COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS

PROJECT NUMBER 2000-25E Phase 5
Bascom Norris Drive from N. of US 90 to S. of CR 250

NOTICE TO CONTRACTORS

Notice is hereby given that sealed bids will be received in the Columbia County Manager's office until **11:00 A.M.** on **June 14, 2012**, for Columbia County Project No. **2000-25E Phase 5**. The bids will be opened at a later date with notification sent to all bidders 5 working days prior to bid opening. This office is located on the second floor of the Courthouse Annex at 135 Hernando Avenue, Room 203 Lake City FL 32055.

This project consists of the construction of approximately 1.57 miles of new alignment two-lane roadway including a 140 foot long highway bridge over the CSX railroad. Scope of work includes erosion control, clearing & grubbing, excavation, grading, embankment construction, drainage, base construction, asphalt construction, bridge construction, signing & pavement marking and incidental items.

The Bid Documents may be obtained from the County's web site at http://www.columbiacountyfla.com/PurchasingBids.asp. Compact disks (CD) containing the Bid Documents are also available at the County Purchasing Office located at the above address.

The successful bidder will be required to furnish the County Manager with a performance bond and liability insurance prior to commencing work.

The Columbia County Commission reserves the right to reject any or all bids and to add to the contract or delete from the contract to stay within their funding capabilities.

Columbia County Board of County Commissioners

_____

Scarlet Frisina, Chair

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
PROJECT NUMBER 2000-25E Phase 5
Bascom Norris Drive from N. of US 90 to S. of CR 250

BID PROPOSAL

THE UNDERSIGNED hereby propose to furnish all materials, labor and supervision for the construction of the subject project including conformance with the construction requirements and specifications for the following unit prices:

	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	Roadway				
1	MOBILIZATION	LS	1		
2	MAINTENANCE OF TRAFFIC	LS	1		
3	EROSION CONTROL	LS	1		
4	CLEARING & GRUBBING	LS/AC	37.75		
5	REMOVAL OF EXISTING CONCRETE	SY	1,215		
	EARTHWORK:				
6	REGULAR EXCAVATION	CY	122,493		
7	SUBSOIL EXCAVATION	CY	12,524		
8	EMBANKMENT	CY	411,805		
	PAVEMENT:				
9	STABILIZATION TYPE B	SY	43,456		
10	OPTIONAL BASE, BASE GROUP 01 (4" LIMEROCK)	SY	8,572		
11	OPTIONAL BASE, BASE GROUP 09 (10" LIMEROCK)	SY	25,411		
12	SUPERPAVE ASPHALTIC CONCRETE (TRAFFIC C)	TN	2,025.4		
13	ASPH. CONC. FRICTION COURSE (TRAFFIC C, FC-12.5, RUBBER)	TN	2,763.4		
14	MISCELLANEOUS ASPHALT PAVEMENT	TN	354.2		
	COUNTY ACCESS TUNNEL:				
15	CONCRETE CLASS IV, CULVERTS	CY	202		
16	REINFORCING STEEL - ROADWAY	LB	33,456		

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
PROJECT NUMBER 2000-25E Phase 5
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	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	DRAINAGE:				
17	INLETS, CURB, TYPE P-5 (<10')	EA	14		
18	INLETS, CURB, TYPE P-5 (>10')	EA	5		
19	INLETS, DT BOT, TYPE D (MODIFY)	EA	1		
20	INLETS, DT BOT, TYPE E (MODIFY)	EA	1		
21	INLETS, GUTTER, TYPE S (<10')	EA	10		
22	INLETS, GUTTER, TYPE S, J-BOTTOM (>10')	EA	1		
23	MANHOLE, P-7 (<10')	EA	2		
24	MANHOLE, J-7 (<10')	EA	2		
25	JUNCTION BOX, P-7, (<10')	EA	1		
26	JUNCTION BOX, J-7, (<10')	EA	1		
27	PIPE CULVERT, ROUND, 18" S/CD	LF	2,312		
28	PIPE CULVERT, ROUND, 24" S/CD	LF	2,659		
29	PIPE CULVERT, ROUND, 42" S/CD	LF	116		
30	PIPE CULVERT, ROUND, 48" S/CD	LF	476		
31	PIPE CULVERT, ELLIP/ARCH 30" S/CD	LF	216		
32	MITERED END SECTION, ROUND, 18" CD	EA	3		
33	MITERED END SECTION, ROUND, 24" CD	EA	5		
34	MITERED END SECTION, ROUND, 42" CD	EA	1		
35	MITERED END SECTION, ROUND, 48" CD	EA	12		
36	UNDERDRAIN, TYPE II, (6")	LF	150		
37	UNDERDRAIN OUTLET PIPE, 6"	LF	6		
	CONCRETE:				
38	CONCRETE CURB & GUTTER (TYPE F)	LF	4,793		
39	SHOULDER GUTTER - CONCRETE	LF	2,587		
40	SIDEWALK, CONCRETE, 6" THICK	SY	128.4		
41	CONCRETE DITCH PAVEMENT, NON REINFORCED, 6"	SY	246.7		
42	RIPRAP, RUBBLE, F&I, DITCH LINING	TN	113.8		

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
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	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	GUARDRAIL:				
43	GUARDRAIL (ROADWAY)	LF	6,775.0		
44	GUARDRAIL - SHOP BENT PANELS	LF	75.0		
45	SPECIAL GUARDRAIL POST	EA	14		
46	GUARDRAIL END ANCHORAGE ASSEMBLY - PARALLEL	EA	4		
47	GUARDRAIL END ANCHORAGE ASSEMBLY - TYPE CRT	EA	2		
	FENCING:				
48	FENCING, TYPE B, 5.1-6.0', W/ BARB WIRE ATTMT	LF	1,438.0		
49	FENCE GATE, TYPE B, DOUBLE, 18.1 - 20.0'	EA	1		
	GRASSING:				
50	SODDING	SY	96,391		
	Signing and Marking				
51	SINGLE POST SIGN, F&I, LESS THAN 12 SF	AS	13		
52	SINGLE POST SIGN, REMOVE	AS	6		
53	RETRO_REFLECTIVE PAVEMENT MARKERS	EA	830		
54	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 6"	NM	3.170		
55	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, SOLID, 24"	LF	68		
56	PAINTED PAVEMENT MARKINGS, STANDARD, WHITE, ARROWS	EA	9		
57	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 6"	NM	1.444		
58	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SKIP, 6"	GM	1.185		
59	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, SOLID, 18"	LF	1,660		

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
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	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
	STRUCTURES: BRIDGE				
60	CONCRETE CLASS II, SUPERSTRUCTURE	CY	198		
61	CONCRETE CLASS II, APPROACH SLABS	CY	110		
62	CONCRETE CLASS IV SUB,STRUCTURE	CY	178		
63	BRIDGE DECK GROOVING & PLANING, DECK 8.5" & >	SY	708		
64	COMPOSITE NEOPRENE PADS	CF	9.1		
65	REINFORCING STEEL - SUPERSTRUCTURE	LB	48,281		
66	REINFORCING STEEL - SUBSTRUCTURE	LB	16,687		
67	REINFORCING STEEL - APPROACH SLABS	LB	21,387		
68	PRESTRESSED BEAMS, TYPE II	LF	444		
69	PRESTRESSED BEAMS, TYPE III	LF	383		
70	PRESTRESSED CONCRETE PILING, 24" SQ.	LF	1,350		
71	TEST PILES - PRESTRESSED CONCRETE, 24" SQ.	LF	165		
72	EXPANSION JOINT,NEW CONSTN.,F&I POURED JOINT WITH BACKER ROD	LF	98		
73	CONCRETE TRAFFIC RAILING, BRIDGE 32" F-SHAPE	LF	405		
74	FENCING, TYPE R, 8.1-10.0', WITH PARTIAL ENCLOSURE	LF	280		,
	STRUCTURES: RETAINING WALLS				
75	CONCRETE DITCH PAVEMENT, NON-REINFORCED, 4"	SY	144		
76	RETAINING WALL SYSTEM, PERMANENT, EXCLUDE BARRIER (WALLS 1 & 2)	SF	13894		
77	TEMPORARY FACING (WALLS 1 & 2)	SF	10,252		
			TOTAL AMOUNT OF BID		

All materials and construction shall conform to both the requirements of the latest FDOT Standard Specifications for Road and Bridge Construction and the latest FDOT Design Standards.

ALL INCIDENTAL WORK INCLUDED IN THESE ITEMS
ALL UNIT PRICE AND TOTAL SPACES MUST BE FILLED IN TO CORRELATE WITH EACH ITEM

COMPANY: _____

BY: _____ **(SEAL) DATE:** _____

ATTEST: _____ **DATE:** _____

Purchasing Department – General Instructions to Bidders

These instructions will bind bidders and conditions herein set forth, except as specifically qualified in special bid and contract terms issued with any individual bid.

1. The following criteria are used in determining low responsible bidder:

    A. The ability, capacity and skill of bidder to perform required service.
    B. Whether the bidder can perform service promptly or within specified time.
    C. The character, integrity, reputation, judgment, experience and efficiency of bidder.
    D. The performance of previous contracts with Columbia County.
    E. The suitability of equipment or material or county use.
    F. The ability of bidder to provide future maintenance

2. Payment Terms are net (30) unless otherwise specified. Favorable terms, discounts, may be offered and will be considered in determining low bids if they are deemed by Purchasing Department to be advantageous to the County.

3. All bids should be tabulated, totaled and checked for accuracy. Unit price will prevail in case of errors.

4. All requested information shall be included in the envelope. All desired information must be included for your bid to receive full consideration.

5. If anything on the bid request is not clear, you should contact the Purchasing Director immediately.

6. A bidders list is available at the Purchasing Office.

7. Quote all prices F.O.B. our warehouse or as specified in bid documents.

8. Each proposal shall be clearly marked on the outside of the envelope including Fed Ex, UPS or other delivery service envelopes, as a sealed bid. The name of the item being bid shall be shown on the outside in full.

9. No responsibility shall attach to any County representative or employee for the premature opening of bids not properly addressed or identified.

10. If only one (1) bid is received, the bid may be rejected and re-advertised or accepted if determined to be in the counties best interest.

11. Bids received late will not be accepted, and the County will not be responsible for late mail delivery.

12. Telephone and facsimile bids will not be acceptable in formal bid openings (sealed bids). Should a bid be misplaced by the County and found later, it will be considered. Any bidder may request and shall receive a receipt showing the day and time any bid is delivered to the appropriate office of the County from the personnel thereof.

13. Bids requiring bid bonds will not be accepted if bond is not enclosed. Cash or certified check will be accepted in lieu of bond except on construction projects where cost exceeds $40,000.

14. All bidders must be recognized dealers in the materials or equipment specified and is qualified to advise in their application or use. A bidder at any time requested must satisfy the Purchasing Office and the County Manager that he has the requisite organization, capital, plant, stock ability and experience to satisfactorily execute the contract in accordance with the provisions of the contract in which he is interested.

15. Any alterations, erasures, additions, or admissions of required information or any changes to specifications or bidding schedule are done at the risk of the bidder. Any bid will be rejected that has a substantial variation, that is; a variation that affects price, quantity, and quality or delivery date (when delivery is required by a specific time).

16. When requested, samples will be furnished to the County free of expense, properly marked for identification and accompanied by a list where there is more than one (1) sample. The County reserves the right to mutilate or destroy any sample submitted whenever it may be to the best interest of the County to do so for the purpose of testing.

17. The County will reject any material, supplies or equipment that did not meet the specifications, even though the bidder lists the trade names or names of such material on the bid or price quotation form.

18. The unauthorized use of patented articles is done entirely at the risk of the successful bidder.

19. The ESTIMATED QUANTITY given in the specifications or advertisements is for the purpose of bidding only. The County may purchase more or less than the estimated quantity and the vendor must not assume that such estimated quantity is part of the contract.

20. Only the latest model equipment as evidenced by the manufacture's current published literature will be considered. Obsolete models of equipment not in production will not be acceptable. The equipment shall be composed of new parts and materials. Any unit containing used parts or having seen any service other than

the necessary tests will be rejected. In addition to the equipment specifically called for in the specification, all equipment catalogued by the manufacturer as standard or required by the State of Florida shall be furnished with the equipment. Where required by the State of Florida Motor Vehicle Code, vehicles shall be inspected and bear the latest inspection sticker of the Florida Department of Revenue.

21. The successful bidder on motor vehicle equipment shall be required to furnish with delivery of vehicle, certificate of origin and any other appropriate documentation as required by the Florida Motor Vehicle Department.

22. Prospective bidders are required to examine the location of the proposed work or delivery and determine, in their own way, the difficulties, which are likely to be encountered in the prosecution of the same.

23. All materials, equipment and supplies shall be subject to rigid inspection, under the immediate supervision of the Purchasing Department, its designee and /or the department to which they are delivered. If defective material, equipment, or supplies are discovered, the contractor, upon being instructed by the Purchasing Department or designee, shall remove, or make good such material, equipment, or supplies without extra compensation. It is expressly understood and agreed that the inspection of materials by the County will in no way lessen the responsibility of the Contractor release him from his obligation to perform and deliver to the County Sound and satisfactory materials, equipment, or supplies. The Contractor agrees to pay the costs of all tests upon defective material, equipment, or supplies or allow the costs to be deducted from any monies due him from the County.

24. Unless otherwise specified by the Purchasing Department all materials, supplies, or equipment quoted herein must be delivered within thirty (30) days from the day of notification or exceptions noted on bid sheets.

25. A contract will not be awarded to any corporation, firm, or individual who is, from any cause, in arrears to the County or who has failed in former contracts with the County to perform work satisfactorily, either to the character of the work, the fulfillment or guarantee, or the time consumed in completing the work.

26. Reasonable grounds for supposing that any bidder is interested in more than one proposal for the same item will be considered sufficient cause for rejection of all proposals in which he is interested.

27. Submitting a proposal when the bidder intends to sublet the contract may be a cause for rejection of bids or cancellation of the contract by the County Manager.

28. Unless otherwise specified the County reserves the right to award each items separately or on a lump sum basis whichever is in the best interest of the County.

29. The County reserves the right to reject any and/or all quotations, to waive any minor discrepancies in the bids for all bidders equally, quotations, or specifications, when deemed to be in the best interest of the County and also to purchase any part, all or none of the materials, supplies, or equipment specified.

30. Failure of the bidder to sign the bid or have the signature of an authorized representative or agent on the bid proposal in the space provided will be cause for rejection of the bid. Signature must be written in ink. Typewritten or printed signatures will not be acceptable.

31. Any bidder may withdraw his bid at any time before the time set for the opening of the bids. No bid may be withdrawn in the thirty- (30) day period after bids are opened.

32. It is mutually understood and agreed that if at any time the Purchasing Department or designee shall be of the opinion that the contract or any part thereof is unnecessarily delayed or that the rate of progress or delivery is unsatisfactory, or that the contractor is willfully violating any of the conditions or covenants of the agreement, or executing the same in bad faith, the Purchasing Department or his designee shall have the power to notify the aforesaid contractor of the nature of the complaint. Notification shall constitute delivery of notice, or letter to address given in the proposal. If after three (3) working days of notification the conditions are not corrected to the satisfaction of the Purchasing Director, he shall thereupon have the power to take whatever action he may deem necessary to complete the work or delivery herein described, or any part thereof, and the expense thereof, so charged, shall be deducted from any paid by the County out of such monies as may become due to the said contractor, under and by virtue of this agreement. In case such expense shall exceed the last said sum, then and in that event, the bondsman or the contractor, his executors, administrators, successors, or assigns, shall pay the amounts of such excess to the County on notice made by the Purchasing Department or his designee of the excess due.

33. If the bidder proposes to furnish any item of foreign make or product, he shall write “foreign” together with the name of the originating country opposite such item on a proposal.

34. Any complaint from bidders relative to the invitation to bid or attached specifications shall be made prior to the time of opening bids; otherwise, the bidder waives any such complaint.

35. Contracts may be cancelled by the County with or without cause on thirty- (30) days advance written notice.

36. All contractors submitting bids must be pre-qualified with the Florida Department of Transportation in the areas of grading, drainage, flexible pavement, and minor bridges and shall provide proof of such qualification upon request.

37. Any bidder affected adversely by an intended decision with respect to the award of any bid, shall file with the Purchasing Department for Columbia County, a written notice of intent to file a protest not later than seventy-two (72) hours (excluding Saturdays, Sundays and legal holidays), after the posting of the bid tabulation. Protest procedures may be obtained in the Purchasing Department.

38. A person or affiliate who has been placed on the convicted vendor's list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to Columbia County, may not submit a bid on a contract with Columbia County for the construction or repair of a public building or public work, may not submit bids on leases of real property to Columbia County, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with Columbia County, and may not transact business with Columbia County for a period of
36 months from the date of being placed on the convicted vendor list.

39. Vendor/Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system, in accordance with the terms governing use of the system, to confirm the employment eligibility of;

A. all persons employed by the Vendor/Contractor during the term of the Contract to perform employment duties within Florida; and

B. all persons, including subcontractors, assigned by the Vendor/Contractor to perform work pursuant to the contract with the County.

40. Upon award the contractor shall furnish and maintain in effect through the life of the contract an acceptable surety bond in a sum at least equal to the amount of the contract. The surety shall have a resident agent in the State of Florida and meet all the requirements of the laws of Florida.

CONTRACT TIME

The total contract time for the project is 420 calendar days. The contractor shall provide sufficient labor, materials and equipment to complete all the work within the specified time. Additionally, the contractor shall plan and anticipate time required for utility relocations, shop drawing reviews, and reviews by CSX.

TECHNICAL SPECIAL PROVISION

For

Gopher Tortoise Relocation

Prior to any construction activities the contractor shall be responsible for an assessment of all potential gopher tortoise habitat that could be impacted by the project. The suitable habitat will be systematically surveyed according to the current guidelines published by the Florida Fish and Wildlife Conservation Commission (FWC). If gopher tortoise burrows are found, all practicable measures will be employed to avoid impacts. The contractor shall be responsible for obtaining an FWC permit for the relocation of gopher tortoises and commensals from burrows which cannot be avoided, and relocation shall be performed at a time as close as practicable to the start of construction activities at the site of the burrows. If new burrows are found after relocation, their occupants will also be relocated. A copy of the permit and any subsequent reports to FWC must be provided to the County.

The contractor will be required to pay all costs including any and all fees associated with the relocation of gopher tortoises. Any fines levied by permitting agencies shall be the responsibility of the contractor. Costs to be included under mobilization.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
PENSACOLA FIELD OFFICE
41 NORTH JEFFERSON STREET, SUITE 111
PENSACOLA, FL 32502-5794

REPLY TO
ATTENTION OF

Regulatory Division **January 13, 2010**
Pensacola Permits Section
SAJ-2009-03326(NPR-TSH)

Dale Williams, County Manager
Columbia County Board of County Commissioners
P.O. Box 1529
Lake City, FL 32056-1529

Dear Mr. Williams:

Reference is made to the application received on September 14, 2009, for a Department of the Army permit to discharge fill material over 2.9 acres of wetlands for construction of a public roadway. The proposed project is located in unnamed wetlands associated with Lake Harris, Section 25, Township 3 South, Range 16 East, Columbia County, Florida; the project will begin at the existing Northwest Bascom Norris Drive, located just north of U.S. Highway 90, at Latitude: 30°11'0.38" North, Longitude: 82°40'30.37" West, and will connect to Northwest Bascom Norris Drive, located just south of Lake Jeffery Road, at Latitude: 30°12'6.05" North, Longitude: 82°40'3.29" West. The application has been assigned number SAJ-2009-03326 (NP-TSH).

The project as proposed will not require a Department of the Army permit in accordance with Section 10 of the Rivers and Harbors Act of 1899 as it is not located within the navigable waters of the United States. Furthermore, a permit will not be required in accordance with Section 404 of the Clean Water Act as it will not involve the discharge of dredged or fill material into waters of the United States. Provided the work is done in accordance with the enclosed drawings, Department of the Army authorization will not be required.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination/decision, you may request an administrative appeal under Corps' regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process fact sheet and Request for Appeal (RFA) form. If you request to appeal this

determination/decision, you must submit a completed RFA form to the South Atlantic Division Office at the following address:

Mr. Michael F. Bell
South Atlantic Division
U.S. Army Corps of Engineers
CESAD-CM-CO-R, Room 9M15
60 Forsyth St., SW.
Atlanta, Georgia 30303-8801.

Mr. Bell can be reached by telephone number at 404-562-5137, or by facsimile at 404-562-5138.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division office within 60 days of the date of the RFA. Should you decide to submit an RFA form, it must be received at the above address by March 14, 2010. It is not necessary to submit an RFA form to the Division office, if you do not object to the determination/decision in this letter.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work. Please be advised this determination reflects current policy and regulations and is valid for a period of no longer than 5 years from the date of this letter unless new information warrants a revision of the determination before the expiration date. If after the 5-year period, the Corps has not specifically revalidated this determination, it will automatically expire. Any reliance upon this determination beyond the expiration date may lead to possible violation of current Federal laws and/or regulation.

Additionally, your project site may contain species protected by the Endangered Species Act (ESA) of 1972, as amended. You should contact your local U.S. Fish and Wildlife Service (FWS) office to determine if Federally listed species or their habitat are present on your project site. If it is determined that Federally listed species may be affected by the proposed project, authorization for "incidental take" may be required. FWS offices can be contacted by the following telephone numbers: Jacksonville at 904-232-2580, Panama City at 850-763-2177, St. Petersburg at 727-570-5398, or Vero Beach at 772-562-3909.

This letter does not obviate the requirement to obtain any other Federal, State, or local permits that may be necessary for your project. Should you have any questions, please contact Shayne Hayes at the letterhead address or by telephone at 850-433-8859.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit the following link and complete our automated Customer Service Survey: http://per2.nwp.usace.army.mil/survey.html. Your input is appreciated - favorable or otherwise.

Sincerely,

Shayne Hayes

Shayne Hayes
Project Manager

Enclosures

Copies Furnished:
Stephen Wilson, consultant

Applicant: Columbia County Board of County Commissioners	File Number: **SAJ-2009-03326**	Date: 01/13/2010
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- *ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.*
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- *ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.*
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

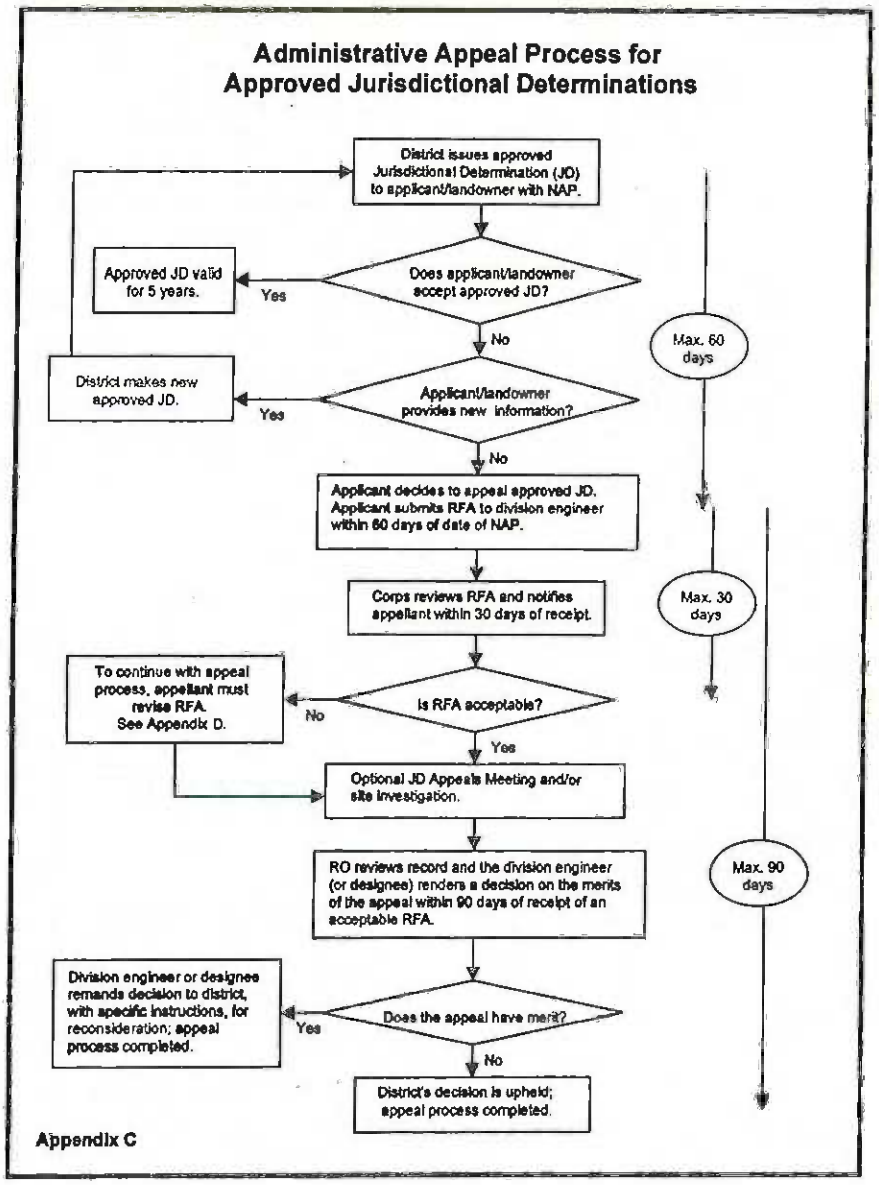
POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Project Manager as noted in letter	**Michael F. Bell** **404-562-5137**

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

APPENDIX C TO PART 331—ADMINISTRATIVE APPEAL PROCESS FOR APPROVED JURISDICTIONAL DETERMINATIONS



APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

November 16, 2009

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Jacksonville District – Pensacola Field Office; Columbia County BOCC – Bascom Norris Drive; SAJ-2009-03326 (IP-TSH).

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Florida County/parish/borough: Columbia City: Lake City

Center coordinates of site (lat/long in degree decimal format): Latitutde: 30.1905687° North, Longitude: 82.6730912° West.
Universal Transverse Mercator:

Name of nearest waterbody: Lake Harris

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Not applicable.

Name of watershed or Hydrologic Unit Code (HUC): Upper Suwanee River / 03110201

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: 11/04/2009, 11/06/2009, 11/12/2009

☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters:
      Wetlands:

   c. **Limits (boundaries) of jurisdiction** based on:

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Waters and wetlands within the review area appear to be isolated; drainage is to an underground injection well. Information submitted by the applicant indicates that drainage within the review area

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

is to the west toward Lake Harris; drainage from Lake Harris is to a 16-inch diameter injection well with an intake elevation at 94.0 feet. The submitted information indicates that "a surveyed high water elevation associated with back to back hurricanes in 2004 was established as elevation 103.0"; the narrative further indicates that the 103.0 elevation is very conservative.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: **Not applicable.**

Summarize rationale supporting determination:

2. **Wetland adjacent to TNW**
Summarize rationale supporting conclusion that wetland is "adjacent": **Not applicable.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) **Physical Characteristics:**
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):
- ☐ Riparian corridor. Characteristics (type, average width):
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings:
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:

☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis: Pick List
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
☐ TNWs: linear feet width (ft), Or, acres.
☐ Wetlands adjacent to TNWs:

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
     - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain:
☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters:
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☒ Lakes/ponds: Four lakes/ponds totaling an estimated 202 acres; Lake Harris, Brown Pond, Harper Lake, and Gwen Lake
☐ Other non-wetland waters: acres. List type of aquatic resource:
☒ Wetlands: Estimated 337 acres

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus[45] standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas: 24K NHD, 100K NHD.
☒ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:.Digital Orthographic Quads available from web-based GIS
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey.
☒ National wetlands inventory map(s). Cite name: USFWS – Wetlands Mapper; Florida Water Data Central – NWI data layer for web-based GIS.
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:

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[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): FDEP Water Data Central – 1994, 1999, 2004, 2007; Google Earth; Florida Aerial Photography from University of Florida – 1937, 1956, 1970.
or ☐ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: All available information indicates that wetlands and waters within the review area are isolated. Based on information provided by the applicant, flow is generally from the east to west within the review area. The small chain of lakes includes Gwen Lake to the east, then Harper Lake, Brown Pond, and Lake Harris on the western limits of the review area. Lake Harris does not drain to a downstream waterbody or stream; the high water level of Lake Harris is limited by a 16-inch diameter injection well, which is the endpoint of drainage within the review area. The National Hydrographic Dataset depicts a tributary connected to the north, central region of the review area. Based on a review of contour maps, this tributary is draining INTO the review area and does not allow drainage from the area to a TNW. The review area is within the Upper Suwanee River watershed; the Suwanee River is located approximately 9.4 aerial miles north of the approximate center of the review area. The nearest tributary that leads to the Suwanee River appears to be an unnamed tributary of Falling Creek, which is located approximately 2.8 aerial miles northeast of the review area. The southern boundary of the Upper Suwanee River watershed is located just south of the review area. The applicant's agent advised that there may have been a public boat ramp on one of the "eastern lakes" in the past. Multiple aerial photographs were reviewed and no public boat ramps were apparent. The area of the lakes/ponds within the review area was approximated using GIS polygon tools; Gwen Lake is approximately 6.5 acres, Harper Lake is approximately 40 acres, Brown Pond is approximately 15 acres, and Lake Harris is approximately 140 acres. Information from the Web Soil Survey and the National Wetlands Inventory are not consistent in the depiction of the extent of Lake Harris, the 140 acre estimate is the low side of the estimate based on the NWI, it could be nearly twice this acreage based on the Web Soil Survey.

Bing Maps

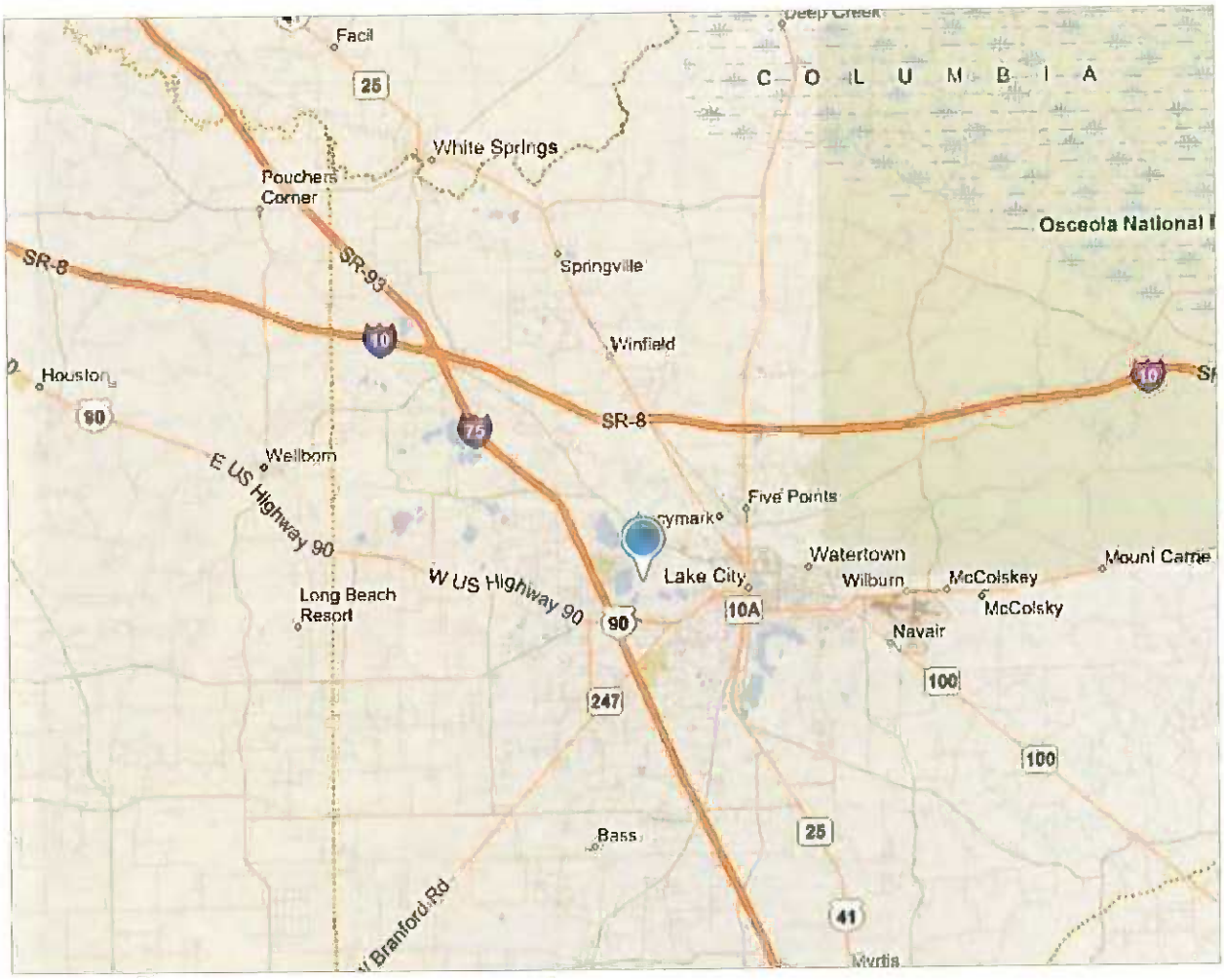
Unsaved places

1. **SITE - Located just west of Lake City, Florida.**

Bing Maps

Unsaved places

1. **SITE - Located just west of Lake City, Florida.**



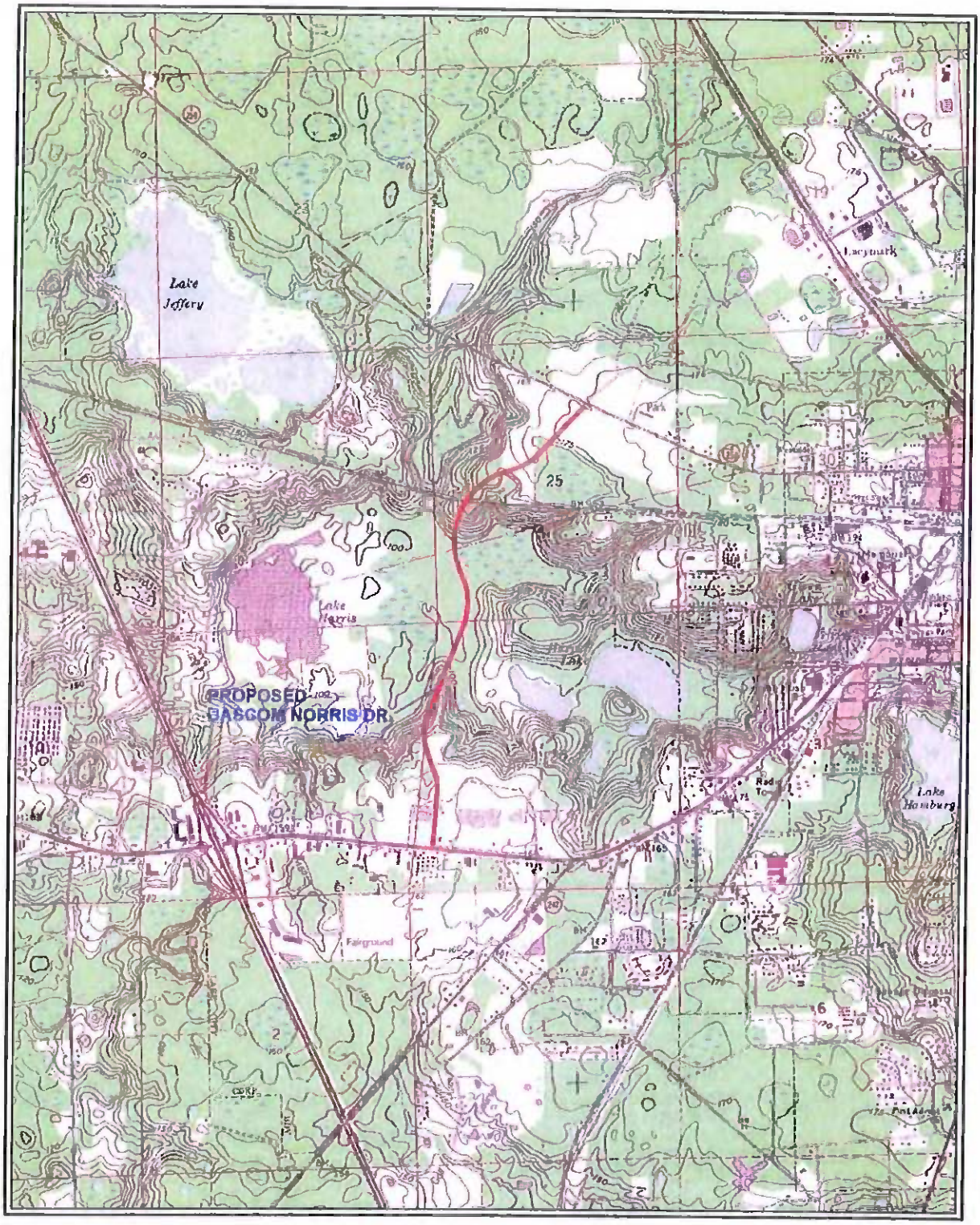
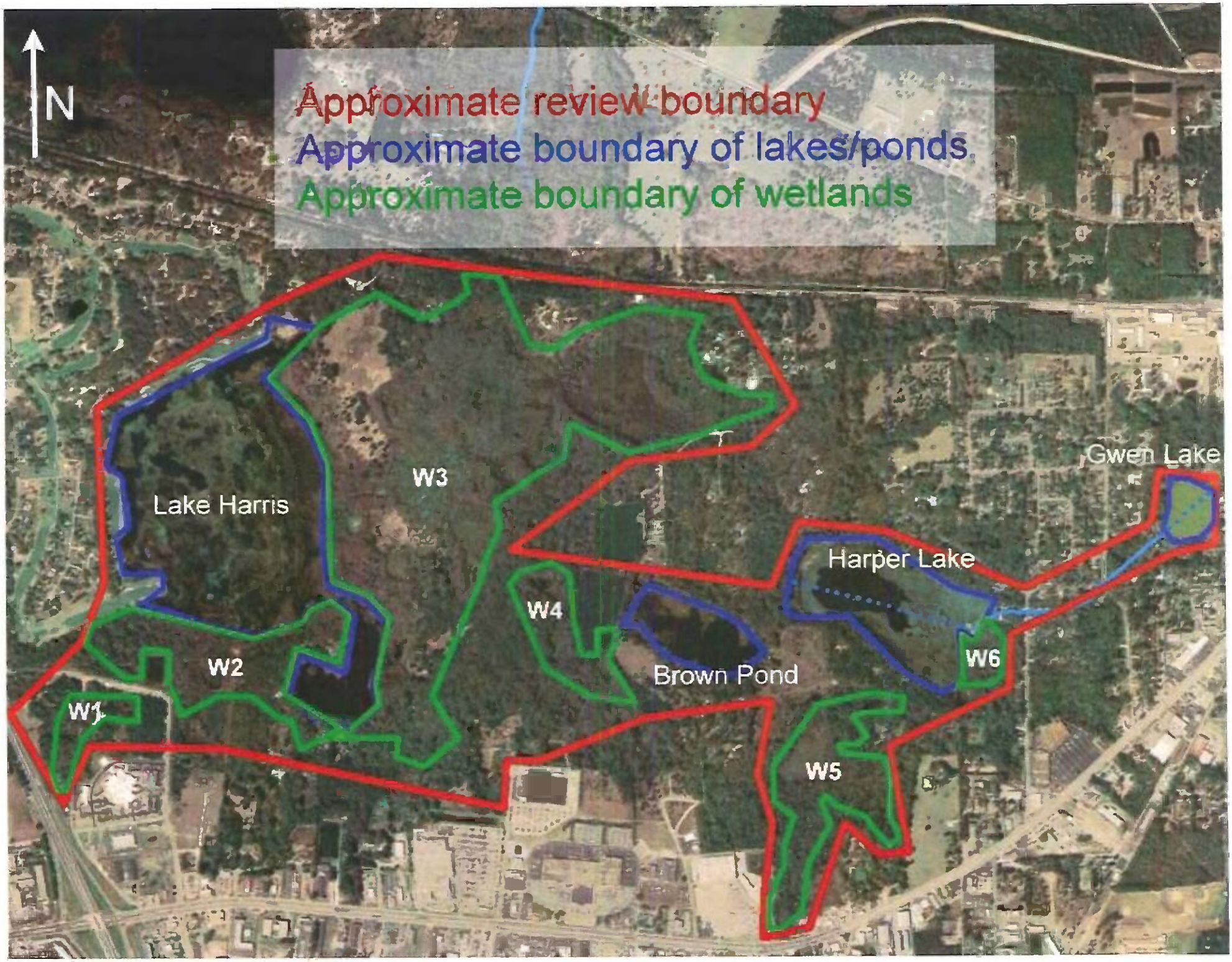
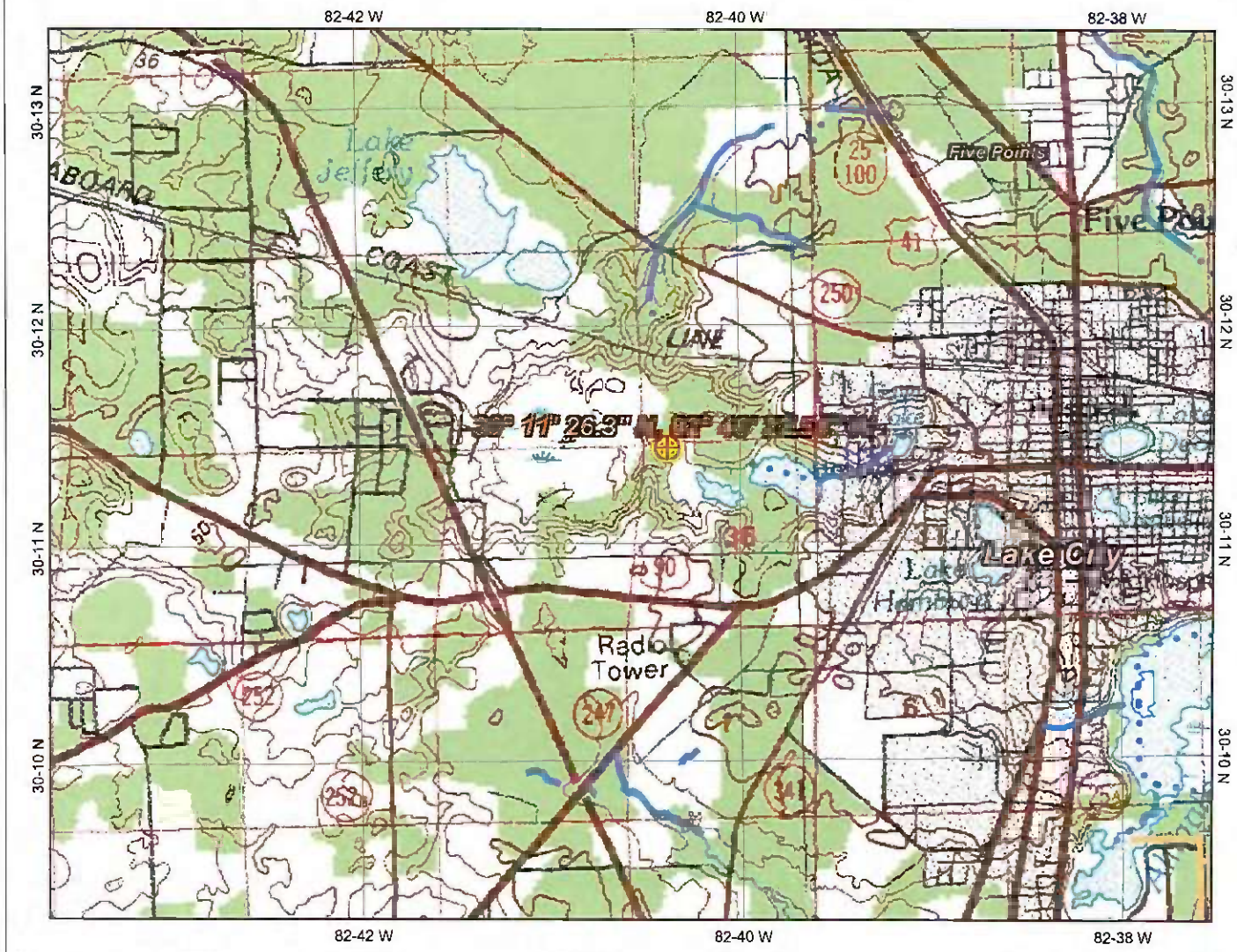
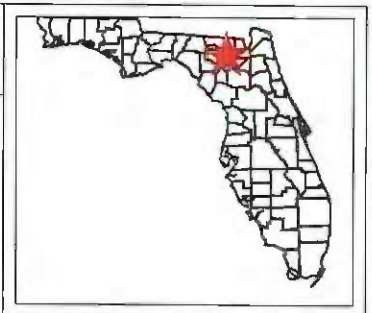


Figure 1-3 Project Limits


N
Approximate review boundary
Approximate boundary of lakes/ponds
Approximate boundary of wetlands
Lake Harris
W3
Gwen Lake
Harper Lake
W4
W2
Brown Pond
W6
W1
W5

SAJ-2009-03326





Legend

NHD 24k Flowline

- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver

Cities (census places)

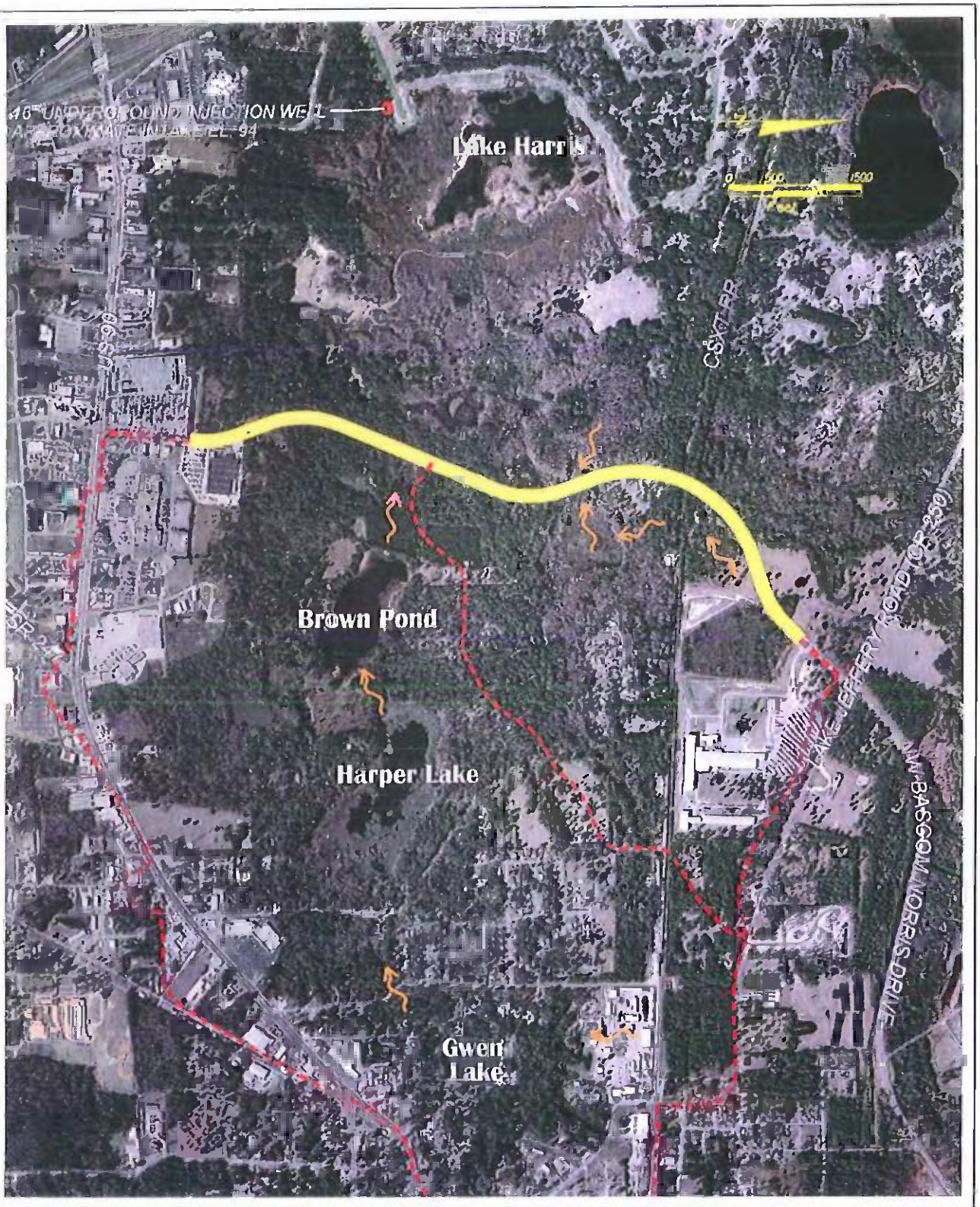
Counties (generalized)

Scale: 1:52,815

Map center: 527332, 687498

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: Digital Quad with 24K NHD, 1:40,000 scale



ENGINEER OF RECORD: STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
4140 NW 37th Place, Suite A
Gainesville, FL 32606
((352) 642-1100
www.hdrinc.com
License No. 4213

Employee-owned

COLUMBIA COUNTY

BASCOM NORRIS DRIVE

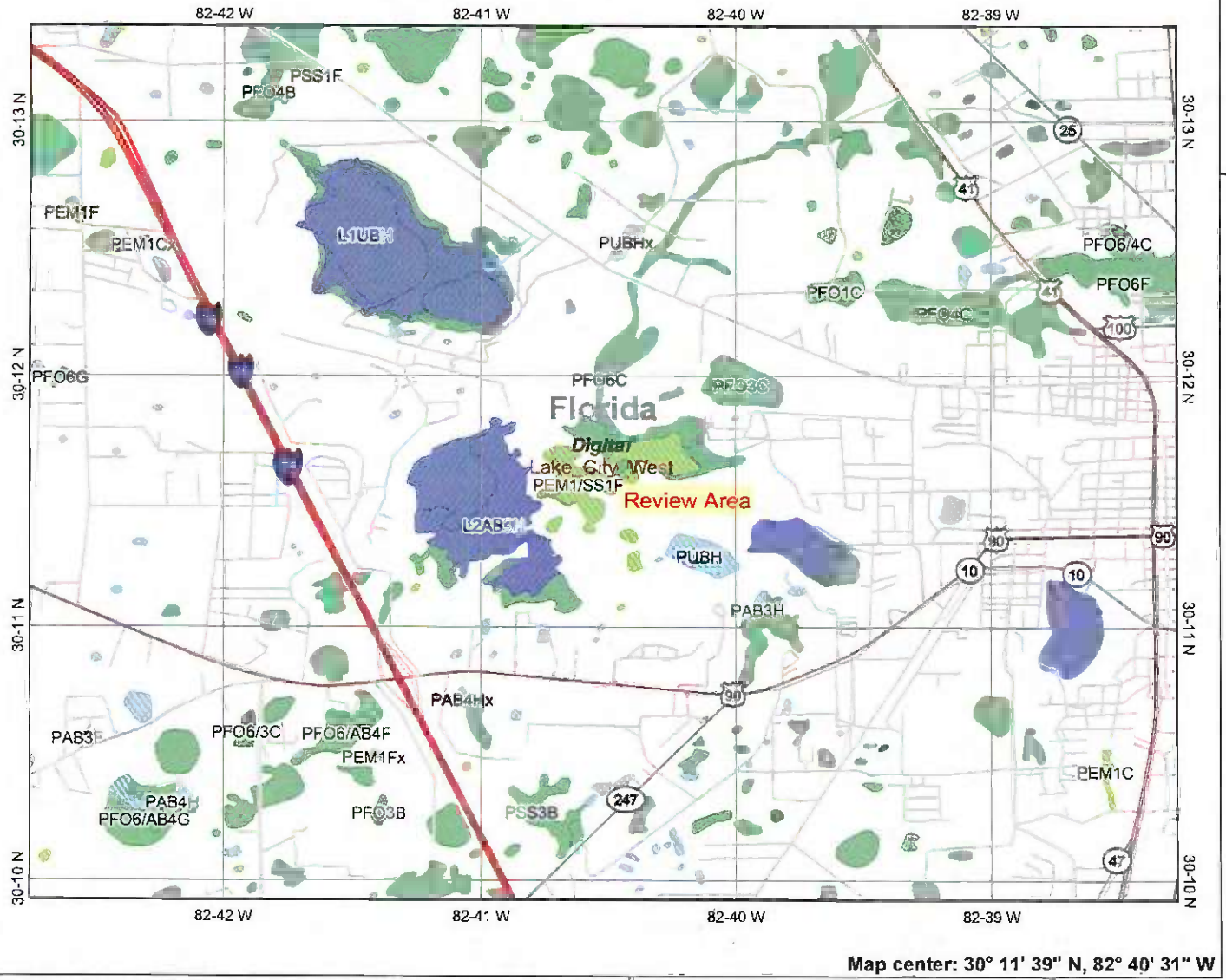
HYDROLOGIC SETTING

FIGURE 2-5

DATE: AUGUST 2009

Soil Map—Columbia County, Florida
(SAJ-2009-03326)

SAJ-2009-03326



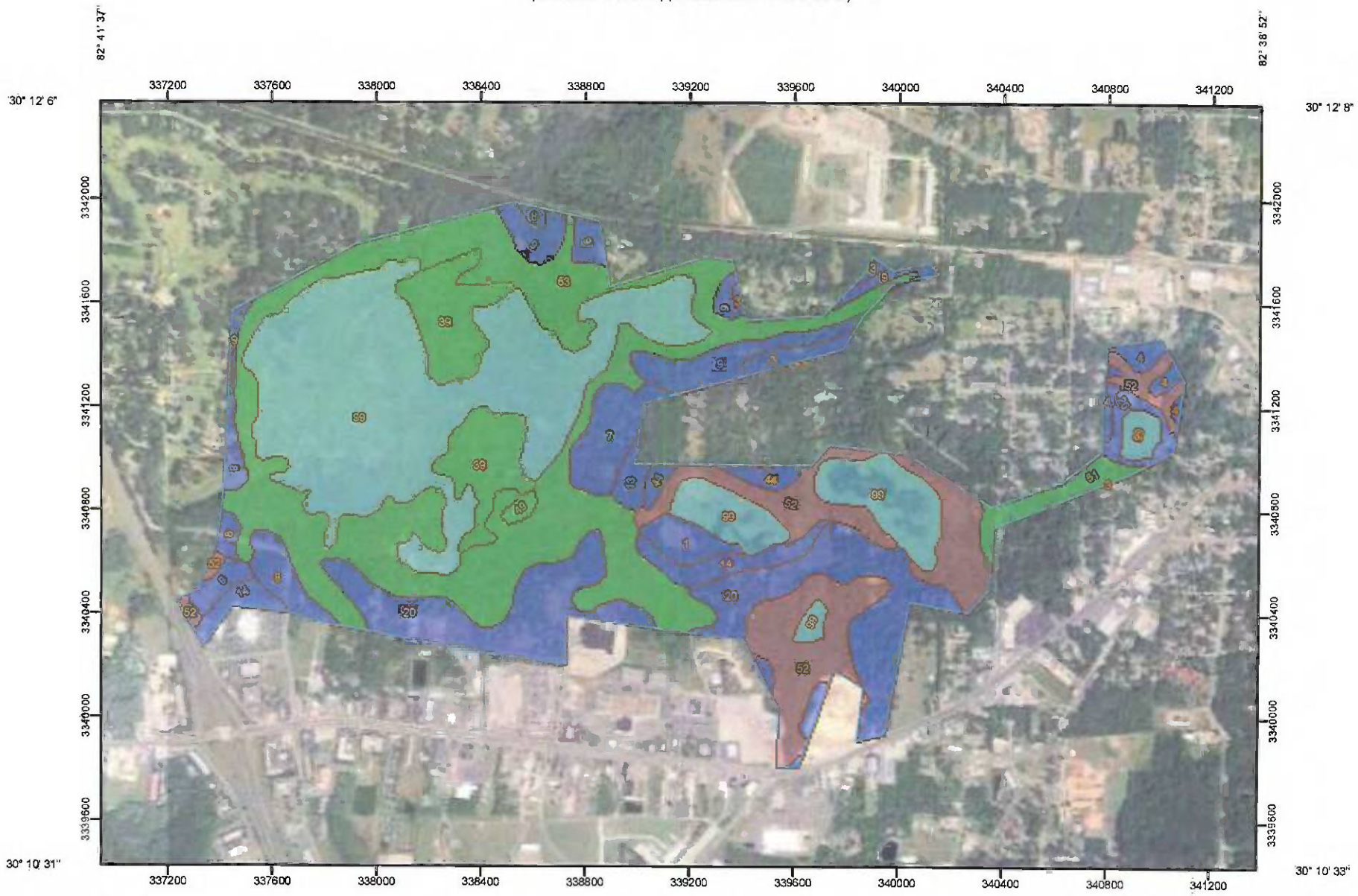
Legend

- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

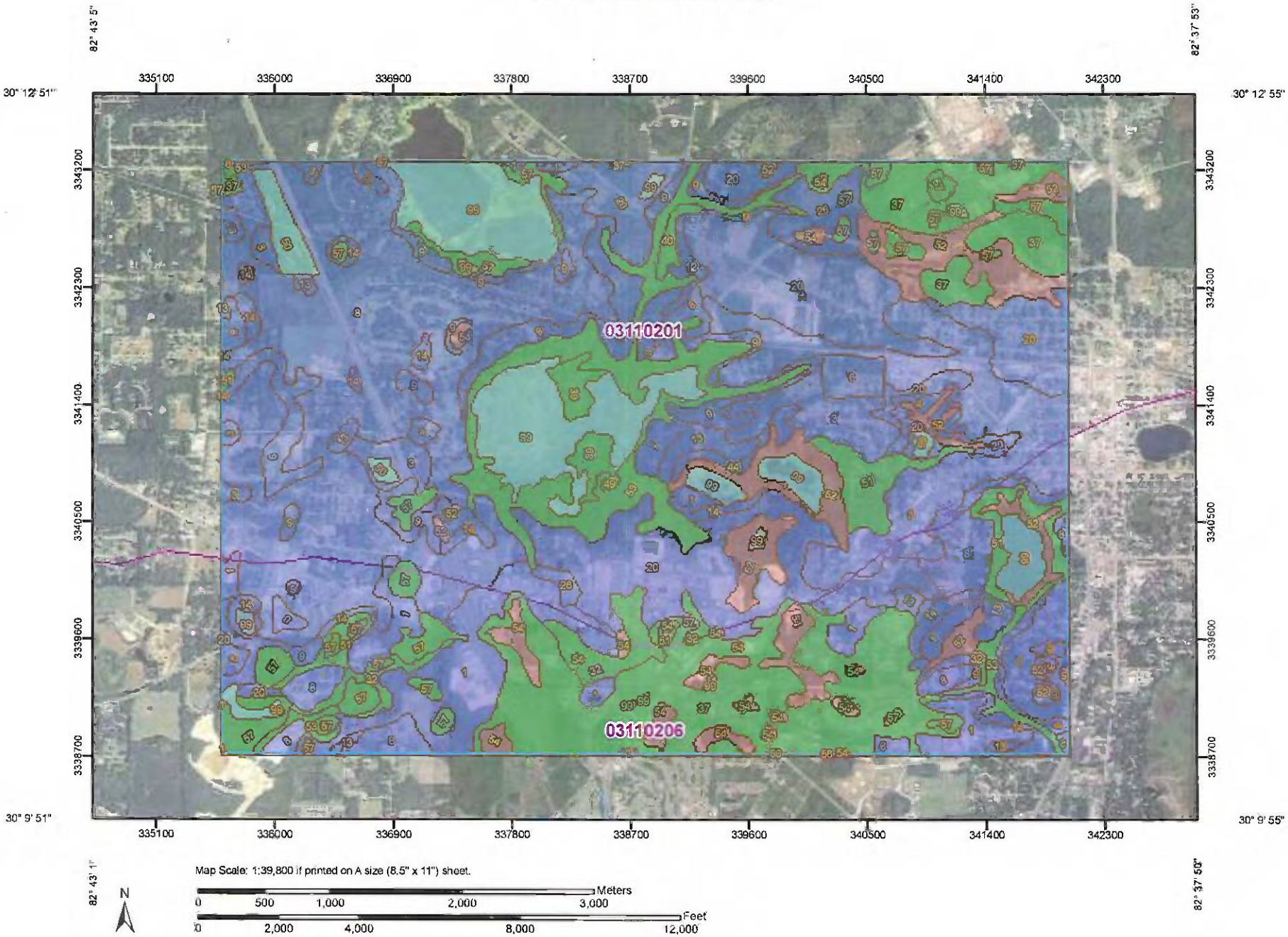
Scale: 1:44,822

Map center: 30° 11' 39" N, 82° 40' 31" W

Hydric Rating by Map Unit—Columbia County, Florida
(SAJ-2009-03326 approximate JD Review Area)



Hydric Rating by Map Unit—Columbia County, Florida
(SAJ-2009-03326 / Columbia County)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- All Hydric
- Partially Hydric
- Not Hydric
- Unknown Hydric
- Not rated or not available

Water Features
- Oceans
- Streams and Canals
- 8-Digit Hydrologic Units

MAP INFORMATION

Map Scale: 1:39,800 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Columbia County, Florida
Survey Area Data: Version 7, Dec 18, 2008

Date(s) aerial images were photographed: 9/10/2007; 9/28/2007

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Columbia County, Florida				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Albany fine sand, 0 to 5 percent slopes	Not Hydric	389.6	5.4%
3	Alpin fine sand, 0 to 5 percent slopes	Not Hydric	601.8	8.3%
4	Alpin fine sand, 5 to 12 percent slopes	Not Hydric	37.6	0.5%
6	Arents, 0 to 5 percent slopes	Not Hydric	44.8	0.6%
7	Bigbee fine sand	Not Hydric	23.1	0.3%
8	Blanton fine sand, 0 to 5 percent slopes	Not Hydric	1,562.0	21.6%
9	Blanton fine sand, 5 to 8 percent slopes	Not Hydric	466.7	6.5%
12	Blanton-Bonneau-Ichetucknee complex, 5 to 8 percent slopes	Not Hydric	19.5	0.3%
13	Bonneau fine sand, 2 to 5 percent slopes	Not Hydric	89.3	1.2%
14	Bonneau fine sand, 5 to 8 percent slopes	Not Hydric	121.3	1.7%
20	Chipley fine sand, 0 to 5 percent slopes	Not Hydric	918.9	12.7%
26	Hurricane fine sand	Not Hydric	83.7	1.2%
32	Leon fine sand	Partially Hydric	99.4	1.4%
37	Mascotte fine sand	Partially Hydric	826.5	11.4%
39	Mascotte fine sand, occasionally flooded	Partially Hydric	54.8	0.8%
40	Ocilla fine sand, 0 to 5 percent slopes	Partially Hydric	16.0	0.2%
44	Orangeburg loamy fine sand, 5 to 8 percent slopes	Not Hydric	27.0	0.4%
49	Pelham fine sand, occasionally flooded	Partially Hydric	2.6	0.0%
50	Pits	Unknown Hydric	50.1	0.7%
51	Plummer fine sand	Partially Hydric	146.5	2.0%
52	Plummer fine sand, depressional	All Hydric	313.9	4.3%
53	Plummer fine sand, occasionally flooded	Partially Hydric	379.0	5.3%
54	Plummer muck, depressional	All Hydric	142.0	2.0%
56	Sapelo fine sand	Partially Hydric	1.5	0.0%
57	Surrency fine sand	Partially Hydric	263.3	3.6%
99	Water	Unknown Hydric	538.2	7.5%
Totals for Area of Interest			7,219.1	100.0%

Description

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "all hydric," "partially hydric," "not hydric," or "unknown hydric," depending on the rating of its respective components.

"All hydric" means that all components listed for a given map unit are rated as being hydric, while "not hydric" means that all components are rated as not hydric. "Partially hydric" means that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

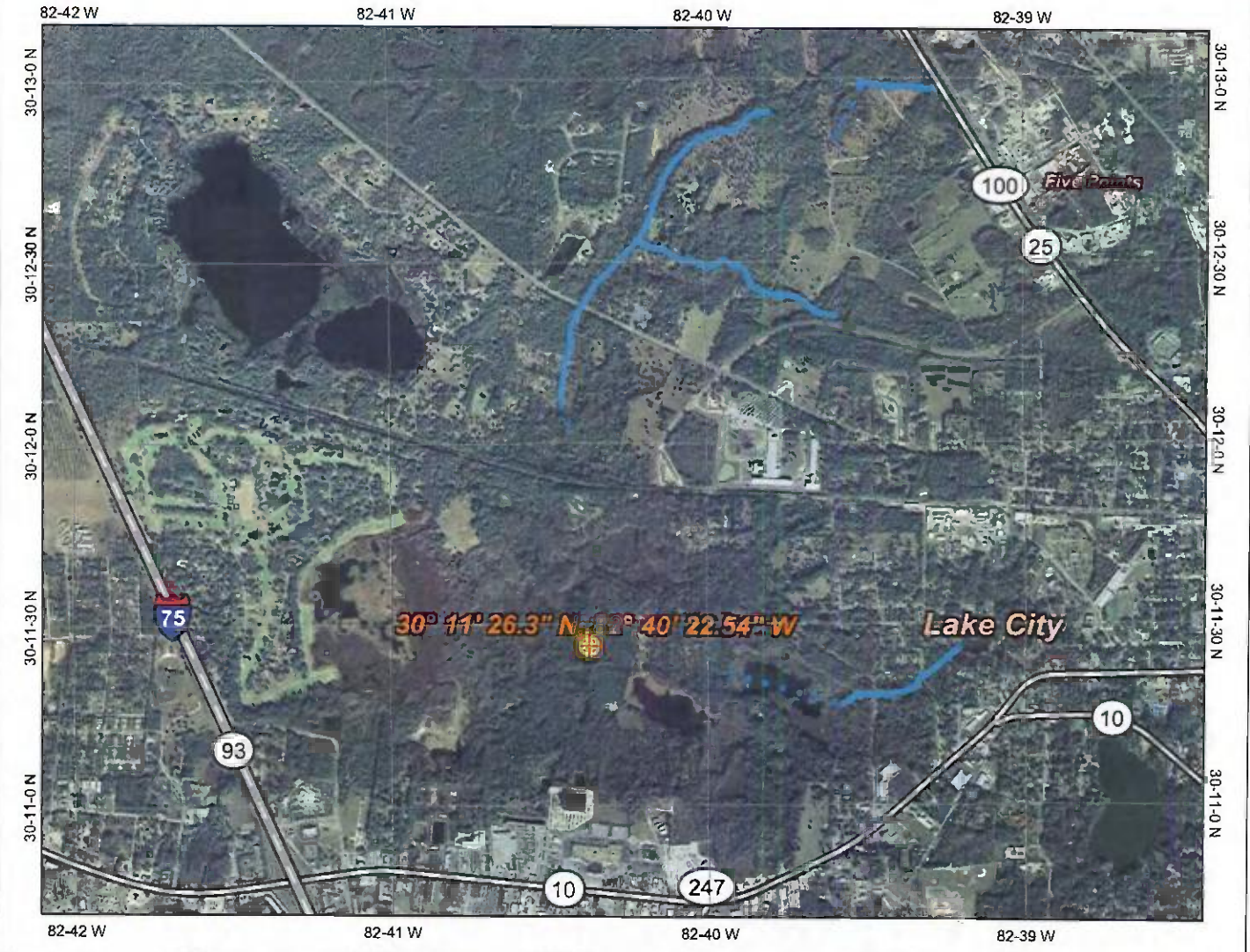
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

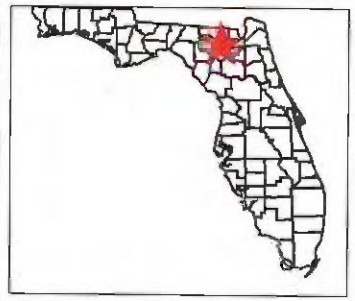
Rating Options

Aggregation Method: Absence/Presence

Tie-break Rule: Lower

SAJ-2009-03326





Legend

- Interstates
- State Highways
- NHD 24k Flowline
- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver
- Cities (census places)

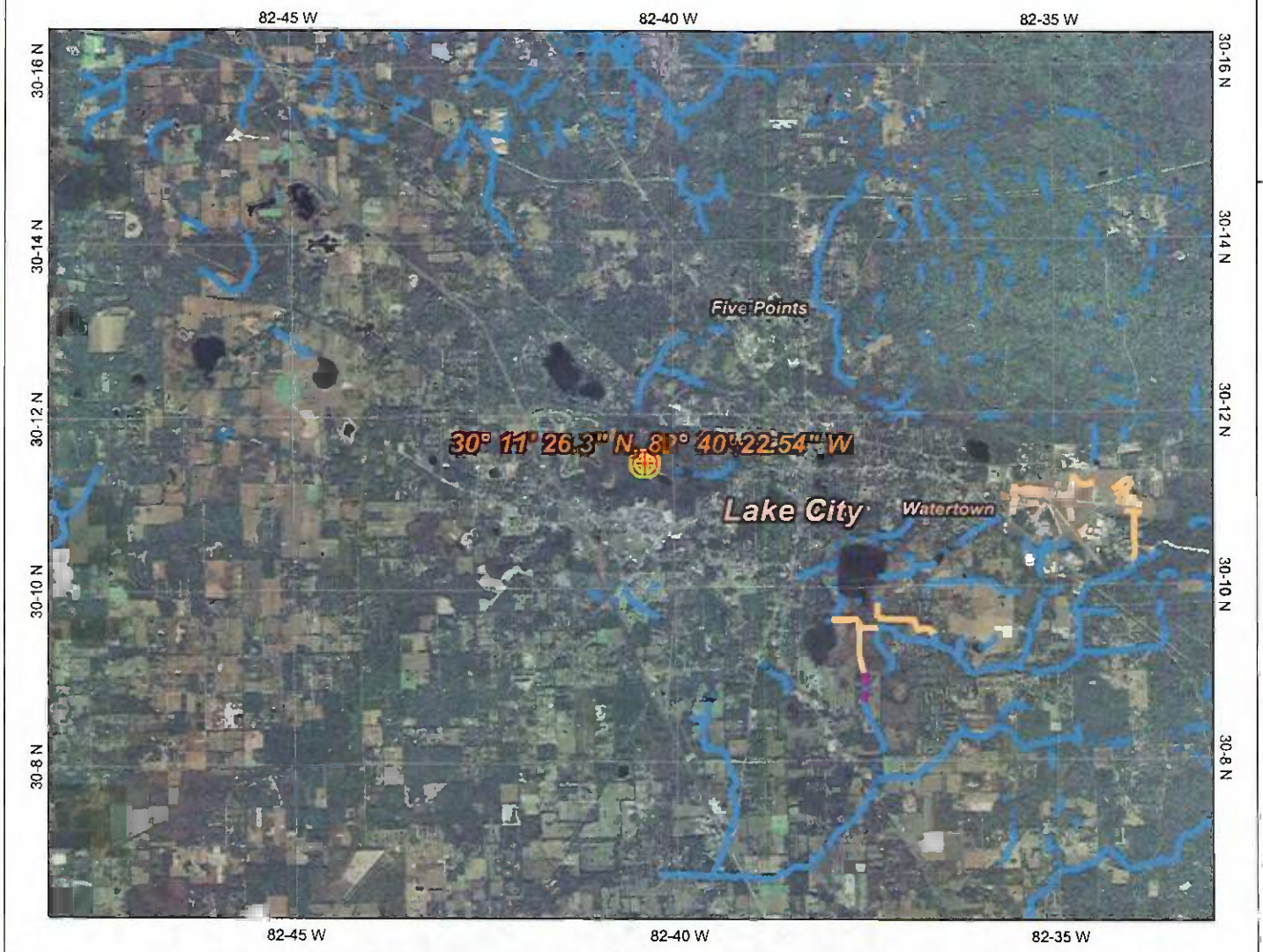
Scale: 1:31,689

Map center: 527808, 688619

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: 2007 aerial photo with 24K NHD, 1:24,000 scale

SAJ-2009-03326



Legend

NHD 24k Flowline

- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver

Cities (census places)

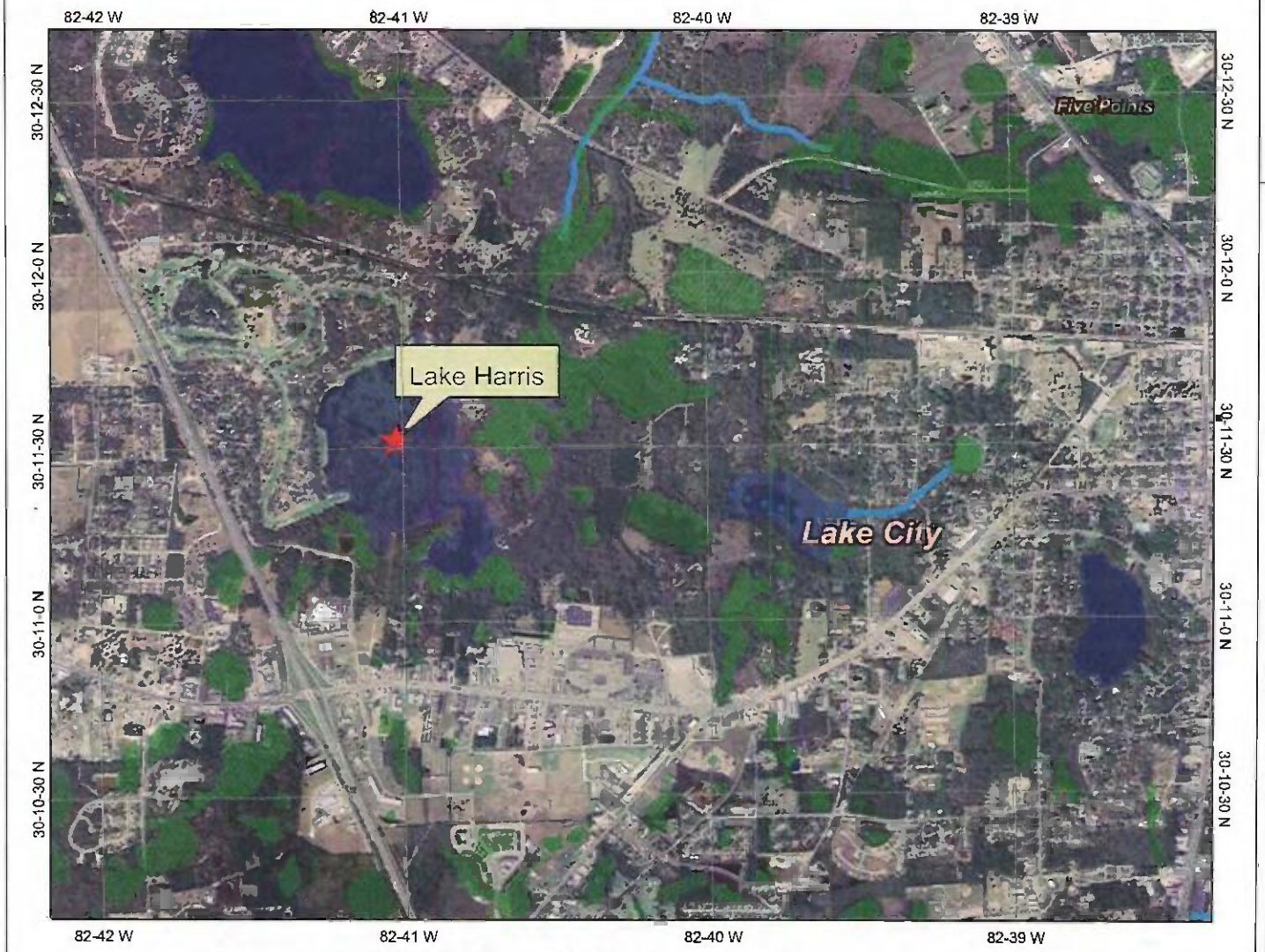
Scale: 1:132,037

Map center: 527332, 687498

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: 2007 aerial photo with NHD, 1:100,000 scale

SAJ-2009-03326 / Columbia County - Bascom Norris Drive



Legend

Wetlands Inventory

- Estuarine
- Lacustrine
- Marine
- Palustrine
- Riverine

NHD 24k Flowline

- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver

Cities (census places)

Scale: 1:33,009

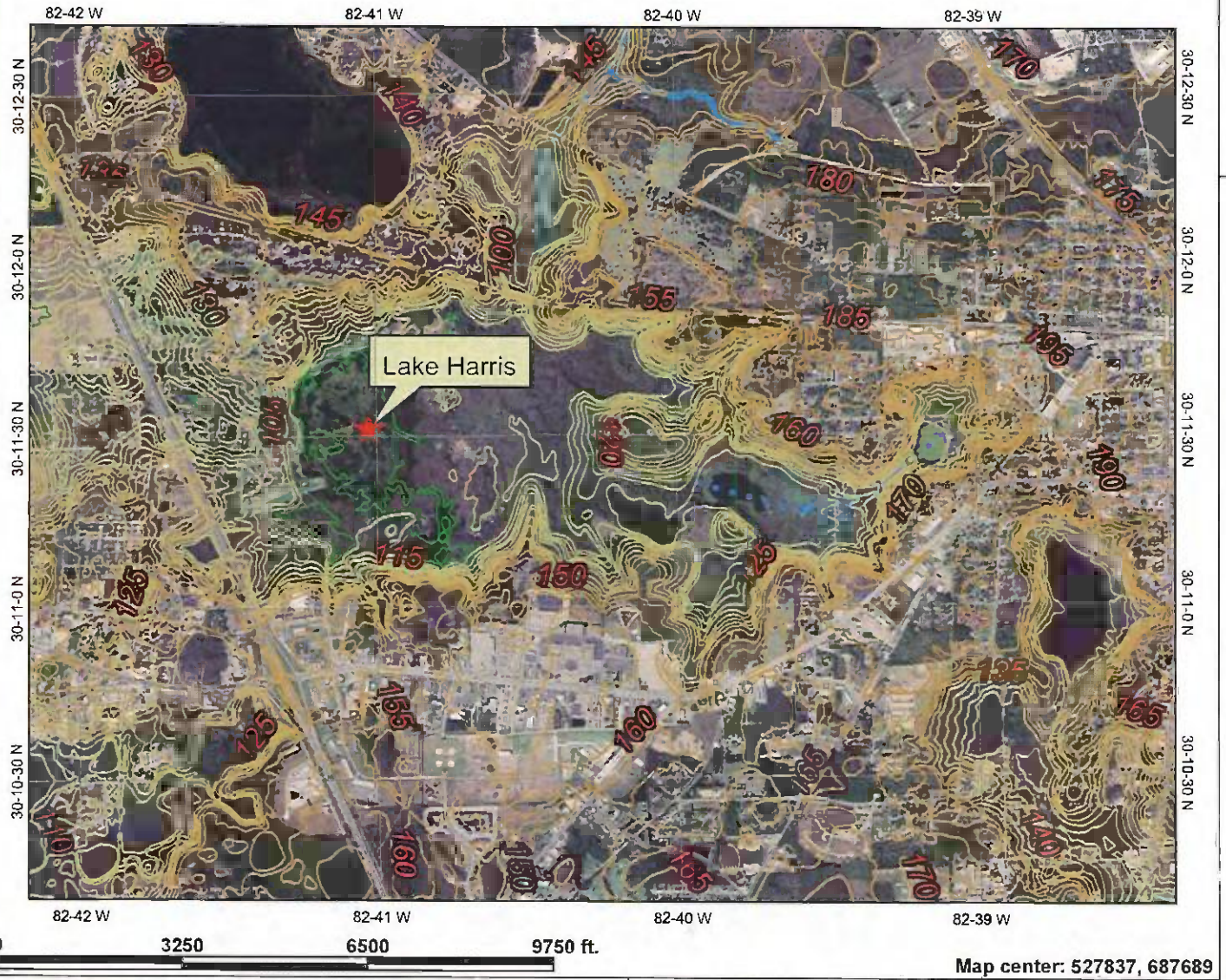
Map center: 527837, 687689

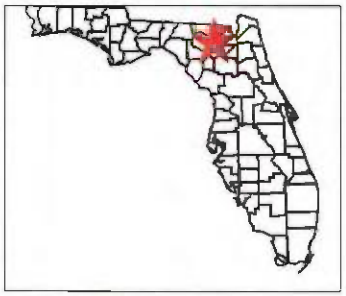
[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: 2004 aerial photography
NHD - 24K Flowline

National Wetlands Inventory

SAJ-2009-03326 / Columbia County - Bascom Norris Drive





Legend

Contours

- 0 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100
- 100 - 125
- 100 - 125
- 125 - 150
- 150 - 175
- 175 - 200
- 200 - 225
- 225 - 250
- 250 - 275
- 275 - 300
- 300 - 350

NHD 24k Flowline

- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver

Cities (census places)

Counties (generalized)

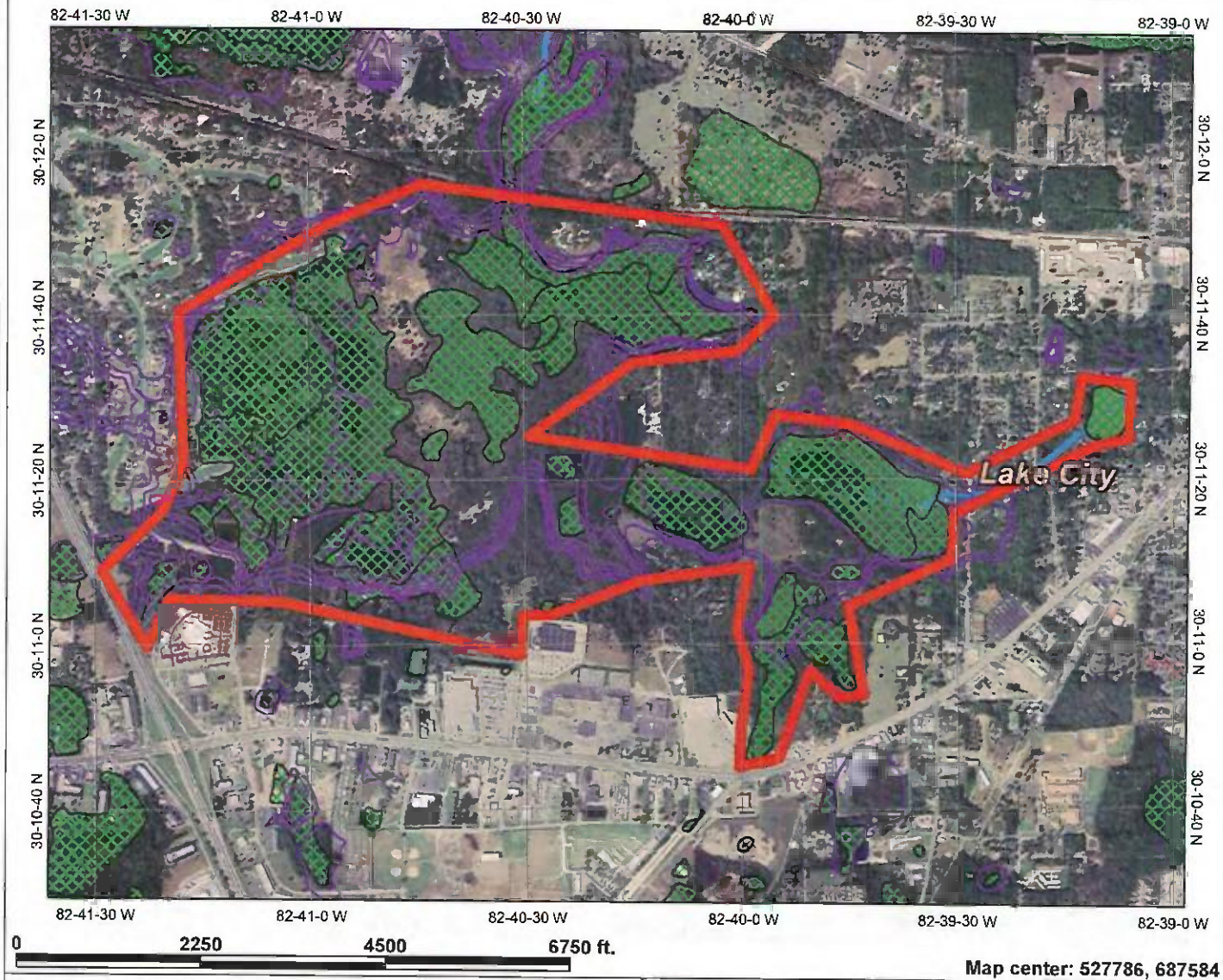
Scale: 1:33,009

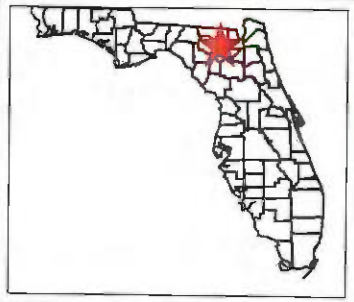
Map center: 527837, 687689

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: 2004 aerial photography
NHD - 24K Flowline

SAJ-2009-03326 JD REVIEW AREA (red boundary)





Legend

- Depressions
- Wetlands Inventory
- NHD 24k Flowline
- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver
- Cities (census places)
- Counties (generalized)

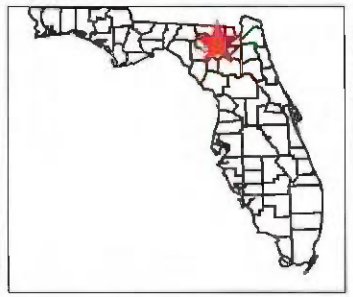
Map center: 527786, 687584

Scale: 1:22,776

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: 2004 aerial photography with 24K NHD, National Wetlands Inventory, and depressional contours (purple)

SAJ-2009-03326



Legend

- Interstates
- State Highways
- NHD 24k Flowline
  - ArtificialPath
  - CanalDitch
  - Coastline
  - Connector
  - Pipeline
  - StreamRiver
- Cities (census places)

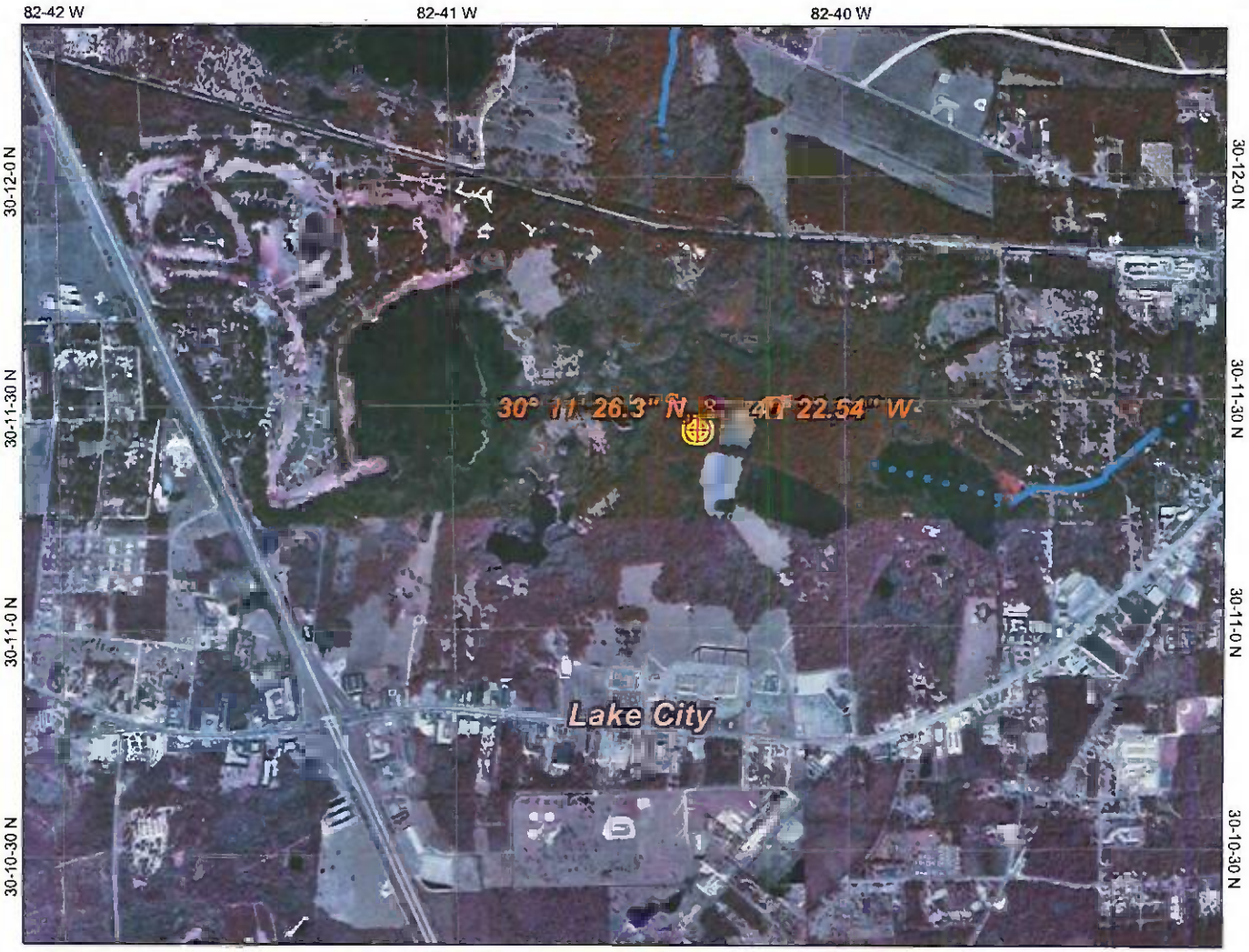
Scale: 1:31,689

Map center: 527808, 688619

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: circa 1999 aerial photo with 24K NHD, 1:24,000 scale

SAJ-2009-03326



Legend

NHD 24k Flowline

- ArtificialPath
- CanalDitch
- Coastline
- Connector
- Pipeline
- StreamRiver

Cities (census places)

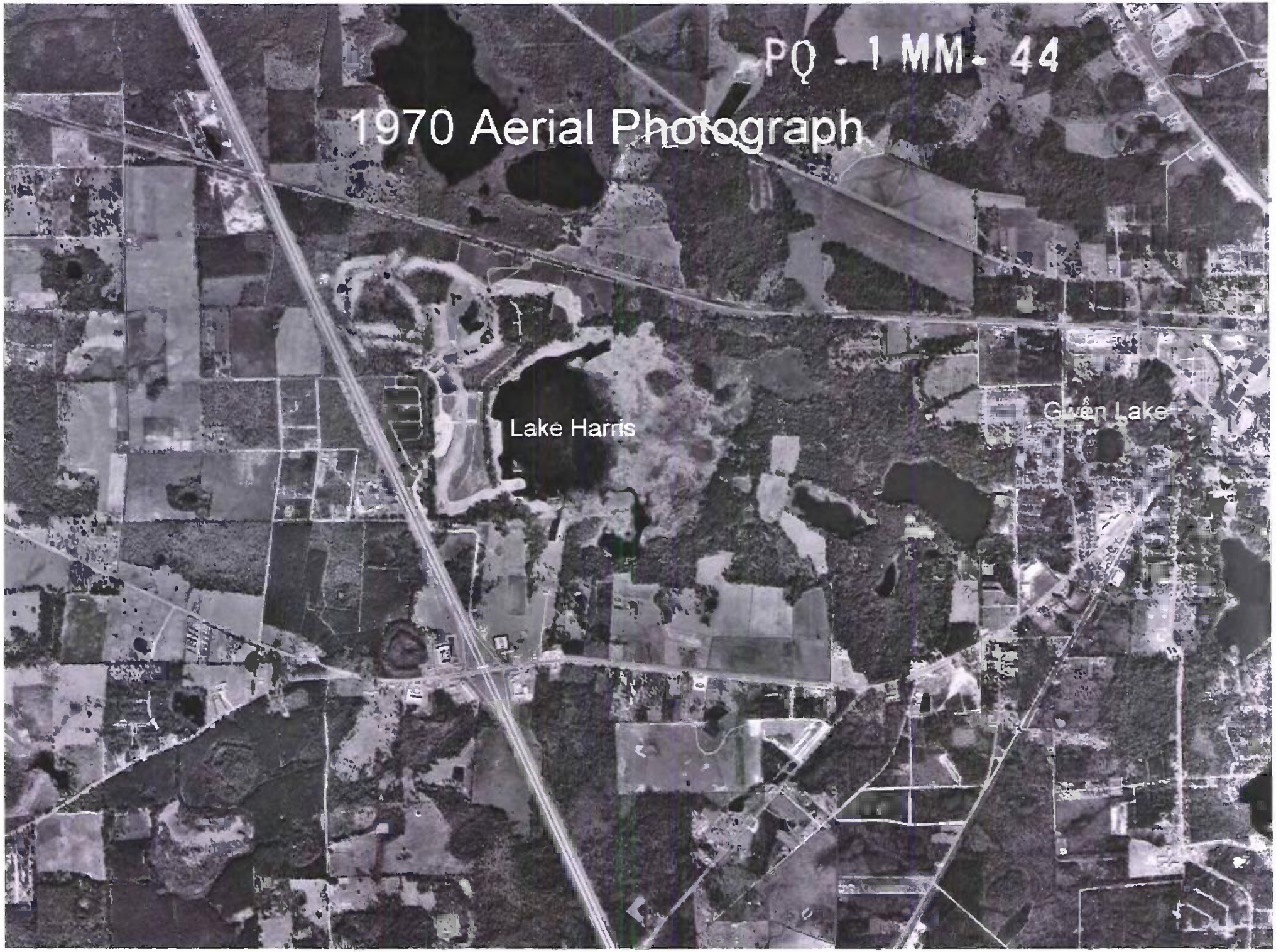
0 2500 5000 7500 ft.

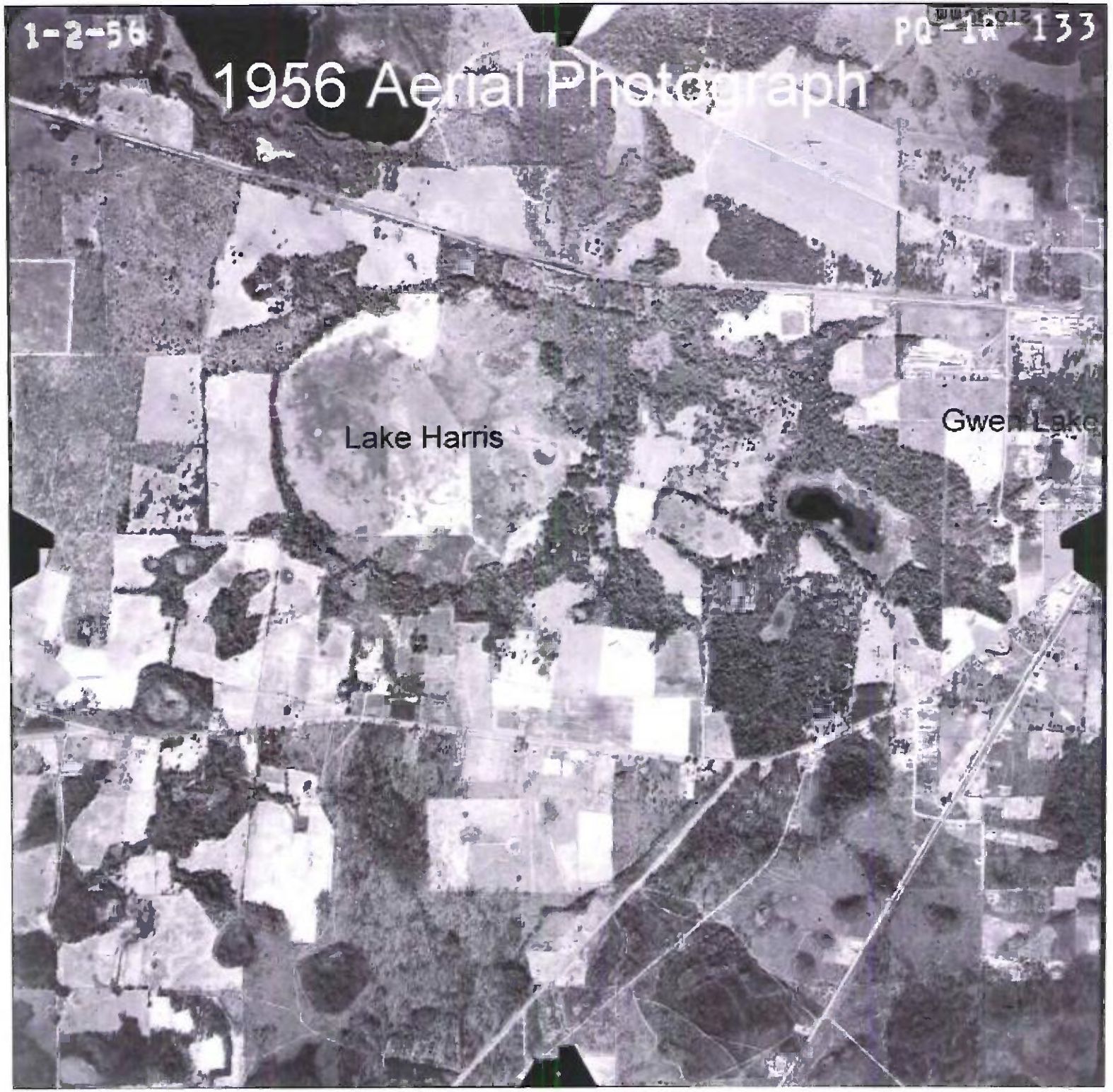
Map center: 527332, 687498

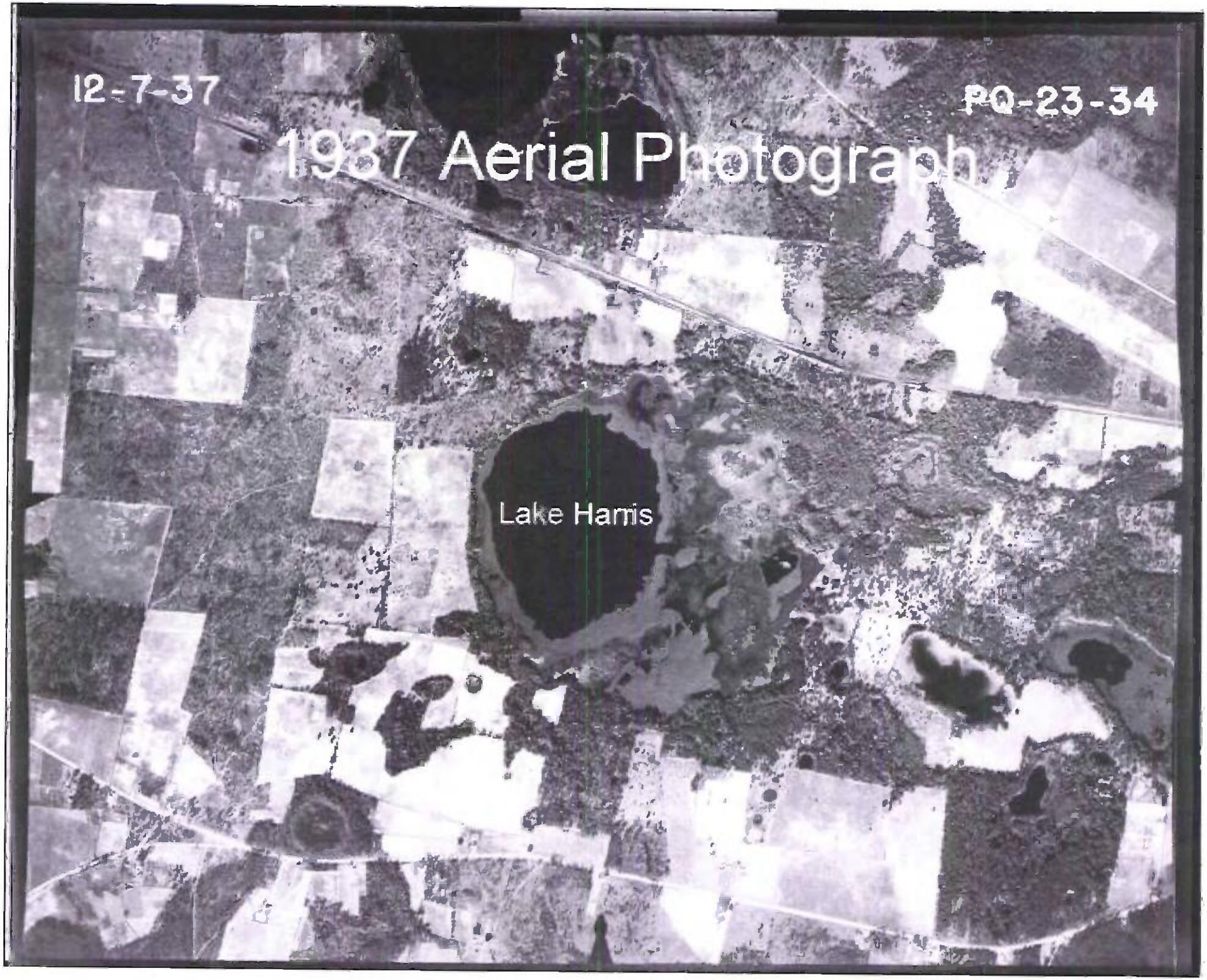
Scale: 1:26,407

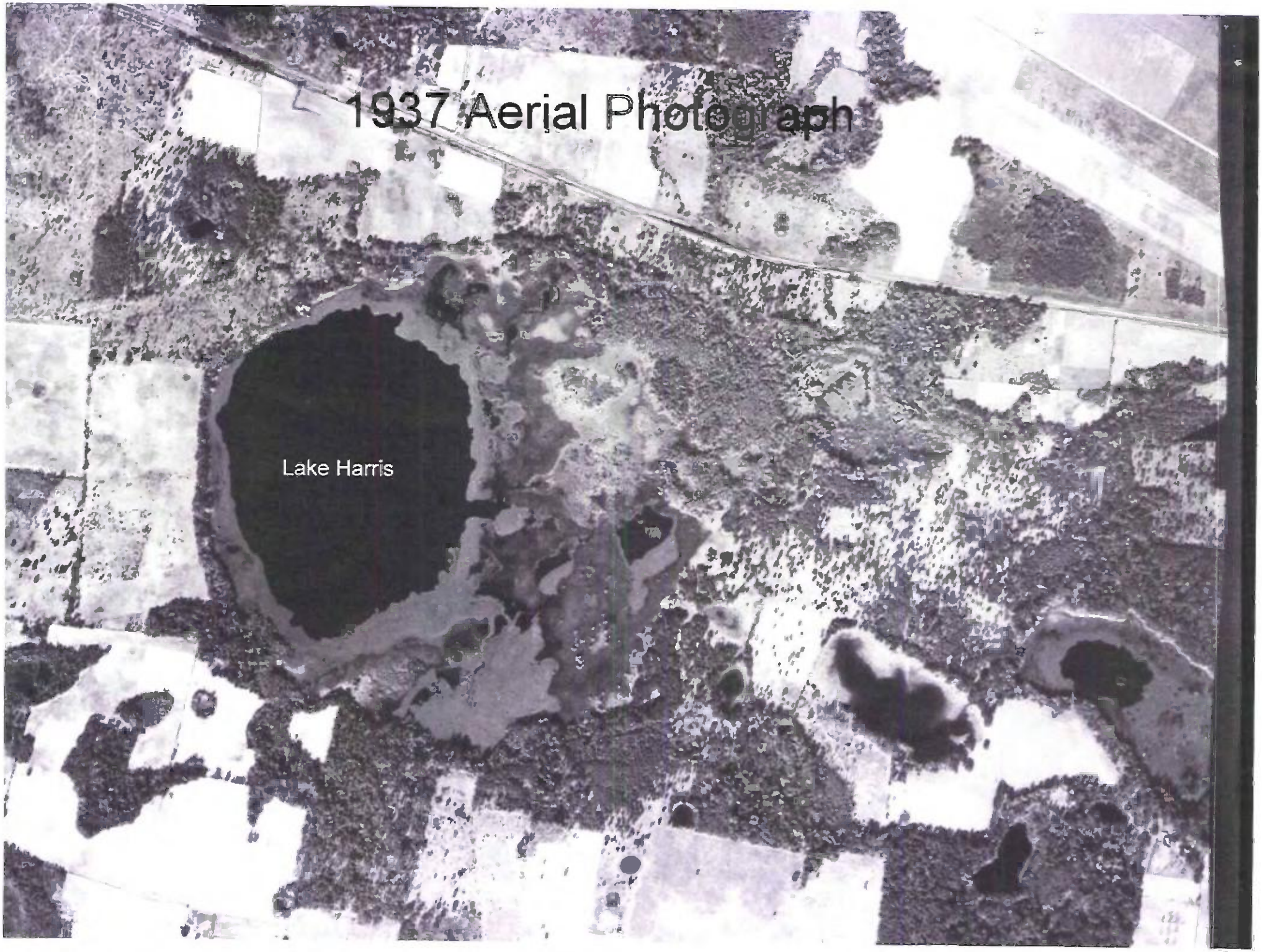
[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: circa 1994 aerial photo with 24K NHD, 1:20,000 scale


PQ - 1 MM - 44
1970 Aerial Photograph
Lake Harris
Gwen Lake


1-2-56
PQ-1A-133
1956 Aerial Photograph
Lake Harris
Gwen Lake


12-7-37
PQ-23-34
1937 Aerial Photograph
Lake Harris


1937 Aerial Photograph
Lake Harris

AECOM
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215 735 0832 tel
215 735 0883 fax

July 15, 2010

Mr. Stephen C. Wilson, P.E.
Vice President
HDR Engineering, Inc.
200 W. Forsyth St.
Suite 800
Jacksonville, FL 32202-4321

SUBJECT: Lake City, Columbia County, Florida – Proposed extension of Bascom Norris Drive including a new Overhead Bridge over CSXT, DOT # 928 664 F; Milepost SP-695.36, Jacksonville Division, Tallahassee Subdivision; OP # FL1312 – ***Acknowledgement of Advance Deposit and Fully Executed Construction Agreement Transmittal***

Dear Mr. Wilson:

Reference is made to the June 24, 2010 HDR Engineering letter transmitting the two (2) Construction Agreements, signed by the Columbia County Board of County Commissioners, and the advance deposit in the amount of $198,243 (Check No. 105447) regarding the subject project. CSXT has executed both originals and enclosed for Columbia County Board of County Commissioners' records is one (1) fully executed Construction Agreement dated April 22, 2010.

As per your letter, AECOM will await the County selection of a contractor in order that Columbia County can issue the necessary written CSXT notice to proceed (Section 2.3 of the Construction Agreement) with its abovementioned force account work to support this subject project.

Please note that no construction work on or over CSXT right of way will be permitted until the following has occurred:

- Columbia County has provided, in writing, the necessary CSXT Notice to Proceed
- Schedule I of the Construction Agreement (last page) is executed by the County selected contractor
- The necessary contractor construction submittals are reviewed and no exceptions taken by CSXT or its representative
- The contractor's insurance is approved in writing by CSXT Risk Management
- Proper advance notification is provided to CSXT
- A preconstruction meeting is held with a CSXT representative present
- A CSXT flagman must be scheduled and on-site

If there are any questions or concerns regarding the subject project, please contact Rick Cantwell in the AECOM Jacksonville, FL office at (904) 279-7212 or me at (215) 789-2158.

Very Sincerely,

Patrick J. DesMarais
Project Engineer

Cc: Mr. Dale Williams, County Manager - Columbia County

Project: Lake City, Columbia County, Florida – Proposed extension of Bascom Norris Drive including a new Overhead Bridge over CSXT, DOT # 928 664 F; Milepost SP-695.36, Jacksonville Division, Tallahassee Subdivision; OP # FL1312

CONSTRUCTION AGREEMENT

This Construction Agreement ("**Agreement**") is made as of April 22, 2010, by and between CSX TRANSPORTATION, INC., a Virginia corporation with its principal place of business in Jacksonville, Florida ("CSXT"), and COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS, a body corporate and political subdivision of the State of Florida ("**Agency**").

EXPLANATORY STATEMENT

1. Agency has proposed to construct, or to cause to be constructed, the extension of Bascom Norris Drive including a new overhead bridge over CSXT (DOT # 928 664 F) in the vicinity of CSXT Milepost SP-695.36 within its Jacksonville Division, Tallahassee Subdivision in Lake City, Columbia County, Florida (the "**Project**").

2. Agency has obtained, or will obtain, all authorizations, permits and approvals from all local, state and federal agencies (including Agency), and their respective governing bodies and regulatory agencies, necessary to proceed with the Project and to appropriate all funds necessary to construct the Project.

3. Agency acknowledges that: (i) by entering into this Agreement, CSXT will provide services and accommodations to promote public interest in this Project, without profit or other economic inducement typical of other Agency contractors; (ii) neither CSXT nor its affiliates (including their respective directors, officers, employees or agents) will incur any costs, expenses, losses or liabilities in excess of payments made to CSXT, by or on behalf of Agency or its contractors, pursuant to this Agreement; and (iii) CSXT retains the paramount right to regulate all activities affecting its property and operations.

NOW, THEREFORE, in consideration of the foregoing Explanatory Statement and other good and valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the parties agree as follows:

1. Project Plans and Specifications

   1.1 Preparation and Approval. Pursuant to Exhibit A of this Agreement, all plans, specifications, drawings and other documents necessary or appropriate to the design and construction of the Project shall be prepared, at Agency's sole cost and expense, by Agency or CSXT or their respective contractors. Project plans, specifications and drawings prepared by or on behalf of Agency shall be subject, at CSXT's election, to the review and approval of CSXT. Such plans, specifications and drawings, as prepared or approved by CSXT, are referred to as the "**Plans**", and shall be incorporated and deemed a part of this Agreement. Plans prepared or submitted to and approved by CSXT as of the date of this Agreement are set forth in Exhibit B to this Agreement.

   1.2 Effect of CSXT Approval or Preparation of Plans. By its review, approval or preparation of Plans pursuant to this Agreement, CSXT signifies only that such Plans and improvements constructed in accordance with such Plans satisfy CSXT's requirements. CSXT expressly disclaims all other representations and warranties in connection with the Plans, including, but

not limited to, the integrity, suitability or fitness for the purposes of Agency or any other persons of the Plans or improvements constructed in accordance with the Plans.

1.3 Compliance with Plans. The Project shall be constructed in accordance with the Plans.

2. Allocation and Conduct of Work

Work in connection with the Project shall be allocated and conducted as follows:

2.1 CSXT Work. Subject to timely payment of Reimbursable Expenses as provided by Section 4, CSXT shall provide, or cause to be provided, the services as set forth by Exhibit A to this Agreement. Agency agrees that CSXT shall provide all services that CSXT deems necessary or appropriate (whether or not specified by Exhibit A) to preserve and maintain its property and operations, without impairment or exposure to liability of any kind and in compliance with all applicable federal, state and local regulations and CSXT's contractual obligations, including, but not limited to, CSXT's existing or proposed third party agreements and collective bargaining agreements.

2.2 Agency Work. Agency shall perform, or cause to be performed, all work as set forth by Exhibit A, at Agency's sole cost and expense.

2.3 Conduct of Work. CSXT shall commence its work under this Agreement following: (i) delivery to CSXT of a notice to proceed from Agency; (ii) payment of Reimbursable Expenses (as provided by Section 4.1) as required by CSXT prior to the commencement of work by CSXT; (iii) issuance of all permits, approvals and authorizations necessary or appropriate for such work; and (iv) delivery of proof of insurance acceptable to CSXT, as required by Section 9. The initiation of any services by CSXT pursuant to this Agreement, including, but not limited to, the issuance of purchase orders or bids for materials or services, shall constitute commencement of work for the purposes of this Section. The parties intend that all work by CSXT or on CSXT property shall conclude no later than **December 31, 2011**, unless the parties mutually agree to extend such date.

3. Special Provisions. Agency shall observe and abide by, and shall require its contractors ("**Contractors**") to observe and abide by the terms, conditions and provisions set forth in Exhibit C to this Agreement (the "Special Provisions"). To the extent that Agency performs Project work itself, Agency shall be deemed a Contractor for purposes of this Agreement. Agency further agrees that, prior to the commencement of Project work by any third party Contractor, such Contractor shall execute and deliver to CSXT Schedule I to this Agreement to acknowledge Contractor's agreement to observe and abide by the terms and conditions of this Agreement.

4. Cost of Project and Reimbursement Procedures

4.1 Reimbursable Expenses. Agency shall reimburse CSXT for all costs and expenses incurred by CSXT in connection with the Project, including, without limitation: (1) all out of pocket expenses, (2) travel and lodging expenses, (3) telephone, facsimile, and mailing expenses, (4) costs for equipment, tools, materials and supplies, (5) sums paid to CSXT's consultants and subcontractors, and (6) CSXT labor in connection with the Project, together with CSXT labor overhead percentages established by CSXT pursuant to applicable law (collectively, "**Reimbursable Expenses**"). Reimbursable Expenses shall also include expenses incurred by CSXT prior to the date of this Agreement to the extent identified by the Estimate provided pursuant to Section 4.2.

4.2 Estimate. CSXT has estimated the total Reimbursable Expenses for the Project as shown on Exhibit D (the "Estimate", as amended or revised). In the event CSXT anticipates that actual Reimbursable Expenses for the Project may exceed such Estimate, it shall provide Agency with the revised Estimate of the total Reimbursable Expenses, together with a revised Payment Schedule (as defined by Section 4.3.1), for Agency's approval and confirmation that sufficient funds have been appropriated to cover the total Reimbursable Expenses of such revised Estimate. CSXT may elect, by delivery of notice to Agency, to immediately cease all further work on the Project, unless and until Agency provides such approval and confirmation.

4.3 Payment Terms.

4.3.1 Agency shall pay CSXT for Reimbursable Expenses as set forth in the Payment Schedule as shown on Exhibit E (the "Payment Schedule", as revised pursuant to Section 4.2).

4.3.2 Following completion of the Project, CSXT shall submit to Agency a final invoice that reconciles the total Reimbursable Expenses incurred by CSXT against the total payments received from Agency. Agency shall pay to CSXT the amount by which Reimbursable Expenses exceed total payments as shown by the final invoice, within thirty (30) days following delivery of such invoice to Agency. In the event that the payments received by CSXT from Agency exceed the Reimbursable Expenses, CSXT shall remit such excess to Agency.

4.3.3 In the event that Agency fails to pay CSXT any sums due CSXT under this Agreement: (i) Agency shall pay CSXT interest at the lesser of 1.0% per month or the maximum rate of interest permitted by applicable law on the delinquent amount until paid in full; and (ii) CSXT may elect, by delivery of notice to Agency: (A) to immediately cease all further work on the Project, unless and until Agency pays the entire delinquent sum, together with accrued interest; and/or (B) to terminate this Agreement.

4.3.4 All invoices from CSXT shall be delivered to Agency in accordance with Section 16 of this Agreement. All payments by Agency to CSXT shall be made by certified check and mailed to the following address or such other address as designated by CSXT's notice to Agency:

CSX Transportation, Inc.
P. O. Box 116651
Atlanta. GA 30368-6651

4.4 Effect of Termination. Agency's obligation to pay to CSXT Reimbursable Expenses in accordance with Section 4 shall survive termination of this Agreement for any reason.

5. Appropriations Agency represents to CSXT that: (i) Agency has appropriated funds sufficient to reimburse CSXT for the Reimbursable Expenses encompassed by the Estimate attached as Exhibit D; (ii) Agency shall use its best efforts to obtain appropriations necessary to cover Reimbursable Expenses encompassed by subsequent Estimates approved by Agency; and (iii) Agency shall promptly notify CSXT in the event that Agency is unable to obtain such appropriations.

6. Easements and Licenses

6.1 Agency Obligation. Agency shall acquire all necessary licenses, permits and easements required for the Project.

6.2 Temporary Construction Licenses. Insofar as it has the right to do so, CSXT hereby grants Agency a nonexclusive license to access and cross CSXT's property, to the extent necessary for the construction of the Project (excluding ingress or egress over public grade crossings), along such routes and upon such terms as may be defined and imposed by CSXT and such temporary construction easements as may be designated on the Plans approved by CSXT.

6.3 Permanent Easements. Insofar as it has the right to do so, CSXT shall grant, without warranty to Agency, easements for the use and maintenance of the Project wholly or partly on CSXT property as shown on the Plans approved by CSXT, if any, on terms and conditions and at a price acceptable to the parties. Upon request by CSXT, Agency shall furnish to CSXT descriptions and plat plans for the easements.

7. Permits At its sole cost and expense, Agency shall procure all permits and approvals required by any federal, state, or local governments or governmental agencies for the construction, maintenance and use of the Project, copies of which shall be provided to CSXT.

8. Termination

8.1 By Agency. For any reason, Agency may, as its sole remedy, terminate this Agreement by delivery of notice to CSXT. Agency shall not be entitled to otherwise pursue claims for consequential, direct, indirect or incidental damages or lost profits as a consequence of CSXT's default or termination of this Agreement or Work on the Project by either party.

8.2 By CSXT. In addition to the other rights and remedies available to CSXT under this Agreement, CSXT may terminate this Agreement by delivery of notice to Agency in the event Agency or its Contractors fail to observe the terms or conditions of this Agreement and such failure continues more than ten (10) business days following delivery of notice of such failure by CSXT to Agency.

8.3 Consequences of Termination. If the Agreement is terminated by either party pursuant to this Section or any other provision of this Agreement, the parties understand that it may be impractical for them to immediately stop the Work. Accordingly, they agree that, in such instance a party may continue to perform Work until it has reached a point where it may reasonably and safely suspend the Work. Agency shall reimburse CSXT pursuant to this Agreement for the Work performed, plus all costs reasonably incurred by CSXT to discontinue the Work and protect the Work upon full suspension of the same, the cost of returning CSXT's property to its former condition, and all other costs of CSXT incurred as a result of the Project up to the time of full suspension of the Work. Termination of this Agreement or Work on the Project, for any reason, shall not diminish or reduce Agency's obligation to pay CSXT for Reimbursable Expenses incurred in accordance with this Agreement. In the event of the termination of this Agreement or the Work for any reason, CSXT's only remaining obligation to Agency shall be to refund to Agency payments made to CSXT in excess of Reimbursable Expenses in accordance with Section 4.

9. Insurance In addition to the insurance that Agency requires of its Contractor, Agency shall acquire or require its Contractor to purchase and maintain insurance in compliance with CSXT's insurance

requirements attached to this Agreement as Exhibit F. Neither Agency nor Contractor shall commence work on the Project until such policy or policies have been submitted to and approved by CSXT's Risk Management Department.

10. Ownership and Maintenance

10.1 By Agency. Agency shall own and, without cost to CSXT, maintain, repair, replace and renew, or cause same to be done, in good condition and repair to CSXT's satisfaction, the highway overpass structure, the roadway surfacing, the roadway slopes, the retaining walls, and the highway drainage facilities. In the event that Agency fails to properly maintain such structures and improvements and such failure, in the opinion of CSXT, jeopardizes the safe and efficient operation of its property, CSXT shall be entitled to remedy such failure and recover from Agency the costs incurred by CSXT in doing so. Upon the cessation of use of the Project by Agency, Agency shall remove the bridge structure and restore CSXT's property to its original condition, at Agency's sole cost and expense, to CSXT's satisfaction.

10.2 Alterations. Agency shall not undertake any alteration, modification or expansion of the Project, without the prior approval of CSXT, which may be withheld for any reason, and the execution of such agreements as CSXT may require.

11. Indemnification

11.1 Generally. To the maximum extent permitted by applicable law, Agency and its Contractors shall indemnify, defend, and hold CSXT and its affiliates harmless from and against all claims, demands, payments, suits, actions, judgments, settlements, and damages of every nature, degree, and kind (including direct, indirect, consequential, incidental, and punitive damages), for any injury to or death to any person(s) (including, but not limited to the employees of CSXT, its affiliates, Agency or its Contractors), for the loss of or damage to any property whatsoever (including but not limited to property owned by or in the care, custody, or control of CSXT, its affiliates, Agency or its Contractors, and environmental damages and any related remediation brought or recovered against CSXT and its affiliates), arising directly or indirectly from the negligence, recklessness or intentional wrongful misconduct of the Contractors, Agency, and their respective agents, employees, invitees, contractors, or its contractors' agents, employees or invitees in the performance of work in connection with the Project or activities incidental thereto, or from their presence on or about CSXT's property. The foregoing indemnification obligation shall not be limited to the insurance coverage required by this Agreement, except to the extent required by law or otherwise expressly provided by this Agreement.

11.2 Compliance with Laws. Agency shall comply, and shall require its Contractors to comply, with any federal, state, or local laws, statutes, codes, ordinances, rules, and regulations applicable to its construction and maintenance of the Project. Agency's Contractors shall indemnify, defend, and hold CSXT and its affiliates harmless with respect to any fines, penalties, liabilities, or other consequences arising from breaches of this Section.

11.3 "CSXT Affiliates". For the purpose of this Section 11, CSXT's affiliates include CSX Corporation and all entities, directly or indirectly, owned or controlled by or under common control of CSXT or CSX Corporation and their respective officers, directors, employees and agents.

11.4 Notice of Incidents. Agency and its Contractor shall notify CSXT promptly of any loss, damage, injury or death arising out of or in connection with the Project work.

11.5 Survival. The provisions of this Section 11 shall survive the termination or expiration of this Agreement.

12. Independent Contractor The parties agree that neither Agency nor its Contractors shall be deemed either agents or independent contractors of CSXT. Except as otherwise provided by this Agreement, CSXT shall exercise no control whatsoever over the employment, discharge, compensation of, or services rendered by Agency or Agency's Contractors, or the construction practices, procedures, and professional judgment employed by Agency or its Contractor to complete the Project. Notwithstanding the foregoing, this Section 12 shall in no way affect the absolute authority of CSXT to prohibit Agency or its Contractors or anyone from entering CSXT's property, or to require the removal of any person from its property, if it determines, in its sole discretion, that such person is not acting in a safe manner or that actual or potential hazards in, on or about the Project exist.

13. "Entire Agreement" This Agreement embodies the entire understanding of the parties, may not be waived or modified except in a writing signed by authorized representatives of both parties, and supersedes all prior or contemporaneous written or oral understandings, agreements or negotiations regarding its subject matter. In the event of any inconsistency between this Agreement and the Exhibits, the more specific terms of the Exhibits shall be deemed controlling.

14. Waiver If either party fails to enforce its respective rights under this Agreement, or fails to insist upon the performance of the other party's obligations hereunder, such failure shall not be construed as a permanent waiver of any rights or obligations in this Agreement.

15. Assignment CSXT may assign this Agreement and all rights and obligations herein to a successor in interest, parent company, affiliate, or future affiliate. Upon assignment of this Agreement by CSXT and the assumption of CSXT's assignee of CSXT's obligations under this Agreement, CSXT shall have no further obligation under this Agreement. Agency shall not assign its rights or obligations under this Agreement without CSXT's prior consent, which consent may be withheld for any reason.

16. Notices All notices, consents and approvals required or permitted by this Agreement shall be in writing and shall be deemed delivered upon personal delivery, upon the expiration of three (3) days following mailing by first class U.S. mail, or upon the next business day following mailing by a nationally recognized overnight carrier, to the parties at the addresses set forth below, or such other addresses as either party may designate by delivery of prior notice to the other party:

If to CSXT:	CSX Transportation, Inc. 500 Water Street, J-301 Jacksonville, Florida 32202 Attention: Principal Engineer – Public Projects Hal Gibson
If to Agency:	Columbia County Board of County Commissioners P.O. Box 1529 Lake City, FL 32056-1529 Attention: Dale Williams - County Manager

17. Severability The parties agree that if any part, term or provision of this Agreement is held to be illegal, unenforceable or in conflict with any applicable federal, state, or local law or regulation, such

part, term or provision shall be severable, with the remainder of the Agreement remaining valid and enforceable.

18. Applicable Law This Agreement shall be governed by the laws of the State of Florida, exclusive of its choice of law rules. The parties further agree that the venue of all legal and equitable proceedings related to disputes under this Agreement shall be situated in Duval County, Florida, and the parties agree to submit to the personal jurisdiction of any State or Federal court situated in Duval County, Florida.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in duplicate, each by its duly authorized officers, as of the date of this Agreement.

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS

By: _____
Ronald W. Williams
Chairman, Columbia County Board of County Commissioners

CSX TRANSPORTATION, INC.

By: _____
Charles E. Gullakson
Assistant Chief Engineer – Public Projects

EXHIBIT A
ALLOCATION OF WORK

Subject to Section 2.1, work to be performed in connection with the Project is allocated as follows:

A. Agency shall let by contract to its Contractors:

1. Construction of the new overhead bridge carrying Bascom Norris Drive over CSXT.
2. Detouring and maintenance of vehicular traffic.

B. CSXT shall perform or cause to be performed:

1. Flagging Services
2. Construction Monitoring Services
3. Signal Cable Markouts.

EXHIBIT B

PLANS AND SPECIFICATIONS

Plans, Specifications and Drawings:

As of the date of this Agreement, the following plans, specifications and drawings have been submitted by Agency to CSXT for its review and approval:

Columbia County Board of County Commissioners, Columbia County, Florida, NW Bascom Norris Drive –Final Plans dated January 4, 2010, Sheets B-1 to B-33, prepared by HDR Engineering, Inc.

NOTE: **In the event subsequent plan submissions are made by Agency to CSXT for review and approval, once approved, said plans shall be considered to be incorporated into this Exhibit B as of the date of CSXT's written approval.**

EXHIBIT C

CSXT SPECIAL PROVISIONS

DEFINITIONS:

As used in these Special Provisions, all capitalized terms shall have the meanings ascribed to them by the Agreement, and the following terms shall have the meanings ascribed to them below:

"CSXT" shall mean CSX Transportation, Inc., its successors and assigns.

"CSXT Representative" shall mean the authorized representative of CSX Transportation, Inc.

"Agreement" shall mean the Agreement to which this Exhibit C is made a part thereof and as may be amended from time to time.

"Agency" shall mean the COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS.

"Agency Representative" shall mean the authorized representative of COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS.

"Contractor" shall have the meaning ascribed to such term by the Agreement.

"Work" shall mean the Project as described in the Agreement.

I. AUTHORITY OF CSXT ENGINEER

The CSXT Representative shall have final authority in all matters affecting the safe maintenance of CSXT operations and CSXT property, and his or her approval shall be obtained by the Agency or its Contractor for methods of construction to avoid interference with CSXT operations and CSXT property and all other matters contemplated by the Agreement and these Special Provisions.

II. INTERFERENCE WITH CSXT OPERATIONS

A. Agency or its Contractor shall arrange and conduct its work so that there will be no interference with CSXT operations, including train, signal, telephone and telegraphic services, or damage to CSXT's property, or to poles, wires, and other facilities of tenants on CSXT's Property or right-of-way. Agency or its Contractor shall store materials so as to prevent trespassers from causing damage to trains, or CSXT Property. Whenever Work is likely to affect the operations or safety of trains, the method of doing such Work shall first be submitted to the CSXT Representative for approval, but such approval shall not relieve Agency or its Contractor from liability in connection with such Work.

B. If conditions arising from or in connection with the Project require that immediate and unusual provisions be made to protect train operation or CSXT's property, Agency or its Contractor shall make such provision. If the CSXT Representative determines that such provision is insufficient, CSXT may, at the expense of Agency or its Contractor, require or provide such provision as may be deemed necessary, or cause the Work to cease immediately.

III. NOTICE OF STARTING WORK. Agency or its Contractor shall not commence any work on CSXT Property or right-of-way until it has complied with the following conditions:

A. Notify CSXT in writing of the date that it intends to commence Work on the Project. Such notice must be received by CSXT at least ten business days in advance of the date Agency or its Contractor proposes to begin Work on CSXT property. The notice must refer to this Agreement by date. If flagging service is required, such notice shall be submitted at least thirty (30) business days in advance of the date scheduled to commence the Work.

B. Obtain authorization from the CSXT Representative to begin Work on CSXT property, such authorization to include an outline of specific conditions with which it must comply.

C. Obtain from CSXT the names, addresses and telephone numbers of CSXT's personnel who must receive notice under provisions in the Agreement. Where more than one individual is designated, the area of responsibility of each shall be specified.

IV. WORK FOR THE BENEFIT OF THE CONTRACTOR

A. No temporary or permanent changes to wire lines or other facilities (other than third party fiber optic cable transmission systems) on CSXT property that are considered necessary to the Work are anticipated or shown on the Plans. If any such changes are, or become, necessary in the opinion of CSXT or Agency, such changes will be covered by appropriate revisions to the Plans and by preparation of a force account estimate. Such force account estimate may be initiated by either CSXT or Agency, but must be approved by both CSXT and Agency. Agency or Contractor shall be responsible for arranging for the relocation of the third party fiber optic cable transmission systems, at no cost or expense to CSXT.

B. Should Agency or Contractor desire any changes in addition to the above, then it shall make separate arrangements with CSXT for such changes to be accomplished at the Agency or Contractor's expense.

V. HAUL ACROSS RAILROAD

A. If Agency or Contractor desires access across CSXT property or tracks at other than an existing and open public road crossing in or incident to construction of the Project, the Agency or Contractor must first obtain the permission of CSXT and shall execute a license agreement or right of entry satisfactory to CSXT, wherein Agency or Contractor agrees to bear all costs and liabilities related to such access.

B. Agency and Contractor shall not cross CSXT's property and tracks with vehicles or equipment of any kind or character, except at such crossing or crossings as may be permitted pursuant to this section.

VI. COOPERATION AND DELAYS

A. Agency or Contractor shall arrange a schedule with CSXT for accomplishing stage construction involving work by CSXT. In arranging its schedule, Agency or Contractor shall ascertain, from CSXT, the lead time required for assembling crews and materials and shall make due allowance therefor

B. Agency or Contractor may not charge any costs or submit any claims against CSXT for hindrance or delay caused by railroad traffic; work done by CSXT or other delay incident to or necessary for safe maintenance of railroad traffic; or for any delays due to compliance with these Special Provisions.

C. Agency and Contractor shall cooperate with others participating in the construction of the Project to the end that all work may be carried on to the best advantage.

D. Agency and Contractor understand and agree that CSXT does not assume any responsibility for work performed by others in connection with the Project. Agency and Contractor further understand and agree that they shall have no claim whatsoever against CSXT for any inconvenience, delay or additional cost incurred by Agency or Contractor on account of operations by others.

VII. STORAGE OF MATERIALS AND EQUIPMENT

Agency and Contractor shall not store their materials or equipment on CSXT's property or where they may potentially interfere with CSXT's operations, unless Agency or Contractor has received CSXT Representative's prior written permission. Agency and Contractor understand and agree that CSXT will not be liable for any damage to such materials and equipment from any cause and that CSXT may move, or require Agency or Contractor to move, such material and equipment at Agency's or Contractor's sole expense. To minimize the possibility of damage to the railroad tracks resulting from the unauthorized use of equipment, all grading or other construction equipment that is left parked near the tracks unattended by watchmen shall be immobilized to the extent feasible so that it cannot be moved by unauthorized persons.

VIII. CONSTRUCTION PROCEDURES

A. General

1. Construction work on CSXT property shall be subject to CSXT's inspection and approval.
2. Construction work on CSXT property shall be in accord with CSXT's written outline of specific conditions and with these Special Provisions.
3. Contractor shall observe the terms and rules of the CSXT Safe Way manual, which Agency and Contractor shall be required to obtain from CSXT, and in accord with any other instructions furnished by CSXT or CSXT's Representative.

B. Blasting

1. Agency or Contractor shall obtain CSXT Representative's and Agency Representative's prior written approval for use of explosives on or adjacent to CSXT property. If permission for use of explosives is granted, Agency or Contractor must comply with the following:

    a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of Agency or Contractor.

b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

c. No blasting shall be done without the presence of an authorized representative of CSXT. At least 30 days' advance notice to CSXT Representative is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.

d. Agency or Contractor must have at the Project site adequate equipment, labor and materials, and allow sufficient time, to (i) clean up (at Agency's expense) debris resulting from the blasting without any delay to trains; and (ii) correct (at Agency's expense) any track misalignment or other damage to CSXT's property resulting from the blasting, as directed by CSXT Representative, without delay to trains. If Agency's or Contractor's actions result in delay of any trains, including Amtrak passenger trains, Agency shall bear the entire cost thereof.

e. Agency and Contractor shall not store explosives on CSXT property.

2. CSXT Representative will:

a. Determine the approximate location of trains and advise Agency or Contractor of the approximate amount of time available for the blasting operation and clean-up.

b. Have the authority to order discontinuance of blasting if, in his or her opinion, blasting is too hazardous or is not in accord with these Special Provisions.

IX. MAINTENANCE OF DITCHES ADJACENT TO CSXT TRACKS

Agency or Contractor shall maintain all ditches and drainage structures free of silt or other obstructions that may result from their operations. Agency or Contractor shall provide erosion control measures during construction and use methods that accord with applicable state standard specifications for road and bridge construction, including either (1) silt fence; (2) hay or straw barrier; (3) berm or temporary ditches; (4) sediment basin; (5) aggregate checks; and (6) channel lining. All such maintenance and repair of damages due to Agency's or Contractor's operations shall be performed at Agency's expense.

X. FLAGGING / INSPECTION SERVICE

A. CSXT has sole authority to determine the need for flagging required to protect its operations and property. In general, flagging protection will be required whenever Agency or Contractor or their equipment are, or are likely to be, working within fifty (50) feet of live track or other track clearances specified by CSXT, or over tracks.

B. Agency shall reimburse CSXT directly for all costs of flagging that is required on account of construction within CSXT property shown in the Plans, or that is covered by an approved plan revision, supplemental agreement or change order.

C. Agency or Contractor shall give a minimum of 30 days' advance notice to CSXT Representative for anticipated need for flagging service. No work shall be undertaken until the flag person(s) is/are at the job site. If it is necessary for CSXT to advertise a flagging job for bid, it may take up to 90-days to obtain this service, and CSXT shall not be liable for the cost of delays attributable to obtaining such service.

D. CSXT shall have the right to assign an individual to the site of the Project to perform inspection service whenever, in the opinion of CSXT Representative, such inspection may be necessary. Agency shall reimburse CSXT for the costs incurred by CSXT for such inspection service. Inspection service shall not relieve Agency or Contractor from liability for its Work.

E. CSXT shall render invoices for, and Agency shall pay for, the actual pay rate of the flagpersons and inspectors used, plus standard additives, whether that amount is above or below the rate provided in the Estimate. If the rate of pay that is to be used for inspector or flagging service is changed before the work is started or during the progress of the work, whether by law or agreement between CSXT and its employees, or if the tax rates on labor are changed, bills will be rendered by CSXT and paid by Agency using the new rates. Agency and Contractor shall perform their operations that require flagging protection or inspection service in such a manner and sequence that the cost of such will be as economical as possible.

XI. UTILITY FACILITIES ON CSXT PROPERTY

Agency shall arrange, upon approval from CSXT, to have any utility facilities on or over CSXT Property changed as may be necessary to provide clearances for the proposed trackage.

XII. CLEAN-UP

Agency or Contractor, upon completion of the Project, shall remove from CSXT's Property any temporary grade crossings, any temporary erosion control measures used to control drainage, all machinery, equipment, surplus materials, falsework, rubbish, or temporary buildings belonging to Agency or Contractor. Agency or Contractor, upon completion of the Project, shall leave CSXT Property in neat condition, satisfactory to CSXT Representative.

XIII. FAILURE TO COMPLY

If Agency or Contractor violate or fail to comply with any of the requirements of these Special Provisions, (a) CSXT may require Agency and/or Contractor to vacate CSXT Property; and (b) CSXT may withhold monies due Agency and/or Contractor; (c) CSXT may require Agency to withhold monies due Contractor; and (d) CSXT may cure such failure and the Agency shall reimburse CSXT for the cost of curing such failure.

EXHIBIT D

INITIAL ESTIMATE
ATTACHED

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

ACCT. CODE : 709 - FL1312

ESTIMATE SUBJECT TO REVISION AFTER: 9/22/2010 **DOT NO.:** 928 664 F
CITY: Lake City **COUNTY:** Columbia **STATE:** FL
DESCRIPTION: Extension of Bascom Norris Drive including new overhead bridge over CSXT

DIVISION: Jacksonville **SUB-DIV:** Tallahassee **MILE POST:** SP-695.36
AGENCY PROJECT NUMBER:

PRELIMINARY ENGINEERING:			
200 Labor (Non Contract)			$ -
200 Additive	31.34%		$ -
230 Expenses			$ -
212 Contracted & Administrative Engineering Services			$ -
Subtotal			$ -
CONSTRUCTION ENGINEERING/INSPECTION:			
200 Labor (Non Contract)			$ 1,890
200 Additive	31.34%		$ 592
230 Expenses			$ 329
212 Contracted & Administrative Engineering Services			$ 35,700
Subtotal			$ 38,511
FLAGGING SERVICE: (Contract Labor)			
070 Labor (Conductor-Flagman)			$ -
050 Labor (Foreman/Inspector)			$ 60,480
070 Additive	71.09%	(Transportation Department)	$ -
050 Additive	100.72%	(Engineering Department)	$ 60,915
230 Per Diem	(Engineering Department)		$ 13,500
230 Expenses			$ -
Subtotal			$ 134,895
SIGNAL & COMMUNICATIONS WORK:		(Details Attached)	$ 3,064
TRACK WORK:			$ -
ACCOUNTING & BILLING:			
040 Labor			$ 2,300
040 Additive	63.03%		$ 1,450
Subtotal			$ 3,750
PROJECT SUBTOTAL			$ 180,221
900 **CONTINGENCIES:**	10.00%		$ 18,022
GRAND TOTAL **********			$ 198,243

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida
Estimated prepared by: AECOM
DATE: 3/26/2010 **REVISED:**
Form Revised 03-02-2010-LLS

ACCT. CODE : 709 - FL1312
Pub EB - FL EB3 (FL)

ESTIMATE SUBJECT TO REVISION AFTER: **9/22/2010** **DOT NO.:** 928 664 F
CITY: Lake City **COUNTY:** Columbia **STATE:** FL
DESCRIPTION: Extension of Bascom Norris Drive Including new overhead bridge over CSXT

DIVISION: Jacksonville **SUB-DIV:** Tallahassee **MILEPOST:** SP-695.36
DRAWING NO.: __ **DRAWING DATE:** __
AGENCY PROJECT NUMBER: __

	SIGNAL WORK:		
210	Material - Field & Consumables	$	-
210	Material - Sales Tax	$	-
220	Material - Shop	$	-
60	Construction Labor	$	1,500
65	Shop Labor	$	-
230	Per Diem	$	-
200	RR Engineering,Preliminary	$	-
200	RR Engineering,Construction	$	-
60	Additives to Construction Labor	$	1,364
65	Additives to Shop Labor	$	-
200	Additives to Engineering	$	-
241	Equipment Expense	$	200
241	Waste Management	$	-
212	Contract Engineering	$	-
211	Freight	$	-
216	AC Power Service	$	-
228	Salvage	$	-
900	Other	$	-
	Subtotal	$	3,064

ACCT. CODE : 709 - FL1312

Pub EB - FL EB3 (FL)

ESTIMATE SUBJECT TO REVISION AFTER: 9/22/10 **DOT NO.:** 928 664 F

CITY: Lake City **COUNTY:** Columbia **STATE:** FL

DESCRIPTION: Extension of Bascom Norris Drive including new overhead bridge over CSXT

DIVISION: Jacksonville **SUB-DIV:** Tallahassee **MILEPOST:** SP-695.36

DRAWING NO.: __ **DRAWING DATE:** __

AGENCY PROJECT NUMBER: __

Amount		
Task	Task Desc	Total
40	Labor General Office	$3,750
50	Labor Roadway	$121,395
60	Labor Signal	$2,864
65	Labor Signal1	
70	Labor Transportation	
200	Labor NonContract	$2,482
210	Invoice Material Material - Field & Consu	
211	Invoice Freight	
212	Invoice Contract Eng	$35,700
215	Invoice Misc	
216	Invoice Utilities	
220	Material New Material - Shop	
228	Scrap Credit	
230	ExpenseRpts	$13,829
241	Invoice Rental	$200
900	Other	
900	Contingencies	$18,022
	Material New	
Grand Total		$198,243

EXHIBIT E

PAYMENT SCHEDULE

Upon execution and delivery of the fully executed Construction Agreement, Agency will deposit with CSXT a sum equal to the Reimbursable Expenses, as shown by the Estimate. If CSXT anticipates that it may incur Reimbursable Expenses in excess of the deposited amount, CSXT will request an additional deposit equal to the then remaining Reimbursable Expenses which CSXT estimates that it will incur. CSXT shall request such additional deposit by delivery of invoices to Agency. Agency shall make such additional deposit within 30 days following delivery of such invoice to Agency.

EXHIBIT F

INSURANCE REQUIREMENTS

I. Insurance Policies:

Agency and Contractor, if and to the extent that either is performing work on or about CSXT's property, shall procure and maintain the following insurance policies:

1. Commercial General Liability coverage at their sole cost and expense with limits of not less than $5,000,000 in combined single limits for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.

2. Statutory Worker's Compensation and Employers Liability Insurance with limits of not less than $1,000,000, which insurance must contain a waiver of subrogation against CSXT and its affiliates.

3. Commercial automobile liability insurance with limits of not less than $500,000 combined single limit for bodily injury and/or property damage per occurrence, and such policies shall name CSXT as an additional named insured.

4. Railroad protective liability insurance with limits of not less than $5,000,000 combined single limit for bodily injury and/or property damage per occurrence and an aggregate annual limit of $10,000,000, which insurance shall satisfy the following additional requirements:

   a. The insurer must be financially stable and rated B+ or better in Best's Insurance Reports.

   b. The Railroad Protective Insurance Policy must be on the ISO/RIMA Form of Railroad Protective Insurance - Insurance Services Office (ISO) Form CG 00 35.

   c. CSX Transportation must be named as the named insured on the Railroad Protective Insurance Policy.

   d. Name and Address of Contractor and Agency must be shown on the Declarations page.

   e. Description of operations must appear on the Declarations page and must match the Project description, including project or contract identification numbers.

   f. Authorized endorsements must include the Pollution Exclusion Amendment - CG 28 31, unless using form CG 00 35 version 96 and later.

   g. Authorized endorsements may include:

      (i). Broad Form Nuclear Exclusion - IL 00 21
      (ii) 30-day Advance Notice of Non-renewal or cancellation
      (iii) Required State Cancellation Endorsement
      (iv) Quick Reference or Index - CL/IL 240

   h. Authorized endorsements may not include:

      (i) A Pollution Exclusion Endorsement except CG 28 31

(ii) A Punitive or Exemplary Damages Exclusion
(iii) A "Common Policy Conditions" Endorsement
(iv) Any endorsement that is not named in Section 4 (f) or (g) above.
(v) Policies that contain any type of deductible

5. Such additional or different insurance as CSXT may require.

II. Additional Terms

1. Contractor must submit its original insurance policies and two copies and all notices and correspondence regarding the insurance policies to:

Donna W. Melton
Manager – Insurance
CSX Transportation, Inc.
500 Water Street - C907
Jacksonville, FL 32202
Phone: 904-359-1247
Fax: 904-245-2833

2. Neither Company nor Contractor may begin work on the Project until it has received CSXT's written approval of the required insurance policies.

Project: Lake City, Columbia County, Florida – Proposed extension of Bascom Norris Drive including a new Overhead Bridge over CSXT, DOT # 928 664 F; Milepost SP-695.36, Jacksonville Division, Tallahassee Subdivision; OP # FL1312

SCHEDULE I

CONTRACTOR'S ACCEPTANCE

To and for the benefit of CSX Transportation, Inc. ("CSXT") and to induce CSXT to permit Contractor on or about CSXT's property for the purposes of performing work in accordance with the Agreement dated April 22, 2010, between COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS and CSXT, Contractor hereby agrees to abide by and perform all applicable terms of the Agreement, including, but not limited to Exhibits C and F to the Agreement, and Sections 3, 9 and 11 of the Agreement.

Contractor: _____

By: _____
Name: _____
Title: _____
Date: _____

Dale W. Ophardt
Assistant Vice President, Engineering
Engineering Department, J-350
500 Water Street, 11th Floor, J-350
Jacksonville, FL 32202

January 19, 2012

Mr. Dale Williams
County Manager
Columbia County
P.O. Box 1529
Lake City, FL 32056-1529

SUBJECT: Lake City, Columbia County, Florida – Extension of Bascom Norris Drive including a new Overhead Bridge over CSXT, DOT # 928 664 F; Milepost SP-695.36, Jacksonville Division, Tallahassee Subdivision; OP # FL1312
Extension of Construction Agreement Completion Date

Dear Mr. Williams:

Reference is made to the fully executed Construction Agreement between the Columbia County Board of County Commissioners and CSXT for the subject project. The original agreement is dated April 22, 2010 and includes an expiration date of December 31, 2011 under Section 2.3. Reference is also made to the October 10, 2011 correspondence from the Columbia County consultant, HDR Engineering, requesting the Construction Agreement completion date of December 31, 2011 be extended to June 1, 2013 due to the time it has taken Columbia County to secure the needed right of way for this project.

CSXT is agreeable to extending the expiration date of the aforementioned agreement to June 1, 2013 with the understanding that all other terms and conditions set forth in the original agreement shall remain in full force and effect. As such, the County should consider this letter as CSXT's acceptance of an extension effective as of December 31, 2011 and for a period up to June 1, 2013.

In the event the work remains incomplete as of this extended date, a supplemental request for an additional extension may be submitted. It should be noted, however, that should the actual work period be longer than originally intended, there is a possibility of additional costs being incurred by CSXT in which case the County shall remain responsible for reimbursement to CSXT for its incurred costs in accordance with Section 4.3 of the agreement.

Please do not hesitate to contact AECOM at (215) 965-2220 with any questions regarding the above matters.

Very truly yours,

Dale W. Ophardt
Assistant Vice President, Engineering

cc: Mr. Stephen C. Wilson, P.E.
Vice President
HDR Engineering, Inc.
200 W. Forsyth St.
Suite 800
Jacksonville, FL 32202-4321

APPENDIX

CSX Transportation

CONSTRUCTION SUBMISSION CRITERIA

Public Projects Group
Jacksonville, FL
Date Issued: May 8, 2009

TABLE OF CONTENTS

INTRODUCTION

The information in this document is intended to improve communication and clarify the CSXT criteria related to construction submissions that may involve CSXT property. All work must be performed in a manner as to not adversely impact existing CSXT operations. Please note that there are other standards associated with construction that must be adhered to including but not limited to the CSXT Special Provisions, CSXT Insurance Requirements as well as governing local, county, state and federal requirements. This document and other CSXT standards are subject to change without notice, and future revisions will be available at the CSXT website www.csx.com.

I. DEFINITIONS

Agency – The project sponsor.

AREMA – American Railway Engineering and Maintenance Association – the North American railroad industry standards group.

Construction Submission – The Agency or its representative shall submit six (6) sets of plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.

Controlled Demolition – Removal of the existing structure or subcomponents in a manner that prevents any portions from falling onto CSXT employees, equipment or property. The proposed procedures shall be detailed in the means and methods submission for CSXT review and acceptance.

Contractor – The Agency's or CSXT's representative retained to perform the project work.

Engineer – CSXT Engineering Representative or a GEC authorized to act on the behalf of CSXT.

GEC – General Engineering Consultant who has been authorized to act on the behalf of CSXT.

Professional Engineer – An engineer who is licensed in state or commonwealth (if required by the Agency) in which the project is to occur. The drawings and calculations shall be prepared by the Professional Engineer and shall bear his seal and signature.

Submission Review Period - **a minimum of 30 days in advance of start of work.** Up to 30 days will be required for the initial review response. Up to an additional 30 days may be required to review any/all subsequent submissions or resubmission.

Theoretical Railroad Live Load Influence Zone – A 1½ horizontal to 1 vertical theoretical slope line starting 1'-6" below top of rail elevation and 12'-0" from the centerline of the nearest track.

II. DEMOLITION PROCEDURE

The Agency or its contractor shall submit, as defined above, a detailed procedure for demolition of the structure over railroad tracks.

A. The Agency or its Contractor shall submit the detailed procedure for demolition of existing structures over or adjacent to CSXT's tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with loading or disposal locations shown, with all dimensions referenced from the center line of the near track, including beam placement on ground or truck loading staging plan. The plan shall also include the location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions. No crane or equipment may be set on the CSXT rails or track structure and no material may be dropped on CSXT property.

B. Also included with this submittal the following information:

1. Computations showing weight of picks must be submitted. Computations shall be made from field verified plans of the existing structure beams being removed and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.

2. If the sponsor can prove to CSXT that plans do not exist and weights must be calculated from field measurements, the field measurements are to be made under the supervision of the Professional Engineer submitting the procedure and shall include sketches and estimated weight calculations with the procedure. If possible, field measurements shall be taken with a CSXT representative present.

3. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have been "built in" to the crane charts are not to be considered when determining the 150% Factor of Safety.

4. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.

5. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.

6. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e., torch/saw cutting various portions of the superstructure or substructure, dismantling splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.

7. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.

8. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track. The guardrail will be installed by CSXT forces at the expense of the Agency or its contractor.

9. Existing, obsolete, bridge piers shall be removed to a minimum of 3'-0" below the finished grade, final ditch line invert, or as directed by the Engineer.

10. A minimum quantity of 25 tons of CSXT approved track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.

11. CSXT's tracks, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab.

NOTE: On-track or ground level debris shields such as crane mats are prohibited for use by CSXT.

C. Overhead Demolition Debris Shield - Shall be installed prior to the demolition of the bridge deck or other relevant portions of the superstructure.

1. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris.

2. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Controlled Demolition procedure submission.

3. The demolition debris shield shall provide 23'-0" minimum vertical clearance or maintain the existing vertical clearance if the existing clearance is less than 23'-0" as approved by CSXT. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.

4. The vertical clearance ATR (above top of rail) is measured from the top of rail to the lowest point on the overhead shielding system measured within a distance of 6'-0" out from each side of the track centerline.

5. The demolition debris shield design and supporting calculations, all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.

6. The demolition debris shield shall have a **minimum** design load of 50 pounds per square foot **plus** the weight of the equipment, debris, personnel, and other loads to be carried.

7. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.

8. The contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.

D. Vertical Demolition Debris Shield – This type of shield may be required for substructure removals in close proximity to CSXT track and other facilities, as determined by the Engineer.

1. Prior to commencing the demolition activity, the Contractor shall install a ballast protection system consisting of geotextile to keep the railroad ballast from becoming fouled with construction or demolition debris and fines. The geotextile ballast protection system shall be installed and maintained by the Contractor for the project duration in accordance with the attached plan, or with additional measures as directed by the Engineer.

2. The Agency, or its Contractor, shall submit detailed plans, with detailed calculations, prepared and submitted by a Professional Engineer of the protection shield and ballast protection systems for approval prior to the start of demolition.

3. Blasting will not be permitted to demolish a structure over or within CSXT's right-of-way.

E. The Controlled Demolition procedure must be approved by the Engineer prior to undertaking work on the project.

F. The Contractor shall provide timely communication to the Engineer when scheduling the demolition-related work so that the Engineer may be present during the entire demolition procedure.

G. At any time during demolition activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

III. ERECTION PROCEDURE

The Agency or its Contractor shall submit a detailed procedure for performing erection on/about CSXT property, as defined above.

A. The Agency or its Contractor shall submit six (6) copies of the detailed procedure for erection of the proposed structures over or adjacent to CSXT's tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with staging locations shown, including beam placement on ground or truck unloading staging plan. Plan should also include the location of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions. No crane or equipment may be set on the CSXT rails or track structure.

B. Also included with this submittal the following information:

1. As-built Bridge Seat Elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Engineer for review and verification at least 30 days in advance of construction or erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.

2. Computations showing weight of picks must be submitted. Computations shall be made from plans of the structure beams being erected, and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.

3. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have been "built in" to the crane charts are not to be considered when determining the 150% Factor of Safety.

4. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.

5. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.

6. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical sub tasks (i.e., performing aerial splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.

7. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.

8. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track.

C. The proposed Erection procedure must be approved by the Engineer prior to undertaking work on the project.

D. The Contractor shall provide timely communication to the Engineer when scheduling the erection-related work so that the Engineer may be present during the entire erection procedure.

E. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

IV. EXCAVATION AND SHORING

The Agency or its contractor shall submit, as defined above, a detailed procedure for the installing sheeting/shoring adjacent to Railroad Tracks.

A. Shoring protection shall be provided when excavating adjacent to an active track or railroad facility or as determined by CSXT. Shoring will be provided in accordance with AREMA *Manual for Railway Engineering,* Chapter 8, Part 28, except as noted below.

B. Shoring may not be required if all of the following conditions are satisfied:

1. Excavation does not encroach upon a 1½ horizontal: 1 vertical theoretical slope line starting 1'-6" below top of rail and at 12'-0" minimum from centerline of the track (live load influence zone).

2. Track is on level ground or in a cut section and on stable soil.

3. Excavation does not adversely impact the stability of a CSXT facility (i.e., signal bungalow, drainage facility, undergrade bridge, building, etc.).

4. Shoring is not required by any governing construction code.

C. When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.

D. Trench boxes are prohibited for use on CSXT within the theoretical railroad live load influence zone.

E. The required protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with open sides away from the track may be used. Cofferdams shall be constructed using steel sheet piling, or when approved by the Engineer, steel soldier piles with timber lagging. Wales and struts shall be provided and designed as needed. The following shall be considered when designing cofferdams:

1. Shoring shall be designed to resist a vertical live load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'-6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in AREMA *Manual for Railway Engineering,* Chapter 8, Part 20.

2. Allowable stresses in materials shall be in accordance with AREMA *Manual for Railway Engineering,* Chapter 7, 8, and 15.

3. A construction procedure for temporary shoring shall be shown on the drawing.

4. All shoring systems on or adjacent to CSXT right-of-way shall be equipped with railings or other approved fall protection.

5. A minimum horizontal clearance of 10'-0" from centerline of the track to face of nearest point of shoring shall be maintained, provided a 12'-0" roadbed is maintained with a temporary walkway and handrail system.

F. The contractor shall submit the following drawings and calculations (all shall be signed/sealed by a Professional Engineer) for CSXT's review and approval.

1. Six (6) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.

2. Six (6) sets of calculations of the shoring design.

   The drawings and calculations shall be prepared by a Licensed Professional Engineer in the state (if required by the Agency) where the shoring is to be constructed and shall bear his seal and signature. Shoring plans shall be approved by CSXT's construction engineering and inspection representative.

3. For sheeting and shoring within 18'-0" of the centerline of the track, the live load influence zone, and in slopes, the contractor shall use interlocked steel sheeting (sheet pile).

4. Sheet pile installed in slopes or within 18'-0" of the centerline of track shall not be removed.

5. Sheet piles shall be cut off a minimum of 3'-0" below the finished grade, ditch line invert, or as directed by the **Engineer.** The ground shall be backfilled and compacted immediately after sheet pile is cut off.

6. A procedure for cutting off the sheet pile and restoring the embankment shall be submitted to the Engineer for review and acceptance.

G. Blasting is not permitted on or adjacent to CSXT right-of-way without prior written approval from the **Engineer.** Mechanical and chemical means of rock removal must be explored before blasting is considered. If written permission for the use of explosives is granted, the Agency or Contractor must comply with all of the following:

1. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Agency or Contractor.

2. Electronic detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

3. No blasting shall be done without the presence of an authorized representative of CSXT. Advance notice to the Engineer as required by the CSXT Special Provisions is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.

4. Agency or Contractor must have at the project site adequate equipment, labor and materials, and allow sufficient time, to clean up debris resulting from the blasting and correct any misalignment of tracks or other damage to CSXT property resulting from the blasting. Any corrective measures required must be performed as directed by the Engineer at the Agency's or Contractor's expense without any delay to trains. If Agency's or Contractor's actions result in the delay of any trains including passenger trains, the Agency or Contractor shall bear the entire cost thereof.

5. The Agency or Contractor may not store explosives on CSXT property.

6. At any time during blasting activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances that may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

V. TRACK MONITORING

The Agency or its Contractor shall submit, for CSXT review and approval, a detailed track monitoring program to detect both horizontal and vertical movement of the CSXT track and roadbed, a minimum of 30 days in advance of start of work.

A. For the installation of temporary or permanent shoring systems, including but not limited to soldier piles and lagging, and interlocked steel sheeting on or adjacent to CSXT's right-of-way, the contractor may be required to submit a detailed track monitoring program for CSXT's approval prior to performing any work near CSXT's right-of-way.

B. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. CSXT reserves to the right to modify the survey locations and monitoring frequency as necessary during the project.

C. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.

D. If any movement has occurred as determined by the Engineer, CSXT will be immediately notified. CSXT, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSXT or performed by CSXT including the monitoring of corrective action of the contractor will be at project expense.

CSX TRANSPORTATION, INC.

500 Water Street
Jacksonville, FL 32202
www.csx.com

SUWANNEE RIVER WATER MANAGEMENT DISTRICT

February 10, 2010

Dale Williams
Columbia County Board of Commissioners
PO Box 1529
Lake City, FL 32056

Subject: Environmental Resource Permit Application Number 98-0457M7, Bascom Norris Drive from US 90 to CR 250, Columbia County

Dear Mr. Williams:

Enclosed is your permit for the above referenced project. Please pay close attention to the conditions of your permit.

Substantially affected persons are entitled to request an administrative hearing pursuant to ss.120.57 (1), Florida Statutes (F.S.), and Chapter 28, Florida Administrative Code, if they object to the Suwannee River Water Management District's (District) actions. Failure to request a hearing within 21 days will constitute a waiver of your right to request such a hearing. In addition, the District will presume that permittee waives Chapter 120, F.S., rights to object or appeal the action upon commencement of construction authorized by the permit. This permit does not alleviate you from having to obtain all other clearances, permits, or authorizations required by any unit of local, state, or federal government.

If you wish, we will visit with you on site to discuss the terms of the permit, review existing pre-construction conditions, and answer any questions you may have prior to beginning work. To schedule a pre-construction meeting, please contact me.

If you have any questions regarding this, please call me at 386.362.1001.

Sincerely,

Jon Dinges, P.E.
Director, Resource Management

JD/rl
Enclosures
cc: HDR Engineering, Inc.
Certified Mail Receipt #: 7009 0820 0000 0505 5034

SUWANNEE
RIVER
WATER
MANAGEMENT
DISTRICT

9225 CR 49
LIVE OAK, FLORIDA 32060
TELEPHONE: (386) 362-1001
TELEPHONE: 800-226-1066
FAX (386) 362-1056

INDIVIDUAL PERMIT

PERMITTEE:
COLUMBIA COUNTY BOARD OF COMMISSIONERS
POST OFFICE BOX 1529
LAKE CITY, FL 32056

PERMIT NUMBER: ERP98-0459M7
DATE ISSUED: 02/09/2010
DATE EXPIRES: 02/09/2015
COUNTY: COLUMBIA
TRS: S25/T3S/R16E, S35/T3S/R16E, S36/T3S/R16E

PROJECT: BASCOM NORRIS DRIVE FROM US 90 TO SOUTH CR 250

Approved entity to whom operation and maintenance may be transferred pursuant to rule 40B-4.1130, Florida Administrative Code (F.A.C.):

DALE WILLIAMS
COLUMBIA COUNTY BOARD OF COMMISSIONERS
POST OFFICE BOX 969
LAKE CITY, FL 32056

Based on information provided, the Suwannee River Water Management District's (District) rules have been adhered to and an environmental resource individual permit is in effect for the permitted activity description below:

Previous permit issued for 45.60 acres of impervious surface on 183.30 acres. Modification consists of construction and operation of a surfacewater management system serving a total of 53.56 acres of impervious surface on a total project area of 269.03 acres in a manner consistent with the application package submitted by HDR Engineering Inc., certified on December 21, 2009. A total of 2.88 acres of primary and 0.96 acres of secondary wetland impacts have been approved. Mitigation preservation using a conservation easement to the District of 92.7 acres as described in the November 16, 2009 submittal is required.

It is your responsibility to ensure that adverse off-site impacts do not occur either during or after construction. Any additional construction or alterations not authorized by this permit may result in flood control or water quality problems both on and off site and will be a violation of District rule.

You or any other substantially affected persons are entitled to request an administrative hearing or mediation. Please refer to enclosed notice of rights.

This permit is issued under the provisions of chapter 373, F.S., chapter 40B-4, and chapter 40B-400, F.A.C. A general permit authorizes the construction, operation, maintenance, alteration, abandonment, or removal of certain minor surface water management systems. This permit authorizes the permittee to perform the work necessary to construct, operate, and maintain the surface water management system shown on the application and other documents included in the application. This is to notify you of District's agency action concerning Notice Of Intent. This action is taken pursuant to rule 40B-4 and 40B-400, F.A.C.

Standard Conditions for All Individual Permits:

1. The permittee shall perform all construction authorized in a manner so as to minimize adverse impacts to fish, wildlife, natural environmental values, and water quality. The permittee shall institute necessary measures during construction including riprap, reinforcement, or compaction of any fill materials placed around newly installed structures, to minimize erosion, turbidity, nutrient loading, and sedimentation in the receiving waters.

2. Water quality data representative of the water discharged from the permitted system, including, but not limited to, the parameters in chapter 62-302, F.A.C., shall be submitted to the District as required. If water quality data are required, the permittee shall provide data as required on the volume and rate of discharge including the total volume discharged during the sampling period. All water quality data shall be in accordance with and reference the specific method of analysis in "Standard Methods for the Examination of Water and Wastewater" by the American Public Health Association or "Methods for Chemical Analysis of Water and Wastes" by the U.S. Environmental Protection Agency.

3. The operational and maintenance phase of an environmental resource permit will not become effective until the owner or his authorized agent certifies that all facilities have been constructed in accordance with the design permitted by the District. If required by the District, such as-built certification shall be made by an engineer or surveyor. Within 30 days after the completion of construction of the system, the permittee shall notify the District that the facilities are complete. If appropriate, the permittee shall request transfer of the permit to the responsible entity approved by the District for operation and maintenance. The District may inspect the system and, as necessary, require remedial measures as a condition of transfer of the permit or release for operation and

maintenance of the system.

4. Off-site discharges during and after construction shall be made only through the facilities authorized by the permit. Water discharged from the project shall be through structures suitable for regulating upstream stage if so required by the District. Such discharges may be subject to operating schedules established by the District.

5. The permit does not convey to the permittee any property right nor any rights or privileges other than those specified in the permit and chapter 40B-1, F.A.C.

6. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, operation, maintenance, alteration, abandonment, or development in a Works of the District which is authorized by the permit.

7. The permit is issued based on the information submitted by the applicant which reasonably demonstrates that adverse off-site water resource impacts will not be caused by the permitted activity. It is the responsibility of the permittee to insure that such adverse impacts do not in fact occur either during or after construction.

8. It is the responsibility of the permittee to obtain all other clearances, permits, or authorizations required by any unit of local, state, or federal government.

9. The surfacewater management system shall be constructed prior to or concurrent with the development that the system is intended to serve and the system shall be completed within 30 days of substantial completion of the development which the system is intended to serve.

10. Except for General Permits After Notice or permits issued to a unit of government, or unless a different schedule is specified in the permit, the system shall be inspected at least once every third year after transfer of a permit to operation and maintenance by the permittee or his agent to ascertain that the system is being operated and maintained in a manner consistent with the permit. A report of inspection is to be sent to the District within 30 days of the inspection date. If required by chapter 471, F.S., such inspection and report shall be made by an engineer.

11. The permittee shall allow reasonable access to District personnel or agents for the purpose of inspecting the system to insure compliance with the permit. The permittee shall allow the District, at its expense, to install equipment or devices to monitor performance of the system authorized by their permit.

12. The surfacewater management system shall be operated and maintained in a manner which is consistent with the conditions of the permit and chapter 40B-4.2040, F.A.C.

13. The permittee is responsible for the perpetual operation and maintenance of the system unless the operation and maintenance is transferred pursuant to chapter 40B-4.1130, F.A.C., or the permit is modified to authorize a new operation and maintenance entity pursuant to chapter 40B-4.1110, F.A.C.

14. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.

15. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

16. Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

17. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in the Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site-specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

18. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has temporarily or permanently ceased.

19. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District a Construction Commencement Notice Form No. 40B-1.901(14) indicating the actual start date and the expected completion date.

20. When the duration of construction will exceed one year, the permittee shall submit construction

status reports to the District on an annual basis utilizing an Annual Status Report Form No. 40B-1.901(15). These forms shall be submitted during June of each following year.

21. For those systems which will be operated or maintained by an entity requiring an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by Paragraph 40B-4.2030(2)(g), F.A.C., and Rule 40B-4.2035, F.A.C., must be submitted to the District for approval. Documents meeting the requirements set forth in these subsections of District rules will be approved. Deed restrictions, easements and other operation and maintenance documents which require recordation either with the Secretary of State or Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

22. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government or other responsible entity.

23. Within 30 days after completion of construction of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, using the supplied As-Built Certification Form No. 40B-1.901(16) incorporated by reference in Subsection 40B-1.901(16), F.A.C. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District. Submittal of the completed form shall serve to notify the District that the system is ready for inspection. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at

a minimum, shall be verified on the as-built drawings:

a. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;

b. Locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

c. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;

d. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;

e. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;

f. Existing water elevation(s) and the date determined; and

g. Elevation and location of benchmark(s) for the survey.

24. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of the condition in paragraph 23 above, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District in accordance with Rule 40B-4.2035, F.A.C., accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the approved responsible operation and maintenance operating entity if different from the permittee. Until the permit is transferred pursuant to Rule 40B-4.1130, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

25. Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the changes prior to implementation so that a determination can be made whether a permit modification is required.

26. This permit does not eliminate the necessity to obtain any required federal, state, local and special District authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real

property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and in this chapter and Chapter 40B-4, F.A.C.

27. The permittee is hereby advised that Section 253.77, F.S., states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

28. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under 40B-400.046, F.A.C., provides otherwise.

29. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rule 40B-4.1130, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.

30. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District.

31. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

Special limiting conditions made part of this permit are as follows:

32. Applicant shall submit evidence of the recording of the conservation easement with the Columbia County Property Appraiser's office to the District within 90 days after this permit is issued.

WITHIN 30 DAYS AFTER COMPLETION OF THE PROJECT, THE PERMITTEE SHALL NOTIFY THE DISTRICT, IN WRITING, THAT THE FACILITIES ARE COMPLETE.

Approved by _____ Date Approved 2/9/10
District Staff

_____ _____
Clerk Executive Director

WATER MANAGEMENT DISTRICT

NOTICE OF RIGHTS

1. A person whose substantial interests are or may be determined has the right to request an administrative hearing by filing a written petition with the Suwannee River Water Management District (District), or may choose to pursue mediation as an alternative remedy under Section 120.569 and 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth in Sections 120.569 and 120.57 Florida Statutes. Pursuant to Rule 28-106.111, Florida Administrative Code, the petition must be filed at the office of the District Clerk at District Headquarters, 9225 C.R. 49, Live Oak, Florida 32060 within twenty-one (21) days of receipt of written notice of the decision or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail actual notice). A petition must comply with Chapter 28-106, Florida Administrative Code.

2. If the Governing Board takes action which substantially differs from the notice of District decision to grant or deny the permit application, a person whose substantial interests are or may be determined has the right to request an administrative hearing or may chose to pursue mediation as an alternative remedy as described above. Pursuant to Rule 28-106.111, Florida Administrative Code, the petition must be filed at the office of the District Clerk at District Headquarters, 9225 C.R. 49, Live Oak, Florida 32060 within twenty-one (21) days of receipt of written notice of the decision or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail actual notice). Such a petition must comply with Chapter 28-106, Florida Administrative Code.

3. A substantially interested person has the right to a formal administrative hearing pursuant to Section 120.569 and 120.57(1), Florida Statutes, where there is a dispute between the District and the party regarding an issue of material fact. A petition for formal hearing must comply with the requirements set forth in Rule 28-106.201, Florida Administrative Code.

4. A substantially interested person has the right to an informal hearing pursuant to Section 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

5. A petition for an administrative hearing is deemed filed upon receipt of the petition by the Office of the District Clerk at the District Headquarters in Live Oak, Florida.

6. Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing pursuant to Rule 28-106.111, Florida Administrative Code.

7. The right to an administrative hearing and the relevant procedures to be followed is governed by Chapter 120, Florida Statutes, and Chapter 28-106, Florida Administrative Code.

8. Pursuant to Section 120.68, Florida Statutes, a person who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to the Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.

9. A party to the proceeding before the District who claims that a District order is inconsistent with the provisions and purposes of Chapter 373, Florida Statutes, may seek review of the order pursuant to Section 373.114, Florida Statutes, by the Florida Land and Water Adjudicatory Commission, by filing a request for review with the Commission and serving a copy of the Department of Environmental Protection and any person named in the order within 20 days of adoption of a rule or the rendering of the District order.

10. For appeals to the District Courts of Appeal, a District action is considered rendered after it is signed on behalf of the District, and is filed by the District Clerk.

11. Failure to observe the relevant time frames for filing a petition for judicial review, or for Commission review, will result in waiver of the right to review.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Notice of Rights has been sent by U.S. Mail to:

COLUMBIA COUNTY BOARD OF COMMISSIONERS
POST OFFICE BOX 1529
LAKE CITY, FL 32056

At 4:00 p.m. this 11 day of Feb, 2010.

Jon M. Dinges
Deputy Clerk
Suwannee River Water Management District
9225 C.R. 49
Live Oak, Florida 32060

386.362.1001 or 800.226.1066 (Florida only)

cc: File Number: ERP98-0459M7

SECTION C

AS-BUILT CERTIFICATION
(TO BE COMPLETED BY A PROFESSIONAL ENGINEER)

I hereby certify that all components of the surfacewater management system authorized under permit number _____, issued _____, for _____ in _____ County have been built in substantial conformance with the permitted plans and design.

It is further stated that the permittee has been furnished with instructions as to how the system is to be operated and maintained.

_____
Signature of Engineer

_____
Name and Florida Registration Number (Please print or type)

_____
Date Certification Made

_____
Company Name

_____
Mailing Address

_____
City, State, Zip Code

_____
Phone Number

Project visited for final (As-built) inspection on: _____

Minor Field Changes: _____

_____

_____

_____

[AFFIX SEAL]

Revised 2/8/00

POND BORING LOGS

Boring Number	Approximate Station Number	Approximate Offset from Centerline of Proposed Alignment
B-B-1	126+30	100 feet west
B-B-8	128+80	100 feet west
B-B-2	130+50	140 feet west
B-B-9	133+50	200 feet west
B-B-3	134+10	200 feet west

Table 2a – Boring Locations in 6.5 Acre Southern Borrow Area

Boring Number	Approximate Station Number	Approximate Offset from Centerline of Proposed Alignment
B-B-4	137+80	170 feet west
B-B-10	140+00	250 feet west
B-B-5	141+20	150 feet west
B-B-6	142+20	400 feet west
B-B-11	144+00	100 feet west
B-B-7	146+30	150 feet west

Table 2b – Boring Locations in 9.2 Acre Southern Borrow Area

Boring Number	Approximate Station Number	Approximate Offset from Centerline of Proposed Alignment
B-B-12	183+00	700 feet south
B-B-13	182+80	450 feet south
B-B-14	182+60	250 feet south
B-B-15	180+00	250 feet south
B-B-16	174+50	250 feet south
B-B-17	179+00	650 feet south
B-B-18	175+50	450 feet south
B-B-19	177+50	300 feet south
B-B-20	178+00	200 feet south
B-B-21	177+50	150 feet south

Table 2c – Boring Locations in 10.9 Acre Northern Borrow Area

6.0 LABORATORY SOIL TESTS

Certain soil specimens were selected for laboratory soil index testing. The results of these tests are presented on the appended **Tables 6** and **7.** Laboratory tests were performed in accordance with ASTM methods.

7.0 SUBSURFACE FINDINGS

Detailed findings and descriptions are presented in the appended **Records of Test Borings** and summarized in **Tables 3a, 3b and 3c**. The soil stratification lines represent the approximate boundaries between soil types, and may not depict exact subsurface soil conditions. The actual transition between soil types may be more gradual than those depicted.

Boring	Soil Description and Depth Ranges	AASHTO Classification	Depth Limits of Dense/Very Stiff Soils
B-B-1	Loose to dense, **slightly clayey sand** from 0 to 13' Dense, **sand** from 13' to 18' Loose to medium, **clayey sand** from 18' to 25'	A-2-4 A-3 A-2-4	4 to 15 feet bls
B-B-8	Loose to medium, **sand** from 0 to 8' Medium, **clayey sand** from 8' to 13' Very stiff to stiff, **clay** from 13' to 25'	A-3 A-2-4 A-7-6	6 to 10 feet bls
B-B-2	Loose to dense, **sand** from 0 to 5' Very dense, **clayey sand** from 5' to 8' Medium to dense, **clayey sand** from 8' to 18' Stiff, **clay** from 18' to 23' Medium, **sand** from 23' to 25'	A-3 A-2-4 A-2-6 A-7-6 A-3	4 to 11 feet bls
B-B-9	Very loose to medium, **sand** from 0 to 6' Dense, **slightly clayey sand** from 6' to 13' Very stiff to stiff, **clay** from 13' to 25'	A-3 A-2-4 A-7-6	5 to 13 feet bls
B-B-3	Very loose to medium, **sand** from 0 to 5' Medium, **clayey sand** from 5' to 8' Very stiff, **clay** from 8' to 13' Medium, **clayey sand** from 13' to 25'	A-3 A-2-4 A-7-6 A-2-4	Not encountered

Table 3a – Soil Descriptions in 6.5 Acre Southern Borrow Area

Boring	Soil Description and Depth Ranges	AASHTO Classification	Depth Limits of Dense/Very Stiff Soils
B-B-4	Very loose to dense, **sand** from 0 to 5' Very dense, **clayey sand** from 5' to 13' Very dense, **sand** from 13' to 23' Very stiff, **clay** from 23' to 25'	A-3 A-2-4 A-3 A-7-6	4 to 20 feet bls
B-B-10	Very loose to loose, **slightly clayey sand** from 0 to 4' Stiff to very stiff, **clay** from 4' to 13' Very stiff to stiff, **clayey sand** from 13' to 25'	A-2-4 A-7-6 A-2-4	6 to 13 feet bls
B-B-5	Very loose to medium, **slightly clayey sand** from 0 to 5' Dense to medium, **clayey sand** from 5' to 18' Stiff, **sandy clay** from 18' to 23' Medium, **clayey sand** from 23' to 25'	A-2-4 A-2-4 A-7-6 A-2-4	5 to 11 feet bls
B-B-6	Very loose to medium, **slightly clayey sand** from 0 to 5' Medium, **clayey sand** from 5' to 8' Stiff, **clay** from 8' to 19' Medium, **slightly clayey sand** from 19' to 23' Medium, **sand** from 23' to 25'	A-2-4 A-2-4 A-7-6 A-2-4 A-3	4 to 16 feet bls
B-B-11	Loose, **sand** from 0 to 2' Medium, **clayey sand** from 2' to 5' Very stiff, **clay** from 5' to 13' Medium to dense, **clayey sand** from 13' to 25'	A-3 A-2-4 A-7-6 A-2-4	6 to 13 feet bls
B-B-7	Very loose to medium, **sand** from 0 to 5' Medium, **clayey sand** from 5' to 25'	A-3 A-2-4	6 to 11 feet bls

Table 3b – Soil Descriptions in 9.2 Acre Southern Borrow Area

8.0 GROUNDWATER LEVELS AT BOREHOLES

Groundwater levels were measured in the boreholes at the time of our field exploration if encountered. Fluctuations of the groundwater level on this project site can be expected to occur seasonally as a result of rainfall, surface runoff, nearby construction activities, and other site specific factors that may vary from the time the soil test borings were performed.

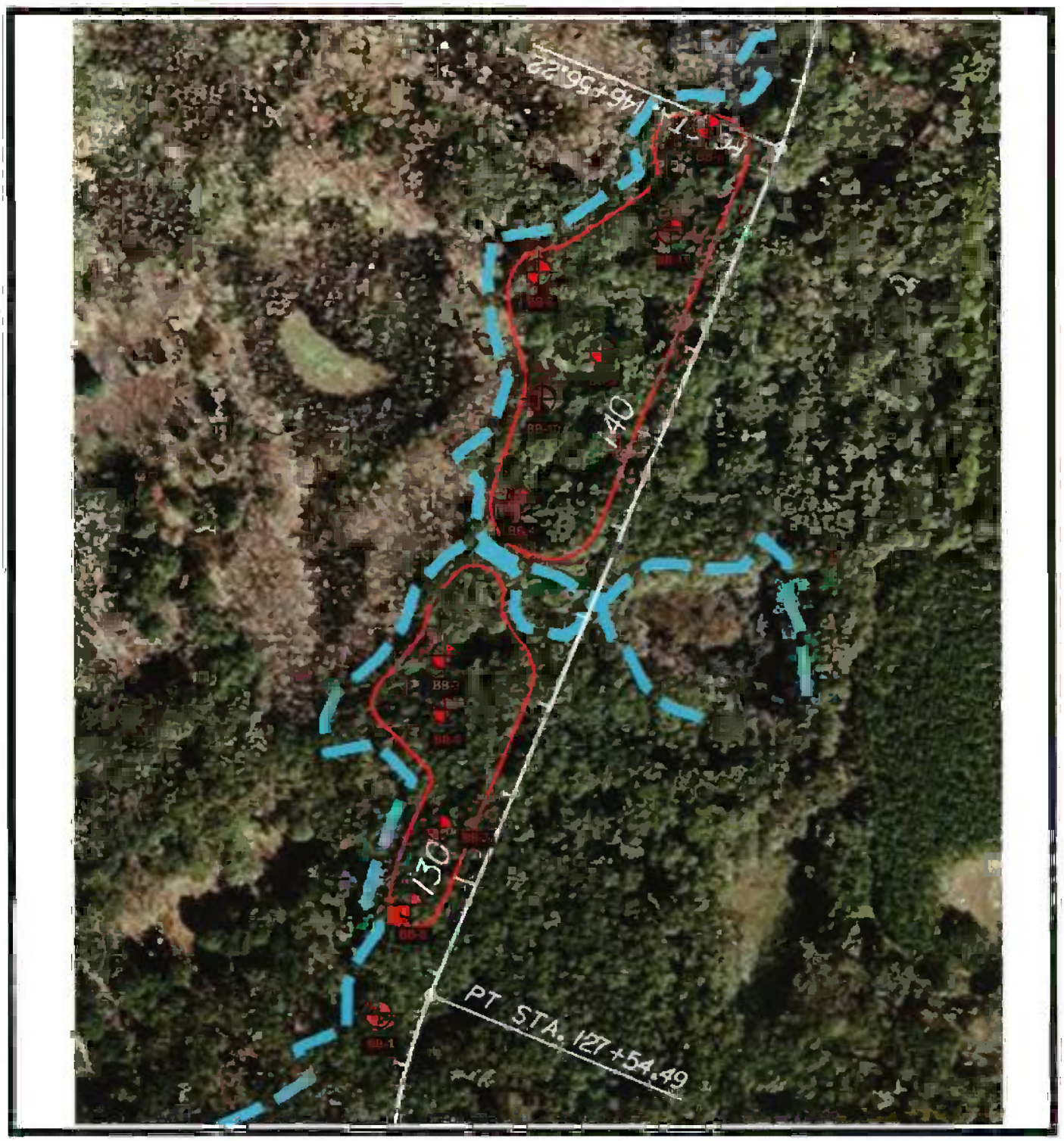
Within the southern borrow areas and adjacent to four boring locations, temporary wells were installed for the purpose of monitoring the groundwater levels over an extended period of time; the wells remain in place as of the date of this document. Groundwater level readings are summarized in **Tables 4a, 4b and 4c**.

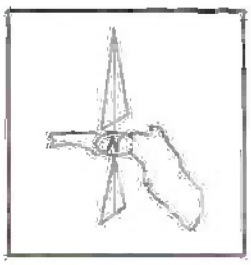
Boring	Date Boring Performed	Groundwater Level at Boring Termination	Groundwater Level 1 day after Boring Termination	Groundwater Level 2 months after Boring Termination	SHGWL
B-B-1	03/10/2009	Not apparent	Not apparent	Not apparent to 25 feet depth in well	>10 feet bls
B-B-2	03/10/2009	Not apparent	Not apparent	--	>10 feet bls
B-B-3	03/10/2009	Not apparent	Not apparent	Not apparent to 25 feet depth in well	8 feet bls
B-B-8	06/03/2009	Not apparent	Not apparent	--	12 feet bls
B-B-9	06/03/2009	Not apparent	Not apparent	--	12 feet bls

Table 4a – Groundwater Levels in 6.5 Acre Southern Borrow Area

Boring	Date Boring Performed	Groundwater Level at Boring Termination	Groundwater Level 1 day after Boring Termination	Groundwater Level 2 months after Boring Termination	SHGWL
B-B-4	03/10/2009	Not apparent	Not apparent	--	>10 feet bls
B-B-5	03/10/2009	Not apparent	Not apparent	Not apparent to 25 feet depth in well	>10 feet bls
B-B-6	03/11/2009	Not apparent	Not apparent	--	8 feet bls
B-B-7	03/11/2009	Not apparent	Not apparent	Not apparent to 25 feet depth in well	>10 feet bls
B-B-10	06/03/2009	Not apparent	Not apparent	--	4 feet bls
B-B-11	06/03/2009	Not apparent	Not apparent	--	5 feet bls

Table 4b – Groundwater Levels in 9.2 Acre Southern Borrow Area





AERIAL SITE BORING LOCATION PLAN
BORROW AREA (SOUTH PORTION)
NW BASCOM NORRIS DRIVE
FROM APPROXIMATE STATIONS 110+00 TO 190+00
LAKE CITY, COLUMBIA COUNTY, FLORIDA

DRAWN: FA	NODARSE & ASSOCIATES, INC.		
CHKD: DB			
SCALE: N.A.			
DATE: 6-1-09	PROJ. NO: 10-08-0075-102	FIGURE: 1	

KEY TO SYMBOLS

Symbol Description

Strata symbols

Sand (SP)(A-3)

Slightly clayey sand (SP-SC)(A-2-4)

Clayey sand (SC)(A-2-4,A-2-6)

clay (CH)(A-7-6)

Misc. Symbols

Water table during drilling

S.H.G.W.T.

Soil Samplers

Standard penetration test

Notes:

1. Subsurface exploration was stared 3/10/2009 and completed 6/3/2009.
2. The record of Test Borings are subject to the limitations, conclusions, and recommendations in this report.
3. Soil test boring locations were located from existing features.

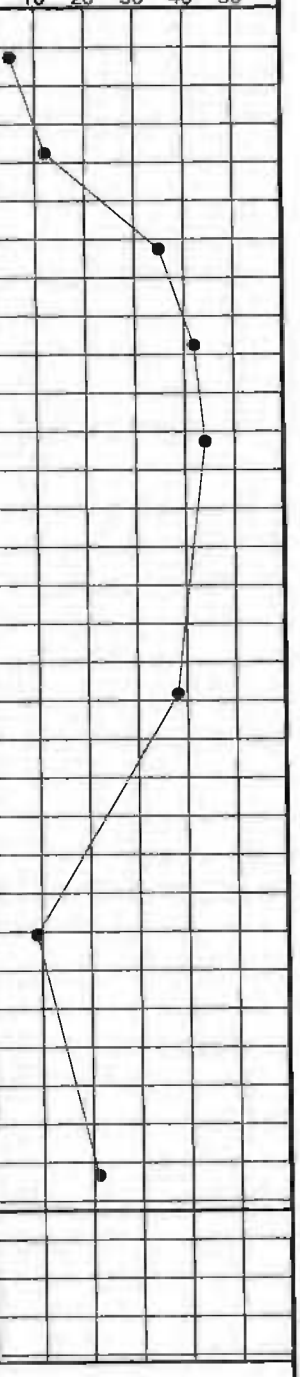
NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-1 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 3/10/09 **FINISH:** 3/10/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 126 + 30 (100 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▼ N.E. **DATE CHECKED:** 3/16/09 **S.H.G.W.T.** ▼ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 2 3 5	Slightly Clayey Sand (SP-SC)(A-2-4)	Loose, gray and brown
	5 5 7 9		Medium, light gray and brown
4	12 16 19 22		Dense, light gray and brown with lenses of clayey sand
	20 21 21 23		Dense
8	19 21 23 24		Dense
12	19 20 18	Sand (SP)(A-3)	Dense, gray and brown
			(Dense zone from 4' to 15' depth)
16	4 4 5	Clayey Sand (SC)(A-2-4)	Loose, gray and brown
20	8 10 11		Medium, light gray and brown
24			Boring terminated at 25 feet
28			

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50



Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report.
Changes in the N-Value may not be a lineal function. Unless shown otherwise, soil/rock samples recovered using ASTM D-1586 test procedures.

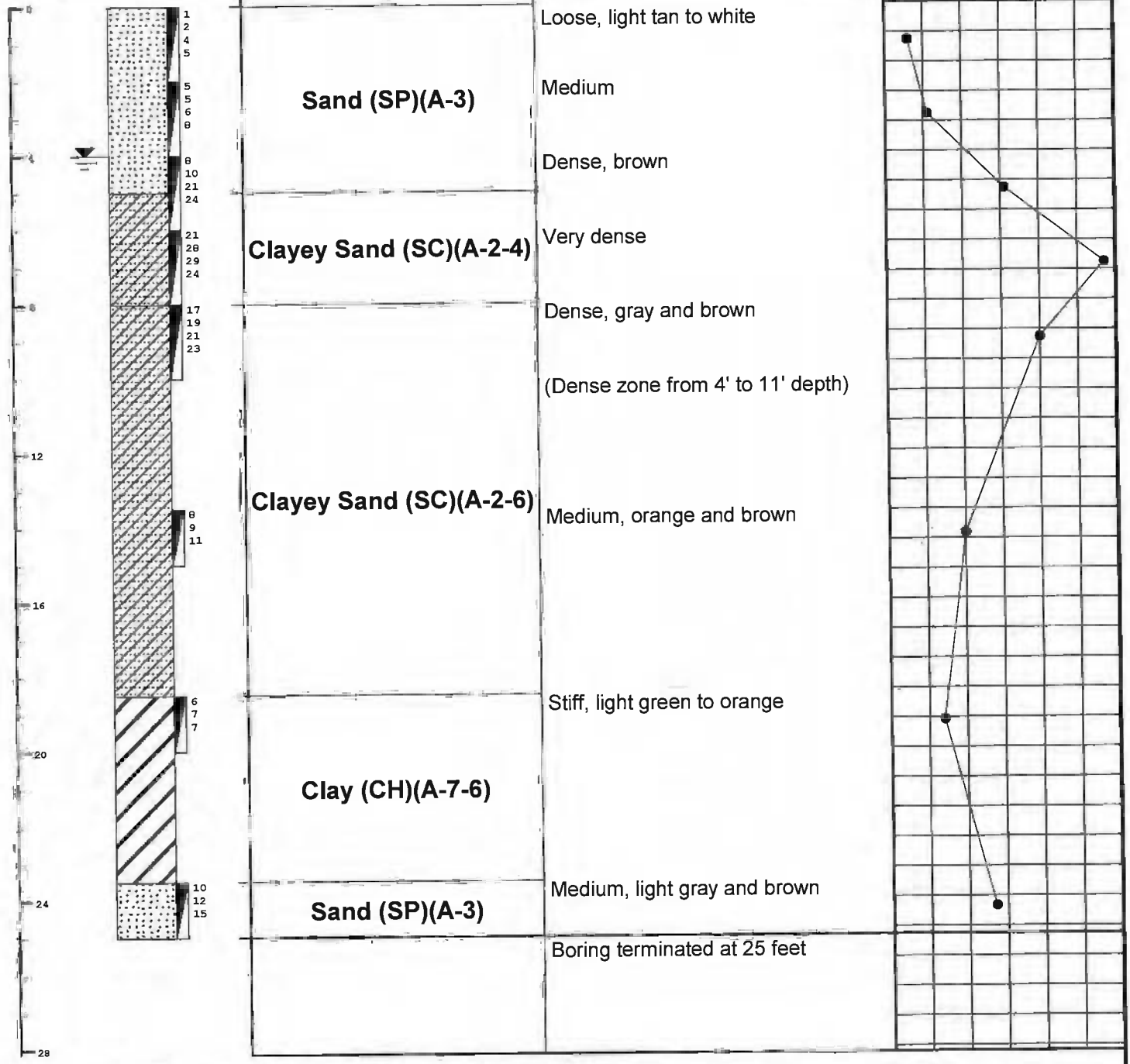
RECORD OF TEST BORING

NODARSE & ASSOCIATES, INC

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-2 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 3/10/09 **FINISH:** 3/10/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 130 + 50 (140 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 3/11/09 **S.H.G.W.T.** ▽ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 2 4 5	Sand (SP)(A-3)	Loose, light tan to white
	5 5 6 8		Medium
4	8 10 21 24		Dense, brown
	21 28 29 24	Clayey Sand (SC)(A-2-4)	Very dense
8	17 19 21 23	Clayey Sand (SC)(A-2-6)	Dense, gray and brown
			(Dense zone from 4' to 11' depth)
12	8 9 11		Medium, orange and brown
16	6 7 7	Clay (CH)(A-7-6)	Stiff, light green to orange
20			
24	10 12 15	Sand (SP)(A-3)	Medium, light gray and brown
28			Boring terminated at 25 feet

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50



Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report.
Changes in the N-Value may not be a lineal function. Unless shown otherwise, soil/rock samples recovered using ASTM D-1586 test procedures.

NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-3 **Page 1 of 1**

PROJECT No.: 10-08-0075-102 **START:** 3/10/09 **FINISH:** 3/10/09 **WEATHER:** Sunny, clear

BORING LOCATION: Station 134 + 10 (200 feet west) **DRILLER:** D. Degenstein

DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.

ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 3/16/09 **S.H.G.W.T.** ▽ 4 feet

BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 2 2	Sand (SP)(A-3)	Very loose, gray and brown
	2 2 3 4		Loose, light gray and brown
4	5 7 7 9		Medium, brown
	8 8 10 11	Clayey Sand (SC)(A-2-4)	Medium, gray and brown
8	9 11 12 14	Clay (CH)(A-7-6)	Very stiff, light green to orange
12	8 10 12	Clayey Sand (SC)(A-2-4)	Medium, light gray, orange and brown
16	10 8 10		Medium
20			
24	7 9 11		Medium
28			Boring terminated at 25 feet

TEST RESULTS

Plastic Limit ⊢ Liquid Limit

Moisture Content, % - ▲

SPT N-Value - ●

10 20 30 40 50

Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report.
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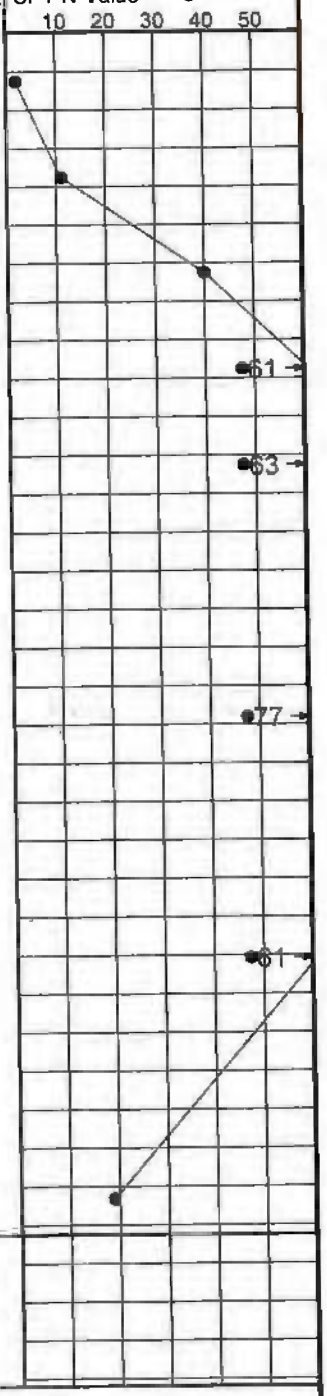
NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-4 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 3/10/09 **FINISH:** 3/10/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 137 + 80 (170 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▼ N.E. **DATE CHECKED:** 3/11/09 **S.H.G.W.T.** ▼ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 1 1	Sand (SP)(A-3)	Very loose, gray and brown
	1 2 9 11		Medium
4 ▼	17 20 20 21		Dense
	21 30 31 33	Clayey Sand (SC)(A-2-4)	Very dense, gray and brown
8	26 33 30 31		Very dense, gray and brown
			(Dense zone from 4' to 20' depth)
12	26 33 44	Sand (SP)(A-3)	Very dense, light tan to white
16			Very dense
	19 26 35		
20			
24	11 8 11	Clay (CH)(A-7-6)	Very stiff, green and orange
25			Boring terminated at 25 feet

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●



Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report.
Changes in the N-Value may not be a linear function. Unless shown otherwise, soil/rock samples recovered using ASTM D-1586 test procedures.

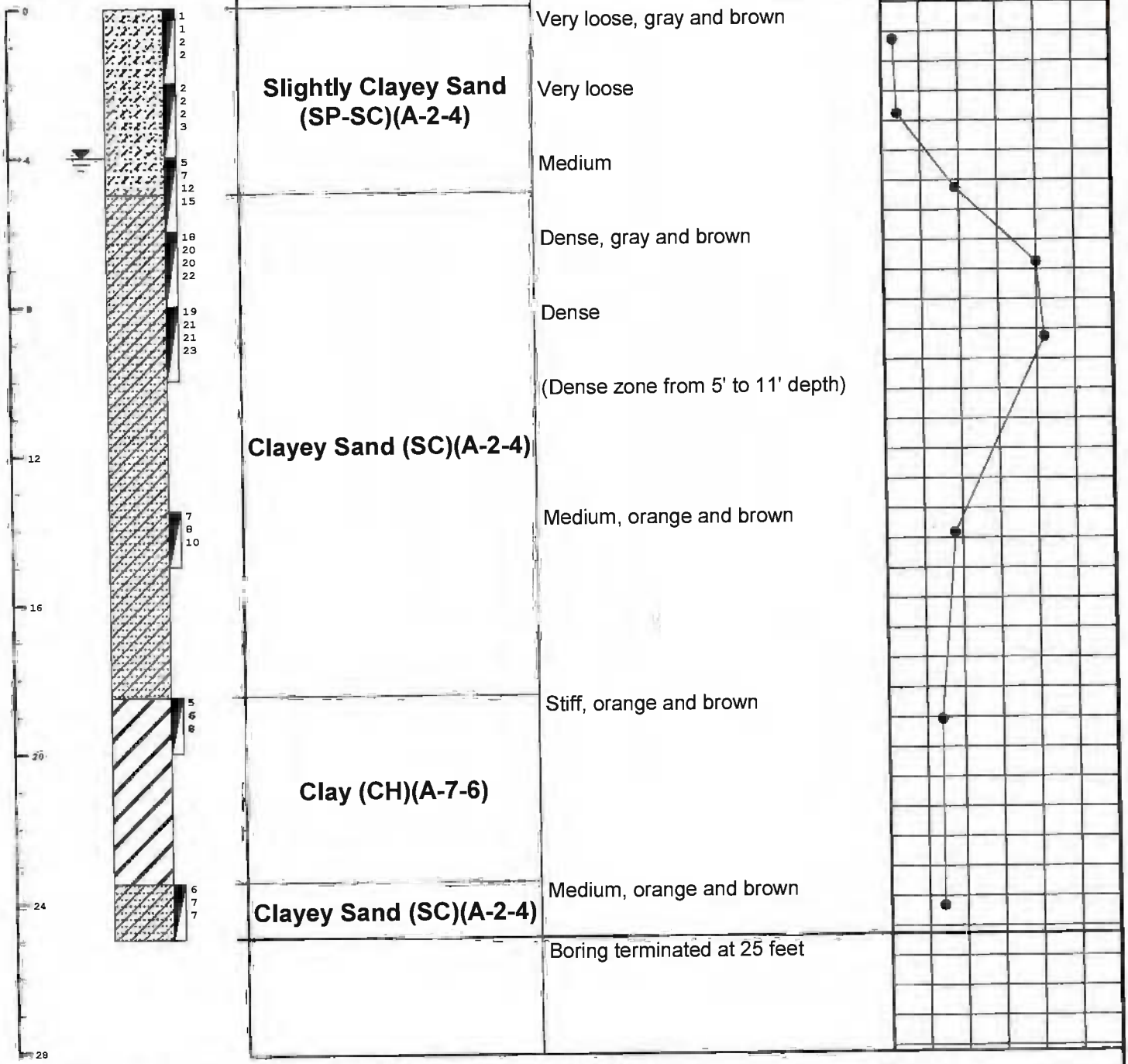
RECORD OF TEST BORING

NODARSE & ASSOCIATES, INC.

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-5 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 3/10/09 **FINISH:** 3/10/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 141 + 50 (150 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 3/16/09 **S.H.G.W.T.** ▽ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 2 2	Slightly Clayey Sand (SP-SC)(A-2-4)	Very loose, gray and brown
	2 2 2 3		Very loose
4	5 7 12 15		Medium
	18 20 20 22	Clayey Sand (SC)(A-2-4)	Dense, gray and brown
8	19 21 21 23		Dense
			(Dense zone from 5' to 11' depth)
12	7 8 10		Medium, orange and brown
16	5 6 8	Clay (CH)(A-7-6)	Stiff, orange and brown
20			
24	6 7 7	Clayey Sand (SC)(A-2-4)	Medium, orange and brown
28			Boring terminated at 25 feet

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50



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NODARSE & ASSOCIATES, INC.

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-6 **Page 1 of 1**

PROJECT No.: 10-08-0075-102 **START:** 3/11/09 **FINISH:** 3/11/09 **WEATHER:** Sunny, clear

BORING LOCATION: Station 142 + 20 (400 feet west) **DRILLER:** D. Degenstein

DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.

ELEV. (Est.): N.A. **G.W.L.:** ▼ N.E. **DATE CHECKED:** 3/12/09 **S.H.G.W.T.** ▼ 4 feet

BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 1 1	Slightly Clayey Sand (SP-SC)(A-2-4)	Very loose, gray and brown
	3 5 8 12		Very loose
4	10 12 15 20		Medium
	10 10 9 11	Clayey Sand (SC)(A-2-4)	Medium, gray and orange
8	10 11 12 12	Clay (CH)(A-7-6)	Stiff, light gray and orange with lenses of clay
			(Stiff zone from 8' to 16' depth)
12	10 12 15		Stiff, light gray and orange
16	9 10 12	Slightly Clayey Sand (SP-SC)(A-2-4)	Medium, light gray and brown
20	5 6 7	Sand (SP)(A-3)	Medium, light orange and brown
24			Boring terminated at 25 feet
28			

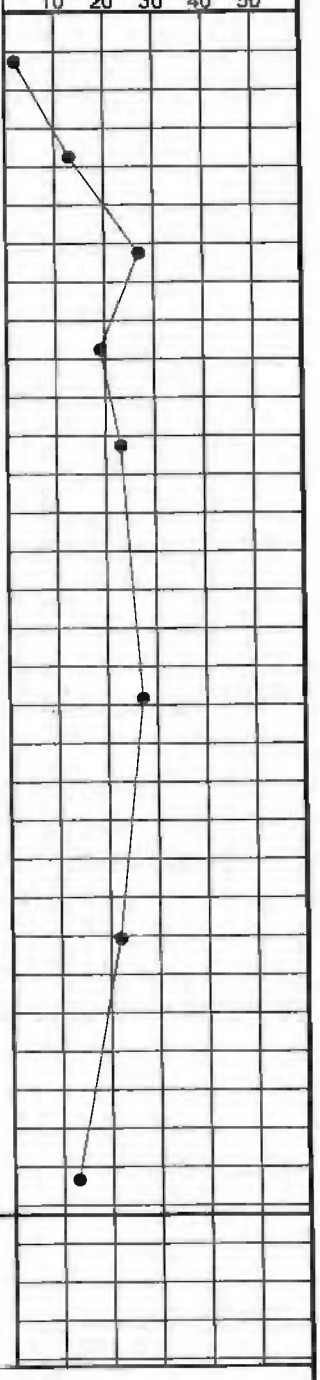
TEST RESULTS

Plastic Limit ⊢ Liquid Limit

Moisture Content, % - ▲

SPT N-Value - ●

10 20 30 40 50



Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report. Changes in the N-Value may not be a lineal function. Unless shown otherwise, soil/rock samples recovered using ASTM D-1586 test procedures.

NODARSE & ASSOCIATES, INC.

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-7 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 3/11/09 **FINISH:** 3/11/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 146 + 30 (150 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▼ N.E. **DATE CHECKED:** 3/16/09 **S.H.G.W.T.** ▼ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 2 2 3	Sand (SP)(A-3)	Very loose, gray and brown
	3 4 4 10		Loose
4	8 10 12 15		Medium, light gray and brown
	11 12 15 16	Clayey Sand (SC)(A-2-4)	Medium, gray and brown
8	11 15 15 17		Medium, gray and orange
			(Dense zone from 6' to 11' depth)
12	8 10 15		Medium, light gray and orange
16	10 12 10		Medium, orange and brown
20	7 9 11		Medium, light gray and orange
24			Boring terminated at 25 feet
28			

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50

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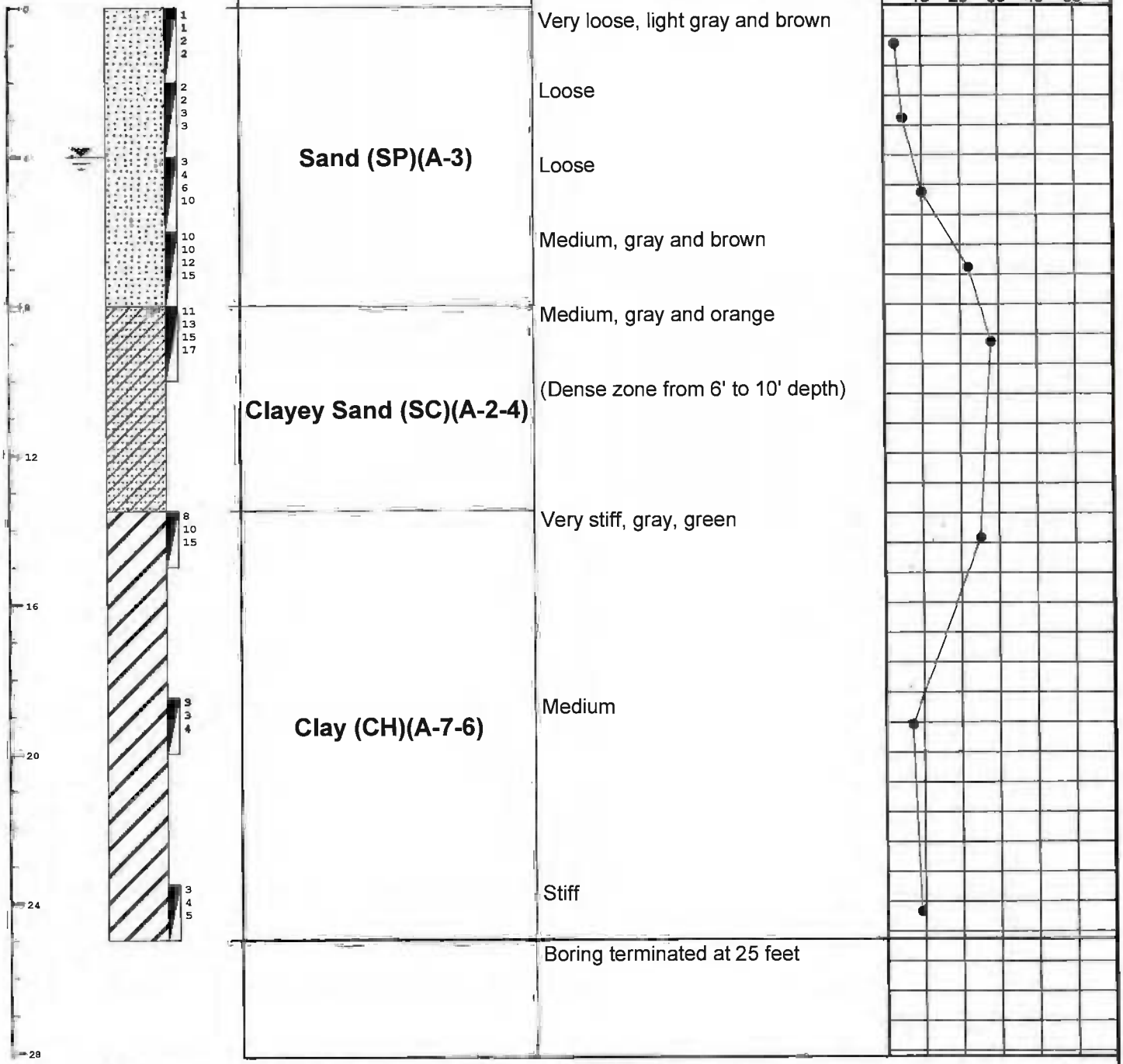
NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-8 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 6/3/09 **FINISH:** 6/3/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 128 + 50 (100 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 6/4/09 **S.H.G.W.T.** ▽ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV / DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 2 2	Sand (SP)(A-3)	Very loose, light gray and brown
	2 2 3 3		Loose
4	3 4 6 10		Loose
	10 10 12 15		Medium, gray and brown
8	11 13 15 17	Clayey Sand (SC)(A-2-4)	Medium, gray and orange
			(Dense zone from 6' to 10' depth)
12	8 10 15	Clay (CH)(A-7-6)	Very stiff, gray, green
16	3 3 4		Medium
20	3 4 5		Stiff
24			Boring terminated at 25 feet
28			

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50



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NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-9 **Page 1 of 1**

PROJECT No.: 10-08-0075-102 **START:** 6/3/09 **FINISH:** 6/3/09 **WEATHER:** Sunny, clear

BORING LOCATION: Station 133 + 50 (200 feet west) **DRILLER:** D. Degenstein

DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.

ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 6/4/09 **S.H.G.W.T.** ▽ 4 feet

BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1, 2, 2, 3	Sand (SP)(A-3)	Very loose, light gray and brown
	5, 6, 6, 7		Medium
4	6, 7, 12, 18		Medium
	14, 14, 18, 20	Slightly Clayey Sand (SP-SC)(A-2-4)	Dense, gray and brown
8	14, 16, 18, 21		Dense
			(Dense zone from 5' to 13' depth)
12	5, 5, 7	Clay (CH)(A-7-6)	Stiff, gray, green
16	4, 6, 8		Stiff
20	6, 9, 12		Stiff
24			Boring terminated at 25 feet
28			

TEST RESULTS

Plastic Limit ⊢ Liquid Limit

Moisture Content, % - ▲

SPT N-Value - ●

10 20 30 40 50

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NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-10 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 6/3/09 **FINISH:** 6/3/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 140 + 00 (250 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▼ N.E. **DATE CHECKED:** 6/4/09 **S.H.G.W.T.** ▼ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 1 2 2	**Slightly Clayey Sand (SP-SC)(A-2-4)**	Very loose, gray and brown
	2 2 3 3		Loose
4	4 5 6 7	**Clay (CH)(A-7-6)**	Stiff, gray
	9 12 16 18		Very stiff
8	12 14 16 20		Very stiff
			(Very stiff zone from 6' to 13' Depth)
12	11 14 14	**Clayey Sand (SC)(A-2-4)**	Medium, gray and orange
16	6 7 8		Medium
20			
24	6 7 7		Medium
28			Boring terminated at 25 feet

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50

Refer to Notes and Legend on separate sheet for additional information. This Record of Test Boring is part of the project Geotechnical Report.
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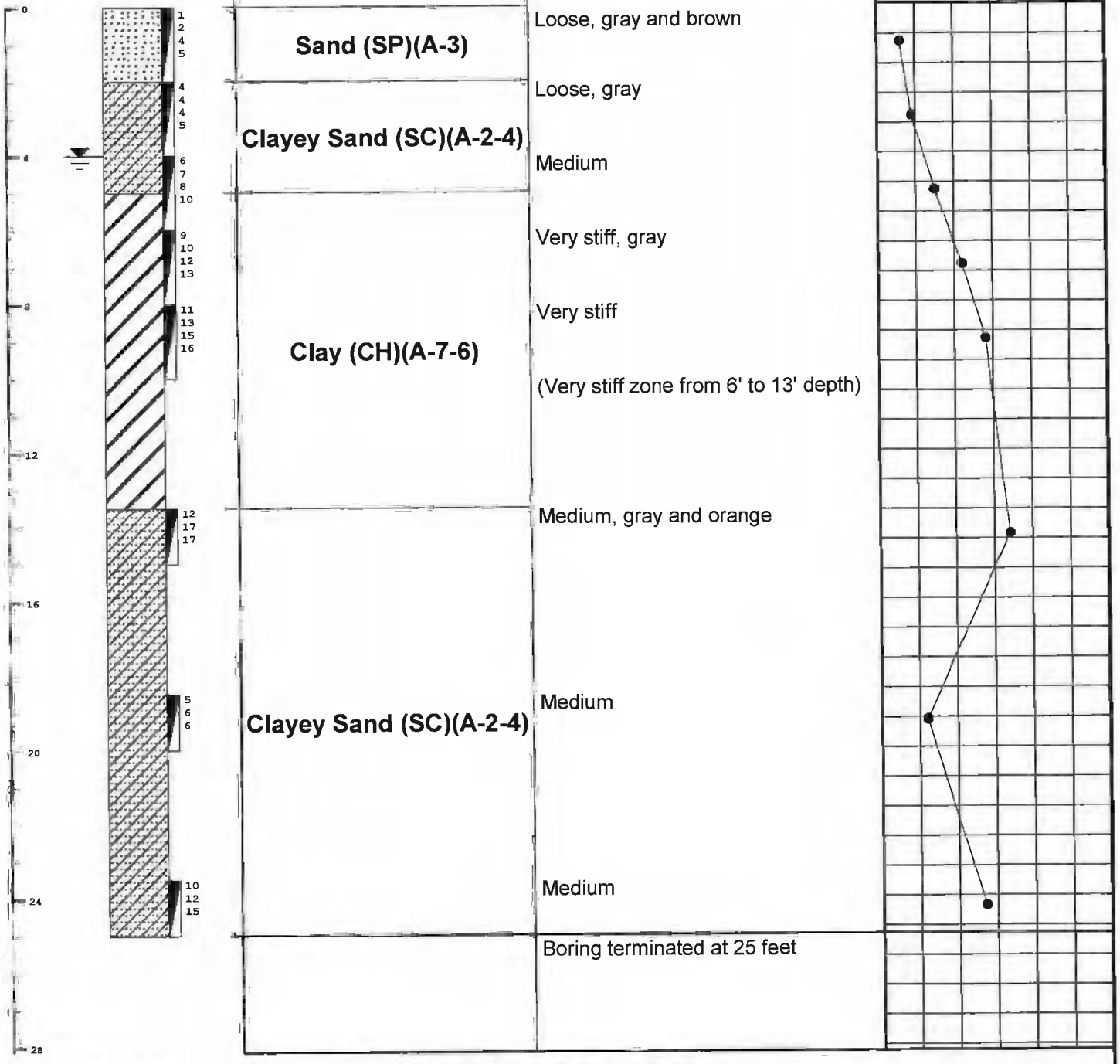
NODARSE & ASSOCIATES, INC

RECORD OF TEST BORING

PROJECT/LOCATION: Bascom Norris Bypass, Lake City, Florida **BORING No.:** B-B-11 **Page 1 of 1**
PROJECT No.: 10-08-0075-102 **START:** 6/3/09 **FINISH:** 6/3/09 **WEATHER:** Sunny, clear
BORING LOCATION: Station 144 + 00 (100 feet west) **DRILLER:** D. Degenstein
DRILL: ATV CME 45B **DRILL CONTRACTOR:** Nodarse & Associates, Inc.
ELEV. (Est.): N.A. **G.W.L.:** ▽ N.E. **DATE CHECKED:** 6/4/09 **S.H.G.W.T.** ▽ 4 feet
BORING METHOD: Rotary drilling with casing and mud **FLUID LOSS:** None

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS
0	1 2 4 5	Sand (SP)(A-3)	Loose, gray and brown
	4 4 4 5	Clayey Sand (SC)(A-2-4)	Loose, gray
4	6 7 8 10		Medium
	9 10 12 13	Clay (CH)(A-7-6)	Very stiff, gray
8	11 13 15 16		Very stiff
			(Very stiff zone from 6' to 13' depth)
12	12 17 17		Medium, gray and orange
16	5 6 6	Clayey Sand (SC)(A-2-4)	Medium
20	10 12 15		Medium
24			Boring terminated at 25 feet
28			

TEST RESULTS
Plastic Limit ⊢ Liquid Limit
Moisture Content, % - ▲
SPT N-Value - ●
10 20 30 40 50



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COMPONENTS OF CONTRACT PLANS
ROADWAY PLANS
STRUCTURE PLANS

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
COLUMBIA COUNTY , FLORIDA

NW BASCOM NORRIS DRIVE

FROM NORTH OF SR 10 (US 90) TO SOUTH OF CR 250 (LAKE JEFFERY ROAD)
CONTRACT PLANS

INDEX OF ROADWAY PLANS

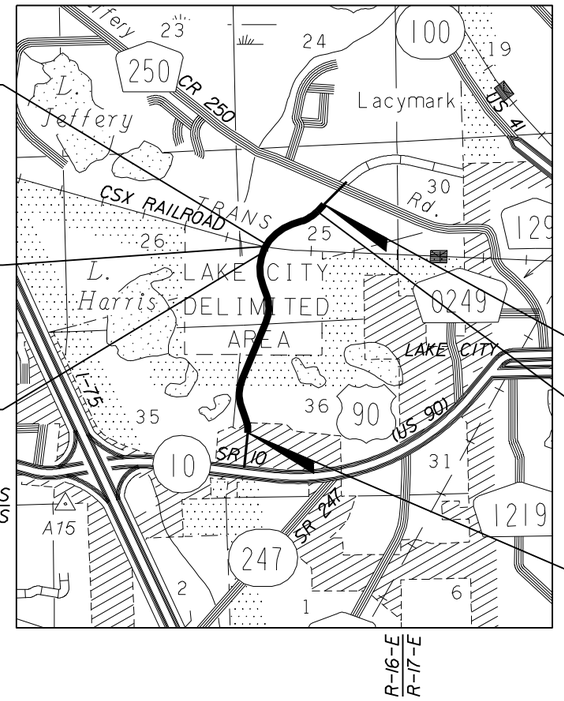
GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED 2010,
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2010,
AS AMENDED BY CONTRACT DOCUMENTS.

END BRIDGE
No. 294457
STA 169+65.50

STA 168+94.15
℄ BASCOM NORRIS DRIVE =
MP SP695.36 CSXT RAILROAD

BEGIN BRIDGE
No. 294457
STA 168+25.50

T-3-S
T-4-S



N
0 ½ 1
MILE

END PROJECT
STA 187+57.93

EQUATION:
STA 190+15.61 BK =
STA 185+56.33 AH

BEGIN PROJECT
STA 109+41.67

ROADWAY SHOP DRAWINGS
TO BE SUBMITTED TO:

STEPHEN C. WILSON
HDR ENGINEERING, INC.
200 W FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202

DESIGN CRITERIA: FDOT "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS", MAY 2007 EDITION

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ROADWAY PLANS
ENGINEER OF RECORD: STEPHEN C. WILSON, PE

P.E . NO.: 37392

CONTRACT PLANS REVISIONS

COMPONENT	Sheets	Revised Date

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
HDR Engineering, Inc.
200 W FORSYTH ST., STE 800
JACKSONVILLE, FL 32202
(904) 598-8900
www.hdrinc.com
Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: KEY SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 1

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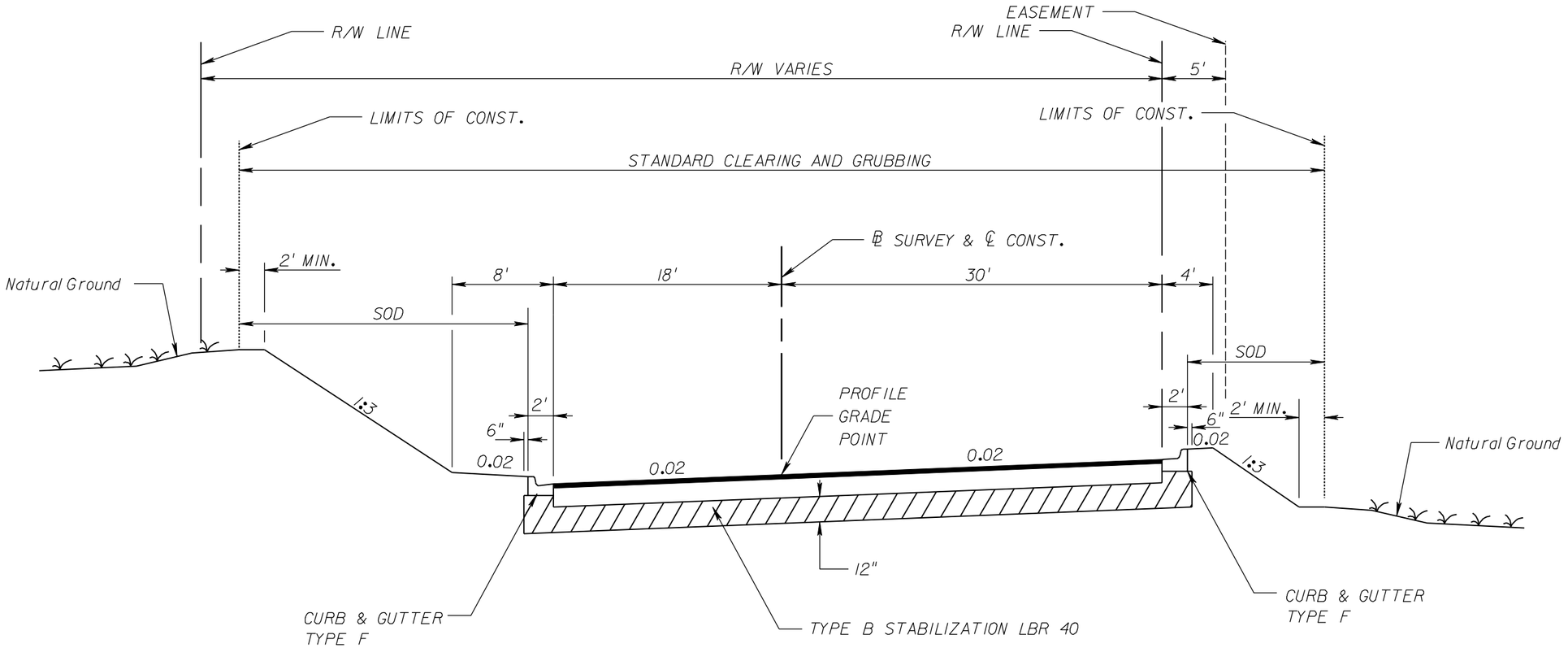


TYPICAL SECTION NO. 1
N.W. BASCOM NORRIS DRIVE
STA. 109+41.67 - STA. 115+14.89
DESIGN SPEED = 35 MPH

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

TYPICAL SECTION NOTES:

1. SUPERPAVE ASPHALTIC CONCRETE SHALL BE PLACED WITH A MECHANICAL SPREADER USING ELECTRONIC TRANSVERSE AND AUTOMATIC LONGITUDINAL SCREED CONTROLS.
2. PAVED TURNOUT RIGHT OF STA 166+00 AND STA 187+30 TO BE CONSTRUCTED USING THE PAVED SHOULDER PAVEMENT DESIGN.
3. PAVED CONNECTIONS TO LOWES SHALL BE CONSTRUCTED USING THE ROADWAY PAVEMENT DESIGN.
4. CROSS SLOPES DEPICTED ON TYPICAL SECTION ARE INDICATIVE OF THE ROADWAY FOR THE MAJORITY OF THE STATION LIMITS NOTED. SEE CROSS SECTION SHEETS FOR ACTUAL CROSS SLOPES. SEE PROFILE SHEETS FOR ROADWAY CROSS-SLOPE TRANSITIONS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
HDR Engineering, Inc.
200 W. FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 566-6900
www.hdrinc.com
Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

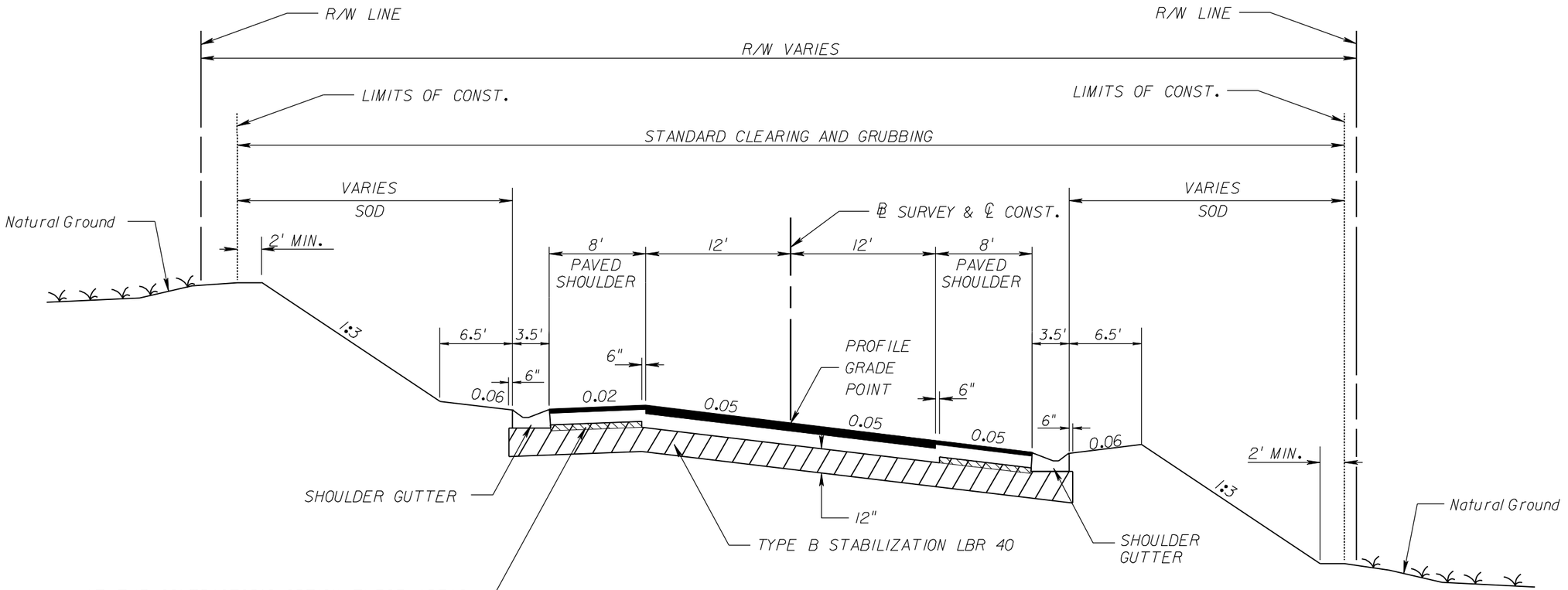
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 2

$USER$ $DATE$ $TIME$ $FILE$



TYPICAL SECTION NO. 2
N.W. BASCOM NORRIS DRIVE
STA. 115+14.89 - STA. 128+40.00
DESIGN SPEED = 50 MPH

LEFT SHOULDER TRANSITIONS:

STA 128+24.90: -2.00% TO
STA 128+88.90: -6.00%

RIGHT SHOULDER TRANSITIONS:

STA 115+14.89: +0.523% TO
STA 115+83.02: -2.00%

STA 118+56.65: -2.00% TO
STA 119+64.65: -5.00%

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 1 (4" LIMEROCK ONLY) WITH
FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

TYPICAL SECTION NOTES:

1. PAVED SHOULDERS LESS THAN OR EQUAL TO 2' WIDE SHALL BE CONSTRUCTED WITH THE ADJACENT ROADWAY PAVEMENT DESIGN.

FOR ADDITIONAL TYPICAL SECTION NOTES SEE SHEET NO. 2.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD.
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
HDR Engineering, Inc.
200 W. FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

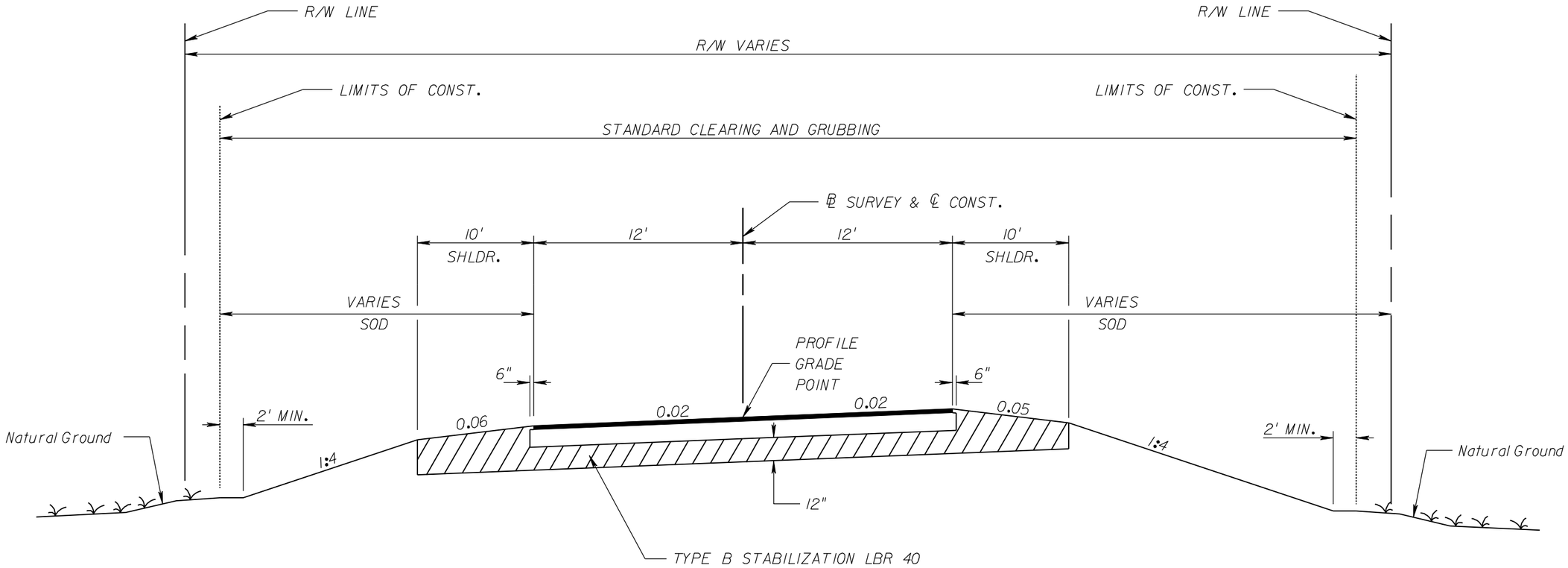
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 3

$USER$ $DATE$ $TIME$ $FILE$



TYPICAL SECTION NO. 3
STA. 128+40.00 - STA. 146+78.50
DESIGN SPEED = 50 MPH

FOR TYPICAL SECTION NOTES SEE SHEET NO. 2.

LEFT SHOULDER TRANSITIONS:

STA 128+24.90: -2.00% TO
STA 128+88.90: -6.00%

STA 146+26.22: -6.00% TO
STA 146+76.22: -5.00%

RIGHT SHOULDER TRANSITIONS:

STA 145+76.22: -5.00% TO
STA 146+76.22: -2.00%

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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www.hdrinc.com
Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

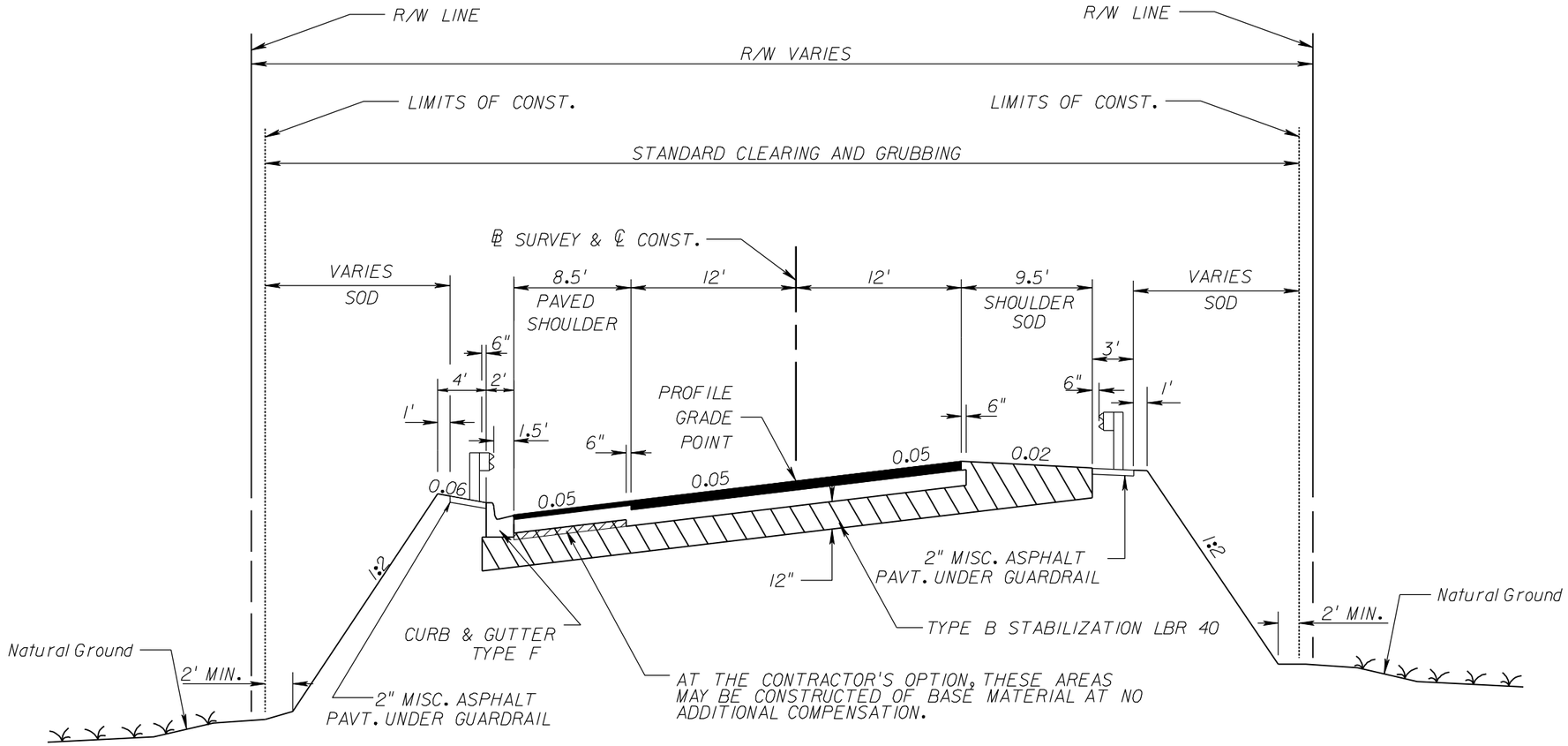
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 4

$USER$ $DATE$ $TIME$ $FILE$



TYPICAL SECTION NO. 4
N.W. BASCOM NORRIS DRIVE
STA. 146+78.50 - STA. 156+00.00
DESIGN SPEED = 50 MPH

RIGHT SHOULDER TRANSITIONS:

STA 154+81.87: -2.00% TO
STA 155+53.87: -5.00%

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 1 (4" LIMEROCK ONLY) WITH
FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

TYPICAL SECTION NOTES:

1. SEE GUARDRAIL TABULATION FOR GUARDRAIL LIMITS.

FOR ADDITIONAL TYPICAL SECTION NOTES SEE SHEET NO. 2.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
HDR Engineering, Inc.
200 W FORSYTH ST., STE. 800
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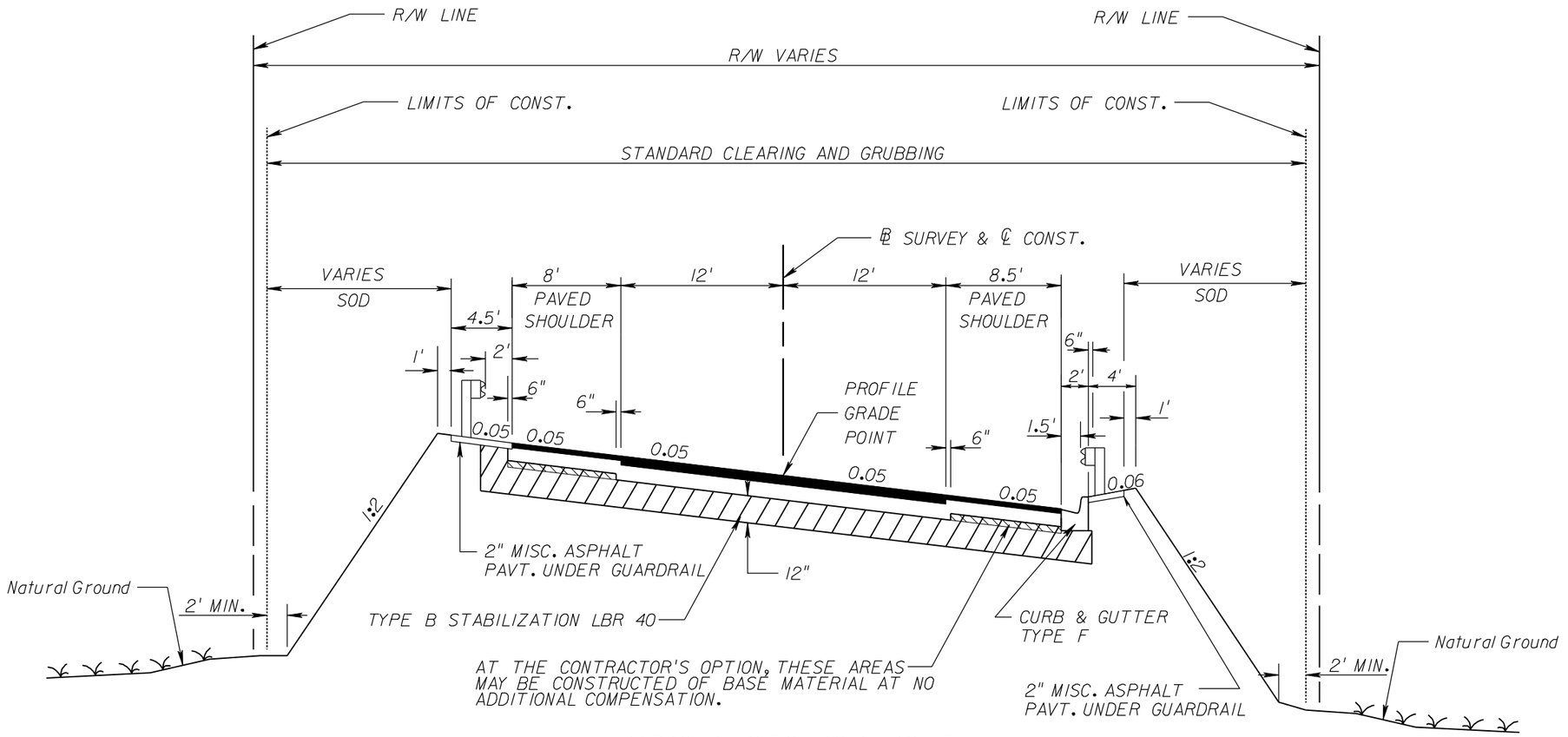
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 5

$USER$ $DATE$ $TIME$ $FILE$



TYPICAL SECTION NO. 5
N.W. BASCOM NORRIS DRIVE
STA. 156+00.00 - STA. 167+94.87
STA. 169+97.14 - STA. 186+50.00
DESIGN SPEED = 50 MPH

LEFT SHOULDER TRANSITIONS:

STA 156+24.25: -5.00% TO
STA 157+44.25: 0.00%

STA 157+44.25: 0.00% TO
STA 158+64.25: +5.00%

STA 181+04.80: +5.00% TO
STA 182+24.80: 0.00%

STA 182+24.80: 0.00% TO
STA 183+44.80: -5.00%

RIGHT SHOULDER TRANSITIONS:

STA 183+51.35: -5.00% TO
STA 184+71.35: -2.00%

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 1 (4" LIMEROCK ONLY) WITH
FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

TYPICAL SECTION NOTES:

1. SEE GUARDRAIL TABULATION FOR GUARDRAIL LIMITS.

FOR ADDITIONAL TYPICAL SECTION NOTES SEE SHEET NO. 2

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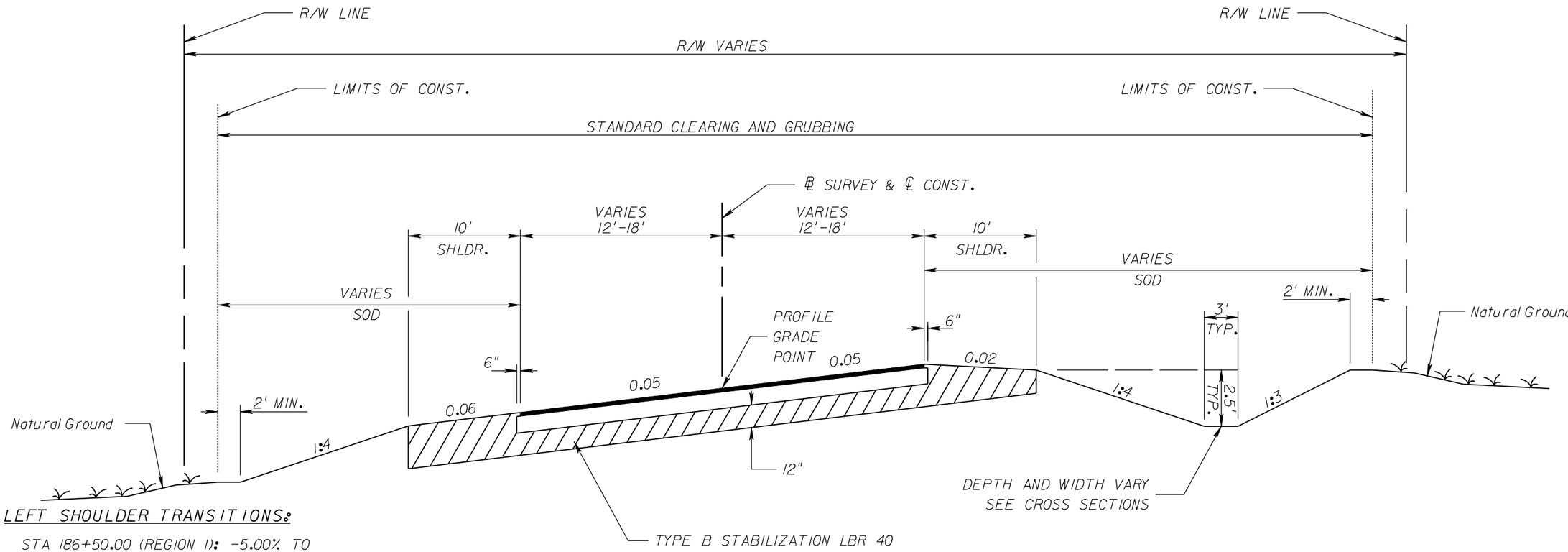
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 6

$USER$ $DATE$ $TIME$ $FILE$



LEFT SHOULDER TRANSITIONS:

STA 186+50.00 (REGION 1): -5.00% TO
STA 187+00.00 (REGION 1): -6.00%

RIGHT SHOULDER TRANSITIONS:

STA 189+43.61(REGION 1): -2.00% TO
STA 185+92.33 (REGION 2): -5.00%

STA 185+92.33 (REGION 2): -5.00% TO
STA 186+64.33 (REGION 2): -6.00%

TYPICAL SECTION NO. 6

STA. 186+50.00 - STA. 190+15.61 BK (REGION 1)
STA. 185+56.33 AH - STA. 187+57.93 (REGION 2)
DESIGN SPEED = 50 MPH

FOR TYPICAL SECTION NOTES SEE SHEET NO. 2.

NEW CONSTRUCTION - ROADWAY

OPTIONAL BASE GROUP 9 (10" LIMEROCK ONLY) WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (1.5")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (RUBBER)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 7

$USER$ $DATE$ $TIME$ $FILE$

SUMMARY OF GUARDRAIL

LOCATION		SIDE	GUARDRAIL (LF)				SPECIAL GUARDRAIL POST (EA)		END ANCHORAGE (EA)				2" MISC. ASPHALT (TN)		REMARKS	FIELD BOOK REFERENCE
			ROADWAY		SHOP BENT (24' RADIUS)				PARALLEL		TYPE CRT					
STATION			P	F	P	F	P	F	P	F	P	F	P	F		
FROM	150+26.42	RT	1550		37.5		4		1		1		56.0			
TO	165+76.42															
FROM	150+34.81	LT	1775				3		1				76.7			
TO	168+04.08															
FROM	166+23.58	RT	175		37.5		3				1		8.9			
TO	168+13.06															
FROM	169+91.27	RT	1612.5				3		1				57.4			
TO	186+18.10															
FROM	169+76.12	LT	1662.5				1		1				75.6			
TO	186+24.17															
TOTAL			6775		75.0		14		4		2		274.6			

NOTE: ALL GUARDRAIL STATIONING IS PRIOR TO PROJECT STATION EQUATION.
SPECIAL GUARDRAIL POST LOCATED AT CURB INLETS.

SUMMARY OF FENCING TYPE B

LOCATION STA. TO STA.	SIDE	LENGTH (FT)		TYPE B GATE (DBL 20') (EA)		REMARKS	FIELD BOOK REFERENCE
		P	F	P	F		
LOWE'S POND	LT	1438		1			
TOTAL		1438		1			

SUMMARY OF UNDERDRAIN

	LOCATION STA. TO STA.	SIDE	6" UNDERDRAIN TYPE II (LF)				OUTLET PIPE LENGTH (LF)	FIELD BOOK REFERENCE
			I	II	III	IV	6"	
P	120+41.57 TO 121+95.83	RT		150			6	
F								
	TOTAL			150			6	

SUMMARY OF EARTHWORK

DESCRIPTION	CY	
	P	F
ROADWAY (REGULAR EXCAVATION)	23,314	
REGULAR EXCAVATION, LOWE'S POND (LT)	13,591	
REGULAR EXCAVATION, POND 1 *	29,377	
REGULAR EXCAVATION, POND 2 *	53,391	
REGULAR EXCAVATION, POND 3	2,820	
TOTAL REGULAR EXCAVATION	122,493	
ROADWAY SUBSOIL EXCAVATION	12,524	
ROADWAY (EMBANKMENT) (STA 109+41.67 TO 168+31.64)	133,268	
ROADWAY (EMBANKMENT) (STA 169+59.19 TO 187+57.93 R2)	270,074	
EMBANKMENT, LOWE'S POND (RT)	4,205	
EMBANKMENT, LOWE'S POND (LT), PONDS 1, 2 & 3	4,258	
TOTAL EMBANKMENT	411,805	

* EXCAVATION QUANTITY FOR POND 1 & 2 IS THE MINIMUM REQUIRED FOR DRAINAGE PURPOSES. PONDS MAY BE OVER EXCAVATED TO PROVIDE BORROW MATERIAL FOR ROADWAY EMBANKMENT BASED UPON MATERIAL SUITABILITY.

REVISIONS

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: SUMMARY OF QUANTITIES

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 8

$USER$ $DATE$ $TIME$ $FILE$

QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM AND CROSS DRAIN (LF)					CURB INLET (EA)		MANHOLE (EA)		JUNCTION BOX (EA)		DITCH BOTTOM INLET (EA)		GUTTER INLET (EA)		MITERED END SECTION (EA)				RIPRAP RUBBLE (DITCH LINING)	REMARKS
						ROUND				OTHER	P-5		P-7	J-7	P-7	J-7	D	E	S							
						UP TO 24"		37" TO 48"		25" TO 36"									U-BOT							
						18"	24"	42"	48"	30"	<10'	>10'	<10'	<10'	<10'	<10'	MOD	MOD	<10'	>10'	18"	24"	42"	48"	TN	
P	S-1	113+00.00	LT	INLET, PIPE	1		202					1							1							
F																										
P	S-2	115+10.00	LT	INLET, PIPE	1		286					1														
F																										
P	S-3	118+00.00	LT	INLET, PIPE	1		52												1							
F																										
P	S-4	118+00.00	RT	INLET, PIPE	1		213												1							
F																										
P	S-5	120+20.00	RT	INLET, PIPE	1		172												1							
F																										
P	S-6	120+20.00	LT	INLET, PIPE	1	49													1							
F																										
P	S-7	122+00.00	RT	INLET, PIPE	1		289												1							6" TYPE 11 UNDERDRAIN CONNECTION
F																										
P	S-8	122+00.00	LT	INLET, PIPE	1	43													1							
F																										
P	S-9	125+00.00	RT	INLET, PIPE	1		162												1							
F																										
P	S-10	125+00.00	LT	INLET, PIPE	1	40													1							
F																										
P	S-11	126+70.00	RT	INLET, PIPE	1		154												1							
F																										
P	S-12	128+30.00	RT	INLET, PIPE	1		40												1							
F																										
P	S-13	128+30.00	LT	INLET, PIPE, MES	1		86													1		1			5.3	1:2 MES
F																										
P	S-14	115+73.52	RT-LT	MH, PIPE, MES	1			116						1									1		5.3	CONCRETE PIPE ONLY (1:3 MES)
F																										
P	S-15	116+47.14	RT	MH										1												
F																										
P	S-16	116+47.14	LT	INLET, PIPE	1					216							1									CONCRETE PIPE ONLY, LOWE'S POND CONTROL STRUCTURE
F																										
P	S-17	136+40.00	RT-LT	MES, PIPE, MES	3				174															6	10.7	CONCRETE PIPES ONLY, TRIPLE PIPES (1:4 MES)
F																										
P	S-18	146+90.00	LT	INLET, PIPE, MES	1		75				1											1			5.3	1:2 MES
F																										
P	S-19	149+90.00	LT	INLET, PIPE	1		290				1															
F																										
P	S-20	152+00.00	LT	INLET, PIPE	1		202				1															
F																										
P	S-20A	154+30.00	LT	INLET, PIPE	1		222				1															
F																										
P	S-21	156+20.00	LT	INLET, PIPE	1	185					1															
F																										
P	S-22	156+20.00	RT	INLET, PIPE	1	40					1															
F																										
P	S-23	159+20.00	RT	INLET, PIPE	1	295					1															
F																										
P	S-24	162+40.00	RT	INLET, PIPE	1	311					1															
F																										
P	S-25	164+40.00	RT	INLET, PIPE	1	194						1														
F																										
P	S-26	166+60.00	RT	INLET, PIPE	1	213						1														
F																										
P	S-27	156+10.00	RT-LT	MES, PIPE, MES	1				90															2	5.3	CONCRETE PIPE ONLY, 1:2 MES
F																										
P	S-28	158+00.00	RT-LT	MES, PIPE, MES	2				212															4		CONCRETE PIPES ONLY, DOUBLE PIPES (1:2 MES)
F																										
P	S-30	170+30.00	RT	INLET, PIPE	1	135					1															
F																										
P	S-30A	171+70.00	RT	INLET, PIPE	1	68						1														
F																										
P	S-30B	171+70.00	RT	MH, PIPE, MES	1	64							1								1				5.3	1:4 MES
F																										
SHEET TOTALS -	UNIT QUANTITY					1637	2445	116	476	216	9	5	1	2	0	0	1	0	10	1	1	2	1	12	37.2	
	PLAN QUANTITY					4082		592		216	9	5	1	2	0	0	1	0	10	1	1	2	1	12	37.2	
	FINAL QUANTITY																									

REVISIONS

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
SUMMARY OF DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
9

$USER$ $DATE$ $TIME$ $FILE$

QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM AND CROSS DRAIN (LF) ROUND UP TO 24" 18"	STORM AND CROSS DRAIN (LF) ROUND UP TO 24" 24"	STORM AND CROSS DRAIN (LF) ROUND 37" TO 48" 42"	STORM AND CROSS DRAIN (LF) ROUND 37" TO 48" 48"	STORM AND CROSS DRAIN (LF) OTHER 25" TO 36" 30"	CURB INLET (EA) P-5 <10'	CURB INLET (EA) P-5 >10'	MANHOLE (EA) P-7 <10'	MANHOLE (EA) J-7 <10'	JUNCTION BOX (EA) P-7 <10'	JUNCTION BOX (EA) J-7 <10'	DITCH BOTTOM INLET (EA) D MOD	DITCH BOTTOM INLET (EA) E MOD	GUTTER INLET (EA) S <10'	GUTTER INLET (EA) J-BOT >10'	MITERED END SECTION (EA) 18"	MITERED END SECTION (EA) 24"	MITERED END SECTION (EA) 42"	MITERED END SECTION (EA) 48"	RIPRAP RUBBLE (DITCH LINING) TN	REMARKS
P	S-31	173+30.00	RT	INLET, PIPE	1	154					1															
F																										
P	S-32	180+30.00	RT	INLET, PIPE	1	305					1															
F																										
P	S-33	183+40.00	LT	INLET, PIPE	1	40					1															
F																										
P	S-34	183+40.00	RT	INLET, PIPE	1	46					1															
F																										
P	S-34A	183+40.00	RT	MH, PIPE, MES	1	10							1								1				5.3	1:4 MES
F																										
P	S-35	186+35.50	LT	INLET, PIPE	1	40					1															
F																										
P	S-36A	186+80.00	LT	MES, PIPE	1		18															1				1:4 MES
F																										
P	S-36	186+80.00	LT	JCT BOX, PIPE	1		86								1											
F																										
P	S-37	186+80.00	RT	JCT BOX, PIPE, MES	1		74									1						1				1:4 MES
F																										
P	S-37A	187+64.00	RT	MES, PIPE	1	80															1					CONCRETE PIPE ONLY, 1:4 MES
F																										
P	S-38	174+28.29	RT	INLET, PIPE, MES	1		36											1				1			5.3	CONTROL STRUCTURE POND 3 (1:4 MES)
F																										
P		174+95.00	RT	SEE REMARKS																					44.6	DITCH INFALL INTO POND 3
F																										
P		133+67.57	LT	SEE REMARKS																					10.7	OUTFALL FROM CONTROL STRUCTURE POND 1
F																										
P		142+31.00	LT	SEE REMARKS																					10.7	OUTFALL FROM CONTROL STRUCTURE POND 2
F																										
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SHEET TOTALS -				UNIT QUANTITY		675	214	0	0	0	5	0	1	0	1	1	0	1	0	0	2	3	0	0	76.6	
				PLAN QUANTITY		889		0		0	5	0	1	0	1	1	0	1	0	0	2	3	0	0	76.6	
				FINAL QUANTITY																						
GRAND TOTALS -				UNIT QUANTITY		2312	2659	116	476	216	14	5	2	2	1	1	1	1	10	1	3	5	1	12	113.8	
				PLAN QUANTITY		4971		592		216	14	5	2	2	1	1	1	1	10	1	3	5	1	12	113.8	
				FINAL QUANTITY																						

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COLUMBIA COUNTY

ROAD NAME: BASCOM NORRIS DRIVE

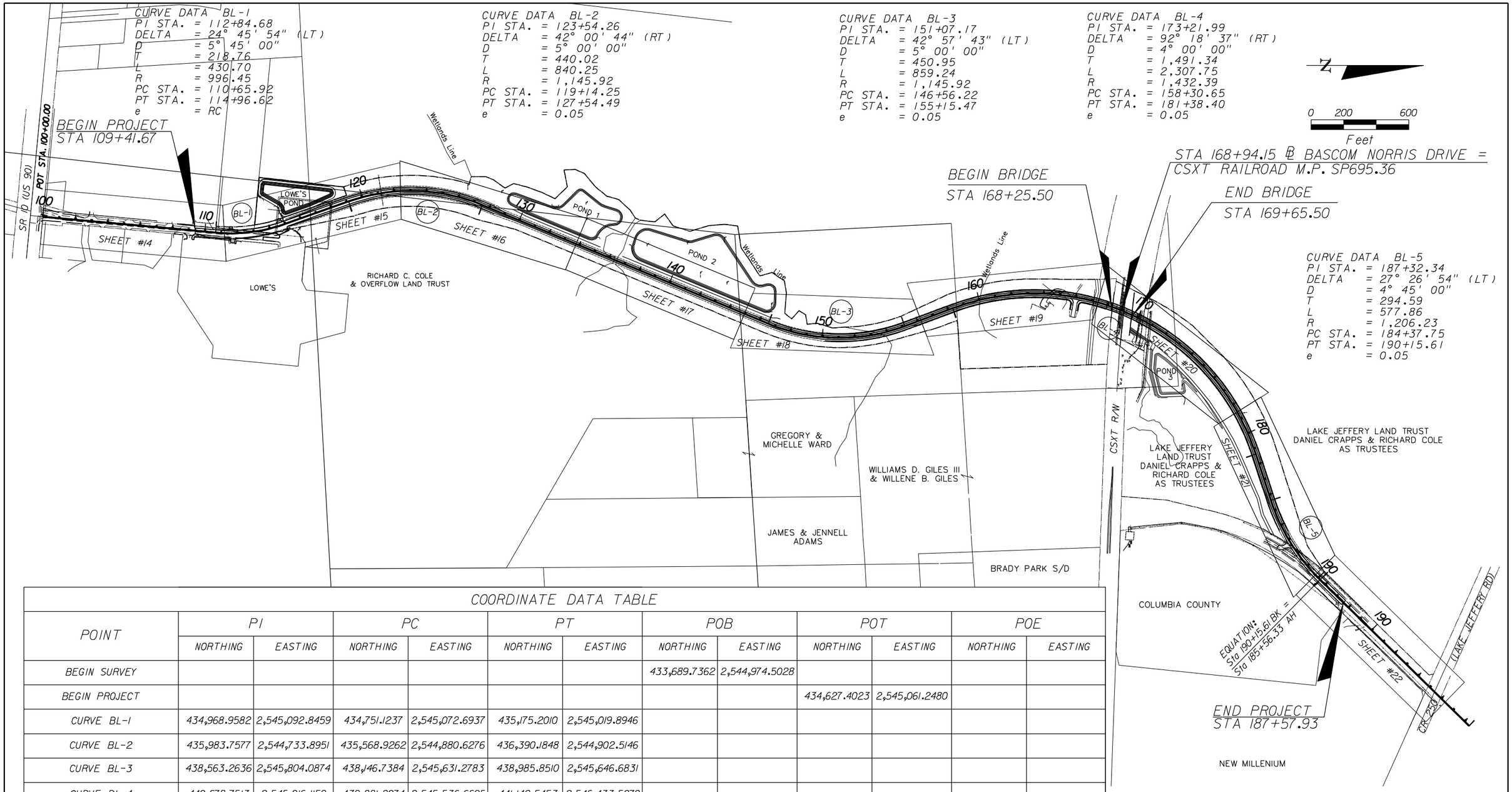
COUNTY BID NO.

SHEET TITLE: SUMMARY OF DRAINAGE STRUCTURES

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 10

$USER$ $DATE$ $TIME$ $FILE$



COORDINATE DATA TABLE

POINT	PI		PC		PT		POB		POT		POE	
	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING
BEGIN SURVEY							433,689.7362	2,544,974.5028				
BEGIN PROJECT									434,627.4023	2,545,061.2480		
CURVE BL-1	434,968.9582	2,545,092.8459	434,751.1237	2,545,072.6937	435,175.2010	2,545,019.8946						
CURVE BL-2	435,983.7577	2,544,733.8951	435,568.9262	2,544,880.6276	436,390.1848	2,544,902.5146						
CURVE BL-3	438,563.2636	2,545,804.0874	438,146.7384	2,545,631.2783	438,985.8510	2,545,646.6831						
CURVE BL-4	440,678.7513	2,545,016.1159	439,281.2074	2,545,536.6695	441,142.5453	2,546,433.5079						
CURVE BL-5	441,327.2552	2,546,997.9962	441,235.6415	2,546,718.0171	441,537.6119	2,547,204.2277						
STATION EQUATION									441,537.6119	2,547,204.2277		
END PROJECT									441,374.2002	2,547,005.6225		
END SURVEY											442,454.3694	2,548,103.0076

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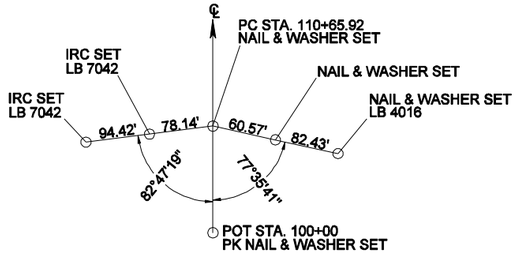
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
PROJECT LAYOUT

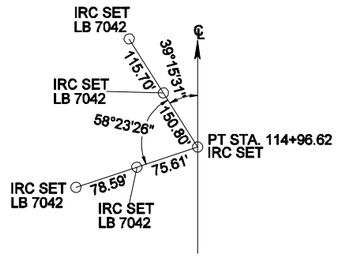
PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
11

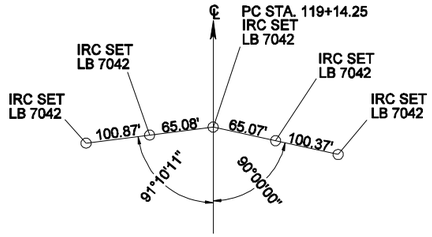
$USER$ $DATE$ $TIME$ $FILE$



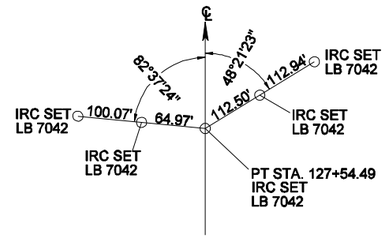
PC STA. 110+65.92



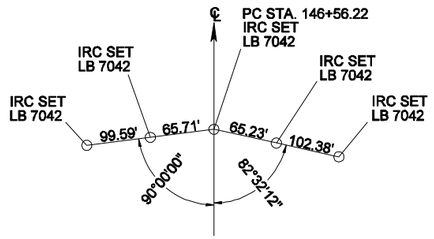
PT STA. 114+96.62



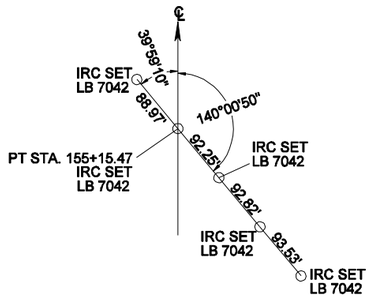
PC STA. 119+14.25



PT STA. 127+54.49



PC STA. 146+56.22



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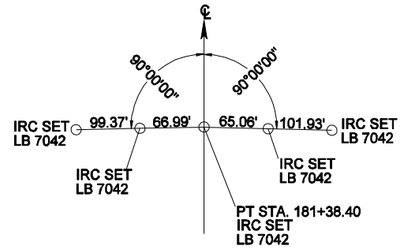
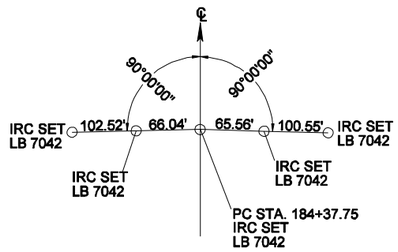
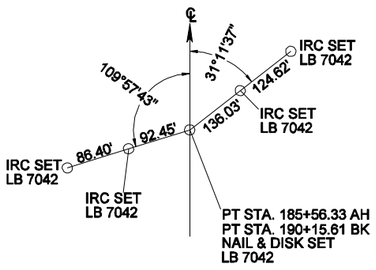


PC STA 158+30.65
(UNDERWATER)
NO DATA

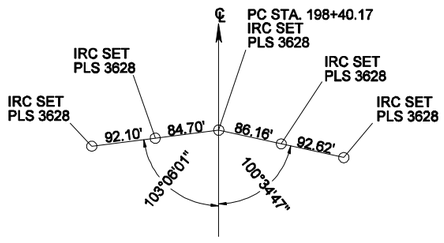
PT STA. 181+38.40



PC STA. 184+37.75



EQUATION
STA. 190+15.61 BK =
PT STA. 185+56.33 AH



PC STA. 198+40.17

BM#	STATION	OFFSET	ELEV.	DESCRIPTION
BM1	109+28.29	41.97' LT	164.21	R/R SPIKE IN 20" SYCAMORE ROOT
BM2	112+61.65	38.71' RT	161.97	SQ.CUT IN CONC.
BM3	119+18.45	82.11' LT	160.66	R/R SPIKE IN 10" PINE
BM7	139+05.32	84.21' RT	104.17	NAIL IN 8" OAK
BM8	149+40.15	74.67' LT	99.72	NAIL IN 16" OAK
BM4	171+37.34	81.57' RT	151.84	R/R SPIKE IN 16" OAK
BM5	180+64.12	82.25' RT	162.85	R/R SPIKE IN 24" PINE
BM6	189+93.16	79.88' RT	174.39	R/R SPIKE IN 6" CHERRY

NOTE: ALL BM STATIONS ARE PRIOR TO STATION EQUATION.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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ENGINEER OF RECORD:
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Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
REFERENCE POINTS & BENCH MARKS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
12

$USER$ $DATE$ $TIME$ $FILE$

ABBREVIATIONS

&	AND
@	AT
A.D.	ALGEBRAIC DIFFERENCE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVG	AVERAGE
B/L	BASE LINE
BOA	BLOW OFF ASSEMBLY
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C&G	CURB & GUTTER
C/L	CENTERLINE
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONN	CONNECT, CONNECTED, CONNECTION
CR	COUNTY ROAD
CY	CUBIC YARD
DB	DITCH BLOCK
DBI	DITCH BOTTOM INLET
DBL	DITCH BLOCK LEFT
DBR	DITCH BLOCK RIGHT
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E:	EASTING
E	EAST
EA	EACH
EL	ELEVATION
ELB	ELBOW
EOP	EDGE OF PAVEMENT
EORP	EDGE OF ROADWAY PAVEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FH	FIRE HYDRANT
FIN	FINISHED
FT	FOOT
GALV	GALVANIZED
GTTR	GUTTER
GV	GATE VALVE
HP	HIGH POINT
ID	INSIDE DIAMETER
IN	INCHES
INV	INVERT
K	K VALUE
LB	POUNDS
LBR	LIMEROCK BEARING RATIO
LF	LINEAR FEET
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
N:	NORTHING
N	NORTH
NG	NATURAL GROUND
No	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
#	NUMBER DESIGNATION
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P/L	PROPERTY LINE
PE	PLAIN END
POJ	PUSH-ON JOINT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
REQ'D	REQUIRED
RT	RIGHT
ROW	RIGHT OF WAY
S	SOUTH
SAN	SANITARY SEWER
SF	SQUARE FEET
SHLDR	SHOULDER
SHT	SHEET
SQ	SQUARE
STA	STATION
STD	STANDARD
STL	STEEL
TGSP	THREADED GALVANIZED STEEL PIPE
THRD	THREADED
TYP	TYPICAL
VC	VERTICAL CURVE
W	WEST
W/	WITH
WM	WATER MAIN
WT	WEIGHT

GENERAL NOTES

1. CONTRACTOR SHALL RETAIN ON THE WORK SITE COPIES OF ANY PERMITS REQUIRED FOR CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, STRUCTURES, AND OTHER FEATURES CAUSED BY CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH INDIVIDUAL COMPANIES CONCERNING RELOCATION OF UTILITIES AND ANY ADDITIONAL RELOCATIONS RESULTING FROM CONFLICTS NOT DELINEATED ON THE DRAWINGS.
5. ALTHOUGH EXISTING UTILITIES WERE INVESTIGATED DURING DESIGN, THERE IS NO GUARANTEE THAT ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES WERE DISCOVERED AND SHOWN ON THE PLANS. CONTRACTOR SHALL FIELD LOCATE AND INCLUDE CONSIDERATION OF SUCH UTILITIES IN PLANNING AND PRIOR TO EXECUTION OF WORK.
6. CONTRACTOR IS RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES EXPOSED OR UNEXPOSED DURING CONSTRUCTION.
7. ALTHOUGH MEASUREMENTS MAY BE SHOWN ON THE DRAWINGS, CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL MATERIAL QUANTITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. IT IS THE RESPONSIBILITY OF CONTRACTOR TO BECOME FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND TO ABIDE BY THEM AS COVERED UNDER THE FLORIDA TRENCH SAFETY ACT (LAWS OF FLORIDA 90-96) EFFECTIVE OCTOBER 1, 1990.
9. CONTRACTOR SHALL HAND EXCAVATE WHEN CONSTRUCTION IS WITHIN 2 FEET OF EXISTING UTILITIES.
10. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED.
11. ALL SOD ON SLOPES STEEPER THAN 1:3 SHALL BE STAKED.
12. CONTRACTOR SHALL PROVIDE AN "AS-BUILT" SURVEY FOR MODIFICATIONS MADE DURING CONSTRUCTION.
13. ALL SUPERPAVE & FRICTION COURSE ASPHALT TONNAGE IS BASED ON 110#/SY/IN OF THICKNESS. ALL MISCELLANEOUS ASPHALT TONNAGE IS BASED ON 100#/SY/IN OF THICKNESS.
14. CONTRACTOR SHALL MAINTAIN TRAFFIC IN ACCORDANCE WITH FDOT STANDARD INDEX 600 SERIES. DRIVEWAY ACCESS MUST BE COORDINATED WITH PROPERTY OWNERS. ALL SIGNING, BARRICADES, LIGHTING, AND FLAGGERS SHALL BE INCLUDED IN THE LUMP SUM COST. ALL WORK IS TO BE CARRIED OUT MONDAY THROUGH FRIDAY 7 A.M. TO 7 P.M., WITH NO WEEKEND OR HOLIDAY WORK WITHOUT PRIOR APPROVAL BY THE COUNTY.
15. CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA, INC. (1-800-432-4770) TWO BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.
16. ALL STORM DRAIN PIPES SHALL BE F949 PVC UNLESS OTHERWISE NOTED.

REVISIONS

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ENGINEER OF RECORD:
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P.E. NO.: 37392

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www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

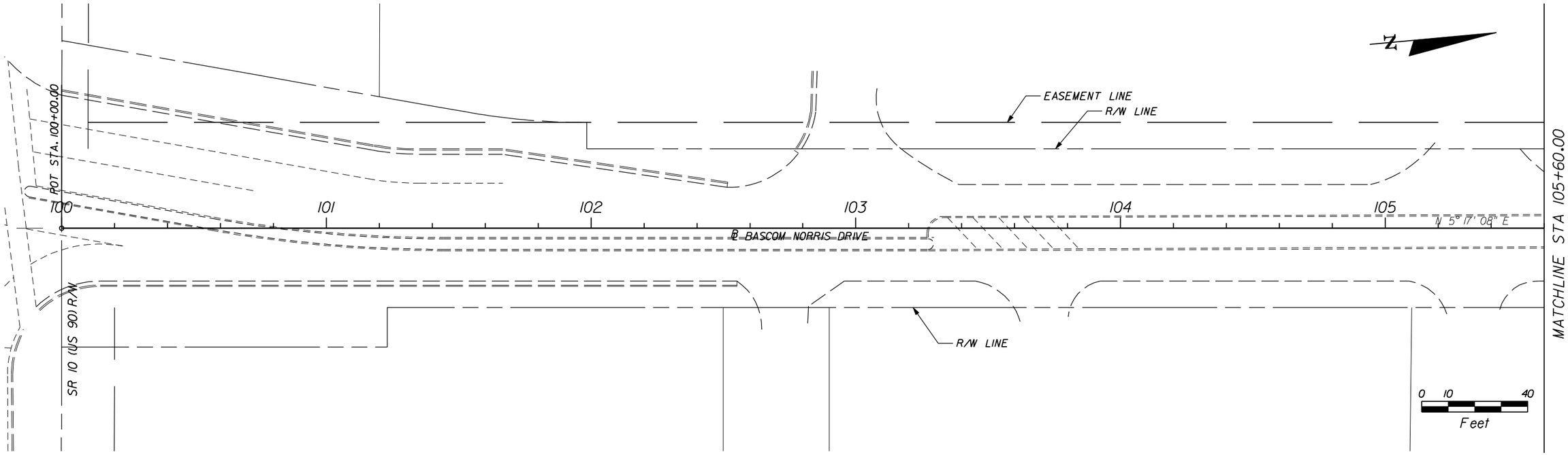
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

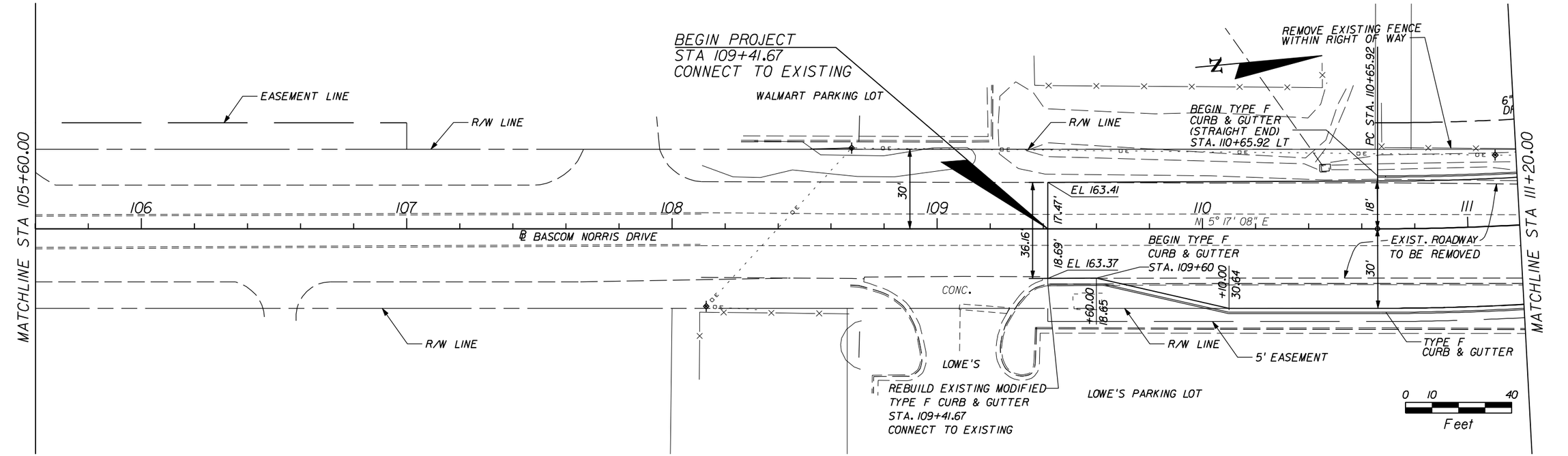
SHEET TITLE: GENERAL NOTES

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 13

$USER$ $DATE$ $TIME$ $FILE$





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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: ROADWAY PLAN SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 14

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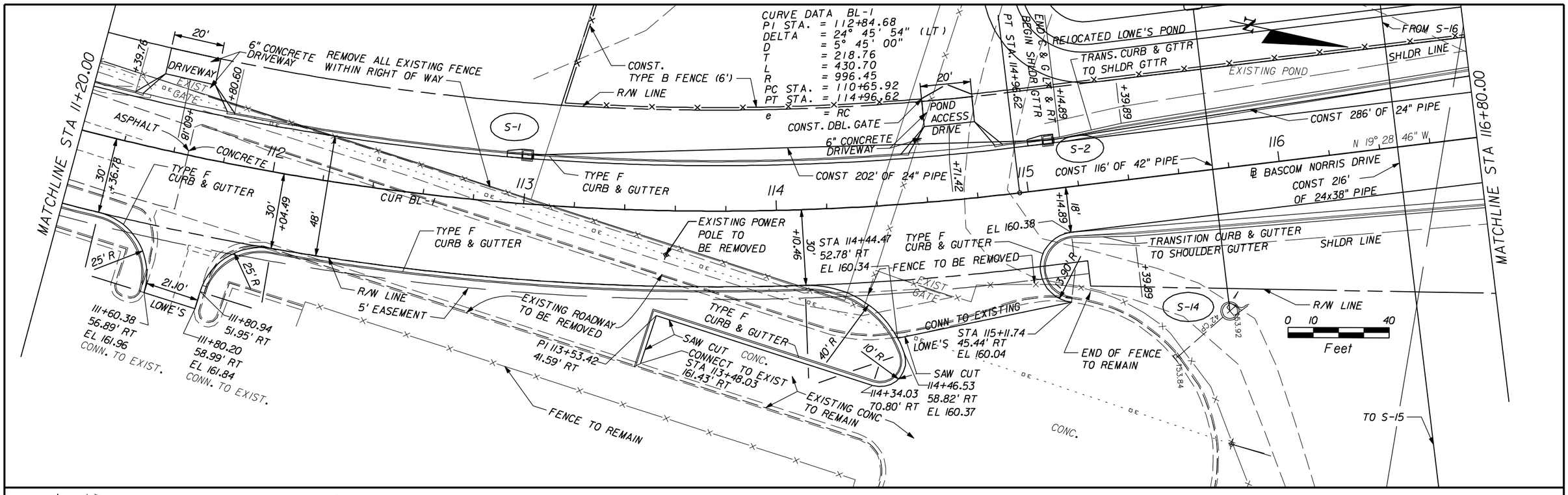

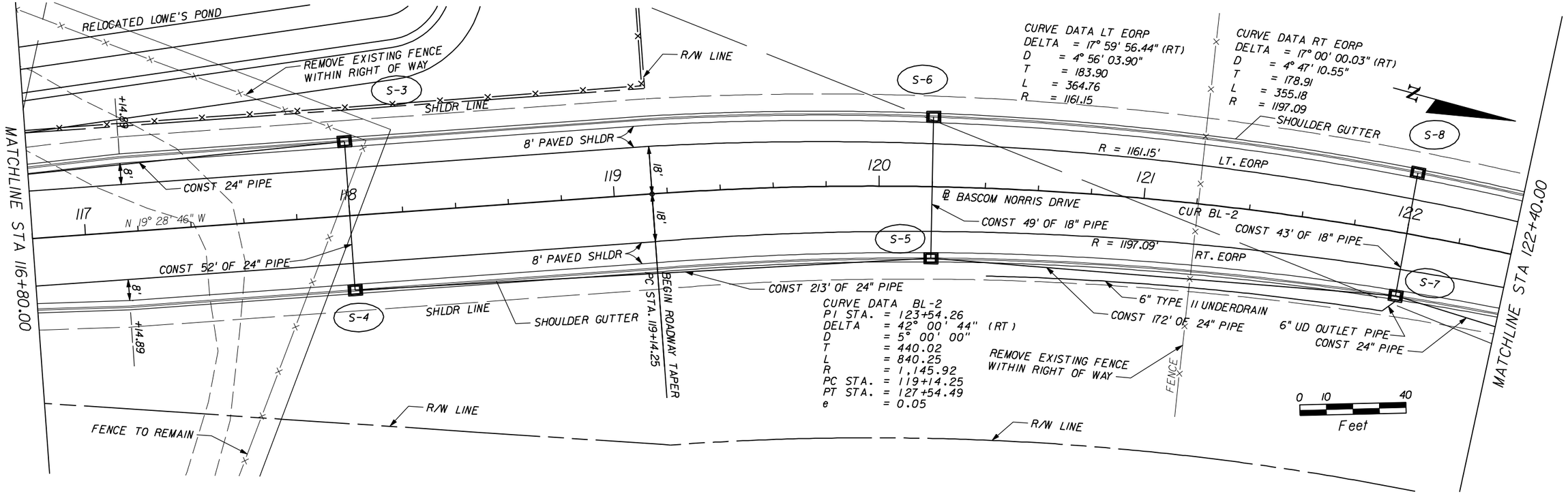

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
15

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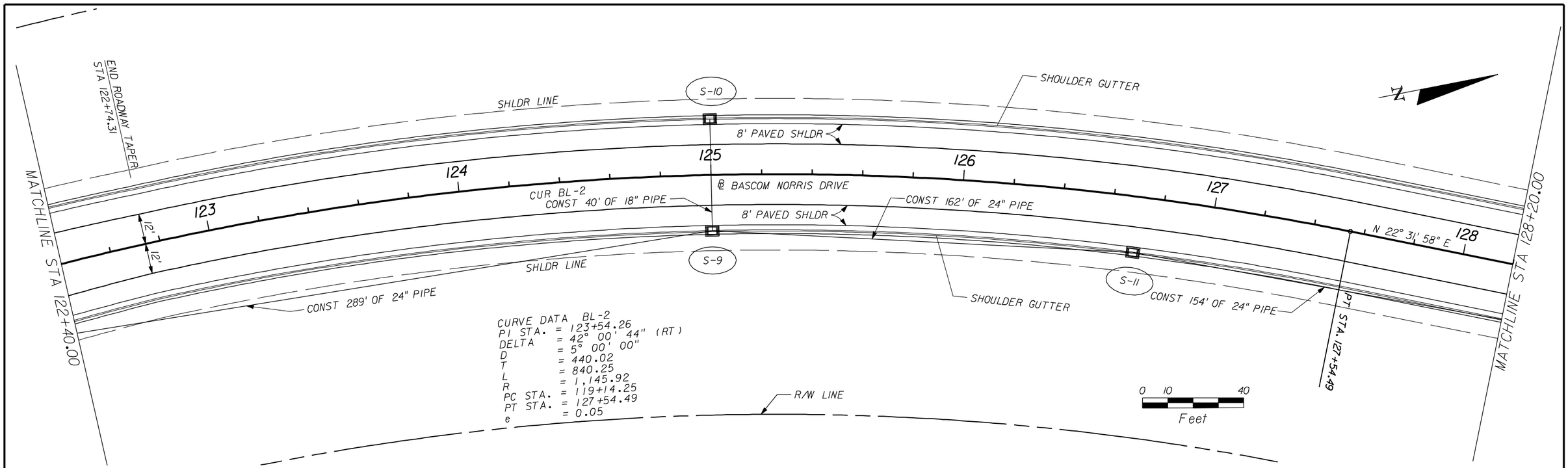

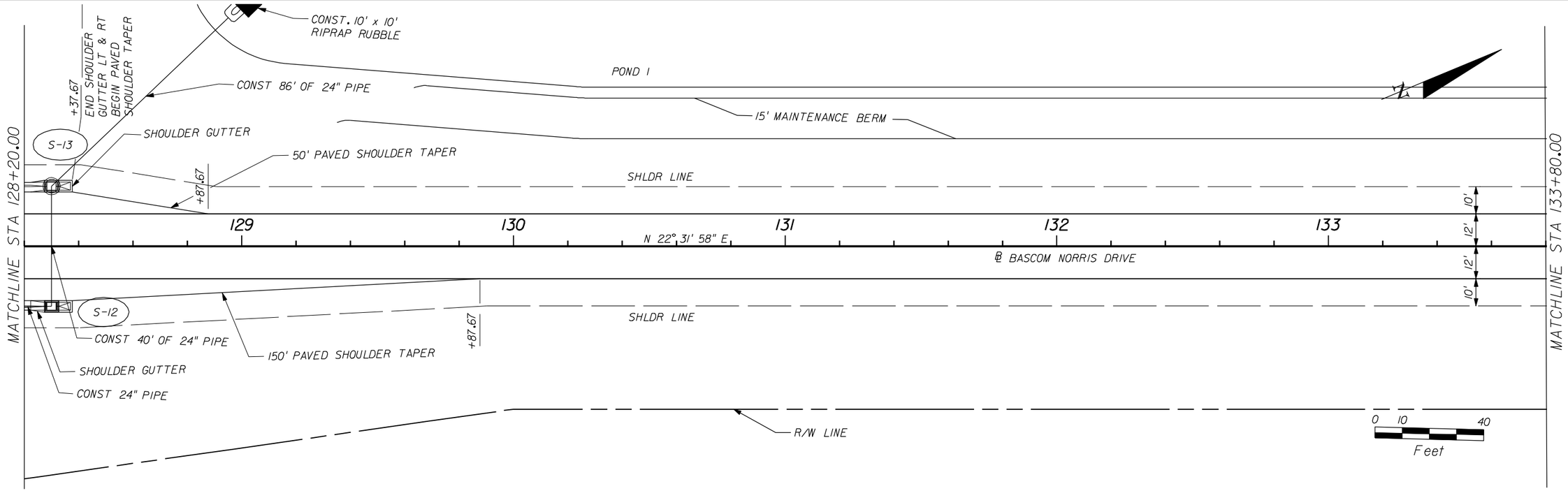

REVISIONS

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ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
16

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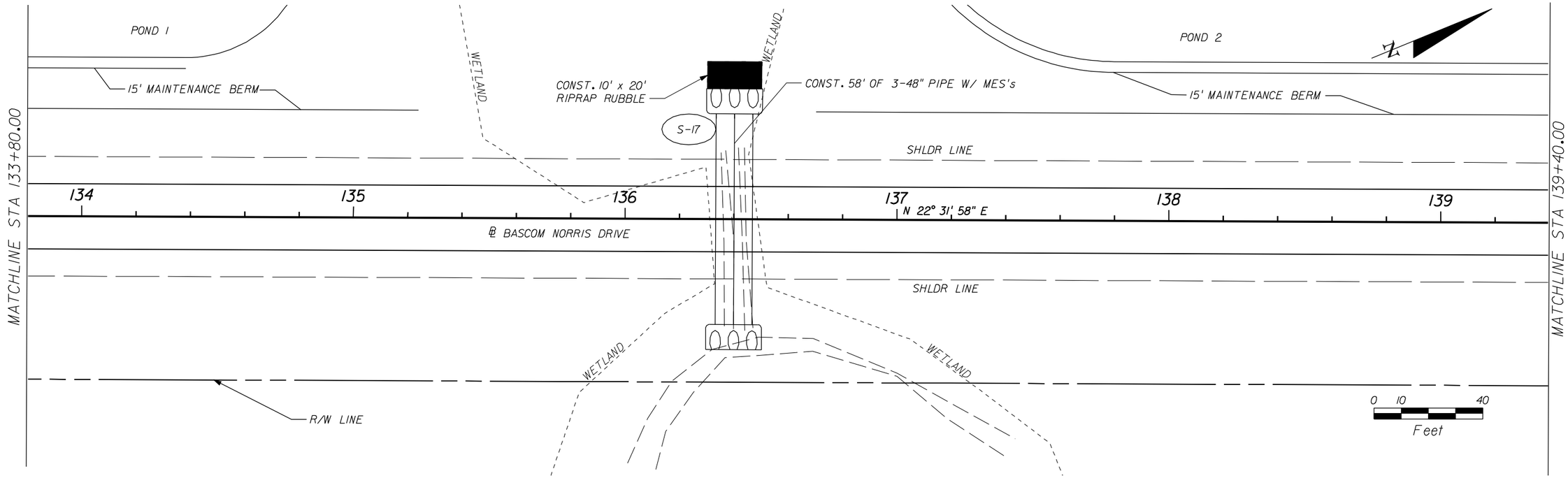

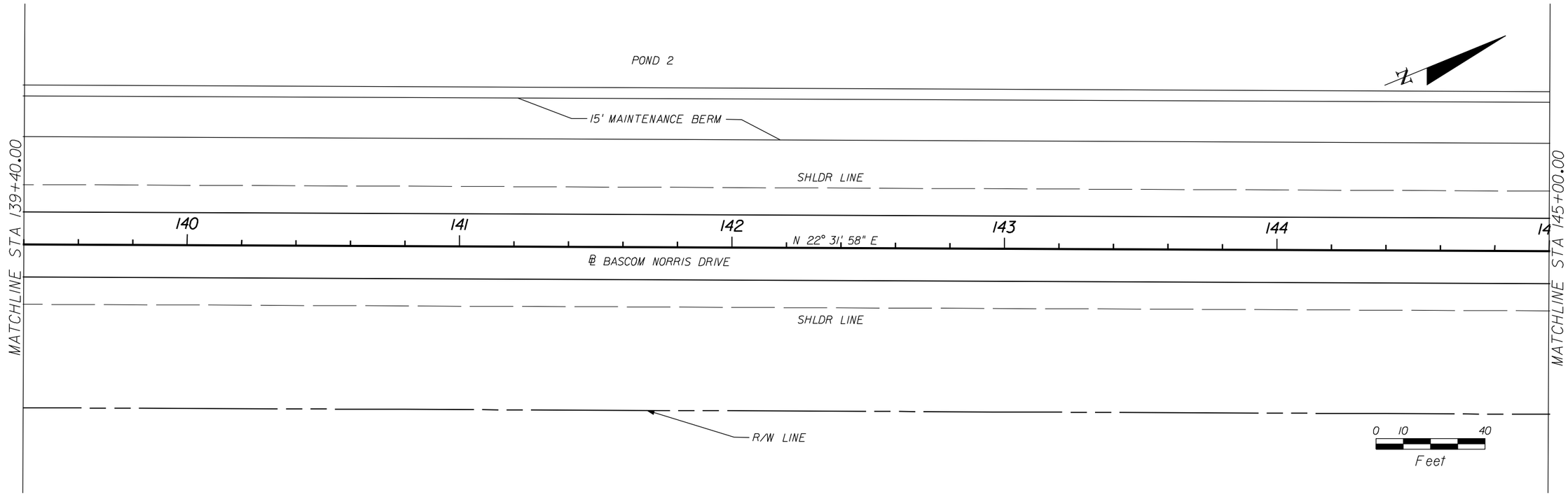

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
17

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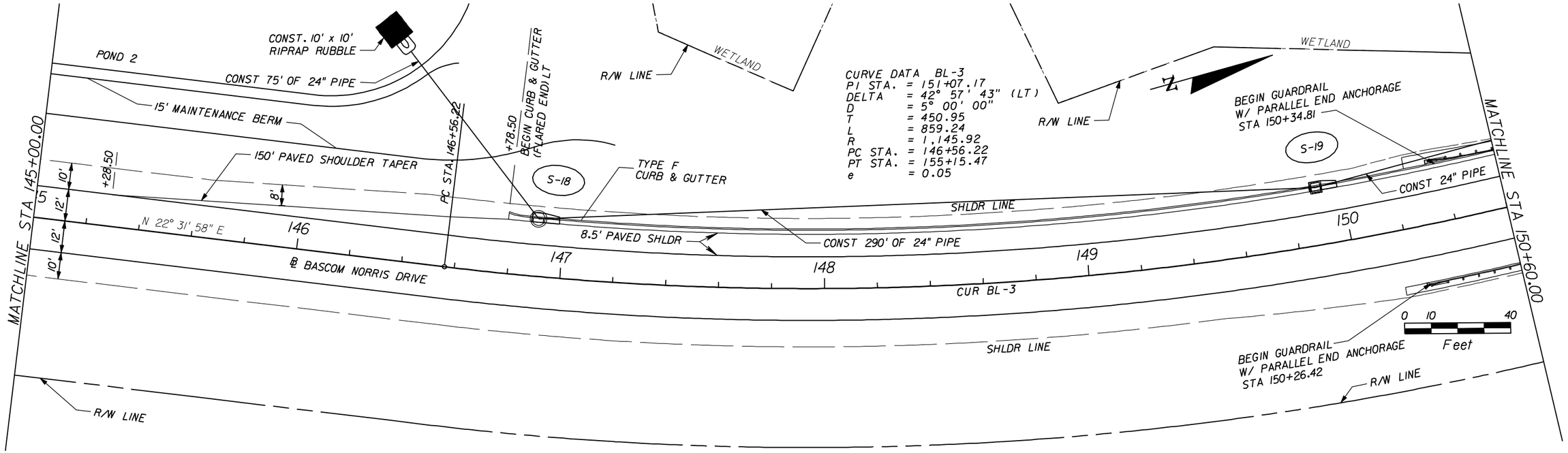

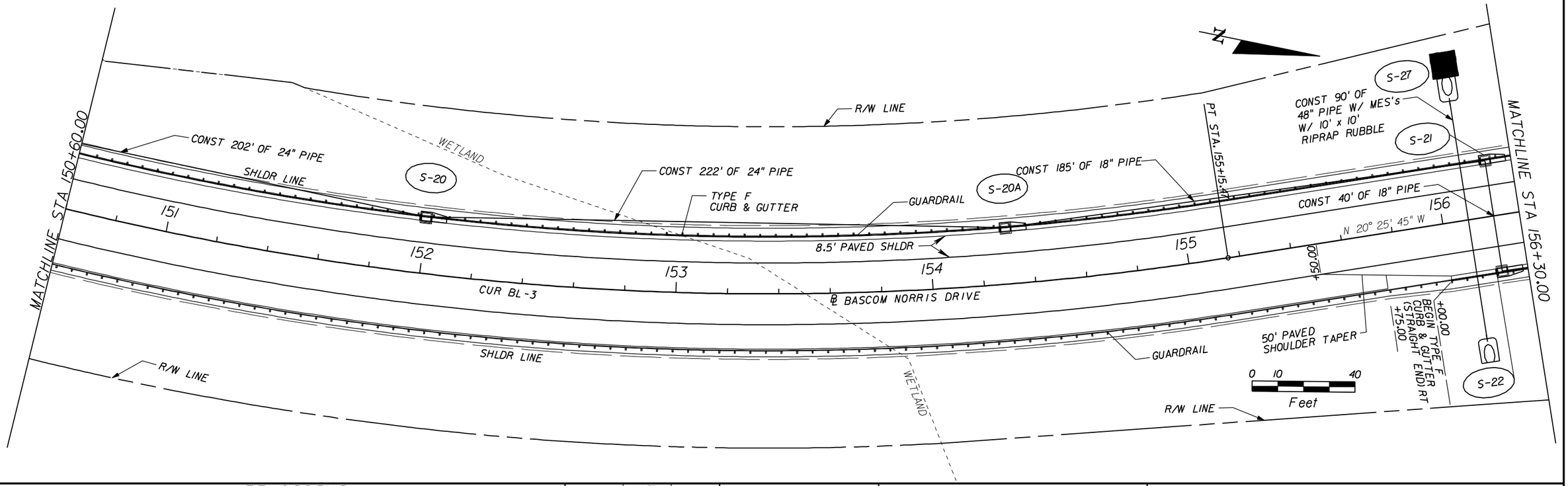

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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: ROADWAY PLAN SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 18

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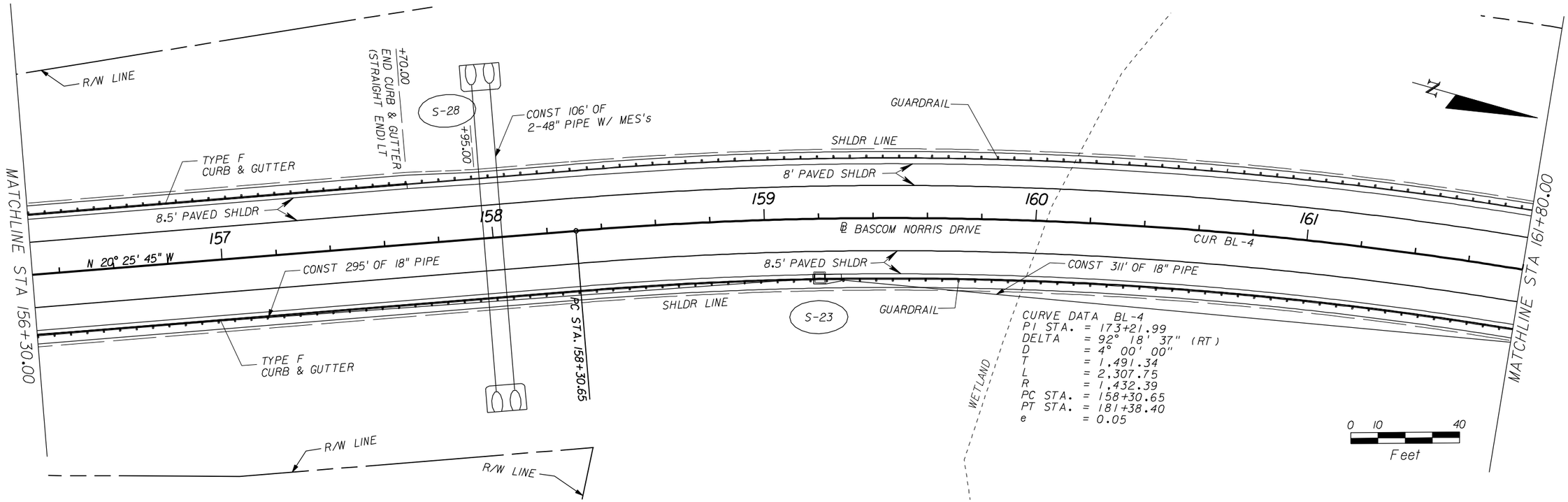

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ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
19

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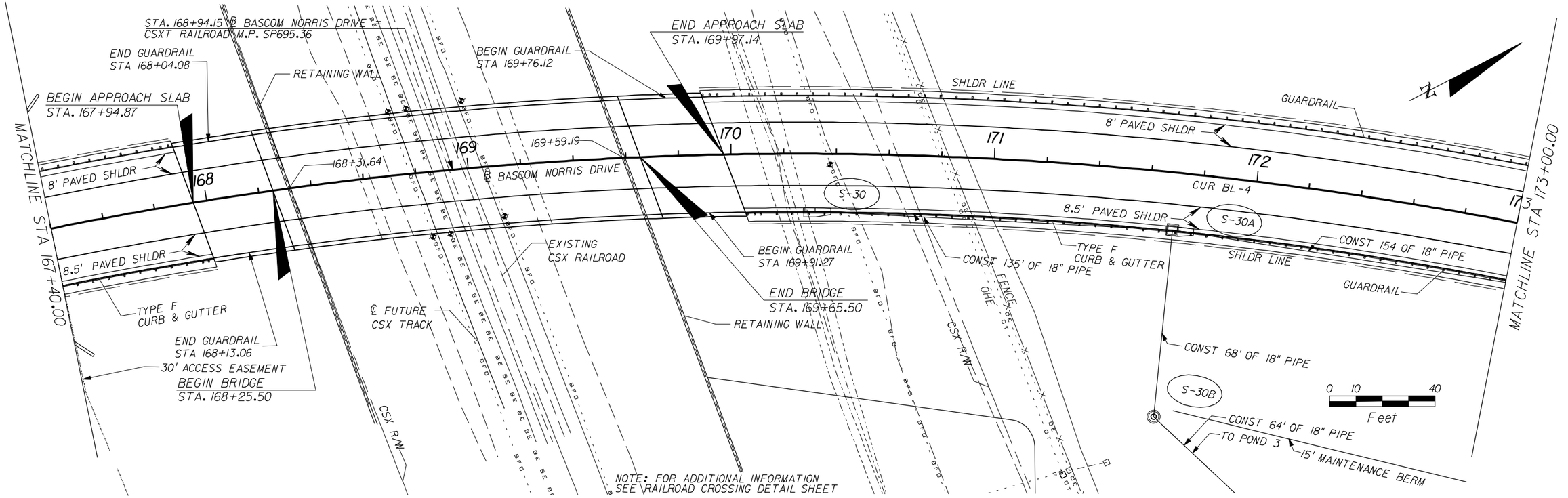

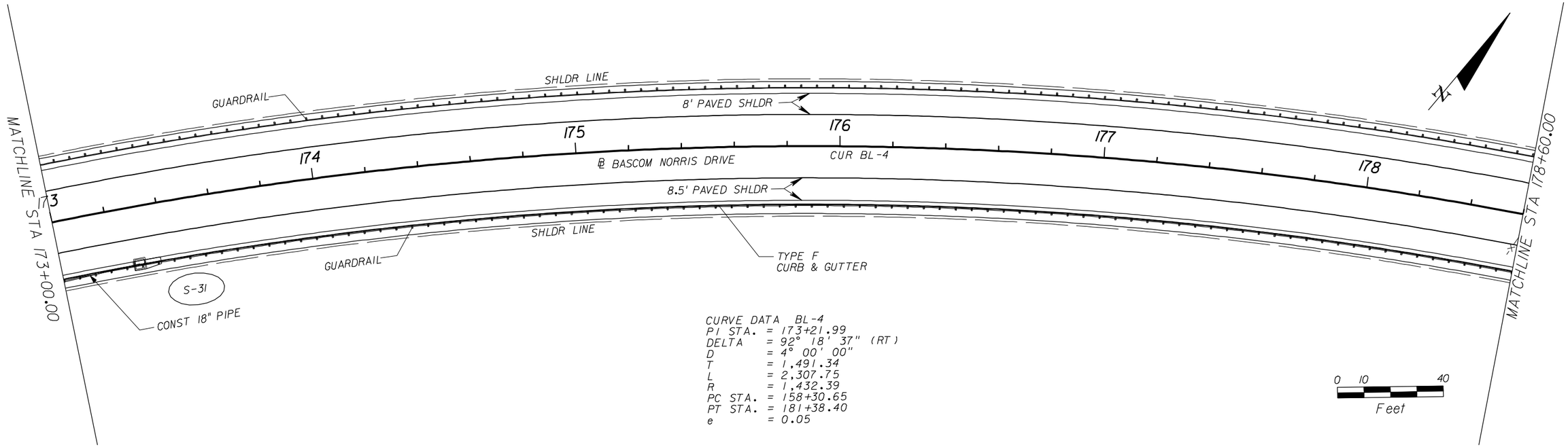

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PT STA. = 181+38.40
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REVISIONS					
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COLUMBIA COUNTY

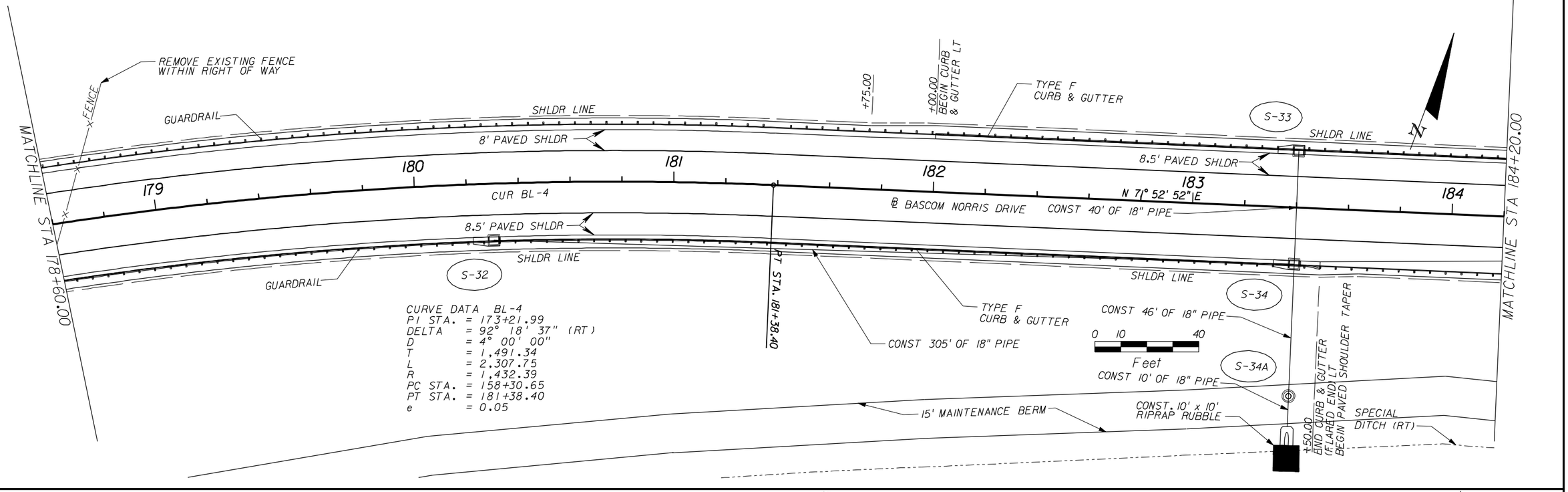
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
20

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
21

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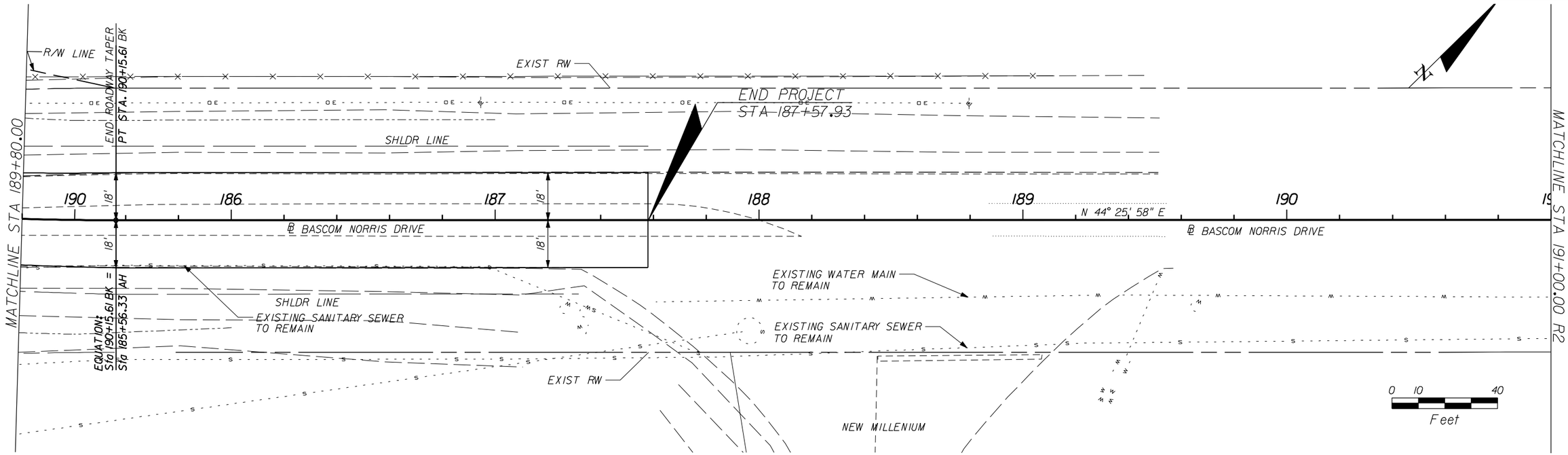

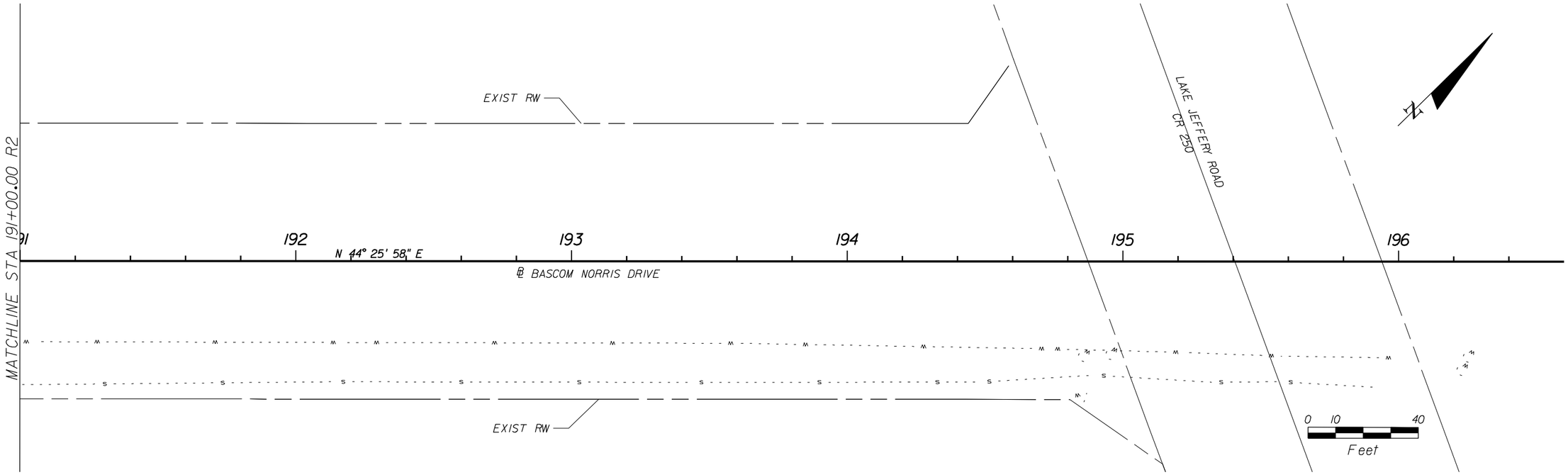

REVISIONS					
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	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
200 W FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

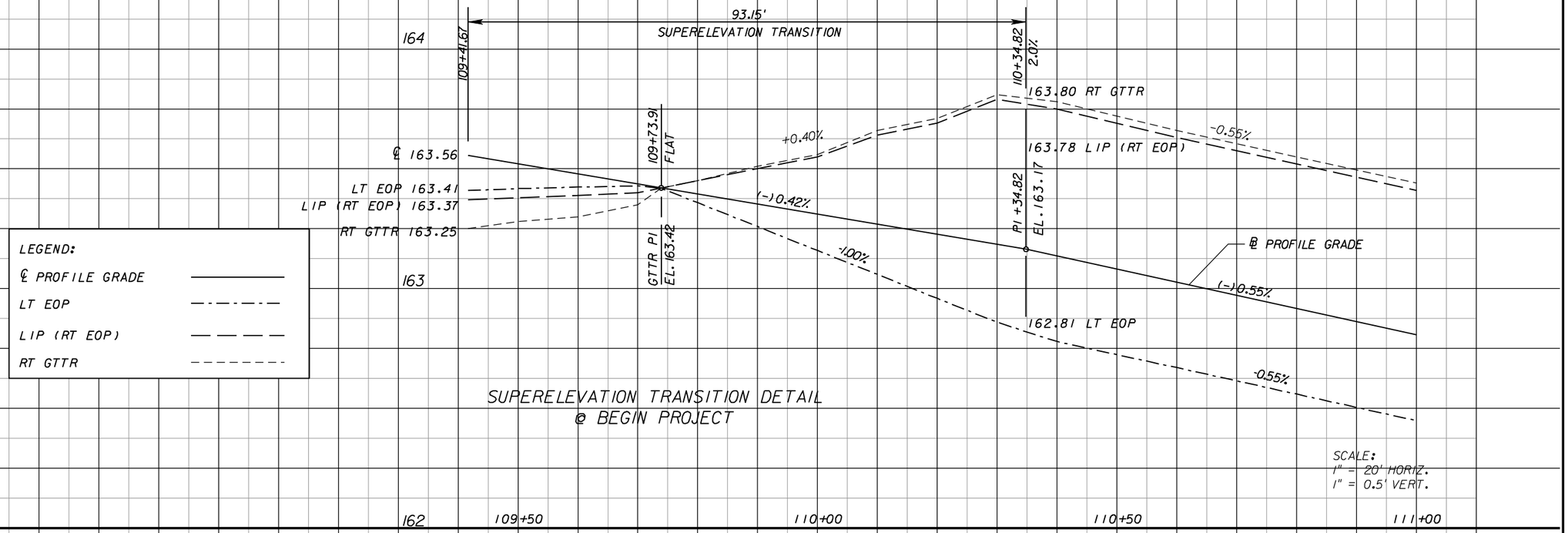
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PLAN SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

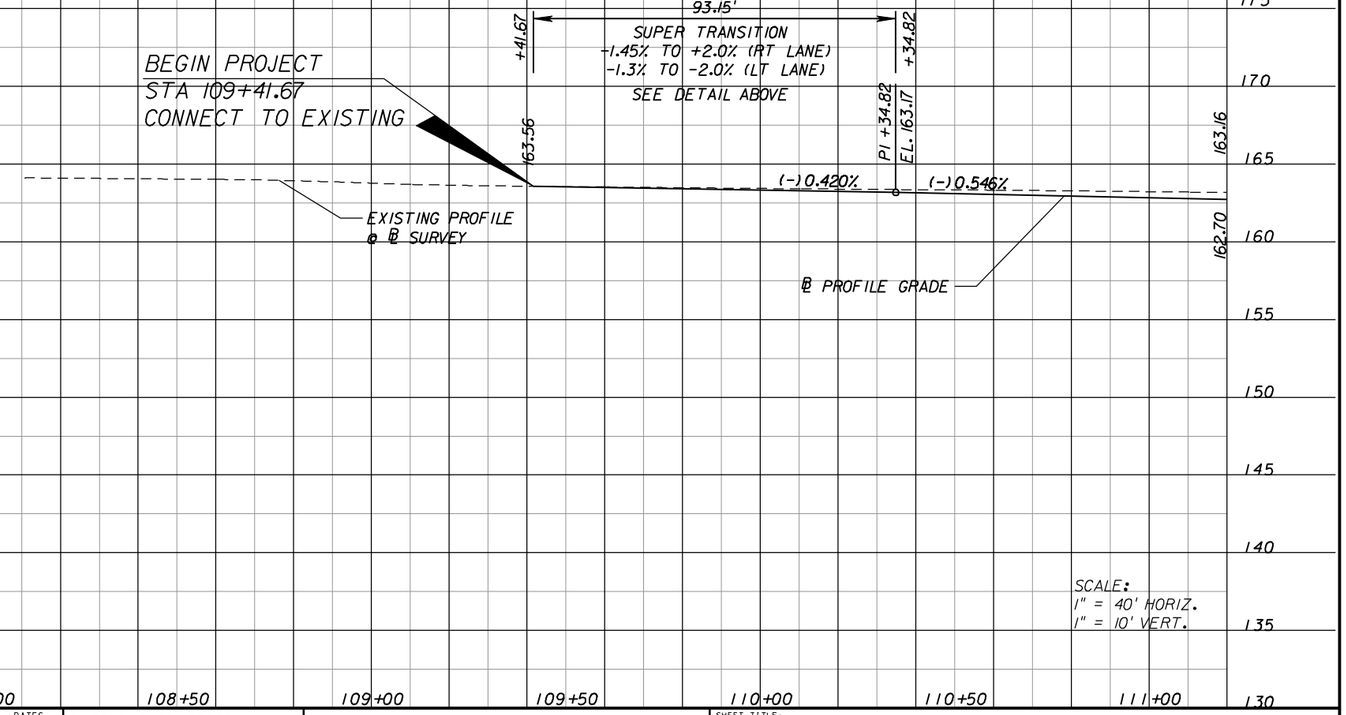
SHEET NO.
22

$USER$ $DATE$ $TIME$ $FILE$



SUPERELEVATION TRANSITION DETAIL
@ BEGIN PROJECT

BM No. 1
Railroad spike in 20" sycamore root
41.97' Lt. Sta. 109+28.29
Elev. 164.21



SCALE:
1" = 40' HORIZ.
1" = 10' VERT.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
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APPROVED BY		

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COLUMBIA COUNTY

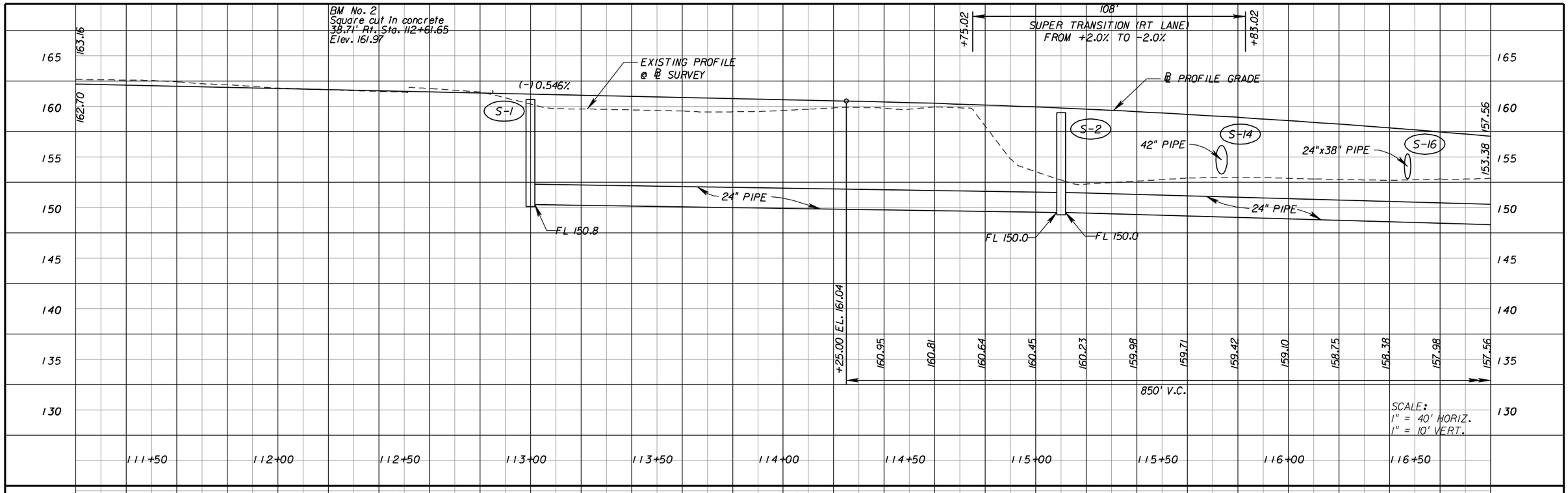
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
23

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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CHECKED BY		
APPROVED BY		

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COLUMBIA COUNTY

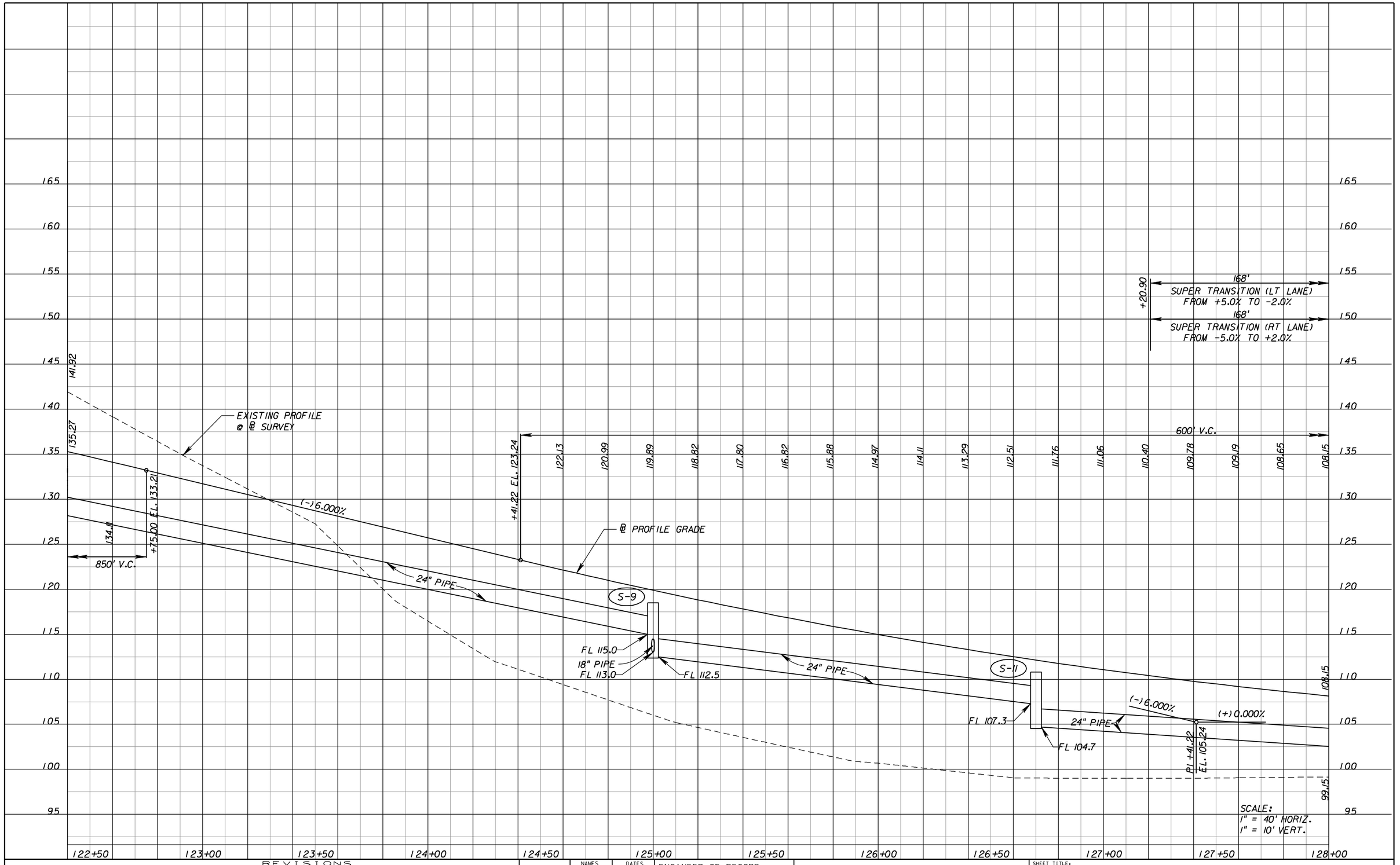
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
24

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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COLUMBIA COUNTY

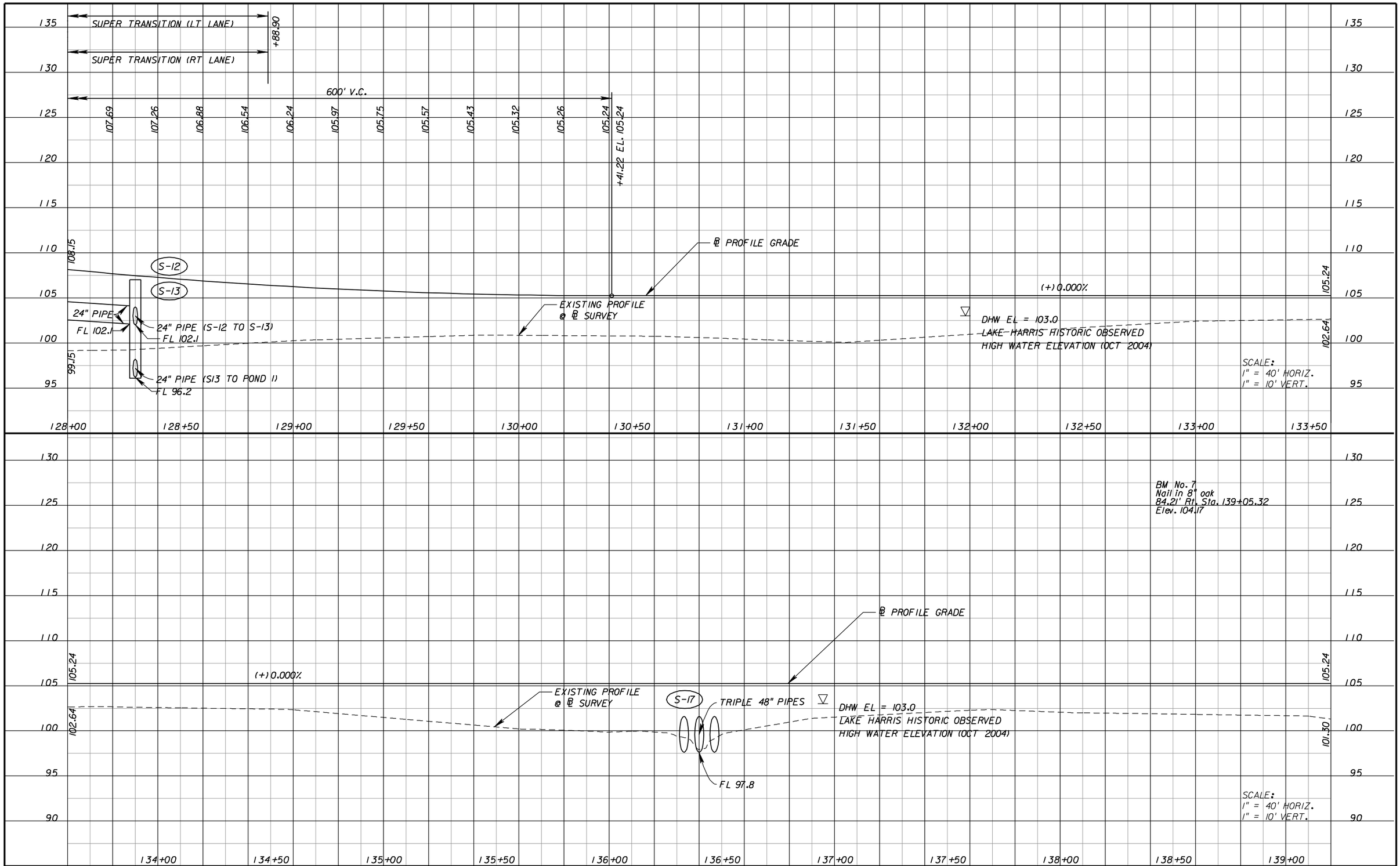
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
25

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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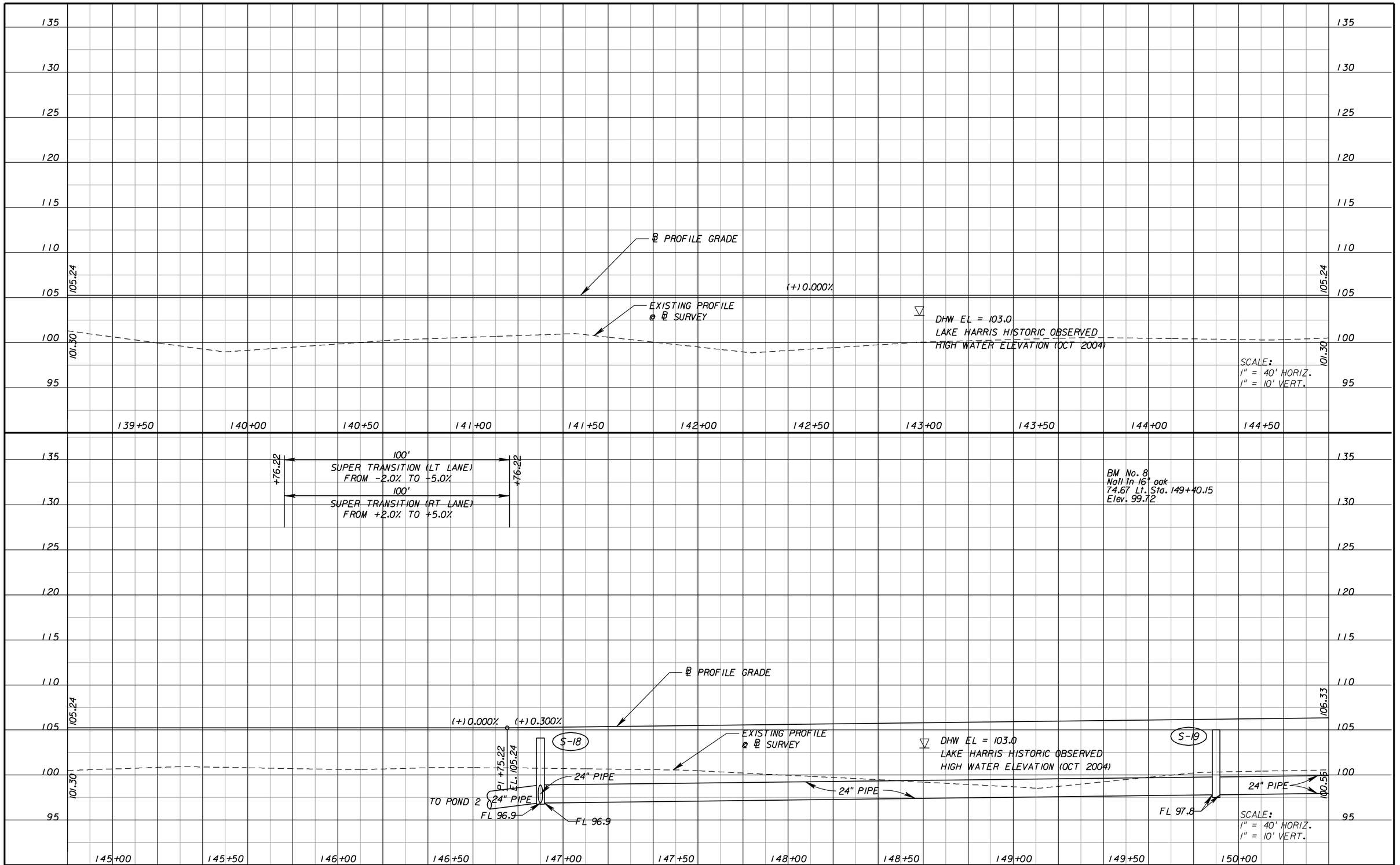
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
26

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
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APPROVED BY		

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COLUMBIA COUNTY

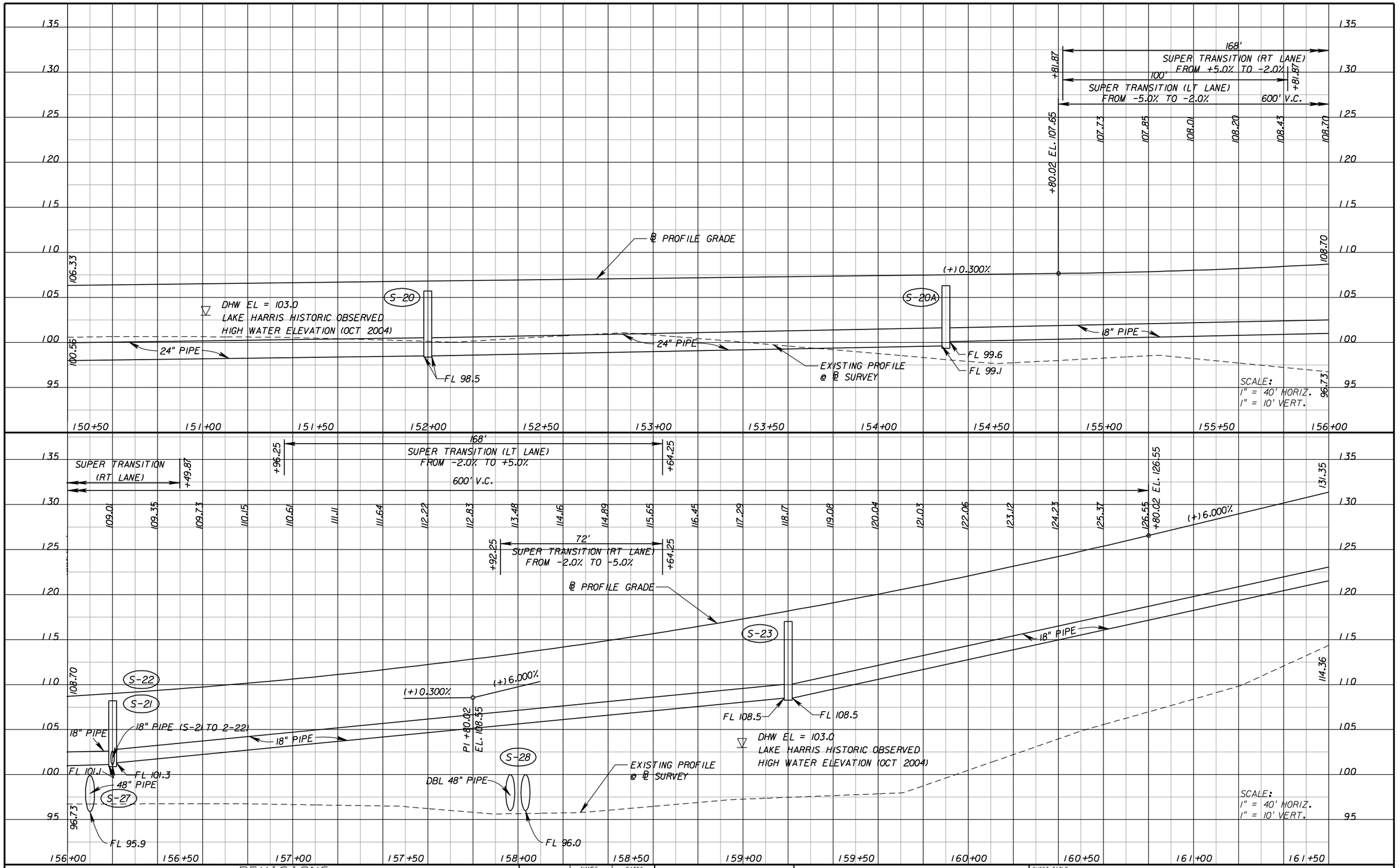
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
27

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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COLUMBIA COUNTY

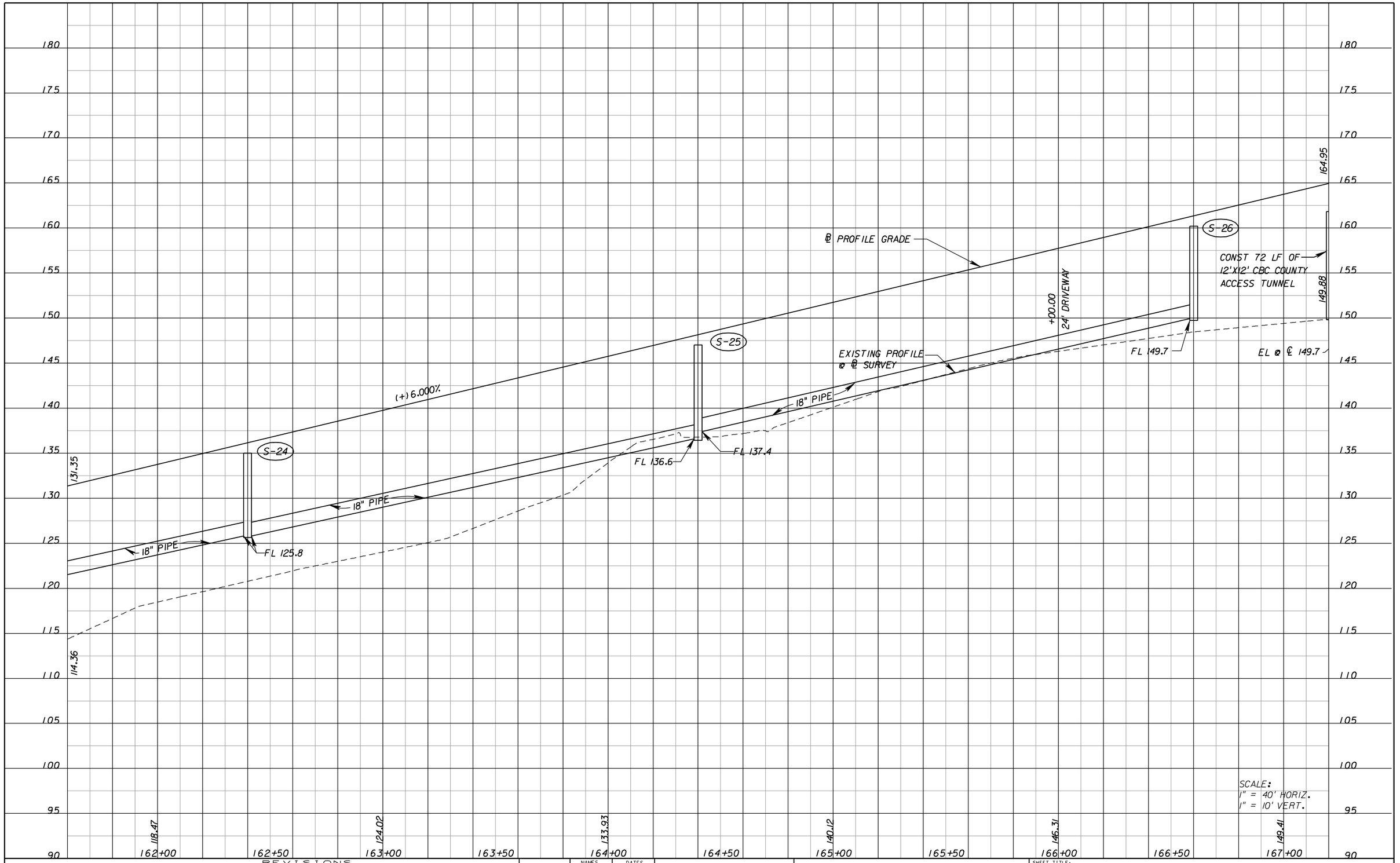
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: ROADWAY PROFILE SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 28

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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DESIGNED BY		
CHECKED BY		
APPROVED BY		

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P.E. NO.: 37392

HDR Employee-owned
HDR Engineering, Inc.
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
29

$USER$ $DATE$ $TIME$ $FILE$

BM No. 4
Railroad spike in 16" oak
81.57 Rt. Sta. 171+37.34
Elev. 151.84

BEGIN BRIDGE
STA 168+25.50

END BRIDGE
STA 169+65.50

TOP OF BRIDGE DECK

℄ PROFILE GRADE

(+)6.000%

164.95

192.65

+25.50

+59.00

+78.95

+23.50

+65.50

23.67' VERT. CL. (STRUCTURE DEPTH = 5.61' BELOW PROFILE GRADE)

S-30

S-30A

18" PIPE

FL 177.4

FL 177.2

FL 181.0

18" PIPE

18" PIPE

CONST 72 LF OF 12'X12' CBC
COUNTY ACCESS TUNNEL

149.88

TOP OF RAIL
EXIST TRACK
SOUTH EL. 145.21
NORTH EL. 145.08

6.00'

FUTURE TRACK
SOUTH RAIL
EL 145.21

EXISTING PROFILE
@ ℄ SURVEY

151.90

+75.00 EL. 174.25

174.55 175.73 176.88 178.00 179.09 180.16 181.19 182.20 183.17 184.12 185.04 185.93 186.79 187.62 188.43 189.20 189.95 190.67 191.36 192.02 192.65

1,250' V.C.

200 195 190 185 180 175 170 165 160 155 150 145 140 135 130 125 120 115 110

167+50 168+00 168+50 169+00 169+50 170+00 170+50 171+00 171+50 172+00 172+50

SCALE:
1" = 40' HORIZ.
1" = 10' VERT.

REVISIONS

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COLUMBIA COUNTY

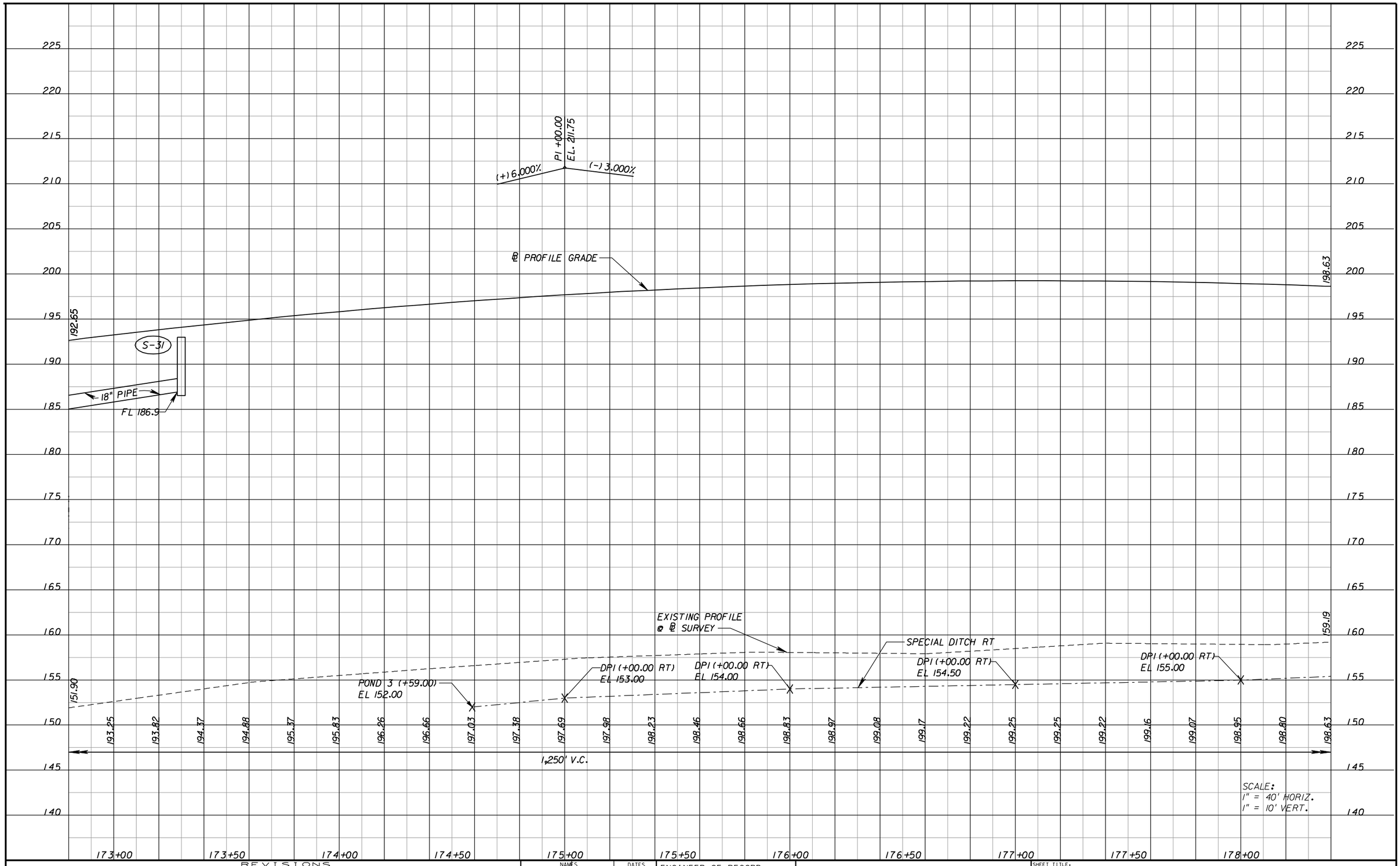
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
30

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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DRAWN BY		
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DESIGNED BY		
CHECKED BY		
APPROVED BY		

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COLUMBIA COUNTY

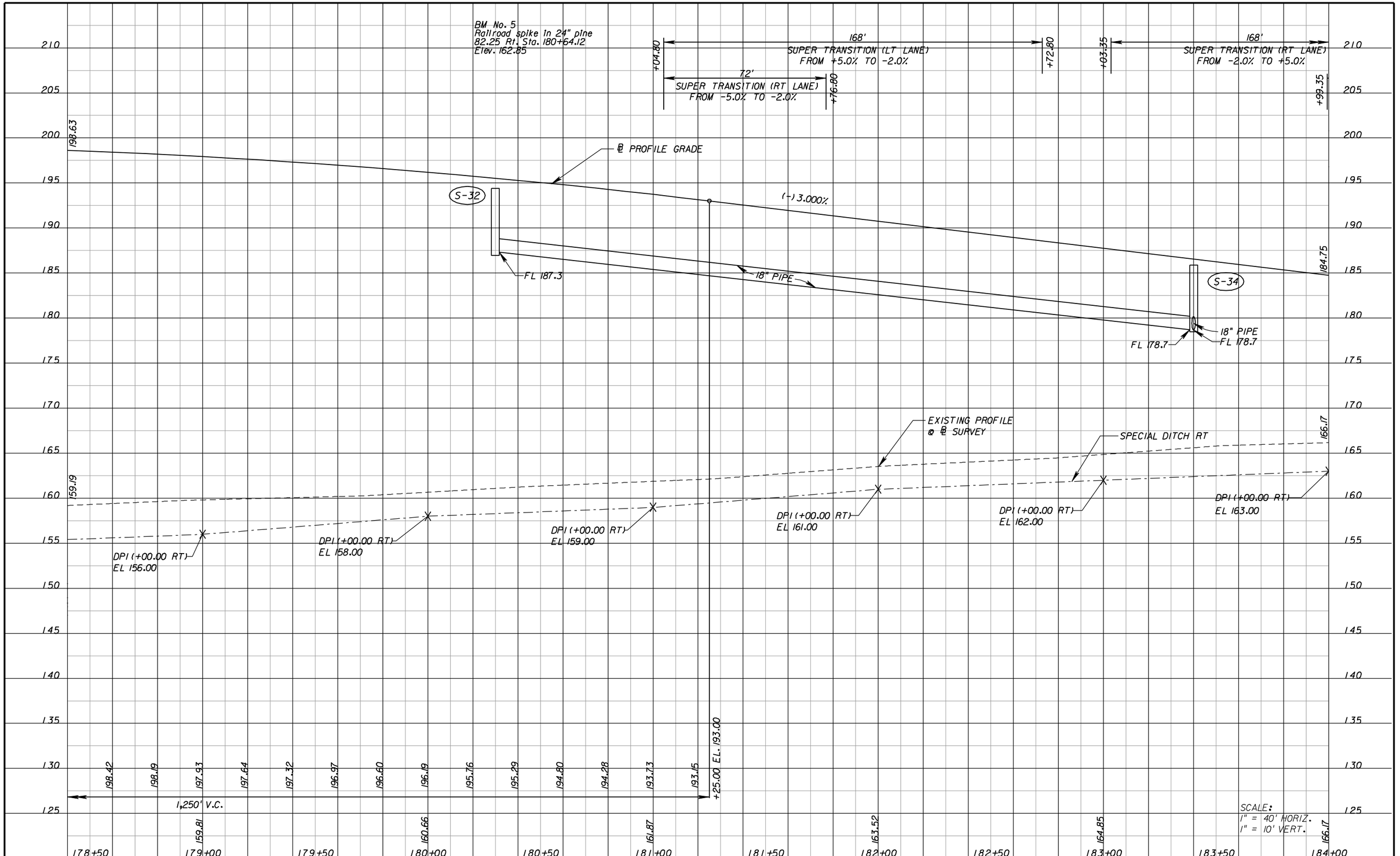
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: ROADWAY PROFILE SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 31

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NAMES		DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
HDR Engineering, Inc.
200 W FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 598-8900
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COLUMBIA COUNTY

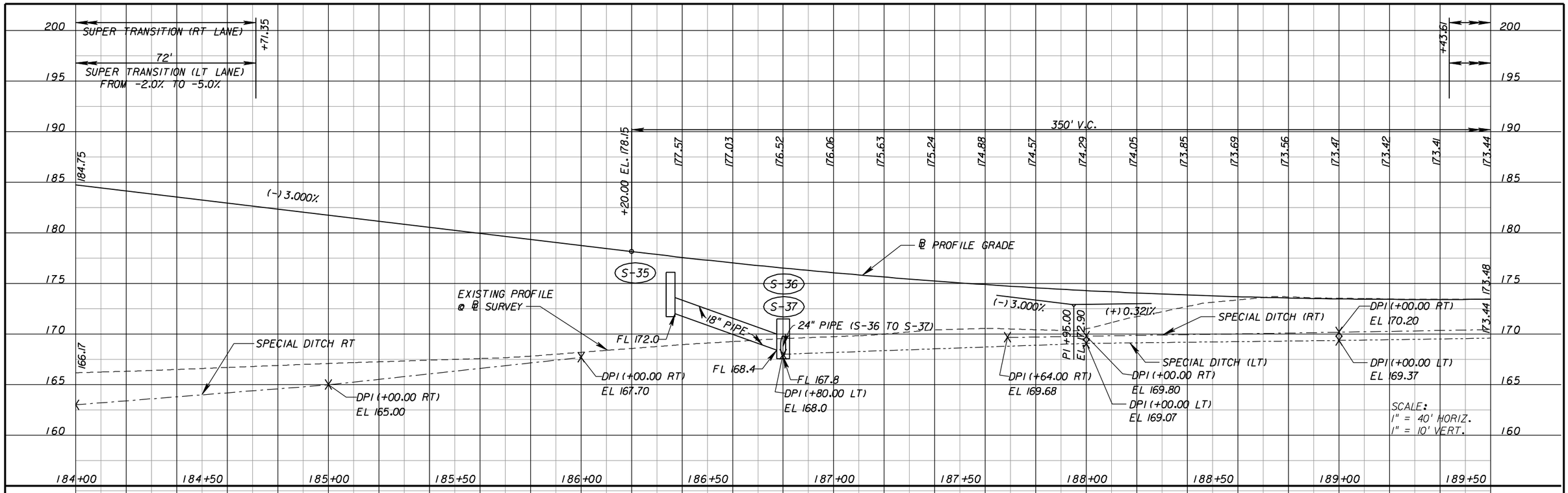
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ROADWAY PROFILE SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
32

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37362
HDR Engineering, Inc.
200 W FORSYTH ST, STE. 800
JACKSONVILLE, FL 32202
(904) 598-9800
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COLUMBIA COUNTY

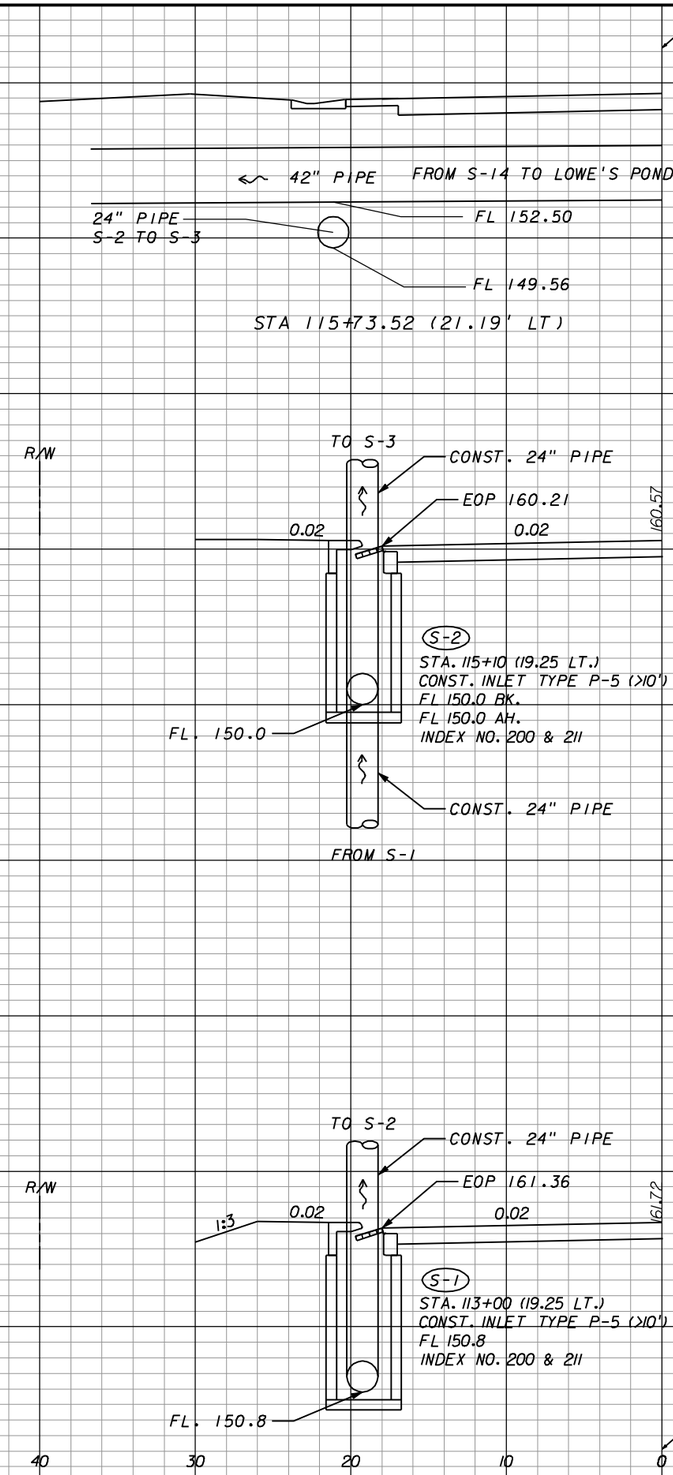
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: ROADWAY PROFILE SHEET

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 33

$USER$ $DATE$ $TIME$ $FILE$



PIPE CROSSING

115+73.52

S-2

115+10.00

S-1

113+00.00

NOTES:

1. SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES EXTEND INTO THE STABILIZED PORTION OF THE ROADBED AND EXTREME CAUTION WILL BE NECESSARY IN STABILIZATION AT THESE LOCATIONS.

2. ALL TYPE S INLETS SHALL HAVE RETICULINE GRATES.

3. SPECIAL ATTENTION IS CALLED TO THE CASTING OF CURB INLET TOPS ON GRADES STEEPER THAM 2%. INLET TOPS SHALL COINCIDE WITH THE ROADWAY PROFILE AT ALL POINTS. CONTRACTOR SHALL ANTICIPATE ANY REQUIRED FIELD ADJUSTMENT IN THE EVENT PRECAST TOPS ARE USED.

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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DRAWN BY		
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DESIGNED BY		
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APPROVED BY		

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COLUMBIA COUNTY

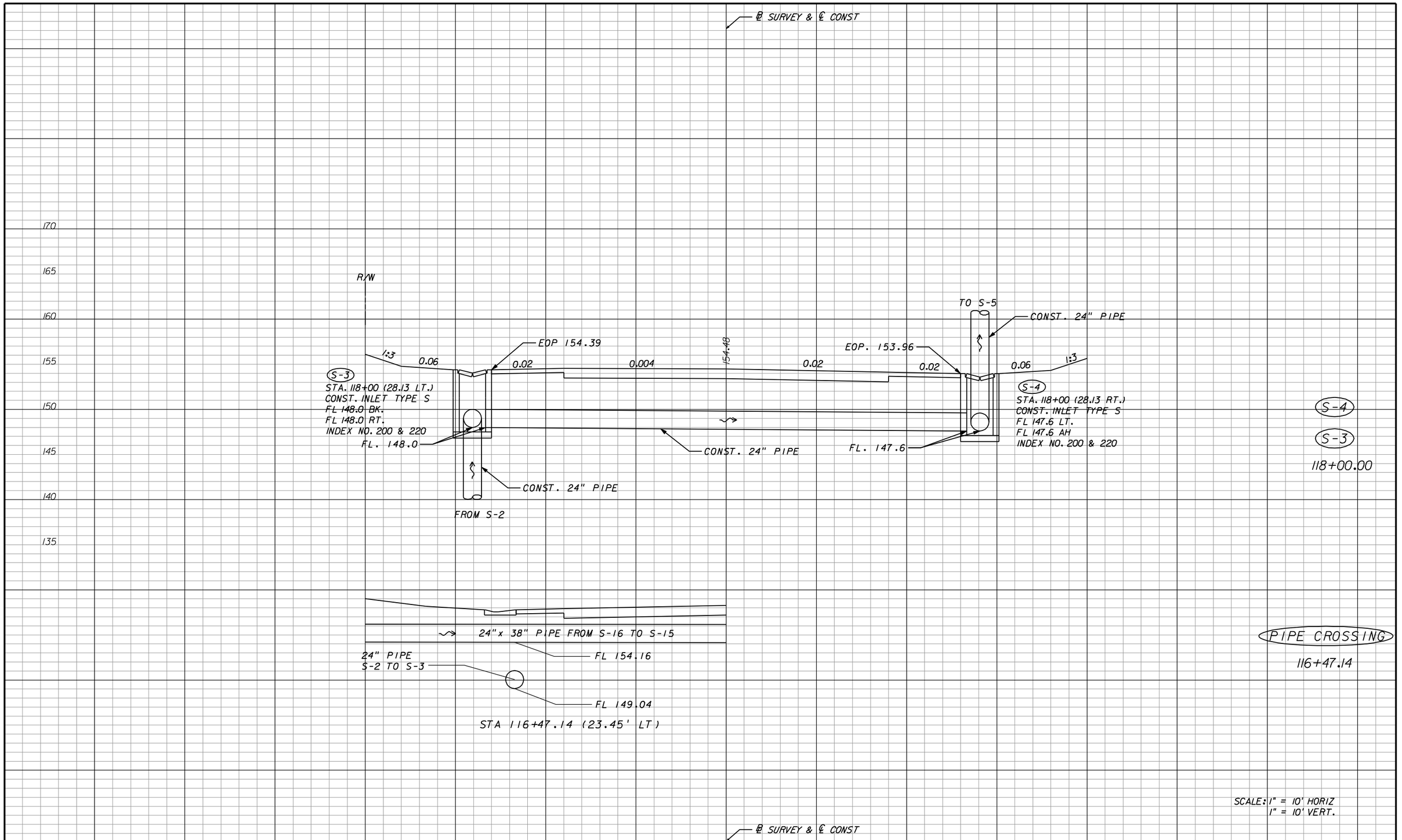
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
34

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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ENGINEER OF RECORD:
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COLUMBIA COUNTY

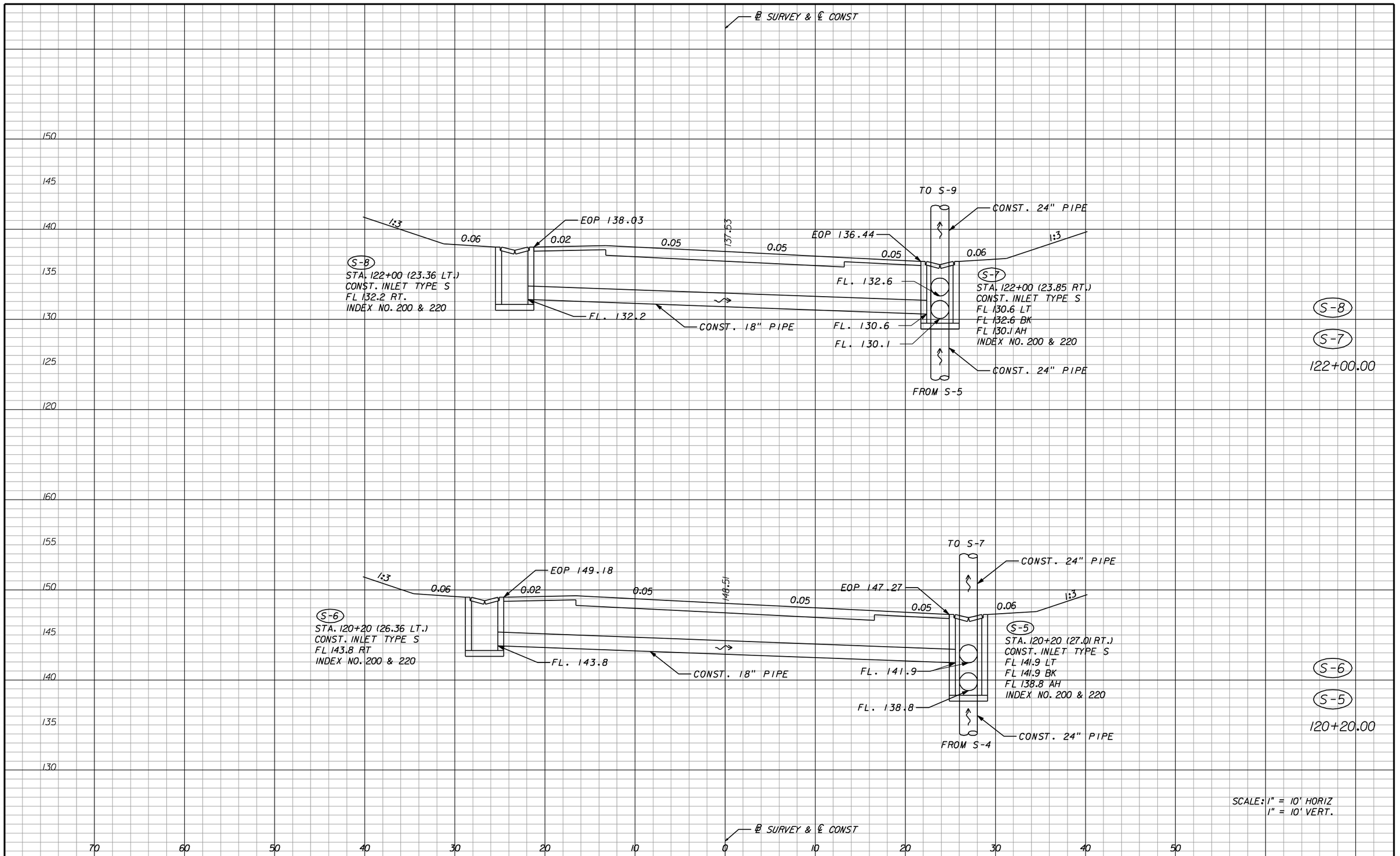
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 35

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS					
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	NAMES	DATES
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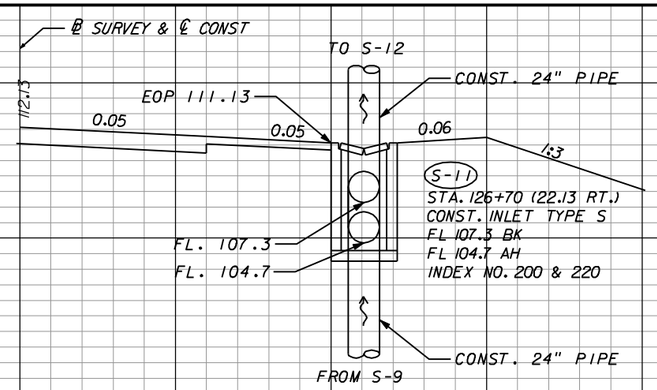
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

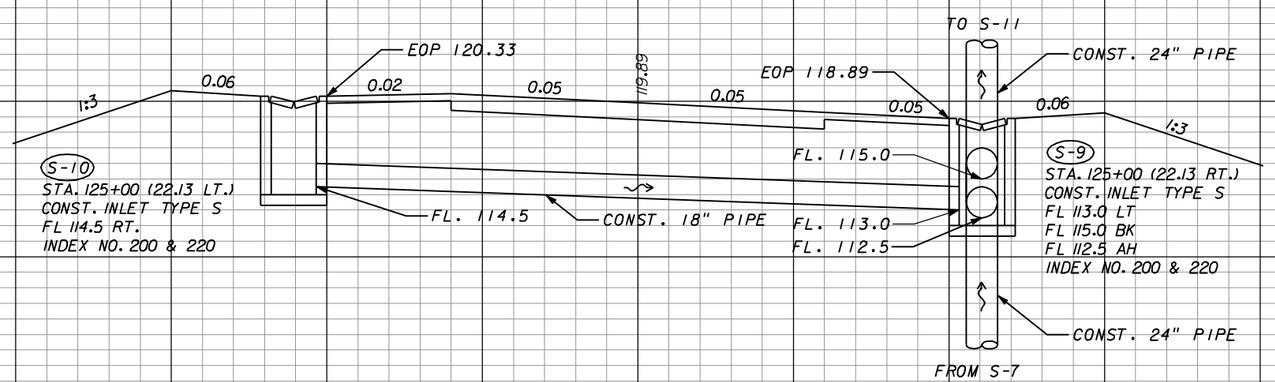
SHEET NO.
36

$USER$ $DATE$ $TIME$ $FILE$



S-11

126+70.00



S-10

S-9

125+00.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

℄ SURVEY & ℄ CONST

70 60 50 40 30 20 10 0 10 20 30 40 50

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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APPROVED BY		

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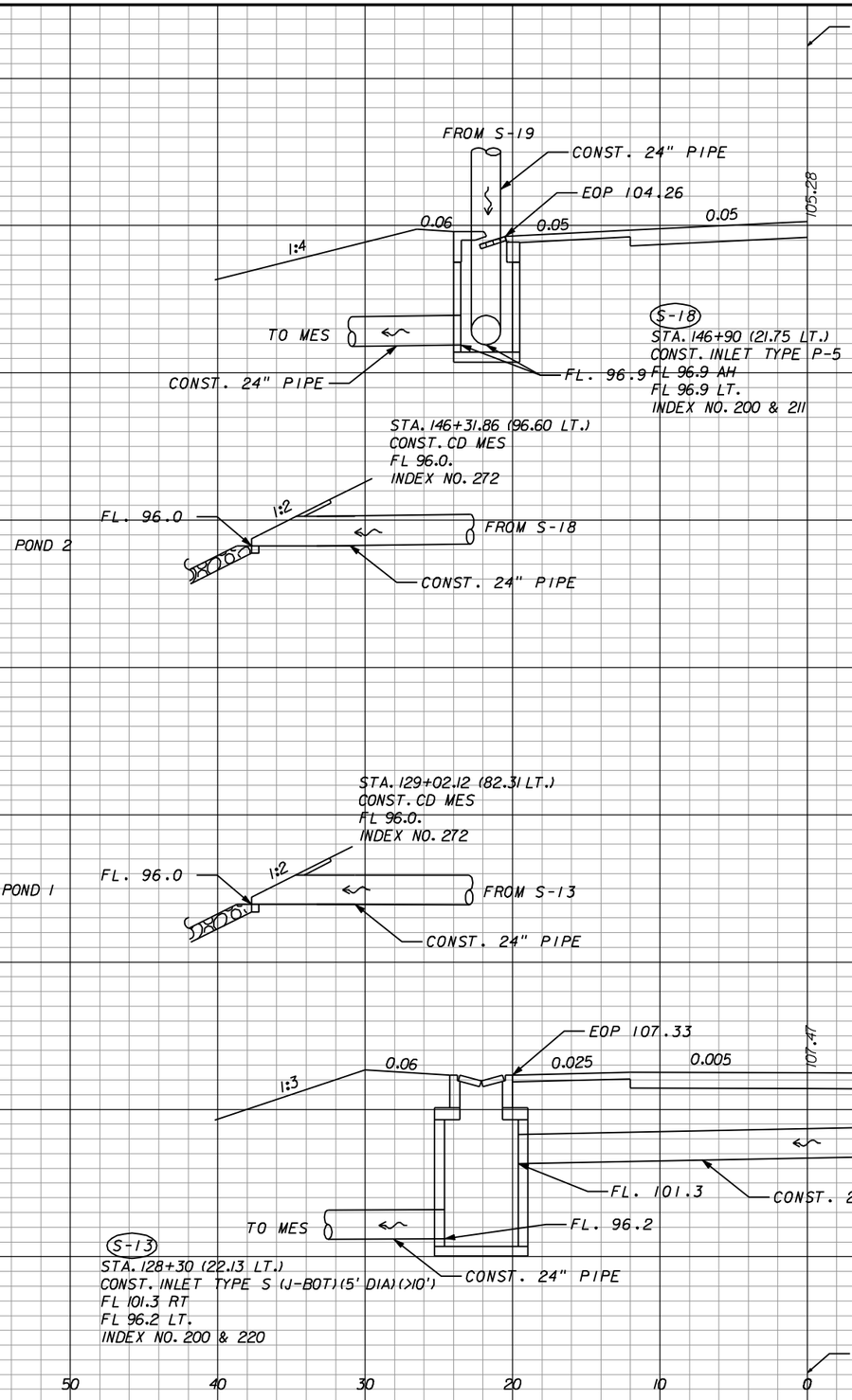
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
37

$USER$ $DATE$ $TIME$ $FILE$



SEE SHEET 50 AND 51
FOR S-14 THRU S-17

S-18

146+90.00

S-13

S-12

128+30.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

REVISIONS

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

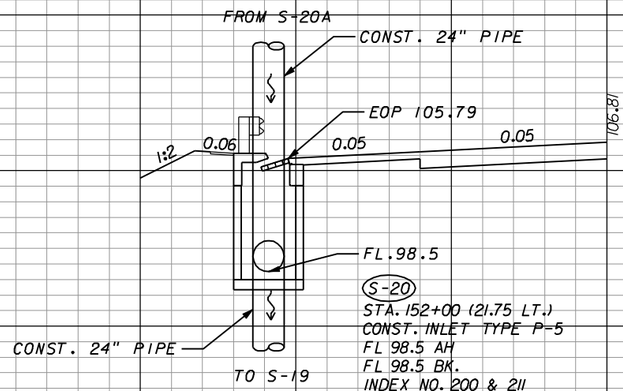
SHEET NO.
38

$USER$ $DATE$ $TIME$ $FILE$

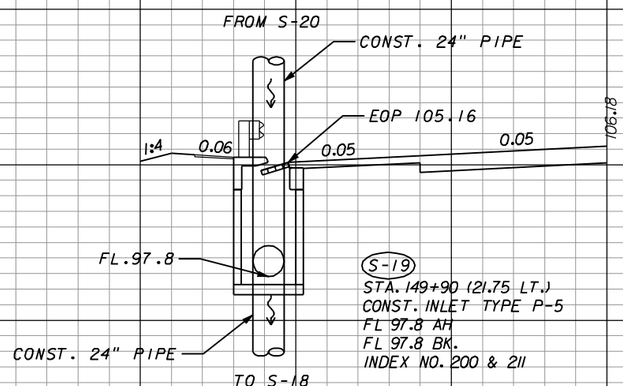
℄ SURVEY & ℄ CONST

115
110
105
100
95
90
85

R/W



S-20
STA. 152+00 (21.75 LT.)
CONST. INLET TYPE P-5
FL 98.5 AH
FL 98.5 BK.
INDEX NO. 200 & 211



S-19
STA. 149+90 (21.75 LT.)
CONST. INLET TYPE P-5
FL 97.8 AH
FL 97.8 BK.
INDEX NO. 200 & 211

S-20
152+00.00

S-19
149+90.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

70 60 50 40 30 20 10 0 10 20 30 40 50

℄ SURVEY & ℄ CONST

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
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DESIGNED BY		
CHECKED BY		
APPROVED BY		

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
39

$USER$ $DATE$ $TIME$ $FILE$

℄ SURVEY & ℄ CONST

120
115
110
105
100
95
90
85

R/W

FROM S-21

CONST. 18" PIPE

EOP 106.48

1:2 0.06 0.05 0.05 107.50

FL.99.6
FL.99.1

CONST. 24" PIPE

TO S-20

S-20A
STA. 154+30 (21.75 LT.)
CONST. INLET TYPE P-5
FL 99.6 AH
FL 99.1 BK.
INDEX NO. 200 & 211

S-20A
154+30.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

70 60 50 40 30 20 10 0 ℄ SURVEY & ℄ CONST 10 20 30 40 50

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
200 W FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 598-8900
www.hdrinc.com
Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

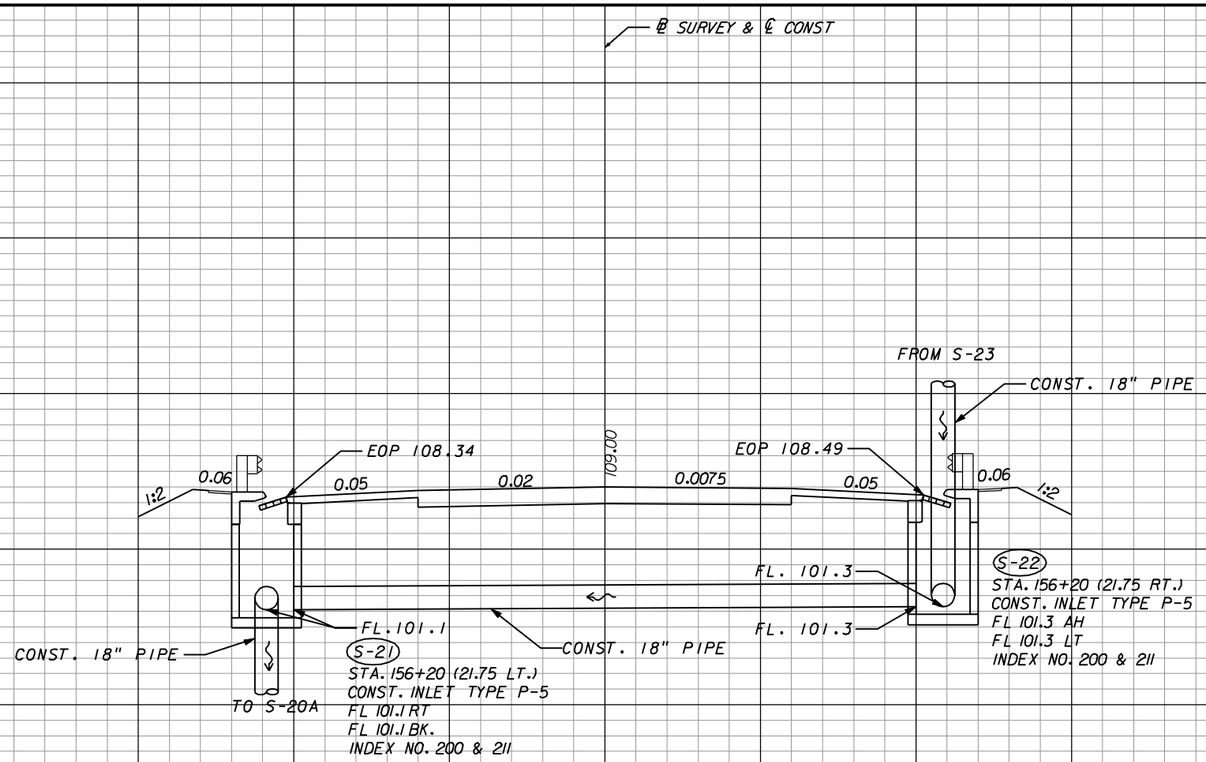
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
40

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COLUMBIA COUNTY

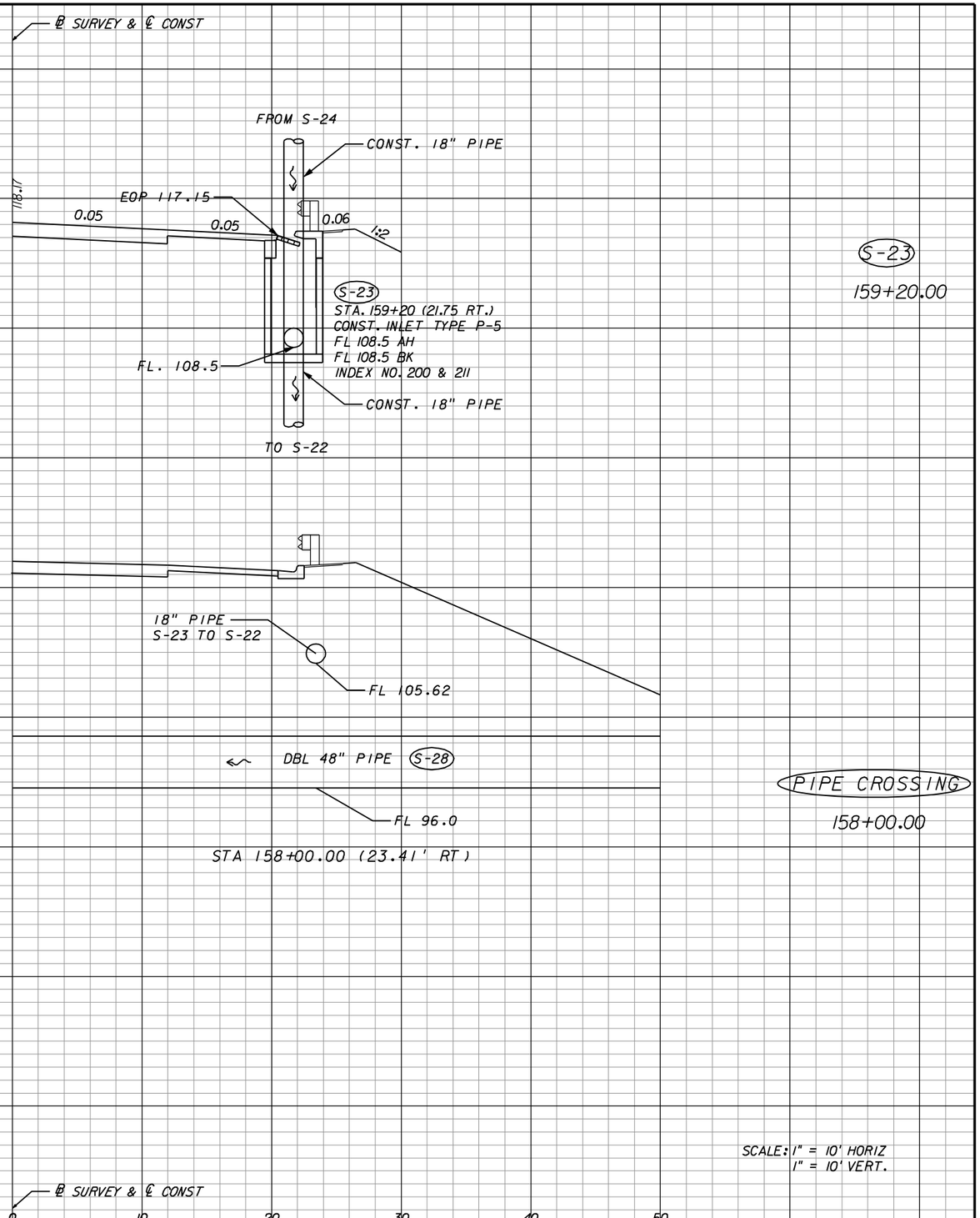
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 41

$USER$ $DATE$ $TIME$ $FILE$



S-23

159+20.00

PIPE CROSSING

158+00.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

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COLUMBIA COUNTY

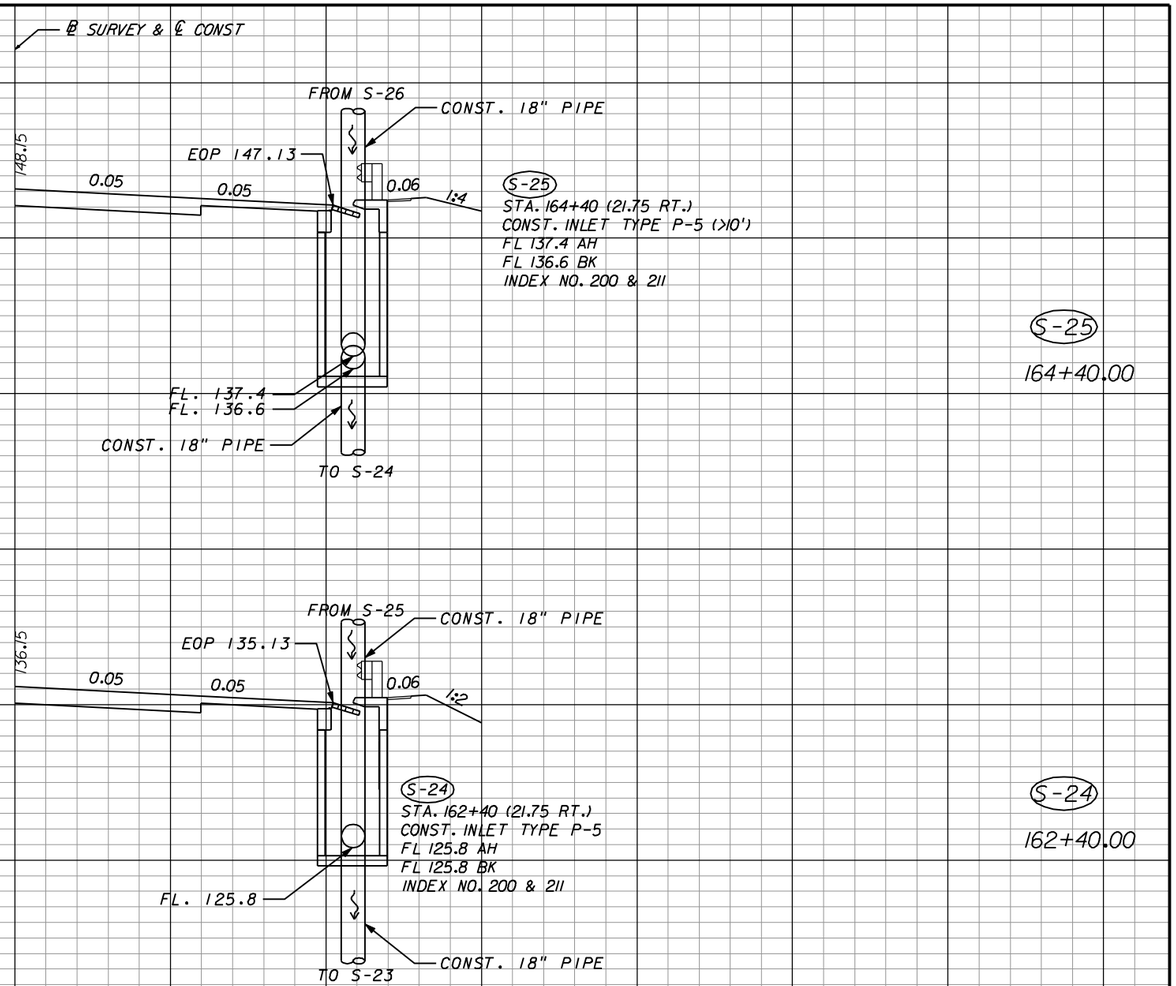
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
42

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

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STEPHEN C. WILSON, P.E.
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COLUMBIA COUNTY

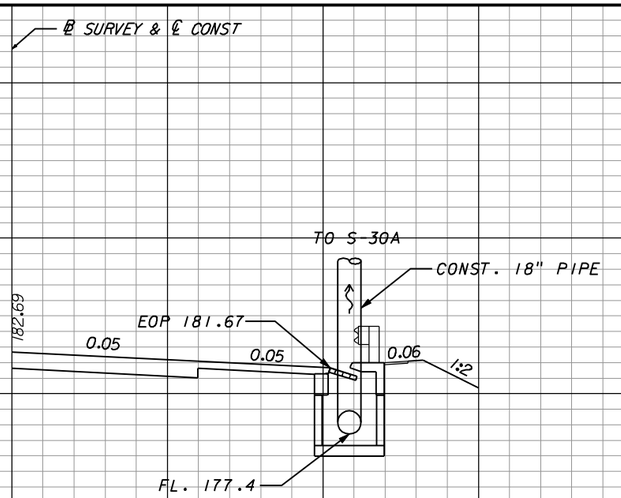
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

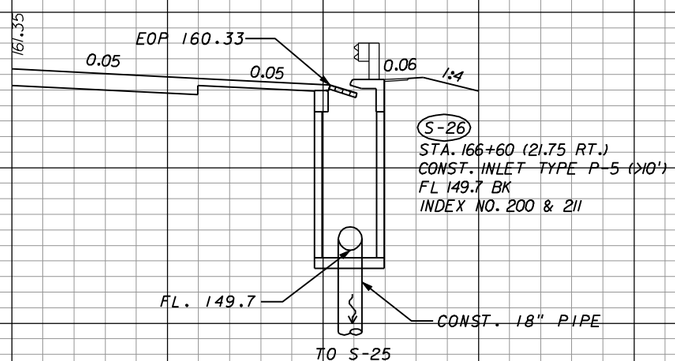
SHEET NO.
43

$USER$ $DATE$ $TIME$ $FILE$



S-30
STA. 170+30 (21.75 RT.)
CONST. INLET TYPE P-5
FL 177.4 AH
INDEX NO. 200 & 211

S-30
170+30.00



S-26
STA. 166+60 (21.75 RT.)
CONST. INLET TYPE P-5 (>10')
FL 149.7 BK
INDEX NO. 200 & 211

SEE SHEET 51 AND 52
FOR S-27 AND S-28
S-29 NOT USED

S-26
166+60.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

185 180 175 170 165 160 165 160 155 150 145 140 135

70 60 50 40 30 20 10 0 10 20 30 40 50

℄ SURVEY & ℄ CONST

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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COLUMBIA COUNTY

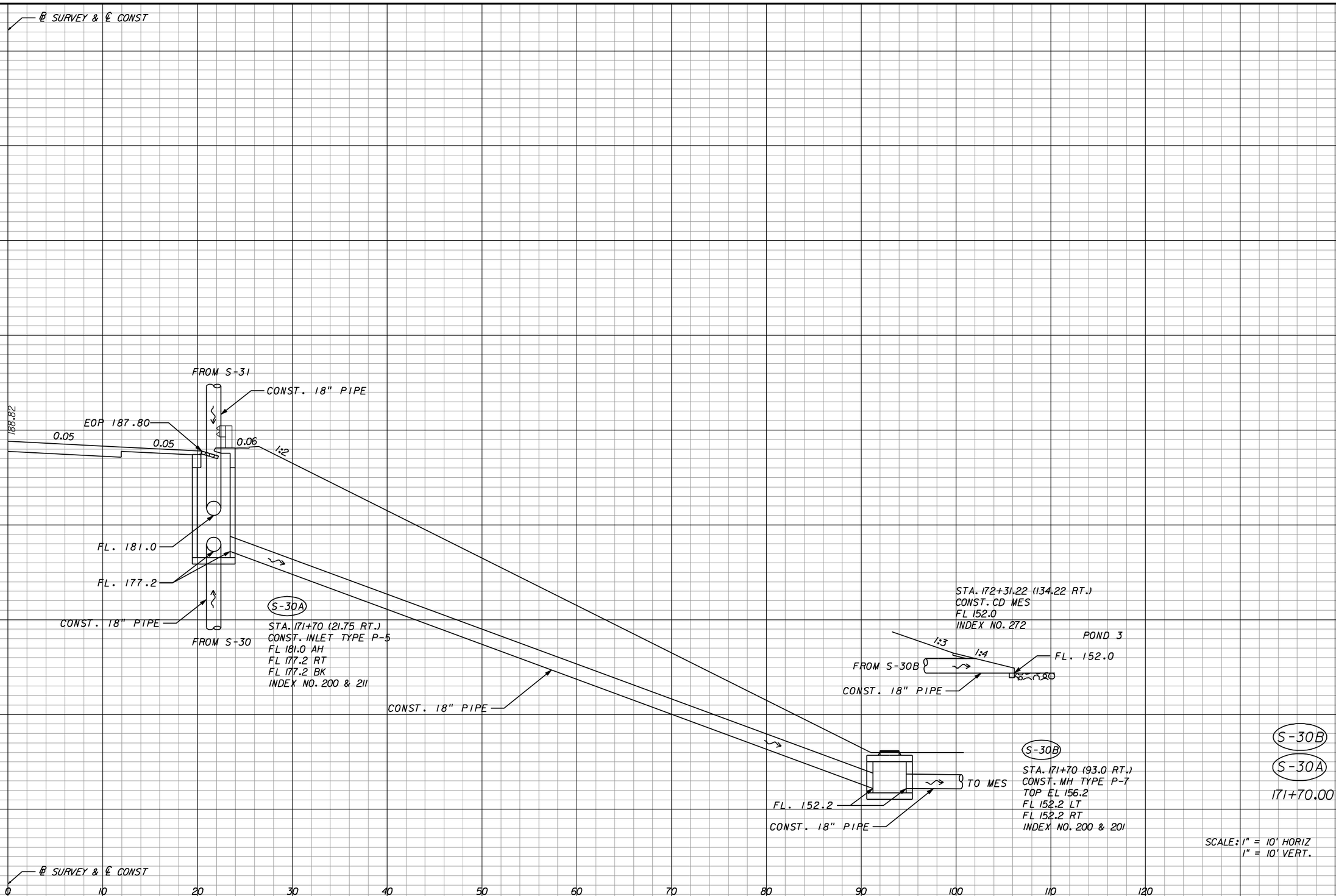
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
44

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37366

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Certificate of Authorization No. 4213

COLUMBIA COUNTY

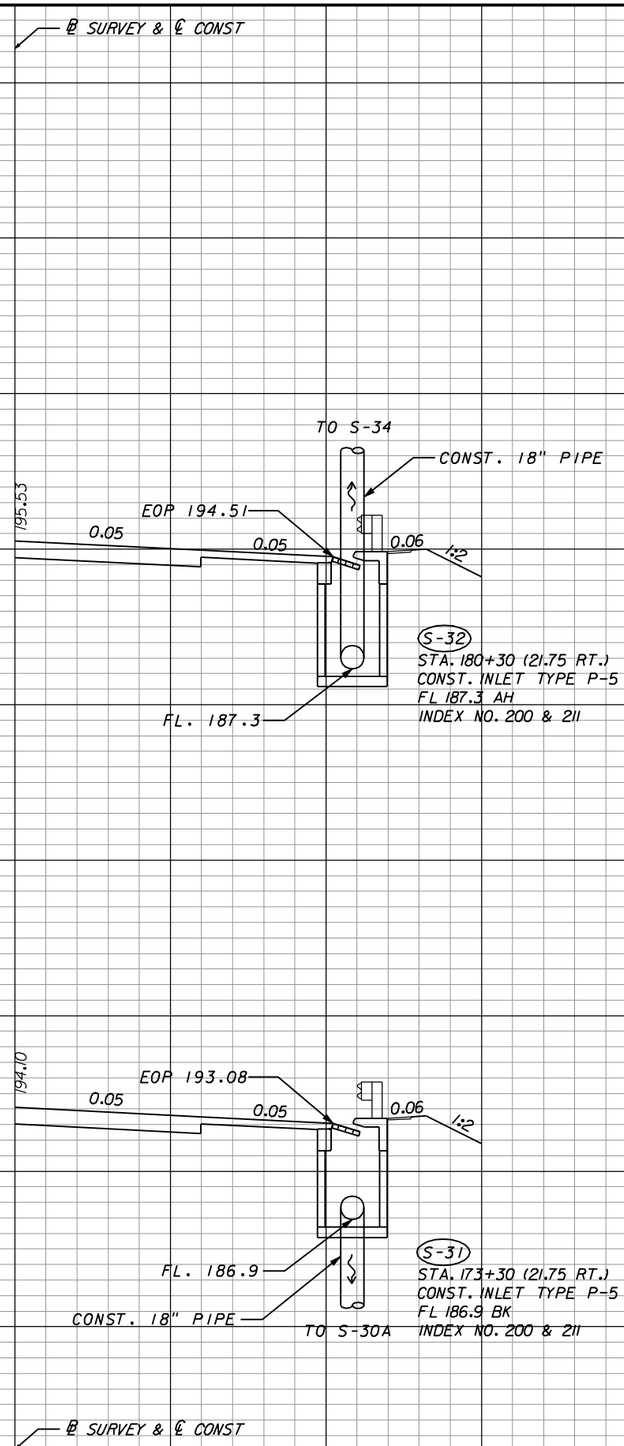
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
45

$USER$ $DATE$ $TIME$ $FILE$



S-32

180+30.00

S-31

173+30.00

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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COLUMBIA COUNTY

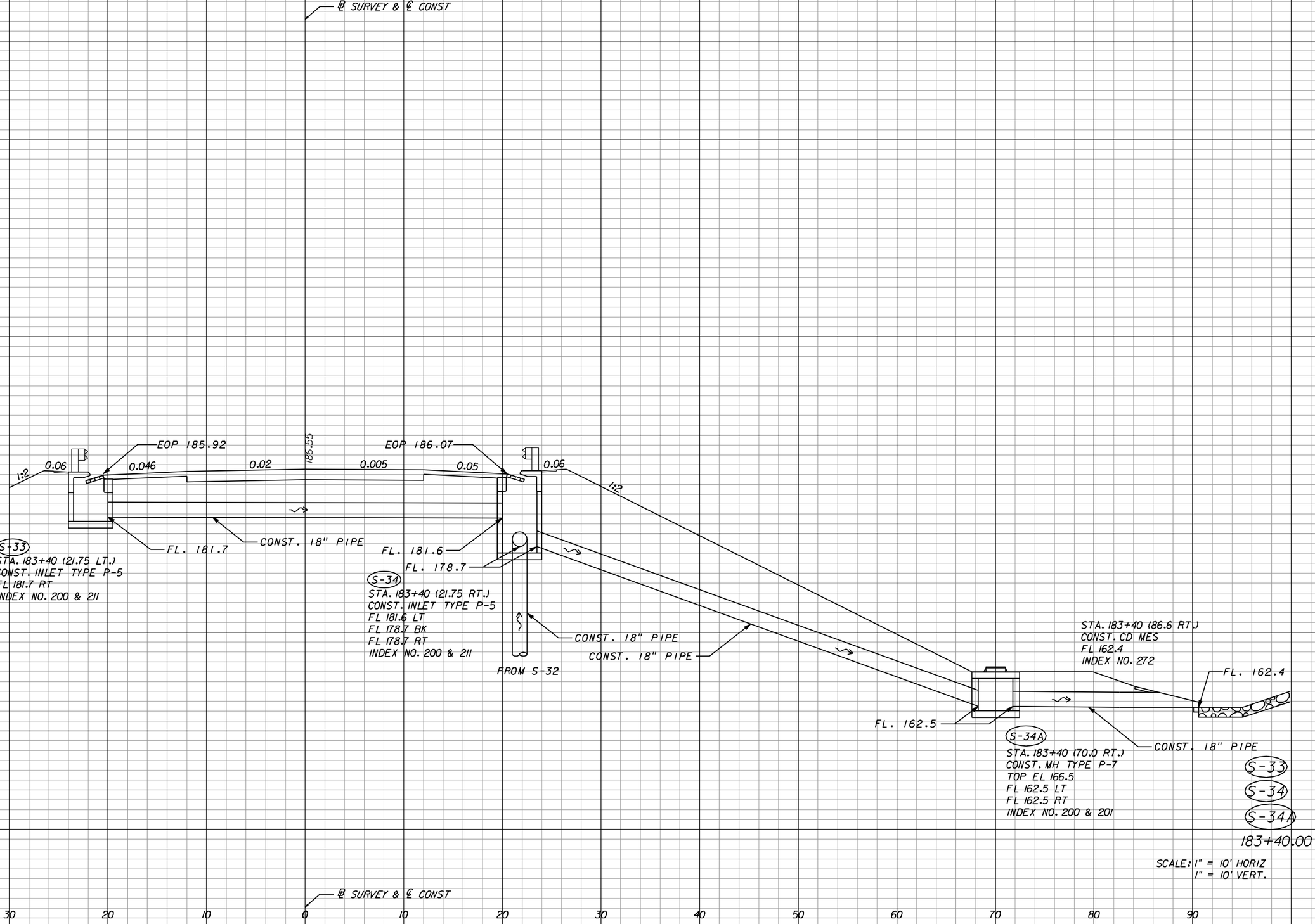
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
46

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37362

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
47

$USER$ $DATE$ $TIME$ $FILE$

℄ SURVEY & ℄ CONST

190 185 180 175 170 165 160

TO S-37 — 1:4 — FL. 169.68 — DITCH BOTTOM

CONST. 18" PIPE

(S-37A)
STA. 187+64 (51.4 RT.)
CONST. CD MES
FL 169.68
INDEX NO. 272

(S-37A)
187+64.00

(S-36A)
STA. 186+80 (49.4 LT.)
CONST. CD MES
FL 168.0
INDEX NO. 272

FL. 168.0 — 1:4 — 1:4

EOP 175.70 — 0.056 — 0.05 — 176.52 — EOP 177.14 — 0.05 — 0.02

FL. 168.4

FL. 167.9

CONST. 24" PIPE

CONST. 18" PIPE

FROM S-35

(S-36)
STA. 186+80 (22.8 LT.)
CONST. JCT. BOX TYPE P-7 (4' DIA.)
TOP EL 171.6
FL 167.9 LT
FL 168.4 BK
FL 167.9 RT
INDEX NO. 200 & 201

CONST. 24" PIPE

FROM S-37A — CONST. 18" PIPE

(S-37)
STA. 186+80 (67.3 RT.)
CONST. JCT. BOX TYPE J-7 (5' DIA)
TOP EL 171.5
FL 167.8 LT
FL 167.8 AH
FL 167.8 BK
INDEX NO. 200 & 201

FL. 167.8 — CONST. 24" PIPE — TO MES

(S-36A)
(S-36)
(S-37)
186+80.00

FROM S-37 — 1:4 — DITCH BOTTOM

STA. 186+06 (94.4 RT.)
CONST. CD MES
FL 167.7
INDEX NO. 272

FL. 167.7

CONST. 24" PIPE

TO S-36

CONST. 18" PIPE

EOP 176.68 — 0.06 — 0.05 — 0.05 — 177.70

1:4

FL. 172.0

(S-35)
STA. 186+35.50 (21.75 LT.)
CONST. INLET TYPE P-5
FL 172.0 AH
INDEX NO. 200 & 211

(S-35)
186+35.50

SCALE: 1" = 10' HORIZ
1" = 10' VERT.

℄ SURVEY & ℄ CONST

60 50 40 30 20 10 0 10 20 30 40 50 60 70

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37366

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HDR Employee-owned

COLUMBIA COUNTY

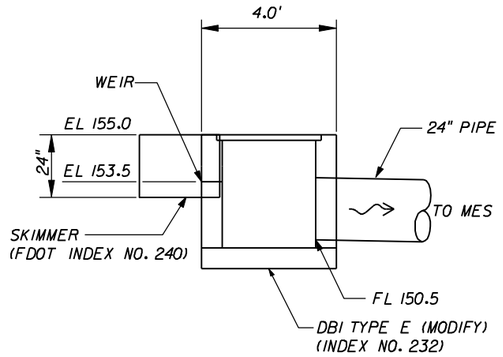
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

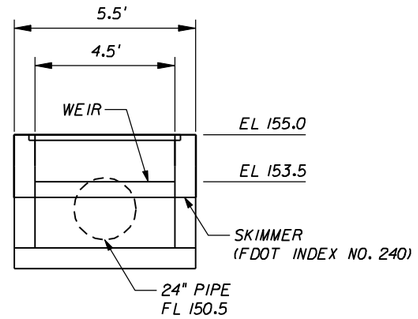
DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
48

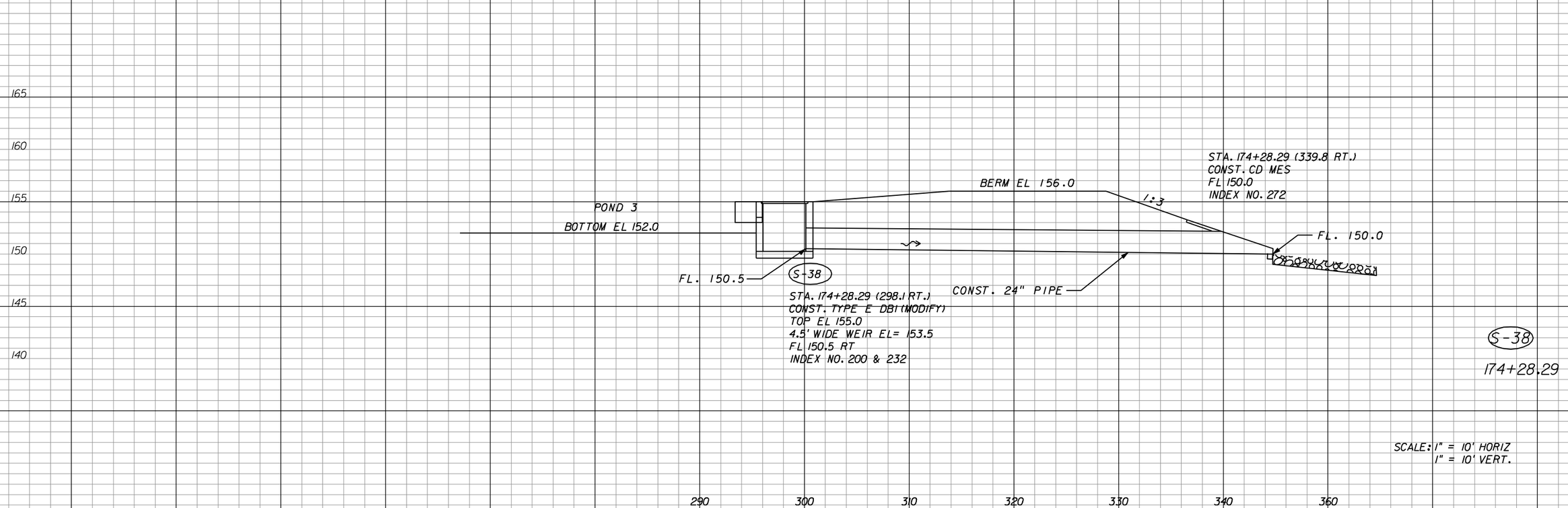
$USER$ $DATE$ $TIME$ $FILE$





CONTROL STRUCTURE DETAIL
POND 3
N.T.S.

S-38



SCALE: 1" = 10' HORIZ
1" = 10' VERT.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392
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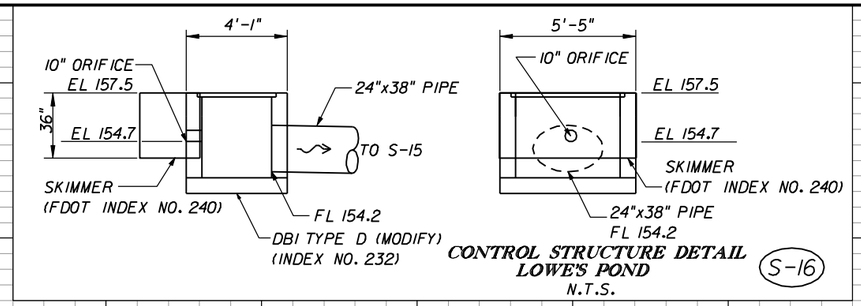
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
49

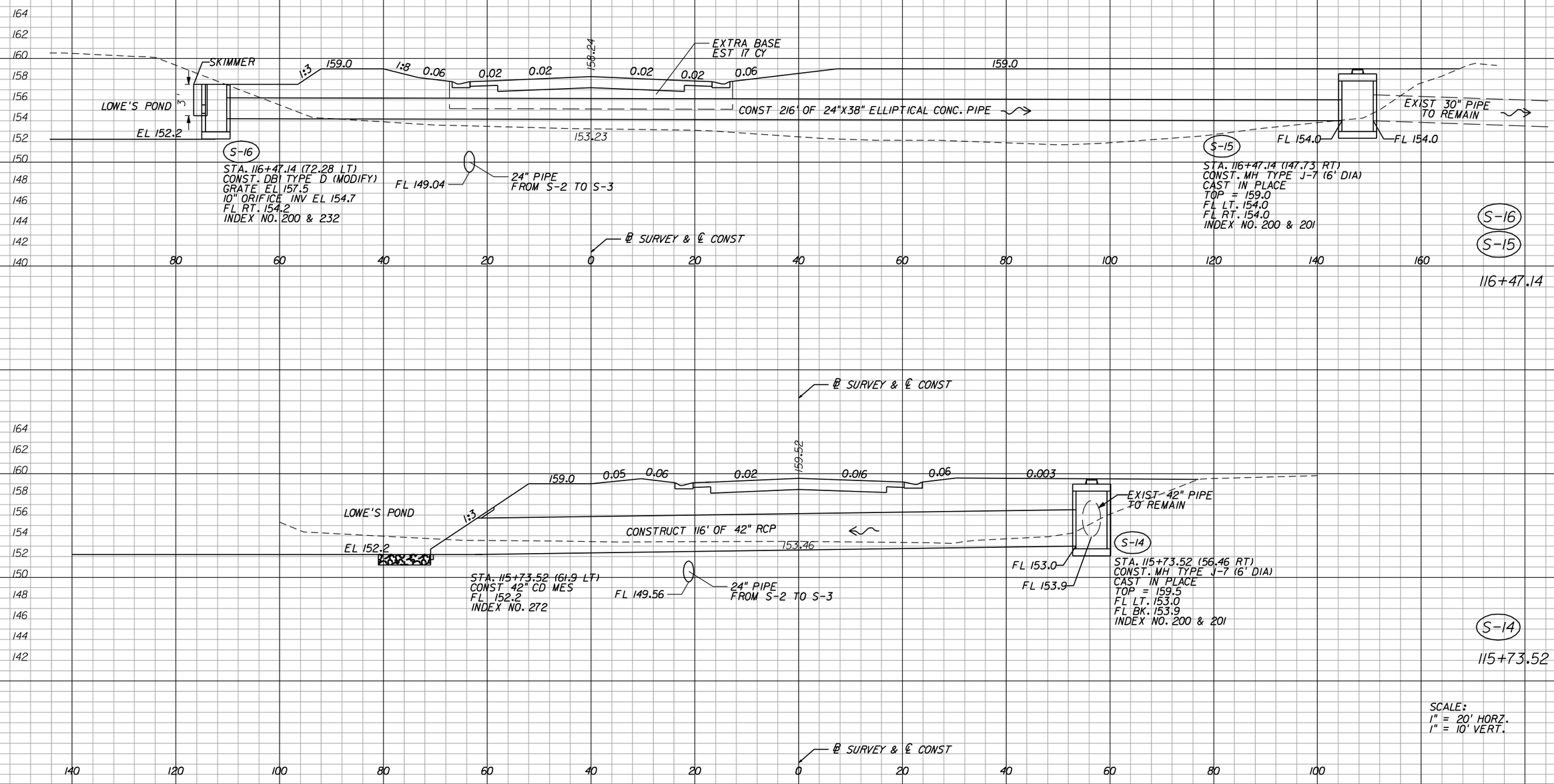
$USER$ $DATE$ $TIME$ $FILE$



CONTROL STRUCTURE DETAIL
LOWE'S POND
N.T.S.

S-16

℄ SURVEY & ℄ CONST



SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
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CHECKED BY		
APPROVED BY		

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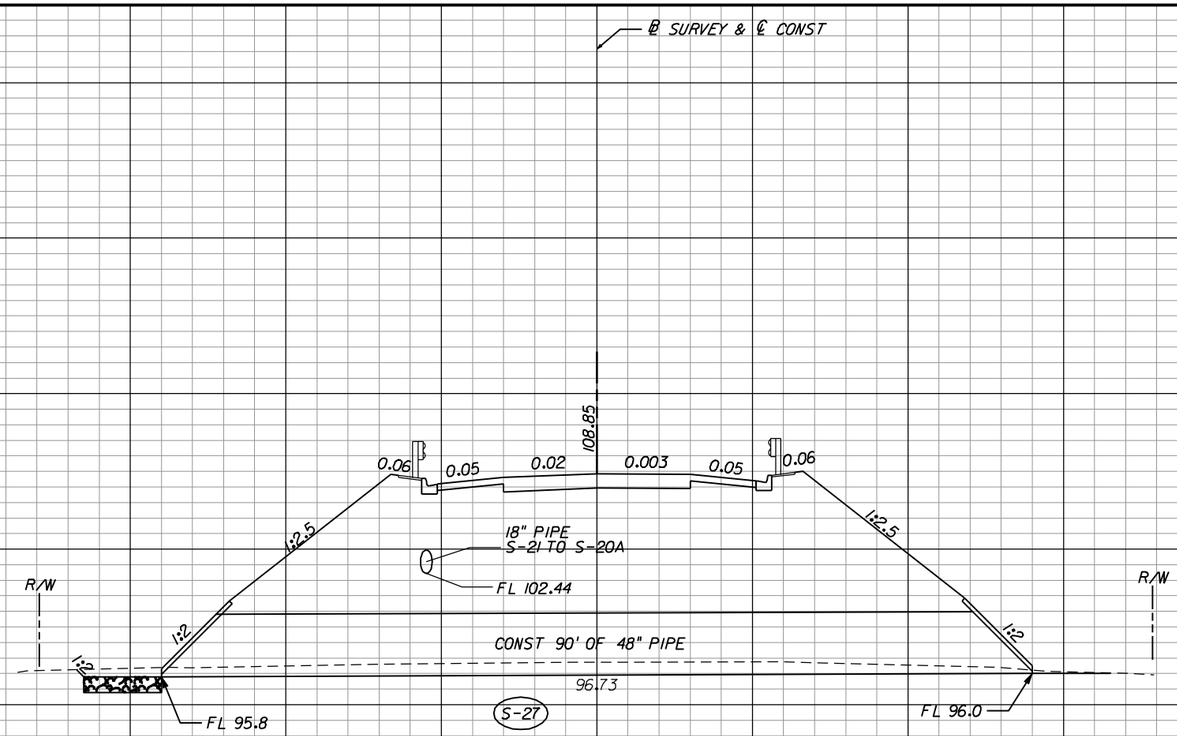
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

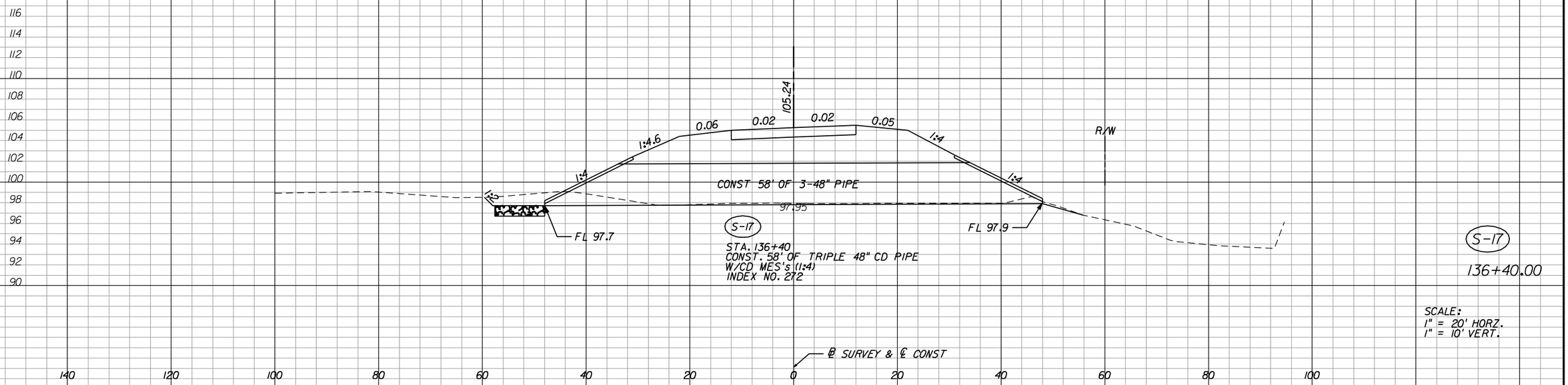
DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
50

$USER$ $DATE$ $TIME$ $FILE$





S-27
156+10.00

S-17
136+40.00

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
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DESIGNED BY		
CHECKED BY		
APPROVED BY		

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

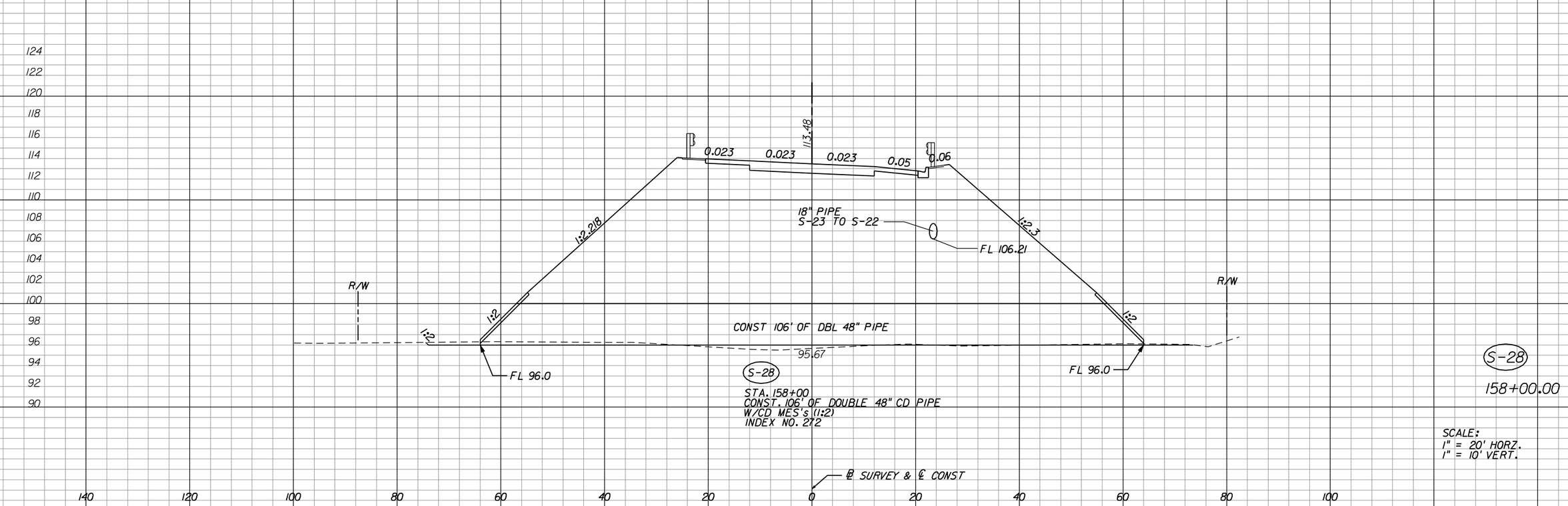
DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
51

$USER$ $DATE$ $TIME$ $FILE$

℄ SURVEY & ℄ CONST



S-28

158+00.00

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

DRAINAGE STRUCTURES

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
52

$USER$ $DATE$ $TIME$ $FILE$

BOX CULVERT DATA TABLES

BOX, HEADWALL AND CUTOFF WALL DATA TABLE (inches unless shown otherwise)																				Table Date 01-01-07
LOCATION	STRUCTURE NUMBER	BOX									HEADWALL AND CUTOFF WALL									
		Wc(ft)	Hc(ft)	Tt	Tw	Tb	Ti	#cells	Lc(ft)	Cover	Blhw	Hlhw	Brhw	Hrhw	Blcw	Hlcw	Brcw	Hrcw	SL(deg)	SR(deg)
167+25.00	TUNNEL	12	12	12	12	12	N/A	1	72	2	14	24	14	24	12	24	12	24	0	0

LEFT SIDE WINGWALLS DATA TABLE (inches unless shown otherwise)																			Table Date 01-01-07
STRUCTURE NUMBER	LEFT END WINGWALL									LEFT BEGIN WINGWALL									
	Rt	Rw	Rh	Rd	SW(deg)	β(deg)	He(ft)	Hs(ft)	Lw(ft)	Rt	Rw	Rh	Rd	SW(deg)	β(deg)	He(ft)	Hs(ft)	Lw(ft)	
TUNNEL	18	12	48	12	135	26.6	6.5	14	22.5	18	12	48	12	135	26.6	6.5	14	22.5	

RIGHT SIDE WINGWALLS DATA TABLE (inches unless shown otherwise)																			Table Date 01-01-07
STRUCTURE NUMBER	RIGHT END WINGWALL									RIGHT BEGIN WINGWALL									
	Rt	Rw	Rh	Rd	SW(deg)	β(deg)	He(ft)	Hs(ft)	Lw(ft)	Rt	Rw	Rh	Rd	SW(deg)	β(deg)	He(ft)	Hs(ft)	Lw(ft)	
TUNNEL	18	12	48	12	135	26.6	6.5	14	22.5	18	12	48	12	135	26.6	6.5	14	22.5	

ESTIMATED CONCRETE QUANTITIES (CY)																				Table Date 01-01-07
STRUCTURE NUMBER	BOX								LEFT END WINGWALL			LEFT BEGIN WINGWALL			RIGHT END WINGWALL			RIGHT BEGIN WINGWALL			Culvert Total
	Left Cutoff Wall	Right Cutoff Wall	Bottom Slab	Walls	Top Slab	Left Head Wall	Right Head Wall	Sub Total	Footing	Wall	Sub Total	Footing	Wall	Sub Total	Footing	Wall	Sub Total	Footing	Wall	Sub Total	
TUNNEL	0.52	0.52	38.89	64.00	37.33	0.60	0.60	142.46	6.25	8.54	14.79	6.25	8.54	14.79	6.25	8.54	14.79	6.25	8.54	14.79	201.63

MAIN STEEL REINFORCEMENT SPACING (inches)																			Table Date 01-01-07
STRUCTURE NUMBER	BOX															HEADWALLS		CUTOFF WALLS	
	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115, 116...	803	806	809	812
TUNNEL	6	6	6	6	8	8	N/A	10	12	12	12	12	12	12	N/A	12	12	12	12

WINGWALL STEEL REINFORCEMENT SPACING (inches)																										Table Date 01-01-07
STRUCTURE NUMBER	LEFT END WINGWALL							LEFT BEGIN WINGWALL							RIGHT END WINGWALL							RIGHT BEGIN WINGWALL						
	401 407(8)	402 (403)	404 (405)	406	409	410	411	501 507(8)	502 (503)	504 (505)	506	509	510	511	601 607(8)	602 (603)	604 (605)	606	609	610	611	701 707(8)	702 (703)	704 (705)	706	709	710	711
TUNNEL	8	12	12	12	10	10	12	8	12	12	12	10	10	12	8	12	12	12	10	10	12	8	12	12	12	10	10	12

WINGWALL NOTE: Bar designations in "( )" are only required for variable height wingwalls.

NOTES:

1. Environmental Class Moderately Aggressive.
2. Reinforcing Steel, Grade 60.
3. Concrete Class IV f'c = 5.5 ksi
4. Soil Properties:
   Friction Angle 32 Degrees
   Modulus of Subgrade Reaction 100,000 PCF
   Nominal Bearing Resistance 5000 PSF
5. Total Estimated Quantity of Reinforcing Steel 33,456 lbs
6. Work this Drawing with Design Standards Index No. 289 and Sheet Nos. 54 & 55.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	CAS	08/11
DESIGNED BY	CAS	08/11
CHECKED BY	SK	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
P.E. NO.: 64075
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200 West Forsyth Street, Suite 800
Jacksonville, FL 32202
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Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
TUNNEL CULVERT AT STA. 167+25.00 (SHEET 1 OF 3)

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
53

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION			MAIN BOX								NO. REQUIRED = 1					
6	101	13- 8	145	1			13- 8									
6	102	13- 8	145	1			13- 8									
6	103	13- 8	151	1			13- 8									
6	104	13- 8	151	1			13- 8									
6	105	10- 8	216	10			2- 6 1/2	8- 1 1/4								
6	106	10- 8	216	10			2- 6 1/2	8- 1 1/4								
4	108	13- 8	172	1			13- 8									
4	109	76- 0	15	2			1- 3 1/2	74- 8							1	
4	110	73- 0	15	2			1- 3 1/2	71- 8							1	
4	111	72- 4	15	2			1- 3 1/2	71- 0 1/4							1	
4	112	76- 0	15	2			1- 3 1/2	74- 8							1	
4	113	73- 0	26	2			1- 3 1/2	71- 8							1	
4	114	73- 0	26	2			1- 3 1/2	71- 8							1	
LOCATION			LEFT END WINGWALL								NO. REQUIRED = 1					
5	401	VARY	35	1			13- 8 1/4									
		10- 0					6- 3 1/2									
4	402	22- 2	7	1			22- 2									
4	403	VARY	7	1			20- 8									
		10- 9					0- 9									
4	404	22- 2	7	1			22- 2									
4	405	VARY	7	1			20- 8									
		10- 9					0- 9									
4	406	VARY	24	1			13- 8 1/4									
		10- 0					6- 3 1/2									
5	407	5-10	35	10			2- 2	3- 8								
5	409	6- 2	28	1			6- 2									
5	410	6- 2	28	1			6- 2									
4	411	22- 2	16	1			22- 2									
5	412	2- 0	22	1			2- 0									
LOCATION			LEFT BEGIN WINGWALL								NO. REQUIRED = 1					
5	501	VARY	35	1			13- 8 1/4									
		10- 0					6- 3 1/2									
4	502	22- 2	7	1			22- 2									
4	503	VARY	7	1			20- 8									
		10- 9					0- 9									
4	504	22- 2	7	1			22- 2									
4	505	VARY	7	1			20- 8									
		10- 9					0- 9									
4	506	VARY	24	1			13- 8 1/4									
		10- 0					6- 3 1/2									
5	507	5-10	35	10			2- 2	3- 8								
5	509	6- 2	28	1			6- 2									
5	510	6- 2	28	1			6- 2									
4	511	22- 2	16	1			22- 2									
5	512	2- 0	22	1			2- 0									
LOCATION			RIGHT END WINGWALL								NO. REQUIRED = 1					
5	601	VARY	35	1			13- 8 1/4									
		10- 0					6- 3 1/2									
4	602	22- 2	7	1			22- 2									
4	603	VARY	7	1			20- 8									
		10- 9					0- 9									
4	604	22- 2	7	1			22- 2									

NOTE:

Refer to Index 21300 for Standard Bar Bending Details.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	CAS	08/11
DESIGNED BY	CAS	08/11
CHECKED BY	SK	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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Employee-owned
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

TUNNEL CULVERT AT STA. 167+25.00 (SHEET 2 OF 3)

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 54

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
4	605	VARY	7	1			20- 8									
		10- 9					0- 9									
4	606	VARY	24	1			13- 8 1/4									
		10- 0					6- 3 1/2									
5	607	5-10	35	10			2- 2	3- 8								
5	609	6- 2	28	1			6- 2									
5	610	6- 2	28	1			6- 2									
4	611	22- 2	16	1			22- 2									
5	612	2- 0	22	1			2- 0									
LOCATION							RIGHT BEGIN WINGWALL				NO. REQUIRED = 1					
5	701	VARY	35	1			13- 8 1/4									
		10- 0					6- 3 1/2									
4	702	22- 2	7	1			22- 2									
4	703	VARY	7	1			20- 8									
		10- 9					0- 9									
4	704	22- 2	7	1			22- 2									
4	705	VARY	7	1			20- 8									
		10- 9					0- 9									
4	706	VARY	24	1			13- 8 1/4									
		10- 0					6- 3 1/2									
5	707	5-10	35	10			2- 2	3- 8								
5	709	6- 2	28	1			6- 2									
5	710	6- 2	28	1			6- 2									
4	711	22- 2	16	1			22- 2									
5	712	2- 0	22	1			2- 0									
LOCATION							LEFT HEADWALL				NO. REQUIRED = 1					
5	801	13- 8	2	1			13- 8									
7	802	13- 8	3	1			13- 8									
4	803	5- 2	14	27			1- 7 1/4	0- 6	0- 4	0- 5	1- 2 1/4	0- 8	0- 8			
LOCATION							RIGHT HEADWALL				NO. REQUIRED = 1					
5	804	13- 8	2	1			13- 8									
7	805	13- 8	3	1			13- 8									
4	806	5- 2	14	27			1- 7 1/4	0- 6	0- 4	0- 5	1- 2 1/4	0- 8	0- 8			
LOCATION							LEFT CUTOFF WALL				NO. REQUIRED = 1					
6	807	13- 8	2	1			13- 8									
5	808	13- 8	2	1			13- 8									
4	809	4-11	14	7			1- 7 1/4	0- 8	0- 6	0- 6						
LOCATION							RIGHT CUTOFF WALL				NO. REQUIRED = 1					
6	810	13- 8	2	1			13- 8									
5	811	13- 8	2	1			13- 8									
4	812	4-11	14	7			1- 7 1/4	0- 8	0- 6	0- 6						

END OF LIST

NOTE:

Refer to Index 21300 for Standard Bar Bending Details.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	CAS	08/11
DESIGNED BY	CAS	08/11
CHECKED BY	SK	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
TUNNEL CULVERT AT STA. 167+25.00 (SHEET 3 OF 3)

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
55

rsherrer 8/25/2011 1:15:26 PM c:\pwworking\jpa\d0133912\culvert.dgn

12' MAINT. BERM - EL 159.0

397.81'

LOWE'S POND
BOTTOM EL 152.2

CUR D R 25'

CUR C R 25'

112.77'

CUR B R 37'

CUR A

CUR E R 27'

CUR F R 60'

139.16'

145.37'

CONST 10'x10' RIPRAP RUBBLE (DITCH LINING)

216' OF 24" x 38" ELLIP PIPE

116 LF 42" PIPE W/MES

EXISTING PIPE AND DBI TO REMAIN

CONST. 20' DBL GATE TYPE B FENCE

CONST. TYPE B FENCE

CONST. TYPE B FENCE

R/W LINE

CONST 24" PIPE

CONST 24" PIPE

CONST 24" PIPE

℄ BASCOM NORRIS DRIVE

R/W LINE

R/W LINE

BACK-FILL AREA TO ELEVATION 159.0

N 79°-28'-46" W

S-1 S-2 S-3 S-4 S-14 S-15 S-16

PT PC CC PCC

0 10 40
Feet

POND CURVE COORDINATE DATA (EL 159.0)

CURVE	PC OF CURVE		PT OF CURVE		CC OF CURVE		DIR.
	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	
CUR A	435190.9139	2544959.1795	435153.5813	2544933.2835	435181.5768	2544932.7822	RT
CUR B	435153.5813	2544933.2835	435135.0165	2544901.8623	435116.5872	2544933.9459	LT
CUR C	435037.2310	2544845.6928	435024.7917	2544821.6879	435049.6832	2544824.0146	RT
CUR D	435028.7195	2544779.6690	435056.4176	2544757.1538	435053.6110	2544781.9957	RT
CUR E	435451.7136	2544801.8133	435459.4958	2544853.3827	435448.6825	2544828.6426	RT
CUR F	435331.9825	2544909.1160	435327.9610	2544910.7037	435307.9528	2544854.1381	RT

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
LOWE'S POND

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
56

$USER$ $DATE$ $TIME$ $FILE$

POND CURVE COORDINATE DATA (EL 98.0)

CURVE	PC OF CURVE		PT OF CURVE		CC OF CURVE		DIR.
	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	
CUR A	436565.1840	2544902.2074	436597.1801	2544829.0461	436583.4113	2544866.6017	RT
CUR B	436822.8492	2544911.7820	436885.4496	2544898.3490	436843.5024	2544855.4487	LT
CUR C	436973.1742	2544812.5736	437014.2245	2544810.5416	436994.8469	2544834.7388	RT
CUR D	437112.7184	2544889.4174	437146.2935	2544907.0845	437175.2269	2544811.3617	LT
CUR E	437214.9083	2544927.8241	437200.1664	2545027.6428	437200.1523	2544976.6428	RT
CUR F	437200.1664	2545027.6428	437101.6429	2545088.7843	437200.1967	2524137.6428	LT
CUR G	437101.6429	2545088.7843	437044.0809	2525110.3615	437061.3254	2545068.7968	RT
CUR H	436664.9672	2544953.0738	436660.6189	2544951.0627	436687.9599	2544897.6542	RT

R/W LINE
WETLAND LINE

CONST 40'x5'
RIPRAP RUBBLE
(DITCH LINING)

SEE CONTROL
STRUCTURE DETAIL

CUR C
126.18'
R 31'
PC
PT
98.96
94.92
122.69

CC
R/W LINE
WETLAND LINE

PC
R 100'
CUR D
PT
71.68'
PC

SOIL BORING
B-B-9

R 51'
CUR E

CC

SOIL BORING
B-B-3

PCC
CUR F
R 110'

R/W LINE
WETLAND LINE

CC

SOIL BORING
B-B-8

PT
240.36'
CUR A
R 40'
CC
CONST 10'x10'
RIPRAP RUBBLE
(DITCH LINING)

CUR B
R 60'
PT
PC

SOIL BORING
B-B-2

A

POND 1
MIN. BOTTOM EL = 92.0

PC
PT
R 60'
107.21'
CUR H

CONST 24" PIPE

S-13

CONST 24" PIPE

S-12

CONST 24" PIPE

410.45'

15' MAINT BERM

CC
R 45'
CUR G
PT

PCC

CC
WETLAND LINE

S-17

CONST 20'x10'
RIPRAP RUBBLE
(DITCH LINING)

CONST. 3-48" PIPE W/ MES's

128 129 130 131 132 133 134 135 136

℄ SURVEY BASCOM NORRIS DRIVE

R/W LINE

0 15 60
Feet

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
POND 1

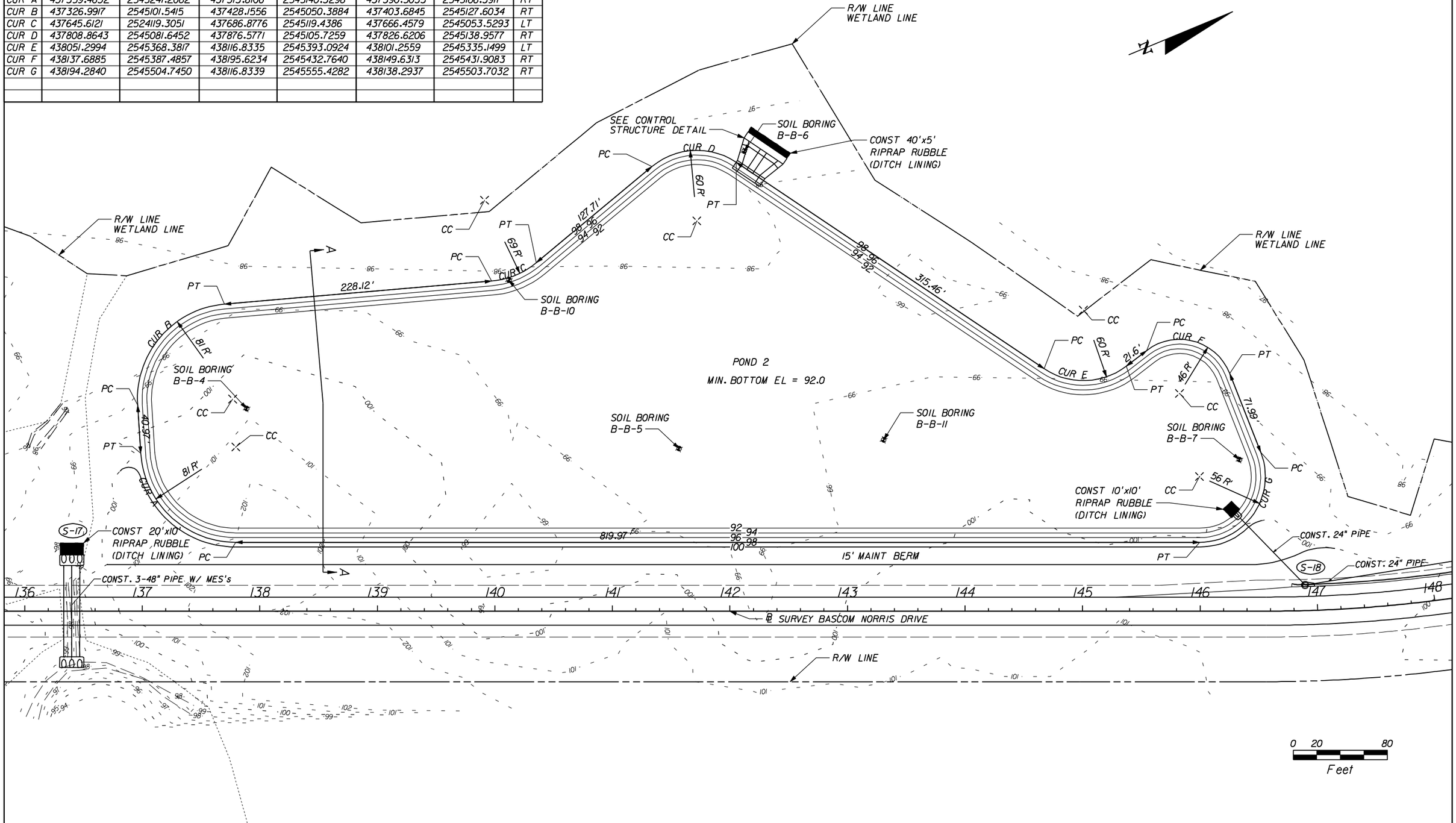
PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
57

$USER$ $DATE$ $TIME$ $FILE$

POND CURVE COORDINATE DATA (EL 98.0)

CURVE	PC OF CURVE		PT OF CURVE		CC OF CURVE		DIR.
	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	
CUR A	437359.4632	2545241.2082	437313.8106	2545140.3298	437390.5033	2545166.3917	RT
CUR B	437326.9917	2545101.5415	437428.1556	2545050.3884	437403.6845	2545127.6034	RT
CUR C	437645.6121	2524119.3051	437686.8776	2545119.4386	437666.4579	2545053.5293	LT
CUR D	437808.8643	2545081.6452	437876.5771	2545105.7259	437826.6206	2545138.9577	RT
CUR E	438051.2994	2545368.3817	438116.8335	2545393.0924	438101.2559	2545335.1499	LT
CUR F	438137.6885	2545387.4857	438195.6234	2545432.7640	438149.6313	2545431.9083	RT
CUR G	438194.2840	2545504.7450	438116.8339	2545555.4282	438138.2937	2545503.7032	RT



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: POND 2

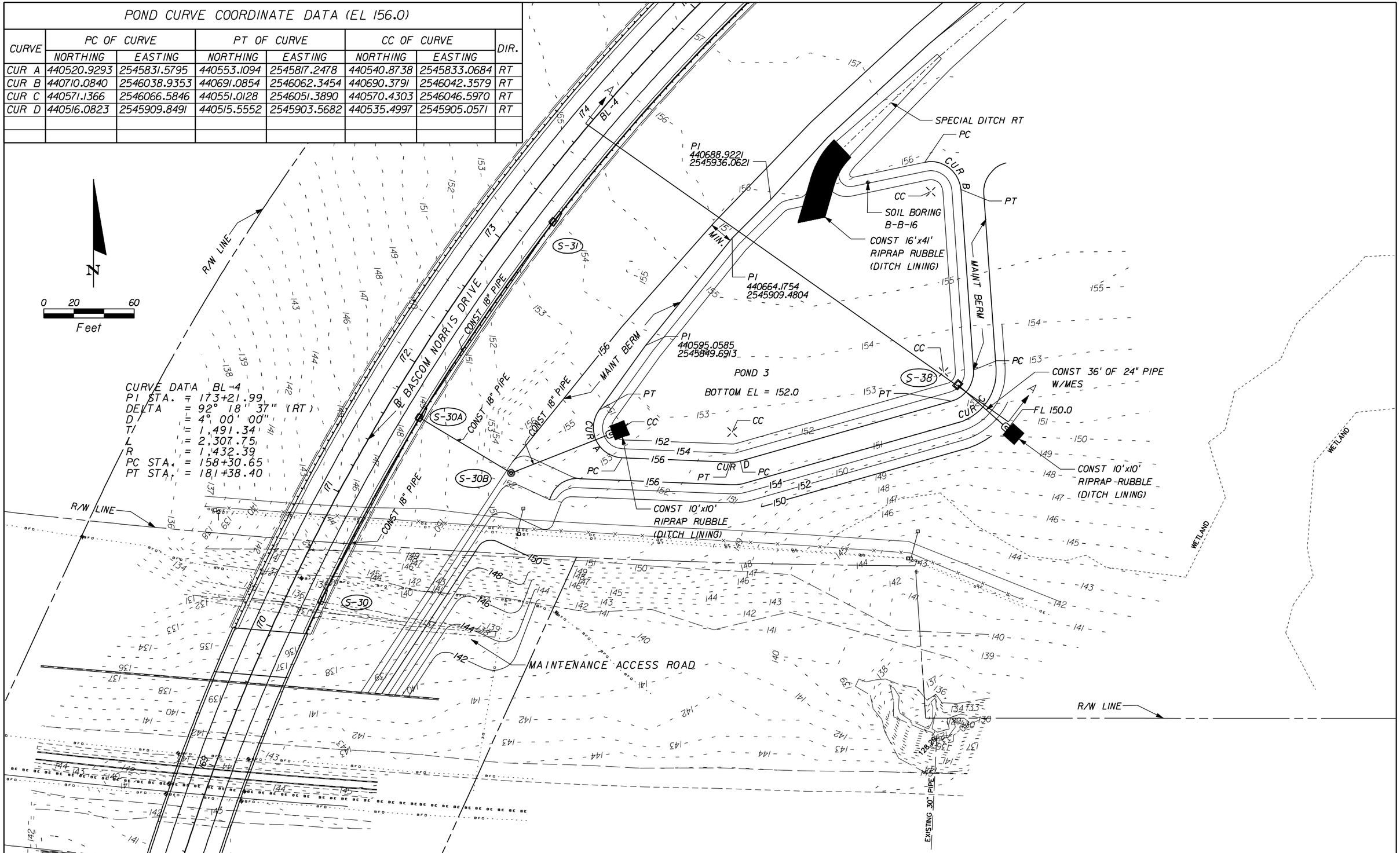
PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 58

$USER$ $DATE$ $TIME$ $FILE$

POND CURVE COORDINATE DATA (EL 156.0)

CURVE	PC OF CURVE		PT OF CURVE		CC OF CURVE		DIR.
	NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING	
CUR A	440520.9293	2545831.5795	440553.1094	2545817.2478	440540.8738	2545833.0684	RT
CUR B	440710.0840	2546038.9353	440691.0854	2546062.3454	440690.3791	2546042.3579	RT
CUR C	440571.1366	2546066.5846	440551.0128	2546051.3890	440570.4303	2546046.5970	RT
CUR D	440516.0823	2545909.8491	440515.5552	2545903.5682	440535.4997	2545905.0571	RT



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COLUMBIA COUNTY

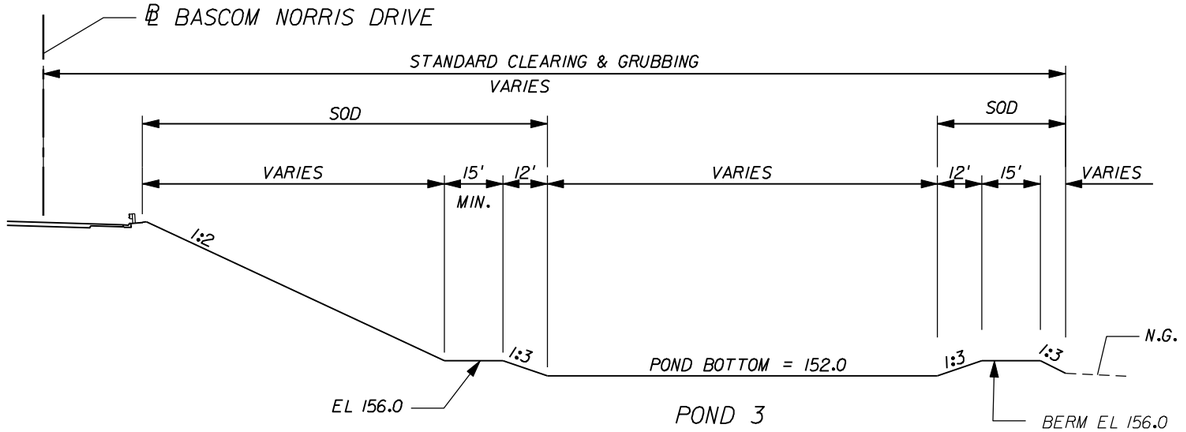
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: POND 3

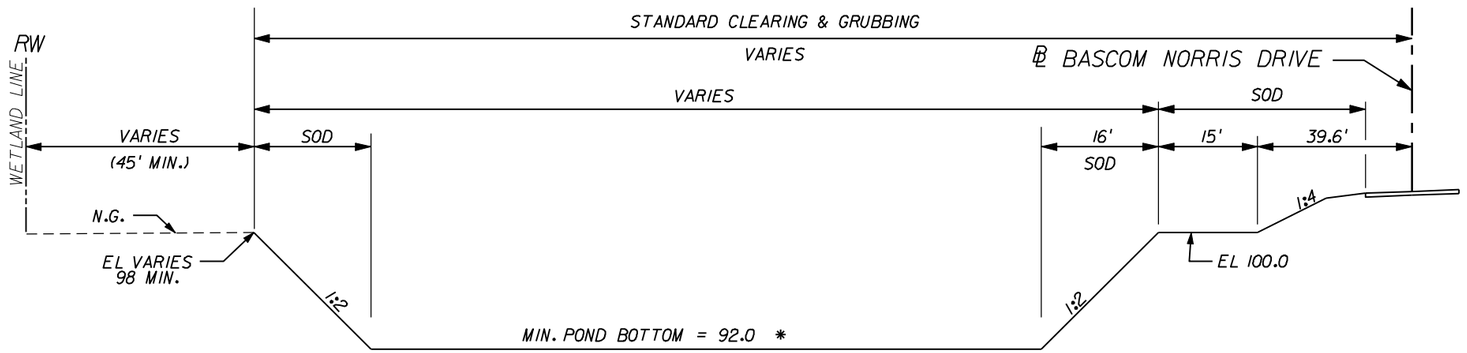
PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 59

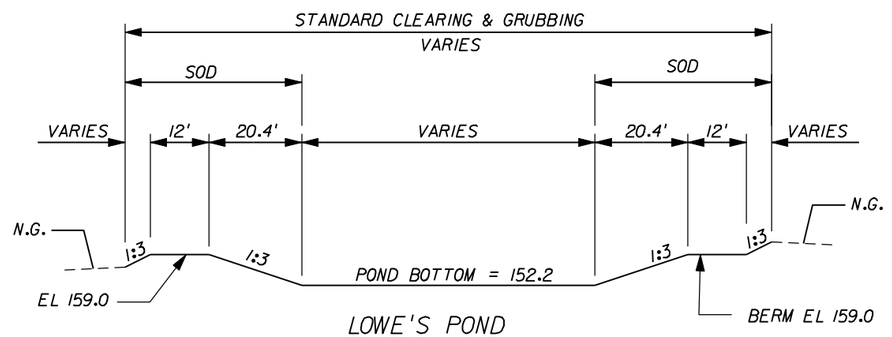
$USER$ $DATE$ $TIME$ $FILE$



POND 3
SECTION A-A



POND 1 & POND 2
SECTION A-A



LOWE'S POND
SECTION A-A

* POND AREA MAY BE USED AS A SOURCE OF BORROW MATERIAL FOR ROADWAY CONSTRUCTION. FINAL BOTTOM ELEVATION WILL BE ADJUSTED ACCORDINGLY PROVIDING A MINIMUM ELEVATION OF 92.0 CORRESPONDING TO THE POND TYPICAL SECTION GRADING TEMPLATE.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD.
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COLUMBIA COUNTY

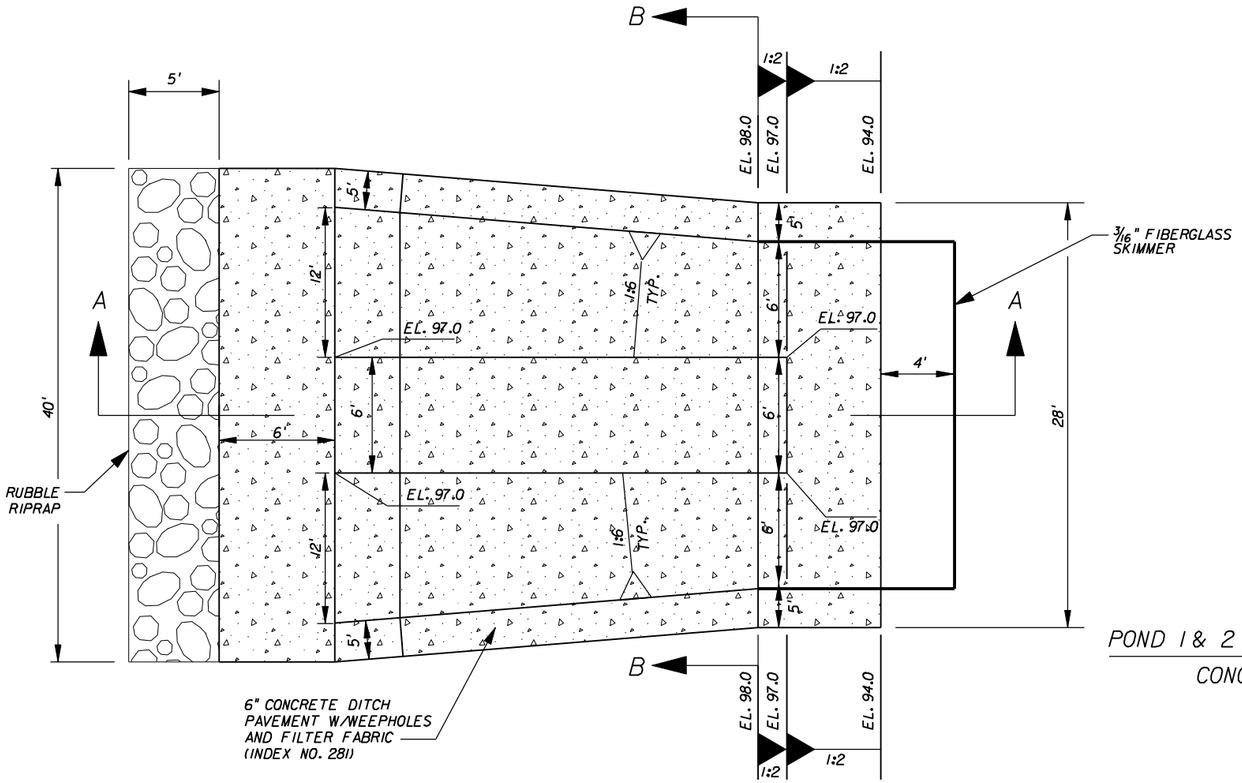
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE.
POND TYPICALS

PROJECT NAME.
NW BASCOM NORRIS DRIVE

SHEET NO.
60

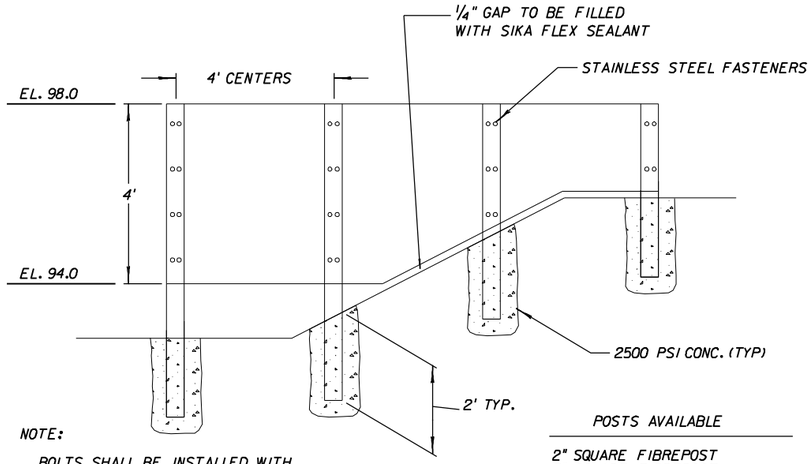
$USER$ $DATE$ $TIME$ $FILE$



POND 1 & 2 CONTROL STRUCTURE

CONCRETE WEIR

N.T.S.



NOTE:

BOLTS SHALL BE INSTALLED WITH HEADS ON OUTSIDE OF STRUCTURE TO PRESENT A SMOOTH, SNAG-FREE SURFACE.

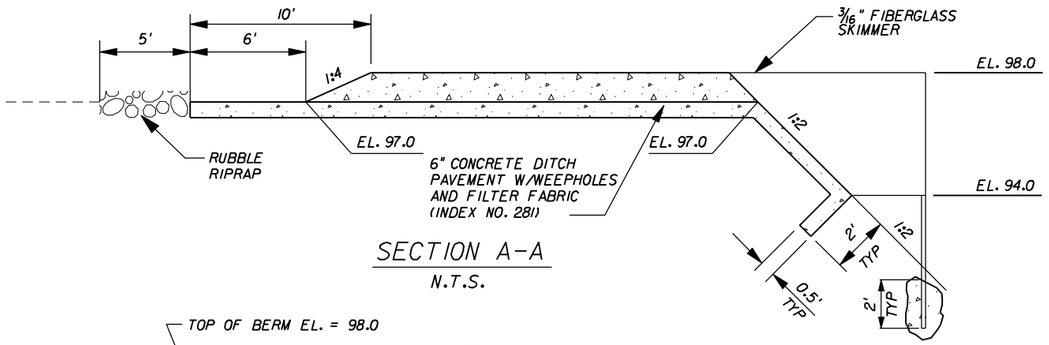
POSTS AVAILABLE

2" SQUARE FIBREPOST
3" SQUARE FIBREPOST
3" ROUND ALUMN. SCHED. 40
6" ROUND ALUMN. SCHED. 40

POST MOUNTED FIBERGLASS SKIMMER

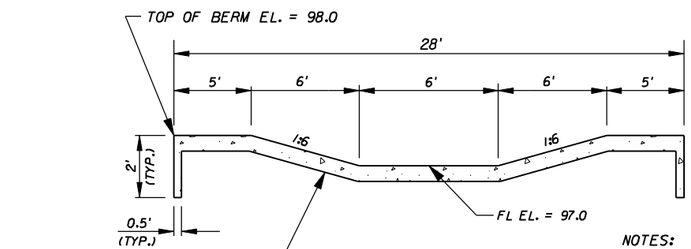
DETAIL

N.T.S.



SECTION A-A

N.T.S.



SECTION B-B

N.T.S.

NOTES:

1) THE 6" CONC. DITCH PAVEMENT SHALL INCLUDE 6" x 6" WELDED WIRE FABRIC. PAYMENT OF THE WELDED WIRE FABRIC AND 3/16" FIBERGLASS SKIMMER SHALL BE INCLUDED IN THE UNIT PRICE PER SQUARE YARD OF 6" CONCRETE DITCH PAVEMENT.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
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COUNTY: COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: CONTROL STRUCTURE DETAIL PONDS 1 & 2

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO.: 61

$USER$ $DATE$ $TIME$ $FILE$

NOTE:
A TEMPORARY AT-GRADE CROSSING OF THE EXISTING CSX RAILROAD TRACKS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. CONTRACTOR SHALL PLAN WORK ACCORDINGLY AS TO AVOID ANY AT-GRADE CROSSING OF THE TRACKS.

N

0 10 50
Feet

EXISTING RR R/W
EXISTING RR R/W
PROJECTION OF NORMAL RAILROAD RIGHT-OF-WAY
EXISTING RR R/W
15' TRACK CENTERS
EASEMENT
℄ FUTURE TRACK
TOE OF SLOPE (TYP.)
PROPOSED R/W
STA. 168+94.15 ℄ BASCOM NORRIS DRIVE = CSXT RAILROAD M.P. SP695.36
MSE WALL
TOE OF SLOPE (TYP.)
MSE WALL
BEGIN BRIDGE STA. 168+25.50
BEGIN APPROACH SLAB STA. 167+94.87
END BRIDGE STA. 169+65.50
END APPROACH SLAB STA. 169+97.14
1:3
1:2
1:2
1:2
1:2
167
168
169
170
171
172
173
174
℄ BASCOM NORRIS DRIVE
165'
175'
100'-0"
60'-0"(±)
60'-0"(±)
120'-0"
SPI 695
PROPOSED R/W
PROPOSED ACCESS ROAD
EASEMENT
PROPOSED ACCESS ROAD
EXISTING RR R/W
EXISTING RR R/W
PROPOSED STORMWATER POND

HORIZONTAL CURVE DATA

PI STA = 173+21.99
DELTA = 92° 18' 37" (RT)
D = 4° 00' 00"
T = 1,491.34'
L = 2,307.75'
R = 1,432.39'
PC STA = 158+30.65
PT STA = 181+38.40

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
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Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
RAILROAD CROSSING DETAIL

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
62

$USER$ $DATE$ $TIME$ $FILE$

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH

DATE OF SURVEY: JULY 2009

SURVEY MADE BY: NODARSE & ASSOCIATES, INC.

SUBMITTED BY: DAVID BARRIERO, P.E.

FINANCIAL PROJECT NO.: –

DISTRICT: –

ROAD NO.: –

COUNTY: COLUMBIA

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SURVEY BEGINS STA.: 110+00 SURVEY ENDS STA.: 190+00

	LBR		ORGANIC CONTENT			SIEVE ANALYSIS RESULTS % PASS						ATTERBERG LIMITS (%)					CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	MAX LBR	NO. OF TESTS	% ORGANIC	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP	MATERIAL DESCRIPTION	NO. OF TESTS	RESISTIVITY ohm–cm	CHLORIDES ppm	SULFATES ppm	pH
1	–	3	–	3–16	3	100	100	96	–	–	8	–	–	NP–5	A–3	GRAY, BROWN, LIGHT GRAY, TAN TO WHITE SAND	3	1400–3600	60–150	47–94	6.6–7.6
2	–	5	2	–19	5	100	100	96–97	–	–	12–17	2	NP–28	9–31	A–2–4	GRAY, BROWN, TAN, ORANGE, LIGHT GRAY SLIGHTLY CLAYEY SAND	1	3500	60	58	7.4
3	–	10	–	11–24	10	–	–	–	–	–	22–35	6	34–53	19–119	A–2–4 A–2–6 A–2–7	LIGHT GRAY, ORANGE, BROWN CLAYEY SAND	2	1600–2200	150–180	100–158	6.4–7.9
4	–	10	–	17–59	10	–	–	–	–	–	36–87	7	41–161	–	A–7–6	LIGHT GREEN, ORANGE, BROWN, GRAY SANDY CLAY TO CLAY	3	1200–2000	180–240	5–300	4.5–6.4
5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	LIGHT BROWN, TAN LIMESTONE	–	–	–	–	–
6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	A–8	MUCK	–	–	–	–	–

EMBANKMENT AND SUBGRADE MATERIAL

STRATA BOUNDARIES ARE APPROXIMATE MAKE FINAL CHECK AFTER GRADING

▼ = WATER TABLE ENCOUNTERED

▽ = SEASONAL HIGH WATER TABLE

GNE = GROUNDWATER NOT ENCOUNTERED

NOTES:

1) SOIL BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY.

2) WATER TABLE SHOWN AS ▼ WHERE ENCOUNTERED AT TIME OF SURVEY. GROUNDWATER NOT ENCOUNTERED SHOWN AS "GNE". ESTIMATED SEASONAL HIGH GROUNDWATER SHOWN AS ▽.

3) SOIL ANALYSIS INCLUDES DATA FROM ROADWAY AND BRIDGE AREAS ONLY.

4) THE SYMBOL "–" REPRESENTS AN UNMEASURED PARAMETER.

5) THE SYMBOL "NP" REPRESENTS NON–PLASTIC.

6) STRATA 1 AND 2 ARE CONSIDERED SELECT (S). HOWEVER STRATUM 2 MAY RETAIN MOISTURE AND MAY BE DIFFICULT TO DRY AND COMPACT.

7) STRATUM 3 IS CONSIDERED PLASTIC (P). THIS MATERIAL SHOULD BE LIMITED TO NO CLOSER THAN 43 INCHES IN CUT SECTIONS.

8) STRATUM 4 IS CONSIDERED HIGH PLATIC (H). THIS MATERIAL CAN ONLY BE USED OUTSIDE THE 1:2 EMBANKMENT SLOPE CONTROL LINE, AS INDICATED ON THE FDOT INDEX AND MAY BE CONSIDERED FOR BERM CONSTRUCTION AT STORMWATER PONDS.

9) STRATUM 5 MAY BE DIFFICULT TO EXCAVATE AND/OR PENETRATE AND MAY REQUIRED SPECIAL EQUIPMENT AND/OR PROCEDURES TO FACILITATE EXCAVATIONS.

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	MG	7–6–09
Checked by	FA	7–6–09
Designed by		
Checked by		
Approved by	DAVID BARREIRO, P.E.	

4110 SW 34th. STREET
GAINESVILLE, FLORIDA 32608
(352) 377–3280
CERTIFICATE OF AUTHORIZATION No. 6174
DAVID BARREIRO, P.E. No. 31901
NODARSE & ASSOCIATES, INC.

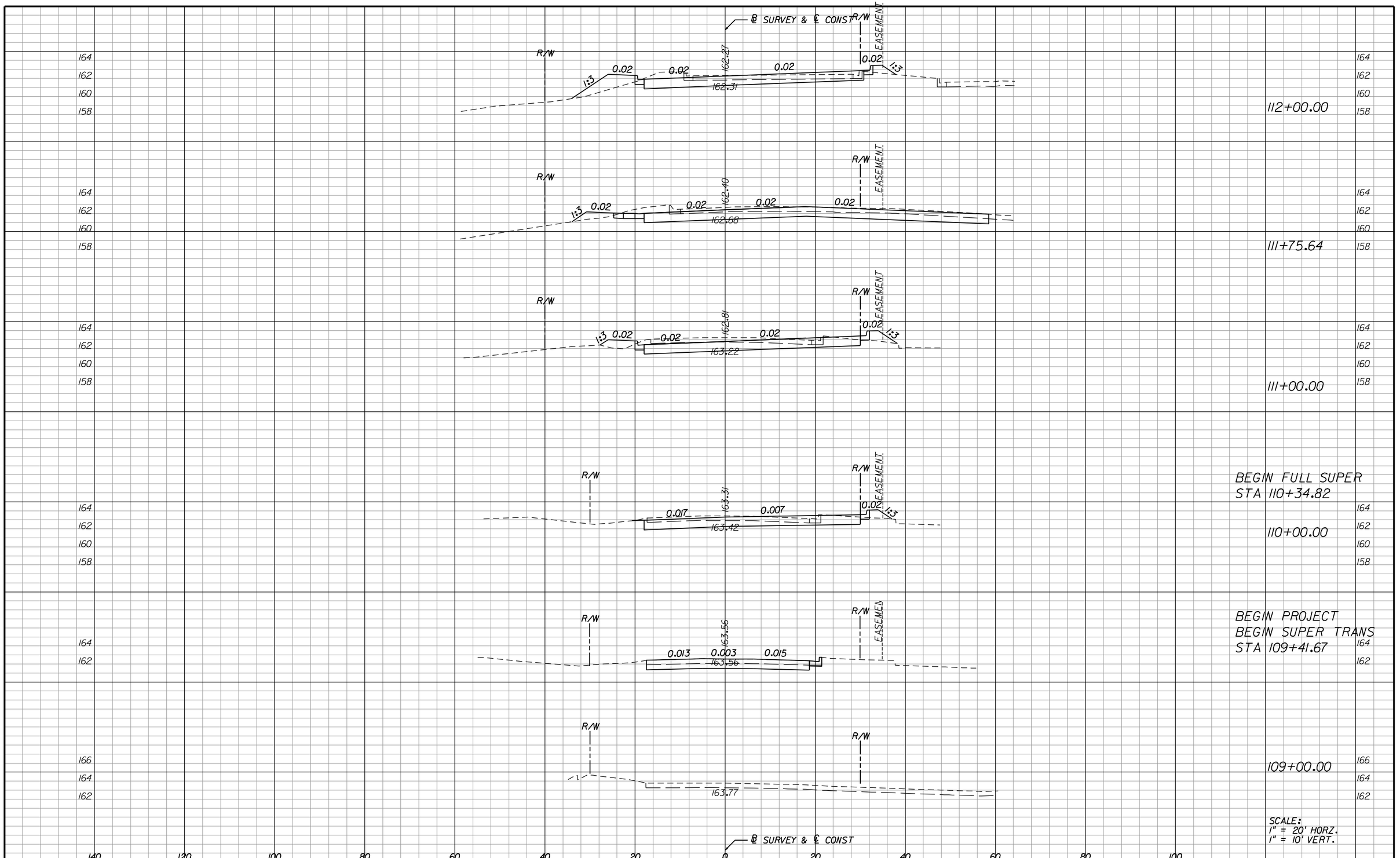
ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
–	COLUMBIA	–

SHEET TITLE: ROADWAY SOIL SURVEY

PROJECT NAME: NW BASCOM NORRIS DRIVE
FROM NORTH OF SR 10 TO CR 250
COLUMBIA COUNTY, FLORIDA

SHEET No. 63

NODARSE and ASSOC. No. 10–08–0075–102A FIGURE: 2



SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS

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COLUMBIA COUNTY

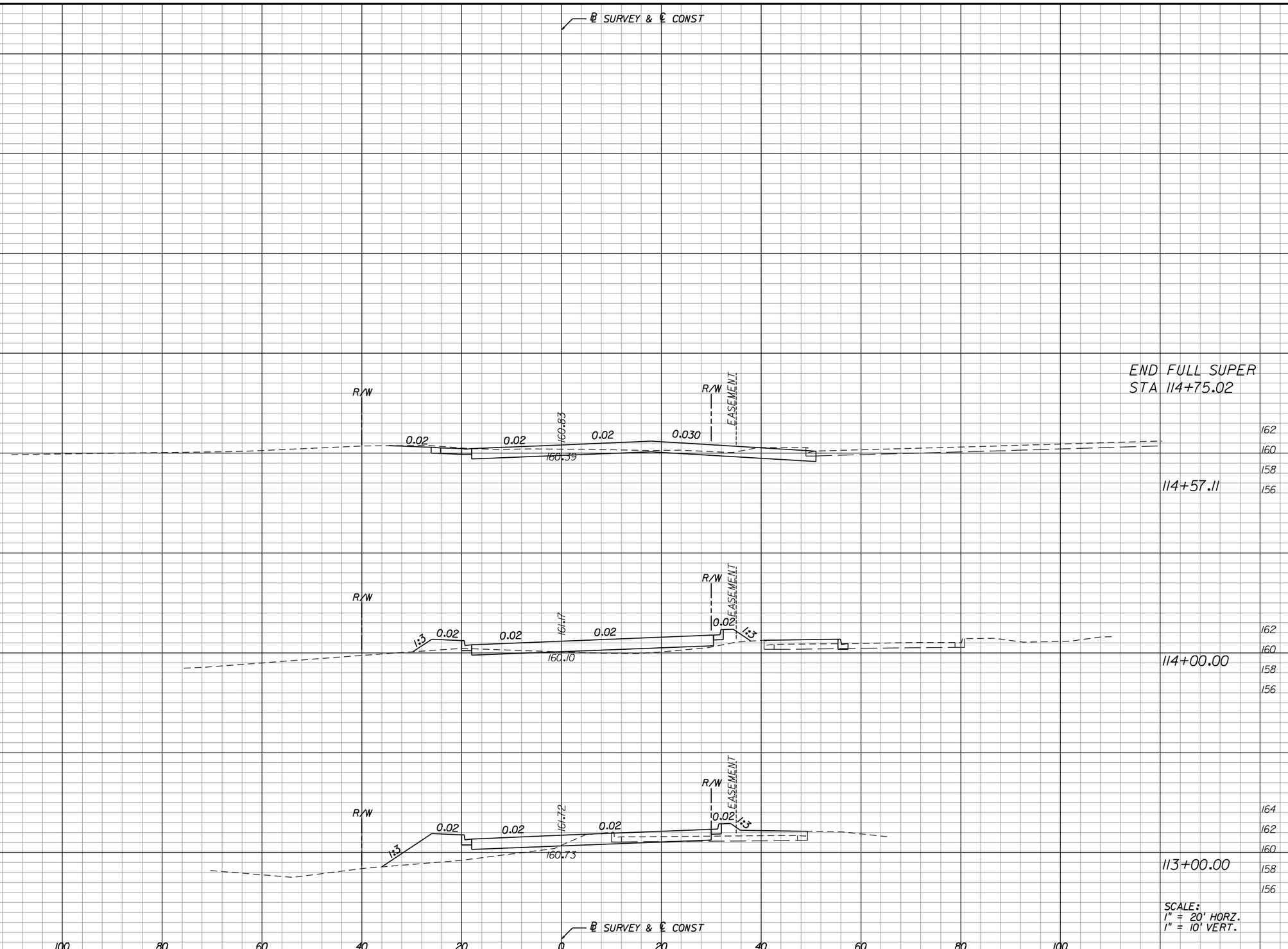
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
64

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
65

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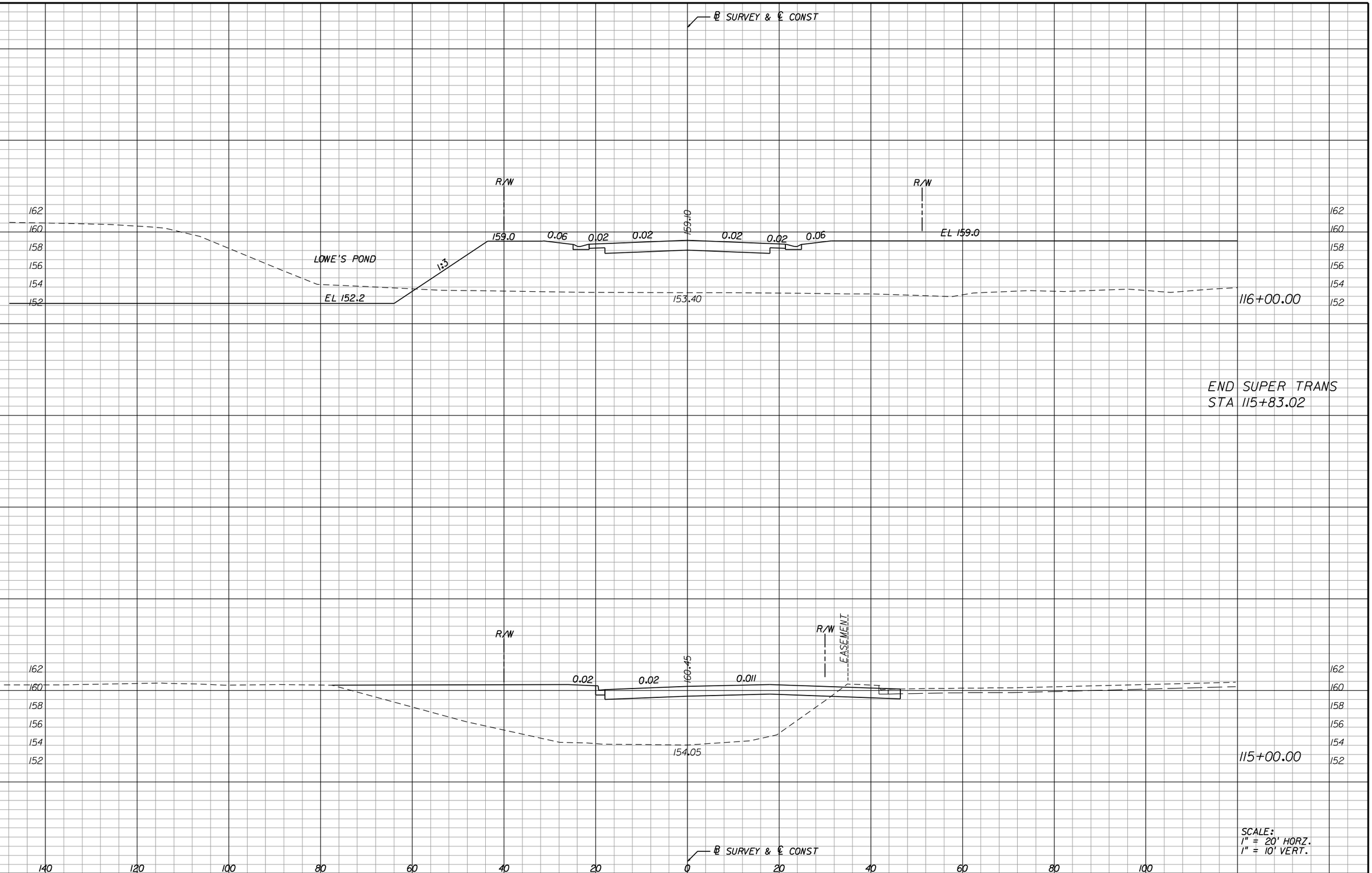

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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
66

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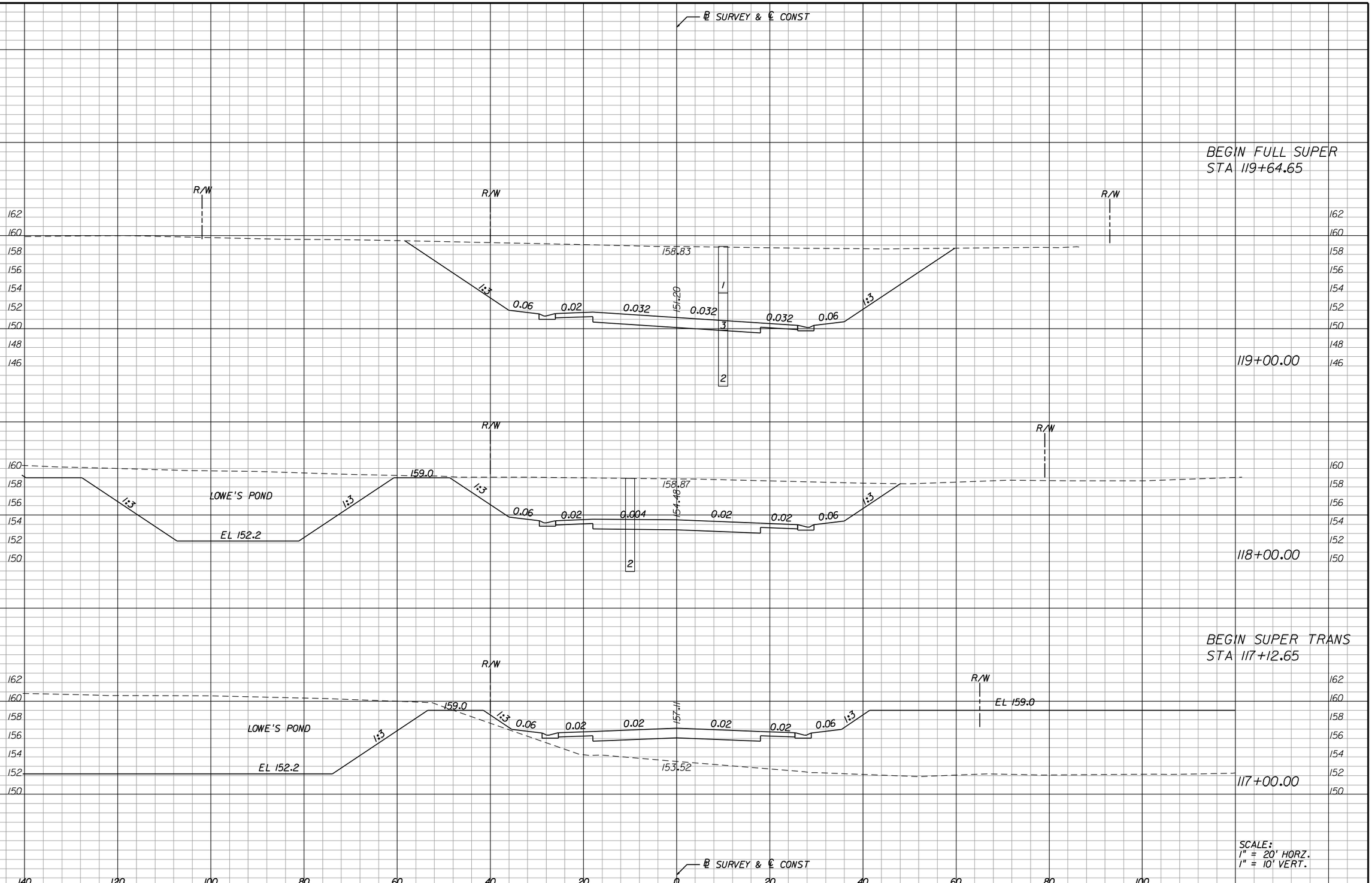

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COLUMBIA COUNTY

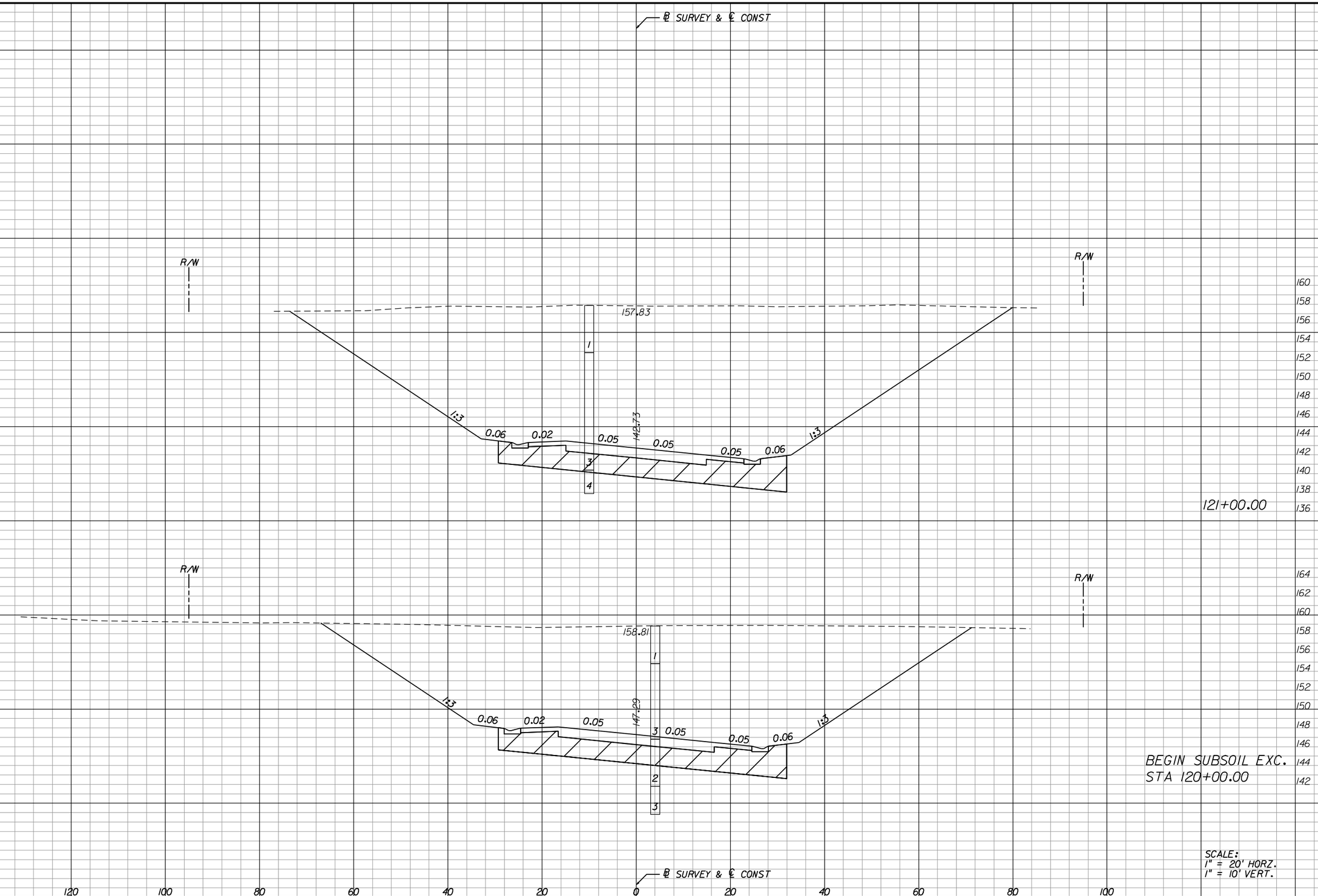
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
67

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

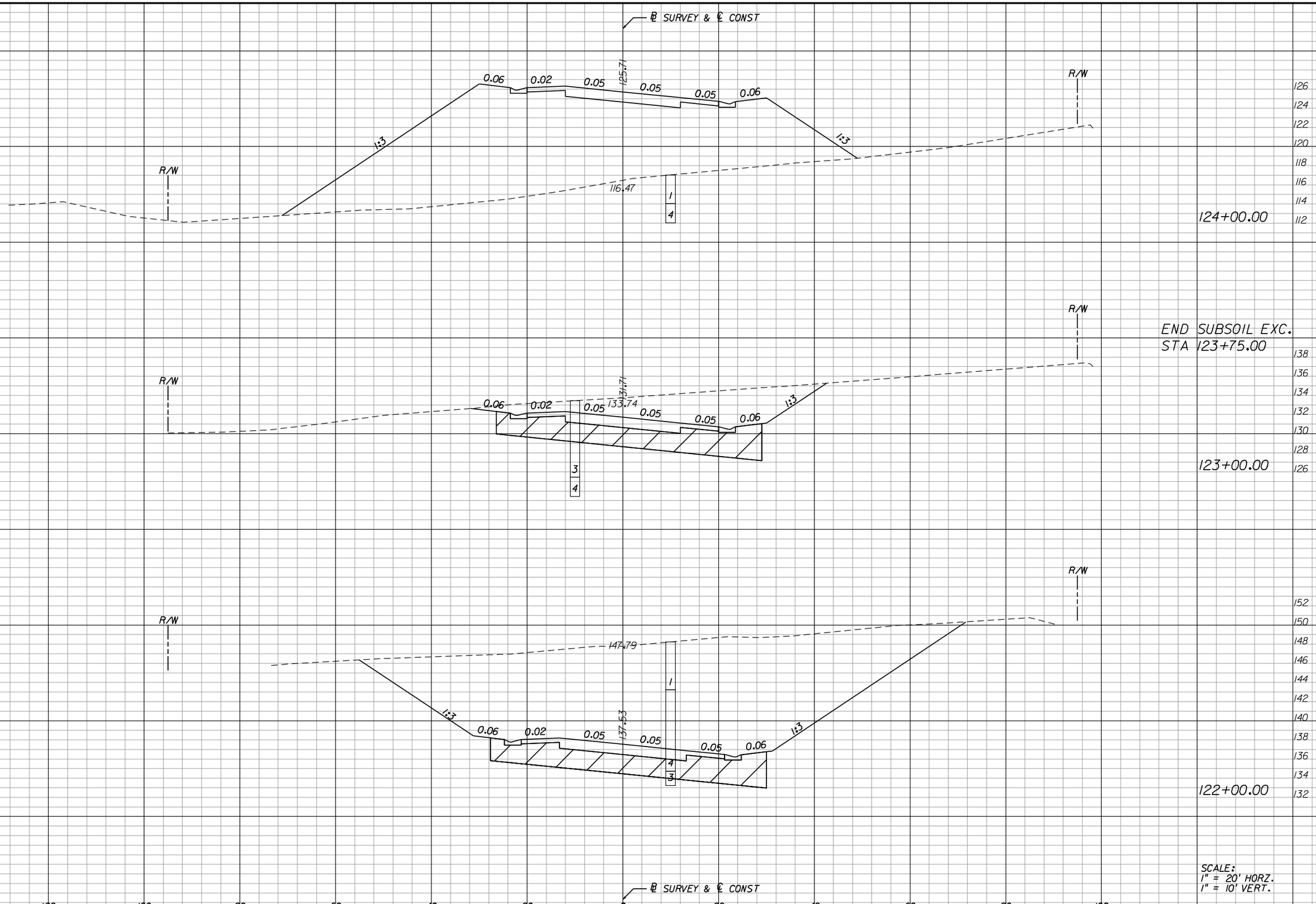
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
68

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
69

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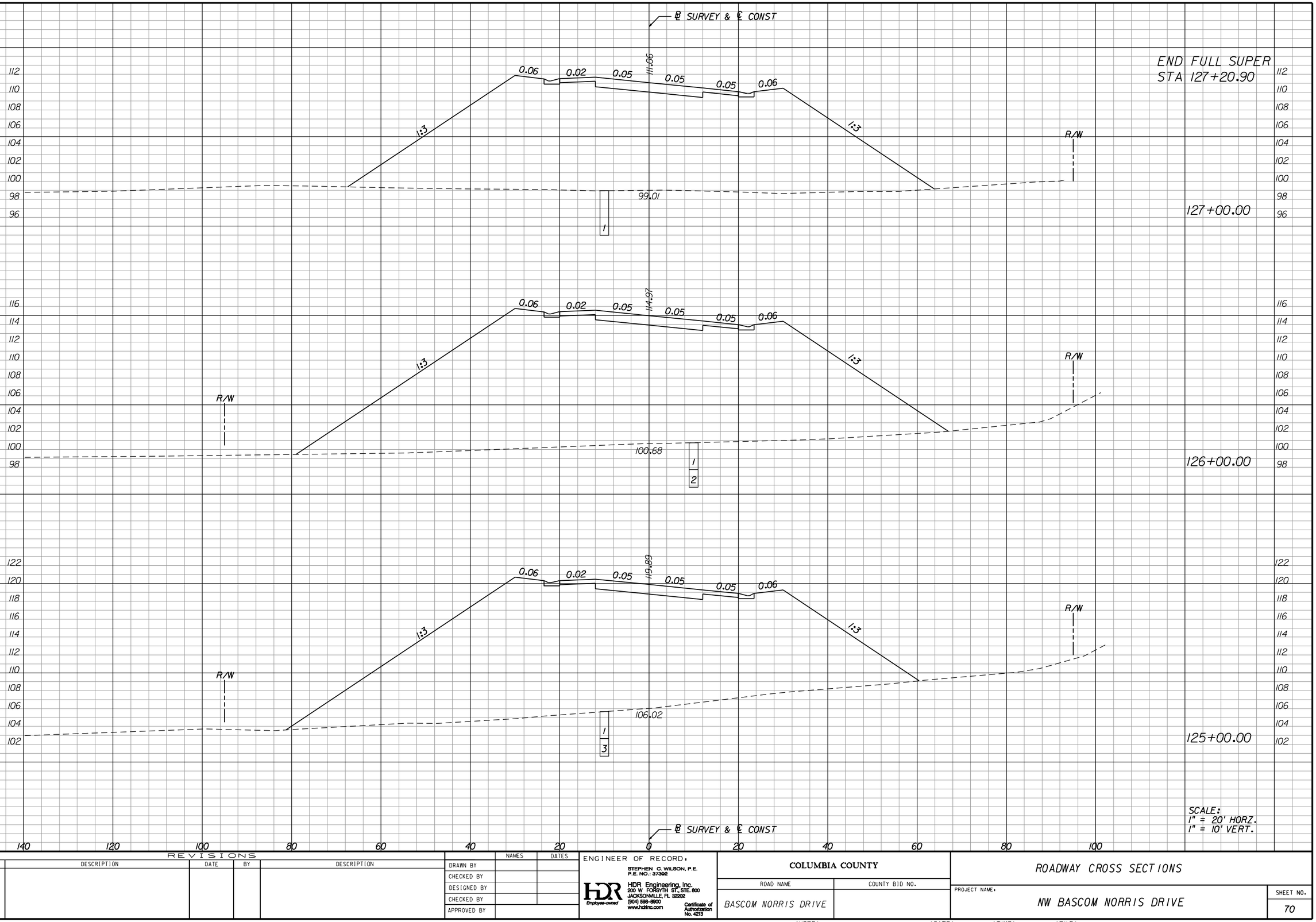

REVISIONS

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COLUMBIA COUNTY

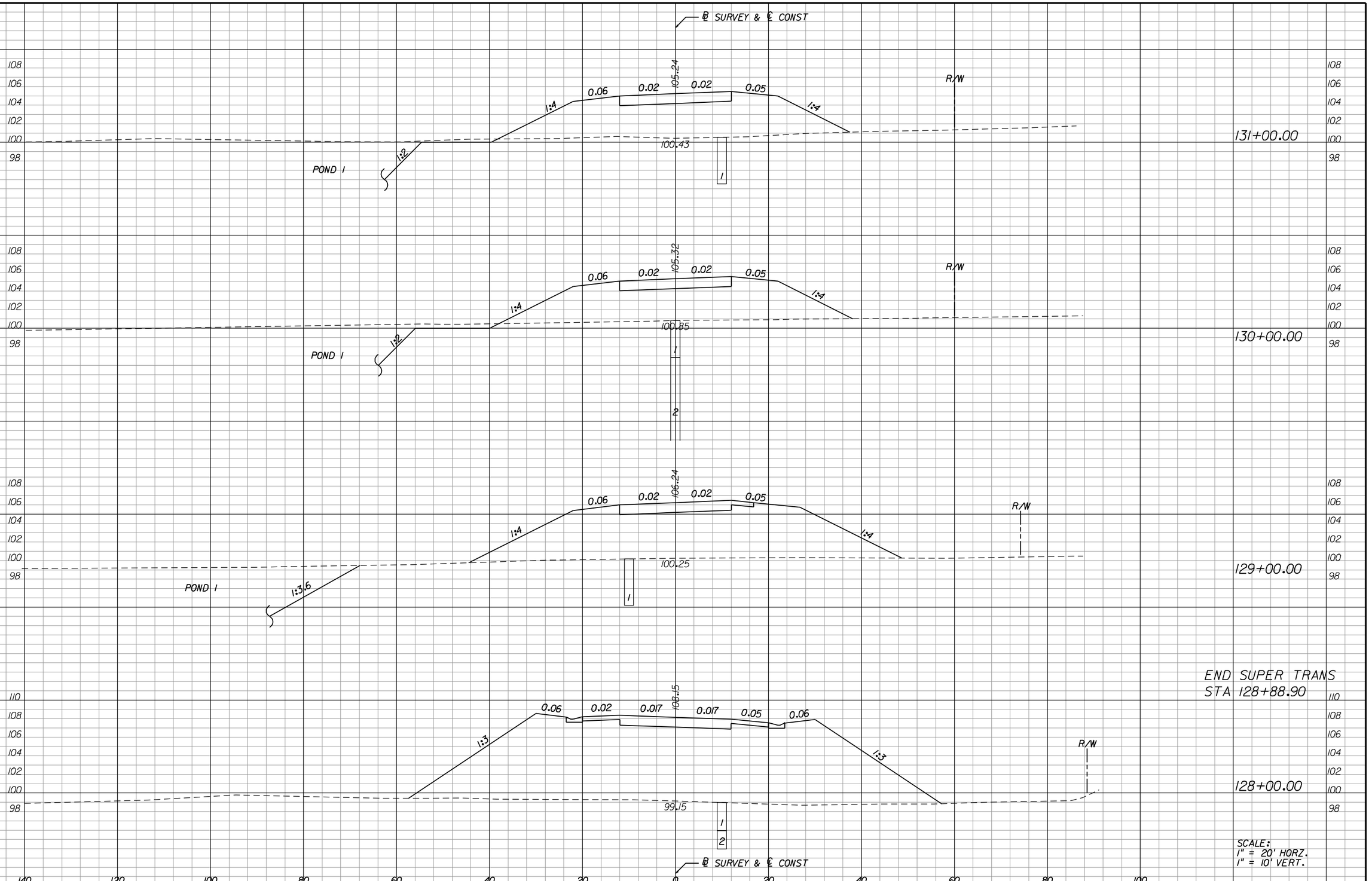
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
70

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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COLUMBIA COUNTY

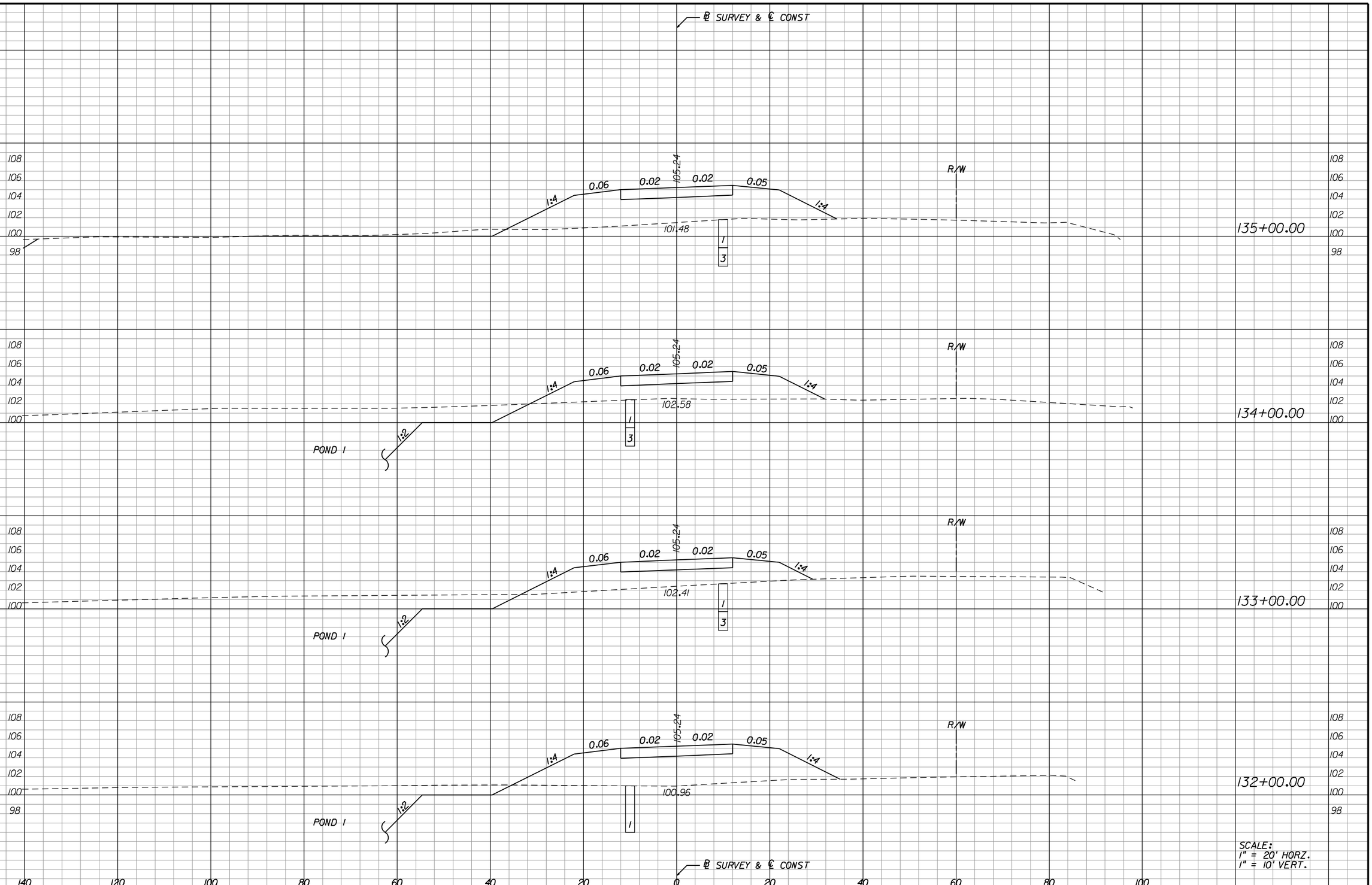
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
71

$USER$ $DATE$ $TIME$ $FILE$



SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS

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COLUMBIA COUNTY

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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
72

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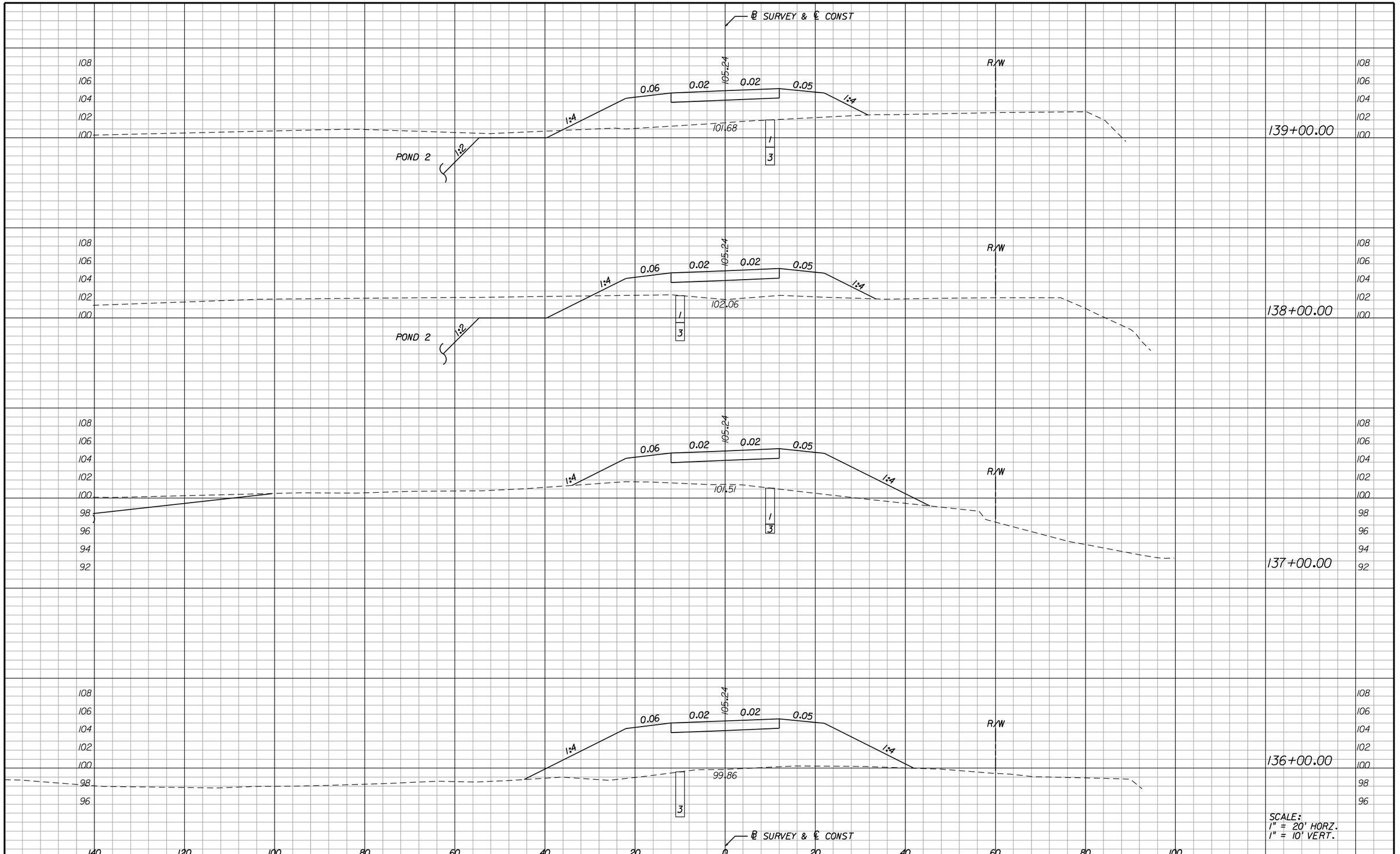

REVISIONS					
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COLUMBIA COUNTY

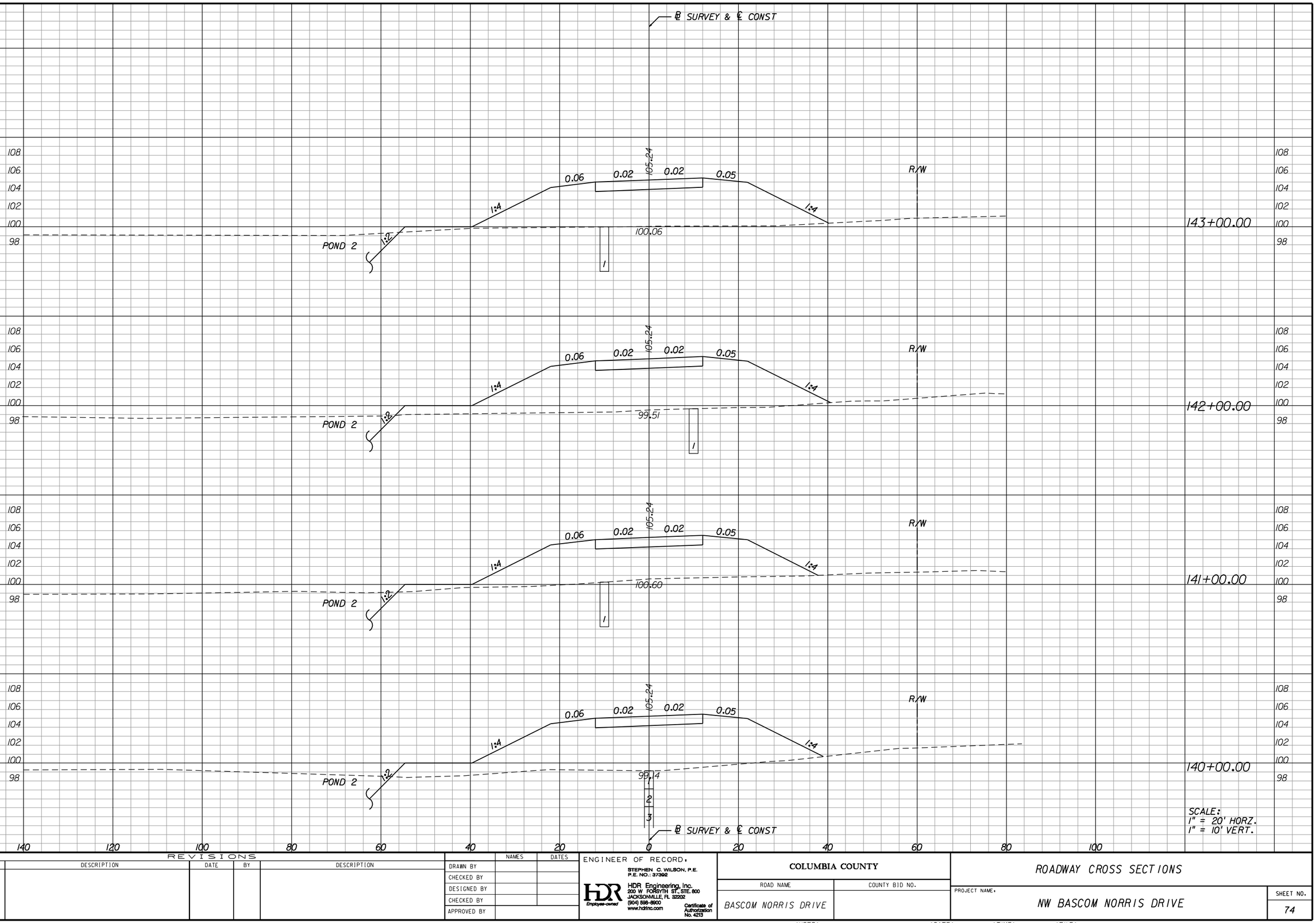
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
73

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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COLUMBIA COUNTY

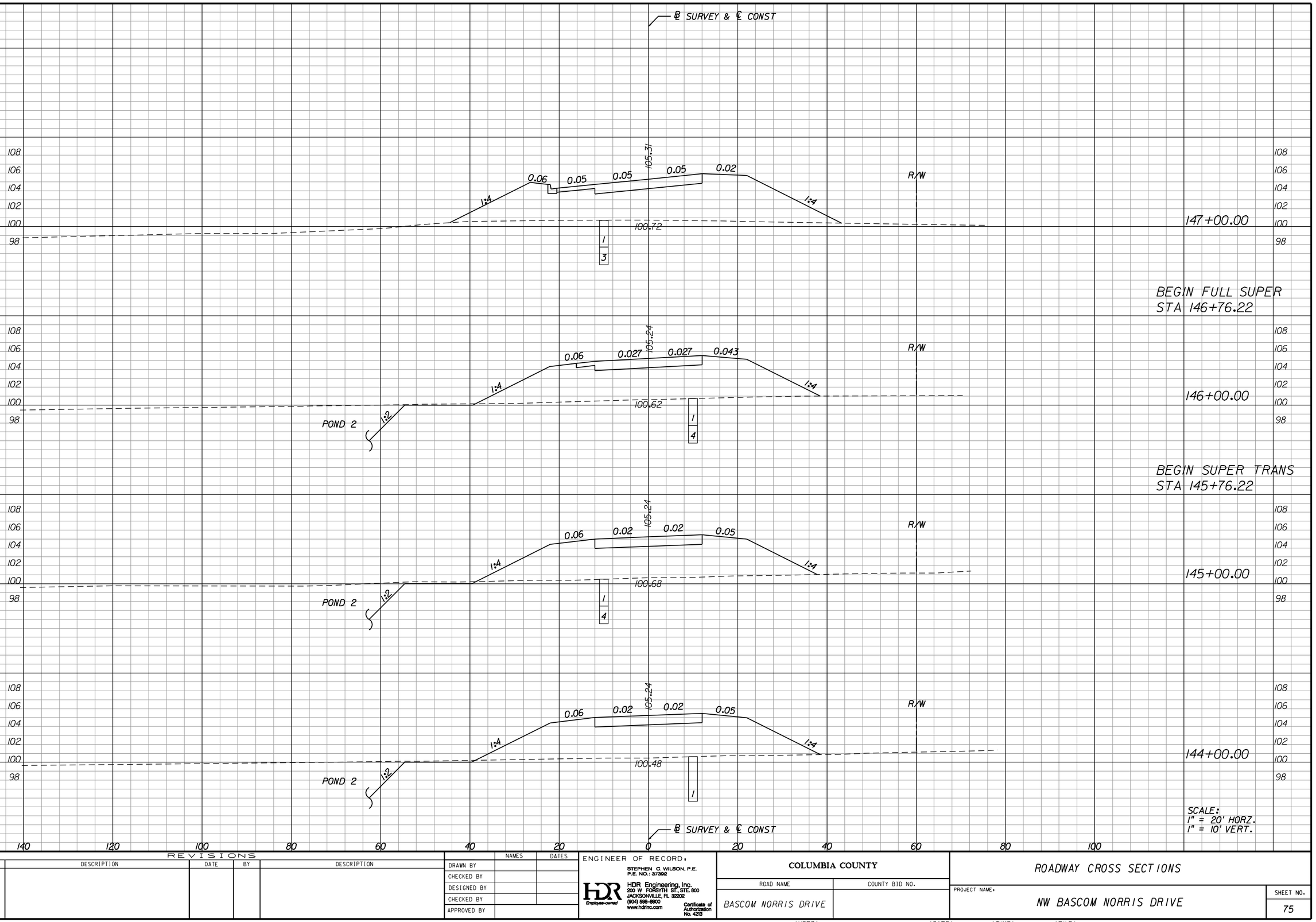
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
74

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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COLUMBIA COUNTY

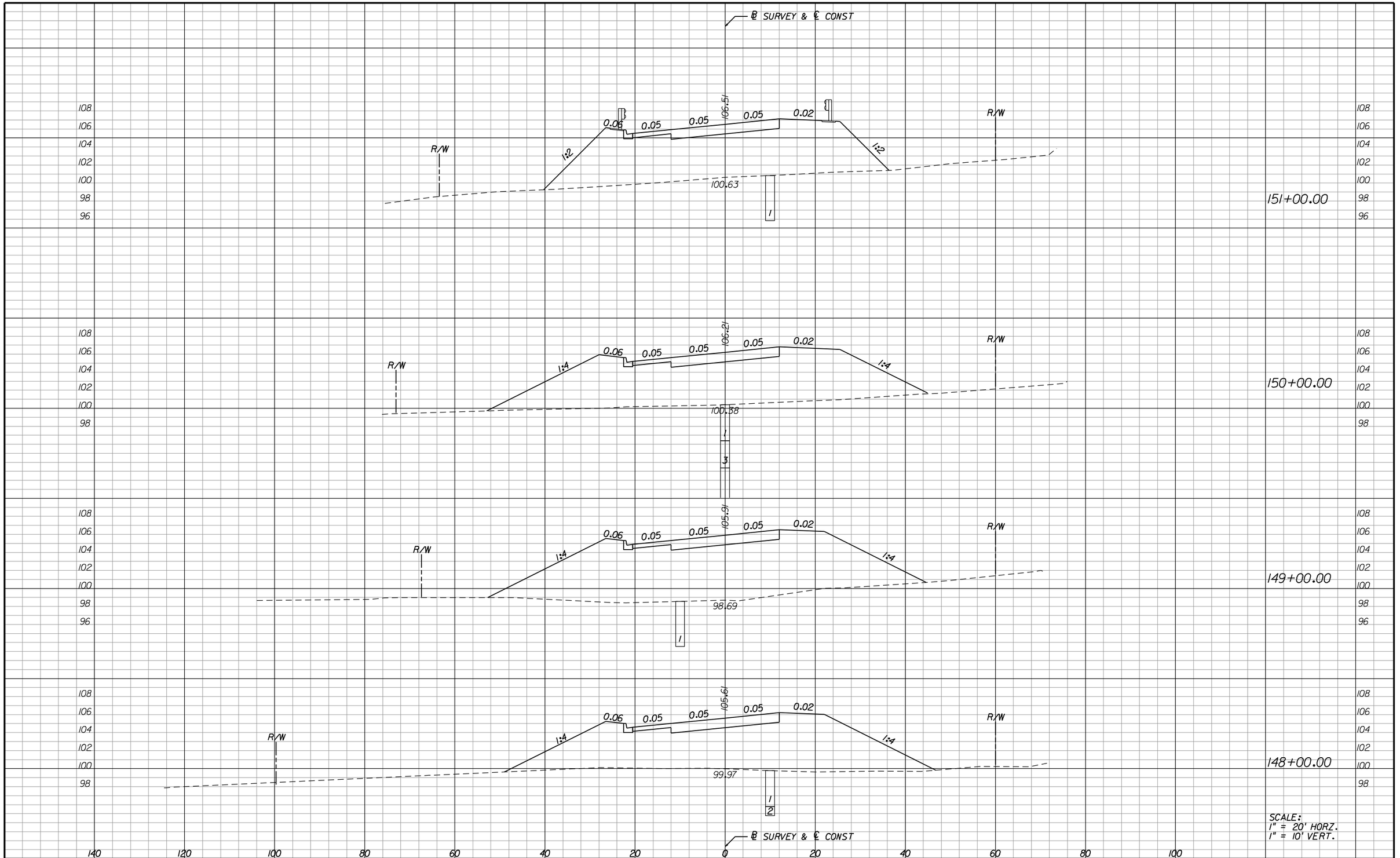
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 75

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS					
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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
76

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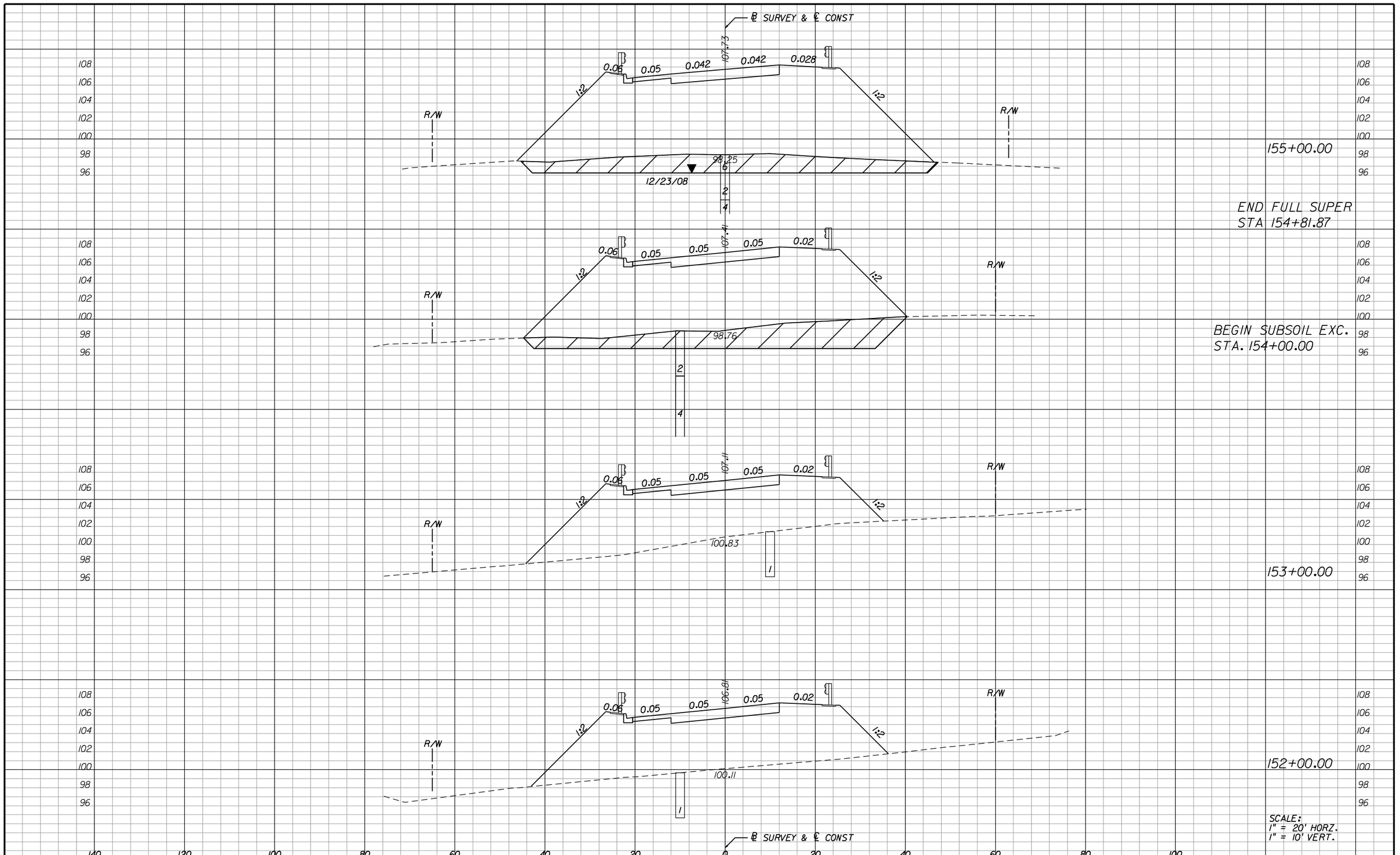

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COLUMBIA COUNTY

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ROADWAY CROSS SECTIONS

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NW BASCOM NORRIS DRIVE

SHEET NO.
77

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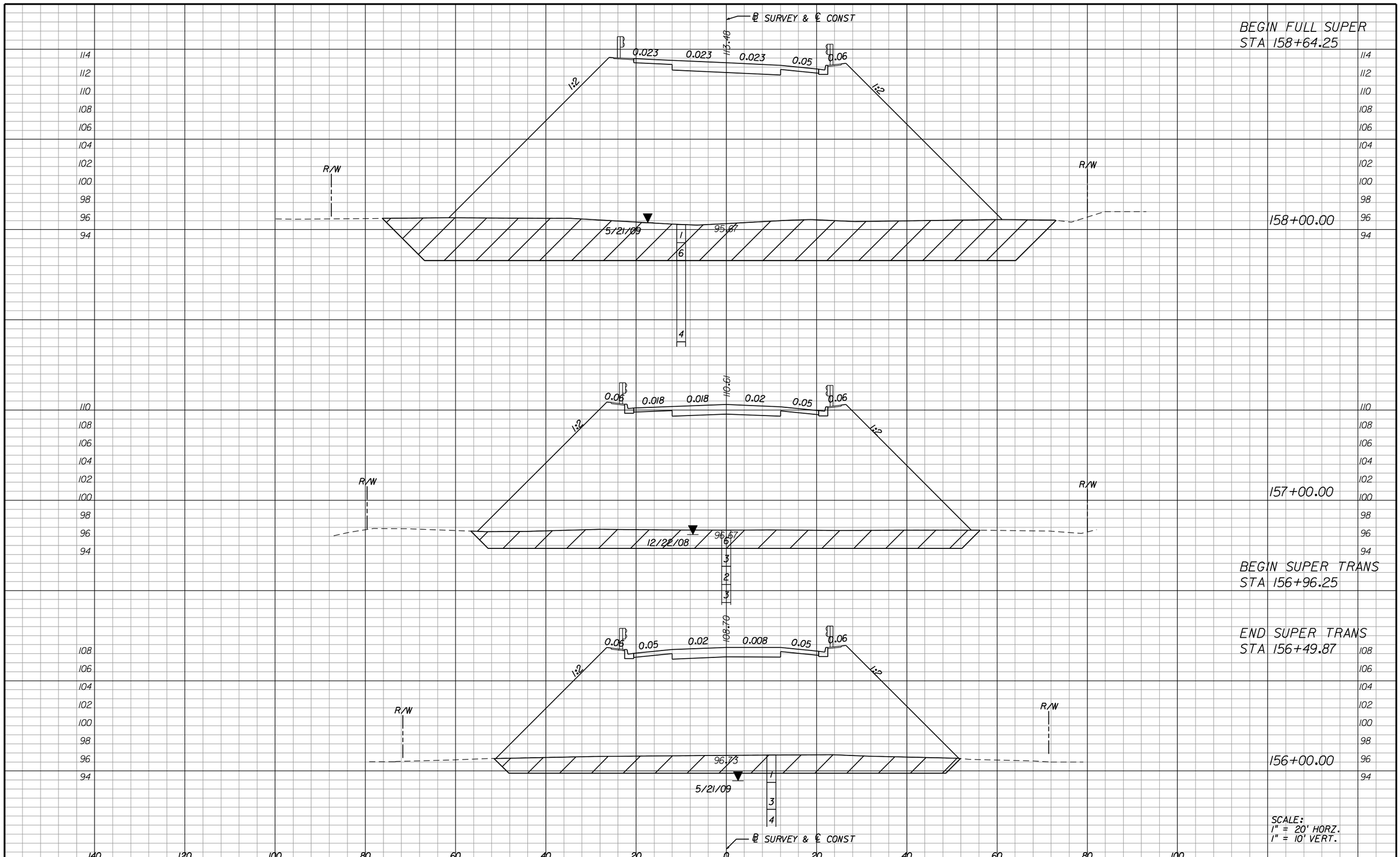

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COLUMBIA COUNTY

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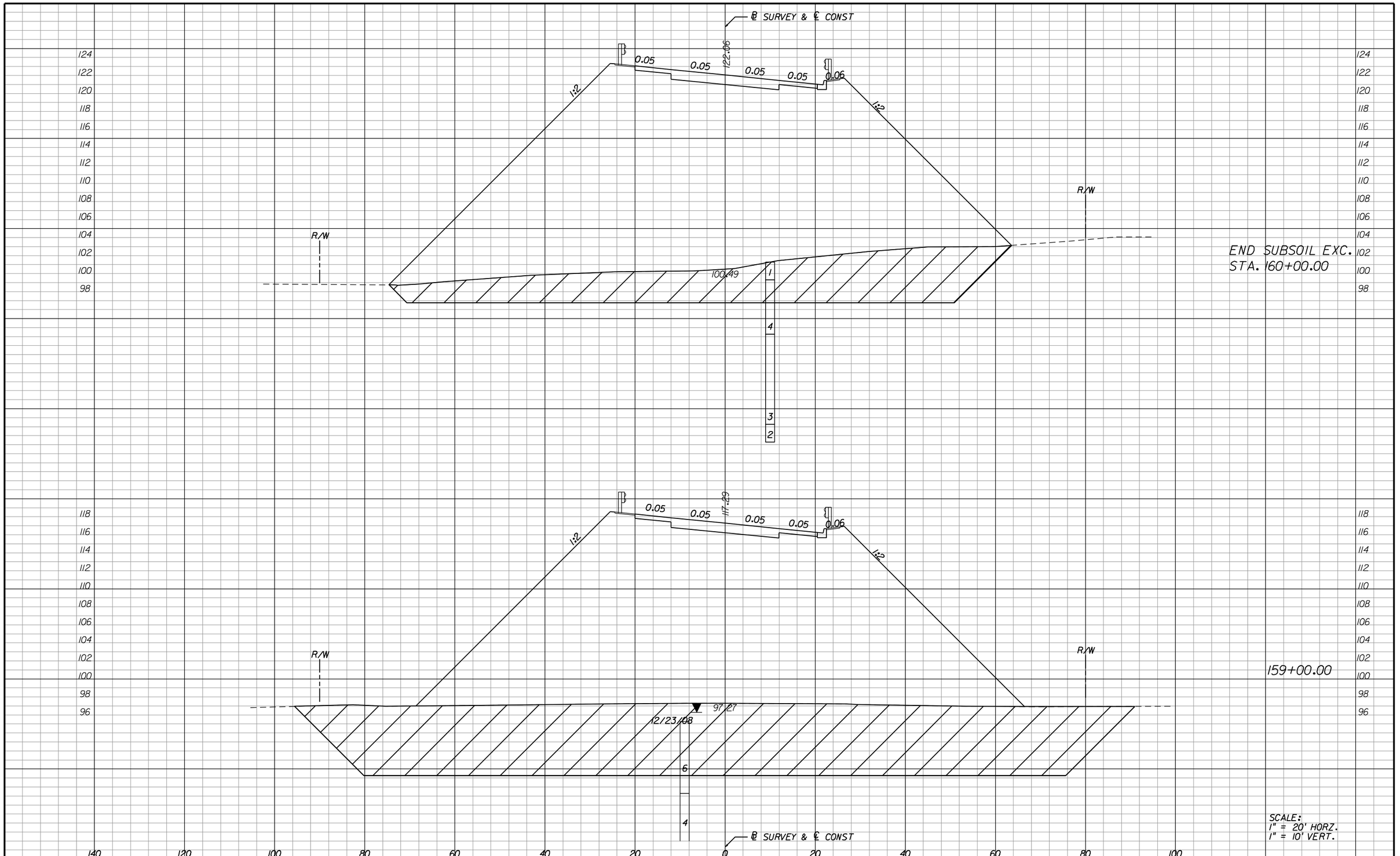
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
78

$USER$ $DATE$ $TIME$ $FILE$



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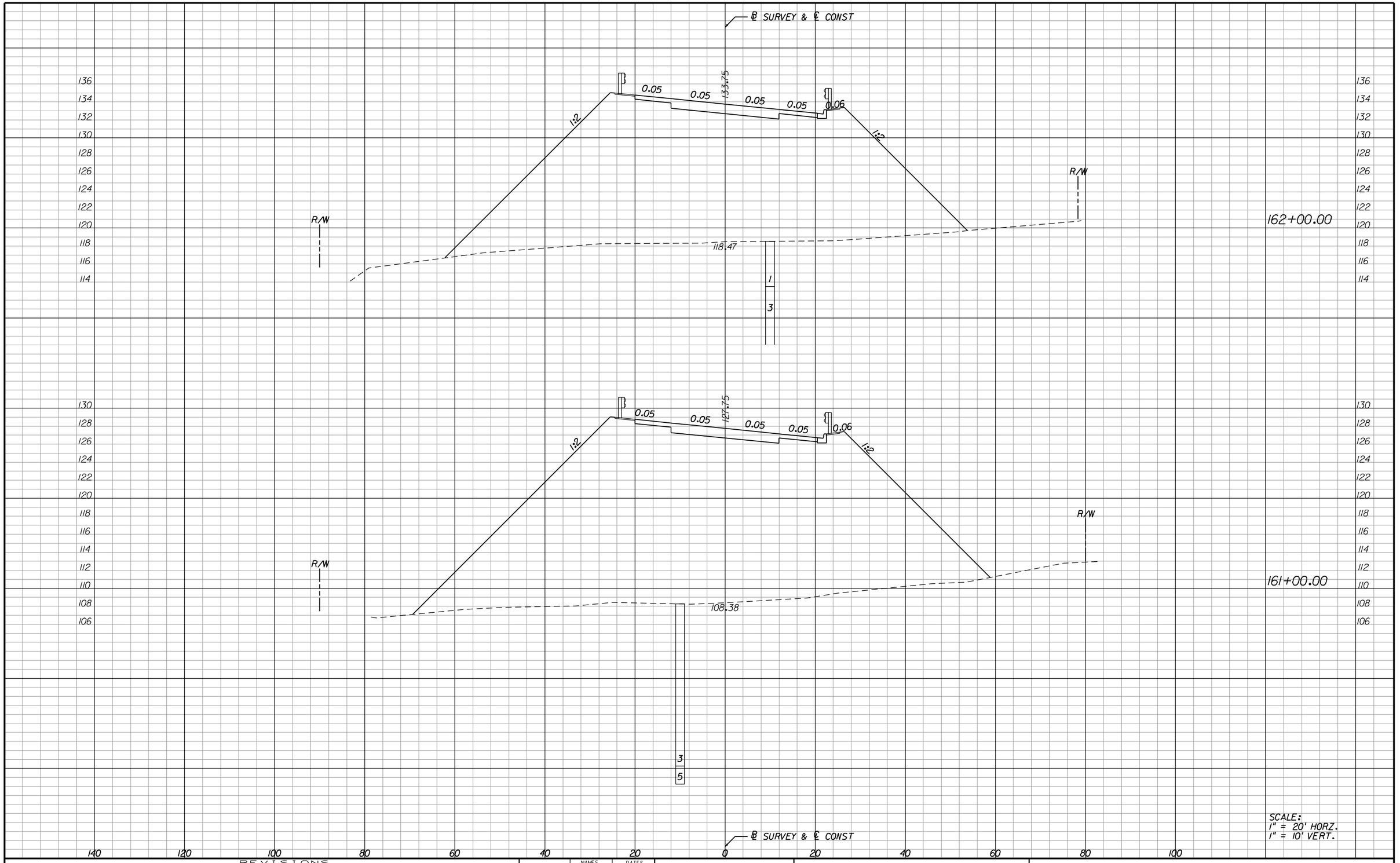
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
79

$USER$ $DATE$ $TIME$ $FILE$



REVISIONS

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ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
200 W FORSYTH ST., STE. 800
JACKSONVILLE, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

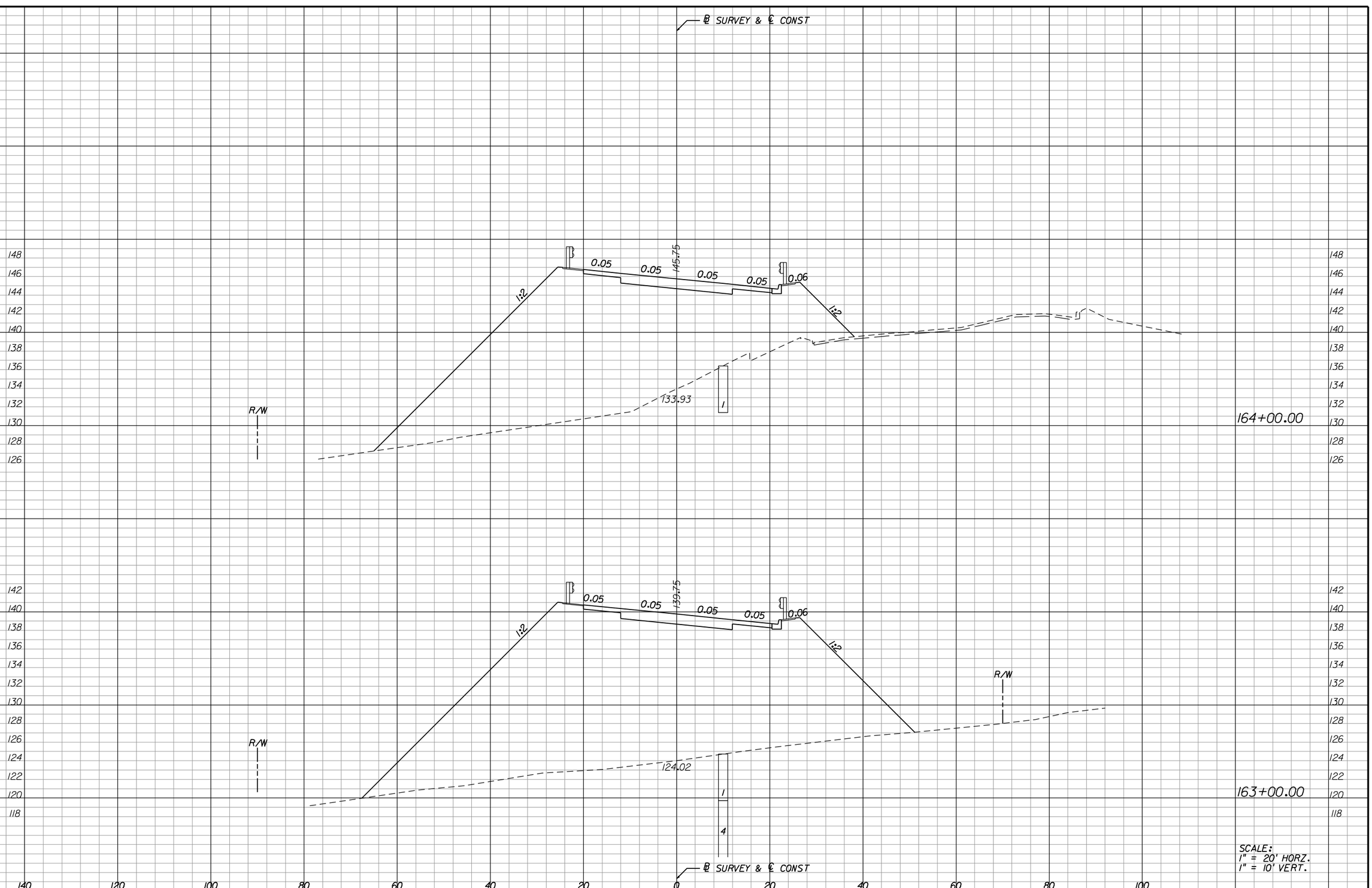
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
80

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

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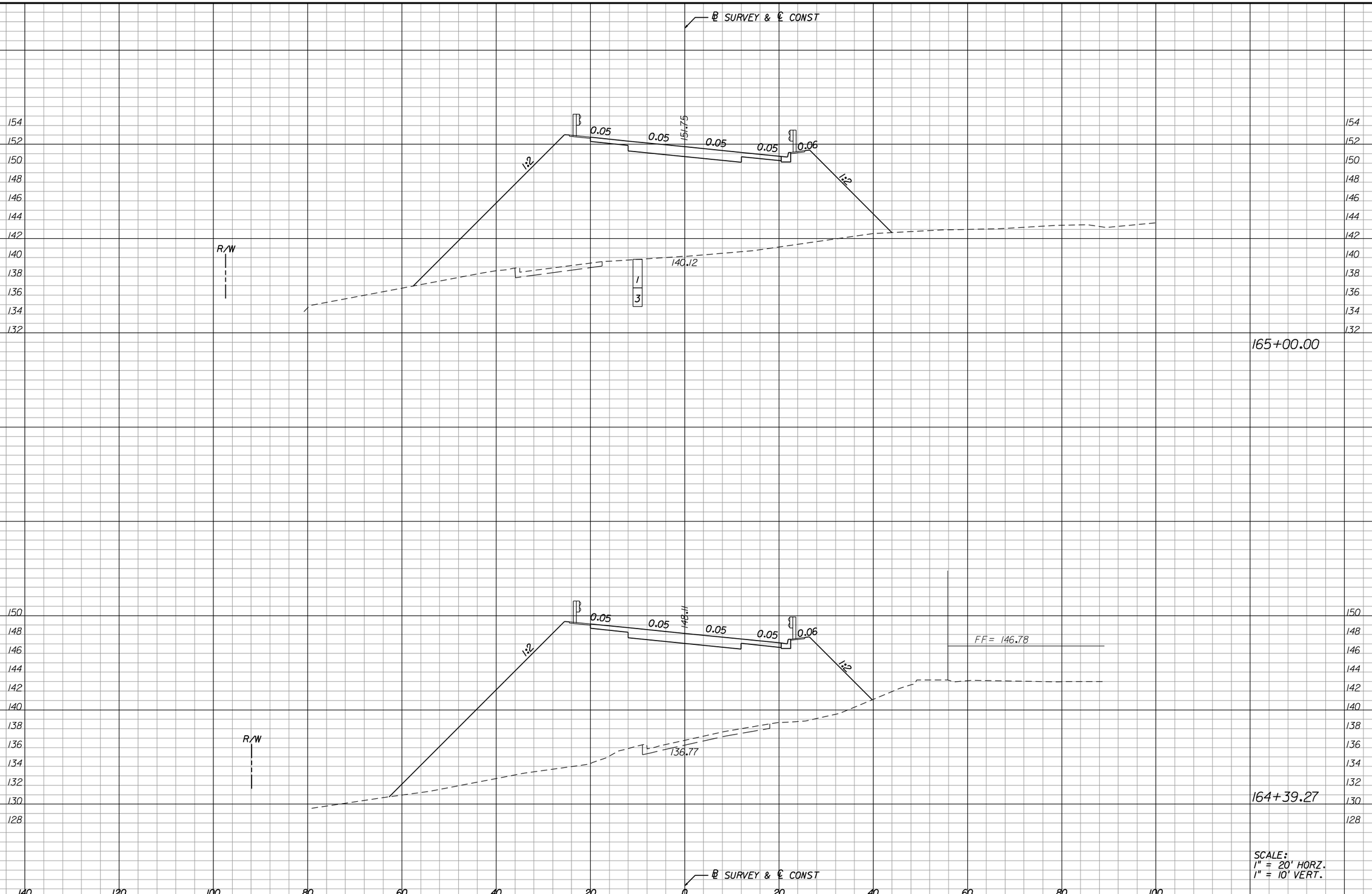
ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
81

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
82

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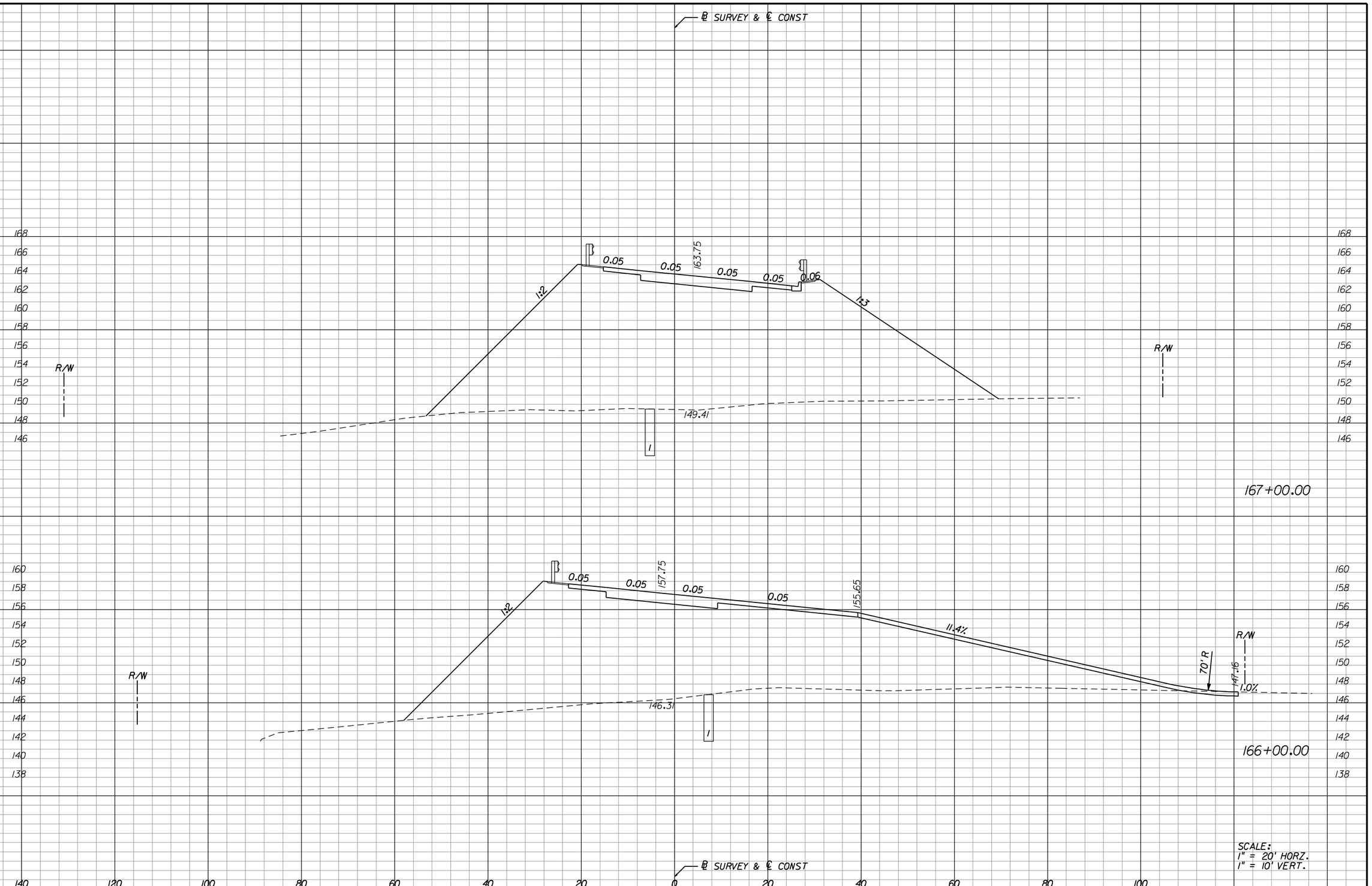

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COLUMBIA COUNTY

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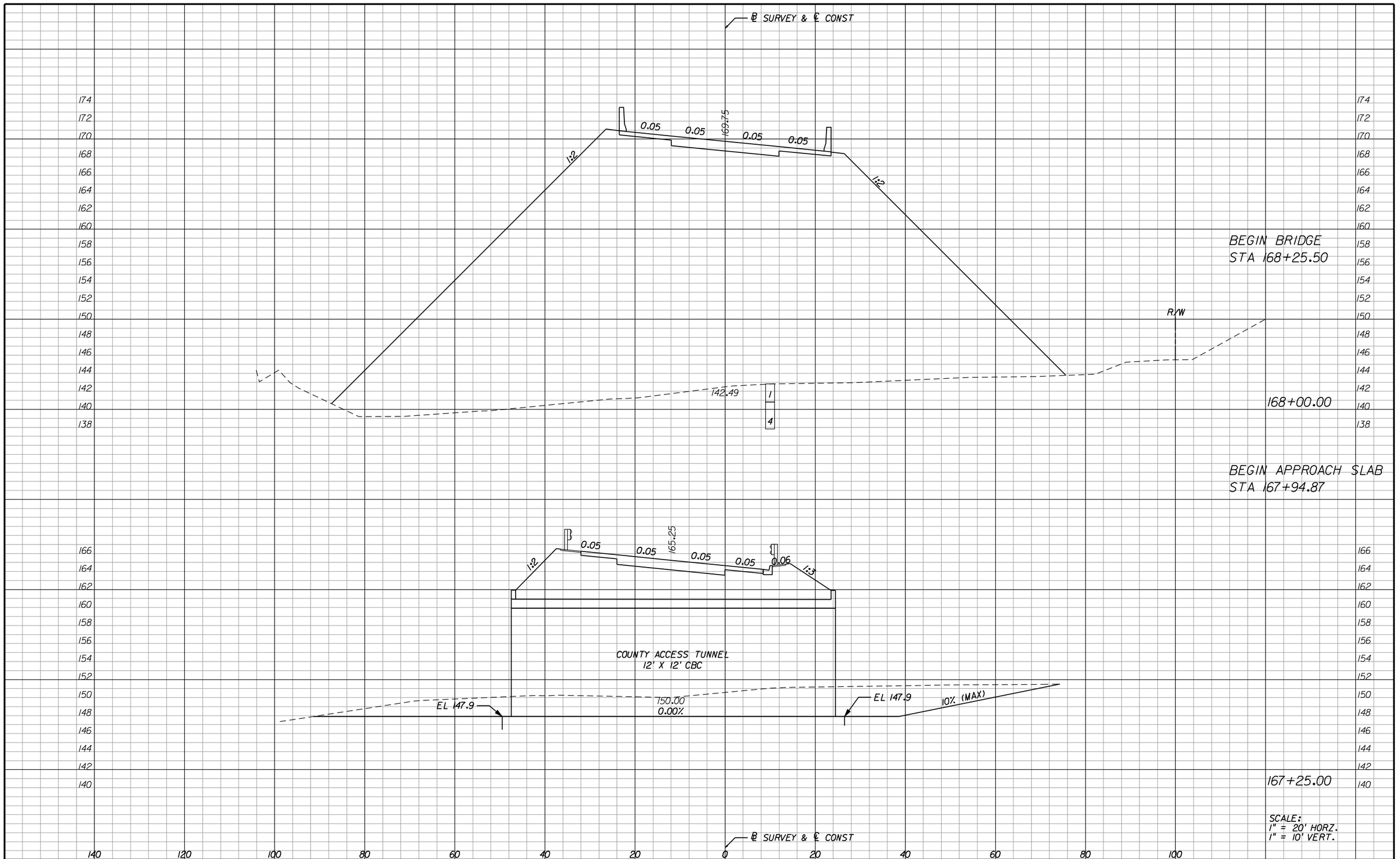
ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
83

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

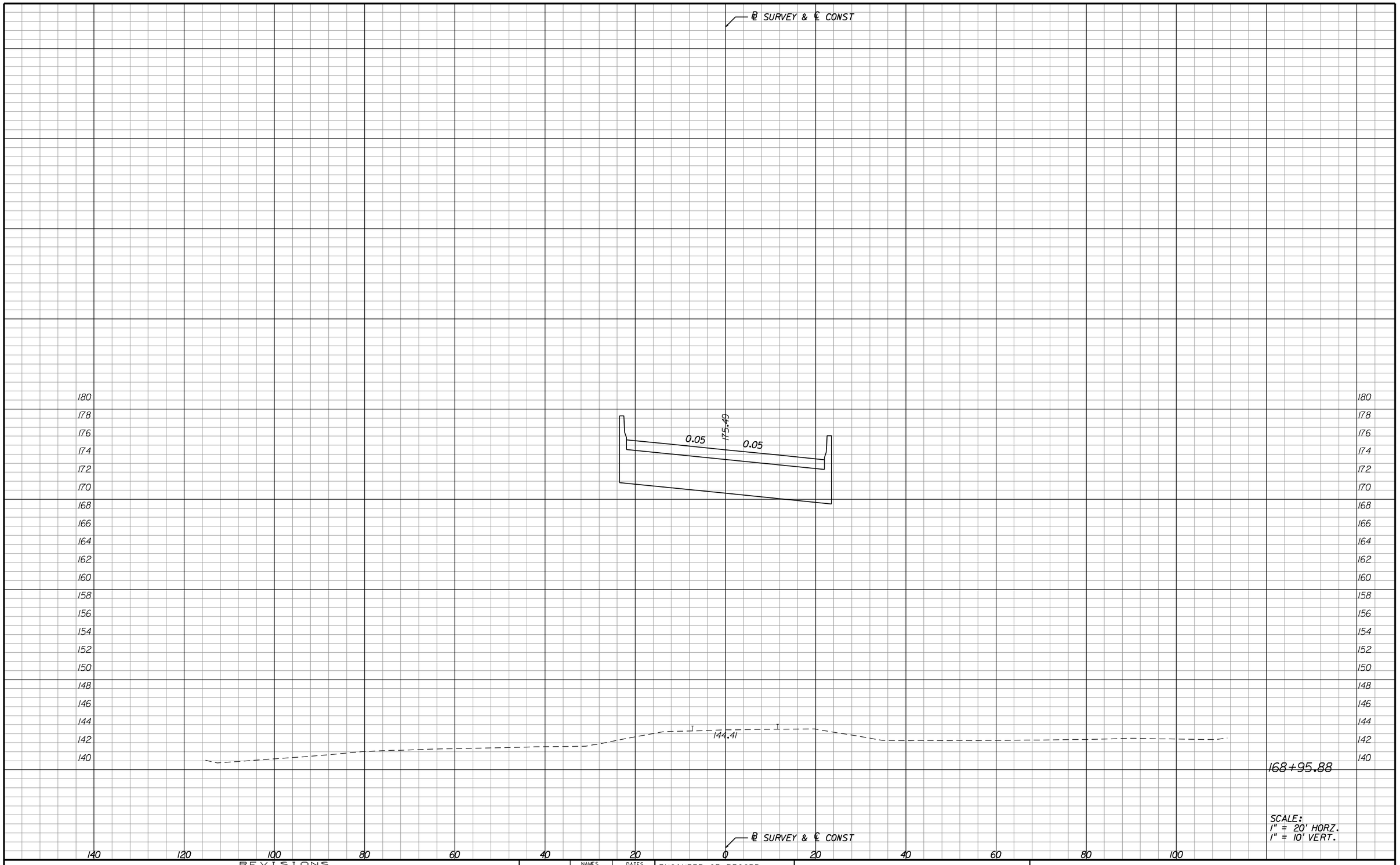
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 84

$USER$ $DATE$ $TIME$ $FILE$



SCALE:
1" = 20' HORZ.
1" = 10' VERT.

REVISIONS					
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ROAD NAME	COUNTY BID NO.
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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

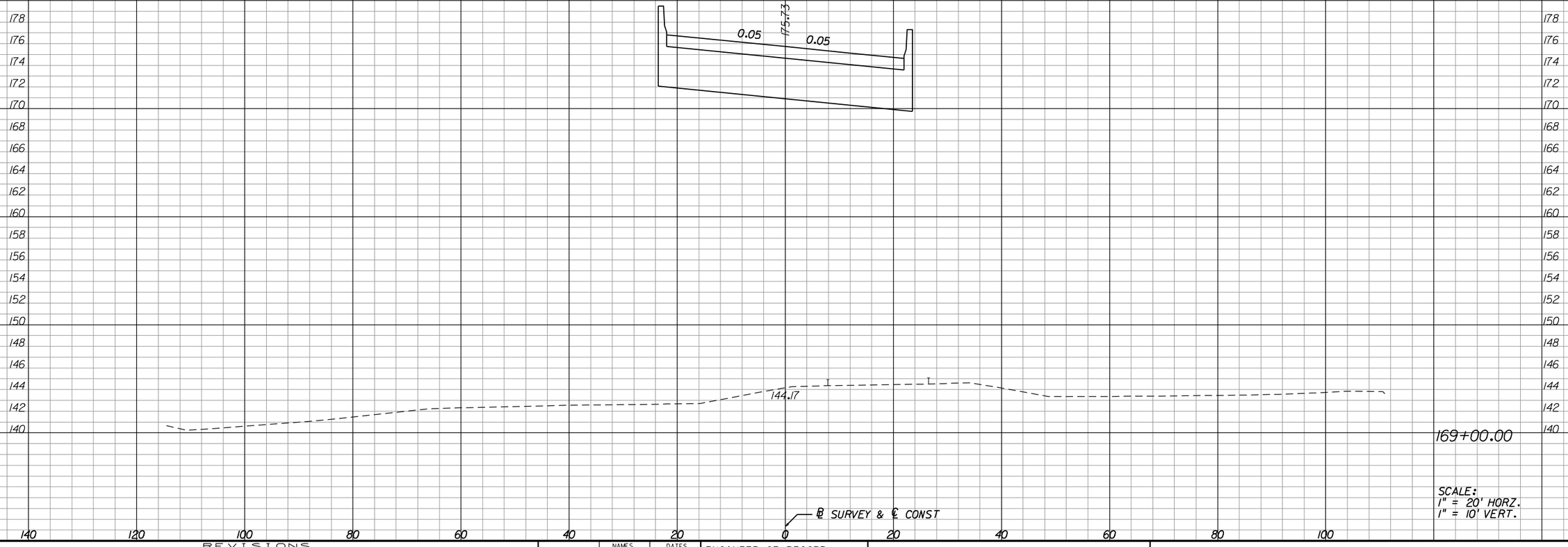
SHEET NO.
85

$USER$ $DATE$ $TIME$ $FILE$

℄ SURVEY & ℄ CONST

END APPROACH SLAB
STA 169+97.14

END BRIDGE
STA 169+65.50



℄ SURVEY & ℄ CONST

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
86

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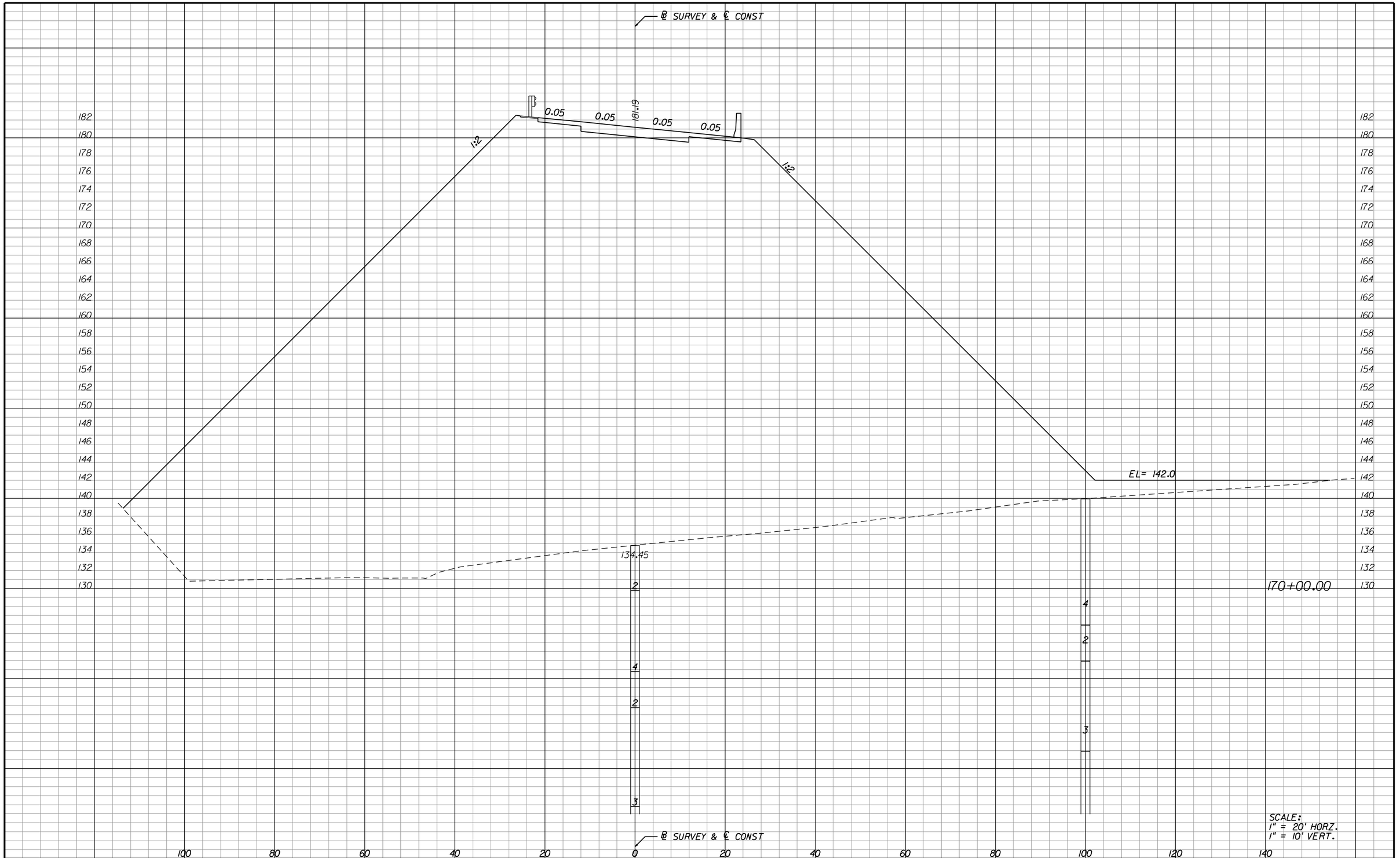

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

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ROADWAY CROSS SECTIONS

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NW BASCOM NORRIS DRIVE

SHEET NO.
87

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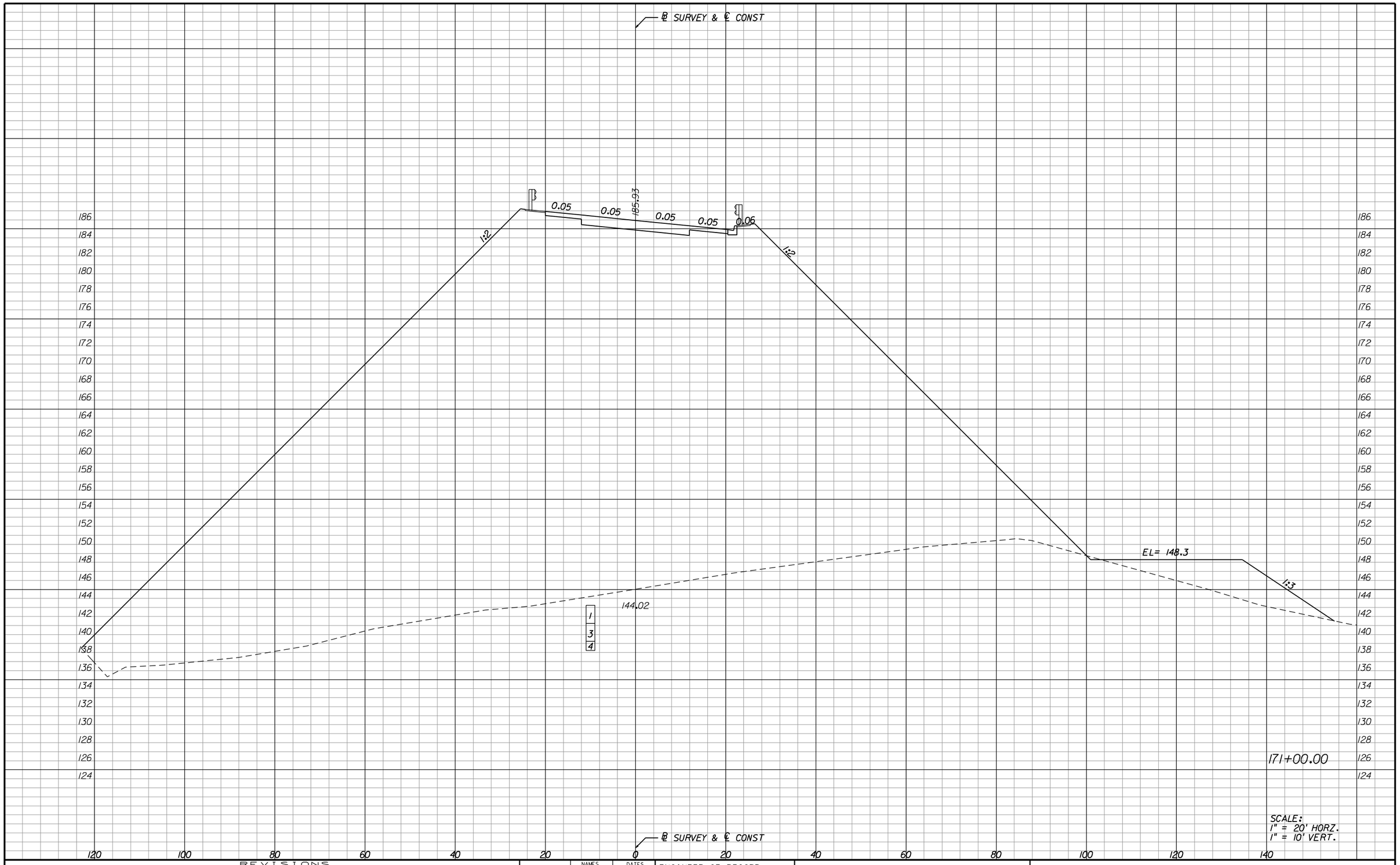

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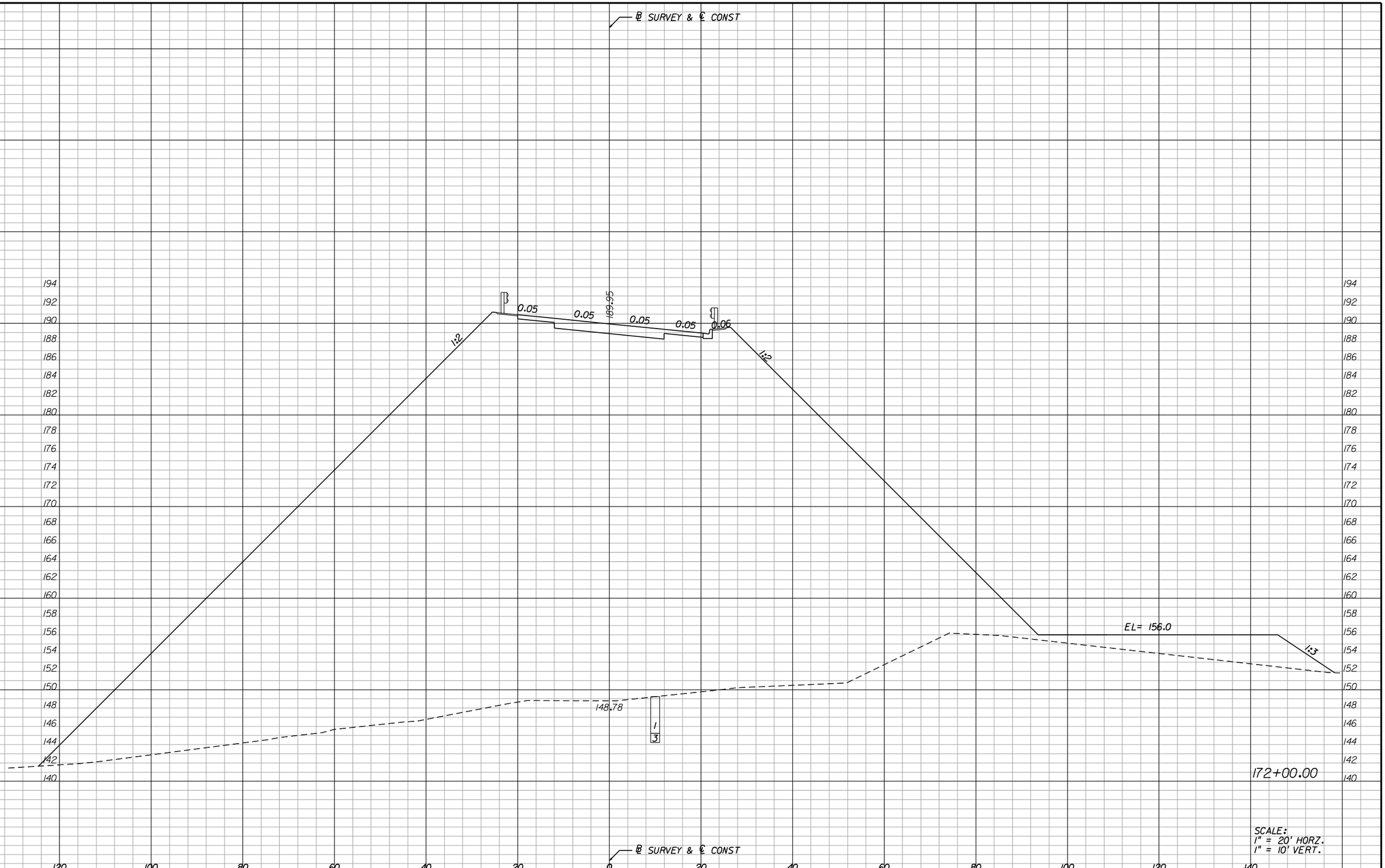
ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
88

$USER$ $DATE$ $TIME$ $FILE$



SCALE:
1" = 20' HORZ.
1" = 10' VERT.

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NW BASCOM NORRIS DRIVE

SHEET NO.
89

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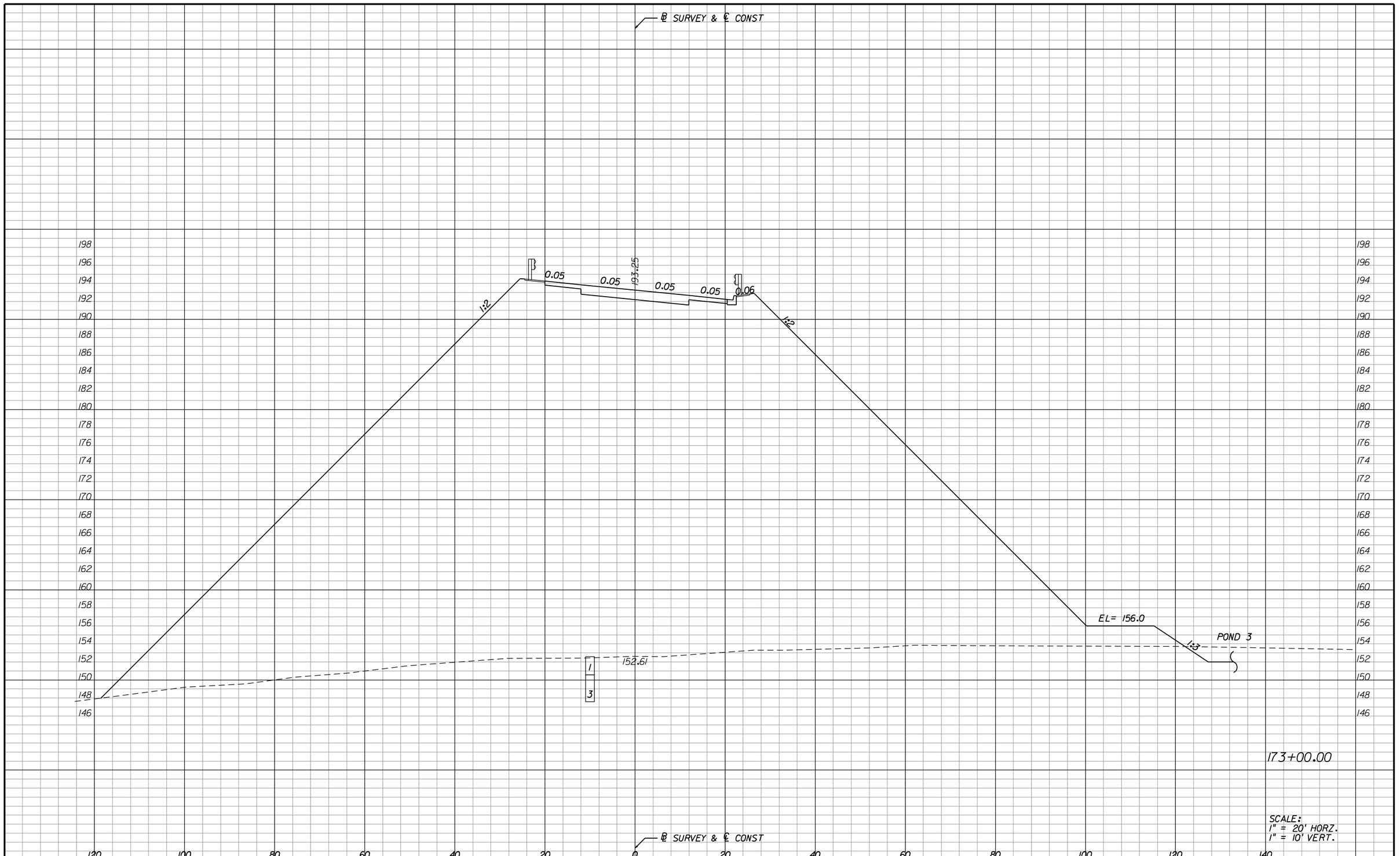

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COLUMBIA COUNTY

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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
90

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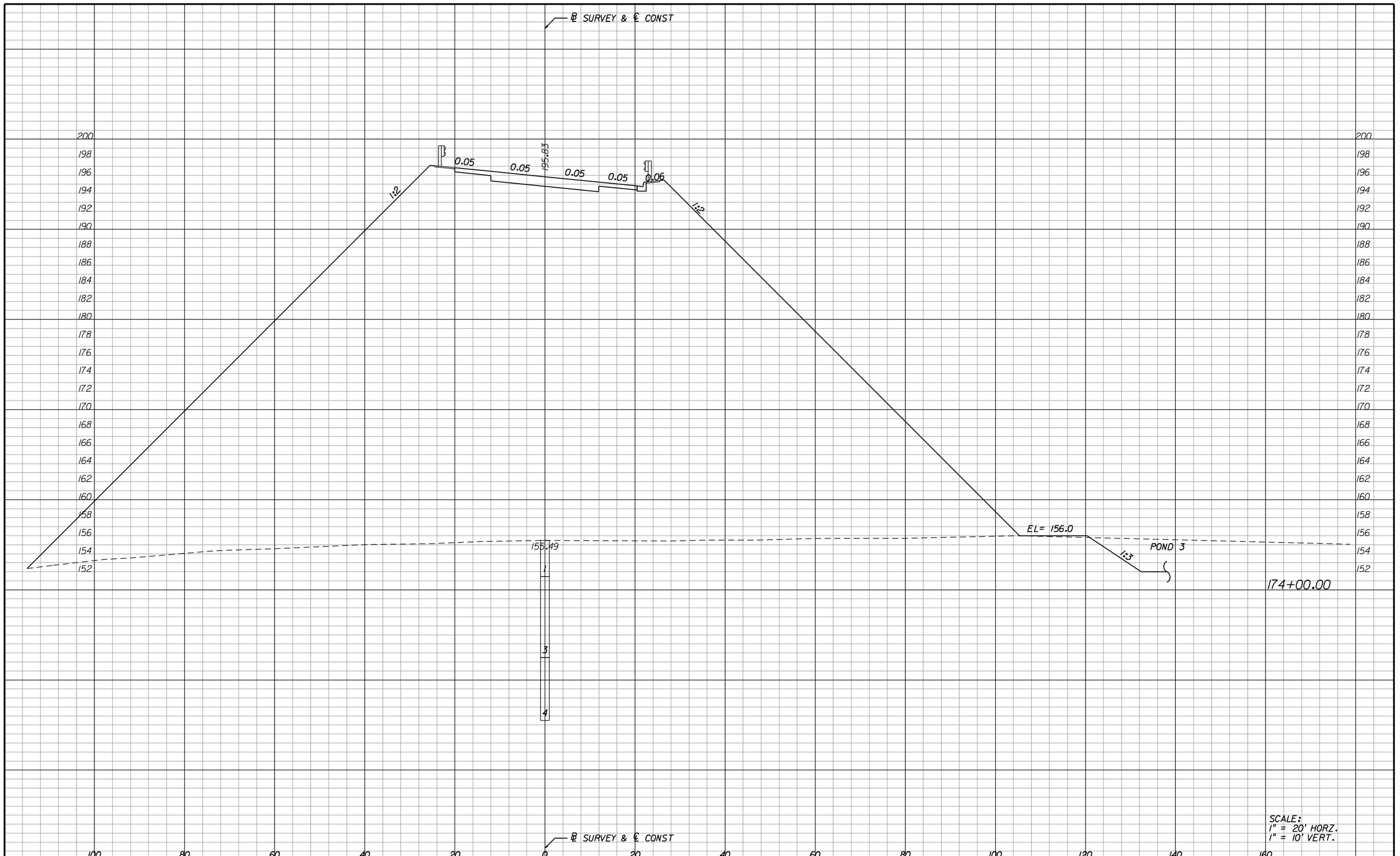

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

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COLUMBIA COUNTY

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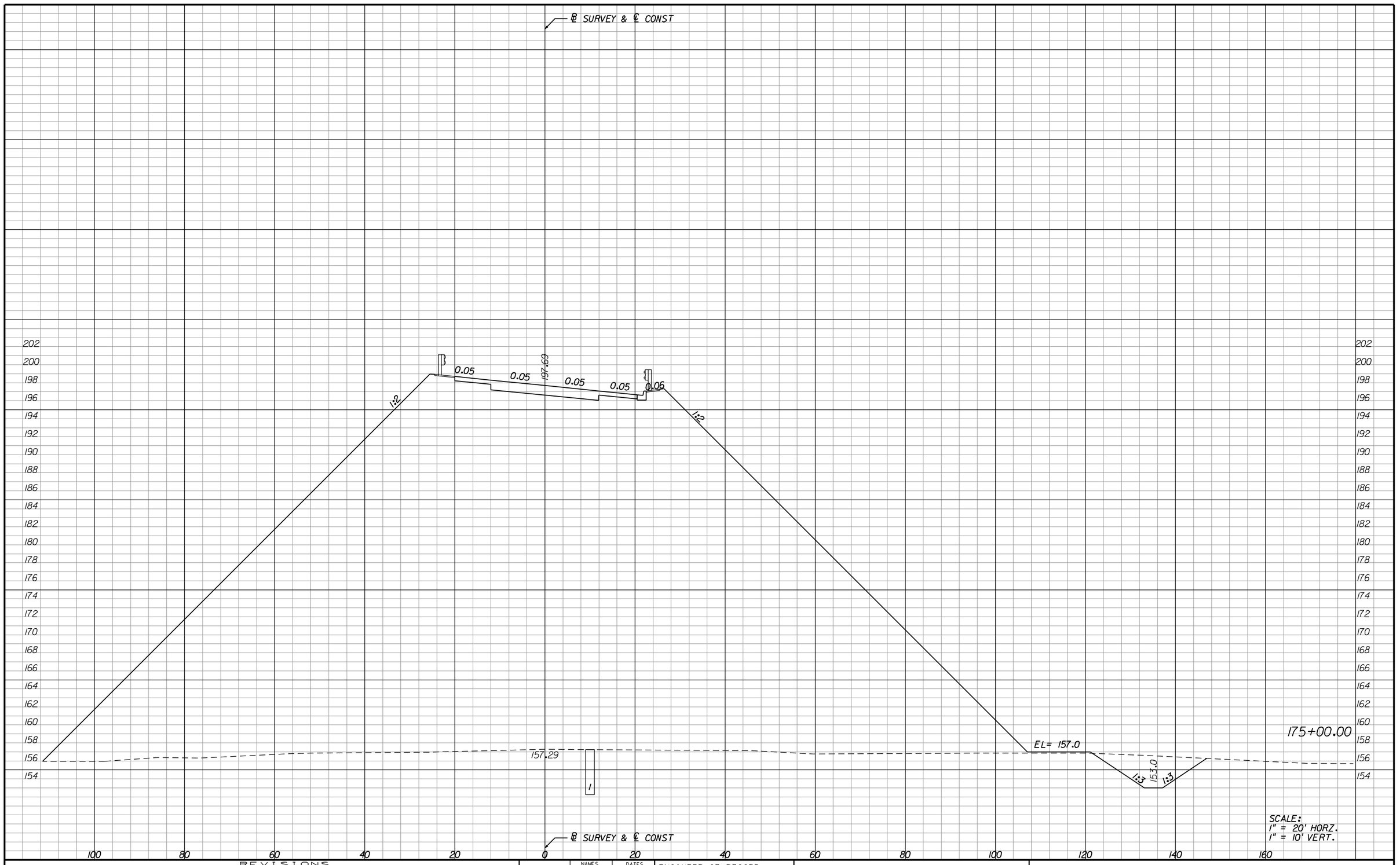
ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
91

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

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PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
92

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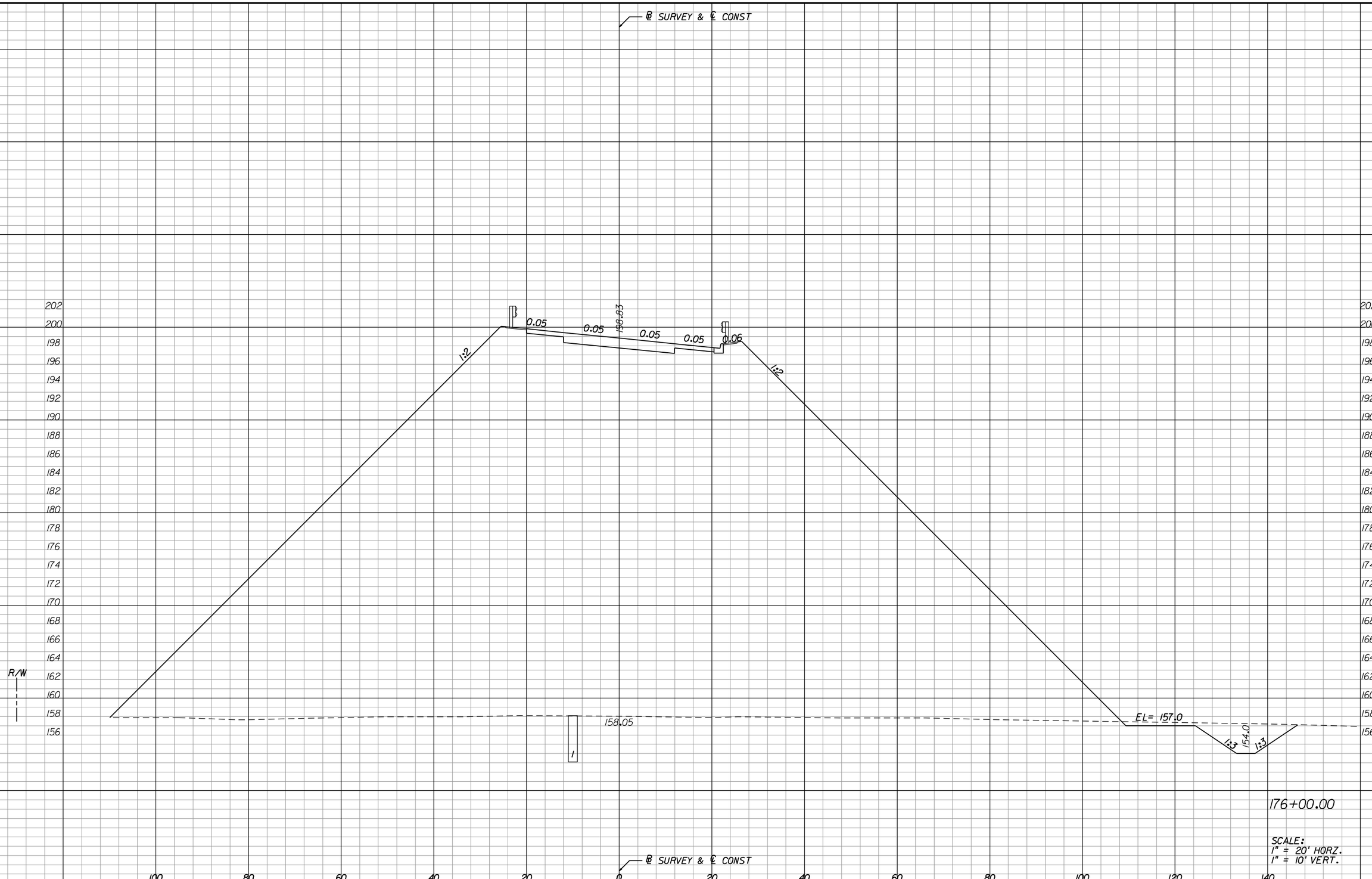

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93

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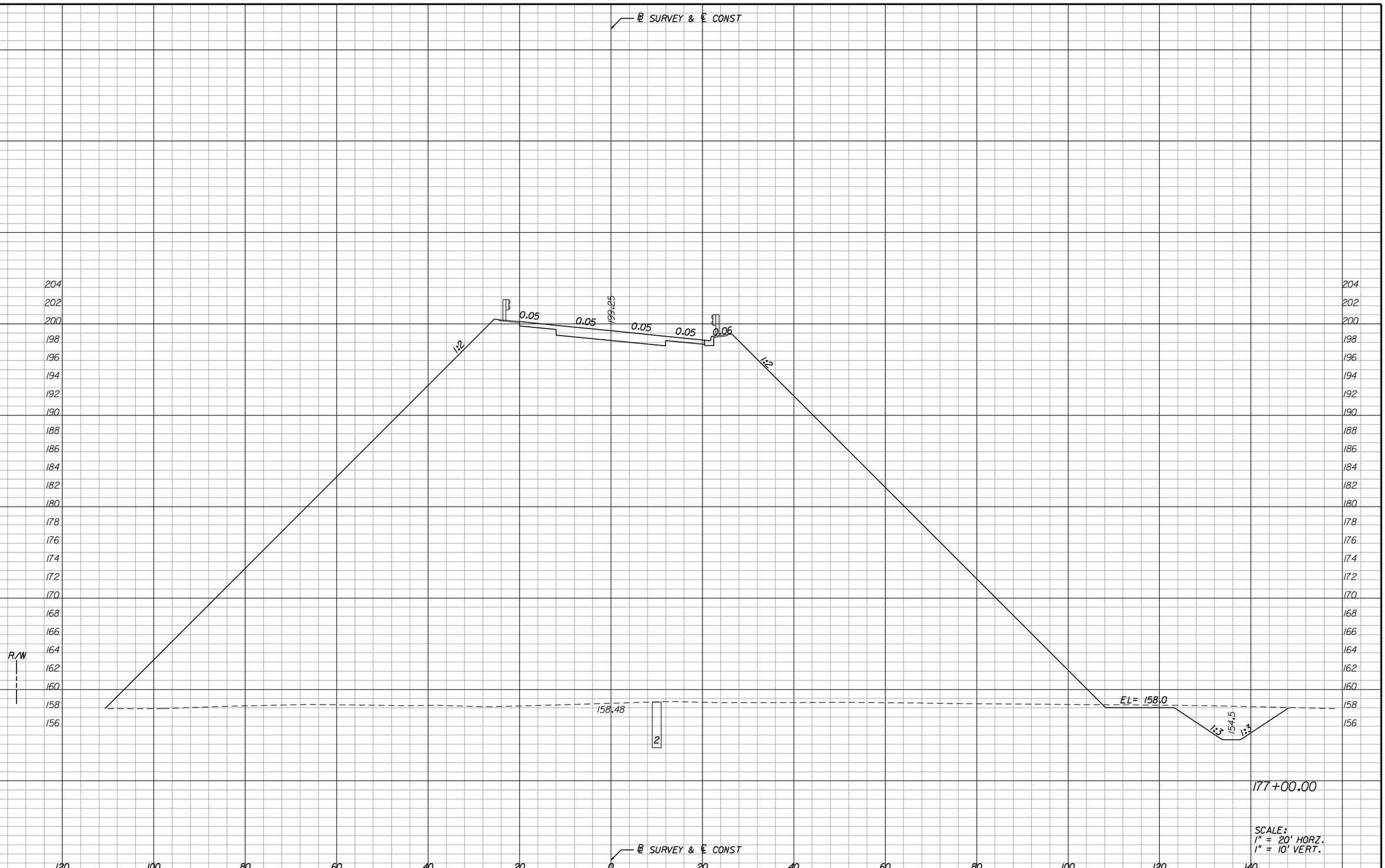

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COLUMBIA COUNTY

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PROJECT NAME:
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SHEET NO.
94

$USER$ $DATE$ $TIME$ $FILE$

℄ SURVEY & ℄ CONST

202
200
198
196
194
192
190
188
186
184
182
180
178
176
174
172
170
168
166
164
162
160
158
156

0.05
0.05
0.05
0.05
0.06

198.95

1:2

1:2

R/W

158.94

1
2

EL= 158.0

1:3
155.0
1:3

120 100 80 60 40 20 0 20 40 60 80 100 120 140

℄ SURVEY & ℄ CONST

178+00.00

SCALE:
1" = 20' HORZ.
1" = 10' VERT.

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ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
95

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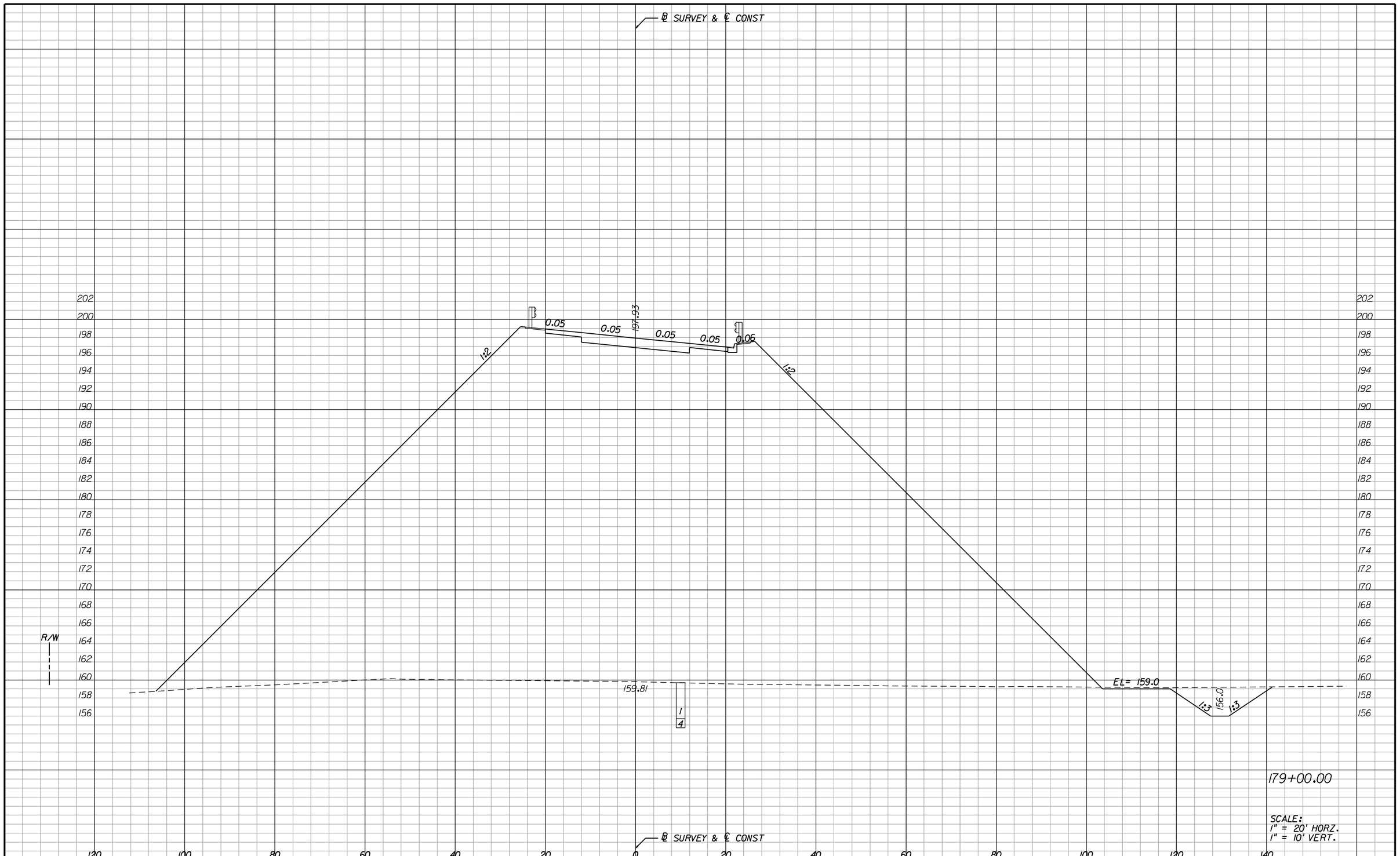

179+00.00

SCALE:
1" = 20' HORZ.
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96

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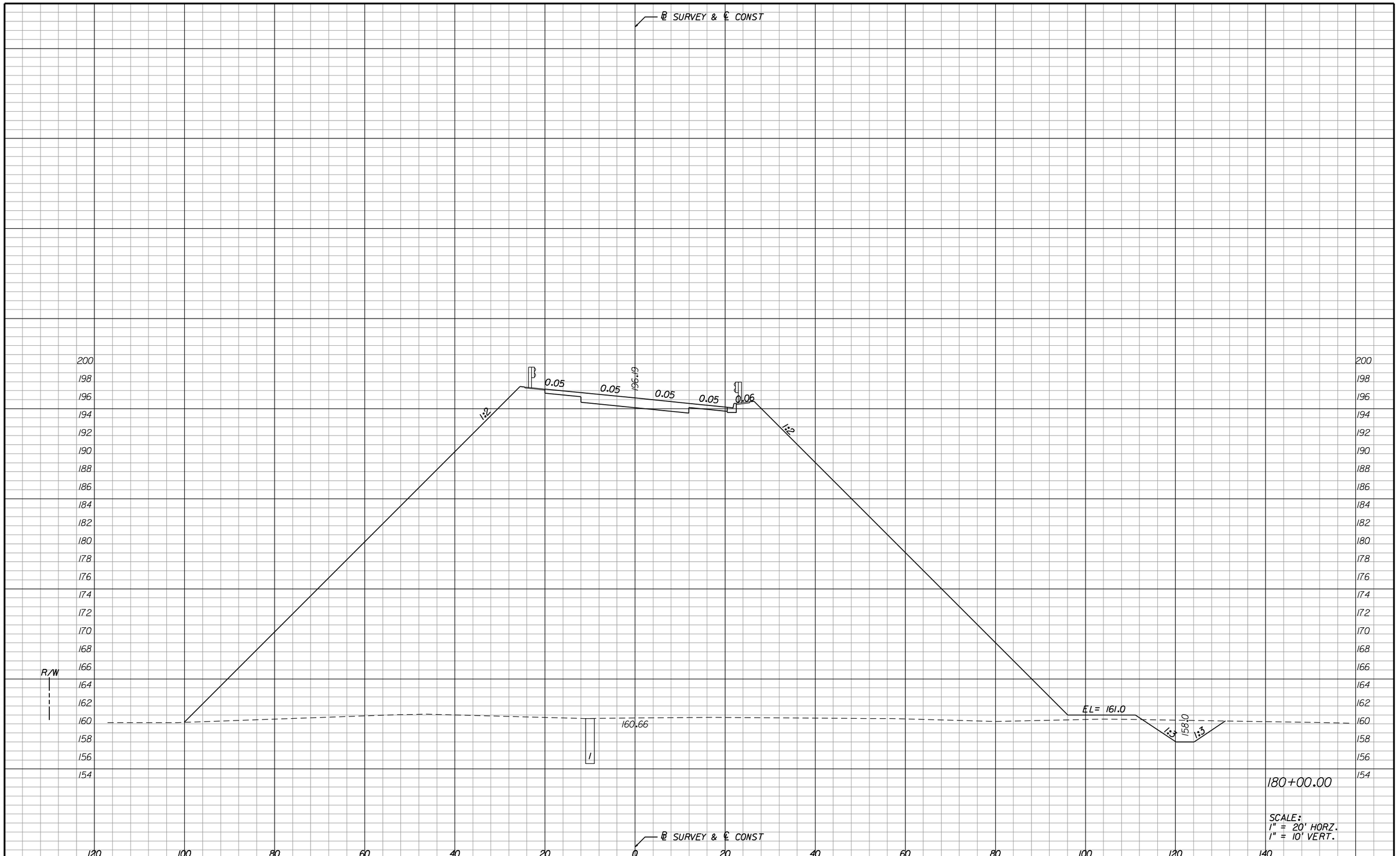

SCALE:
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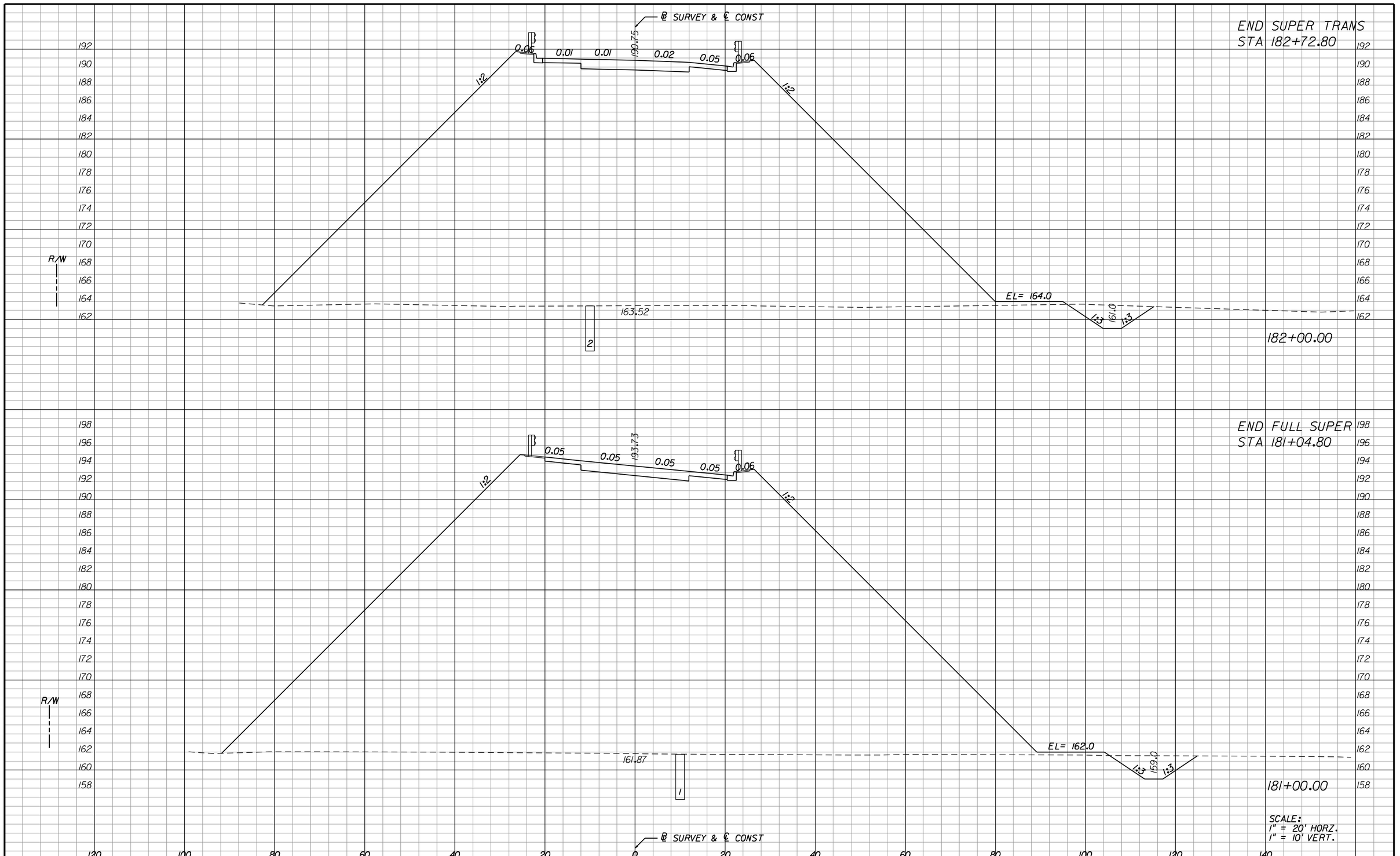

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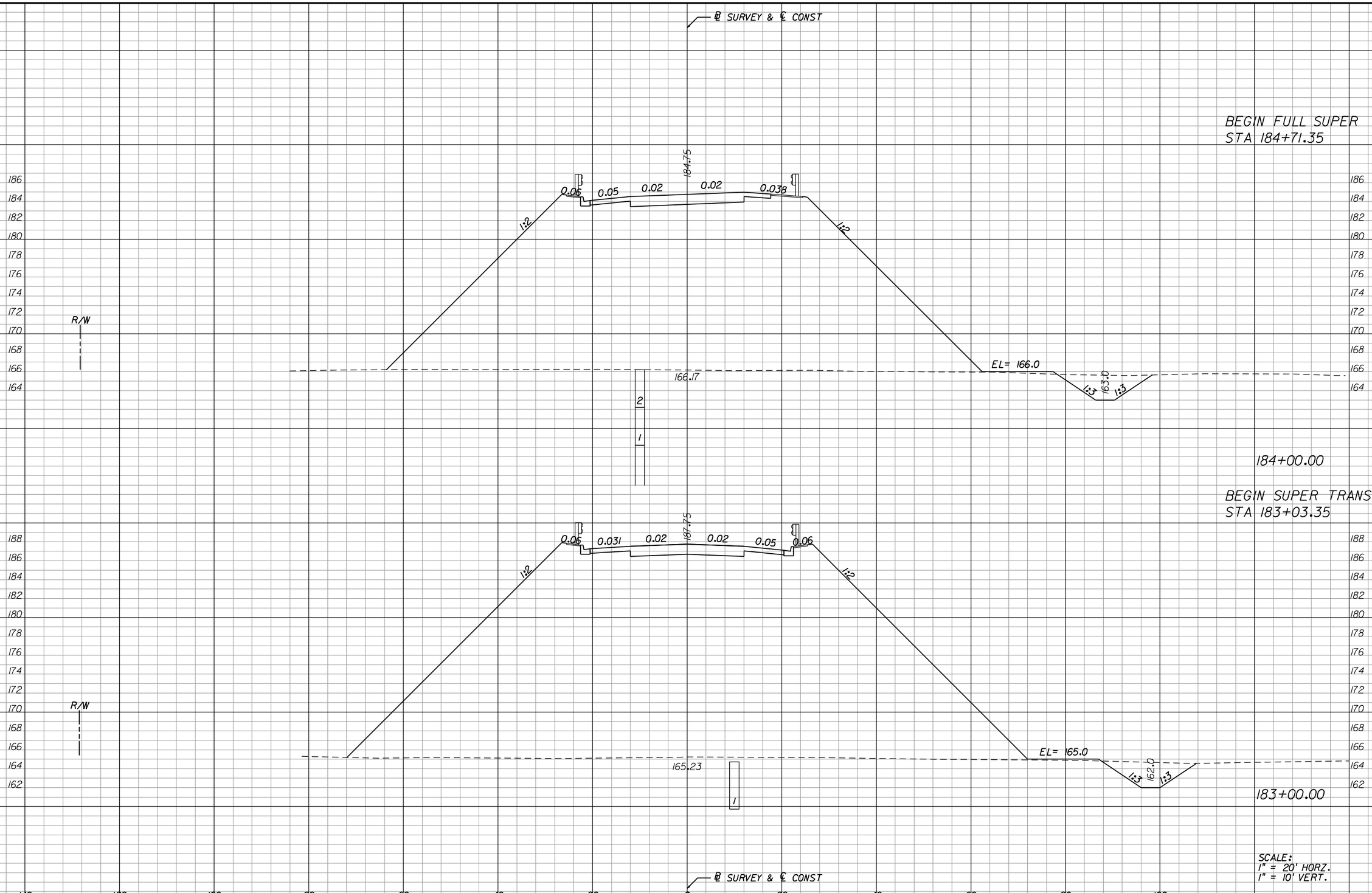

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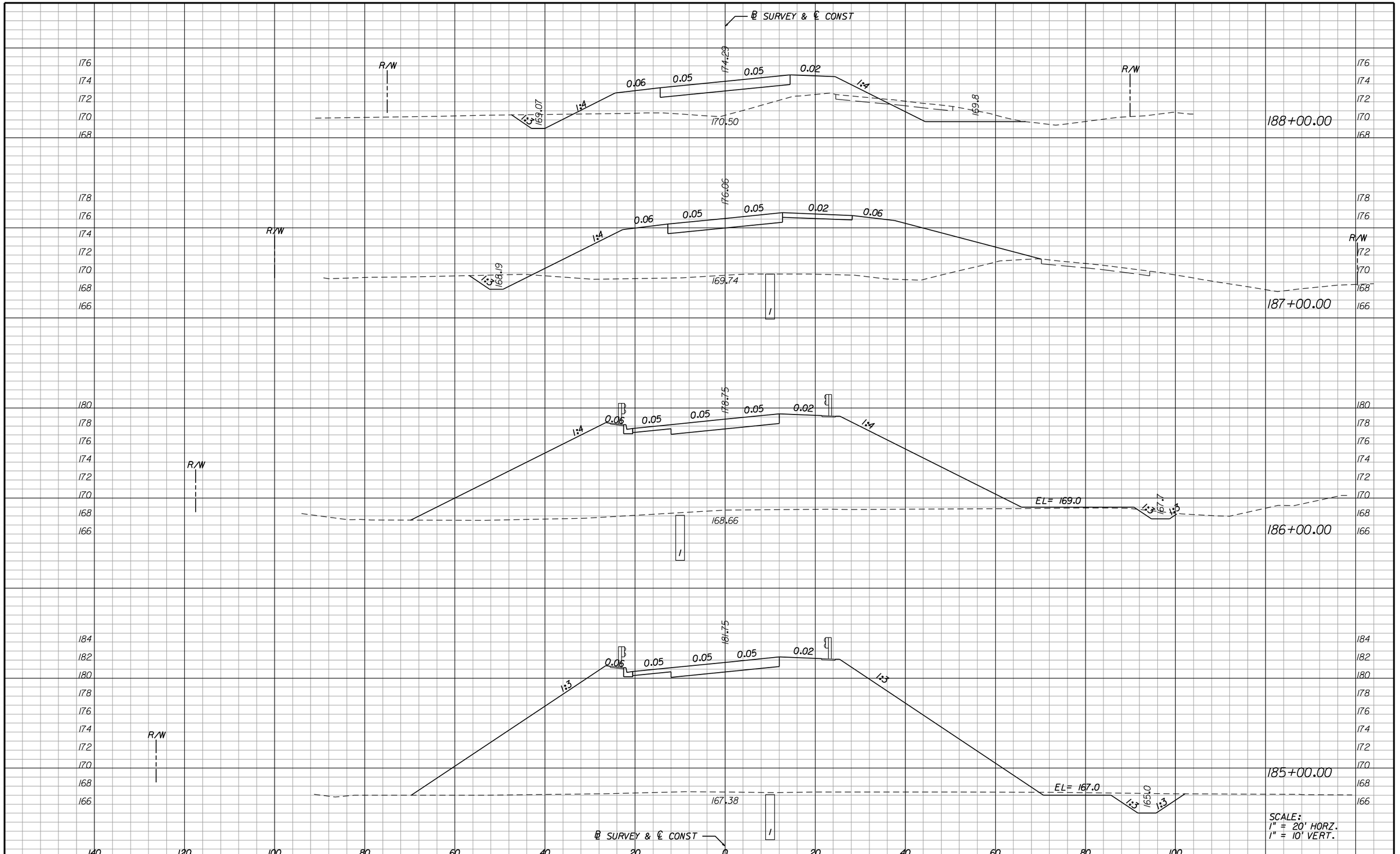

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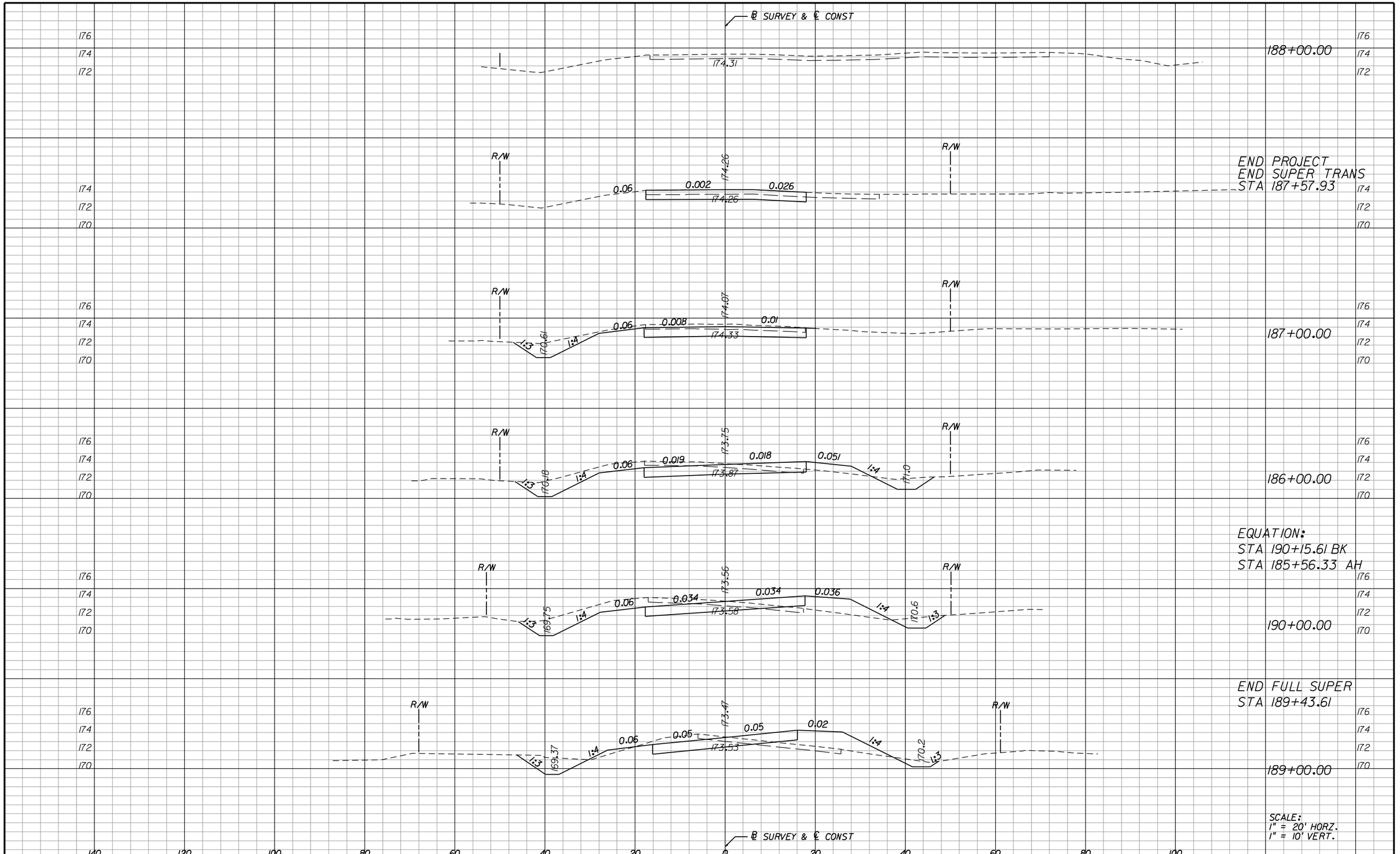

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APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
P.E. NO.: 37392

HDR Engineering, Inc.
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www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

ROADWAY CROSS SECTIONS

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
101

$USER$ $DATE$ $TIME$ $FILE$

DESCRIPTION OF THE CONSTRUCTION ACTIVITY

THE PROJECT INVOLVES THE CONSTRUCTION OF APPROXIMATELY 1.5 MILES OF NEW TWO-LANE ROADWAY LOCALLY KNOWN AS BASCOM NORRIS DRIVE INCLUDING A HIGHWAY OVERPASS BRIDGE ACROSS THE CSX RAILROAD IN COLUMBIA COUNTY, FLORIDA, FROM JUST NORTH OF US 90 TO JUST SOUTH OF CR 250. THE PROJECT WILL ALSO CONSTRUCT FOUR PERMANENT STORMWATER MANAGEMENT PONDS THAT WILL SERVE THE PROJECT AND THE EXISTING LOWE'S HOME IMPROVEMENT CENTER.

TOTAL AREA OF THE SITE AND TOTAL DISTURBANCE AREA

TOTAL SITE AREA = 85.73 AC.
TOTAL DISTURBANCE AREA = 68.23 AC.

INTENDED SEQUENCE OF LAND DISTURBING ACTIVITIES

1. CONDUCT MINOR CLEARING ALONG PROJECT PERIMETER TO INSTALL PERIMETER EROSION CONTROL MEASURES AND DEVICES.
2. CLEAR AND GRUB PROPOSE STORMWATER POND AREAS AND EXCAVATE TO A SUFFICIENT DEPTH TO SERVE AS TEMPORARY SEDIMENT CONTAINMENT BASINS.
3. CLEAR AND GRUB REMAINDER OF PROJECT AREA.
4. CONDUCT MAJOR EARTHWORK ACTIVITIES INCLUDING EXCAVATION AND PLACEMENT OF FILL FOR PROPOSED ROADWAY.
5. INSTALL BRIDGE FOUNDATIONS AND RETAINING WALL FOUNDATIONS.
6. PLACE ROADWAY BASE MATERIAL, ASPHALT SURFACE, COMPLETE BRIDGE DECK, COMPLETE RETAINING WALLS, AND INSTALL PERMANENT GRASSING.

DESCRIPTION OF THE SOILS AND AN IDENTIFICATION OF THOSE THAT ARE HIGHLY ERODIBLE

THE USDA SOIL SURVEY FOR COLUMBIA COUNTY IDENTIFIES THE SURFACE SOILS WITHIN THE PROJECT LIMITS AS FINE SANDS WITH SLOPES RANGING FROM 0% TO 8%. THE SOILS ON THE HIGHER SLOPES HAVE A HIGH POTENTIAL FOR EROSION. SOIL BORINGS CONDUCTED FOR THE PROJECT INDICATE THE PRESENCE OF CLAYS AND SANDY CLAYS AT DEEPER DEPTHS. IN LOCATIONS OF EXCAVATION BELOW 3 TO 4 FEET, IT CAN BE EXPECTED SILTS MAY ERODE DURING RAINFALL EVENTS.

DRAINAGE AREA FOR EACH MAJOR DISCHARGE POINT

THERE ARE THREE DISTINCT DISCHARGE POINTS THAT SERVE THE PROJECT. THE FIRST DISCHARGE POINT IS LOCATED AT STATION 133+70. THE ON-SITE CONTRIBUTING AREA IS 7.78 AC. THE SECOND DISCHARGE POINT IS LOCATED AT STATION 142+30. THE ON-SITE CONTRIBUTING AREA IS 9.55 AC. THE THIRD DISCHARGE POINT IS LOCATED AT STATION 172+00. THE TOTAL OFF-SITE CONTRIBUTING AREA IS 0.0 AC. THE ON-SITE CONTRIBUTING AREA IS 8.26 AC. TWO CROSS DRAIN LOCATIONS CONVEY OFFSITE RUNOFF ACROSS THE ALIGNMENT. THE FIRST IS AT STATION 136+40. THE CONTRIBUTING OFF-SITE AREA IS 1100 ACRES. THE SECOND LOCATION IS STATION 156+10/158+00. THE CONTRIBUTING OFF-SITE AREA IS 323 ACRES.

LATITUDE AND LONGITUDE OF EACH MAJOR DISCHARGE POINT

DISCHARGE POINT 1: 30° 11' 20" N, 82° 40' 32" W

DISCHARGE POINT 2: 30° 11' 29" N, 82° 40' 29" W

DISCHARGE POINT 3: 30° 11' 55" N, 82° 40' 22" W

NAMES OF RECEIVING WATER(S)

LAKE HARRIS

DESCRIPTION OF PROPOSED POLLUTION CONTROL MEASURES TO BE USED

POLLUTION CONTROL MEASURES WILL CONSIST OF SOIL TRACKING PREVENTION DEVICES, SILT FENCE, TURBIDITY BARRIER, ROCK BAGS, TEMPORARY SLOPE DRAINS, SYNTHETIC HAY BALES, AND TEMPORARY GRASSING. A SOIL TRACKING DEVICE WILL BE INSTALLED AT THE BEGINNING AND END OF THE PROJECT PRIOR TO ENTERING THE EXISTING PUBLIC HIGHWAYS TO PREVENT OFF-SITE TRACKING OF SOILS. A PERIMETER SILT FENCE WILL BE INSTALLED AT THE LIMITS OF CLEARING AND GRUBBING TO CONTAIN SOIL AND OTHER DEBRIS ON THE PROJECT SITE FOR PROPER REMOVAL AND DEPOSITION. TURBIDITY BARRIERS SHALL BE INSTALLED AT ALL FLOWING STREAMS THAT CROSS THE PROJECT AREA. ROCK BAGS WILL BE PLACED AT ALL DRAINAGE COLLECTION INLETS TO MINIMIZE THE INFILTRATION OF SOILS AND OTHER DEBRIS INTO THE STORMWATER COLLECTION SYSTEM. TEMPORARY GRASSING WILL BE USED ON FILL SLOPES DURING CONSTRUCTION PRIOR TO THE PLACEMENT OF PERMANENT GRASSING.

GENERAL SEQUENCE DURING THE CONSTRUCTION PROCESS IN WHICH THE MEASURES WILL BE INSTALLED

1. THE PERIMETER SILT FENCE AND TURBIDITY BARRIERS SHALL BE PLACED PRIOR TO ANY MAJOR SOIL DISTURBANCE ACTIVITIES.
2. THE SOIL TRACKING DEVICES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION EQUIPMENT ENTERING AND LEAVING THE PROJECT SITE.
3. THE STORMWATER PONDS SHALL BE CLEARED AND EXCAVATED TO A SUFFICIENT DEPTH TO SERVE AS TEMPORARY SEDIMENT CONTAINMENT BASINS PRIOR TO ROADWAY EXCAVATION AND FILL PLACEMENT.
4. TEMPORARY GRASSING SHALL BE INSTALLED ON FILL SLOPES UPON COMPLETION OF INITIAL GRADING OF THE SLOPE. PLACEMENT OF FILL SHOULD BE COMPLETED IN SEGMENTS TO MINIMIZE THE TOTAL LENGTH OF EXPOSED FILL PRIOR TO TEMPORARY GRASSING.
5. ROCK BAGS SHALL BE PLACED IMMEDIATELY WHEN THE FINISHED GRADE IS WITHIN 1 FOOT OF THE TOP OF DRAINAGE STRUCTURE BOTTOMS OR INLET THROATS.
6. PERMANENT GRASSING SHALL BE INSTALLED AS SOON AS POSSIBLE TO STABILIZE PROJECT AREA.

MAINTENANCE OF EROSION CONTROL DEVICES

THE CONTRACTOR SHALL CONDUCT DAILY INSPECTIONS OF ALL EROSION CONTROL DEVICES AND MAKE NEEDED REPAIRS AND ADJUSTMENTS AS NECESSARY TO CONTAIN SEDIMENT AND OTHER MATERIALS ON-SITE FOR PROPER REMOVAL AND DEPOSITION. ACCUMULATED SEDIMENT ALONG SILT FENCES, TURBIDITY BARRIERS, ROCK BAGS, AND IN TEMPORARY SEDIMENT BASINS SHALL BE REMOVED AS REQUIRED TO INSURE SEDIMENT LOAD DOES NOT THREATEN THE INTEGRITY OF THE DEVICE. IF A DEVICE IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE THE DEVICE.

CONTRACTOR SUBMITTAL REQUIREMENTS

PRIOR TO BEGINNING ANY WORK, THE CONTRACTOR SHALL SUBMIT A DETAILED EROSION CONTROL PLAN AND THE REQUIRED FORMS INDICATING COMPLIANCE WITH ALL ISSUED PERMITS AND NPDES REQUIREMENTS TO THE COUNTY.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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APPROVED BY		

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COLUMBIA COUNTY

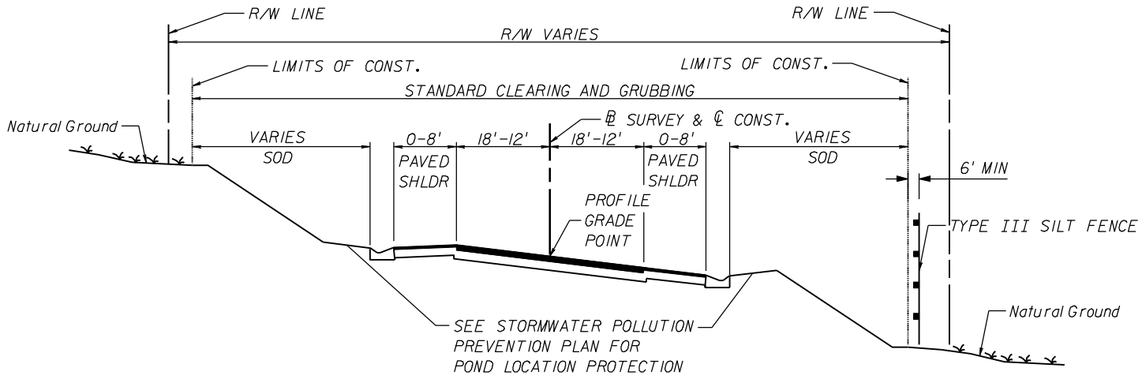
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: STORM WATER POLLUTION PREVENTION PLAN

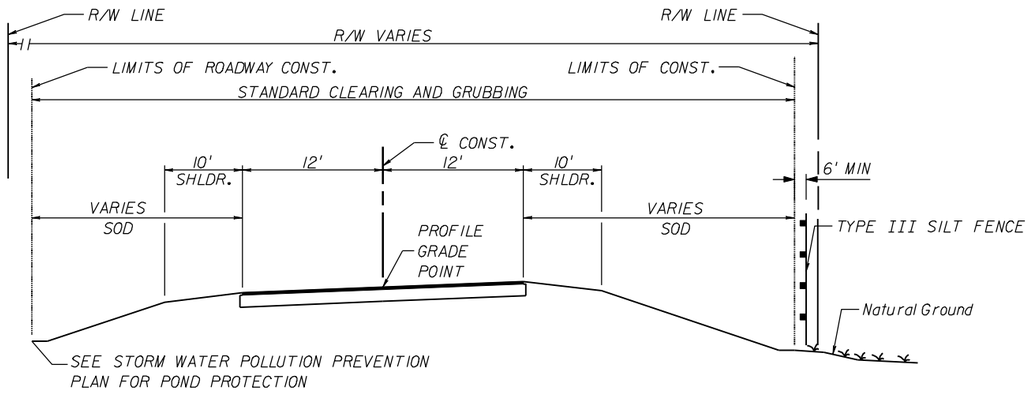
PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 102

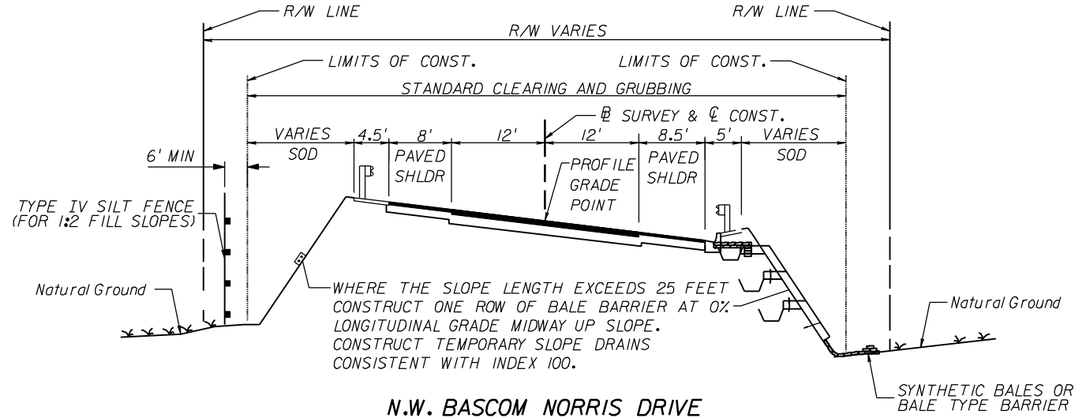
$USER$ $DATE$ $TIME$ $FILE$



N.W. BASCOM NORRIS DRIVE
STA. 109+41.67 - STA. 128+40.00



N.W. BASCOM NORRIS DRIVE
STA. 128+40.00 - STA. 146+60.00
STA. 186+50.00 - STA. 187+57.93



N.W. BASCOM NORRIS DRIVE
STA. 146+60.00 - STA. 167+94.87
STA. 169+97.20 - STA. 186+50.00

CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NOTES

1. THE PROPOSED EROSION CONTROL MEASURES DEPICTED IN THESE PLANS ARE BASED UPON A FIRST APPRAISAL OF CONDITIONS THAT ARE ANTICIPATED TO OCCUR DURING THE CONSTRUCTION OF THE PROJECT. ATTENTION IS CALLED TO THE FACT THAT MODIFICATIONS AND ADJUSTMENTS TO THESE MEASURES MAY BE REQUIRED TO PROVIDE AN ACCEPTABLE LEVEL OF EROSION CONTROL AND SEDIMENT CONTAINMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR HIS DESIGNEE TO EVALUATE THE VARIOUS EROSION CONTROL MEASURES AND COMPONENTS ON A DAILY BASIS TO INSURE THEIR INTEGRITY AND TO MAKE ADJUSTMENTS AS REQUIRED TO MINIMIZE IMPACTS TO WATERS AND WETLANDS.

2. PERIMETER SILT FENCES AND TURBIDITY BARRIERS FOR THE PROJECT LIMITS SHALL BE INSTALLED PRIOR TO MAJOR CLEARING AND GRUBBING ACTIVITIES. INITIAL CLEARING SHALL BE LIMITED TO JUST THAT NECESSARY TO INSTALL PERIMETER SILT FENCE AND TURBIDITY BARRIERS.

3. PROPOSED STORMWATER PONDS SHALL BE CLEARED AND EXCAVATED TO AN APPROPRIATE DEPTH PRIOR TO MAJOR EARTHWORK ACTIVITIES TO SERVE AS TEMPORARY SEDIMENT CONTAINMENT BASINS DURING THE CONSTRUCTION OF THE PROJECT. UPON COMPLETION OF THE PROJECT WITH ALL PERMANENT GRASSING AND STABILIZED SURFACES IN PLACE, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE PONDS AND THE FINISHED GRADES SHALL BE ESTABLISHED.

4. SOIL TRACKING DEVICES ARE TO BE COMPLIANT WITH FDOT DESIGN STANDARD INDEX 106.

5. ALL INLETS ARE TO BE PROTECTED IN ACCORDANCE WITH FDOT DESIGN STANDARD INDEX 102.

6. SILT FENCE AND SYNTHETIC HAY BALES ARE TO BE PLACED IN ACCORDANCE WITH FDOT STANDARD INDEX 102.

7. TURBIDITY BARRIERS ARE TO BE PLACED IN ACCORDANCE WITH FDOT STANDARD INDEX 102.

REVISIONS					
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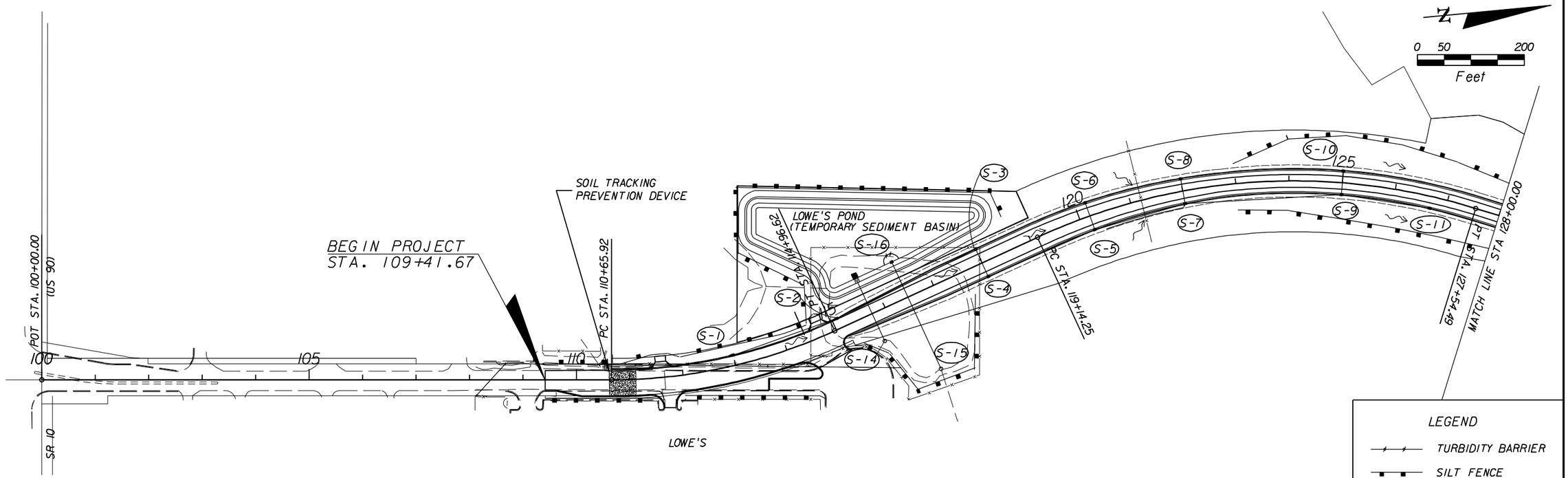
COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

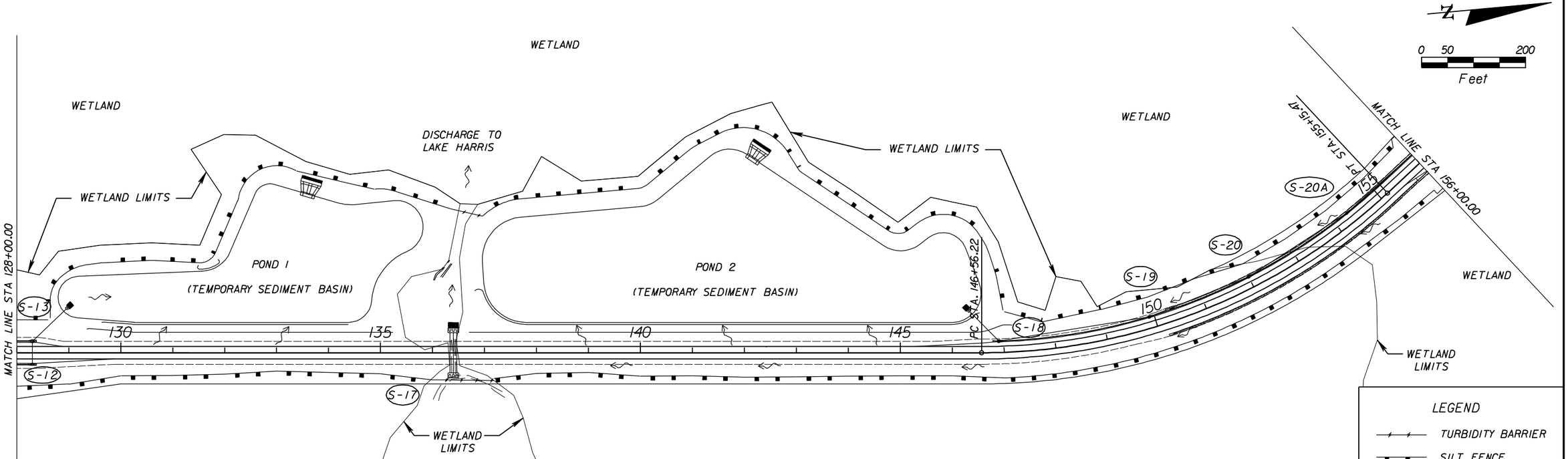
SHEET TITLE: STORMWATER POLLUTION PREVENTION PLAN

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 103

$USER$ $DATE$ $TIME$ $FILE$





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COLUMBIA COUNTY

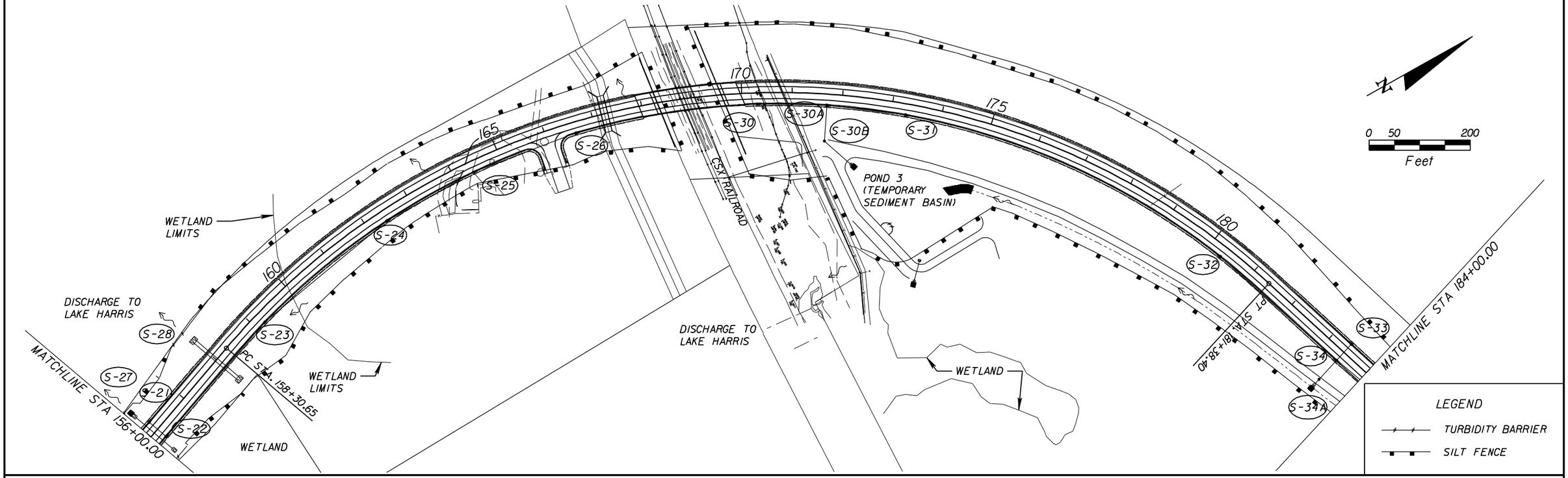
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

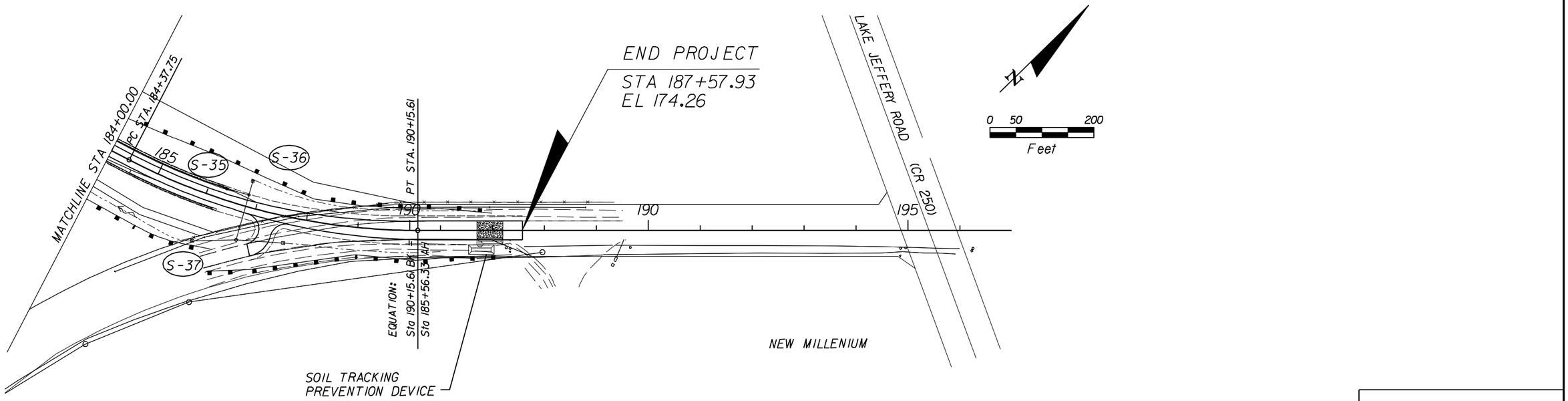
SHEET TITLE:
STORMWATER POLLUTION PREVENTION PLAN

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
104

$USER$ $DATE$ $TIME$ $FILE$





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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

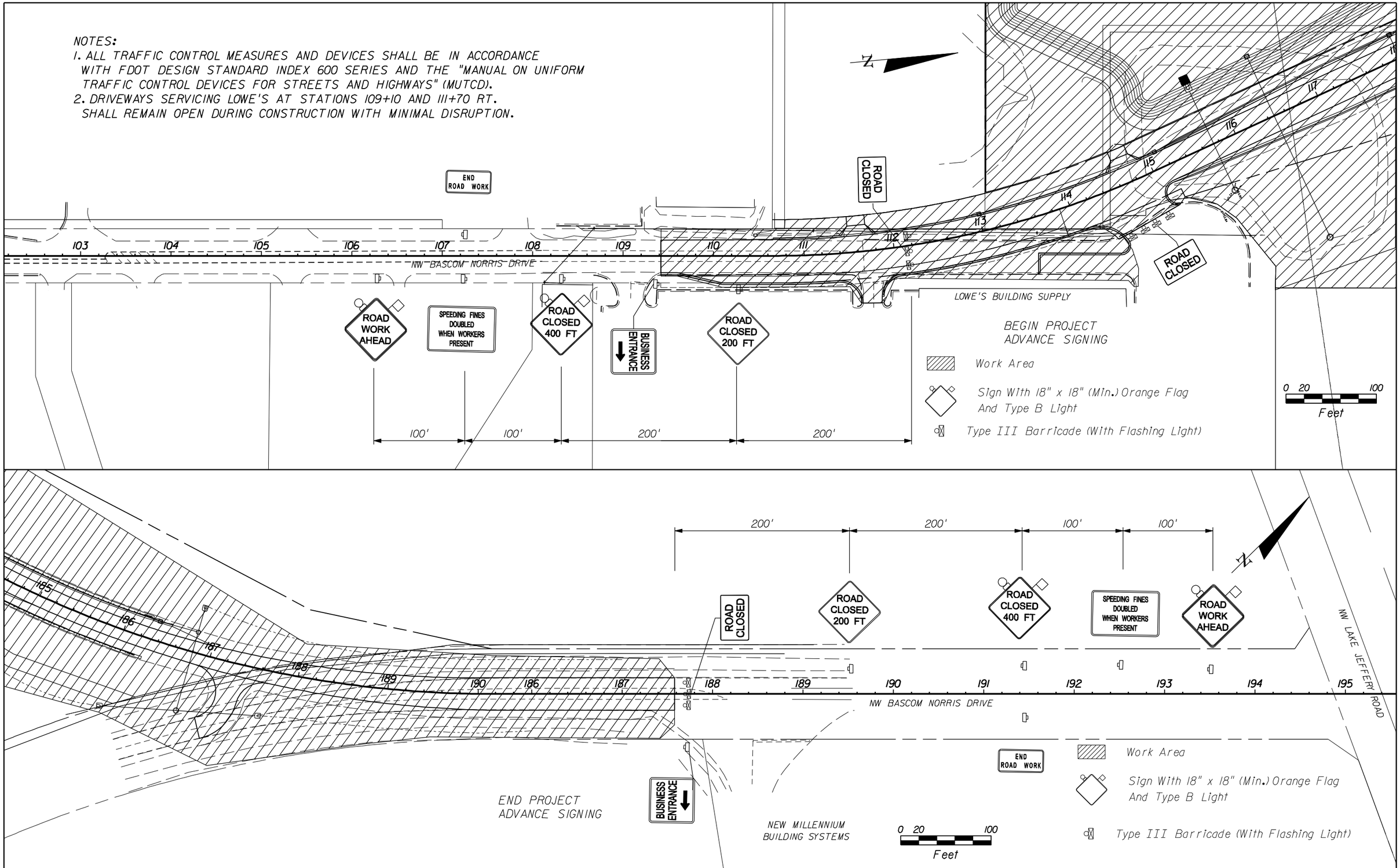
SHEET TITLE:
STORMWATER POLLUTION PREVENTION PLAN

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
105

$USER$ $DATE$ $TIME$ $FILE$

NOTES:
1. ALL TRAFFIC CONTROL MEASURES AND DEVICES SHALL BE IN ACCORDANCE WITH FDOT DESIGN STANDARD INDEX 600 SERIES AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD).
2. DRIVEWAYS SERVICING LOWE'S AT STATIONS 109+10 AND 111+70 RT. SHALL REMAIN OPEN DURING CONSTRUCTION WITH MINIMAL DISRUPTION.



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COLUMBIA COUNTY

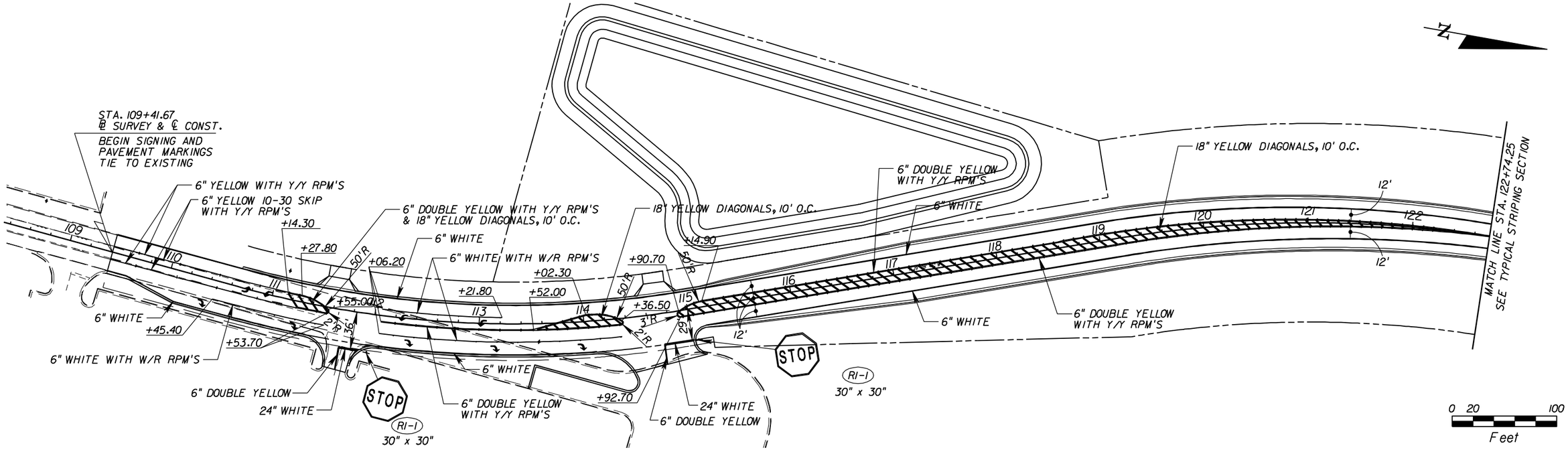
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

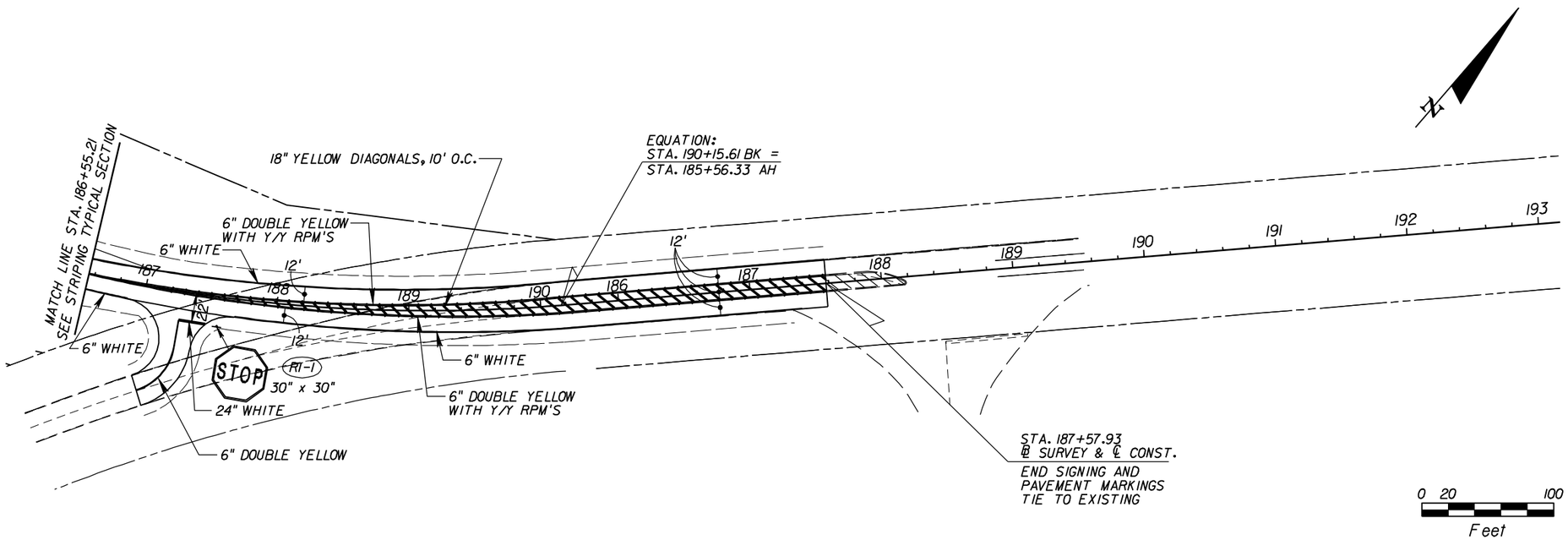
SHEET TITLE: TRAFFIC CONTROL PLAN

PROJECT NAME: NW BASCOM NORRIS DRIVE

SHEET NO. 106

$USER$ $DATE$ $TIME$ $FILE$





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COLUMBIA COUNTY

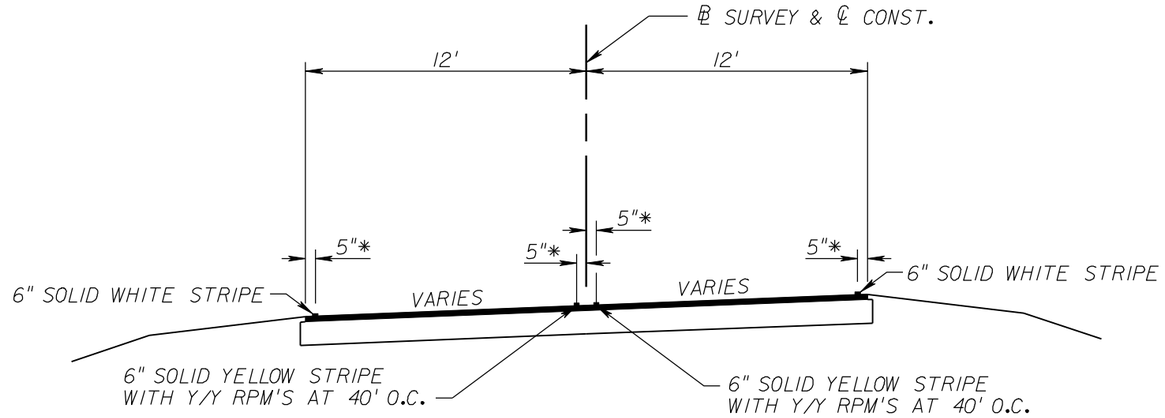
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
SIGNING & PAVEMENT MARKING

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
107

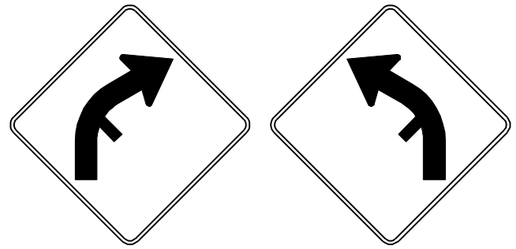
$USER$ $DATE$ $TIME$ $FILE$



TYPICAL STRIPING SECTION
STA. 122+74.25 TO STA. 186+55.21

* MEASURED TO CENTER OF STRIPE

SIGNS (ENTIRE PROJECT LIMITS)				
STA. 111+92.00	28' RT	R1-1	30" x 30"	STOP
STA. 115+06.00	28' RT	R1-1	30" x 30"	STOP
STA. 123+00.00	25' LT	R2-1	24" x 30"	SPEED LIMIT 35 MPH
STA. 123+00.00	25' RT	R2-1	24" x 30"	SPEED LIMIT 45 MPH
STA. 128+00.00	25' LT	W3-5	36" x 36"	SPEED LIMIT 35 MPH AHEAD
STA. 155+00.00	25' LT	R2-1	24" x 30"	SPEED LIMIT 45 MPH
STA. 155+00.00	25' RT	R2-1	24" x 30"	SPEED LIMIT 45 MPH
STA. 164+00.00	25' RT	W1-10R*	30" x 30"	DRIVEWAY ON CURVE
STA. 167+80.00	25' LT	W1-10L*	30" x 30"	DRIVEWAY ON CURVE
STA. 181+50.00	25' RT	W3-5	36" x 36"	SPEED LIMIT 35 MPH AHEAD
STA. 186+50.00	25' LT	R2-1	24" x 30"	SPEED LIMIT 45 MPH
STA. 186+50.00	25' RT	R2-1	24" x 30"	SPEED LIMIT 35 MPH
STA. 187+56.00	22' RT	R1-1	30" x 30"	STOP



W1-10R* W1-10L*

*MODIFY W1-10R AND W1-10L WARNING SIGNS TO SHOW DRIVEWAY ON INSIDE OF CURVE INSTEAD OF OUTSIDE OF CURVE.

REVISIONS

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COLUMBIA COUNTY

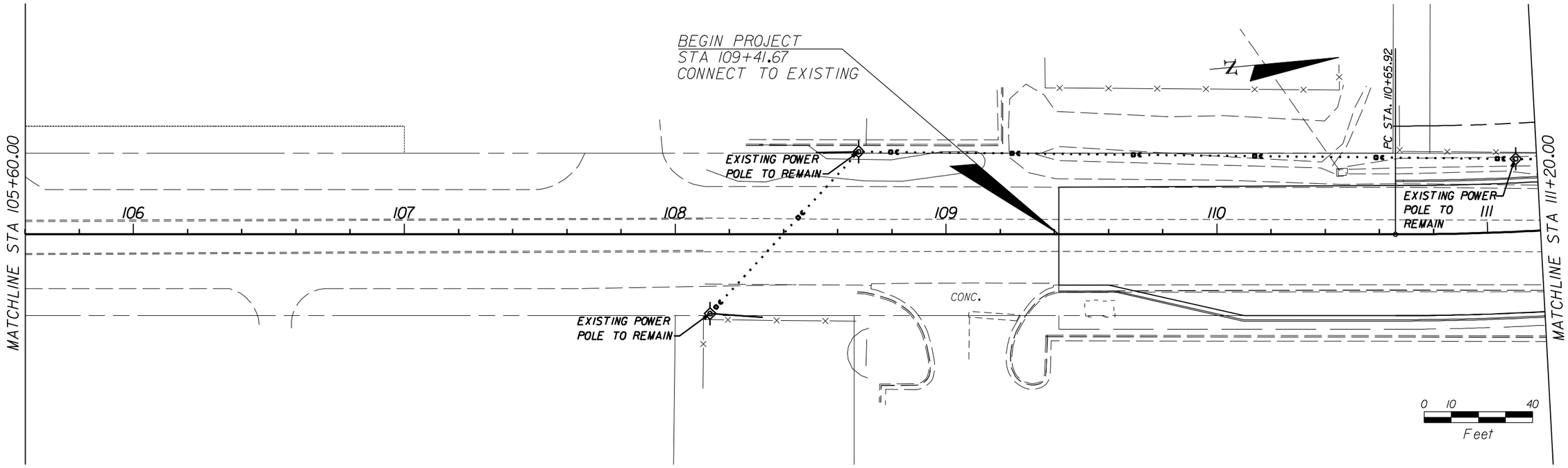
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
SIGNING & PAVEMENT MARKING

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
108

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY

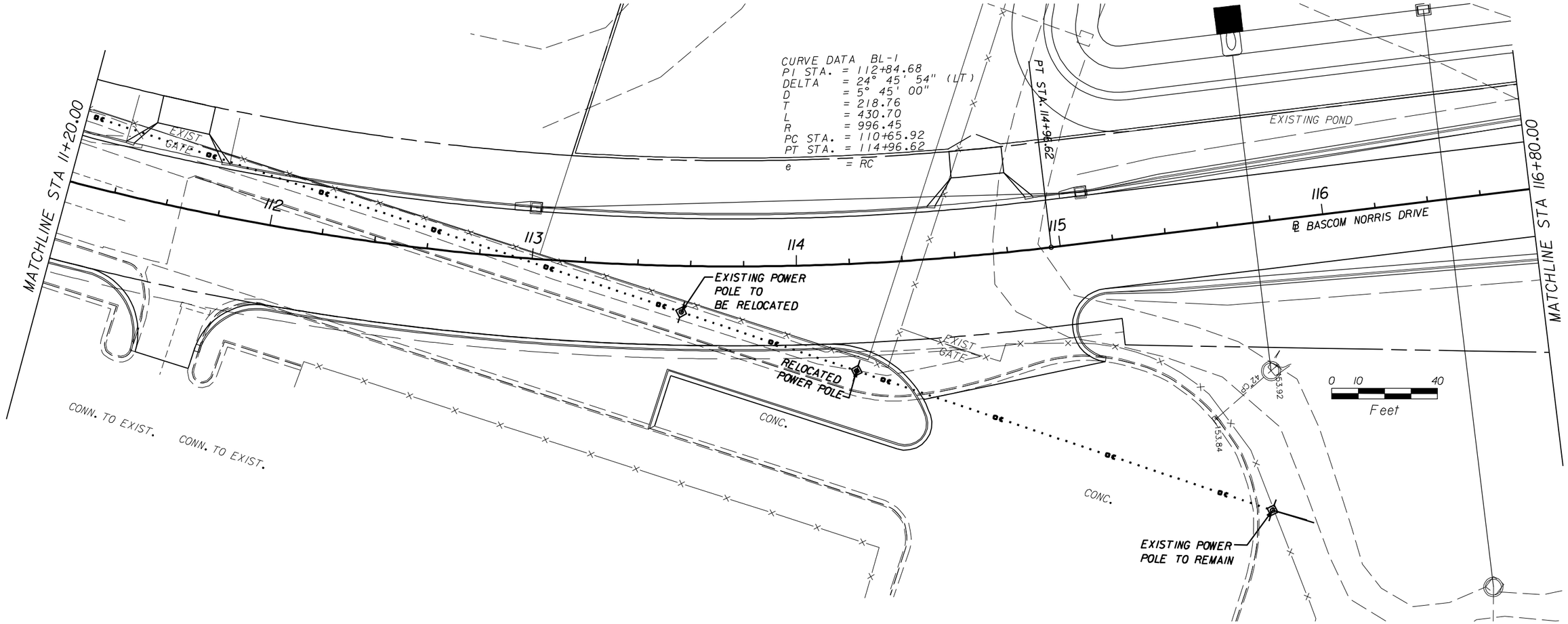
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
UTILITY ADJUSTMENT SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
109

$USER$ $DATE$ $TIME$ $FILE$



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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
UTILITY ADJUSTMENT SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
110

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HORIZONTAL CURVE DATA

PI STA = 173+21.99
DELTA = 92° 18' 37" (RT)
D = 4° 00' 00"
T = 1,491.34'
L = 2,307.75'
R = 1,432.39'
PC STA = 158+30.65
PT STA = 181+38.40

PROPOSED R/W
TOE OF SLOPE (TYP.)
PROPOSED ACCESS ROAD
PROPOSED STORMWATER POND
EXISTING TELEPHONE POLE
440' OF 6" CONDUIT INSTALLED FOR OE RELOCATE W/6" SPARE CONDUIT
EXISTING POWER POLE TO REMAIN
EXISTING POWER POLE TO BE REMOVED
EXISTING RR R/W
EXISTING TELEPHONE POLE
END APPROACH SLAB STA. 169+93.74
END BRIDGE STA. 169+65.50
OVERHEAD ELECTRIC TO BE REMOVED
OVERHEAD ELECTRIC TO BE REMAIN
NEW POWER POLE INSTALLED 40' EAST OF EXISTING POLE.
1-4" PVC CONDUIT TO BE PROVIDED BY AT&T AND INSTALLED BY ROADWAY CONTRACTOR. (24" MIN. SEPARATION FROM BURIED POWER & 36" MIN. GROUND COVER DEPTH)
EXISTING POWER POLE TO REMAIN
EXISTING TELEPHONE POLE
PROJECTION OF NORMAL RAILROAD RIGHT-OF-WAY
EASEMENT
MSE WALL
PROPOSED ACCESS ROAD
EASEMENT
TH 1
TH 2
TH 3
TH 4
TH 5
TH 6
TH 7
TH 8
TH 9
STA. 168+94.15 ℄ BASCOM NORRIS DRIVE = CSXT RAILROAD M.P. SP695.36
15' TRACK CENTERS
℄ FUTURE TRACK
SP 695
EXISTING RR R/W
MSE WALL
BEGIN BRIDGE STA. 168+25.50
PROPOSED R/W
EXISTING RR R/W
EXISTING RR R/W
175'
165'
100'-0"
60'-0"(±)
60'-0"(±)
120'-0"(±)
~900' +/-
2:1
2:1
2:1
2:1
2:1
170
171
172
168
169

N

6" CONDUIT (FPL SPARE)
6" CONDUIT (FPL BURIED POWER)
24" MIN.
1-4" CONDUIT (AT&T BURIED TELEPHONE)
PLAN DETAIL

NATURAL GROUND
6" CONDUIT (FPL BURIED POWER)
6" CONDUIT (FPL SPARE)
36" MIN.
1-4" CONDUIT (AT&T)
24" MIN. HORIZ. CLEARANCE
A-A SECTION

TH#	UTILITY DESCRIPTION	SIZE	MATERIAL	B/L BASCOM NORRIS			EXIST. GROUND ELEV.	TOP ELEV.	COMMENTS
				STATION	OFFSET	LT/RT			
1	MCI, FOC	3/4"	DBC	168+75	27.1'	RT	143.16	139.80	
2	CSX, RR TRAFFIC CONTROL	1/2"	DBC	168+82	27.3'	RT	143.09	140.77	
3	CSX, RR TRAFFIC CONTROL	1/2"	DBC	168+83	23.2'	LT	142.88	140.72	
4	MCI, FOC	3/4"	DBC	168+76	23.1'	LT	142.88	139.55	
5	QWEST, FOC	*	PE	169+04	26.8'	RT	142.77	138.37	* (1) 2" & (4) 1 1/2"
6	QWEST, FOC	*	PE	169+04	20.0'	LT	142.60	138.29	* (1) 2" & (4) 1 1/2"
7	SPRINT, FOC	1/2"	DBC	170+48	150.0'	LT	130.57	126.96	
8	SPRINT, FOC	1/2"	DBC	170+34	C/L	-	137.41	133.61	
9	SPRINT, FOC	1/2"	DBC	170+20	165.0'	RT	140.67	136.81	

0 10 50
Feet

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY		
CHECKED BY		
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
STEPHEN C. WILSON, P.E.
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www.hdrinc.com
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
UTILITY ADJUSTMENT SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
111

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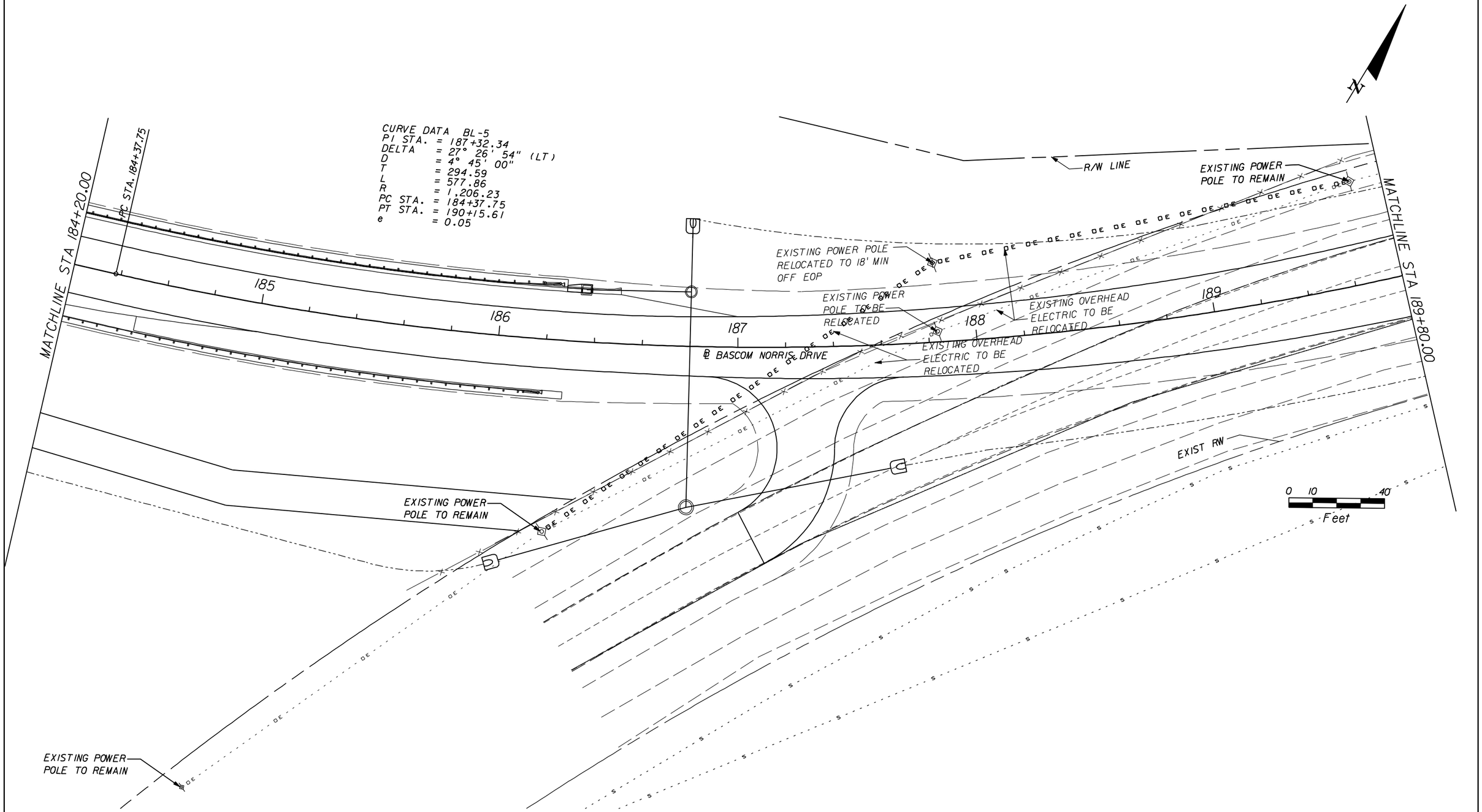

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
UTILITY ADJUSTMENT SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
112

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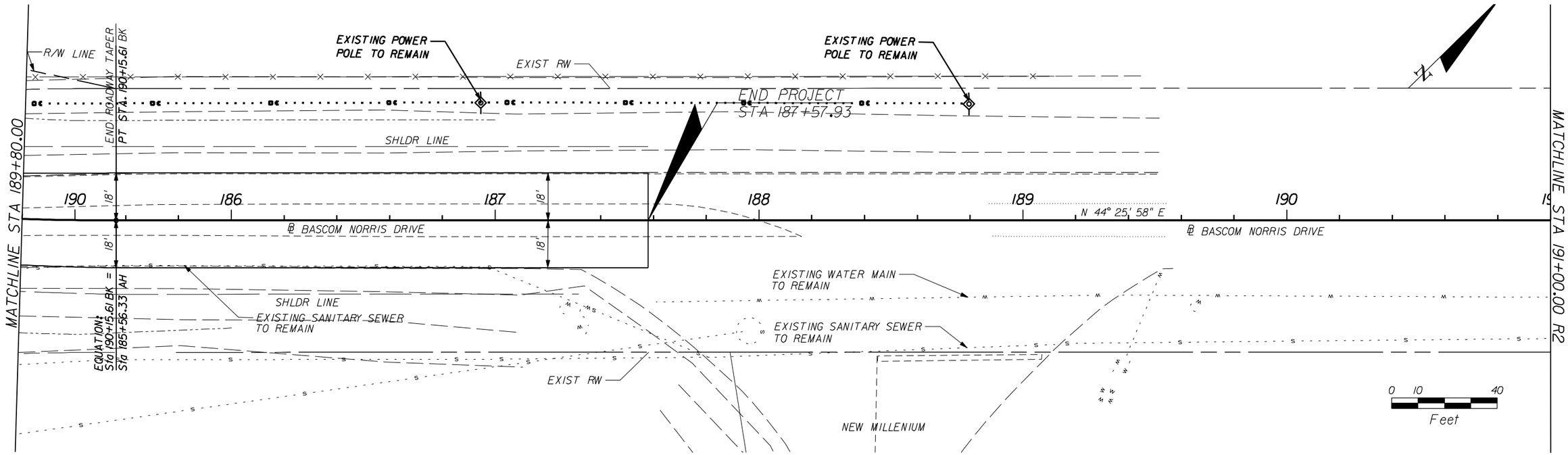

REVISIONS

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CHECKED BY		
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
UTILITY ADJUSTMENT SHEET

PROJECT NAME:
NW BASCOM NORRIS DRIVE

SHEET NO.
113

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INDEX OF SHEETS

GENERAL SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2010 EDITION) AND SUPPLEMENTS THERETO.

DESIGN SPECIFICATIONS:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS 4th EDITION (2007) AND 2009 INTERIMS AS SPECIFIED IN THE STRUCTURES MANUAL (JANUARY 2010).

FDOT STRUCTURES MANUAL (JANUARY 2010)

DESIGN LOADING:

HL-93 LIVE LOAD

ENVIRONMENT:

SUPERSTRUCTURE : SLIGHTLY AGGRESSIVE

SUBSTRUCTURE : MODERATELY AGGRESSIVE

FUTURE WEARING SURFACE:

NO ALLOWANCE FOR A FUTURE WEARING SURFACE WAS INCLUDED IN THE DESIGN.

CONCRETE:

ALL CONCRETE SHALL CONFORM WITH SECTION 346 OF THE SPECIFICATIONS.

CONCRETE STRENGTHS		
CONCRETE CLASS	MINIMUM 28-DAY COMPRESSIVE STRENGTH (ksi)	LOCATION OF CONCRETE IN STRUCTURE
II	f'c = 3.4	TRAFFIC RAILING BARRIER
II (BRIDGE DECK)	f'c = 4.5	CAST-IN-PLACE SUPERSTRUCTURE AND APPROACH SLABS
IV	f'c = 5.5	CAST-IN-PLACE SUBSTRUCTURE AND CRASHWALL
V	f'c = 6.5	PRESTRESSED BEAMS
V (SPECIAL)	f'c = 6.0	PRESTRESSED PILES

CONCRETE COVER:

CIP SUPERSTRUCTURE = 2" U.N.O.

CIP SUBSTRUCTURE = 4" FOR SURFACES CAST AGAINST EARTH
= 3" FOR OTHER EXTERNAL SURFACES

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES.

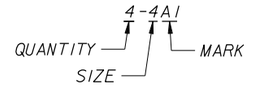
REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
2. ALL DIMENSIONS PERTAINING TO LOCATIONS OF REINFORCING ARE TO THE CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO THE FACE OF CONCRETE.
3. E.F. DENOTES "EACH FACE"

   N.F. DENOTES "NEAR FACE"

   F.F. DENOTES "FAR FACE"

   U.N.O. DENOTES "UNLESS NOTED OTHERWISE"
4. TYPICAL REINFORCING BARS ARE DESIGNATED AS:



DIMENSIONS:

1. ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET AND INCHES EITHER HORIZONTALLY OR VERTICALLY UNLESS OTHERWISE NOTED.
2. VERTICAL DATUM USED FOR THIS PROJECT IS NAVD 88.
3. ALL DIMENSIONS IN JOINT OPENINGS IN THE STRUCTURE ARE MEASURED AT MEAN TEMPERATURE OF 70°.

STAY-IN-PLACE METAL FORMS:

DESIGN INCLUDES ALLOWANCE FOR 20 PSF OVER THE PROJECTED PLAN AREA OF THE METAL FORMS FOR THE UNIT WEIGHT OF METAL FORMS AND CONCRETE REQUIRED TO FILL THE FORM FLUTES.

SCREEDING DECK SLABS:

SCREED THE RIDING SURFACE OF THE BRIDGE DECK AND APPROACH SLABS TO ACHIEVE THE FINISH GRADE ELEVATIONS SHOWN IN THE PLANS. ACCOUNT FOR THEORETICAL DEFLECTIONS DUE TO DECK SELF WEIGHT, DECK CASTING SEQUENCE, DECK FORMING SYSTEMS, CONSTRUCTION LOADS, OVERLAYS AND TEMPORARY SHORING, ETC. AS REQUIRED.

BRIDGE FLOOR GROOVING:

THE BRIDGE DECK AND CONCRETE PORTION OF THE APPROACH SLAB RIDING SURFACE SHALL BE GROOVED IN ACCORDANCE WITH SECTION 400 OF THE SPECIFICATIONS.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: GENERAL NOTES & INDEX OF SHEETS

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-1

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PILE FOUNDATIONS:

FOR PILE INFORMATION, SEE SHEET B-9.

UTILITIES:

THE UTILITIES SHOWN IN THE BRIDGE PLANS ARE AT APPROXIMATE LOCATIONS. FOR ADDITIONAL INFORMATION, REFER TO THE UTILITIES PLANS.

FUTURE BEARING PAD REPLACEMENT (NOT-IN-CONTRACT):

FOR BEARING REPLACEMENT DETAILS AND INFORMATION, SEE SHEET B-22.

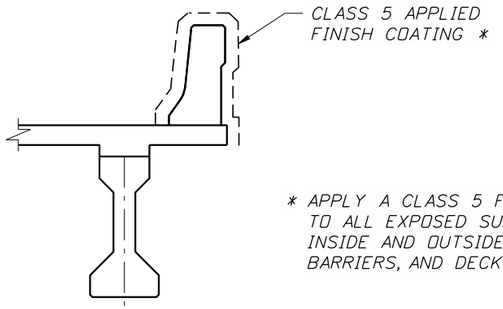
CONCRETE DETAILS:

1. PROVIDE ¾" CHAMFERS ON ALL EXPOSED EDGES EXCEPT AS OTHERWISE NOTED.

2. CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT LOCATIONS INDICATED ON PLANS. ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE WRITTEN APPROVAL OF THE ENGINEER.

CONCRETE SURFACE FINISH:

A CLASS 5 FINISH COATING SHALL BE APPLIED TO ALL EXPOSED SURFACES AS SHOWN IN THE CONCRETE FINISH DETAIL AND TO THE FOLLOWING: EXPOSED SURFACES OF CHEEKWALLS AND WINGWALLS OF END BENTS. THE COST OF COATING SURFACES SHALL BE INCIDENTAL TO THE ITEM COATED. SEE CONCRETE FINISH DETAIL ON THIS SHEET.



CONCRETE FINISH DETAIL

BID ITEM NOTES:

1. PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE BID ITEMS.

2. BID ITEM NO. 400-7 INCLUDES 20 SQ. YARDS OF APPROACH SLAB GROOVING.

3. THE APPROACH SLAB SHEETS ARE INCLUDED WITH THE BRIDGE PLANS. ALL QUANTITIES, THAT ARE ASSOCIATED WITH THE INDIVIDUAL APPROACH SLABS ARE INCLUDED EXCEPT FOR THE ASPHALT OVERLAY QUANTITIES. THEY ARE INCLUDED WITH THE ROADWAY QUANTITIES.

4. MSE WALLS AT END BENTS ARE INCLUDED WITH THE WALL PLANS.

RAILROAD COORDINATION:

1. DETAILED ERECTION, DEMOLITION AND SHORING PLANS SHALL BE SUBMITTED TO CSXT GEC REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

2. ERECTION PLANS SHALL INCLUDE CRANE CAPACITY CALCULATIONS FOR ALL LOADS PICKED WITHIN RAILROAD RIGHT-OF-WAY. CRANE CAPACITY SHALL BE 150% OF PICKED LOAD AT MAXIMUM RADIUS OF PICK. CSXT PROJECT ENGINEER AND GEC REPRESENTATIVE SHALL BE NOTIFIED OF AND INVITED TO THE PRE-CONSTRUCTION MEETING.

3. SIXTY DAYS PRIOR TO ENTERING CSXT RIGHT-OF-WAY, THE COLUMBIA COUNTY SELECTED CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO CSXT FOR FLAGGING SERVICES.
THE CONTRACTOR SHALL ALSO EXECUTE SCHEDULE 1 (CONTRACTOR'S ACCEPTANCE, SEE CONTRACT DOCUMENTS) IN LIEU OF THE CSXT RIGHT OF ENTRY PERMIT AND SHALL PROVIDE PROOF OF RAILROAD PROTECTIVE LIABILITY INSURANCE.

4. A CSXT FLAGMAN SHALL BE PRESENT WHEN THE CONTRACTOR IS WORKING ON OR OVER CSXT RIGHT-OF-WAY.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
GENERAL NOTES CONTINUED

PROJECT NAME:
NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO.
B-2

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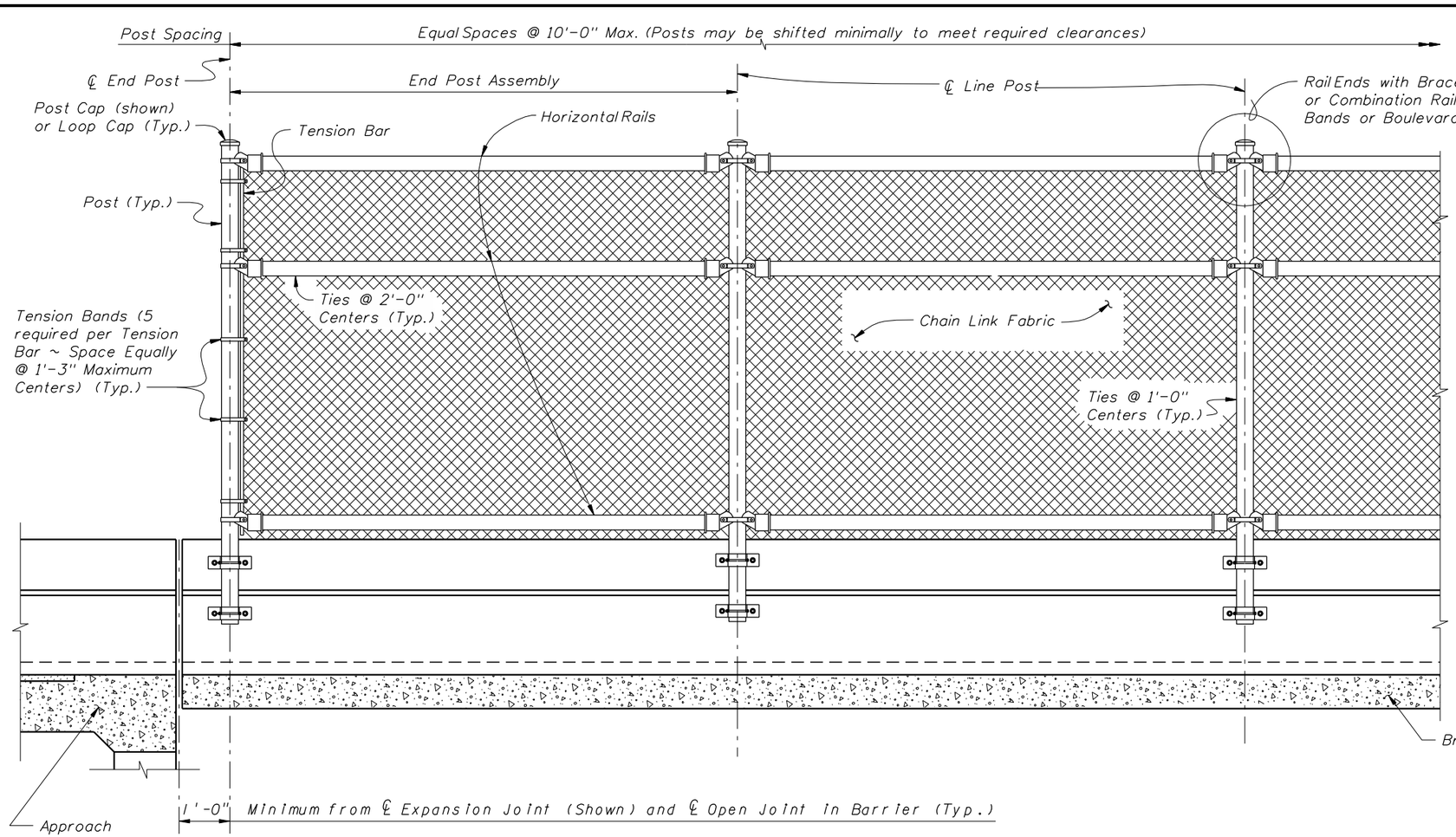
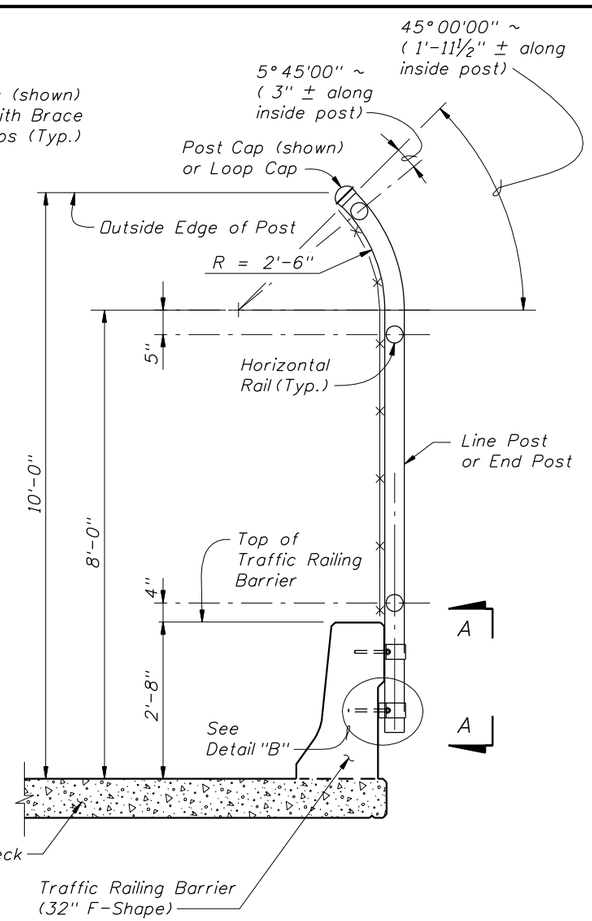


ELEVATION OF OUTSIDE FACE OF BARRIER



TYPICAL SECTION

FENCING NOTES

FENCE INSTALLATION:
Install posts plumb (within a tolerance of ± 1½"). Install chain link fence in accordance with ASTM F 567 as applicable.

TRAFFIC RAILING BARRIER DETAILS:
See Superstructure Sheets and Index 420 for Traffic Railing Barrier details.

LIMITS OF FENCING:
Limits of fencing are from Begin Bridge to End Bridge, excluding the 1'-0" Expansion Joint offsets.

PAYMENT:
Payment will be made under Fencing, Type R. Payment includes posts, horizontal rails, brace bands, rail ends, combination rail ends, boulevard clamps, chain link fabric, ties, tension bars and bands, post and loop caps, pipe clamps, anchor rods, bolts, nuts, washers, spacers, neoprene pads, miscellaneous fence fittings and hardware and all incidental materials and labor required to complete installation of the fence.

CROSS REFERENCE:
For Table of Fence Components, Table of Post Attachment Components, View A-A and Detail "B" see Bridge Fence Details (2 of 2) Sheet No. B-4.

POST ATTACHMENT NOTES

ANCHOR RODS, NUTS AND WASHERS:
After the nuts have been tightened, distort the Anchor Rod threads to prevent removal of the nuts. Coat distorted threads and exposed trimmed ends of anchors with a galvanizing compound in accordance with Specification Section 971.

COATINGS:
Hot-dip galvanize all Nuts, Washers, Bolts, CIP Anchor Rods, Adhesive Anchors and Fence Framework (Posts, Rails, Caps, Bars, Bands, Pipe Clamps and Spacers) in accordance with Specification Section 962. Hot-dip galvanize Fence Framework after fabrication.

ADHESIVE-BONDED ANCHORS AND DOWELS:
Adhesive Bonding Material Systems for Anchors and Dowels will comply with Specification Section 937 and be installed in accordance with Specification Section 416. Cutting of reinforcing steel is permitted for drilled hole installation.

WELDING:
All welding will be in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). Weld metal will be E60XX or E70XX. Nondestructive testing of welds is not required.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
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DESIGNED BY	KHB	08/11
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APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: BRIDGE FENCE DETAILS (1 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-3

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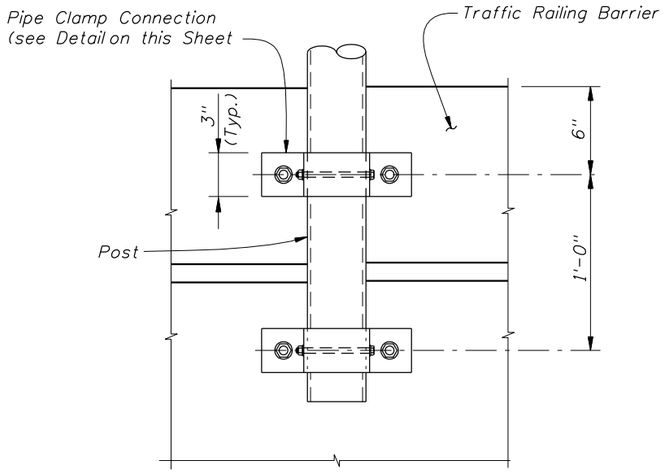
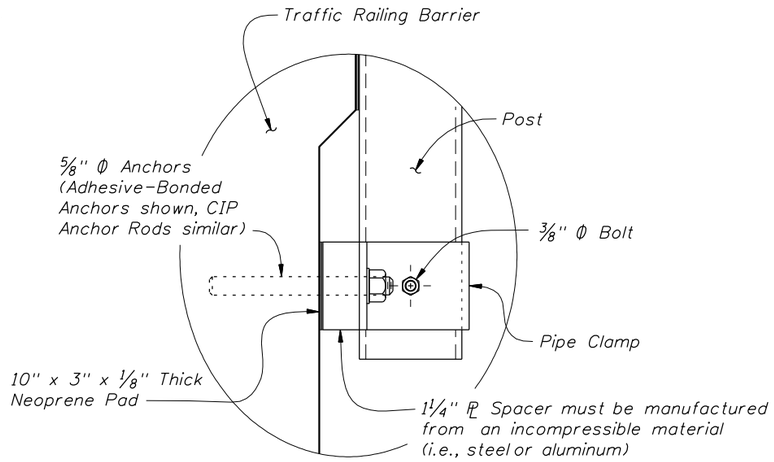
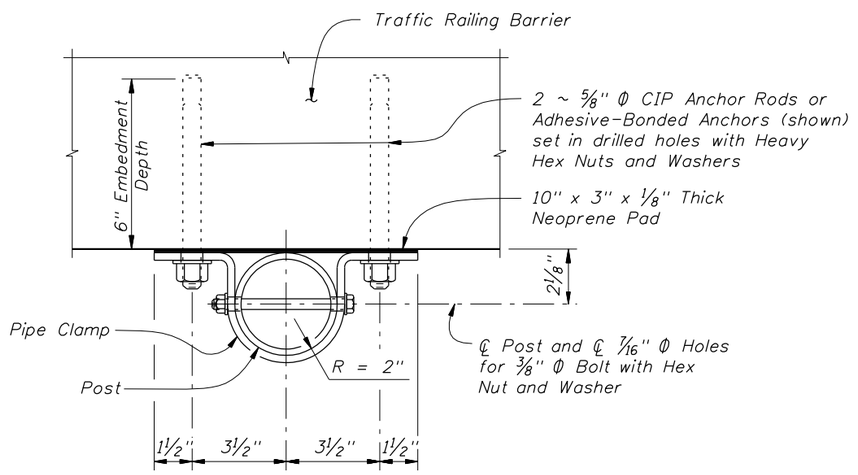


VIEW A-A

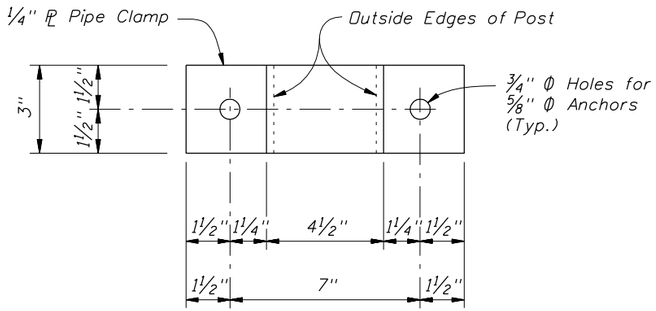


DETAIL "B"

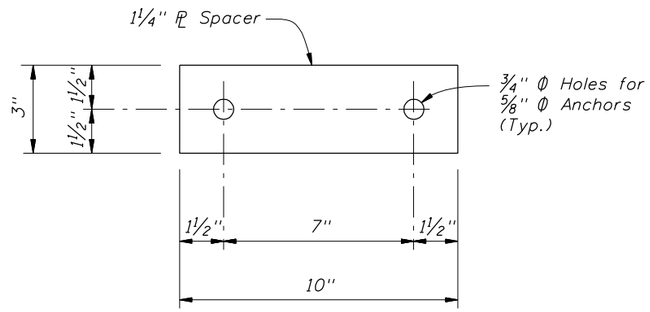


PIPE CLAMP CONNECTION DETAIL

(Connection without spacer shown,
Connection with spacer similar)



PIPE CLAMP DETAIL



SPACER DETAIL

Note: See Bridge Fence Details (1 of 2) for Fence Elevation, Typical Section, Fencing Notes and Post Attachment Notes.

TABLE OF CHAIN LINK FENCE COMPONENTS		
COMPONENT	ASTM DESIGNATION	COMPONENT INFORMATION
Posts	F 1083	Galvanized Steel Pipe - 3 1/2" NPS, Schedule 40 (4.000" Outside Diameter, 0.226" Wall Thickness)
Horizontal Rails	F 1083	Galvanized Steel Pipe - 3" NPS, Schedule 40 (3.500" Outside Diameter, 0.216" Wall Thickness)
Chain Link Fabric (2" mesh with twisted top and knuckled bottom selvage)	A 392	Zinc Coated Steel - No. 9 gage (coated wire diameter), Class 2 Coating
	A 491	Aluminum Coated Steel - No. 9 gage (coated wire diameter)
	F 668	Polyvinyl Chloride (PVC) Coated Steel - No. 9 gage Zinc Coated Wire (metallic-coated core wire diameter) ~ Specify the color of the polymer coating in the General Notes
Tie Wires	F 626	Zinc Coated Steel Wire - No. 9 gage
Brace Bands	F 626	No. 12 Gage (min. thickness) x 3/4" (min. width) Steel Bands (Beveled or Heavy)
Tension Bars	F 626	3/16" (min. thickness) x 3/4" (min. width) x Variable Height Steel Bars ~ Height = Post Length along inside Post - 2" max.
Tension Bands	F 626	No. 14 Gage (min. thickness) x 3/4" (width) Steel Bands
Miscellaneous Fence Components	F 626	Zinc Coated Steel ~ (includes post or loop caps, horizontal and brace rail ends, combination rail ends, boulevard clamps and all other miscellaneous fittings and hardware)

LEGEND: NPS = Nominal Pipe Size

TABLE OF POST ATTACHMENT COMPONENTS		
COMPONENT	ASTM DESIGNATION	COMPONENT INFORMATION
Pipe Clamps	A 36 or A 709 Grade 36	1/4" Steel ℄
Spacers	-	1 1/4" ℄ for all materials
Adhesive Anchor Rods	F 1554 Grade 36	Fully threaded Headless Anchor Rods ~ 5/8" Ø x 8" (no spacer) or 5/8" Ø x 9 1/4" (with spacer)
CIP Anchor Rods	F 1554 Grade 36	Hex Head Anchor Rods ~ 5/8" Ø x 6" (no spacer) or 5/8" Ø x 7 1/4" (with spacer)
Bolts	A 307	3/8" Ø x 4 3/4" Hex Head Bolts for Pipe Clamp Connections to Posts
Nuts	A 563	Hex Nuts for Pipe Clamp and Base Plate Connections
Washers	F 436	Flat Washers for Pipe Clamp and Base Plate Connections
Neoprene Pads	-	In accordance with Specification Section 932

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: BRIDGE FENCE DETAILS (2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-4

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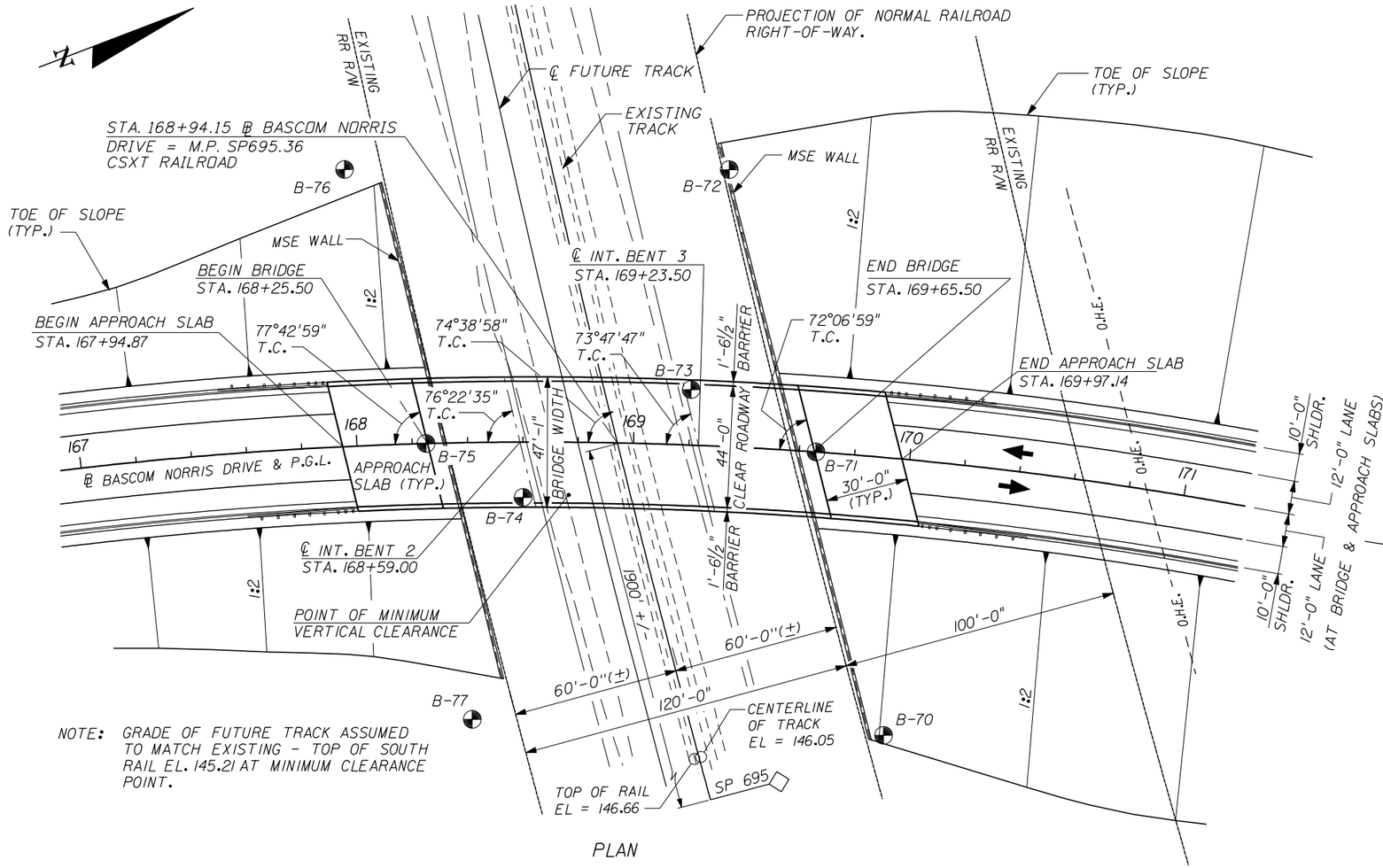
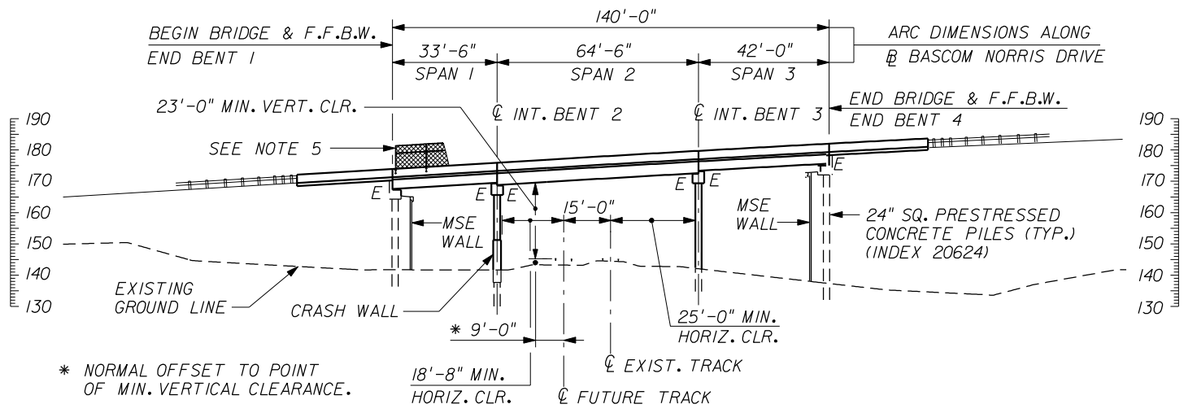


PLAN

NOTE: GRADE OF FUTURE TRACK ASSUMED TO MATCH EXISTING - TOP OF SOUTH RAIL EL. 145.21 AT MINIMUM CLEARANCE POINT.

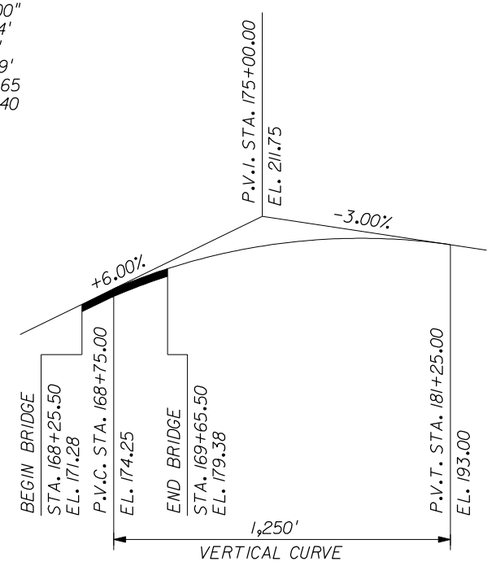


* NORMAL OFFSET TO POINT OF MIN. VERTICAL CLEARANCE.

ELEVATION

HORIZONTAL CURVE DATA

PI STA = 173+21.99
DELTA = 92° 18' 37" (RT)
D = 4° 00' 00"
T = 1,491.34'
L = 2,307.75'
R = 1,432.39'
PC STA = 158+30.65
PT STA = 181+38.40



VERTICAL CURVE DATA
(ALONG ℄ BASCOM NORRIS DRIVE)

DESIGN SPEED = 50 MPH

TRAFFIC DATA

NOTES:

1. MSE WALLS ARE INCLUDED WITH WALL PLANS.
2. FOR CRASHWALL DETAILS, SEE SHEET B-29.
3. FOR RAILROAD COORDINATION, SEE GENERAL NOTES SHEET B-2.
4. SEE STD. INDEX 490 AND 2110 FOR BARRIER AND DECK JOINT SKEW DETAILS.
5. BRIDGE FENCE WITH CURVED TOP IS REQUIRED FULL LENGTH OF BRIDGE BARRIER, BOTH SIDES OF BRIDGE. SEE FENCE DETAILS ON SHEETS B-3 AND B-4.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
P.E. NO.: 64075
HDR Engineering, Inc.
200 West Forsyth Street, Suite 800
Jacksonville, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: GENERAL PLAN AND ELEVATION

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-5

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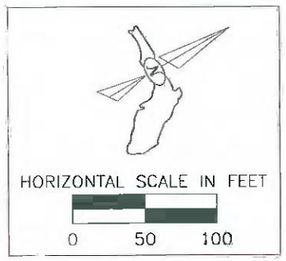
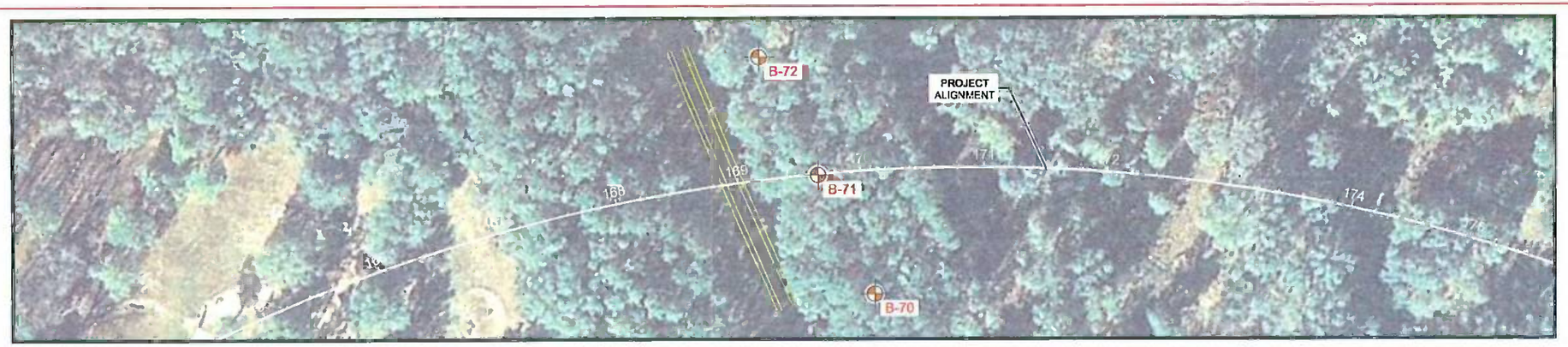
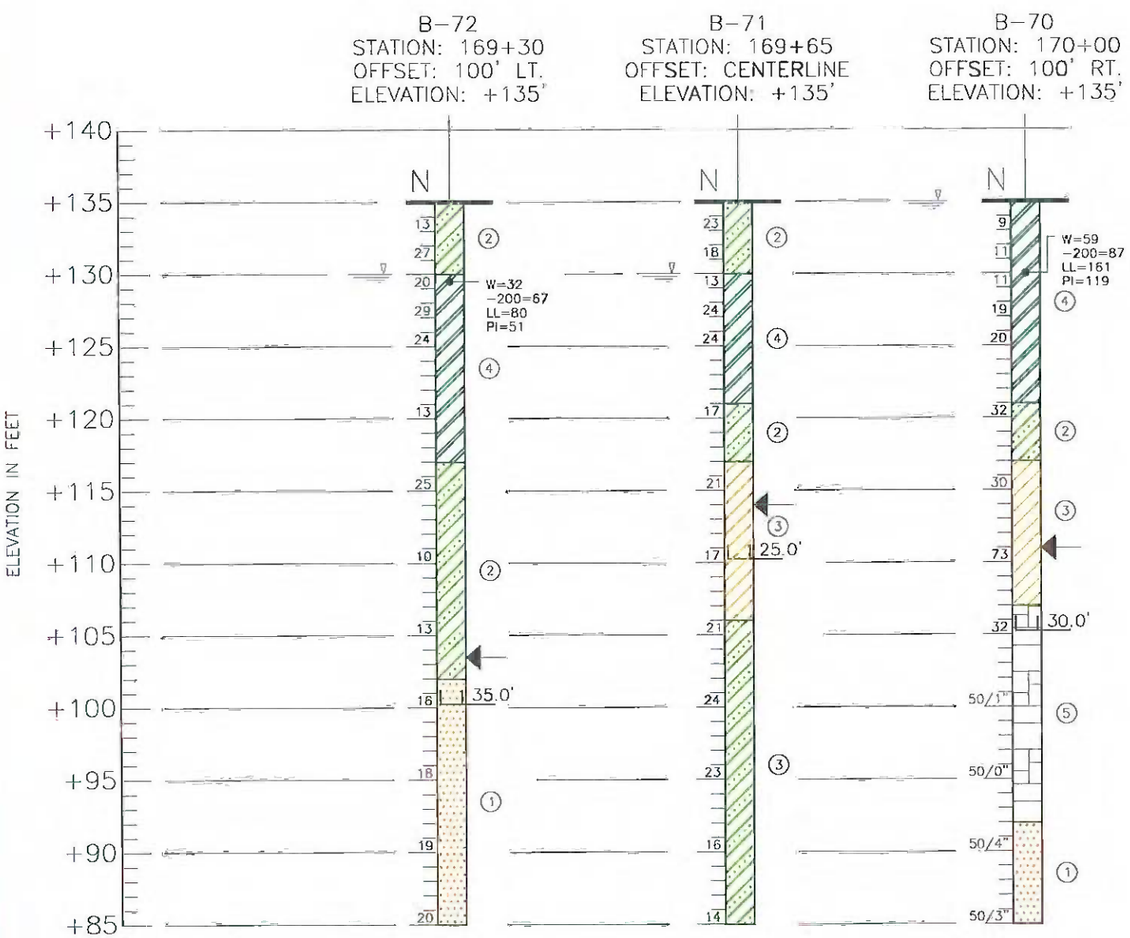






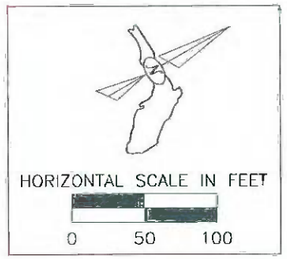
LEGEND

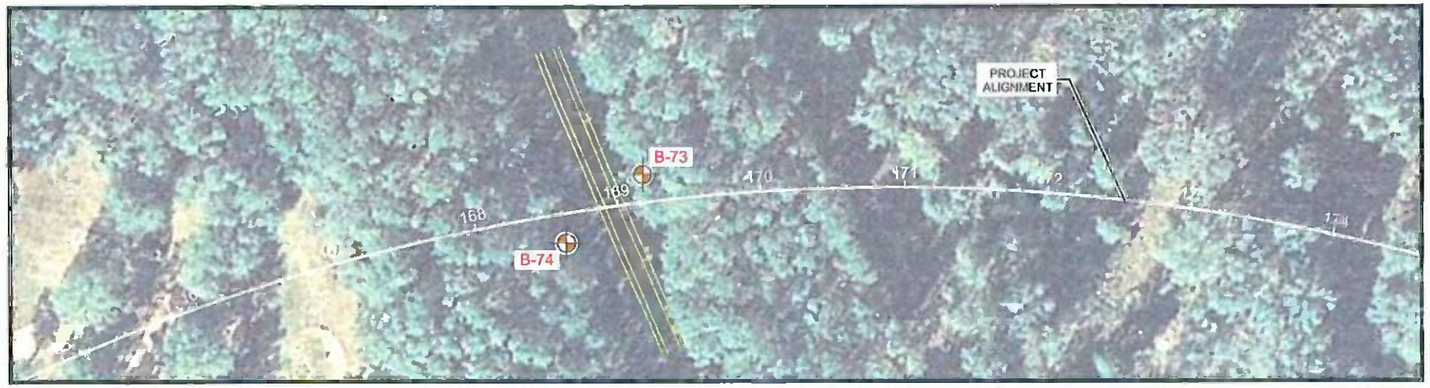
①	GRAY, BROWN, LIGHT GRAY, TAN TO WHITE SAND (SP) (A-3)
②	GRAY, BROWN, TAN, ORANGE, LIGHT GRAY SLIGHTLY CLAYEY SAND (SP-SC) (A-2-4)
③	LIGHT GRAY, ORANGE, BROWN CLAYEY SAND (SC) (A-2-4)(A-2-6)(A-2-7)
④	LIGHT GREEN, ORANGE, BROWN, GRAY SANDY CLAY TO CLAY (CL-CH) (A-7-6)
⑤	LIGHT BROWN, TAN LIMESTONE
⑥	MUCK (A-8)
(SP)	UNIFIED SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
(A-3)	A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
GNE	GROUNDWATER NOT ENCOUNTERED TO DEPTH OF BORING
	ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
N	STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
50/4"	(50) BLOWS REQUIRED TO DRIVE SAMPLING SPOON (4) INCHES
30.0'	DEPTH TO WHICH NW CASING WAS DRIVEN IN FEET (NOTE: 3-INCH CASING)
W	NATURAL MOISTURE CONTENT (%)
-200	FINES PASSING No. 200 SIEVE (%)
LL	LIQUID LIMIT (%)
PI	PLASTICITY INDEX
	APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

BORING LOCATION PLAN AND SOIL BORING PROFILES
NW BASCOM NORRIS DRIVE
FROM APPROXIMATELY STATION 110+00 TO 190+00
FROM NORTH OF SR 10 (U.S. 90) TO CR 250 (LAKE JEFFERY ROAD)
LAKE CITY, COLUMBIA COUNTY, FLORIDA

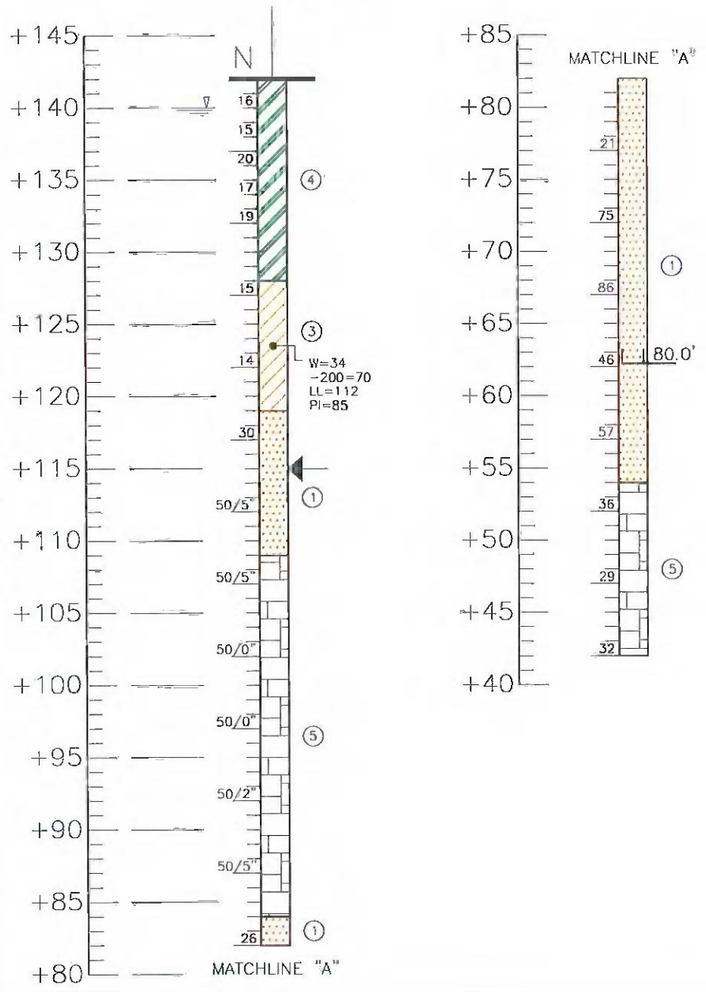
DRAWN: MG	NODARSE & ASSOCIATES, INC.	
CHKD: FA		
SCALE: NOTED		
DATE: 7-6-09	PROJ. NO: 10-08-0075-102A	FIGURE: 15

Jul09, 2009 - 2:42pm R:\2008\10-08-0075\102A\ecd\10-08-0075-102a-Figure-3-17.dwg

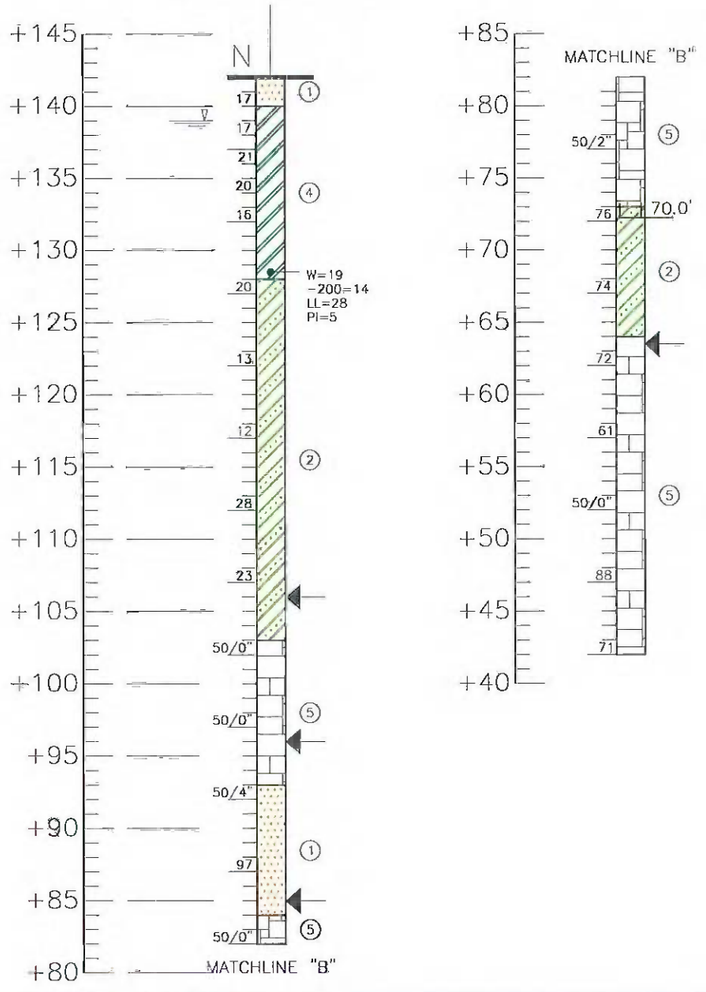




B-74
STATION: 168+60
OFFSET: 20' RT.
ELEVATION: +142'



B-73
STATION: 169+20
OFFSET: 20' LT.
ELEVATION: +142'



LEGEND

⬚	①	GRAY, BROWN, LIGHT GRAY, TAN TO WHITE SAND (SP) (A-3)
▨	②	GRAY, BROWN, TAN, ORANGE, LIGHT GRAY SLIGHTLY CLAYEY SAND (SP-SC) (A-2-4)
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(SP)		UNIFIED SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
(A-3)		A.A.S.H.T.O. SOIL CLASSIFICATION GROUP SYMBOL AS DETERMINED BY VISUAL EXAMINATION
GNE		GROUNDWATER NOT ENCOUNTERED TO DEPTH OF BORING
▽		ESTIMATED SEASONAL HIGH GROUNDWATER LEVEL
N		STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
50/4"		(50) BLOWS REQUIRED TO DRIVE SAMPLING SPOON (4) INCHES
⌊ 30.0'		DEPTH TO WHICH NW CASING WAS DRIVEN IN FEET (NOTE: 3-INCH CASING)
W		NATURAL MOISTURE CONTENT (%)
#200		FINES PASSING No. 200 SIEVE (%)
LL		LIQUID LIMIT (%)
PI		PLASTICITY INDEX
⊕		APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

BORING LOCATION PLAN AND SOIL BORING PROFILES
NW BASCOM NORRIS DRIVE
FROM APPROXIMATELY STATION 110+00 TO 190+00
FROM NORTH OF SR 10 (U.S. 90) TO CR 250 (LAKE JEFFERY ROAD)
LAKE CITY, COLUMBIA COUNTY, FLORIDA

DRAWN: MG	NODARSE & ASSOCIATES, INC.	
CHKD: FA		
SCALE: NOTED		
DATE: 7-6-09	PROJ. NO: 10-08-0075-102A	FIGURE: 17

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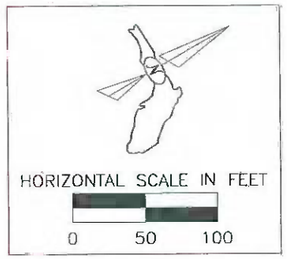

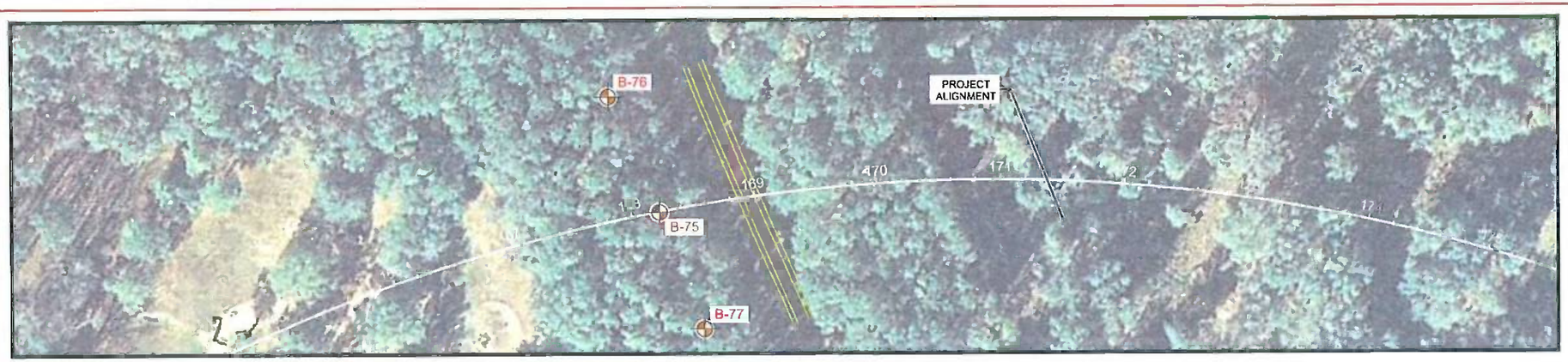

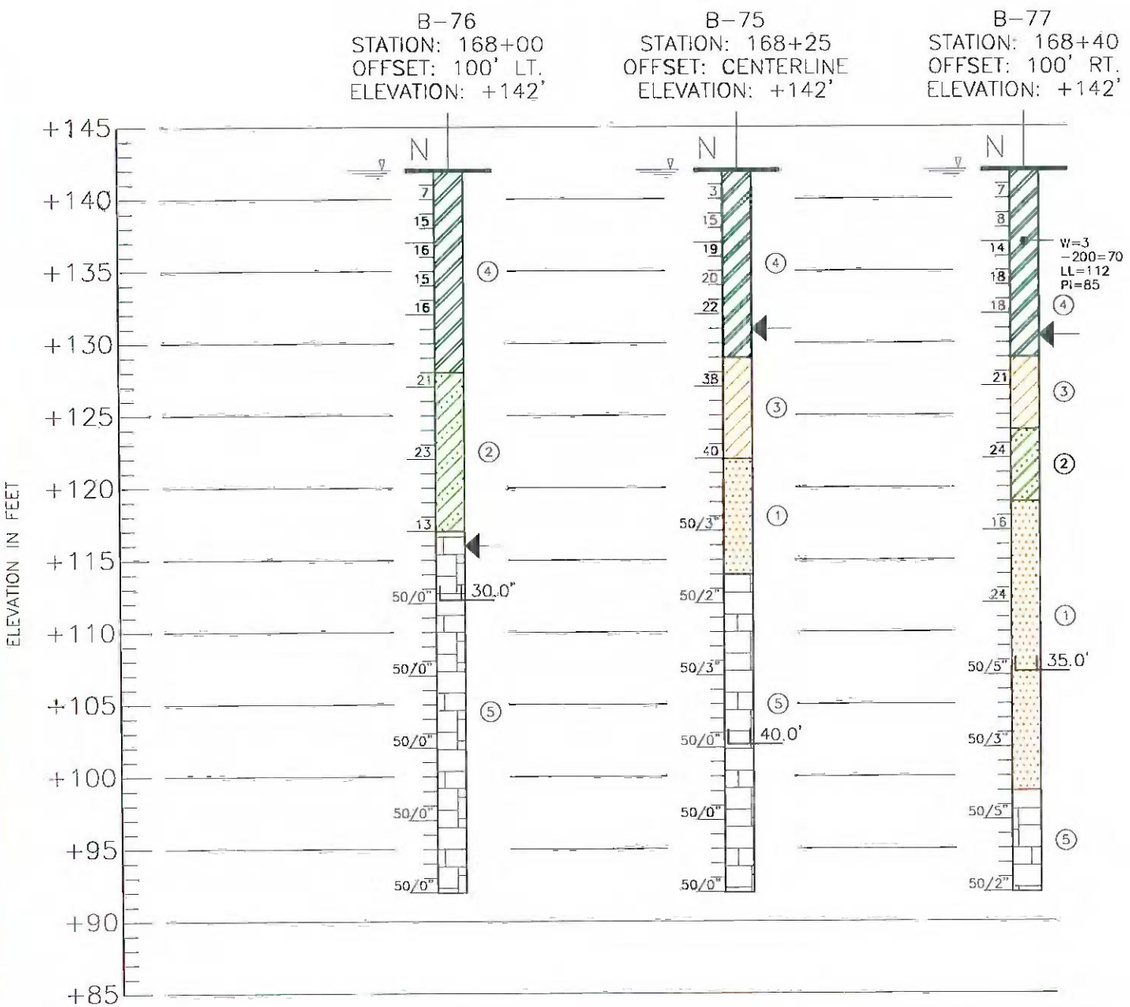

LEGEND

①	GRAY, BROWN, LIGHT GRAY, TAN TO WHITE SAND (SP) (A-3)
②	GRAY, BROWN, TAN, ORANGE, LIGHT GRAY SLIGHTLY CLAYEY SAND (SP-SC) (A-2-4)
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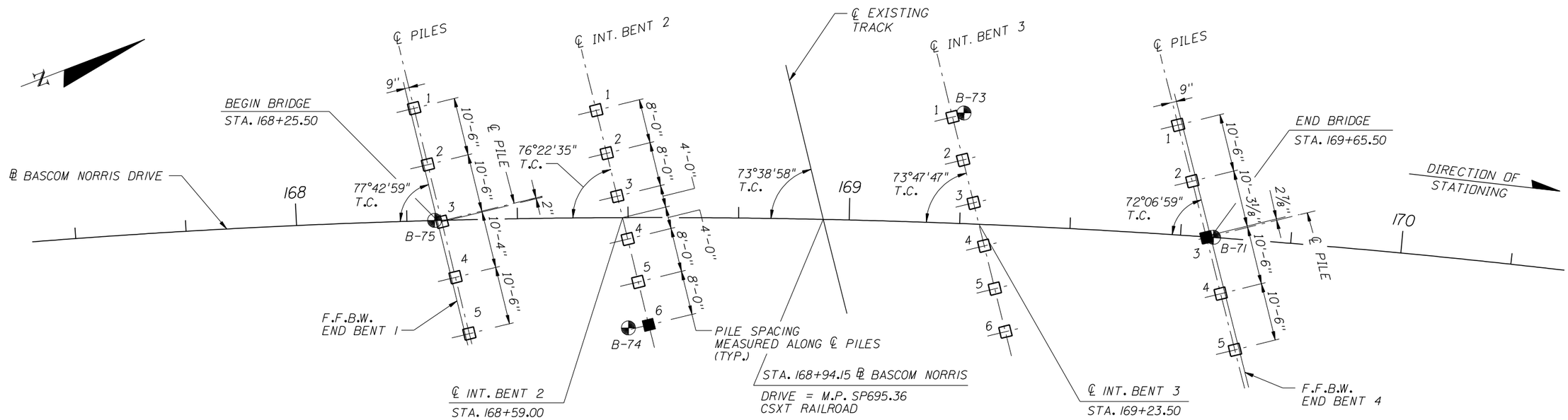
30.0'	DEPTH TO WHICH NW CASING WAS DRIVEN IN FEET (NOTE: 3-INCH CASING)
W	NATURAL MOISTURE CONTENT (%)
-200	FINES PASSING No. 200 SIEVE (%)
LL	LIQUID LIMIT (%)
PI	PLASTICITY INDEX
⊕	APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

BORING LOCATION PLAN AND SOIL BORING PROFILES
NW BASCOM NORRIS DRIVE
FROM APPROXIMATELY STATION 110+00 TO 190+00
FROM NORTH OF SR 10 (U.S. 90) TO CR 250 (LAKE JEFFERY ROAD)
LAKE CITY, COLUMBIA COUNTY, FLORIDA

DRAWN: MG	NODARSE & ASSOCIATES, INC.	
CHKD: FA		
SCALE: NOTED		
DATE: 7-6-09	PROJ. NO: 10-08-0075-102A	FIGURE: 16



FOUNDATION LAYOUT

LEGEND

- □ 24" PRECAST CONCRETE PILE
- ■ 24" PRECAST CONCRETE TEST PILE
- ⊕ BORING LOCATION

NOTE:

FOR LAYOUT PURPOSES ALL BENTS ARE PARALLEL AND ℄ PILES BEAR S 82°55'08" E LEFT TO RIGHT FACING AHEAD STATION.

PILE DATA TABLE													
LOCATION	INSTALLATION CRITERIA							DESIGN CRITERIA					
	PILE SIZE (IN)	NOMINAL BEARING CAPACITY (TONS)	TENSION CAPACITY (TONS)	MIN. TIP ELEV. (FT.)	TEST PILE LENGTH (FT.)	REQUIRED JET ELEVATION (FT.)	REQUIRED PREFORM ELEVATION (FT.)	FACTORED DESIGN LOAD (TONS)	DOWN DRAG (TONS)	TOTAL SCOUR RESIST. (TONS)	NET SCOUR RESIST. (TONS)	100-YEAR SCOUR ELEV. (FT.)	Φ
END BENT 1	24	187	N/A	*	N/A	N/A	N/A	83	39	N/A	N/A	N/A	0.65
INT. BENT 2	24	200	N/A	*	79	N/A	N/A	130	N/A	N/A	N/A	N/A	0.65
INT. BENT 3	24	208	N/A	*	N/A	N/A	N/A	135	N/A	N/A	N/A	N/A	0.65
END BENT 4	24	254	N/A	*	90	N/A	N/A	95	70	N/A	N/A	N/A	0.65

* MINIMUM TIP ELEVATION SHALL BE DETERMINED IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 455-5.8 PENETRATION REQUIREMENTS.

PILE CUT-OFF ELEVATIONS						
LOCATION	PILE 1	PILE 2	PILE 3	PILE 4	PILE 5	PILE 6
END BENT 1	164.7	164.4	164.0	163.6	163.3	-
INT. BENT 2	166.5	166.2	165.9	165.7	165.4	165.1
INT. BENT 3	170.2	170.0	169.7	169.4	169.1	168.9
END BENT 4	173.5	173.2	172.9	172.5	172.2	-

PILE INSTALLATION NOTES:

1. NOMINAL BEARING CAPACITY = (FACTORED DESIGN LOAD + NET SCOUR + DOWNDRAG) / Φ.
2. DRIVE TEST PILES AS PERMANENT PLUMB PILES, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. DYNAMIC LOAD TESTING SHALL BE PERFORMED ON ALL TEST PILES AS PER SECTION 455-5.12 AND 455-5.13 OF THE SPECIFICATIONS.
4. THE PILE HAMMER/DRIVING SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 455-5.2 OF THE SPECIFICATIONS. DURING DRIVING OF THE PRODUCTION PILES, THE ENGINEER MAY PERIODICALLY PERFORM DYNAMIC LOAD TESTS TO EVALUATE THE CONTRACTORS HAMMER/DRIVING SYSTEM.
5. NUMEROUS SET CHECKS & REDRIVES MAY BE REQUIRED TO ACHIEVE ULTIMATE BEARING CAPACITY.
6. WHEN A REQUIRED JETTING OR PREFORMED ELEVATION IS NOT SHOWN IN THE TABLE, DO NOT JET OR PREFORM PILE LOCATIONS WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
7. THE CONTRACTOR SHALL USE SPECIAL EQUIPMENT AND/OR METHODS (I.E. CORE BARRELS, ROCK AUGERS, PUNCHES, DRILL BITS, ETC.) AS NEEDED TO FACILITATE PREDRILLING AND/OR PREFORMING.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
P.E. NO.: 64075
HDR Engineering, Inc.
200 West Forsyth Street, Suite 800
Jacksonville, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: FOUNDATION LAYOUT

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-9

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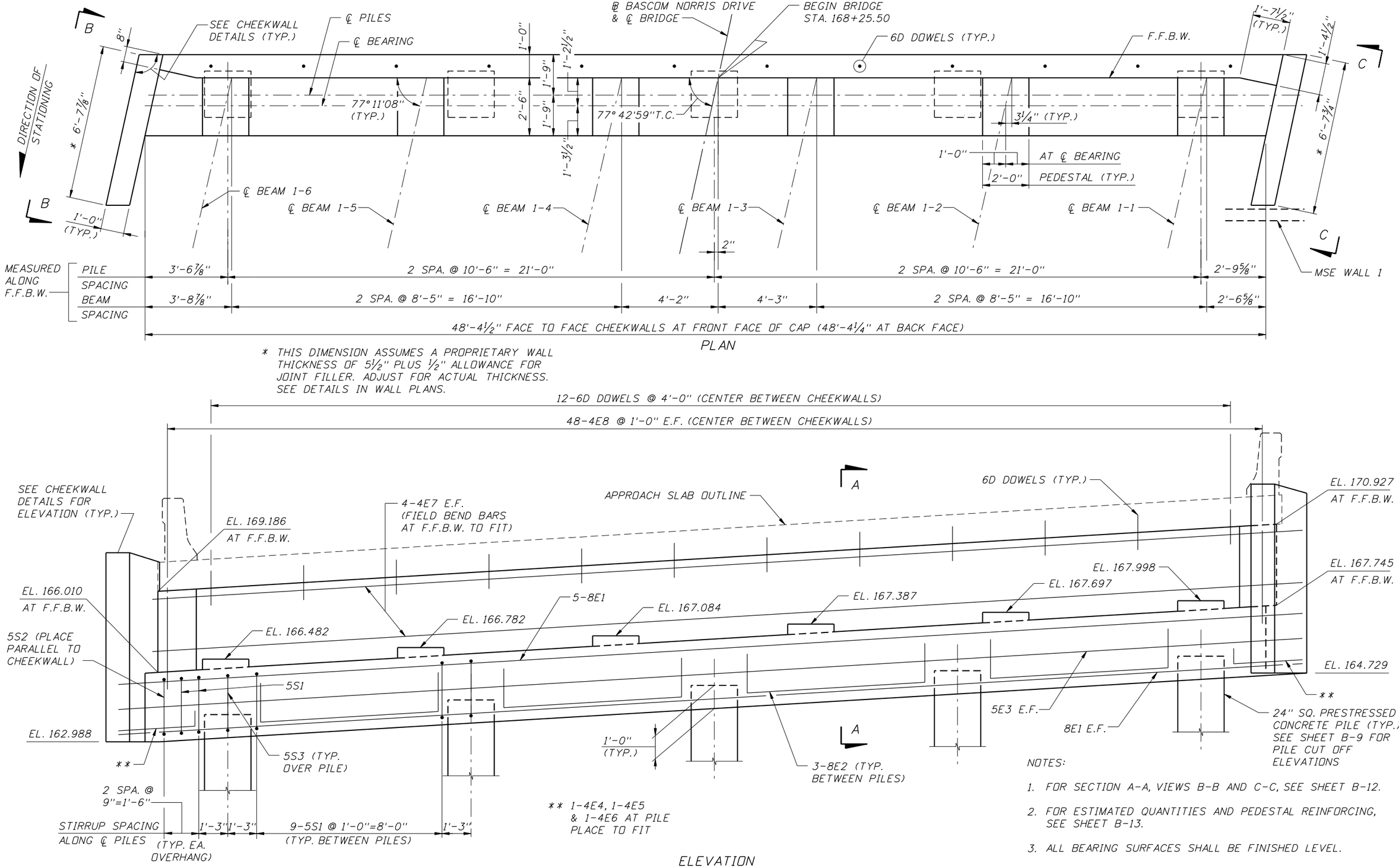

NOTES:

1. FOR SECTION A-A, VIEWS B-B AND C-C, SEE SHEET B-12.
2. FOR ESTIMATED QUANTITIES AND PEDESTAL REINFORCING, SEE SHEET B-13.
3. ALL BEARING SURFACES SHALL BE FINISHED LEVEL.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
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APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
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200 West Forsyth Street, Suite 800
Jacksonville, FL 32202
(904) 598-8900
www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: END BENT 1

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-10

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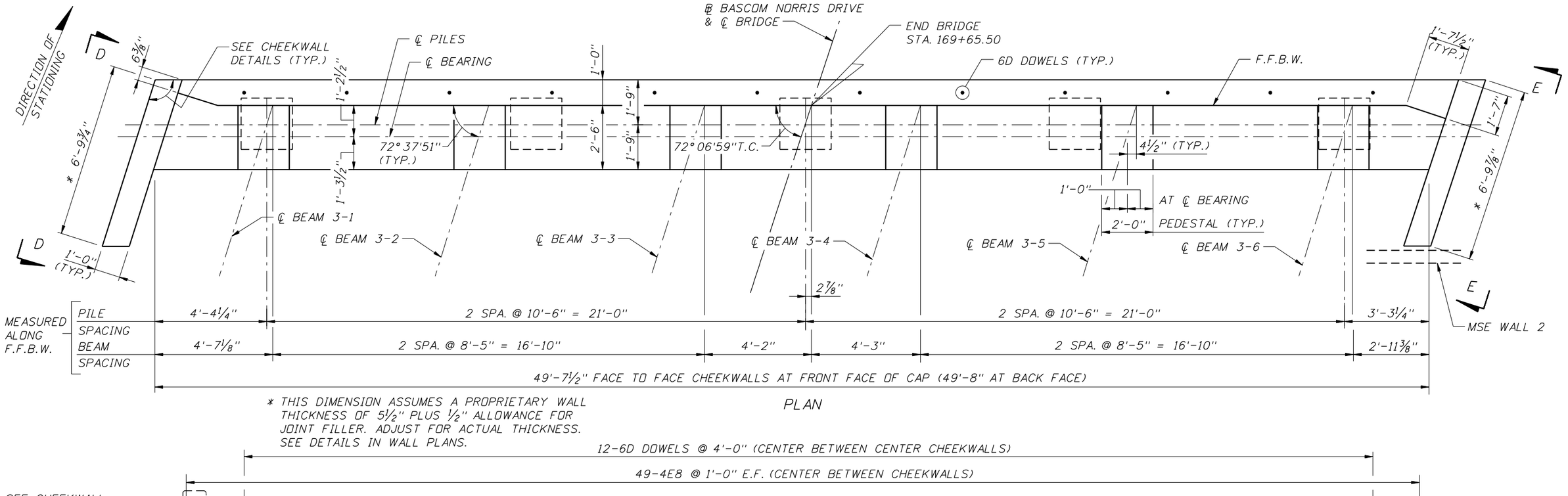
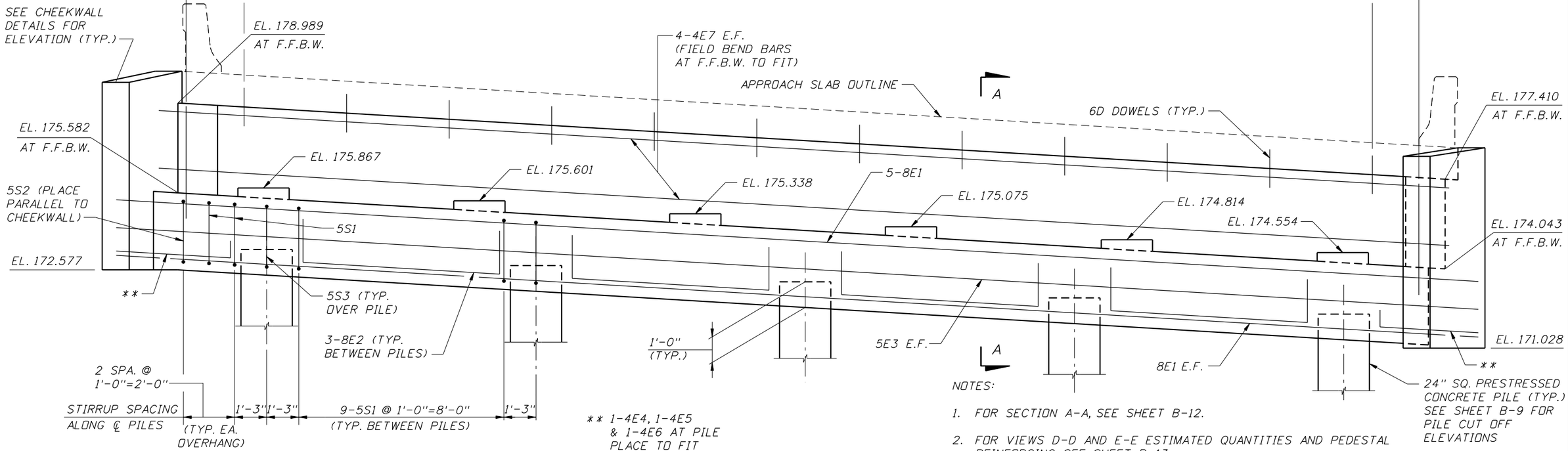


PLAN

* THIS DIMENSION ASSUMES A PROPRIETARY WALL THICKNESS OF 5 1/2" PLUS 1/2" ALLOWANCE FOR JOINT FILLER. ADJUST FOR ACTUAL THICKNESS. SEE DETAILS IN WALL PLANS.



** 1-4E4, 1-4E5 & 1-4E6 AT PILE PLACE TO FIT

ELEVATION

NOTES:

1. FOR SECTION A-A, SEE SHEET B-12.
2. FOR VIEWS D-D AND E-E ESTIMATED QUANTITIES AND PEDESTAL REINFORCING, SEE SHEET B-13.
3. ALL BEARING SURFACES SHALL BE FINISHED LEVEL.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: END BENT 4

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-11

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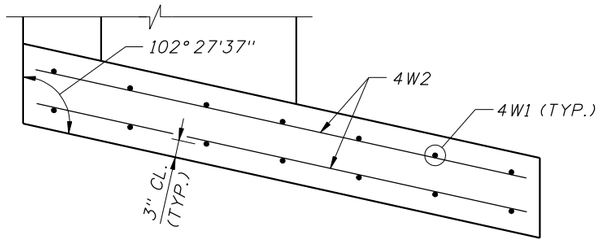
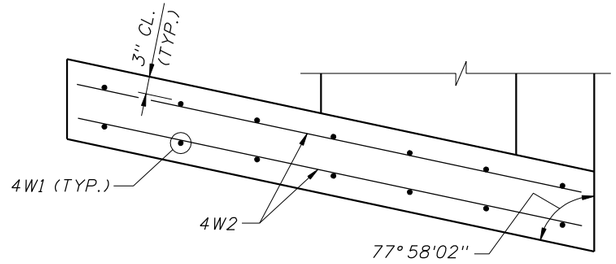
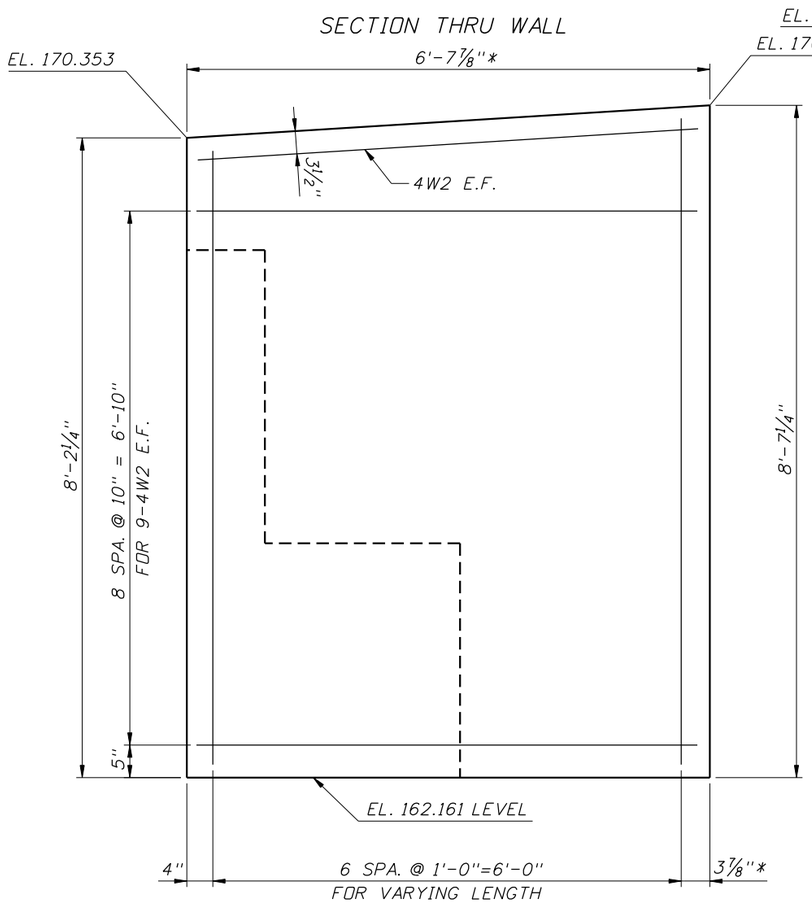


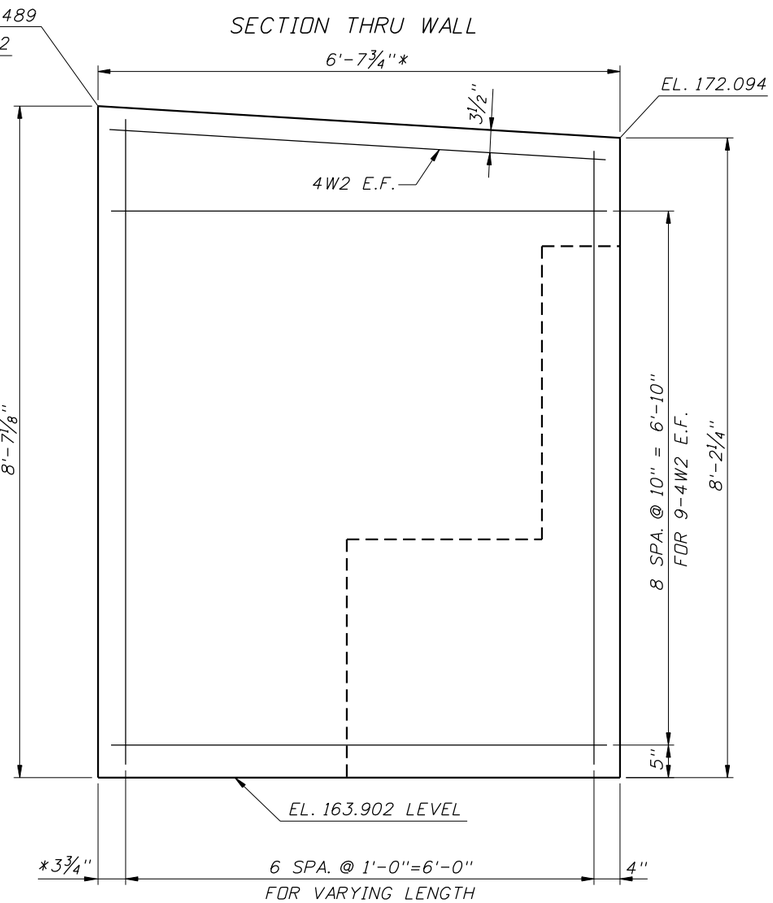


SECTION THRU WALL



VIEW B-B

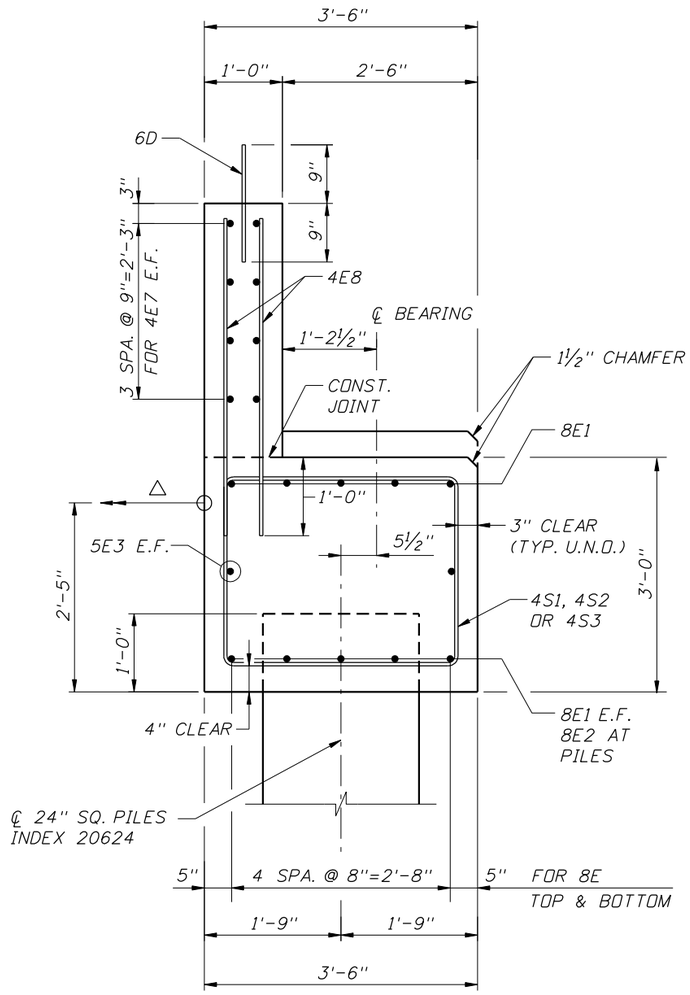
SECTION THRU WALL



VIEW C-C

* ADJUST FOR ACTUAL MSE WALL THICKNESS

END BENT 1 CHEEKWALL DETAILS



SECTION A-A

△ SOIL REINFORCEMENT STRAPS TO BE PROVIDED BY THE PROPRIETARY WALL MANUFACTURER, AND INSTALLED BY THE CONTRACTOR CENTERED ABOUT THE LOCATION SHOWN. THE STRAP LENGTH AND SPACING SHALL BE SUFFICIENT TO RESIST A FORCE OF 4.0 KIPS PER FOOT OF BACKWALL.

NOTES:

1. WORK THIS SHEET WITH SHEETS B-10 & B-11.
2. FOR QUANTITIES, SEE SHEET B-13.
3. FOR BAR LIST, SEE SHEET B-31.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: END BENT DETAILS (1 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-12

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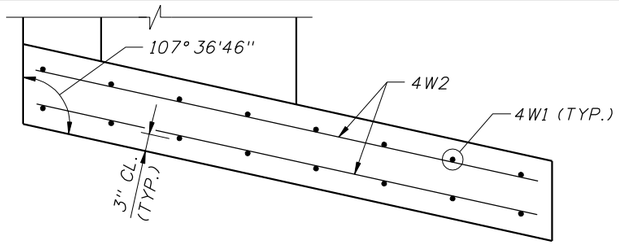
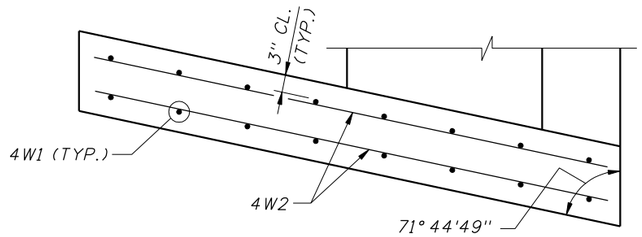
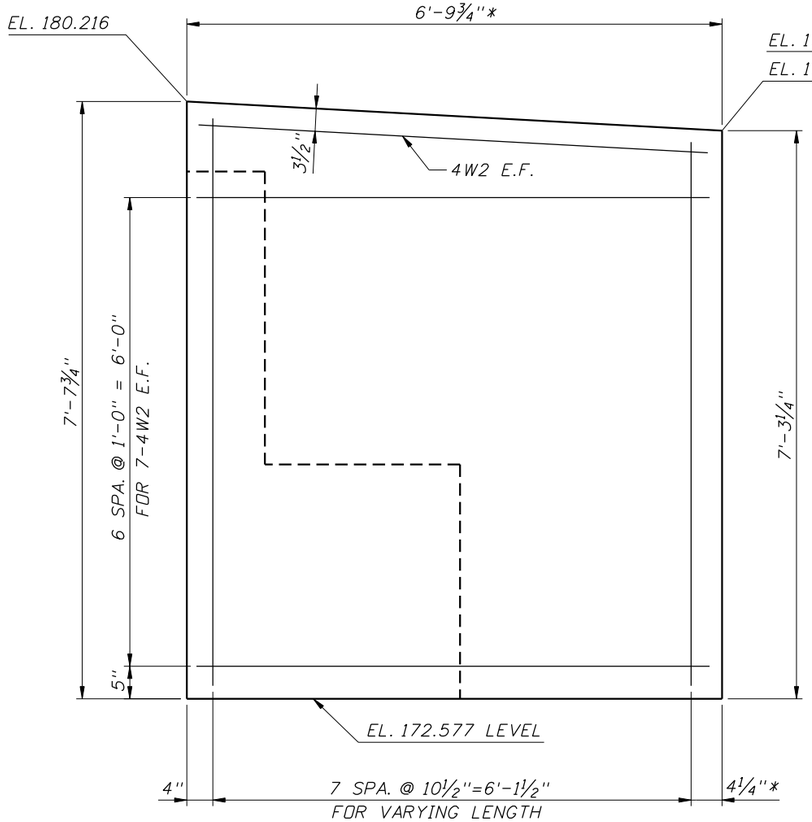


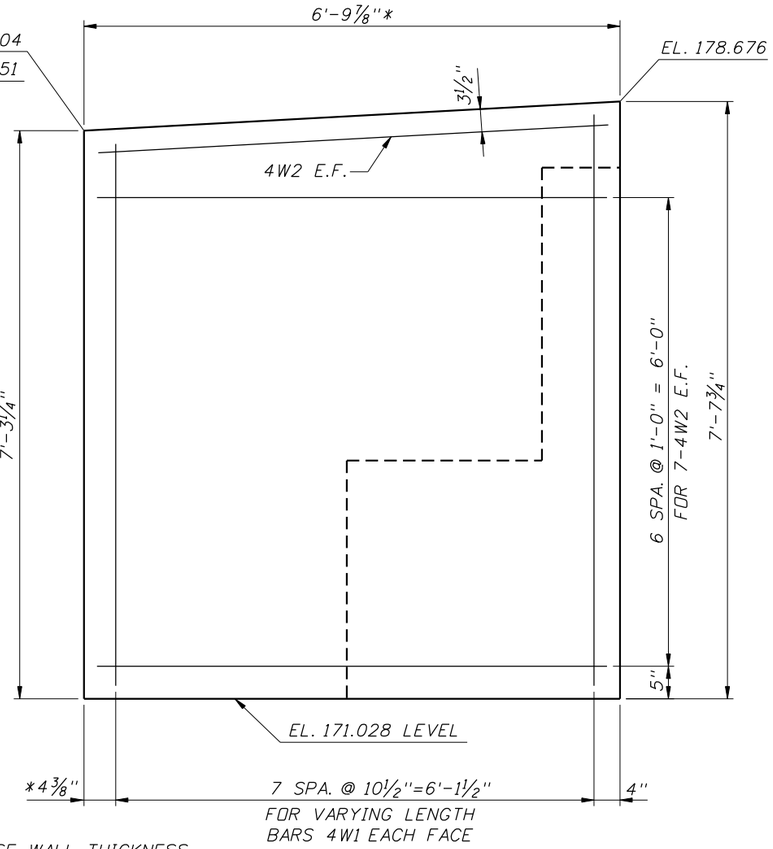
SECTION THRU WALL



SECTION THRU WALL



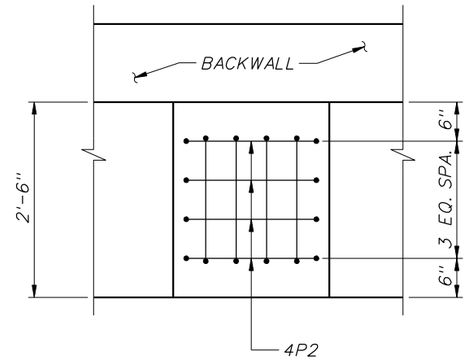
VIEW D-D



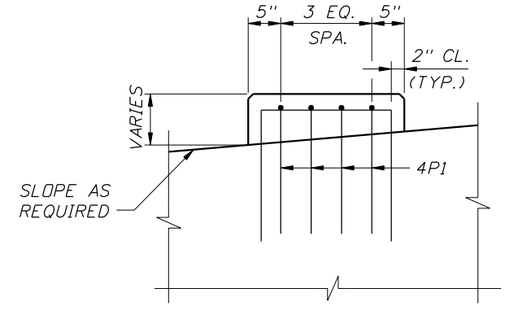
VIEW E-E

* ADJUST FOR ACTUAL MSE WALL THICKNESS

END BENT 4 CHEEKWALL DETAILS



PLAN



ELEVATION

PEDESTAL DETAILS

ESTIMATED QUANTITIES				
ITEM		UNIT	END BENT 1	END BENT 4
CLASS IV CONCRETE (SUBSTRUCTURE)	CAP	C.Y.	18.1	18.6
	BACKWALL	C.Y.	5.7	6.3
	CHEEKWALLS	C.Y.	4.1	3.8
	PEDESTALS	C.Y.	0.4	0.4
	TOTAL		28.3	29.1
REINFORCING STEEL (SUBSTRUCTURE)		LB.	3,015	3,031
24" SQ. PRESTRESSED CONCRETE PILES		L.F.	**	**

** SEE SUMMARY OF BRIDGE PAY ITEMS

NOTES:

1. WORK THIS SHEET WITH SHEETS B-10 & B-11.
2. FOR TYPICAL SECTION, SEE SHEET B-12.
3. FOR BAR LIST, SEE SHEET B-31.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
MICHAEL P. LEONARD, P.E.
P.E. NO.: 64075
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www.hdrinc.com
Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: END BENT DETAILS (2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-13

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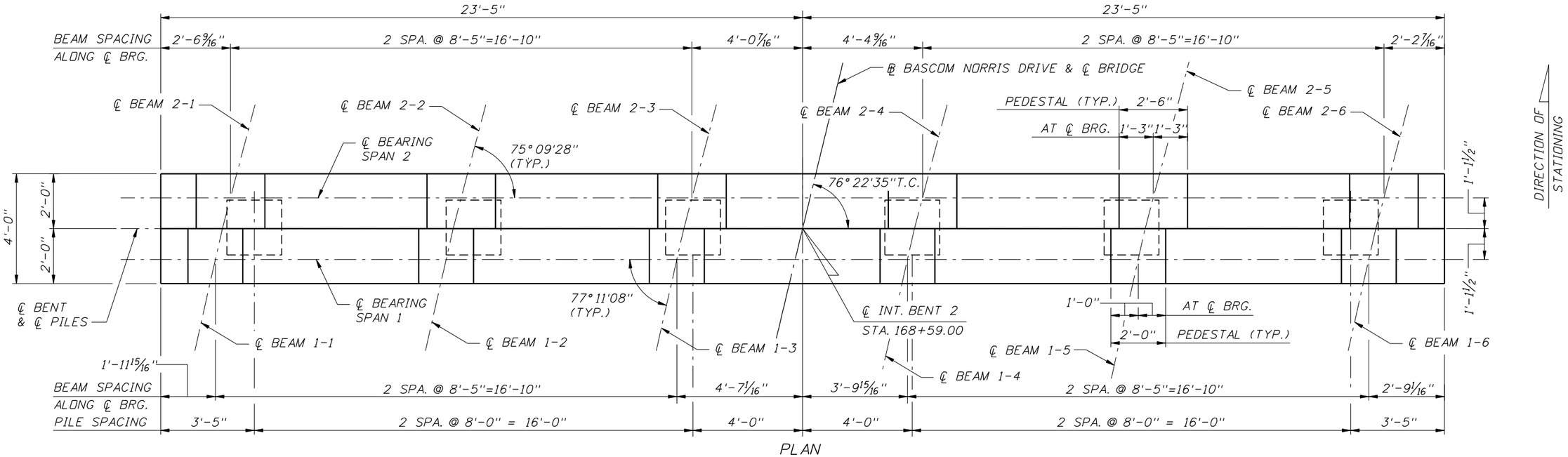
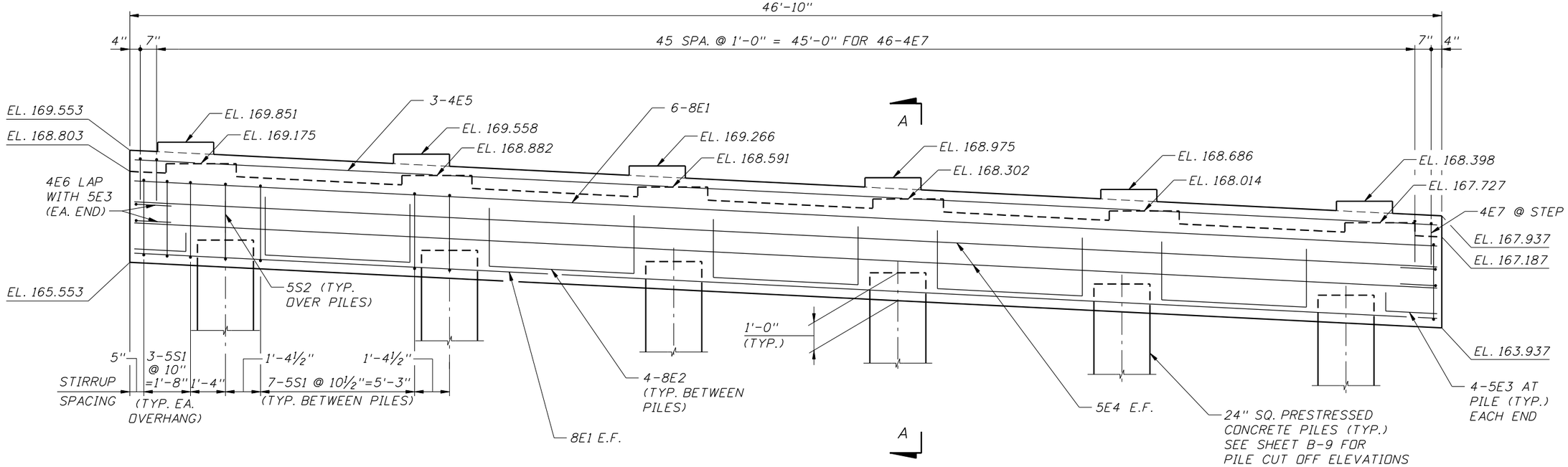


PLAN



ELEVATION

NOTES:

1. FOR SECTION A-A, ESTIMATED QUANTITIES, AND PEDESTAL REINFORCING, SEE SHEET B-16.
2. FOR REINFORCING LIST SEE SHEET B-31.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: INTERMEDIATE BENT 2

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-14

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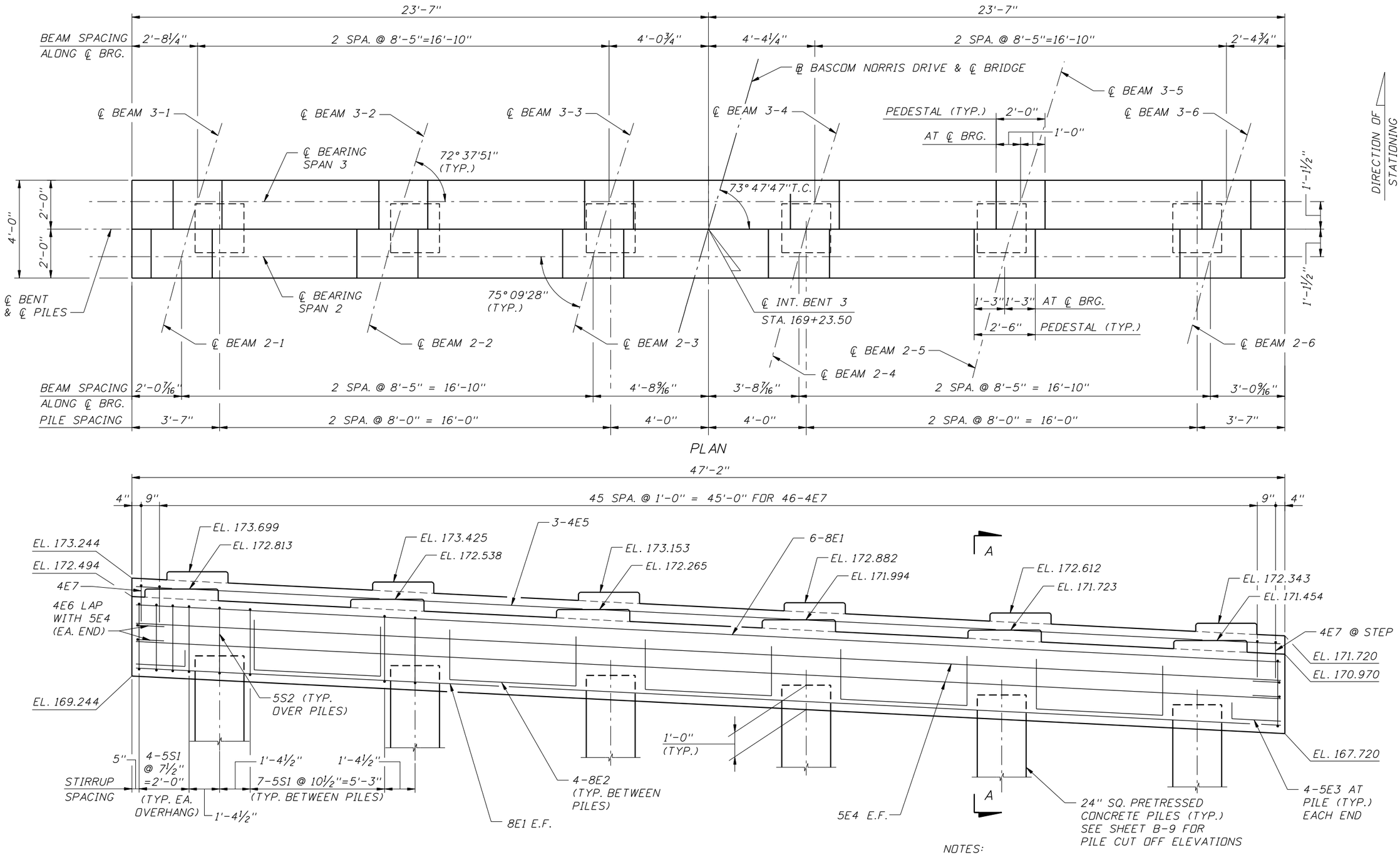

PLAN

ELEVATION

NOTES:

1. FOR SECTION A-A, ESTIMATED QUANTITIES, AND PEDESTAL REINFORCING, SEE SHEET B-16.
2. FOR REINFORCING LIST, SEE SHEET B-31.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: INTERMEDIATE BENT 3

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-15

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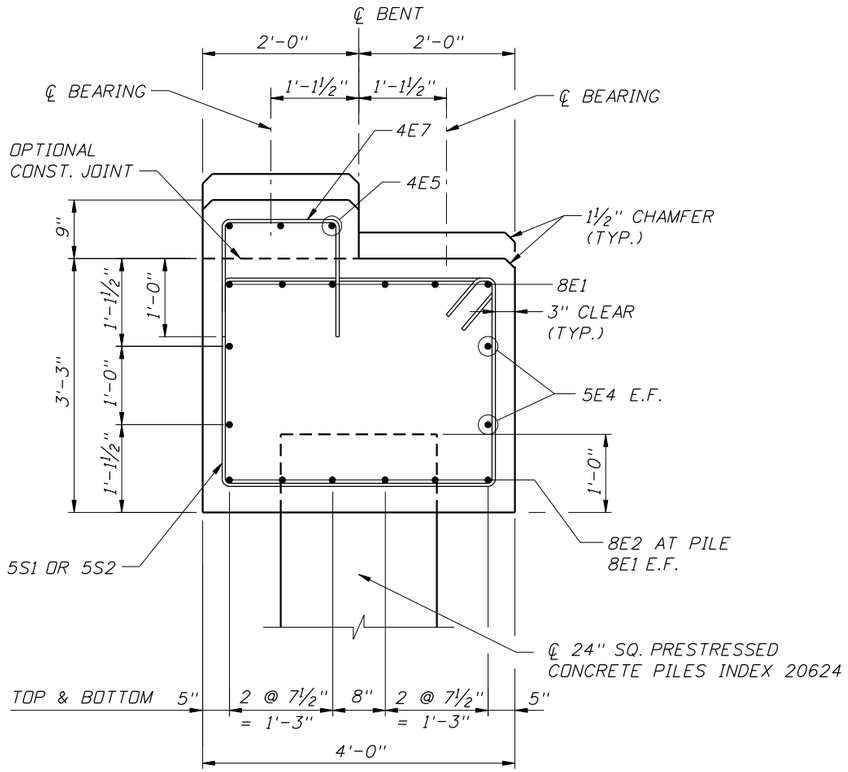
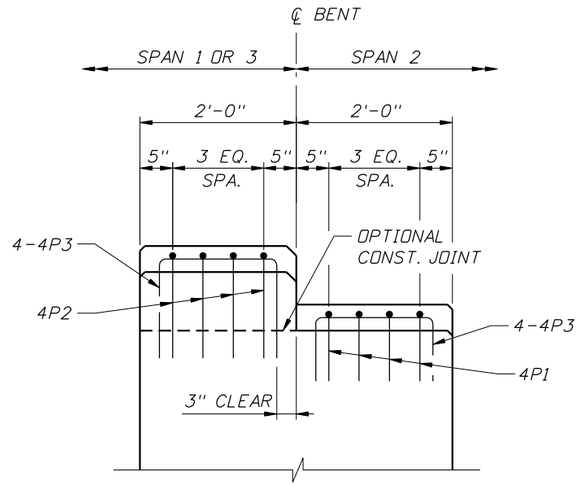
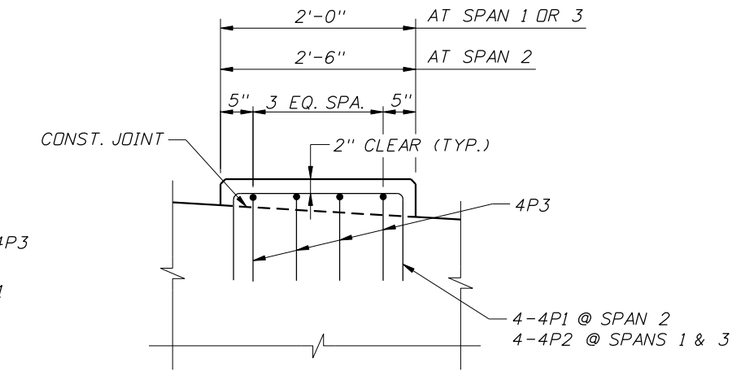


SECTION A-A



SECTION



ELEVATION

NOTE:

IF THE OPTIONAL CONSTRUCTION JOINT AT THE STEP IS USED, BARS 4P2 MUST BE INSTALLED WITH THE PILE CAP BELOW OR THE LEGS MUST BE HOOKED TO FIT WITHIN THE STEP.

PEDESTAL DETAILS

ESTIMATED QUANTITIES				
ITEM		UNIT	INT. BENT 2	INT. BENT 3
CLASS IV CONCRETE (SUBSTRUCTURE)	CAP	C.Y.	21.7	21.8
	STEP	C.Y.	2.6	2.6
	PEDESTALS	C.Y.	0.7	0.7
	TOTAL		25.0	25.1
REINFORCING STEEL (SUBSTRUCTURE)		LB.	2,789	2,800
24" SQ. PRESTRESSED CONCRETE PILES		L.F.	**	**

** SEE SUMMARY OF BRIDGE PAY ITEMS

NOTE:

WORK THIS SHEET WITH B-14 AND B-15.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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Certificate of Authorization No. 4213

COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: INTERMEDIATE BENT DETAILS

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-16

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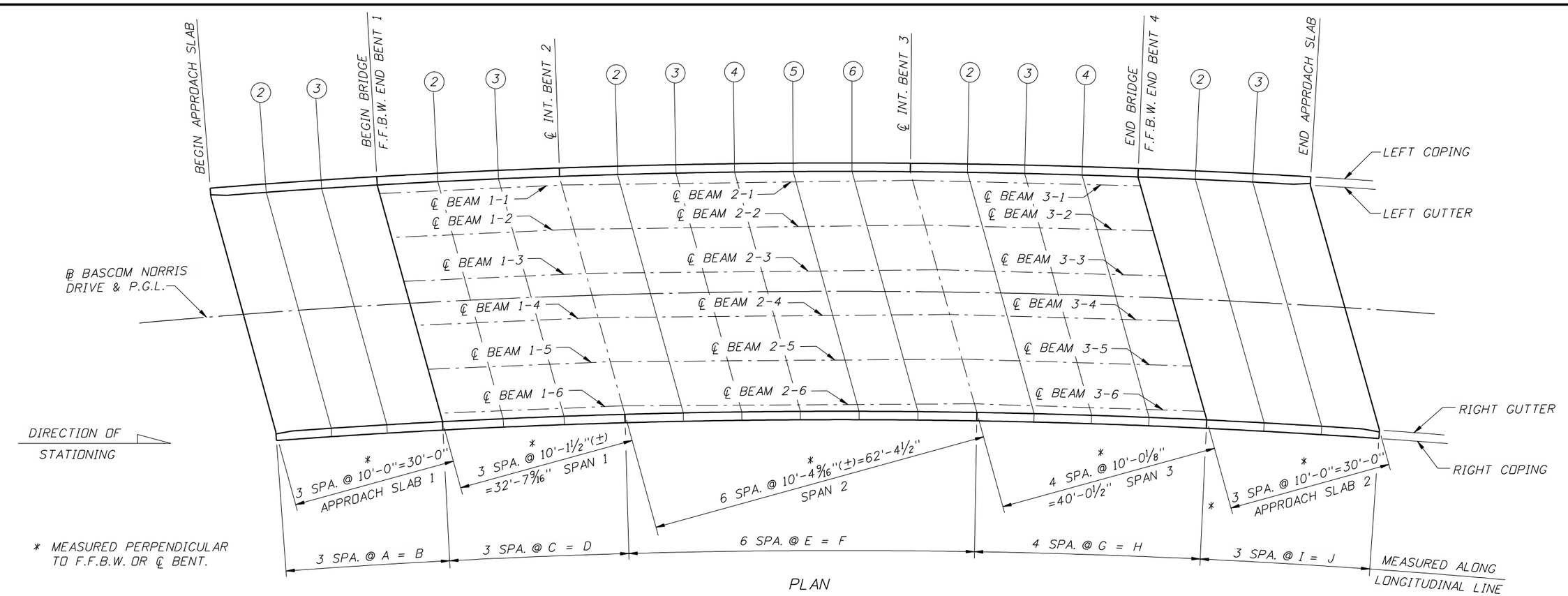
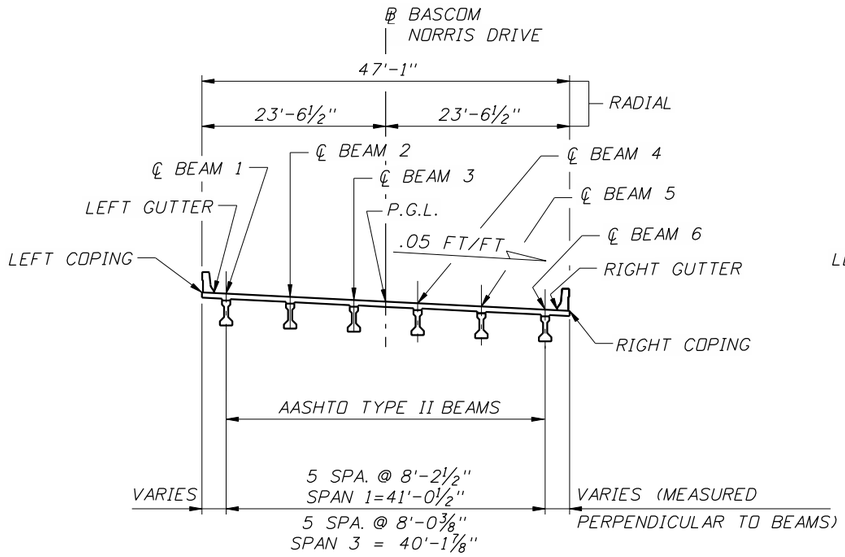
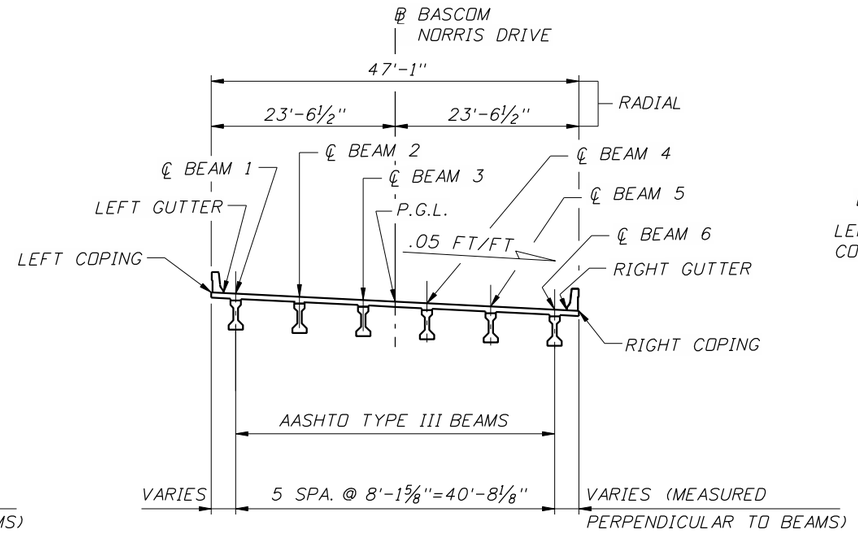


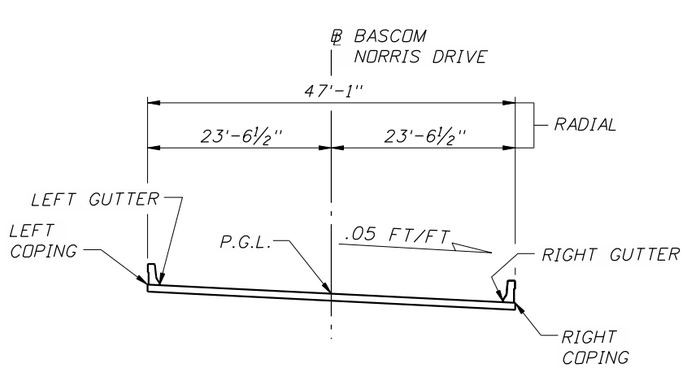
PLAN



SECTION AT SPANS 1 & 3



SECTION AT SPAN 2



SECTION AT APPROACH SLAB

NOTE:

FOR TABLE OF ELEVATIONS AND DIMENSIONS A THROUGH J, SHEET SEE B-18.

TYPICAL SECTIONS SHOWING LOCATIONS OF ELEVATIONS

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
–					

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: FINISH GRADE ELEVATIONS (1 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-17

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FINISH GRADE ELEVATIONS APPROACH SLABS

LOCATION	APPROACH SLAB AT BEGIN BRIDGE				APPROACH SLAB AT END BRIDGE			
	BEGIN APPROACH SLAB	2	3	BEGIN BRIDGE F.F.B.W. END BENT 1	END BRIDGE F.F.B.W. END BENT 4	2	3	END APPROACH SLAB
LEFT COPING	170.365	170.967	171.570	172.174	180.187	180.742	181.290	181.831
LEFT GUTTER	170.305	170.890	171.493	172.097	180.110	180.664	181.213	181.771
P.G.L.	169.442	170.054	170.666	171.280	179.385	179.944	180.496	181.041
RIGHT GUTTER	168.587	169.226	169.848	170.472	178.669	179.232	179.788	180.320
RIGHT COPING	168.527	169.149	169.771	170.395	178.592	179.155	179.711	180.260

FINISH GRADE ELEVATIONS BRIDGE

LOCATION	SPAN 1				SPAN 2						SPAN 3			
	F.F.B.W. END BENT 1	2	3	℄ INT. BENT 2	2	3	4	5	6	℄ INT. BENT 3	2	3	4	F.F.B.W. END BENT 4
LEFT COPING	172.174	172.832	173.492	174.152	174.784	175.416	176.046	176.669	177.286	177.895	178.478	179.054	179.624	180.187
LEFT GUTTER	172.097	172.755	173.414	174.075	174.706	175.339	175.969	176.592	177.209	177.818	178.401	178.977	179.547	180.110
℄ BEAM 1	172.045	172.700	173.360	174.024	174.648	175.277	175.905	176.529	177.149	177.765	178.340	178.912	179.480	180.044
℄ BEAM 2	171.739	172.398	173.063	173.731	174.359	174.992	175.623	176.250	176.872	177.491	178.069	178.643	179.213	179.779
℄ BEAM 3	171.434	172.098	172.766	173.440	174.072	174.709	175.343	175.972	176.597	177.218	177.798	178.375	178.947	179.515
P.G.L.	171.280	171.949	172.619	173.290	173.932	174.574	175.210	175.839	176.460	177.075	177.663	178.244	178.818	179.385
℄ BEAM 4	171.130	171.799	172.472	173.150	173.789	174.427	175.063	175.695	176.323	176.947	177.529	178.108	178.683	179.253
℄ BEAM 5	170.827	171.501	172.179	172.861	173.503	174.146	174.786	175.420	176.051	176.676	177.262	177.843	178.419	178.992
℄ BEAM 6	170.526	171.204	171.887	172.574	173.220	173.867	174.509	175.146	175.779	176.408	176.995	177.578	178.158	178.732
RIGHT GUTTER	170.472	171.152	171.833	172.515	173.167	173.817	174.459	175.093	175.721	176.341	176.933	177.519	178.097	178.669
RIGHT COPING	170.395	171.074	171.756	172.438	173.090	173.740	174.382	175.016	175.644	176.264	176.856	177.442	178.020	178.592

TABLE OF DIMENSIONS

MEASURED ALONG	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G	DIM. H	DIM. I	DIM. J
LEFT COPING	10'-2 3/16"(±)	30'-7 3/4"	11'-2 1/16"(±)	33'-6 1/8"	10'-9"(±)	64'-6"	10'-5 15/16"(±)	41'-11 13/16"	10'-6 1/2"(±)	31'-7 1/16"
LEFT GUTTER	10'-2 1/16"(±)	30'-7 3/8"	11'-1 7/8"(±)	33'-5 11/16"	10'-8 7/8"(±)	64'-5 3/16"	10'-5 13/16"(±)	41'-11 5/16"	10'-6 5/16"(±)	31'-7"
BEAMS 1 THRU 6	N.A.	N.A.	11'-1 15/16"(±)	33'-5 3/4"	10'-8 15/16"(±)	64'-5 11/16"	10'-6 3/16"(±)	42'-0 7/8"	N.A.	N.A.
P.G.L.	10'-3 3/16"(±)	30'-7 5/8"	11'-2"(±)	33'-6"	10'-9"(±)	64'-6"	10'-6"(±)	42'-0"	10'-6 9/16"(±)	31'-7 11/16"
RIGHT GUTTER	10'-2 5/8"(±)	30'-7 1/8"	11'-2 1/8"(±)	33'-6 5/16"	10'-9 1/8"(±)	64'-6 7/8"	10'-6 3/16"(±)	42'-0 3/4"	10'-6 3/4"(±)	31'-8 5/16"
RIGHT COPING	10'-2 1/2"(±)	30'-7 1/16"	11'-1 15/16"(±)	33'-5 7/8"	10'-9"(±)	64'-6"	10'-6 1/16"(±)	42'-0 3/16"	10'-6 5/8"(±)	31'-7 15/16"

NOTE: WORK THIS SHEET WITH SHEET B-17.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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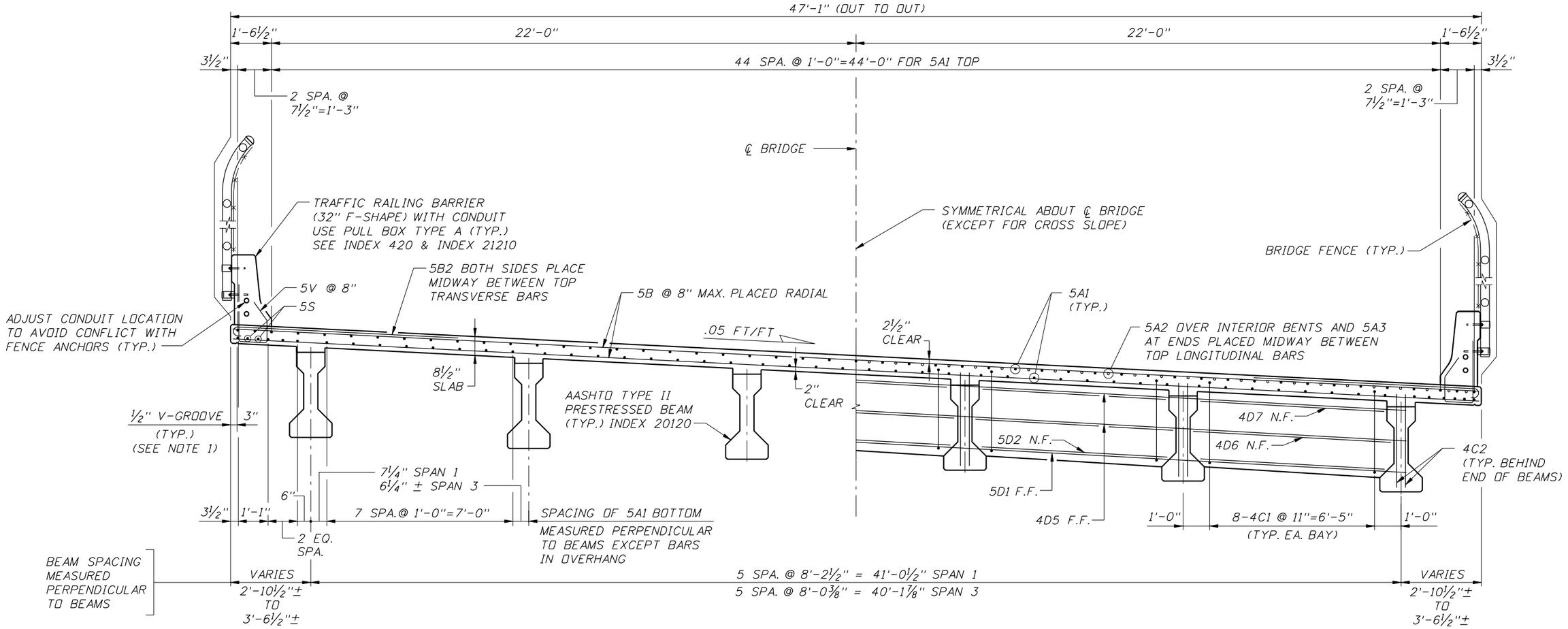
COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: FINISH GRADE ELEVATIONS (2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-18



HALF SECTION

HALF END SECTION

TYPICAL SECTION @ SPAN 1 & SPAN 3

ESTIMATED QUANTITIES						
ITEM		UNIT	SPAN 1	SPAN 2	SPAN 3	TOTAL
CLASS II CONCRETE (SUPERSTRUCTURE)	SLAB & BUILD-UP	C.Y.	42.0	82.2	52.7	176.9
	DIAPHRAGMS		6.6	7.8	6.6	21.0
	TOTAL		48.6	90.0	59.3	197.9
REINFORCING STEEL (SUPERSTRUCTURE)		LB.				46,718
CONCRETE TRAFFIC RAILING-BRIDGE (32" F-SHAPE)		L.F.				405
BRIDGE FENCE		L.F.	138.0 EACH BARRIER.			276.0

NOTES:
1. TERMINATE ½" V-GROOVE 6" FROM VERTICAL SURFACE.
2. REINFORCING STEEL IN BARRIER MAY BE SHIFTED SLIGHTLY TO AVOID CONFLICTS.
3. FOR DECK REINFORCING LAYOUT, SEE SHEET B-21.
4. DIMENSIONS SHOWN ARE PERPENDICULAR TO ℄ BRIDGE UNLESS NOTED OTHERWISE.
5. FOR SECTIONS AT DIAPHRAGMS AND STAY-IN-PLACE FORM DETAILS, SEE SHEETS B-22 & B-23.
6. FOR REINFORCING BAR LIST, SEE SHEET B-32.
7. FOR BRIDGE FENCE DETAILS, SEE SHEETS B-3 AND B-4.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION SPANS 1 & 3

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-19

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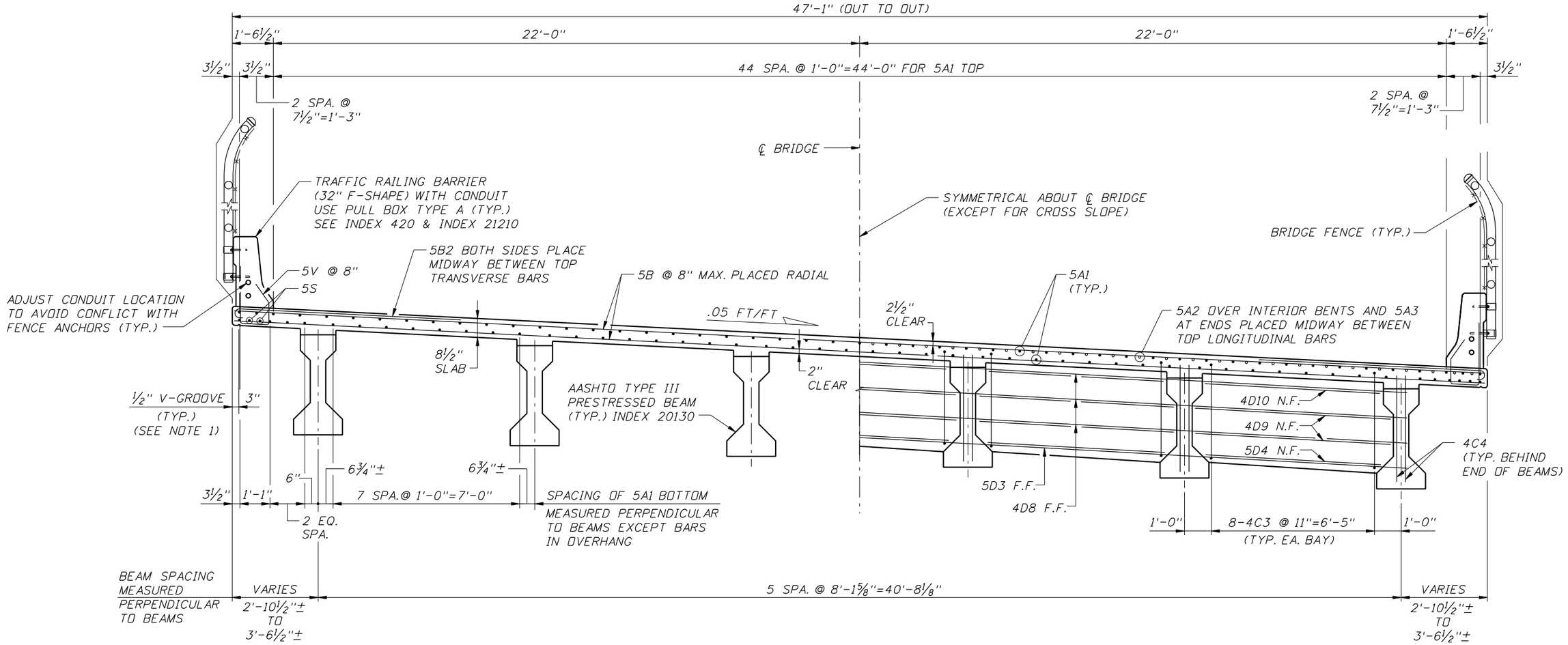
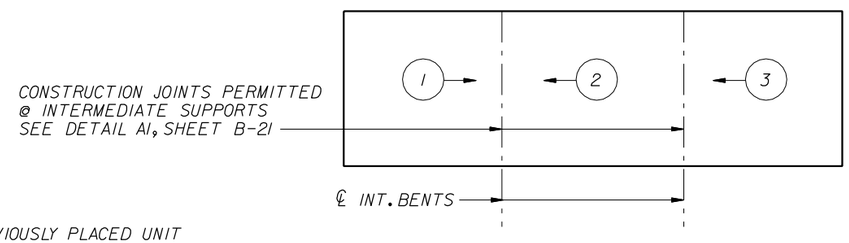


HALF SECTION

HALF END SECTION

TYPICAL SECTION @ SPAN 2



SLAB POURING SCHEDULE

(X) → DIRECTION AND SEQUENCE OF DECK SLAB POUR

SLAB POURING NOTES:

1. PLACE NO UNIT ADJACENT TO A PREVIOUSLY PLACED UNIT WHICH IS NOT A MINIMUM OF 72 HOURS OLD.
2. AFTER PLACEMENT OF THE FIRST UNIT, BEGIN SUCCESSIVE PLACEMENTS AT THE END AWAY FROM AND PROCEED TOWARD THE PREVIOUSLY PLACED UNIT.

NOTES:

1. TERMINATE ½" V-GROOVE 6" FROM VERTICAL SURFACE.
2. REINFORCING STEEL IN BARRIER MAY BE SHIFTED SLIGHTLY TO AVOID CONFLICTS.
3. FOR DECK REINFORCING LAYOUT, SEE SHEET B-21.
4. DIMENSIONS SHOWN ARE PERPENDICULAR TO ℄ BRIDGE UNLESS NOTED OTHERWISE.
5. FOR SECTIONS AT DIAPHRAGMS AND STAY-IN-PLACE FORM DETAILS, SEE SHEET B-22 & B-23.
6. FOR REINFORCING BAR LIST, SEE SHEET B-32.
7. FOR BRIDGE FENCE, SEE SHEETS B-3 AND B-4.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

ENGINEER OF RECORD:
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Certificate of Authorization No. 4213

COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: TYPICAL SECTION SPAN 2

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-20

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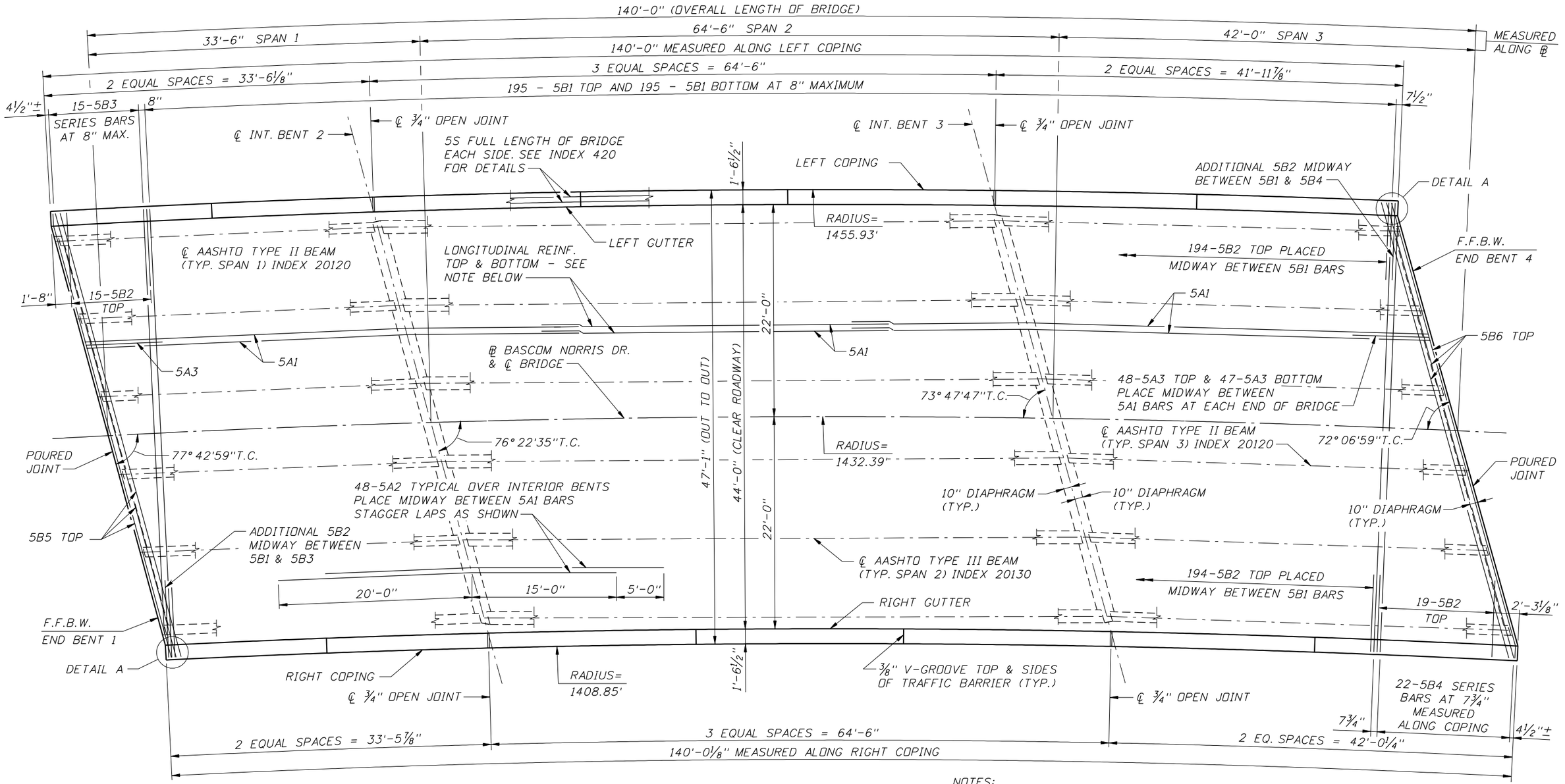
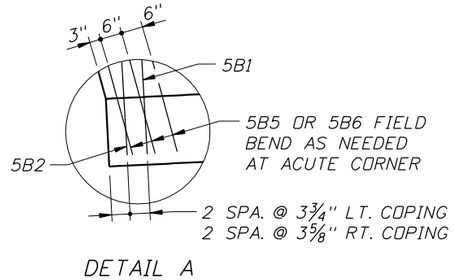


DECK PLAN



DETAIL A

LONGITUDINAL REINFORCING NOTE:

PLACE 5A1 CONTINUOUS REINFORCING IN TOP AND BOTTOM OF SLAB AS SHOWN ON THE TYPICAL SECTIONS. A TOTAL OF 49-5A1 TOP AND 48-5A1 BOTTOM REQUIRED AT EACH CROSS SECTION.

NOTES:

1. FOR TYPICAL CROSS SECTIONS, ESTIMATED QUANTITIES, EXPANSION JOINT DETAILS AND SLAB POURING SEQUENCE, SEE SHEETS B-19 AND B-20.
2. FOR LONGITUDINAL SECTIONS AND STAY-IN-PLACE FORM DETAILS, SEE SHEETS B-22 & B-23.
3. LAP 5A1 BARS 2'-0" MIN.
4. PLACE 5B1 THRU 5B4 BARS RADIAL.
5. SEE SHEET B-32 FOR REINFORCING LIST.
6. SEE SHEET B-24 FOR FRAMING PLAN.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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Certificate of Authorization No. 4213

COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: DECK PLAN

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-21

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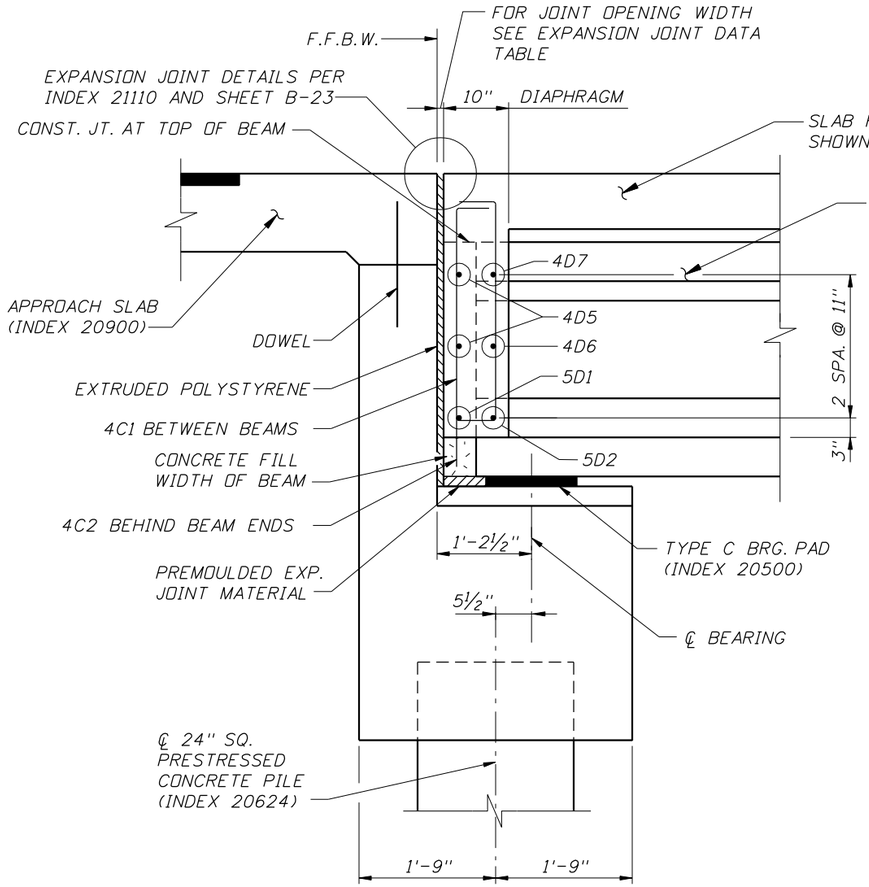
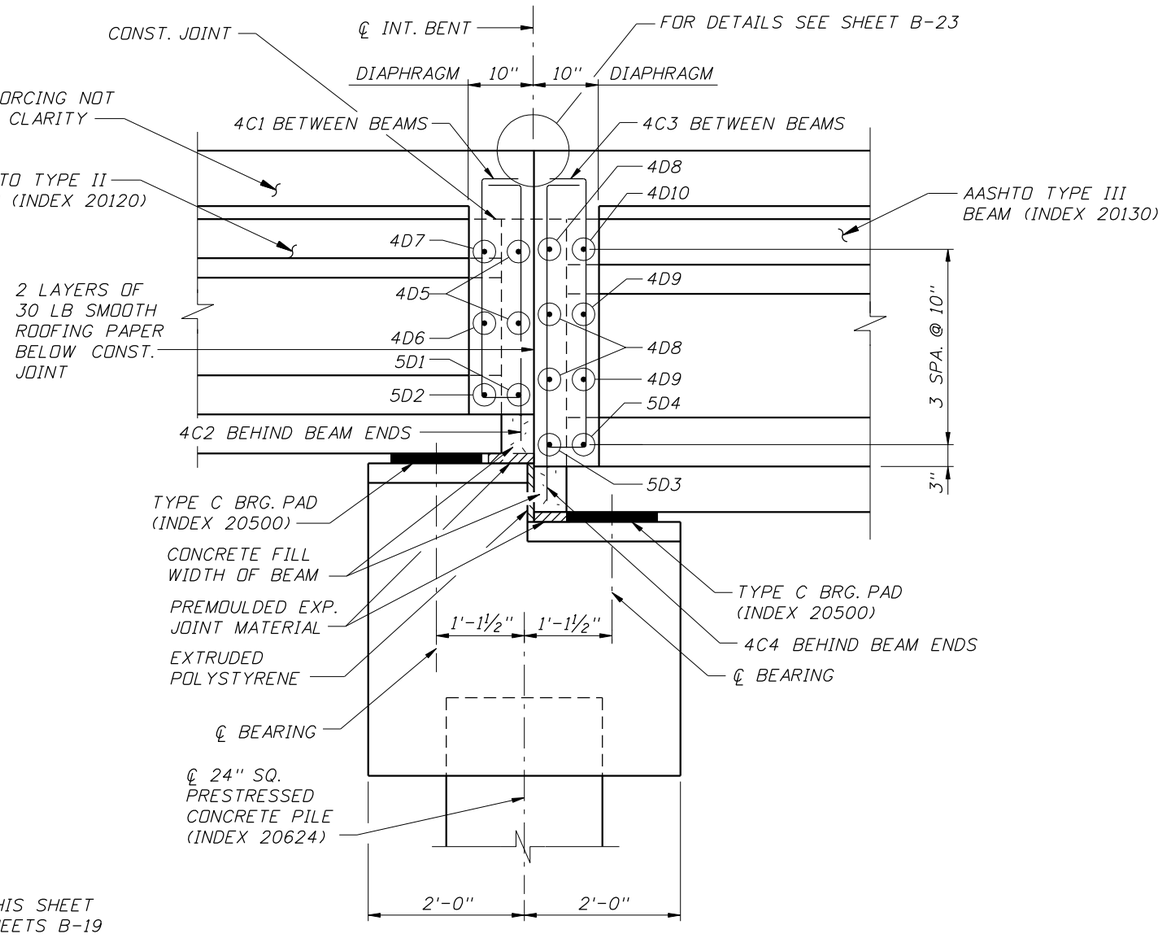




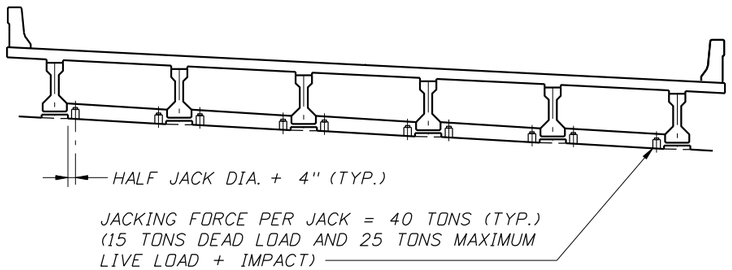
NOTE: WORK THIS SHEET WITH SHEETS B-19 THRU B-21 & B-23

SECTION AT END BENT

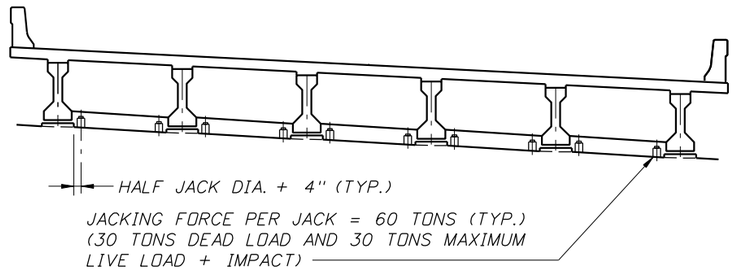
SECTION AT INTERMEDIATE BENT

JACKING NOTES:

1. 10 JACKS ABLE TO SUSTAIN JACKING FORCE SHOWN SHALL BE PLACED AS SHOWN IN SECTIONS. PLACE JACK AT CENTERLINE OF 10" DIAPHRAM.
2. JACKING FORCE (SERVIVE LOADS) LISTED INCLUDES DEAD LOAD, LIVE LOAD AND IMPACT. ALL PRESTRESSED BEAMS AT ANY ONE BENT SHALL BE JACKED SIMULTANEOUSLY. JACKS SHALL BE PLACED ON A 9"x9"x½" STEEL BEARING PLATE AND SHALL BE EQUIPPED WITH LOCKING RINGS.
3. TRAFFIC MAY BE MAINTAINED DURING JACKING.
4. POSITIONS OF JACKS ARE SHOWN FOR FUTURE MAINTENANCE PURPOSES ONLY AND ARE NOT A PART OF THIS CONTRACT.



JACKING LOCATIONS
TYPE II BEAMS



JACKING LOCATIONS
TYPE III BEAMS

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
SUPERSTRUCTURE DETAILS (1 OF 2)

PROJECT NAME:
NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO.
B-22

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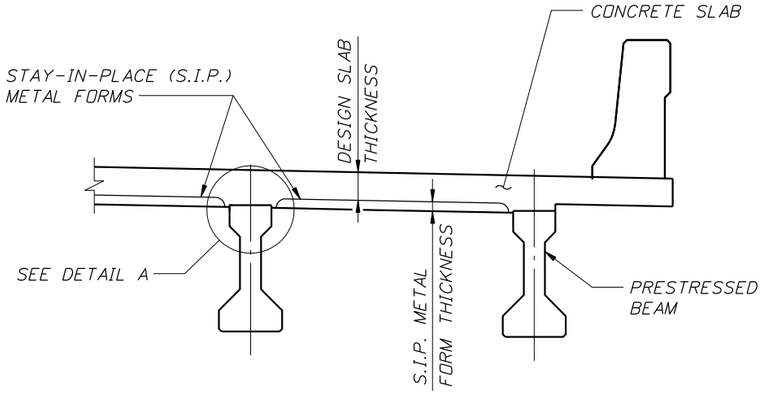
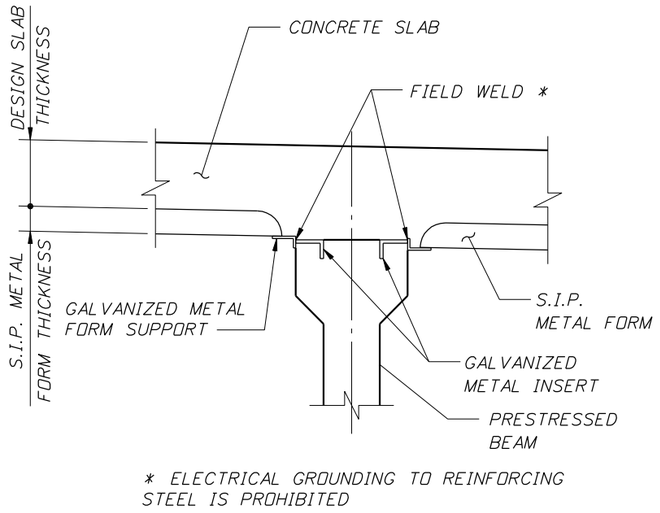
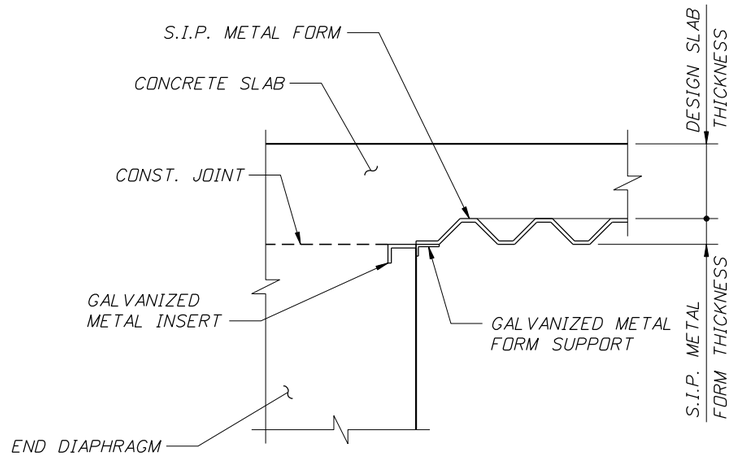


PARTIAL SECTION THRU SUPERSTRUCTURE



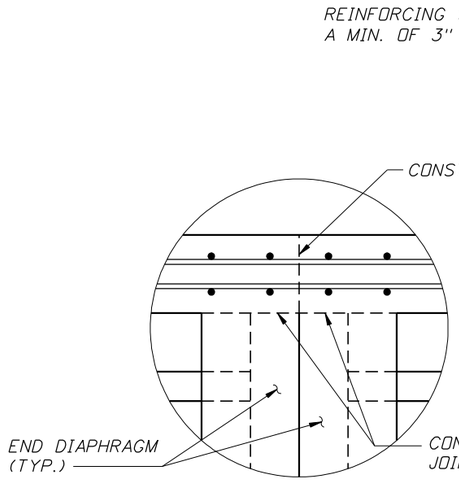
* ELECTRICAL GROUNDING TO REINFORCING STEEL IS PROHIBITED

DETAIL A

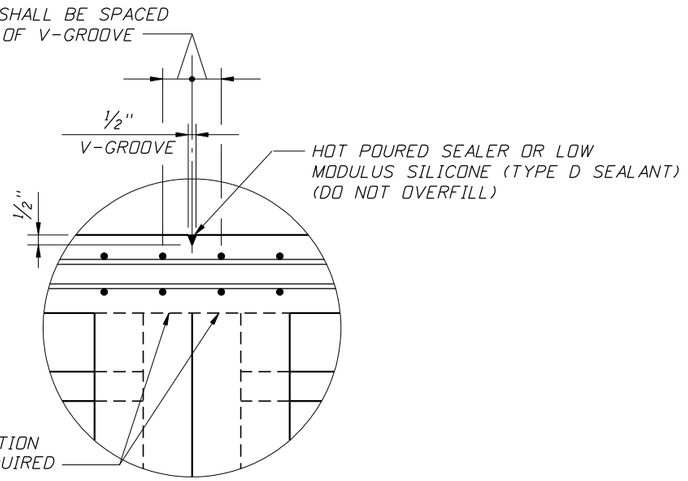


PARTIAL SECTION AT DIAPHRAGM

STAY-IN-PLACE METAL FORM DETAILS



DETAIL B



ALTERNATE DETAIL C

JOINT NOTES:

1. USE DETAIL B WHERE A POUR TERMINATES AT AN INTERMEDIATE SUPPORT.
2. USE DETAIL C WHERE DECK POURS ARE CONTINUOUS OVER INTERMEDIATE SUPPORTS.
3. COST OF CONSTRUCTING DETAIL C SHALL BE INCLUDED IN THE DECK CONCRETE. CONSTRUCT EITHER A TOOLED GROOVE OR V-GROOVE PLACED PRIOR TO THE CONCRETE OBTAINING INITIAL SET.
4. LOW MODULUS SILICONE (TYPE D) SEALANT MAY BE USED IN LIEU OF HOT-POURED SEAL IN GROOVE. ENSURE GROOVE IS CLEAN AND FREE OF GREASE AND DEBRIS BEFORE FILLING THE GROOVE.

DETAILS OF JOINTS AT INTERMEDIATE BENTS

NOTE:

1. CONCRETE QUANTITIES DO NOT INCLUDE CONCRETE REQUIRED TO FILL THE FORM FLUTES.
2. STAY-IN-PLACE FORMS, ATTACHMENTS, CONCRETE FOR FILLING THE FORM FLUTES AND MISCELLANEOUS ITEMS FOR FORM INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE SUPERSTRUCTURE CONCRETE.
3. SEE SECTION 400 OF THE SPECIFICATIONS FOR INSTALLATION REQUIREMENTS FOR S.I.P. FORMS AND SUPPORT COMPONENTS.

POURED EXPANSION JOINT DATA TABLE INDEX NO. 21110			Table Date 1-01-09
LOCATION	DIM. "A" @ 70°F	TOTAL DESIGN MOVEMENT	DIM. "A" ADJUSTMENT PER 10°F
END BENT 1	1"	½"	1/16"
END BENT 4	1"	½"	1/16"

NOTE:
Dim. "A" adjustment per 10°f shown is measured perpendiculau to ℄ Expansion Joint. Work this table with Design Standards Index No. 21110.

NOTE:

WORK THIS SHEET WITH SHEETS B-19 THRU B-22.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: SUPERSTRUCTURE DETAILS (2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-23

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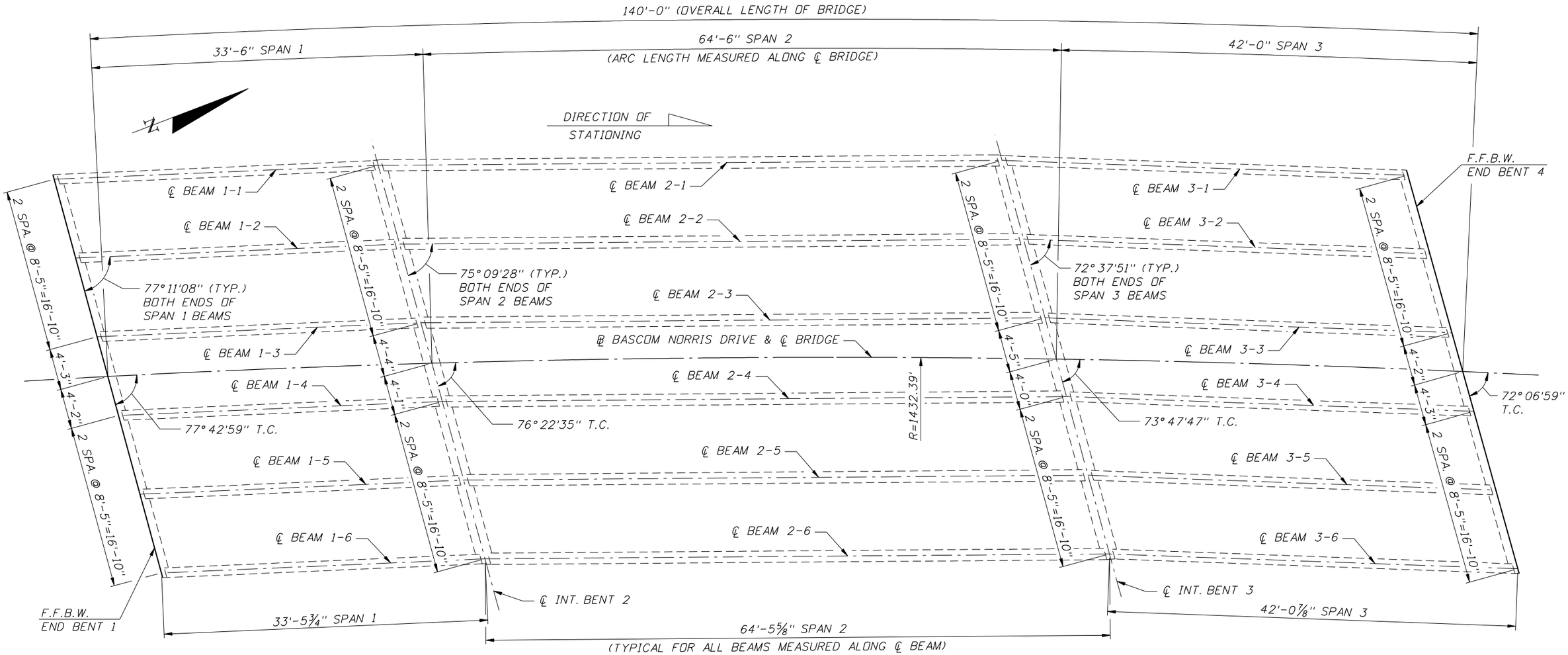

FRAMING PLAN

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: FRAMING PLAN

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-24

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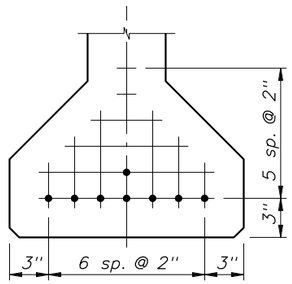
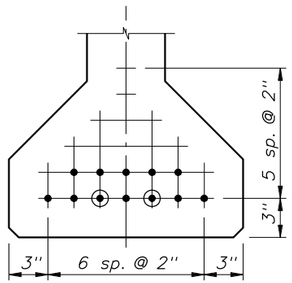
AASHTO TYPE II BEAM - TABLE OF BEAM VARIABLES

Table Date 1-01-06

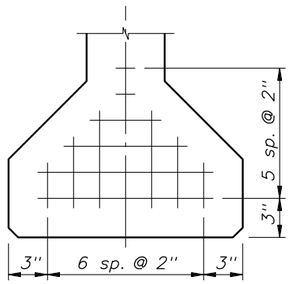
LOCATION		CONCRETE PROPERTIES			STND.	END	PLAN VIEW CASE		BRG. PLATE MARK ***		END OF BEAM & BEARING DIMENSIONS **						BEAM DIMENSIONS *		REINFORCING STEEL											
SPAN	BEAM	CLASS	STRENGTHS (psi)		PTRN.	ELEV.					ANGLE ∅		DIM P	DIM J	DIM K1	DIM K2			3D1		3D2		4K	NO. OF SPACES BARS 4K				SPACING BARS 4K *			
NO.	NO.		28 Day	Release	TYPE	COND.	END 1	END 2	END 1	END 2	END 1	END 2					DIM L	DIM R	B	Length	B	Length	NO.	S1	S2	S3	S4	V1	V2	V3	V4
	1																														
1	Thru	V	6500	5000	1	2	2	2	1A	1B	77	77	2 3/16"	8 1/2"	1'-2 1/2"	1'-1 1/2"	32'-7 5/8"	3/8"	1'-2 1/2"	4'-5"	1'-2 1/2"	4'-5"	57	7		8	1	6"		1'-0"	1'-7 13/16"
	6																														
	1																														
3	Thru	V	6500	5000	2	2	2	2	3A	3B	73	73	2"	8 1/2"	1'-1 1/2"	1'-2 1/2"	41'-2 1/2"	1/2"	1'-2 1/2"	4'-5"	1'-2 1/2"	4'-5"	75	12	5	7	1	6"	9"	1'-0"	8 1/4"
	6																														



TYPE (1) 8 STRANDS



TYPE (2) 12 STRANDS



TYPE (3) __ STRANDS

STRAND DESCRIPTION: Use 1/2" Diameter, Grade 270, LOW LAX Strands stressed at 31.0 kips each. Area per strand equals 0.153 sq. in.

STRAND PATTERNS

STRAND DEBONDING LEGEND

- ● - fully bonded strands.
- ⊙ - strands debonded 8'-0" from end of beam.
- ⊡ - strands debonded _'-__" from end of beam.
- ◬ - strands debonded _'-__" from end of beam.
- ◈ - strands debonded _'-__" from end of beam.

NOTE: On beams with skewed ends the debonded length shall be measured along the debonded strand.

NOTE: Work this sheet with Design Standards Index Nos. 20110 and 20120.

DIMENSION NOTES

* All longitudinal beam dimensions shown on this sheet with a single asterisk (*) are measured along the top of beam at the centerline of beam.

** End of beam bearing dimensions "J" and "K" are measured along the bottom of the beam.

BEARING PLATES

*** Mark indicates beveled bearing plate and embedded bearing plate required. See Index No. 20501 for details.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
AASHTO TYPE II BEAMS
TABLE OF BEAM VARIABLES

PROJECT NAME:
NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO.
B-25

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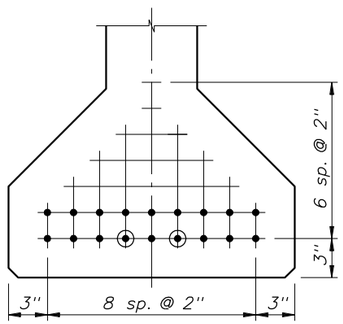
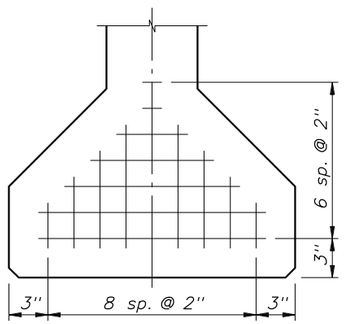
AASHTO TYPE III BEAM - TABLE OF BEAM VARIABLES

Table Date 1-01-06

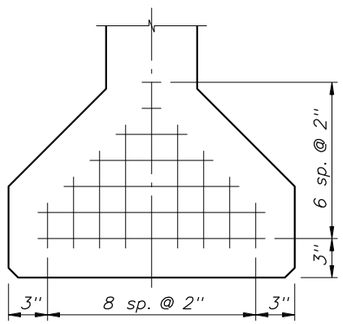
LOCATION		CONCRETE PROPERTIES			STND.	END	PLAN VIEW CASE		BRG. PLATE MARK ***		END OF BEAM & BEARING DIMENSIONS **						BEAM DIMENSIONS *		REINFORCING STEEL												
SPAN NO.	BEAM NO.	CLASS	STRENGTHS (psi) 28 Day	STRENGTHS (psi) Release	PTRN. TYPE	ELEV. COND.	END 1	END 2	END 1	END 2	ANGLE ∅ END 1	ANGLE ∅ END 2	DIM P	DIM J	DIM K1	DIM K2	DIM L	DIM R	3D1 B	3D1 Length	3D2 B	3D2 Length	4K NO.	NO. OF SPACES BARS 4K S1	S2	S3	S4	SPACING BARS 4K * V1	V2	V3	V4
	1																														
2	Thru 6	V	6500	5000	1	2	2	2	2A	2B	75	75	2⅝"	8½"	1'-1½"	1'-1½"	63'-9½"	¾"	1'-4½"	4'-8"	1'-4½"	4'-8"	99	3	20	11	1	6"	9"	1'-0"	8¾"



TYPE ① 18 STRANDS



TYPE ② __ STRANDS



TYPE ③ __ STRANDS

STRAND DESCRIPTION: Use ½" Diameter, Grade 270, LOW LAX Strands stressed at 31.0 kips each. Area per strand equals 0.153 sq. in.

STRAND PATTERNS

STRAND DEBONDING LEGEND

- ● - fully bonded strands.
- ⊙ - strands debonded 2'-0" from end of beam.
- ⊡ - strands debonded _'-__" from end of beam.
- ◬ - strands debonded _'-__" from end of beam.
- ◈ - strands debonded _'-__" from end of beam.

NOTE: On beams with skewed ends the debonded length shall be measured along the debonded strand.

NOTE: Work this sheet with Design Standards Index Nos. 20110 and 20130.

DIMENSION NOTES

* All longitudinal beam dimensions shown on this sheet with a single asterisk (*) are measured along the top of beam at the centerline of beam.

** End of beam bearing dimensions "J" and "K" are measured along the bottom of the beam.

BEARING PLATES

*** Mark indicates beveled bearing plate and embedded bearing plate required. See Index No. 20501 for details.

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: AASHTO TYPE III BEAMS TABLE OF BEAM VARIABLES

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-26

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BUILD-UP & DEFLECTION DATA TABLE FOR AASHTO AND BULB-T BEAMS

Table Date 7-01-08

LOCATION		REQUIRED THEORETICAL BUILD-UP OVER ℄ BEAM *			NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS	DEAD LOAD DEFLECTION DURING DECK POUR @ 120 DAYS DIM "A"	BUILD-UP CASE NO.
SPAN NO.	BEAM NO.	AT BEGIN SPAN DIM "B"	AT ℄ SPAN DIM "C"	AT END SPAN DIM "D"			
	1						
1	Thru	1¼"	⅞"	1¼"	½"	⅛"	3
	6						
	1						
2	Thru	1¾"	⅞"	1¾"	1½"	⅝"	3
	6						
	1						
3	Thru	1⅜"	⅞"	1⅜"	⅞"	¼"	3
	6						

BUILD-UP & DEFLECTION DATA TABLE FOR AASHTO AND BULB-T BEAMS

Table Date 7-01-08

LOCATION		REQUIRED THEORETICAL BUILD-UP OVER ℄ BEAM *			NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS	DEAD LOAD DEFLECTION DURING DECK POUR @ 120 DAYS DIM "A"	BUILD-UP CASE NO.
SPAN NO.	BEAM NO.	AT BEGIN SPAN DIM "B"	AT ℄ SPAN DIM "C"	AT END SPAN DIM "D"			

BUILD-UP & DEFLECTION DATA TABLE FOR AASHTO AND BULB-T BEAMS

Table Date 7-01-08

LOCATION		REQUIRED THEORETICAL BUILD-UP OVER ℄ BEAM *			NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS	DEAD LOAD DEFLECTION DURING DECK POUR @ 120 DAYS DIM "A"	BUILD-UP CASE NO.
SPAN NO.	BEAM NO.	AT BEGIN SPAN DIM "B"	AT ℄ SPAN DIM "C"	AT END SPAN DIM "D"			

NOTES: Work this sheet with Design Standard Index No. 20199.

* Provide Supplemental Bars J where build-up ≥ 2½". See Index No. 20110 for details and notes.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
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DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: BUILDUP & DEFLECTION DATA TABLE

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-27

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BEARING PAD DATA TABLE

Table Date 1-01-08

SPAN NO(s).	BEAM NO(s).	PAD TYPE	BEAM TYPE	BEAM END *
1	1-6	C	11	BOTH
2	1-6	C	111	BOTH
3	1-6	C	11	BOTH

NOTE:
Work this table with Index No. 20500 for Pad Types A, B & C and/or any project specific bearing pads.
* END 1 = Begin Bridge end of beam (Back station).
END 2 = End Bridge end of beam (Ahead station).

BEARING PLATE DATA TABLE

Table Date 1-01-08

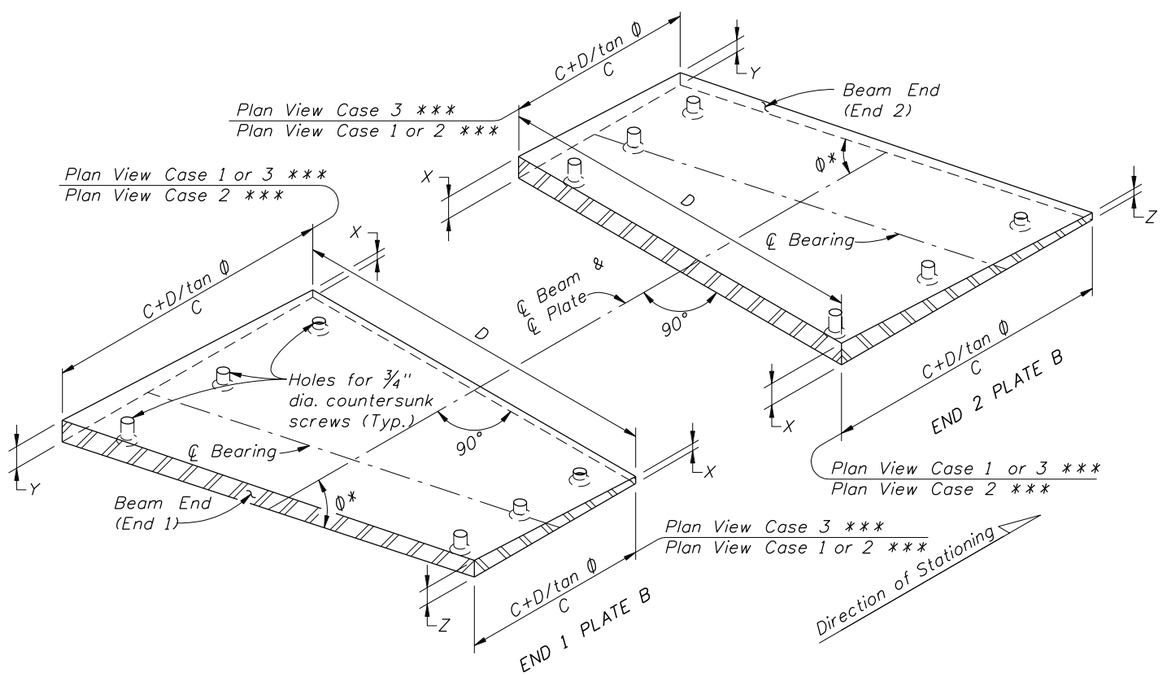
GENERAL BEARING PLATE DATA								EMBEDDED PLATE DIMENSIONS (PLATE A) (inches)			BEVELED PLATE REQUIRED (Yes/No)	BEVELED PLATE DIMENSIONS (PLATE B) (inches)					
BRG. PLATE MARK ***	SPAN NO(s).	BEAM NO(s).	PAD TYPE	BEAM END	PLAN VIEW CASE	SLOPE (%) **	ANGLE Ø *	C	D	C+D/TAN Ø		C	D	C+D/TAN Ø	X	Y	Z
1A	1	1-6	C	1	2	6.0	77	14	16	17 11/16	Yes	14	16	17 11/16	1 3/16	1/2	3/4
1B	1	1-6	C	2	2	6.0	77	14	16	17 11/16	Yes	14	16	17 11/16	1/2	1 5/16	1 3/16
2A	2	1-6	C	1	2	6.0	75	14	20	19 3/8	Yes	14	20	19 3/8	1 3/16	1/2	13/16
2B	2	1-6	C	2	2	5.65	75	14	20	19 3/8	Yes	14	20	19 3/8	1/2	1 3/16	1 1/2
3A	3	1-6	C	1	2	5.65	73	14	16	18 7/8	Yes	14	16	18 7/8	1 3/16	1/2	3/4
3B	3	1-6	C	2	2	5.35	73	14	16	18 7/8	Yes	14	16	18 7/8	1/2	1 1/4	1 1/2

NOTES:
* Ø = Acute angle (≤ 90°) measured from left or right side of ℄ Beam as required.
** Slope measured along ℄ of Beam at ℄ of Bearing.
*** See "TABLE OF BEAM VARIABLES" and Index No. 20110.
See Index No. 20501 for additional notes and details.

ESTIMATED BEARING PAD QUANTITIES

Table Date 01-01-07

PAD TYPE	NUMBER REQUIRED	QUANTITY (CF)
C	36	8.54



ISOMETRIC VIEW OF BEVELED BEARING PLATES
(SKEWED PLATES SHOWN, NON-SKEWED PLATES SIMILAR)

BRIDGE NO. 294457

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
ELASTOMERIC BEARINGS & BEARING PLATES

PROJECT NAME:
NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO.
B-28

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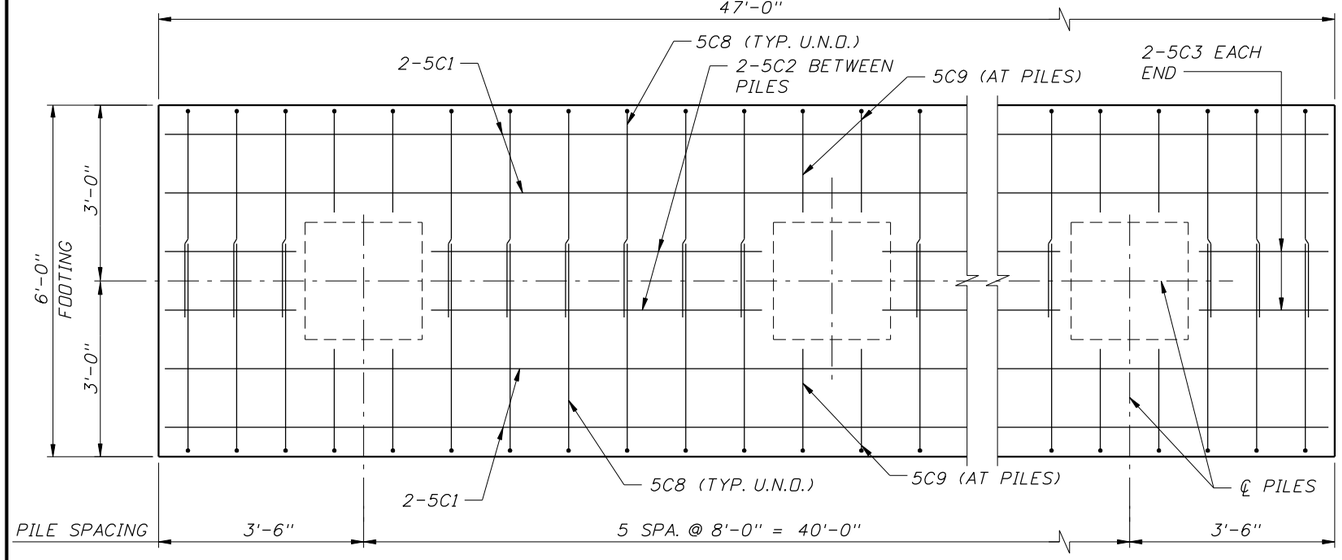
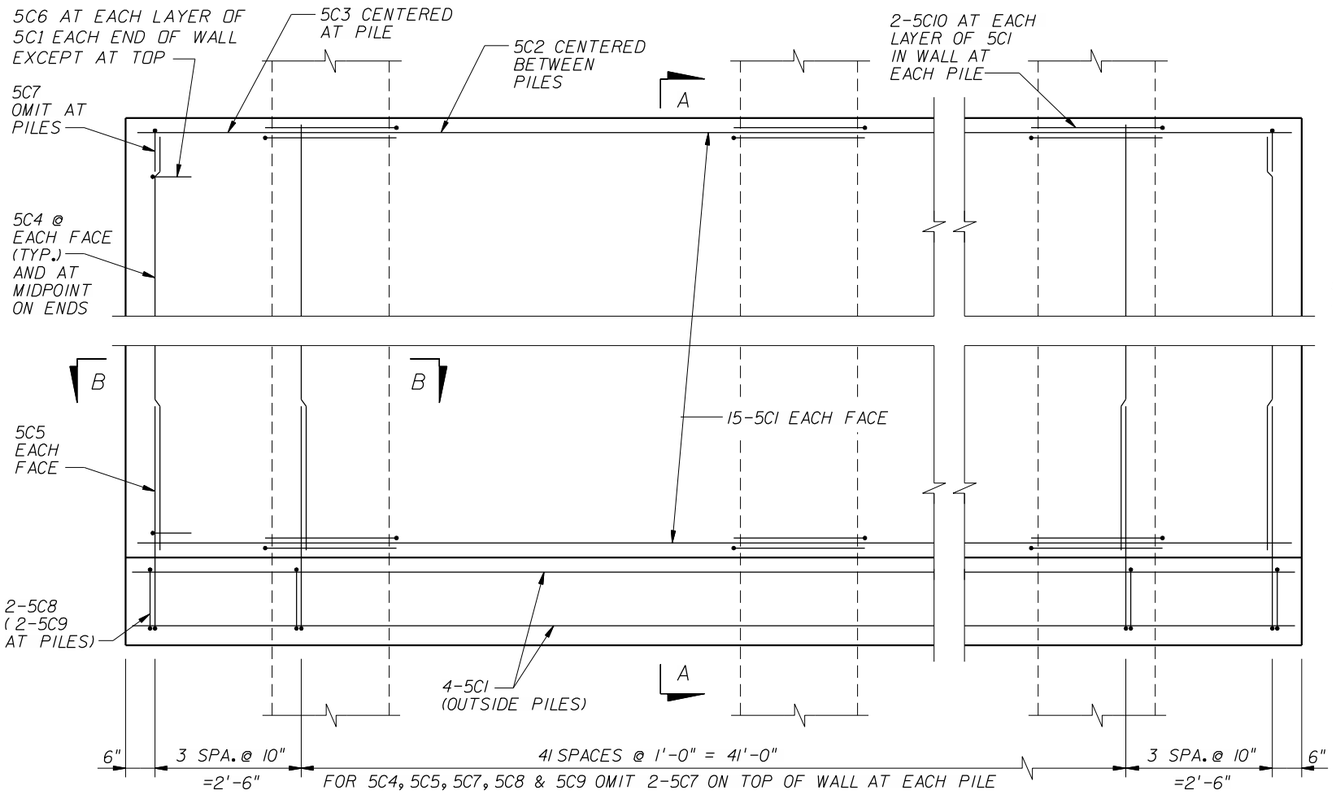
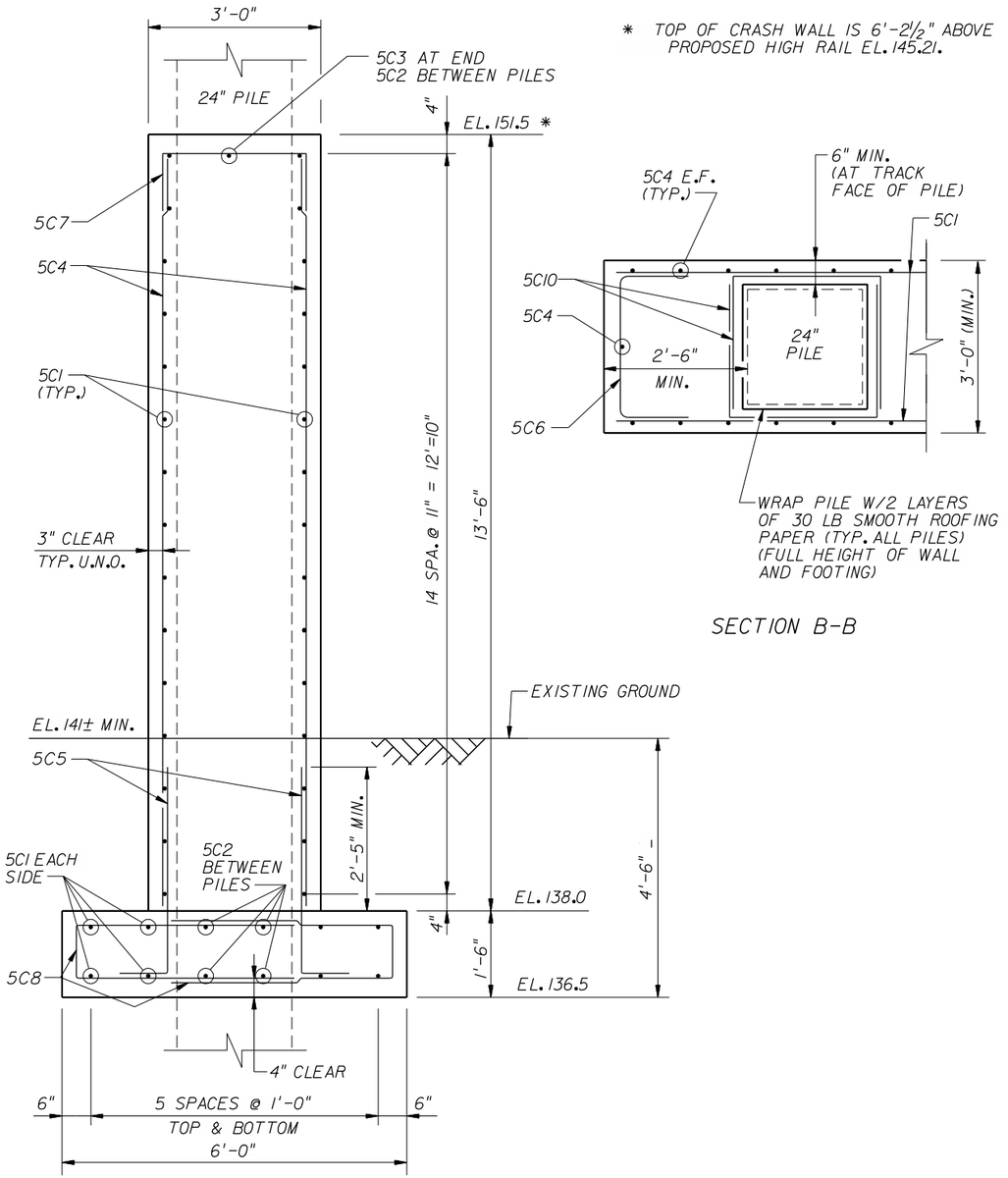


PLAN AT FOOTING



PARTIAL ELEVATION FOR REINFORCING



SECTION A-A

* TOP OF CRASH WALL IS 6'-2½" ABOVE PROPOSED HIGH RAIL EL. 145.21.

SECTION B-B

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (CRASHWALL)	C.Y.	72.8
REINFORCING STEEL (CRASHWALL)	LB.	6,169

BRIDGE NO. 294457

REVISIONS					
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COLUMBIA COUNTY

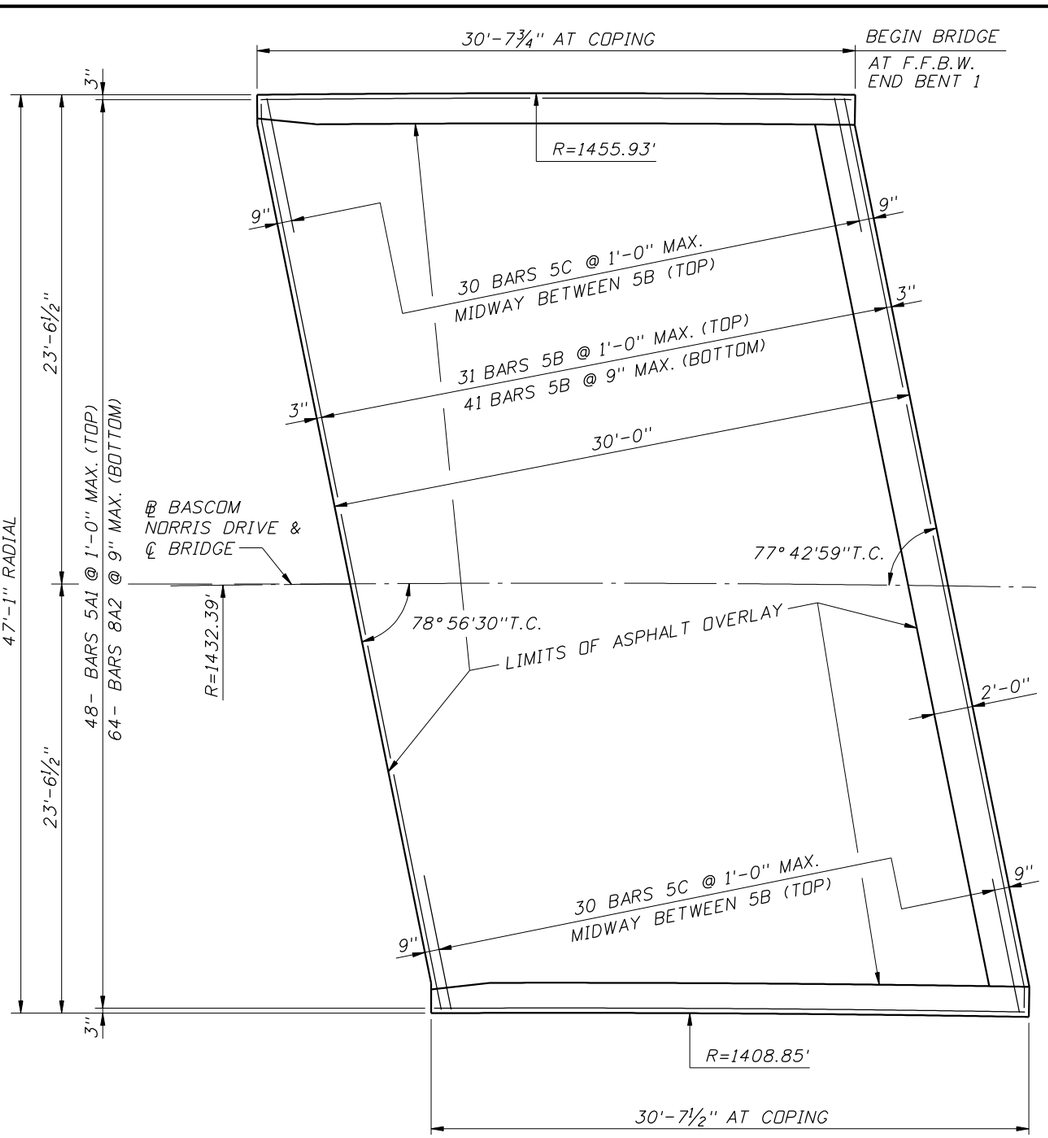
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: CRASH WALL DETAILS

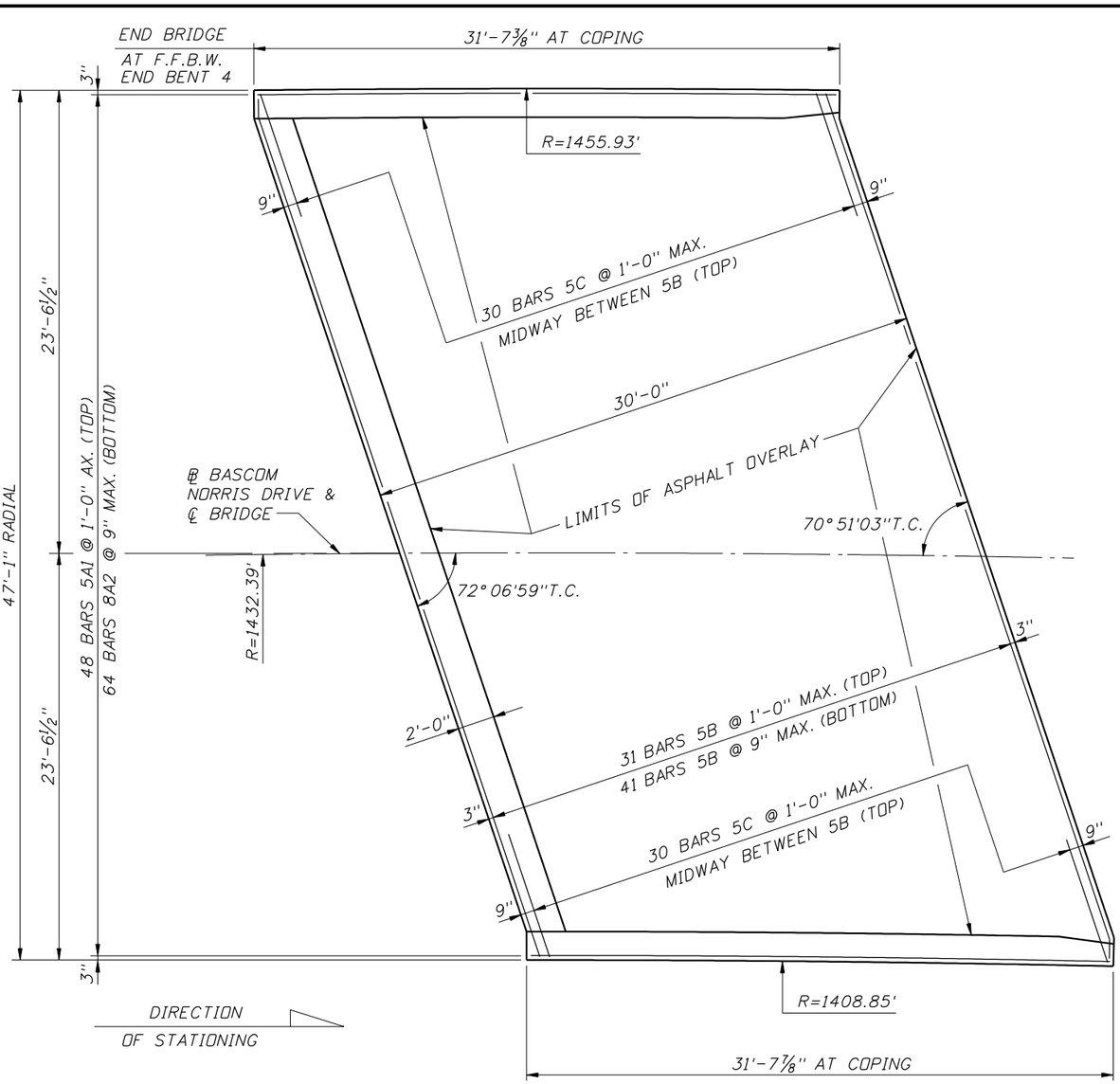
PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-29

RHelfric 10/14/2011 7:57:12 AM c:\owworking\jpa\d0133912\B29Crashwall.dgn



APPROACH SLAB NO. 1



APPROACH SLAB NO. 2

APPROACH SLAB INDEX NO. 20900 TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES								Table Date 7-01-05
LOCATION	DIMENSIONS					ANGLE ∅	REINFORCING STEEL (Lbs.)	CLASS II CONCRETE (C.Y.)
	L 1	L 2	M1	M2	N			
APPROACH SLAB NO. 1	30'-7⅜"	30'-7⅞"	1'-6½"	1'-6½"	SEE PLAN	SEE PLAN	10527	54.0
APPROACH SLAB NO. 2	31'-7"	31'-8⅜"	1'-6½"	1'-6½"	SEE PLAN	SEE PLAN	10860	56.0

NOTE: SEE INDEX 20900 FOR SECTIONS, NOTE AND DETAILS NOT SHOWN.

DIMENSION AND QUANTITY NOTES:

DIMENSIONS 'L 1' & 'L 2' ARE MEASURED ALONG GUTTER LINE, INSIDE FACE OF PARAPET OR INSIDE FACE OF RAILING ON RAISED SIDEWALKS.
DIMENSIONS 'L 1' & 'L 2' ARE ARC DIMENSIONS WITHIN CURVED ALIGNMENTS.

QUANTITIES SHOWN ARE FOR ONE APPROACH SLAB AND WHERE APPLICABLE, RAISED SIDEWALKS. QUANTITIES DO NOT INCLUDE ITEMS PLACED ON THE SLAB SUCH AS TRAFFIC RAILING, PEDESTRIAN/BICYCLE RAILINGS OR TRAFFIC SEPARATORS.

FOR TRAFFIC RAILING, PEDESTRIAN/BICYCLE RAILING AND TRAFFIC SEPARATOR QUANTITIES SEE BID ITEM LIST.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: APPROACH SLABS

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-30

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MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUBSTRUCTURE END BENT 1 NO. REQUIRED = 1																
8	E1	49-10	7	1			49-10									
8	E2	10-8	12	11			8-0	1-4	1-4							
5	E3	49-10	2	1			49-10									
4	E4	3-5	2	10			2-9	0-8								
4	E5	3-3	2	10			2-7	0-8								
4	E6	3-1	2	10			2-5	0-8								
4	E7	49-10	8	1			49-10									
4	E8	5-0	96	1			5-0									
5	S1	11-10	40	4	4	4	2-5	3-0								
5	S2	12-0	2	4	4	4	2-5	3-1								
5	S3	8-10	5	5			2-5	3-0	0-6	0-6						
4	W1	7-9½	28	1			VARY LENGTH UNIFORMLY (4 SETS OF 7)									
							MAXIMUM = 8-0									
							MINIMUM = 7-7									
							AVERAGE SHOWN									
4	W2	6-0	40	1			6-0									
4	P1	4-7	24	11			2-1	1-3								
4	P2	4-2	24	11			1-8	1-3								
6	D	1-6	12	1			1-6									

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUBSTRUCTURE END BENT 4 NO. REQUIRED = 1																
8	E1	51-2	7	1			51-2									
8	E2	10-8	12	11			8-0	1-4	1-4							
5	E3	51-2	2	1			51-2									
4	E4	3-9	2	10			3-1	0-8								
4	E5	3-6	2	10			2-10	0-8								
4	E6	3-3	2	10			2-7	0-8								
4	E7	51-2	8	1			51-2									
4	E8	5-0	98	1			5-0									
5	S1	11-10	40	4	4	4	2-5	3-0								
5	S2	12-2	2	4	4	4	2-5	3-2								
5	S3	8-10	5	5			2-5	3-0	0-6	0-6						
4	W1	6-10	32	1			VARY LENGTH UNIFORMLY (4 SETS OF 8)									
							MAXIMUM = 7-0									
							MINIMUM = 6-8									
							AVERAGE SHOWN									
4	W2	6-0	32	1			6-0									
4	P1	4-7	24	11			2-1	1-3								
4	P2	4-2	24	11			1-8	1-3								
6	D	1-6	12	1			1-6									

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUBSTRUCTURE INTERMEDIATE BENT 2 NO. REQUIRED = 1																
8	E1	46-4	8	1			46-4									
8	E2	7-11	20	11			5-3	1-4	1-4							
5	E3	2-8	8	10			1-10	0-10								
5	E4	46-4	4	1			46-4									
4	E5	46-4	3	1			46-4									
4	E6	5-4	4	11			3-4	1-0	1-0							
4	E7	4-6	48	11			1-6	1-6	1-6							
5	S1	13-6	41	4	4	4	2-9	3-6								
5	S2	10-0	6	5			2-9	3-6	0-6	0-6						
4	P1	4-8	24	11			2-2	1-3	1-3							
4	P2	4-2	24	11			1-8	1-3	1-3							
4	P3	4-0	48	11			1-6	1-3	1-3							

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUBSTRUCTURE INTERMEDIATE BENT 3 NO. REQUIRED = 1																
8	E1	46-8	8	1			46-8									
8	E2	7-11	20	11			5-3	1-4	1-4							
5	E3	2-10	8	10			2-0	0-10								
5	E4	46-8	4	1			46-8									
4	E5	46-8	3	1			46-8									
4	E6	5-4	4	11			3-4	1-0	1-0							
4	E7	4-6	48	11			1-6	1-6	1-6							
5	S1	13-6	41	4	4	4	2-9	3-6								
5	S2	10-0	6	5			2-9	3-6	0-6	0-6						
4	P1	4-8	24	11			2-2	1-3	1-3							
4	P2	4-2	24	11			1-8	1-3	1-3							
4	P3	4-0	48	11			1-6	1-3	1-3							

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION CRASHWALL NO. REQUIRED = 1																
5	C1	46-6	38	1			46-6									
5	C2	5-6	25	1			5-6									
5	C3	2-0	10	1			2-0									
5	C4	13-3	98	1			13-3									
5	C5	4-5	96	10			3-7	0-10								
5	C6	4-4	28	11			2-4	1-0	1-0							
5	C7	4-6	36	11			2-6	1-0	1-0							
5	C8	8-9	72	11			0-11	3-11	3-11							
5	C9	3-11	24	11			0-11	1-6	1-6							
5	C10	7-0	180	11			2-6	2-3	2-3							

NOTE : REFER TO INDEX 21300 FOR STANDARD BAR BENDING DETAILS.

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: REINFORCING BAR LIST (1 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-31

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUPERSTRUCTURE 3 SPAN UNIT NO. REQUIRED = 1																
DECK NO. OF LOCATIONS - 1																
5	A1	146-0	97	41			52-0	34-0	60-0				2-2		2	
5	A2	35-0	96	1			35-0									
5	A3	8-3	190	1			8-3									
5	B1	46-8	390	1			46-8									
5	B2	9-1	424	17	1		8-6									
5	B3	22-6	15	1			VARY LENGTH UNIFORMLY									
							MAXIMUM = 43'-7"									
							MINIMUM = 1'-5"									
							AVERAGE SHOWN									
5	B4	22-8½	22	1			VARY LENGTH UNIFORMLY									
							MAXIMUM = 44'-1"									
							MINIMUM = 1'-4"									
							AVERAGE SHOWN									
5	B5	47-10	3	1			47-10									
5	B6	49-0	3	1			49-0									
TYPE II BEAM DIAPHRAGMS NO. OF LOCATIONS - 4																
4	C1	7-3	40	4	4	4	2-9	0-6								
4	C2	3-3	12	1			3-3									
5	D1	42-3	1	1			42-3									
5	D2	7-2	5	1			7-2									
4	D5	42-3	8	1			42-3									
4	D6	7-7	5	1			7-7									
4	D7	7-1	5	1			7-1									
TYPE III BEAM DIAPHRAGMS NO. OF LOCATIONS - 2																
4	C3	8-9	40	4	4	4	3-6	0-6								
4	C4	4-0	12	1			4-0									
5	D3	42-4	1	1			42-4									
5	D4	6-10	5	1			6-10									
4	D8	42-4	6	1			42-4									
4	D9	7-5	10	1			7-5									
4	D10	6-9	5	1			6-9									

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUPERSTRUCTURE APPROACH SLAB 1 NO. REQUIRED = 1																
5	A1	30-1	48	1			30-1									
8	A2	30-1	64	1			30-1									
5	B	47-6	72	1			47-6									
5	C	5-0	60	1			5-0									
LOCATION SUPERSTRUCTURE APPROACH SLAB 2 NO. REQUIRED = 1																
5	A1	31-1	48	1			31-1									
8	A2	31-1	64	1			31-1									
5	B	49-0	72	1			49-0									
5	C	5-0	60	1			5-0									

NOTE : REFER TO INDEX 21300 FOR STANDARD BAR BENDING DETAILS.

BRIDGE NO. 294457

REVISIONS

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	NAMES	DATES
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CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: REINFORCING BAR LIST (2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-32

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Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table Date 01-01-07

Table 1 - LRFR using Appendix D.6 (LFD or ASD)

Level	Vehicle	Weight (tons)	Load Factors		Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:
			LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Interior/exterior beam DF method if other than Standard Spec. Other appropriate comments
Inventory (Strength)	HS-20	36.0	2.17	1.30											
Inventory (Service)	HS-20	36.0	1.0	1.0						N/A	N/A	N/A	N/A	N/A	
Operating (Strength)	HS-20	36.0	1.30	1.30											
	SU4	35.0	1.30	1.30											
	C5	40.0	1.30	1.30											
	ST5	40.0	1.30	1.30											

General Notes:

1. This table is based on the requirements established in the January 2009 "Structures Manual".

Table 2 Notes:

1. Permit capacity is determined by using the permit vehicle in all lanes.
2. If the Design Operating Load Rating is greater than 1, Load Rating using Legal Vehicles SU4, C5, and ST5 is not required.
3. Service III Design Inventory tensile stress limits = $3\sqrt{f'c}$ or $6\sqrt{f'c}$. Service III Design Operating, Legal, and Permit tensile stress limits = $7.5\sqrt{f'c}$.
4. Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? Yes ☒ No ☐

Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table Date 01-01-07

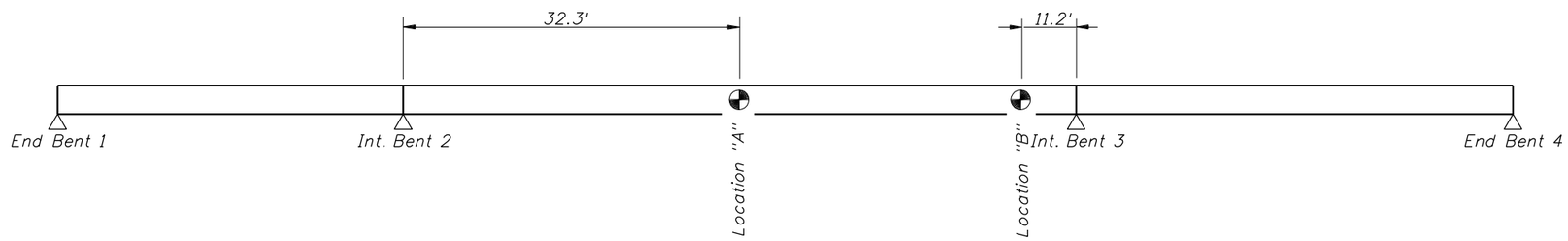
Table 2 - LRFR w/o Appendix D.6 (LFD)

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Interior/exterior beam DF method if other than LRFD. Other appropriate comments
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50	0.717	1.03	N/A	A	32.3	0.874	1.19	N/A	B	11.2	Interior Beam
	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50	0.717	1.32	N/A	A	32.3	0.874	1.54	N/A	B	11.2	Interior Beam
	Service III (Inv)	HL-93	N/A	0.80	1.00	1.00	0.717	1.19	N/A	A	32.3	N/A	N/A	N/A	N/A	N/A	Interior Beam
	Service III (Op)	HL-93	N/A	0.80	1.00	1.00	0.717	1.32	N/A	A	32.3	N/A	N/A	N/A	N/A	N/A	Interior Beam
Legal Load Rating	Strength I	SU4	35.0	1.35	1.25	1.50											
	Strength I	C5	40.0	1.35	1.25	1.50											
	Strength I	ST5	40.0	1.35	1.25	1.50											
	Service III	SU4	35.0	0.80	1.00	1.00						N/A	N/A	N/A	N/A	N/A	
	Service III	C5	40.0	0.80	1.00	1.00						N/A	N/A	N/A	N/A	N/A	
	Service III	ST5	40.0	0.80	1.00	1.00						N/A	N/A	N/A	N/A	N/A	
Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50	0.717	1.03	61.8	A	32.3	0.874	1.12	67.2	B	11.2	Interior Beam
	Service III	FL120	60.0	0.70	1.00	1.00	0.717	1.16	69.6	A	32.3	N/A	N/A	N/A	N/A	N/A	Interior Beam

Abbreviations:

Inv - Inventory

Op - Operating



RATING LOCATIONS

Controlling Load Rating

Limit State	Vehicle	Weight (Tons)	Rating Factor
Strength I	HL-93	N/A	1.03
Strength II	FL120	61.8	1.03

BRIDGE NO. 294457

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: LOAD RATING SUMMARY

PROJECT NAME: NW BASCOM NORRIS DRIVE OVER CSXT RAILROAD

SHEET NO. B-33

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INDEX OF SHEETS:

NOTES:

1. FOR WALL 1 BORINGS, SEE BRIDGE SHEET B-8, BORING LOGS.
2. FOR WALL 2 BORINGS, SEE BRIDGE SHEET B-6, BORING LOGS.

GENERAL NOTES:

1. SEE DESIGN STANDARDS INDEX NO. 5300 FOR GENERAL NOTES AND DETAILS FOR THE MSE WALL SYSTEM. SPECIAL DETAILS AND NOTES FOR THE TWO FACED WALL SYSTEM ARE INCLUDED IN THE WALL PLANS.
2. MATERIAL STRESSES:

   ALL ALLOWABLE STRESSES SHALL BE IN ACCORDANCE WITH THE CURRENT AASHTO SPECIFICATIONS FOR ALL THE MATERIALS SHOWN ON THE PLANS.

   A. CONCRETE COMPRESSIVE STRENGTH:

PRECAST:	CLASS IV	f'c = 5500 P.S.I.
C.I.P.:	CLASS IV	f'c = 5500 P.S.I.
LEVELING PADS:	CLASS IV	f'c = 5500 P.S.I.

   B. REINFORCING STEEL: ASTM A615-30a, GRADE 60.
3. DESIGN METHOD:

   LRFD, EXCEPT THAT INTERNAL AND EXTERNAL STABILITY SHALL BE DESIGNED FOR SERVICE LOADS.
4. DESIGN LOADS:

   TRUCK LOADING: HL-93 DESIGN VEHICLE
5. FOR TYPICAL SECTIONS THROUGH ROADWAY. SEE ROADWAY PLANS.
6. CONCRETE FINISH AND TEXTURE:

   CONCRETE COPINGS AND BARRIER SHALL RECIEVE A CLASS V SURFACE FINISH IN ACCORDANCE WITH INDEX 5300.

   WALL FACING PANELS REQUIRE NO SPECIAL SURFACE TREATMENT.
7. LONGITUDINAL DIMENSIONS SHOWN IN THE PLANS ARE MEASURED ALONG THE EXTERIOR FACE OF THE WALL. ELEVATIONS SHOWN ARE TO THE TOP OF COPING, TOP OF LEVELING PAD OR TOP OF WALL FOOTING.
8. A STRUCTURAL EXTENSION OF THE CONNECTION OF THE WALL PANEL TO THE SOIL REINFORCEMENT SHALL BE USED WHENEVER NECESSARY TO AVOID THE CUTTING OR EXCESSIVE SKEWING (GREATER THAN 15 DEGREES) OF THE SOIL REINFORCEMENTS AT PILES OR OTHER OBSTRUCTIONS. COST OF PROVIDING AND ATTACHING THE EXTENSIONS AND OTHER RELATED COSTS SHALL BE INCLUDED IN THE COST OF THE RETAINING WALLS.
9. DUE TO PROPOSED EMBANKMENT HEIGHTS OF GREATER THAN 35 FEET AT WALLS 1 & 2, AND ANTICIPATED SETTLEMENT OF GREATER THAN 6 INCHES, TYPICAL CONSTRUCTION OF A STANDARD MECHANICALLY STABILIZED EARTH (MSE) WALL IS NOT PRACTICAL. THUS, IT IS RECOMMENDED THAT THE REINFORCED EMBANKMENT BE PLACED TO FINAL FILL HEIGHT PRIOR TO INSTALLATION OF THE WALL PANELS. INSTALLATION OF THE WALL PANELS SHOULD NOT OCCUR UNTIL FULL EMBANKMENT HEIGHT IS ACHIEVED.
10. LEVELING PAD:

    THE TOP OF THE LEVELING PAD SHALL BE AT LEAST 2'-0" BELOW FINAL GROUND LINE. SEE INDIVIDUAL WALL PLANS FOR PROPOSED EMBEDMENT REQUIREMENTS. THE CONTRACTOR MAY MODIFY THE LEVELING PAD ELEVATIONS SHOWN PROVIDED THAT:

    A. THE TOP OF LEVELING ELEVATION IS NOT HIGHER THAN SHOWN IN THE PLANS.

    B. THE TOP OF LEVELING ELEVATION IS NOT LOWERED BY MORE THAN 10" FROM ELEVATIONS SHOWN IN THE PLANS.
11. THE SOIL REINFORCEMENT AND FASTENERS FOR THE ABUTMENT BACK WALL WILL BE DESIGNED AND FURNISHED BY THE PROPRIETARY WALL COMPANY. THE SOIL REINFORCEMENT WILL BE DESIGNED TO RESIST A HORIZONTAL LOAD, UNDER STRENGTH LOAD DEMAND, OF 4.0 KIPS/FT. OF BACK WALL WIDTH AT THE LOCATION SHOWN ON THE BRIDGE PLANS, (SEE BRIDGE SHEET B-10). THE COST OF SOIL REINFORCEMENT AND FASTENERS SHALL BE INCLUDED IN THE COST OF THE RETAINING WALL SYSTEM.
12. ALL WALLS ARE TO BE DESIGNED FOR THE SETTLEMENTS NOTED FOR EACH WALL. LONG TERM SETTLEMENT IS MEASURED FROM THE BEGINNING OF WALL CONSTUCTION. REFER TO SHEET BW-2 FOR SETTLEMENT VALUES. LOCATION OF UTILITIES AND DRAINAGE STRUCTURES ARE APPROXIMATE.
13. FOR LOCATION OF UTITLITIES AND DRAINGE STRUCTURES REFER TO ROADWAY PLANS. CONTRACTOR IS TO FIELD VERIFY LOCATION OF EXISTING UTILITIES AND STRUCTURES PRIOR TO COMMENCING WALL CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICT.
14. PAYMENT FOR WALLS WILL BE BASED ON WALL QUANTITIES GIVEN ON SHEET BW-2.
15. APPLICABLE FDOT WALL TYPES FOR EACH WALL LOCATION ARE LISTED BELOW SEE THE QUALIFIED PRODUCTS LIST FOR APPROVED WALL SYSTEMS AND THE TABLE OF FDOT WALL TYPES ON INDEX NO. 5300 OF THE DESIGN STANDARDS FOR ALLOWABLE WALL TYPE SUBSTITUTIONS.

    WALL NO. 1 - FDOT WALL TYPE 2B (SEE NOTE 9)
    WALL NO. 2 - FDOT WALL TYPE 2B (SEE NOTE 9)
16. VIBRATION MONITORING:

    THE CONTRACTOR SHALL PROVIDE SURVEYS AND VIBRATION MONITORING OF THE FOLLOWING STRUCTURES:

    GILES HOUSE & BRICK WALL NOTED ON SHEET BW-5.

    PRECONSTRUCTION SURVEYS FOR STRUCTURES LISTED SHALL BE COMPLETED PRIOR TO THE START OF ANY WORK. THE SURVEY AND VIBRATION MONITORING PROCEDURES SHALL MEET THE REQUIREMENTS OF SPECIFICATION SECTION 455-1.1. THE CONTRACTOR SHALL ALSO MONITOR FOR SETTLEMENT AS REQUIRED IN SECTION 455-1.1. THE CONTRACTOR'S SURVEYS SHALL INCLUDE ALL ROOMS AND FLOORS OF THE STRUCTURES LISTED.
17. BID ITEM 524-2-2, CONCRETE SLOPE PAVEMENT (NON-REINFORCED CONCRETE 4"), INCLUDES THE FOLLOWING QUANTITIES OF SLOPE PAVEMENT IN FRONT OF END BENTS AND GUTTER BEHIND WALLS:

    WALL 1 64.8 S.Y.
    WALL 2 78.8 S.Y.

REVISIONS

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CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
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APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: GENERAL NOTES AND INDEX OF SHEETS

PROJECT NAME: NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO. BW-1

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GEOTECHNICAL INFORMATION WALL NO. 1				
	REINFORCED SOIL & RANDOM BACKFILL	STIFF CLAY	MEDIUM DENSE CLAYEY FINE SAND	VERY DENSE FINE SAND AND LIMESTONE
DEPTH BELOW EXISTING GROUND LINE (FT.)	--	0 TO 13.5	13.5 TO 26	26 TO 50
TOTAL UNIT WEIGHT (PCF)	105 (MOIST IN-PLACE)	115 (MOIST IN-PLACE) 120 (SATURATED)	115 (SATURATED)	120 (SATURATD)
COHESION (PSF)	0	1000	0	0
INTERNAL FRICTION ANGLE	30°	0	30°	32°

GEOTECHNICAL INFORMATION WALL NO. 2				
	REINFORCED SOIL & RANDOM BACKFILL	MEDIUM DENSE FINE SAND	VERY STIFF CLAY	MEDIUM DENSE FINE SAND
DEPTH BELOW EXISTING GROUND LINE (FT.)	--	0 TO 13.5	13.5 TO 26	26 TO 50
TOTAL UNIT WEIGHT (PCF)	105 (MOIST IN-PLACE)	110 PCF (MOIST IN-PLACE)	110 (MOIST IN-PLACE) 120 (SATURATED)	115 (SATURATD)
COHESION (PSF)	0	0	1000	0
INTERNAL FRICTION ANGLE	30°	30°	0	30°

NOTE: IF THE UNIT WEIGHT AND/OR INTERNAL FRICTION ANGLE OF THE FILL PROPOSED BY THE CONTRACTOR DIFFERS FROM THAT SHOWN ABOVE, THE PROJECT ENGINEER WILL CONTACT BOTH THE GEOTECHNICAL ENGINEER AND THE WALL DESIGNER FOR A POSSIBLE DESIGN.

RETAINING WALL VARIABLES							
WALL NO.	WALL HEIGHT (FEET)	WALL SETTLEMENT			WALL DURABILITY CATEGORY	CONCRETE PROPERTIES	
		SHORT TERM SETTLEMENT (IN.)	LONG TERM SETTLEMENT (IN.)	DIFFERENTIAL SETTLEMENT (IN.)		PRECAST WALL PANELS	
						CLASS	f'c (PSI)
1	34	4 - 4.5	6 - 7	0.006	B	IV	5,500
	25	3.5 - 4	5 - 6	0.005			
	15	2.5 - 3	3.5 - 4.5	0.004			
2	45	5.5 - 6.5	8.0 - 8.5	0.007	B	IV	5,500
	35	5.0 - 5.5	6.5 - 7.5	0.006			
	25	4.0 - 4.5	5.0 - 6.0	0.005			
	15	3.0 - 3.5	3.5 - 4.5	0.004			

NOTE: DESIGN WALLS FOR THE SETTLEMENTS NOTED IN THE TABLE. LONG TERM SETTLEMENT IS MEASURED FROM THE END OF WALL CONSTRUCTION.

SOIL REINFORCEMENT LENGTHS FOR EXTERNAL STABILITY WALL NO. 1							
MAXIMUM WALL HEIGHT (FEET)	0 - 10	10 - 14	14 - 18	18 - 22	22 - 26	26 - 30	30 - 34
MINIMUM REINFORCEMENT LENGTH (FEET)	9	12	14	17	21	24	27
MAXIMUM ALLOWABLE BEARING PRESSURE (PSI)	3,900	4,100	4,300	4,700	5,500	6,100	6,700

SOIL REINFORCEMENT LENGTHS FOR EXTERNAL STABILITY WALL NO. 2								
MAXIMUM WALL HEIGHT (FEET)	0 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45
MINIMUM REINFORCEMENT LENGTH (FEET)	9	12	16	20	24	27	31	35
MAXIMUM ALLOWABLE BEARING PRESSURE (PSF)	3,900	4,100	4,500	5,400	6,100	6,700	7,500	

NOTES:
1. REINFORCEMENT STRAP LENGTHS SHOWN ARE THE MINIMUM LENGTHS REQUIRED FOR EXTERNAL STABILITY. THE REINFORCEMENT LENGTHS USED IN CONSTRUCTION OF THE RETAINING WALLS WILL BE THE LONGER OF THAT REQUIRED FOR EXTERNAL OR INTERNAL STABILITY (DETERMINED BY PROPRIETARY WALL COMPANY).
2. THE FACTORED BEARING RESISTANCES SHOWN ABOVE ARE THE CRITICAL (LOWEST) VALUES FROM ALL THE LOAD CASES ANALYZED USING THE LRFD METHODOLOGY.
3. THE RETAINING WALL WILL UTILIZE GEOGRID REINFORCEMENTS.
4. FACTORED BEARING CAPACITY IS BASED ON A RESISTANCE FACTOR OF 0.55

ESTIMATED QUANTITIES			
ITEM		UNIT	QUANTITY
RETAINING WALL SYSTEMS (PERMANENT)	WALL 1	S.F.	3981
	WALL 2		6271
	TOTAL		10,252

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RHH	08/11
CHECKED BY	KHB	08/11
DESIGNED BY	KHB	08/11
CHECKED BY	MPL	08/11
APPROVED BY	M. LEONARD	

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: GEOTECHNICAL DATA

PROJECT NAME: NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO. BW-2

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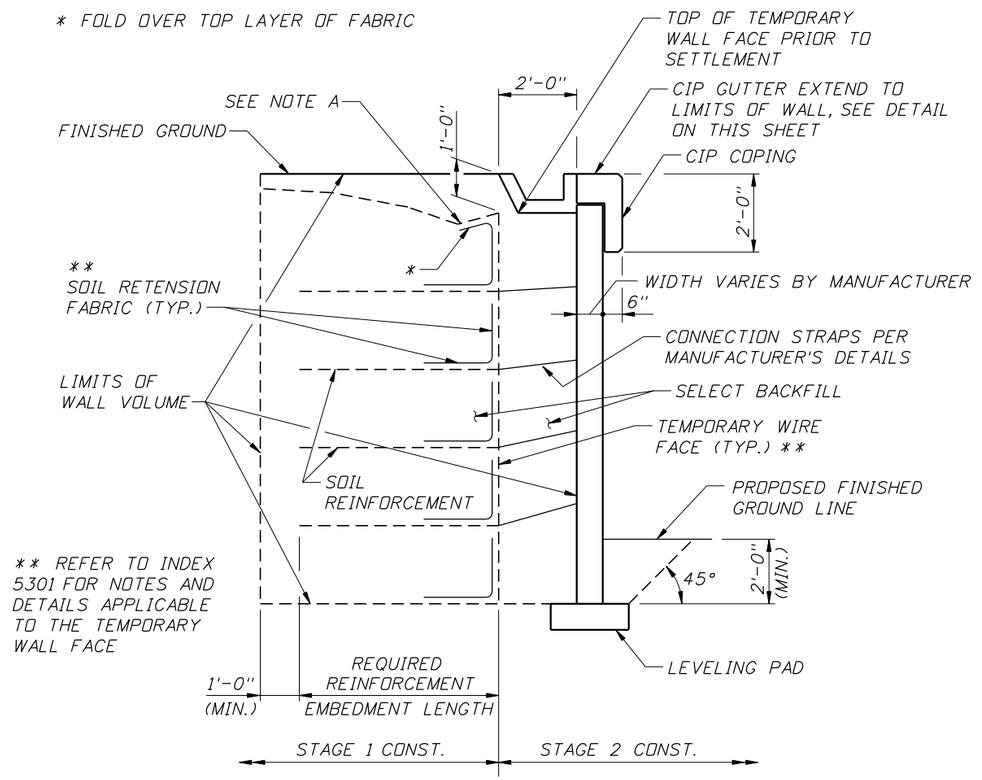
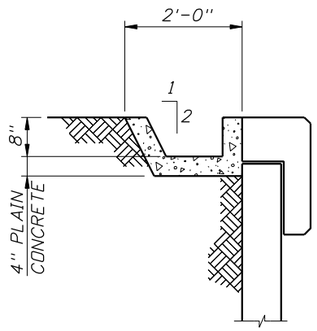


TYPICAL SECTION RETAINING WALLS 1 & 2

NOTE A:
CONTRACTOR MUST DEVISE A METHOD OF PROTECTING THE TEMPORARY CONSTRUCTION SLOPE PRIOR TO PLACEMENT OF THE STAGE 2 PERMANENT WALL AND CONCRETE GUTTER. A TEMPORARY GUTTER OR DRAINAGE PATH TO PROTECT FROM WATER RUNOFF EROSION (BY RIPRAP OR SIMILAR MEANS) MUST BE DEVELOPED TO DIRECT RAIN WATER AWAY FROM BEHIND THE PERMANENT WIRE WALL.



CIP GUTTER DETAIL

NOTES:

1. SEE SHEET BW-4 FOR WALL DETAILS AT BRIDGE END BENTS.
2. TYPICAL WALL DETAILS SHOWN MAY BE MODIFIED TO SUIT THE INDIVIDUAL WALL COMPANY'S DETAILS, SUBJECT TO THE ENGINEER'S APPROVAL.
3. COST OF GUTTER TO BE INCLUDED WITH PAY ITEM 524-2-2, SEE NOTE 17 ON SHEET BW-1.

REVISIONS

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COLUMBIA COUNTY

ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: WALL DETAILS (SHEET 1 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO. BW-3

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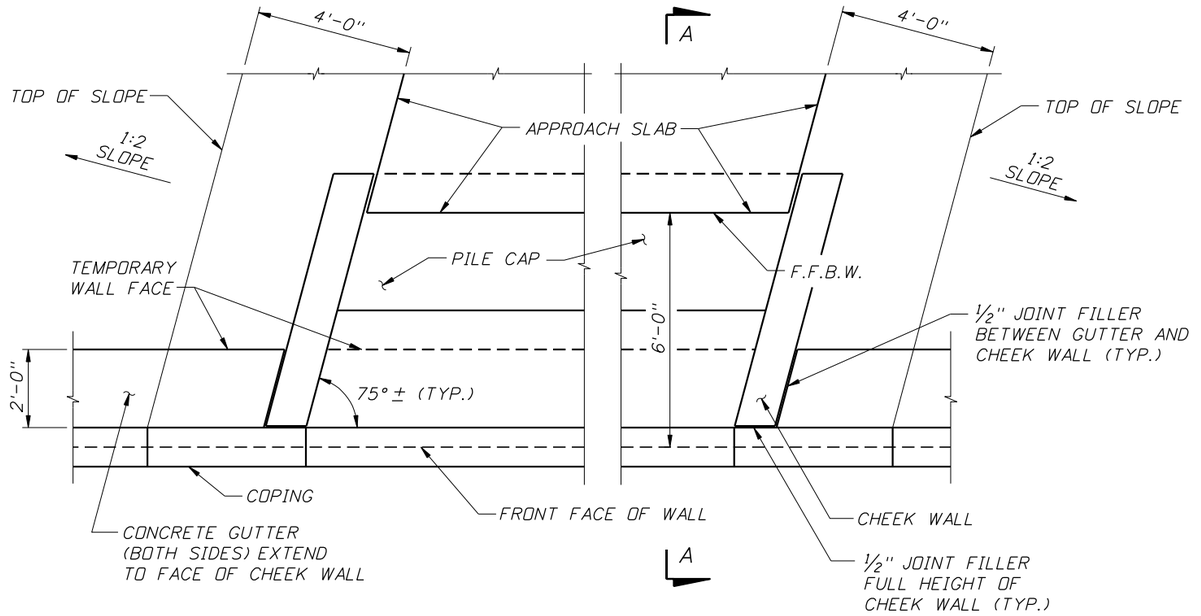
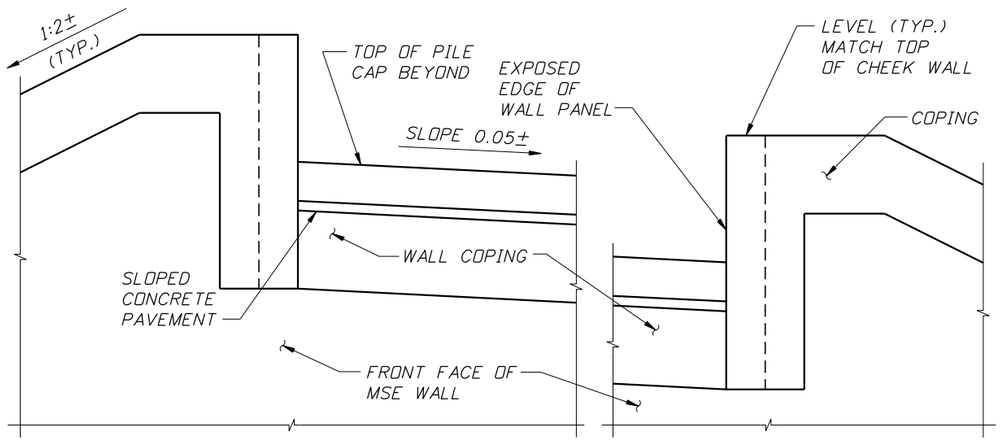


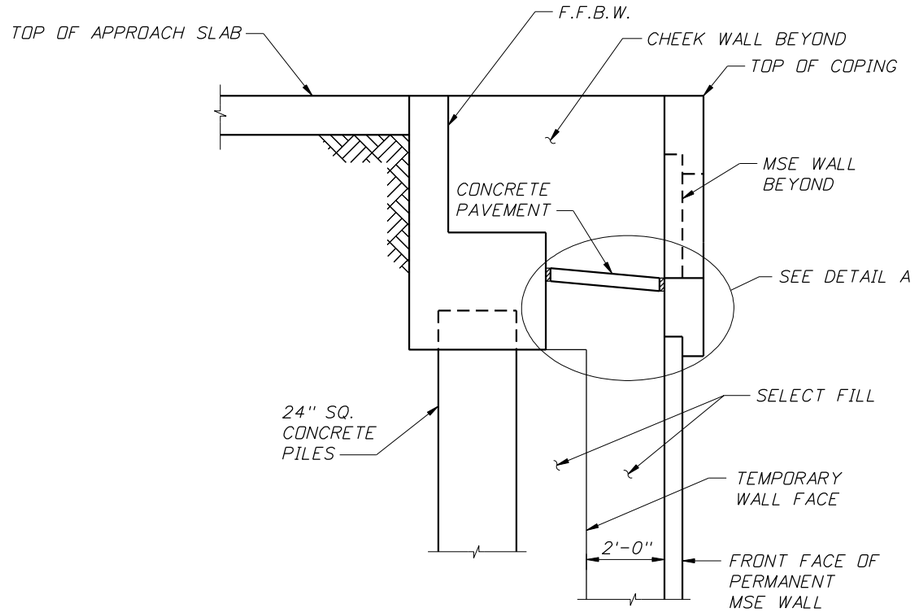
PLAN

(SUPERSTRUCTURE NOT SHOWN)

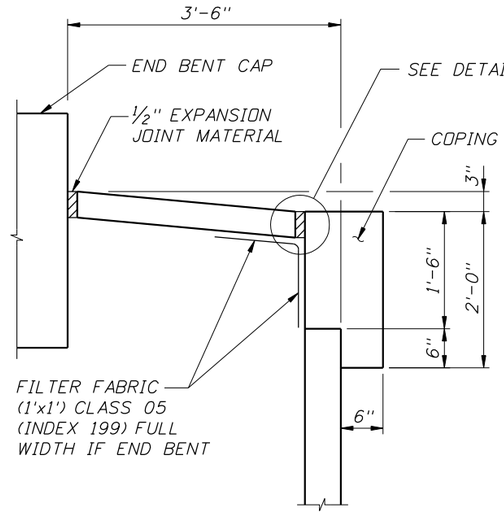


ELEVATION

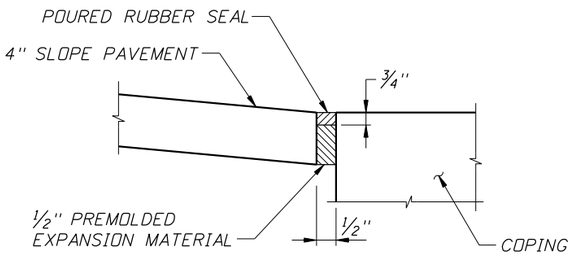
PARTIAL PLAN & ELEVATION
AT END BENT 2 (SIMILAR AT END BENT 1)



SECTION A-A



DETAIL A



DETAIL B

NOTES:

1. TYPICAL WALL DETAILS SHOWN MAY BE MODIFIED TO SUIT THE INDIVIDUAL WALL COMPANY'S DETAILS, SUBJECT TO THE ENGINEER'S APPROVAL.
2. CONSTRUCT TEMPORARY WALL FACE AND FILL TO BASE OF PILE CAP. EXTEND FILL AND TEMPORARY WALL BEYOND CHEEKWALLS TO TOP OF FILL AFTER END BENT IS CONSTRUCTED.
3. WRAP ALL PILES IN 2 LAYERS OF 3 MIL POLYETHYLENE SHEETING, FULL HEIGHT OF PILE ABOVE EXISTING GROUND, PRIOR TO PLACING FILL.
4. SEE TYPICAL SECTION ON SHEET BW-3 FOR ADDITIONAL NOTES AND DETAILS.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE: WALL DETAILS (SHEET 2 OF 2)

PROJECT NAME: NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO. BW-4

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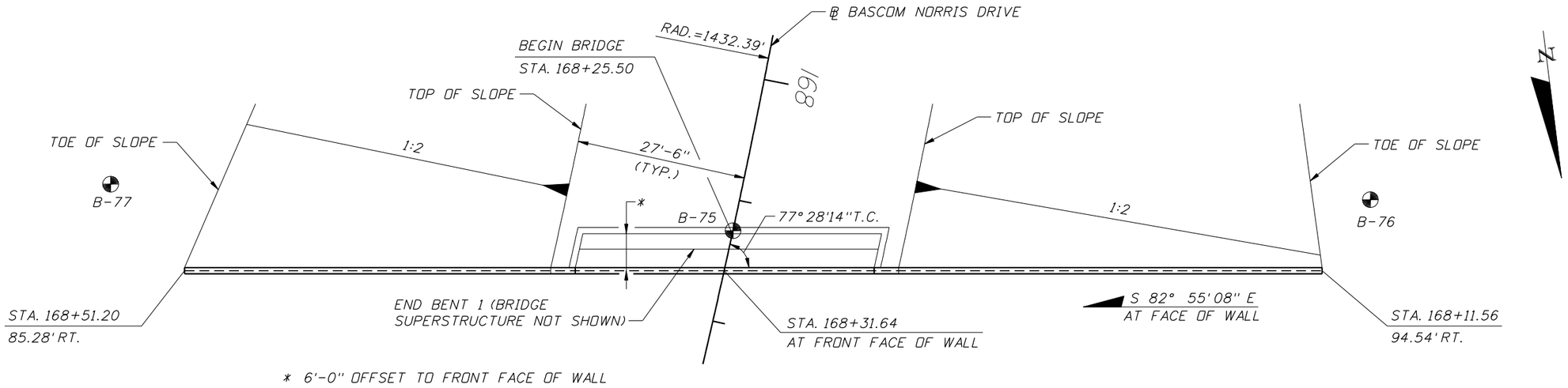
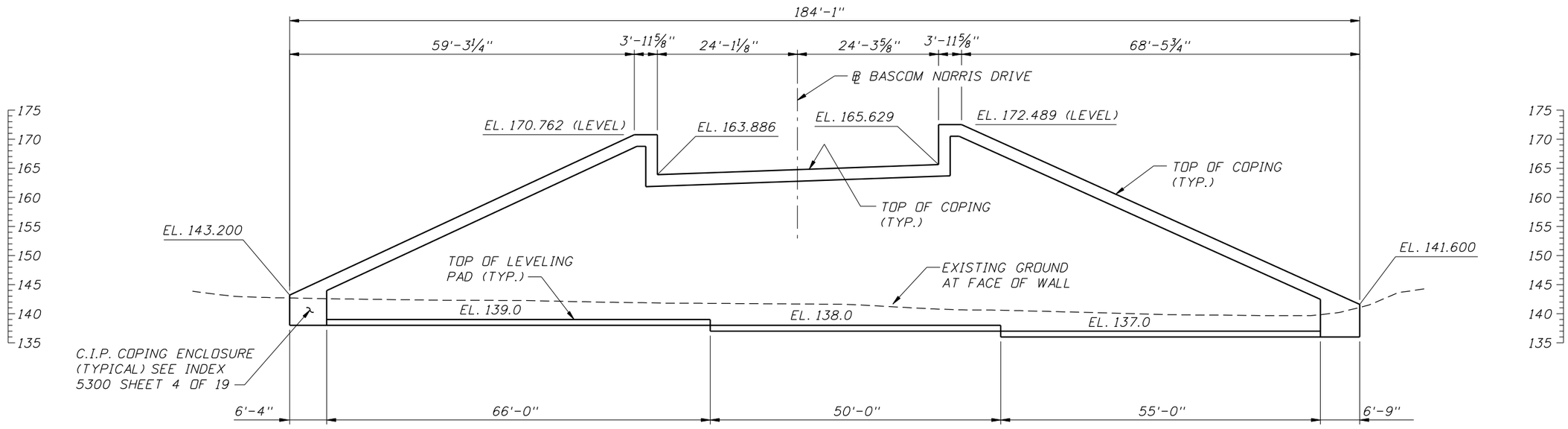


PLAN



ELEVATION

NOTES:

1. THIS WALL REQUIRES A TWO STAGE WALL CONSTRUCTION PROCEDURE, SEE SHEET BW-3.
2. FOR MINIMUM STRAP LENGTHS, SEE SHEET BW-2.
3. FOR WALL SECTIONS AND DETAILS, SEE SHEET BW-3.
4. FOOTING STEPS MAY BE ADJUSTED AS NECESSARY PROVIDED MINIMUM GROUND CLEARANCE IS PROVIDED. ALSO SEE NOTE 10 ON SHEET BW-1.
5. SEE BRIDGE PLANS FOR END BENT DETAILS.

REVISIONS

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COUNTY	COUNTY BID NO.
COLUMBIA COUNTY	
ROAD NAME	
BASCOM NORRIS DRIVE	

SHEET TITLE: WALL 1 PLAN AND ELEVATION

PROJECT NAME: NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO. BW-5

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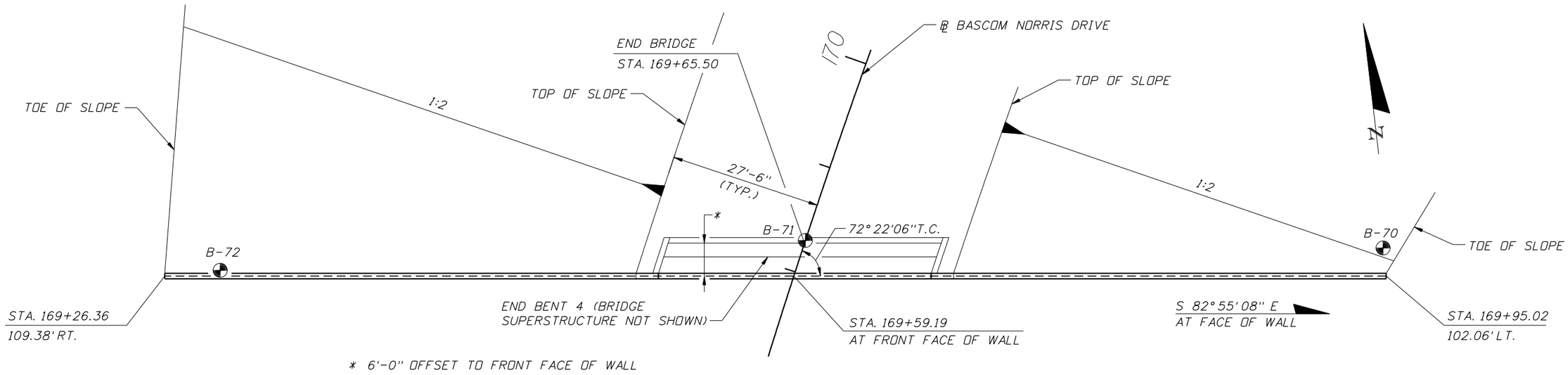
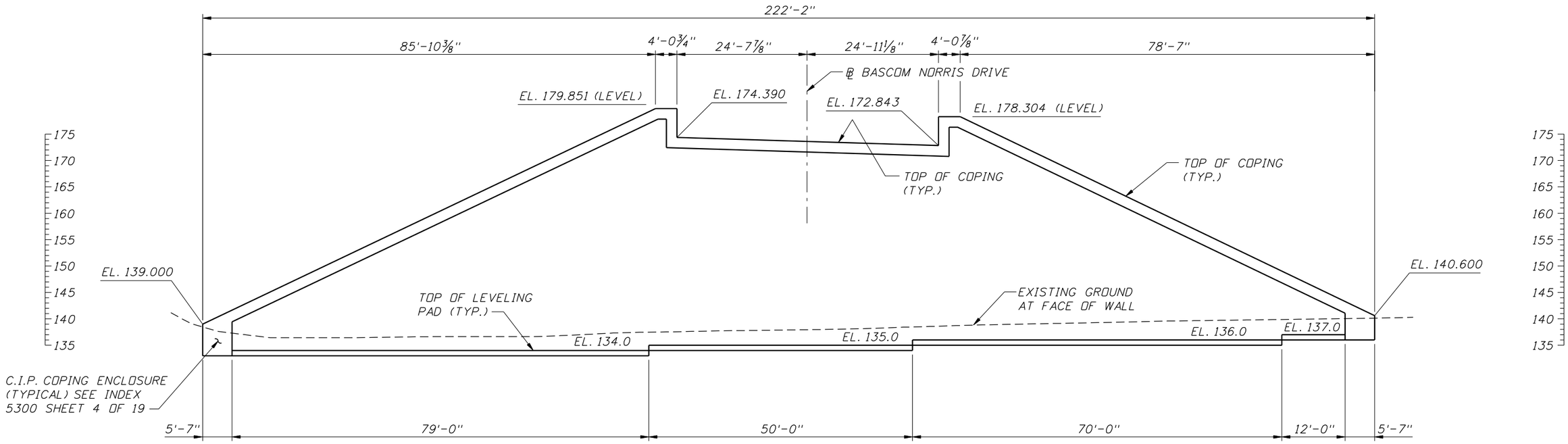


PLAN



ELEVATION

FOR NOTES, SEE SHEET BW-5.

REVISIONS					
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COLUMBIA COUNTY	
ROAD NAME	COUNTY BID NO.
BASCOM NORRIS DRIVE	

SHEET TITLE:
WALL 2 PLAN AND ELEVATION

PROJECT NAME:
NW BASCOM NORRIS DRIVE PROPRIETARY WALLS

SHEET NO.
BW-6

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