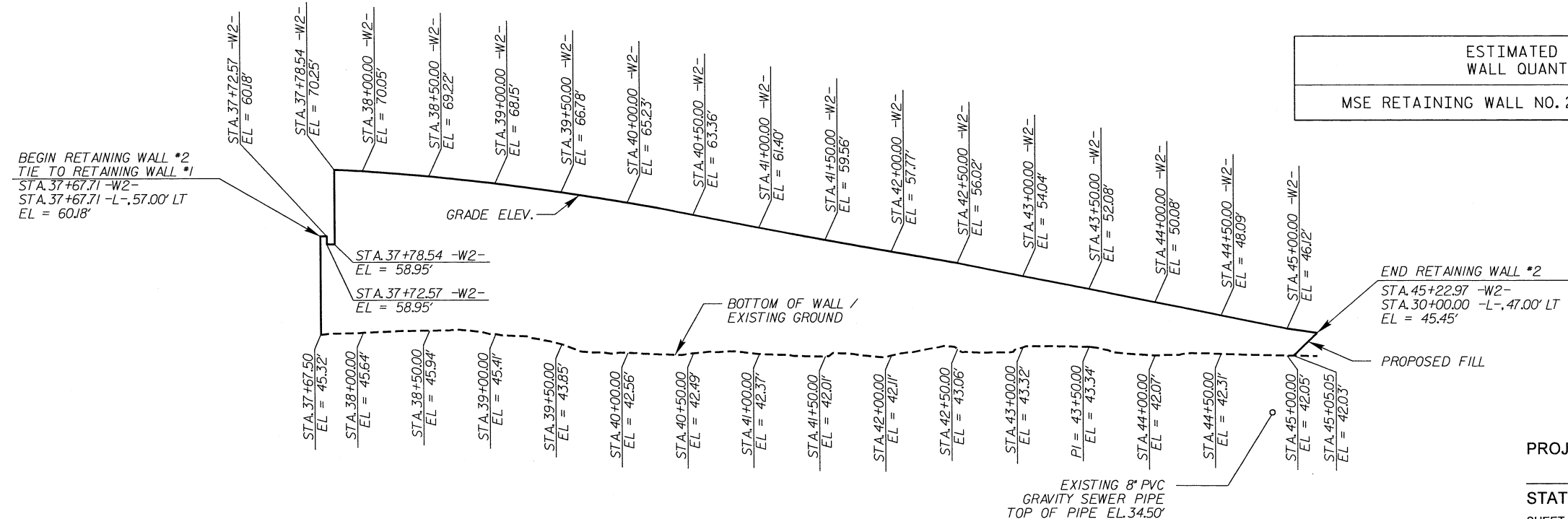
10/27/2017

SIGNATURE DATE

-W2- CURVE DATA		
PI Sta 37+85.73 Δ = 1°03' 11.5" (RT) D = 2°53' 21.7" L = 36.45' T = 18.23' R = 1,983.00'	PI Sta 38+52.57 Δ = 3°31' 50.8" (RT) D = 3°37' 56.4" L = 97.20' T = 48.62' R = 1,577.38'	PI Sta 40+52.88 Δ = 8°44' 33.2" (RT) D = 2°53' 12.3" L = 302.85' T = 151.72' R = 1,984.78'



ESTIMATED MSE WALL QUANTITY	
MSE RETAINING WALL NO. 2	13,900 SF



PROJECT NO.: U-4751
NEW HANOVER COUNTY
STATION: 30+00.00 -L-
SHEET 2 OF 13

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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**GEOTECHNICAL
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REVISIONS						SHEET NO. W-2
NO.	BY	DATE	NO.	BY	DATE	
1	J. PARK	10/2017	3			
2			4			

PREPARED BY: J. PARK DATE: 06 / 2017
REVIEWED BY: J. BATTS DATE: 06 / 2017

GEOTECHNICAL ENGINEER

ENGINEER



DocuSigned by: *Jinyoung Park* 10/27/2017

DATE: 10/27/2017

NOTES:

- FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.
- ② A CONCRETE BARRIER RAIL WITH MOMENT SLAB IS REQUIRED ABOVE RETAINING WALL NO.1 FROM -W1- STA. 34+00.00 TO -W1- STA. 38+29.20 AND RETAINING WALL NO.2 FROM -W2- STA. 38+02.38 TO -W2- STA. 45+22.97. SEE PLANS FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS.
- USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 4 THROUGH NO. 7.
- AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 3 THROUGH NO. 7.
- A HANDRAIL IS REQUIRED AT TOP OF RETAINING WALL NO. 7. THE CONTRACTOR SHALL SUBMIT THE DESIGN AND DETAILS OF HANDRAIL. FOR HANDRAIL, SEE ROADWAY PLANS.
- CAST-IN-PLACE REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NO. 7.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO.1 THROUGH NO. 7.
- A DRAIN IS REQUIRED FOR RETAINING WALL NO.1 THROUGH NO. 7.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO.1 THROUGH NO. 7, SURVEY WALL LOCATIONS AND SUBMIT REVISED WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPES ARE ACCEPTED.

- DESIGN RETAINING WALL NO.1 THROUGH NO. 7 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,760 LB/SF (RW1), 6,440 LB/SF (RW2), 7,000 LB/SF (RW3), 1,530 LB/SF (RW4), 2,810 LB/SF (RW5), 1,450 LB/SF (RW6), 1,340 LB/SF (RW7)
 - 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
 - 5) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0

* SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.

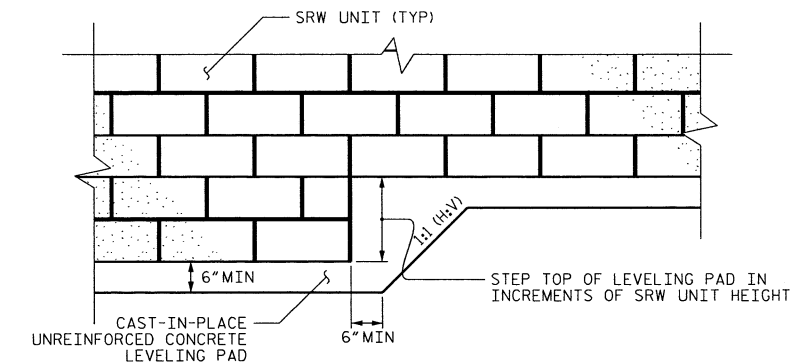
6) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

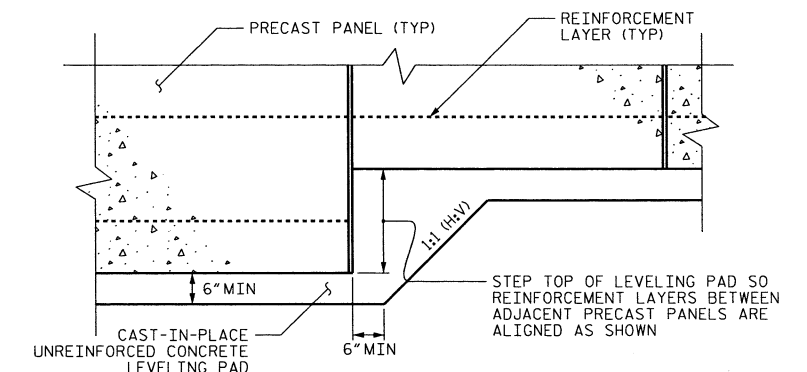
- DESIGN RETAINING WALL NO.1 THROUGH NO. 3 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- DESIGN RETAINING WALL NO. 4 FOR A PIPE EXTENDING THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING MSE WALL DESIGN OR CONSTRUCTION.
- DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L_a) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO.1 LOCATED AT STATION 38+05.73 -L- AND END BENT NO.2 LOCATED AT STATION 39+94.43 -L-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.
- FOUNDATIONS FOR SOUND BARRIER WALLS WILL BE LOCATED BEHIND RETAINING WALL NO. 4 THROUGH NO. 6 AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.
- DESIGN RETAINING WALL NO. 4 THROUGH NO. 6 FOR A LATERAL LOAD FROM FOUNDATION OF THE SOUND BARRIER WALL LOCATED BEHIND THE WALL APPLIED AS FACTORED UNIFORM PRESSURES AS BELOW TO THE BACK OF SRW UNITS.

SOUND BARRIER WALL FOUNDATION SPACING	FACTORED LATERAL LOAD BEHIND WALL (PSF)		
	WALL NO. 4	WALL NO. 5	WALL NO. 6
10 FT.	350	260	650
15 FT.	490	380	760

- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1 THROUGH NO. 7.
- FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION 38+05.73 -L- MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.
- FOUNDATIONS FOR END BENT NO.2 LOCATED AT STATION 39+94.43 -L- MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 3. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.
- CONSTRUCT RETAINING WALL NO.1 AND RETAINING WALL NO.2 BEFORE INSTALLING FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION 38+05.73 -L-.
- CONSTRUCT RETAINING WALL NO.3 BEFORE INSTALLING FOUNDATIONS FOR END BENT NO.2 LOCATED AT STATION 39+94.43 -L-.
- INSTALL 24 INCH DIAMETER CORRUGATED STEEL PIPES FOR HP12X53 STEEL PILE FOUNDATIONS AT END BENT NO.1 AND END BENT NO. 2 DURING CONSTRUCTION OF RETAINING WALL NO.1 AND NO.3. THE CORRUGATED STEEL PIPES SHOULD BE FILLED WITH FLOWABLE MATERIAL AFTER PILES ARE INSTALLED.
- THE COST FOR THE 24 INCH DIAMETER CORRUGATED STEEL PIPES INSTALLED DURING CONSTRUCTION OF RETAINING WALL NO.1 AND NO.3 IS INCIDENTAL TO MSE RETAINING WALL NO.1 AND NO.3.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO.1 THROUGH NO. 7 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.




SEGMENTAL RETAINING WALL (SRW) UNITS



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS


PROJECT NO.: U-4751
 NEW HANOVER COUNTY
 STATION: RETAINING WALL NO. 1 - NO. 7
 SHEET 8 OF 13

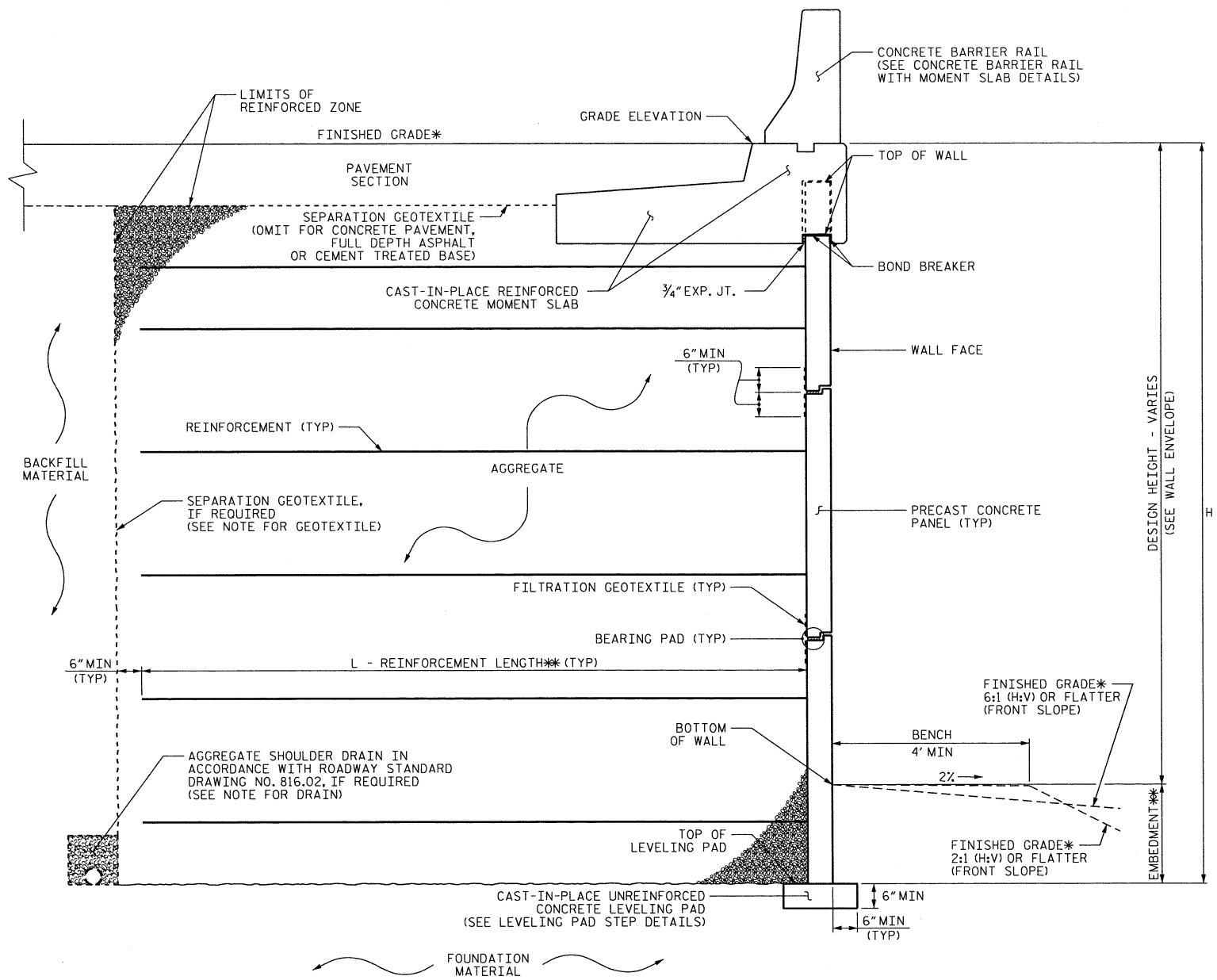

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

NOTES AND DETAILS FOR MSE RETAINING WALL NO. 1 THROUGH NO. 7

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	J. PARK	10/2017	3			W-8
2	J. PARK	10/2017	4			

GEOTECHNICAL ENGINEER
 ENGINEER

 10/27/2017
 DATE
 SIGNATURE
 DATE




① MSE WALL WITH PRECAST PANELS AND CONCRETE BARRIER RAIL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.
 *SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.

① RW1, FROM STA. 34+00.00 -W1- TO STA. 38+29.20 -W1-
 RW2, FROM STA. 38+02.38 -W2- TO STA. 45+22.97 -W2-

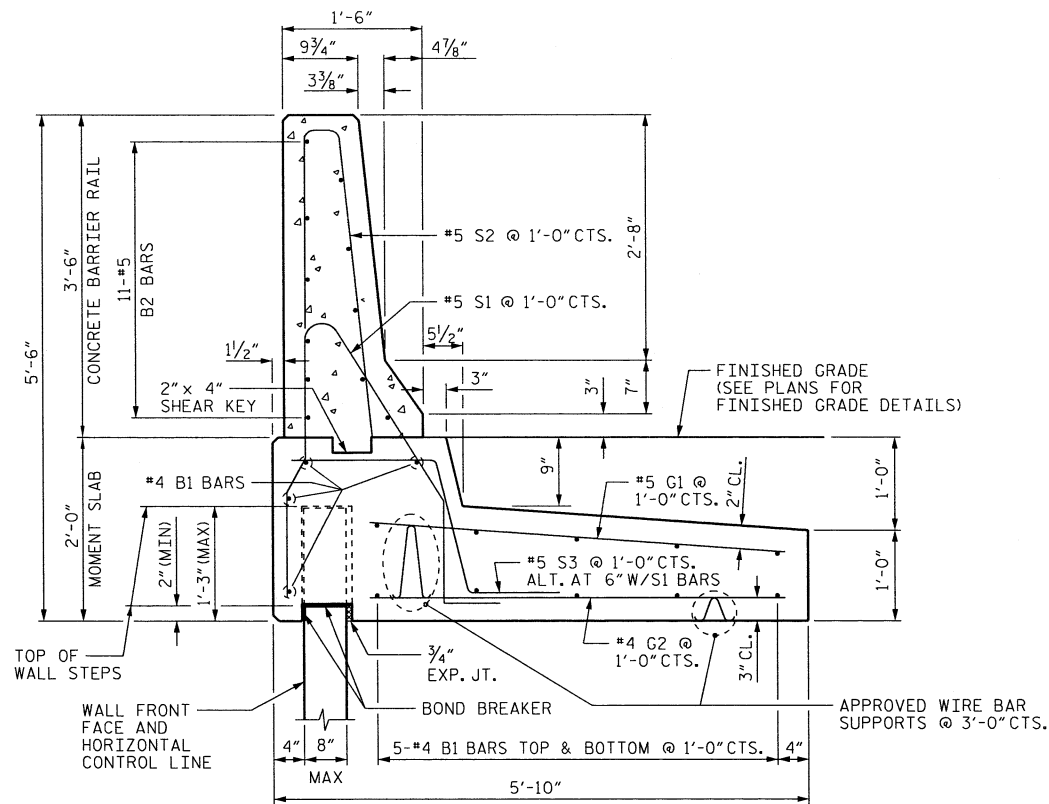
PROJECT NO.: U-4751
 NEW HANOVER COUNTY
 STATION: RETAINING WALL NO. 1, NO. 2
 SHEET 9 OF 13

PREPARED BY: J. PARK	DATE: 06 / 2017
REVIEWED BY: J. BATTS	DATE: 06 / 2017

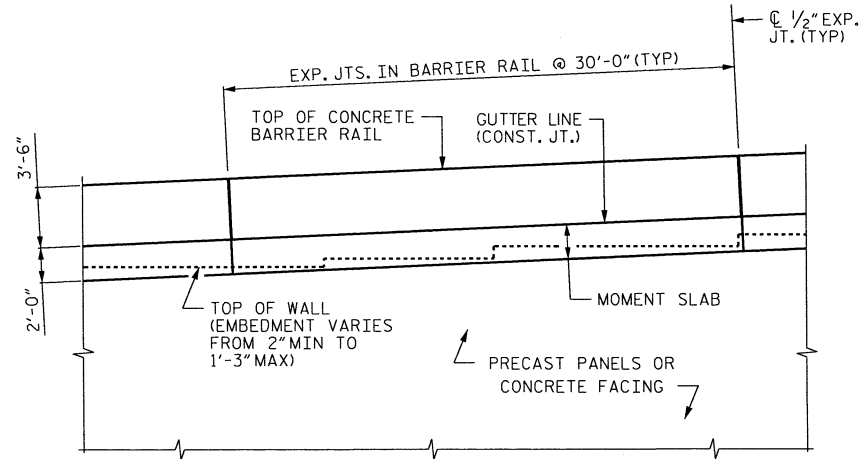

 NORTH CAROLINA
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**GEOTECHNICAL
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REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	J. PARK	10 / 2017	3	-	-	W-9
2			4			

DETAILS FOR
 MSE RETAINING
 WALL NO.1 AND NO. 2



CONCRETE BARRIER RAIL WITH MOMENT SLAB



CONCRETE BARRIER RAIL WITH MOMENT SLAB - PARTIAL ELEVATION

NOTES:

FOR CONCRETE BARRIER RAIL WITH MOMENT SLAB, SEE CONCRETE BARRIER RAIL WITH MOMENT SLAB PROVISION.

CONCRETE BARRIER RAIL WITH MOMENT SLAB SHALL BE A MINIMUM OF 15' IN LENGTH.

EXPANSION JOINTS SHALL BE PLACED IN THE BARRIER RAIL AND MOMENT SLAB AT A MAXIMUM SPACING OF 30'.

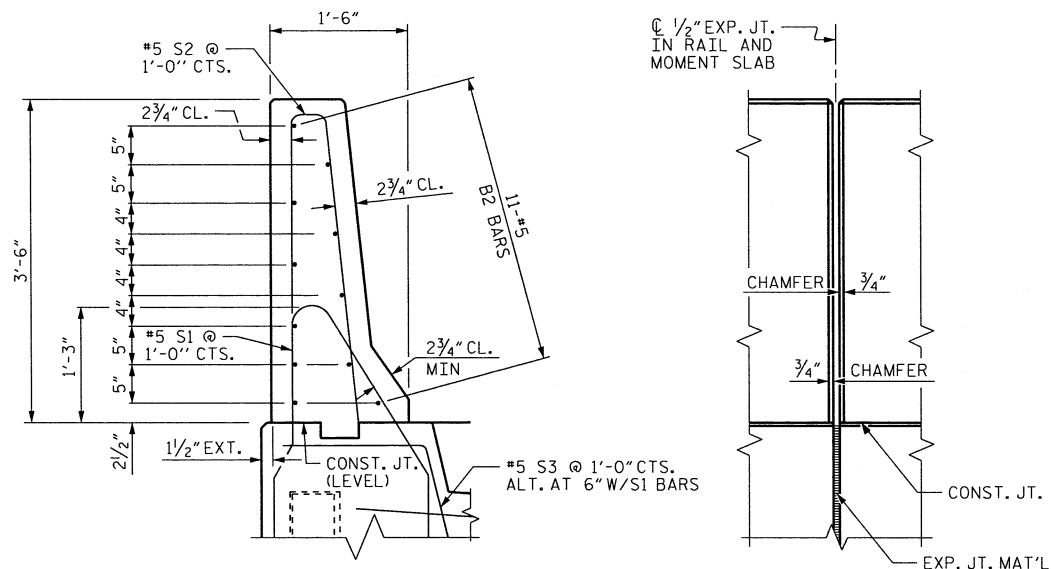
GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED SURFACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MID-POINT OF BARRIER RAIL SEGMENTS LESS THAN 20' IN LENGTH.

THE BARRIER RAIL SHALL NOT BE CAST UNTIL THE MOMENT SLAB HAS ATTAINED AN AGE OF THREE CURING DAYS OR A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI. IN ADDITION, NO FILL MATERIAL, ASPHALT, OR CONSTRUCTION EQUIPMENT IS ALLOWED ON THE MOMENT SLAB PRIOR TO SATISFYING THE MINIMUM CONCRETE CURING AND STRENGTH REQUIREMENTS.

ALL REINFORCING STEEL IN THE BARRIER RAIL SHALL BE EPOXY COATED.

IF EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, BARRIERS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH CONCRETE BARRIER RAIL WITH MOMENT SLAB OR CONCRETE FACING FOR RETAINING WALL WILL BE THICKER THAN 8", CONCRETE BARRIER RAIL WITH MOMENT SLAB DETAILS SHALL BE REVISED AND SUBMITTED FOR APPROVAL.

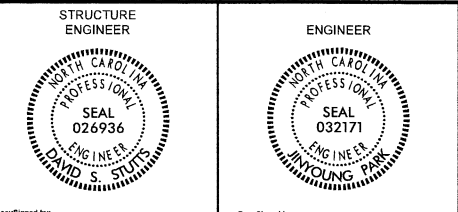
CONCRETE BARRIER RAIL WITH MOMENT SLAB
PAY LENGTH = 1149.79 LIN FT



SECTION THRU RAIL

ELEV. @ EXP. JOINTS

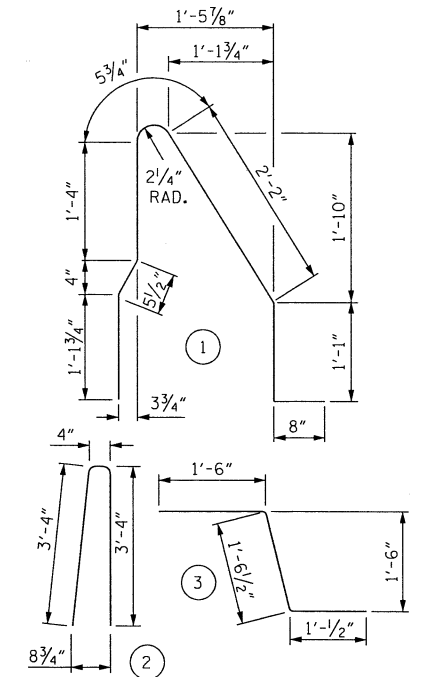
BARRIER RAIL DETAILS



DocuSigned by: *David S. Young* DATE: 10/27/2017
DocuSigned by: *David S. Young* DATE: 10/27/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

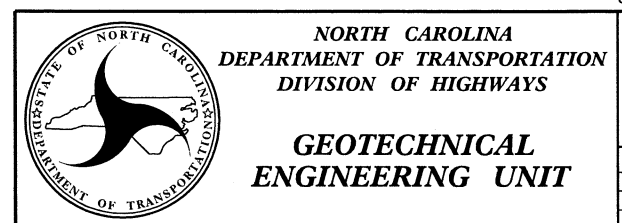
BILL OF MATERIAL

FOR ONE 30'-0" SECTION OF CONCRETE BARRIER RAIL WITH MOMENT SLAB

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	14	#4	STR	29'-7"	277
* B2	11	#5	STR	29'-7"	339
G1	31	#5	STR	4'-4"	140
G2	31	#4	STR	4'-4"	90
* S1	31	#5	1	7'-4"	237
* S2	31	#5	2	7'-0"	226
S3	30	#5	3	4'-1"	128

REINFORCING STEEL	635 LB
* EPOXY COATED REINFORCING STEEL	802 LB
CLASS AA CONCRETE BARRIER RAIL	4.1 CY
CLASS A CONCRETE MOMENT SLAB	9.1 CY
CONCRETE BARRIER RAIL WITH MOMENT SLAB	30 LIN FT

PROJECT NO.: U-4751
NEW HANOVER COUNTY
STATION: RETAINING WALL NO. 1, NO. 2
SHEET OF



REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-14
2			4			

PREPARED BY: J. PARK DATE: 10/2017
REVIEWED BY: J. BATTS DATE: 10/2017