COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
PROJECT NUMBER 2019-05
NW BELL STREET PAVING AND EXTENSION

NOTICE TO CONTRACTORS

Notice is hereby given that sealed bids will be received in the Columbia County Manager's office until **2:00 P.M.** on **December 18 2019**, for Columbia County Project No. **2019-05**. This office is located on the second floor of the Courthouse Annex at 135 Hernando Avenue, Room 203 Lake City FL 32055.

This project is not limited to and includes:

1. Install drainage structures, 18", 24" and 30" drainage pipe and associated mitered end sections connecting to CR-25A, then along Bell Street and connecting to US-441.
2. Install and construct stormwater retention ponds (WDA 2 and WDA 3) as shown in the contract documents.
3. Install and construct "NW Bell Street Paving and Extension" Roadway installation as shown in the contract documents. The roadway installation will include type B stabilization, optional base group 1 and 6, asphaltic concrete and friction course.
4. Install roadway pavement marking and signage as shown in the contract documents along Bell Street.
5. Install concrete sidewalk as part of the roadway construction and connecting to existing sidewalk at the intersection of Bell Street and US-441.
6. Install a 6-inch gas main starting at the end of the existing gas main on CR-25A, then running north on CR-25A, then running east along Bell Street up to the connection point with the existing gas main along US-441, as an additive alternate.

The Bid Forms and Construction specifications may be obtained from the County's web site at http://www.columbiacountyfla.com/PurchasingBids.asp. Deadline for questions regarding construction plans, specifications, and/or bid documents must be received before **2:00 P.M.** on **December 13, 2019.**

The successful bidder will be required to furnish the County Manager with a 5% bid bond with submittal, and if selected, furnish the County Manager with a performance bond and proof of 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

_____

Ron Williams, Chair

All construction methods and materials shall conform to the requirements of the latest edition of the Florida Department of Transportation Design Standards and Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Install permanent construction signs prior to any work beginning on each end of project and any County connector roads.

Install Silt Fence as directed by Engineer prior to any earthwork activities.

Install all stormwater pipes and structures.

CENTERLINE DELINEATION SHALL BE REQUIRED AT ALL NON-WORKING TIMES INCLUDING ONCE BOTH LANES HAVE BEEN MIXED USING RPM'S.

Contractor shall provide Maintenance of Traffic and it shall conform to the requirements of the latest edition of the Florida Department of Transportation Design Standards.

Flagging will be required and only one traffic lane may be closed between the hours of **8:30 A.M. to 4:30 P.M**. only.

All construction signage shall be provided by the contractor.

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BID FORM

COLUMBIA COUNTY
NW BELL STREET PAVING AND EXTENSION

TABLE OF ARTICLES

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8. Bid Submittal

ARTICLE 1 - BID RECIPIENT

1.01 Sealed Bids shall be submitted to:

Ray Hill
Purchasing Director
Columbia County Purchasing
135 NE Hernando Avenue, Suite 203
Lake City, FL 32056

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an AGREEMENT with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the price(s) and within the times indicated in this Bid and in accordance with the Bidding Documents.

ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER. Bidder will sign the AGREEMENT and will furnish the required contract security, and other required documents within the time periods set forth in the Bidding Documents.

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, if any, and the following Addenda, receipt of all of which is hereby acknowledged.

Addendum No.	Date Received	Addendum No.	Date Received
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions identified at the Site, if any, which that have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of

the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work (if any) to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.

I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

3.02 Bidder further represents that:

A. this Bid is genuine and is not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding;

C. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER; and

D. No person or persons acting in any official capacity for the OWNER are directly or indirectly interested in this Bid, or in any portion of the profit thereof.

ARTICLE 4 - BASIS OF BID

4.01 The Total Base Bid shall be tabulated based upon:

A. The Total Base Bid shall be tabulated based upon the requirement that bidders furnish equipment of the specified manufacturers and any combination of additive alternatives as listed in the Schedule of Additive Alternatives.

B. Allowance of an "Or Equal" manufacturer does not constitute a waiver of the requirements of the Contract Documents.

4.02 Bid Award: The contract will be awarded to the responsive and responsible Bidder submitting the lowest Base Bid Total plus OWNER Selected Alternate(s) provided the bid is reasonable and in the best interest of the OWNER to accept. The OWNER reserves the right to award in any fashion the bid that best suits the needs of the OWNER.

4.03 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

COLUMBIA COUNTY NW BELL STREET PAVING AND EXTENSION CONTRACT NO. 1G – GENERAL					
Item No.	**Pay Item**	**Quantity**	**Unit**	**Unit Price**	**Total Price (In Numbers)**
1	Mobilization/Demobilization	1	Lump Sum		
2	Clearing and Grubbing	29.2	AC		
3	Maintenance of Traffic	1	Lump Sum		
4	Erosion and Sediment Control	1	Lump Sum		
5	Embankment	46,119	CY		
6	Excavation	41,435	CY		
7	12” Type B Stabilization	38,711	SY		
8	Optional Base Group 1	906	SY		
9	Optional Base Group 6	24,057	SY		
10	Friction Course FC9.5, Traffic B	1,633.8	TN		
11	Type SP Structural Course, Traffic B	1,983	TN		
12	Conc. Pipe Culvert (S/CD) (18”)	1,648	LF		
13	Conc. Pipe Culvert (S/CD) (24”)	1,521	LF		
14	Conc. Pipe Culvert (S/CD) (30”)	486	LF		
15	Conc. Pipe Culvert (S/CD) Ellip/Arch (24”)	484	EA		
16	Conc. Pipe Culvert (S/CD) Ellip/Arch (30”)	99	EA		

COLUMBIA COUNTY NW BELLS STREET PAVING AND EXTENSION CONTRACT NO. 1G – GENERAL					
Item No.	**Pay Item**	**Quantity**	**Unit**	**Unit Price**	**Total Price (In Numbers)**
17	24” Mitered End Section	8	EA		
18	30” Mitered End Section	2	EA		
19	24” Mitered End Section (Ellip/Arch)	8	EA		
20	30” Mitered End Section (Ellip/Arch)	2	EA		
21	18” Mitered End Section (SD)	18	EA		
22	24” Mitered End Section (SD)	2	EA		
23	Type “C” Ditch Bottom Inlet, J-Bottom <10’	16	EA		
24	4” Concrete Sidewalk	39	SY		
25	Detectable Warning	32	SF		
26	Seeding and Mulching	63,833	SY		
27	Sodding	48,458	SY		
28	Fence Type “A”	3,432	LF		
29	Fence Gate, Type “A” 12’	2	EA		
30	Painted Pavement Marking and RPMs	1	Lump Sum		
31	Roadway Signs	1	Lump Sum		
32	Owner’s contingency allowance for additional work, as authorized by OWNER.	1	Additional		$100,000
33	Allowance for required permitting fees, as authorized by ENGINEER.	1	Additional		$2,000

COLUMBIA COUNTY
NW BELL STREET PAVING AND EXTENSION
CONTRACT NO. 1G – GENERAL

SCHEDULE OF ADDITIVE ALTERNATES

Item	Description	Quantity	Unit	Amount of Increase to Base Bid
34	Furnish and install 6" gas main along C.R. 25A	1	Lump Sum	
35	Furnish and install 6" gas main along proposed Bell Street	1	Lump Sum	
The OWNER reserves the right to award project based on the Total Base Bid and any combination of Additive Alternate Bid Items.				

4.04 Combined Bids: (Not Used)

4.05 Unit prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

4.06 Bidder acknowledges that estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price items will be based on actual quantities of Unit Price Work determined as provided in the Contract Documents.

4.07 All specified cash allowances are included in the price(s) set forth above and have been completed in accordance with Paragraph 11.02 of the General Conditions.

ARTICLE 5 - TIME OF COMPLETION

5.01 Bidder agrees that the Work will be substantially complete within 335 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions within 365 calendar days after the date when the Contract Times commence to run, which days will be entered by OWNER into the AGREEMENT as the Contract Times.

5.02 Contractor shall have structural course of asphalt for roadway from the western entrance to the proposed commercial property (Sta. 41+00 on Bell Street) on Bell Street to the intersection of Bell Street and U.S. Hwy 441(Sta. 99+10 on Bell Street) to provide roadway service by October 1st 2020.

5.03 Bidder accepts the provisions of the AGREEMENT as to liquidated and special damages, if any, in the event of failure to complete the Work within the Contract Times.

ARTICLE 6 - ATTACHMENTS TO THIS BID

6.01 The following documents are attached to and made a condition of this Bid:

A. Required Bid security.

B. Required Bidder Qualifications Statement with supporting data.

ARTICLE 7 - DEFINED TERMS

7.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions and Supplementary Conditions.

ARTICLE 8 - BID SUBMITTAL

8.01 This Bid submitted on _____, 20___ by:

If Bidder is:

Individual

Name (Typed or Printed): _____

By_____
(Individual's Signature)

Doing business as_____

License or Registration Number:_____

Business Address:_____

_____

Phone No.:_____Facsimile:_____

A Partnership

Partnership Name: _____

By:_____
(Signature of General Partner - Attach evidence of authority to sign)

(Name (Typed or Printed): _____

License or Registration Number:_____

Business Address:_____

_____

Phone No.:_____Facsimile:_____

A Corporation

Corporation Name: _____

_____
(State of Incorporation)

By_____
(Signature - Attach evidence of authority to sign)

Name and Title (Typed or Printed): _____

(CORPORATE SEAL)

Attest:_____
(Secretary)

License or Registration Number:_____

Business Address:_____

_____

Phone No.:_____Facsimile:_____

Limited Liability Company

By:_____
(Firm Name)

_____
(State of Formation)

By:_____
(Signature of Member/Authorized to Sign)

_____
(Printed or Typed Name and Title of Member Authorized to Sign)
(Attach evidence of authority to sign.)

License or Registration Number:_____

Business Address:_____

_____

Phone No.:_____Facsimile:_____

A Joint Venture

Name of Joint Venture:_____

First Joint Venturer Name: _____

By:_____
(Signature of First Joint Venturer - Attach evidence of authority to sign)

Name (Typed or Printed): _____ _____
(Title)

Title:_____

Second Joint Venturer Name: _____

By:_____
(Signature of Second Joint Venturer - Attach evidence of authority to sign)

Name (Typed or Printed): _____ _____
(Title)

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation or limited liability company that is a party to the joint venture shall be in the manner indicated above).

Business Address: _____

Phone and FAX number and address for receipt of communications to joint venture:

Phone: _____ Facsimile:_____

+ + END OF BID FORM + +

SECTION 01 22 13

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

A. Items listed starting in Article 1.4 of this Section refer to and are the same pay items listed in the Bid Form and constitute all pay items for completing the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant services, CONTRACTOR's or ENGINEER's field offices, layout surveys, Project signs, sanitary requirements, testing, safety provisions and safety devices, submittals and record drawings, water supplies, power and fuel, traffic maintenance, removal of waste, security, coordination with OWNER's operations, information technology (including hardware, software, and services) required during construction, bonds, insurance, or other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents. Compensation for all services, items, materials, and equipment shall be included in prices stipulated for lump sum and unit price pay items listed in this Section and included in the Contract.

B. Each lump sum and unit price pay item listed in this section shall include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

1.2 ENGINEER'S ESTIMATE OF QUANTITIES

A. ENGINEER's estimated quantities for items of Work, as included in the Contract, are approximate only and are included solely for purpose of comparing Bids and pricing. OWNER does not expressly or by implication agree that nature of materials encountered below the ground surface or actual quantities of material encountered or required will correspond with the quantities included in the Contract at the time of award and reserves right to increase or decrease quantities or to eliminate quantities as OWNER may deem necessary.

1.3 RELATED PROVISIONS

A. Payments to CONTRACTOR: Refer to General Conditions and Agreement.

B. Changes in Contract Price: Refer to General Conditions.

C. Schedule of Values: Refer to Section 01 29 73, Schedule of Values.

1.4 GENERAL CONSTRUCTION

A. Item 1 – Mobilization/Demobilization:
   1. Measurement: Lump sum payment for Item 1 will be full compensation for completing all work associated with mobilization and demobilization inclusive of the cost of bonds, insurance, survey layout, clean up of site, and all labor, material or equipment required to complete the work in these contract documents that is not specifically covered in the other pay items shall also be included in this item.as shown and specified.
   2. Payment: The lump sum price bid shall include all expenses related to the amassing of all labor, temporary offices, transportation, storage and materials required for the construction of the project, as shown on the Drawings and as specified for mobilization. Demobilization shall include removal of equipment and temporary offices as well as cleaning of site.

B. Item 2 – Clearing and Grubbing:
   1. Measurement: Acre payment for Item 2 will be a price per acre or portion of acre for completing all work associated with clearing and grubbing, as shown on the contract documents.
   2. Payment: The Acre price shall include all labor, equipment and materials required for clearing and grubbing as part of the construction activities.

C. Item 3 – Maintenance of Traffic:
   1. Measurement: Lump sum payment for Item 3 will be full compensation for completing the Work for installation of the Maintenance of Traffic as shown on the contract documents including but not limited to Special Detour I, drums, signs, barricades and PCM sign.
   2. Payment: The lump sum price bid shall include furnishing and installing all maintenance of traffic controls and devices, and providing all labor, equipment and materials required for maintaining traffic during construction.

D. Item 4 – Erosion and Sediment Control:
   1. Measurement: Lump sum payment for Item 4 will be full compensation for erosion control shown on the contract documents.
   2. Payment: The lump sum price bid shall include furnishing and installing all items shown on the contract documents for the construction of the roadway and stormwater ponds within the designated site area.

E. Items 5 and 6 – Embankment and Excavation:
   1. Measurement: Cubic Yard payment for Item 5 and 6 will be the compensation for the embankment or excavation. It will include the embankment/excavation, hauling and disposal of suitable and unsuitable material for all planned construction, including, but not limited to, roadway, ditches, pipes, ponds, drainage, water, sewer construction, and dewatering to the final grade shown on the plans and/or soil borings shown on the contract documents.

2. Payment: Cubic Yard bid shall include furnishing and installing all quantities for excavation, embankment/fill, dredging, hauling, placing and compacting, dressing of the surface of the earthwork, and maintenance and protection of the complete earthwork.

F. Item 7 – 12" Type B Stabilization:
   1. Measurement: Unit Cost SY for Item 7 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for 12" Type B Stabilization approved and accepted.

G. Items 8 and 9 - Optional Base Group 1 and 6:
   1. Measurement: Unit Cost SY for Item 8 and 9 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Optional Base Group 1 and 6 approved and accepted.

H. Items 10 and 11 - Frictional Course FC 9.5 and Type SP Structural Course, Traffic B:
   1. Measurement: Unit Cost TN for Items 10 and 11 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Frictional Course FC9.5, Traffic B and Type SP, Traffic B approved and accepted.

I. Items 12 thru 23 - Drainage Pipe, Mitered End Sections and Concrete Structures:
   1. Measurement: Unit Cost LF or EA for Items 12 to 23 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Concrete Pipe Culverts, Mitered End Sections and Type "C" inlets approved and accepted.

J. Item 24 – 4" Concrete Sidewalk:
   1. Measurement: Unit Cost SY for Item 24 will be full compensation for completing all work for installation of 4" concrete sidewalk shown on the contract documents.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for 4" Conc. Sidewalk approved and accepted.

K. Item 25 – Detectable Warning:
   1. Measurement: Unit Cost SF for Item 25 will be full compensation for completing all work for installation of detectable warning shown on the contract documents.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Detectable Warning approved and accepted.

L. Items 26 Seeding and Mulching and 27 Sodding:
   1. Measurement: Unit Cost SY for Item 26 and 27 will be full compensation for completing all work for installation shown on the contract documents.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Seeding, Mulching and Sodding approved and accepted.

M. Item 28 – Fence Type "A":
   1. Measurement: Unit Cost LF for Item 28 will be full compensation for completing all work for installation shown on the contract documents.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Fence Type "A" approved and accepted.

N. Item 29 - Fence Gate, Type "A" 12':
   1. Measurement: Unit Cost EA for Item 29 will be full compensation for completing all work for installation shown on the contract documents.
   2. Payment: Payment shall be made at the Unit Cost contained in the Proposal for Fence Gate, Type "A" approved and accepted.

O. Item 30 – Painted Pavement Marking and RPMs:
   1. Measurement: Lump sum payment for Item 30 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively.
   2. Payment: The lump sum bid price shall include furnishing and installing all labor, equipment and materials required for painted pavement markings and RPMs.

P. Item 31 – Roadway Signs:
   1. Measurement: Lump sum payment for Item 31 will be full compensation for completing all work in accordance with FDOT Standard Specifications and the Contract drawings respectively
   2. Payment: The lump sum bid price shall include furnishing and installing all labor, equipment and materials required for installing roadway signage.

Q. Item 32 – Owner's Contingency Allowance for additional Work, as authorized by OWNER:
   1. Measurement: Includes a stipulated amount available as reserve for sole use by OWNER to cover unanticipated costs including, minor items unforeseen and necessary but not included in bid, unanticipated conflicts and/or design changes

required during construction, and minor increases to existing bid item quantities, which are necessary for safe and timely completion of the Work.

2. Payment: Payment for Work authorized under Item 32 will be full compensation for providing all Work authorized under the contingency allowance, complete as shown, indicated, or directed by ENGINEER, only upon written authorization from OWNER. Work authorized under contingency allowance may be included in subsequent Application(s) for Payment, as applicable, following authorization of and performance of contingency allowance Work.

R. Item 33 – Allowance for required permitting fees, as authorized by ENGINEER:
   1. Measurement: Payment will be made to the Contractor based on actual invoiced amounts paid by the Contractor to obtain required permits.
   2. Payment:
      a. Payment for Work authorized under Item 33 will be full compensation for providing all fees authorized under the permitting allowance, complete as shown, indicated, or directed by ENGINEER. Fees authorized under permitting allowance may be included in subsequent Application(s) for Payment, as applicable, following authorization of and performance of permitting allowance fees.
      b. Payment for Work authorized under Item 33 will not be compensation for CONTRACTOR markups or premiums, or effort to prepare any required permit applications. Item 33 will also not be compensation for fees incurred due to CONTRACTOR's negligence, permits required for items for the CONTRACTOR's convenience, but not required by the Contract Documents or ENGINEER, fees and costs associated with utility services to temporary construction trailers and electricity required by CONTRACTOR during construction activities.

1.5 ADDITIVE ALTERNATES

Any of the items listed in this section may be added to the Base Bid at the OWNER's discretion.

B. Item AA1 – Furnish and install 6" gas main along CR 25A:
   1. This additive item includes work associated with furnishing and installing the 6" gas main as shown and indicated. The lump sum bid price shall include furnishing and installing 6-inch gas main and associated valves and appurtenances, including excavation, dewatering of the trench, locating and protecting buried and overhead utilities, bedding, joint restraint, miscellaneous line fittings, backfill, compaction, final grading, protecting drainage, testing of the pipeline, surface restoration and cleanup, and appurtenances complete and in-place on CR 25A. This pay item also include all equipment, labor and materials required to jack and bore the gas main across CR-25A.

C. Item AA2 – Furnish and install 6” gas main along proposed Bell Street:
   1. This additive item includes work associated with furnishing and installing the 6” gas main as shown and indicated. The lump sum bid price shall include furnishing and installing 6-inch gas main and associated valves and appurtenances, including excavation, dewatering of the trench, locating and protecting buried and overhead utilities, bedding, joint restraint, miscellaneous line fittings, backfill, compaction, final grading, protecting drainage, testing of the pipeline, surface restoration and cleanup, and appurtenances complete and in-place along proposed Bell Street from and including connection to Eastern start of pipe at apx 17+20 up to and including connection to existing gas main at apx 96+47.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 33 05 05

BURIED PIPING INSTALLATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to install and test all buried piping, fittings, and specials. The Work includes the following:
      a. All types and sizes of buried piping, except where buried piping installations are specified under other Sections.
      b. Unless otherwise shown or specified, this Section includes all buried piping Work required, beginning at the outside face of structures or structure foundations, including piping beneath structures, and extending away from structures.
      c. Installation of all jointing and gasket materials, specials, flexible couplings, mechanical couplings, harnessed and flanged adapters, sleeves, tie rods, cathodic protection, and other Work required for a complete, buried piping installation.
      d. Supports and restraints,.
      e. Pipe encasements, with the exception of piping embedded in concrete within a structure or foundation specified under Section 40 05 05, Exposed Piping Installation.
      f. Field quality control, including testing.
      g. Cleaning and disinfecting.
      h. Incorporation of valves, meters, and special items shown or specified into piping systems in accordance with the Contract Documents and as required.

B. Coordination:
   1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before buried piping Work.
   2. Coordinate with appropriate piping Sections of Division 40, Process Integration.

C. Related Sections:
   N/A

1.2 REFERENCES

A. Standards referenced in this Section are:
   1. ASME B31.3, Process Piping.

2. American Society for Non-Destructive Testing (ASNT), ASNT-TC-1A, Recommended Practice, Personnel Qualification, and Certification in Non-destructive Testing.
3. ASTM B32, Specification for Solder Metal.
4. ASTM D2321, Practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications
5. ASTM D2774, Practice for Underground Installation of Thermoplastic Pressure Piping.
6. ASTM F2164, Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure.

7. ANSI/AWWA C605, Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
8. ANSI/AWWA C651, Disinfecting Water Mains.
9. ASTM D2774, Practice for Underground Installation of Thermoplastic Pressure Piping.
10 AWWA M23, PVC Pipe - Design and Installation.
11. AWWA M55, PE Pipe - Design and Installation.
12. ASCE 37, Design and Construction of Sanitary and Storm Sewers.
13. Chlorine Institute, Inc., Piping Systems for Dry Chlorine, Pamphlet No. 6.
14. Recommended Standards for Wastewater Facilities, latest edition (10 States Standards)

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Comply with requirements and recommendations of authorities having jurisdiction.
   2. Obtain required permits for Work in roads, rights-of-way, railroads, and other areas of the Work.

1.4 SUBMITTALS

A. Action Submittals: Submit the following:
   1. Shop Drawings:
      a. Details of piping, specials, joints, harnessing and thrust blocks, and connections to piping, structures, equipment, and appurtenances.
   2. Product Data:
      a. Manufacturer's literature and specifications, as applicable, for products specified in this Section.
   3. Testing Procedures:
      a. Submit proposed testing procedures, methods, apparatus, and sequencing. Obtain ENGINEER's approval prior to commencing testing.

B. Informational Submittals: Submit the following:
   1. Certificates:
      1. Certificate signed by manufacturer of each product certifying that product

conforms to applicable referenced standards.

2. Field Quality Control Submittals:
    a. Results of each specified field quality control test.

C. Closeout Submittals: Submit the following:
1. Record Documentation:
    a. Maintain accurate and up-to-date record documents showing modifications made in the field, in accordance with approved submittals, and other Contract modifications relative to buried piping Work. Submittal shall show actual location of all piping Work and appurtenances at same scale as the Drawings.
    b. Show piping with elevations referenced to Project datum and dimensions from permanent structures. For each horizontal bend in piping, include dimensions to at least three permanent structures, when possible. For straight runs of piping provide offset dimensions as required to document piping location.
    c. Include profile drawings with buried piping record documents when the Contract Documents include piping profile drawings.
    d. Conform to Section 01 78 39, Project Record Documents.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery:
1. Deliver materials to the Site to ensure uninterrupted progress of the Work.
2. Upon delivery inspect pipe and appurtenances for cracking, gouging, chipping, denting, and other damage and immediately remove from Site and replace with acceptable material.

B. Storage:
1. Store materials to allow convenient access for inspection and identification. Store material off ground using pallets, platforms, or other supports. Protect packaged materials from corrosion and deterioration.
2. Pipe and fittings other than PVC and CPVC may be stored outdoors without cover. Cover PVC and CPVC pipe and fittings stored outdoors.

C. Handling:
1. Handle pipe, fittings, specials, and accessories carefully in accordance with pipe manufacturer's recommendations. Do not drop or roll material off trucks. Do not drop, roll or skid piping.
2. Avoid unnecessary handling of pipe.
3. Keep pipe interiors free from dirt and foreign matter.
4. Protect interior linings and exterior coatings of pipe and fittings from damage. Replace pipe and fittings with damaged lining regardless of cause of damage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Piping materials are specified in the Buried Piping Schedule at the end of this Section, with specific pipe for MDPE Gas pipe to be used for this project specified in this section. Other piping materials shall conform to Specifications for each type of pipe and piping appurtenances in applicable Sections of Division 40, Process Integration.

B. General:
   1. Pipe Markings:
      a. Manufacturer shall cast or paint on each length of pipe and each fitting pipe material, diameter, and pressure or thickness class.
   2. Bolts & Nuts:
      a. Provide graphite-free anti-seize compound for stainless steel nuts and bolts to prevent galling. Strength of bolted joints shall not be affected by use of anti-seize compound.

C. MDPE Gas pipe to be 6.625" OD, 0.602" Wall Thickness Driscoplex 6500 Series MDPE Gas Distribution Coil Pipe in 500 foot lengths only.

2.2 BURIED PIPING IDENTIFICATION

A. Tracer Wire for all Pipes:
   1. Install 14-guage copper UF (Underground Feeder per National Electric Code Article 339) solid tracer wire and joint seal (Kearney Aquaseal, Bishop, or approved equal) along all non-metallic pipes. The wire shall be taped below the spring line of the pipe and shall be stubbed up at all valves. At each valve the wire shall be installed along the outside of the valve box. Wire shall extend up gas line location poles which shall be installed every 1,000 feet. Sections of wire shall be spliced together using a Buchanon tool or wirenut. Splicing by twisting the wire together is not acceptable.Install 14-guage copper UF (Underground Feeder per National Electric Code)
   2. Each segment of tracer wire shall be demonstrated to be electrically continuous between turn-ups after backfilling and before the pipe is accepted as complete.
   3. Tracer wire shall be color-coded to match pipe service.
   4. Tracer wire required for ALL pipes.

B. Detectable Underground Warning Tape for Non-Metallic Pipelines:
   1. Tape shall be of inert, acid- and alkali-resistant, polyethylene, five mils thick, six inches wide, with aluminum backing, and have 15,000 psi tensile strength and 80 percent elongation capability. Tape shall be suitable for direct burial.

   2. Message shall read, “CAUTION [insert customized name of pipe service, i.e., “POTABLE WATER”, “SANITARY SEWER”, “GAS”, or other

appropriate service, as indicated in the Buried Pipe Schedule at the end of this Section] PIPE BURIED BELOW" with bold letters approximately two inches high. Messages shall be printed at maximum intervals of two feet. Tape shall be custom colored the same as the pipeline colors as specified for the associated pipe service in Section 09 91 00, Painting.

3. Manufacturer: Provide products of one of the following:
    a. Brady Corporation
    b. Seton Identification Products
    c. Marking Services, Inc.
    d. Or equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
1. Install piping as shown, specified, and as recommended by pipe and fittings manufacturer.
2. In event of conflict between manufacturer's recommendations and the Contract Documents, request interpretation from ENGINEER before proceeding.
3. ENGINEER will observe excavations and bedding prior to laying pipe by CONTRACTOR. Notify ENGINEER in advance of excavating, bedding, pipe laying, and backfilling operations.
4. Minimum cover over buried piping shall be 3 feet, unless otherwise shown or approved by ENGINEER.
5. Earthwork is specified in Section 31 20 00, Earth Moving.
6. Excavation in excess of that required or shown, and that is not authorized by ENGINEER shall be filled at CONTRACTOR's expense with granular material furnished, placed, and compacted in accordance with Section 31 20 00, Earth Moving.

B. Separation of Sewers and Potable Water Piping:
1. Horizontal Separation:
    a. Where possible, existing and proposed potable water mains and service lines, and sanitary, combined, and storm sewers shall be separated horizontally by clear distance of at least six feet.
    b. If local conditions preclude the specified clear horizontal separation, installation will be allowed if potable water main is in separate trench or on undistributed earth shelf on one side of sewer and with bottom of potable water main at least 18 inches above top of sewer.
    c. Exception:
        1) Where it is not possible to provide minimum horizontal separation described above, construct potable water main of cement-lined ductile iron pipe with restrained push-on joint or restrained mechanical joint pipe complying with public water

supply design standards of authority having jurisdiction. Hydrostatically test water main and sewer as specified in this Section prior to backfilling. Hydrostatic test pressure at crossing shall be at least 150 psi.

2. Vertical Separation:
    a. Provide minimum vertical distance of 18 inches between outside of potable water main and outside of sewer when sewer crosses over potable water main.
    b. Center a section of potable water main pipe at least 17.5 feet long over sewer so that sewer joints are equidistant from potable water main joints.
    c. Provide adequate structural support where potable water main crosses under sewer. At minimum, provide compacted select backfill for ten feet on each side of crossing.
    d. Exceptions:
        1) Where it is not possible to provide minimum vertical separation described above, construct potable water main of cement-lined ductile iron pipe with restrained push-on joint or restrained mechanical joint pipe. Hydrostatically test water main and sewer as specified in this Section, prior to backfilling. Hydrostatic test pressure at crossing shall be at least 150 psi.
        2) Encase either potable water main or sewer in watertight carrier pipe extending ten feet on each side of crossing, measured perpendicular to potable water main.

C. Plugs:
1. Temporarily plug installed pipe at end of each day of work or other interruption of pipe installation to prevent entry of animals, liquids, and persons into pipe, and entrance or insertion of deleterious materials into pipe.
2. Install standard plugs in bells at dead ends, tees, and crosses. Cap spigot and plain ends.
3. Fully secure and block plugs, caps, and bulkheads installed for testing to withstand specified test pressure.
4. Where plugging is required for phasing of the Work or subsequent connection of piping, install watertight, permanent type plugs, caps, or bulkhead acceptable to ENGINEER.

D. Bedding Pipe: Bed pipe as specified and in accordance with details on the Drawings.
1. Trench excavation and backfill, and bedding materials shall conform to Section 31 20 00, Earth Moving, as applicable.
2. Where ENGINEER deems existing bedding material unsuitable, remove and replace existing bedding with approved granular material furnished, placed, and compacted in accordance with Section 31 20 00, Earth Moving. Payment for additional excavation and providing granular material will be made under the unit price payment items in the Contract.
3. Excavate trenches below bottom of pipe by amount shown and indicated in the Contract Documents. Remove loose and unsuitable material from bottom of trench.

4. Carefully and thoroughly compact pipe bedding with hand held pneumatic compactors.
5. Do not lay pipe until ENGINEER approves bedding condition.
6. Do not bring pipe into position until preceding length of pipe has been bedded and secured in its final position.

E. Laying Pipe:
1. Conform to manufacturer's instructions and requirements of standards and manuals listed below, as applicable:
   a. Thermoplastic Pipe: ASTM D2321, ASTM D2774, ANSI/AWWA C605, AWWA M23, AWWA M45, AWWA, M55.
2. Install pipe accurately to line and grade shown and indicated in the Contract Documents, unless otherwise approved by ENGINEER. Remove and reinstall pipes that are not installed correctly.
3. Slope piping uniformly between elevations shown.
4. Keep groundwater level in trench at least 24 inches below bottom of pipe before laying pipe. Do not lay pipe in water. Maintain dry trench conditions until jointing and backfilling are complete. Keep clean and protect interiors of pipe, fittings, valves, and appurtenances.
5. Start laying pipe at lowest point and proceed towards higher elevations, unless otherwise approved by ENGINEER.
6. Place bell and spigot-type pipe so that bells face the direction of laying, unless otherwise approved by ENGINEER.
7. Excavate around joints in bedding and lay pipe so that pipe barrel bears uniformly on trench bottom.
8. Deflections at joints shall not exceed 75 percent of amount allowed by pipe manufacturer, unless otherwise approved by ENGINEER.
9. For PVC and CPVC piping with solvent welded joints, 2.5-inch diameter and smaller, and copper tubing, snake piping in trench to compensate for thermal expansion and contraction.
10. Carefully examine pipe, fittings, valves, and specials for cracks, damage, and other defects while suspended above trench before installation. Immediately remove defective materials from the Site and replace with acceptable products.
11. Inspect interior of all pipe, fittings, valves, and specials and completely remove all dirt, gravel, sand, debris, and other foreign material from pipe interior and joint recesses before pipe and appurtenances are moved into excavation. Bell and spigot-type mating surfaces shall be thoroughly wire brushed, and wiped clean and dry immediately before pipe is laid.
12. Field cut pipe, where required, with machine specially designed for cutting the type of pipe being installed. Make cuts carefully, without damage to pipe, coating or lining, and with smooth end at right angles to axis of pipe. Cut ends on push-on joint type pipe shall be tapered and sharp edges filed off smooth. Do not flame-cut pipe.
13. Do not place blocking under pipe, unless specifically approved by ENGINEER for special conditions.
14. Touch up protective coatings in manner satisfactory to ENGINEER prior to backfilling.

15. Notify ENGINEER in advance of backfilling operations.
16. On steep slopes, take measures acceptable to ENGINEER to prevent movement of pipe during installation.
17. Thrust Restraint: Where required, provide thrust restraint conforming to Article 3.3 of this Section.
18. Exercise care to avoid flotation when installing pipe in cast-in-place concrete, and in locations with high groundwater.

F. Jointing Pipe:

1. Thermoplastic Pipe Joints:
    b. Bell and Spigot Joints:
        1) Bevel pipe ends, remove all burrs, and provide a reference mark at correct distance from pipe end before making joints.
        2) Clean spigot end and bell thoroughly before making the joint. Insert O-ring gasket while ensuring that gasket is properly oriented. Lubricate spigot with manufacturer's recommended lubricant. Do not lubricate bell and O-ring. Insert spigot end of pipe carefully into bell until reference mark on spigot is flush with bell.
2. Mechanical Coupling Joints:
    a. Mechanical couplings include: sleeve-type flexible couplings, split flexible couplings, ANSI/AWWA C606 grooved or shouldered end couplings, plasticized PVC couplings, and other mechanical couplings specified in Section 40 05 06, Couplers, Adapters, and Specials for Process Piping.
    b. Prior to installing and assembling mechanical couplings, thoroughly clean joint ends with wire brush to remove foreign matter.
    c. For mechanical couplings that incorporate gaskets, after cleaning apply lubricant to rubber gasket or inside of coupling housing and to joint ends. After lubrication, install gasket around joint end of previously installed piece and mate joint end of subsequent piece to installed piece. Position gasket and place coupling housing around gasket and over grooved or shouldered joint ends. Insert bolts and install nuts tightly by hand. Tighten bolts uniformly to produce an equal pressure on all parts of housing. When housing clamps meet metal to metal, joint is complete and further tightening is not required.
    d. For plasticized PVC couplings, loosen the stainless steel clamping bands and remove clamps from coupling. Slide coupling over plain ends of pipes to be joined without using lubricants. Place clamps over each end of coupling at grooved section and tighten with torque wrench to torque recommended by manufacturer.
3. Fusible PVC:
    a. Butt Fusion Welded Joints:
        1) Install joints in accordance with manufacturer's instructions using hydraulic butt fusion machine or manual machine equipped with torque wrench. Equipment shall be able to achieve and maintain

heating tool temperature range of 400 to 450 degrees F and an interface pressure of 60 to 90 psi.

2) Clean interior and exterior of pipe and fitting ends with clean, dry, lint-free cloth.
3) Align ends to be joined in the fusion machine without forcing ends into alignment. Adjust alignment as necessary and tighten clamps to prevent slippage.
4) Place facing tool between ends to be joined and face them to provide clean, smooth, parallel mating surface. If stops are present, face ends down to the stops. Remove all shavings after facing without touching ends.
5) Re-check alignment of ends and check for slippage against fusion pressure. There shall be no detectable gaps between ends. Align outside diameters.
6) Heating tool shall maintain pipe manufacture's recommended temperature range. Place the tool between ends to be joined. Move ends against heating tool to achieve full contact. Hold ends against heating tool without force until the following melt bead size is formed:

Pipe Diameter (inches)	Required Melt Bead Size (inches)
2 to 4	1/8 to 3/16
4 to 12	3/16 to 1/4
12 to 24	1/4 to 7/16
24 to 54	7/16 to 9/16

7) Upon forming proper melt bead size, quickly separate ends and remove heating tool. Quickly inspect melted ends and bring ends together applying joining force recommended by manufacturer, using 60 to 90 psi interfacial pressure to form double bead rolled over surface of pipe on both ends.
8) Hold joining force against ends until joint is cool to the touch. Cooling period shall be 30 to 90 seconds per inch of pipe diameter. Heavier wall thicknesses may require longer cooling times as recommended by pipe manufacturer.
9) Upon completing joint, inspect to verify double bead has been formed on both sides, uniformly rounded and consistent in size all around joint. Remove faulty joints and re-joint.

G. MDPE Welded Joints for Gas Service: Plastic pipe, tubing and fittings shall be joined in accordance with the manufacturer's instructions. The joint shall be designed and installed so that the longitudinal pull-out resistance of the joint will be at least equal to the tensile strength of the plastic *piping* material. Heat-fusion joints shall be made in accordance with qualified procedures that have been established and proven by test to produce gas-tight joints at least as strong as the pipe or tubing being joined. Joints shall be made with the joining method

recommended by the pipe manufacturer. Heat fusion fittings shall be marked "ASTM D2513."

1. Elbows: Factory-made welding elbows or transverse segments cut therefrom shall have an arc length measured along the crotch of not less than 1 inch (25 mm) in pipe sizes 2 inches (51 mm) and larger.
2. Gas and liquid petroleum pipelines shall be designed and constructed with 49 CFR, Part 192, Transportation of Natural Gas by Pipeline, as applicable and hereby incorporated by reference.

H. Backfilling:
   1. Conform to applicable requirements of Section 31 20 00, Earth Moving.
   2. Place backfill as Work progresses. Backfill by hand and use power tampers until pipe is covered by at least one foot of backfill.

I. Connections to Valves and Hydrants:
   1. Install valves and hydrants as shown and indicated in the Contract Documents.
   2. Provide suitable adapters when valves or hydrants and piping have different joint types.
   3. Provide thrust restraint at all hydrants and at valves located at pipeline terminations.

J. Transitions from One Type of Pipe to Another:
   1. Provide necessary adapters, specials, and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers.

K. Closures:
   1. Provide closure pieces shown or required to complete the Work.

3.2 TRACER TAPE INSTALLATION

A. Detectable Underground Warning Tape for Non-Metallic Pipelines (including Gas Lines):
   1. Provide polyethylene tracer tape with aluminum backing for buried, non-metallic piping, which includes pipe that is PVC, CPVC, polyethylene, F-PVC, FRP, ABS, and vitrified clay.
   2. Provide magnetic tracer tape 12 to 18 inches below finished grade, above and parallel to buried pipe.
   3. Tape shall be spread flat with message side up before backfilling.

3.3 THRUST RESTRAINT

A. Provide thrust restraint on pressure piping systems where shown or indicated in the Contract Documents.

B. Thrust restraint may be accomplished by using restrained pipe joints.

C. Restrained Pipe Joints:
   1. Pipe joints shall be restrained by means suitable for the type of pipe being installed.
      a. Ductile Iron, Push-on Joints and Mechanical Joints: Restrain with proprietary restrained joint system as specified in Section 40 05 19, Ductile Iron Process Pipe; lugs and tie rods; or other joint restraint systems approved by ENGINEER.
      b. Fusible PVC Joints: Where bell and spigot-type or other non-restrained joints are utilized, provide tie rods across joint or other suitable joint restraint system, subject to the approval of ENGINEER

D. Harnessed lengths of buried pipe shall be as shown on the Drawings.

3.4 WORK AFFECTING EXISTING PIPING

A. Location of Existing Underground Facilities:
   1. Locations of existing Underground Facilities shown on the Drawings should be considered approximate.
   2. Determine the true location of existing Underground Facilities to which connections are to be made, crossed, and that could be disturbed, and determine location of Underground Facilities that could be disturbed during excavation and backfilling operations, or that may be affected by the Work.

B. Taking Existing Pipelines and Underground Facilities Out of Service:
   1. Conform to Section 01 14 16, Coordination with Owner's Operations.
   2. Do not take pipelines or Underground Facilities out of service unless specifically listed in Section 01 14 16, Coordination with Owner's Operations, or approved by ENGINEER.
   3. Notify ENGINEER in writing prior to taking pipeline or Underground Facilities out of service. Shutdown notification shall be provided in advance of the shutdown in accordance with the General Conditions and Section 01 14 16, Coordination with Owner's Operations.

C. Work on Existing Pipelines or Underground Facilities:
   1. Cut or tap piping or Underground Facilities as shown or required with machines specifically designed for cutting or tapping pipelines or Underground Facilities, as applicable.
   2. Install temporary plugs to prevent entry of mud, dirt, water, and debris into pipe.
   3. Provide necessary adapters, sleeves, fittings, pipe, and appurtenances required to complete the Work.
   4. Conform to applicable requirements of Section 01 14 16, Coordination with Owner's Operations.

3.5 FIELD QUALITY CONTROL

A. General:
   1. Test all piping.
   2. When authorities having jurisdiction are to witness tests, notify ENGINEER and authorities having jurisdiction in writing at least 48 hours in advance of testing.
   3. Conduct all tests in presence of ENGINEER.
   4. Remove or protect pipeline-mounted devices that could be damaged by testing.
   5. Provide all apparatus and services required for testing, including:
      a. Test pumps, compressors, hoses, calibrated gages, meters, test containers, valves, fittings, and temporary pumping systems required to maintain OWNER's operations.
      b. Temporary bulkheads, bracing, blocking, and thrust restraints.
   6. Provide air if an air test is required, power if pumping is required, and gases if gases are required.
   7. Unless otherwise specified, OWNER will provide fluid required for hydrostatic testing. CONTRACTOR shall provide means to convey fluid for hydrostatic testing into piping being tested. CONTRACTOR shall provide fluid for other types of testing required.
   8. Repair observed leaks and repair pipe that fails to meet acceptance criteria. Retest after repair.
   9. Pipe testing shall closely follow pipe laying. No more than 1,000 feet of pipe shall remain untested at any time unless otherwise approved by ENGINEER. Testing shall not proceed until facilities are in place and concrete cured.

B. Test Schedule:
   1. Refer to the Buried Piping Schedule in this Section for type of test required and required test pressure.
   2. Unless otherwise specified, required test pressures are at lowest elevation of pipeline segment being tested.
   3. For piping not listed in Buried Piping Schedule in this Section:
      a. Hydrostatically test pipe that will convey liquid at a pressure greater than five psig.
      b. Use exfiltration testing or testing, low-pressure air testing, or vacuum testing for other piping.
   4. Test Pressure:
      a. Use test pressures listed in Buried Piping Schedule in this Section.
      b. If test pressure is not listed in Buried Piping Schedule, or if test is required for piping not listed in the Buried Piping Schedule, or if test is required for piping not listed in the Buried Piping Schedule, test pressure will be determined by ENGINEER based on maximum anticipated sustained operating pressure and methods described in applicable ANSI/AWWA manual or standard that applies to the piping system.

C. Hydrostatic Testing:
   1. Preparation for Testing:

a. For thermoplastic pipe and fiberglass pipe, follow procedures described in Section 7 of ANSI/AWWA Standard C605.
b. For HDPE pipe, follow procedures described in ASTM F2164. Test duration, including time to pressurize, time for initial expansion, time at test pressure, and time to depressurize, shall not exceed eight hours. If re-testing of a test section or pipeline is required, at least eight hours shall elapse between tests.
c. For other piping follow procedures described in ANSI/AWWA Manual M9, except that minimum wetting period required immediately prior to testing for asbestos cement pipe shall be 24 hours rather than the 48 hours prescribed for concrete pipe. Wetting period is not required for pipe that is not cement mortar-lined.
d. Prior to testing, ensure that adequate thrust protection is in place and joints are properly installed.
e. Piping for Hydraulic Fluid, Lube Oil, and Diesel Fuel: Hydrostatically test system using the fluid with which system will function permanently. Allowable leakage is zero. For fluid power systems, pipe manufacturer shall supervise installation and testing of system components, including field piping.

2. Test Procedure:
a. Fill pipeline slowly to minimize air entrapment and surge pressures. Fill rate shall not exceed one foot of pipe length per second in pipe being tested.
b. Expel air from pipe as required. Obtain approval of ENGINEER prior to tapping pipe for expelling air.
c. Examine exposed joints and valves, and make repairs to eliminate visible leakage.
d. After specified wetting period, add fluid as required to pressurize line to required test pressure. Maintain test pressure for a stabilization period of ten minutes before beginning test.
e. After filling pipeline, gradually pressurize pipe to test pressure and maintain required test pressure for three hours for pipe to expand. During expansion, add fluid to maintain required test pressure. Begin timed test period after expansion period and other requirements are met.
f. Timed test period shall not begin until after pipe has been filled, exposed to required wetting period, air has been expelled, and pressure stabilized.
g. Timed Test Period: After stabilization period, maintain test pressure for at least two hours. During timed testing period, add fluid as required to maintain pressure within five psig of required test pressure. For HDPE pipe, after three hour expansion phase, reduce test pressure by ten psig and do not add liquid. Test pressure shall then remain steady for one hour, indicating no leakage.
h. Pump from test container to maintain test pressure. Measure volume of fluid pumped from test container and record on test report. Record pressure at test pump at 15 minute intervals for duration of test.

3. Allowable Leakage Rates: Leakage is defined as the quantity of fluid supplied to pipe segment being tested to maintain pressure within five psi of test pressure during timed test period. Allowable leakage rates for piping are:
    a. No Leakage: Pipe with flanged, welded, fused, threaded, soldered, or brazed joints.
    b. Rates based on formula or table in ANSI/AWWA C605:
        1) Plastic pipe joined with O-ring gasket sealing members.

D. Exfiltration Testing:
1. CONTRACTOR shall test piping using exfiltration/infiltration and low-pressure methods at his option and with ENGINEER'S approval. Method for exfiltration testing is described below.
2. Plug and bulkhead ends and lateral connections of pipe segment to be tested and admit fluid until the pipe is full. Admit fluid slowly to minimize air entrapment. Groundwater level shall be below the pipe during exfiltration test.
3. Maintain hydrostatic head during test to equal an elevation two feet above maximum groundwater elevation at pipe segment tested or two feet above crown of upstream end of pipe segment tested, whichever is greater. ENGINEER will determine test water surface elevation for each pipe segment.
4. Add fluid from test container or from metered supply as required to maintain test water level within three inches of test head throughout the test.
5. Test duration shall be at least two hours.
6. Allowable Leakage Rates:
    a. Leakage is defined as the quantity of fluid that must be supplied to pipe segment tested to maintain hydrostatic head within three inches of test head during the test after pipe has been filled and exposed for required wetting period, plus quantity required to refill to original head at end of test.
    b. Leakage shall not exceed 100 gallons per inch of internal diameter per mile of pipe tested in 24 hours, or that required by authority having jurisdiction, whichever is less.

E. Infiltration Testing
1. CONTRACTOR shall test piping using exfiltration/infiltration and low-pressure methods at his option and with ENGINEER'S approval. Method for exfiltration testing is described below.
2. Plug and bulkhead ends and lateral connections of pipe segment to be tested.
3. Dewatering activities should be suspended three (3) days prior to the start of the test and throughout the duration of the test.
4. A 90 degree V-notch weir in pipe on downstream manhole shall be inserted.
5. Testing may begin after water flow over weir stabilizes.
6. Take five (5) reading of accumulated volume over period of 2 hours and use average for infiltration.
7. Allowable Leakage Rates:
    a. Leakage is defined as the quantity of fluid that enters the pipe segment to be tested during the testing period.

b. Leakage shall not exceed 100 gallons per inch of internal diameter per mile of pipe tested in 24 hours, or that required by authority having jurisdiction, whichever is less.

F. Testing of Gas Piping**:**

1. Prior to acceptance and initial operation, all *piping* installations shall be visually inspected and pressure tested (via air, nitrogen, carbon dioxide or an inert gas) to determine that the materials, design, fabrication and installation practices comply with the accepted requirements. Oxygen gas shall not be used in any testing. Inspection shall consist of visual examination during or after manufacture, fabrication, assembly or pressure tests.
2. The test pressure to be used shall be not less than $1^1/_2$ times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *piping* greater than 50 percent of the specified minimum yield strength of the pipe.
3. Test duration shall be not less than $^1/_2$ hour for each 500 cubic feet (14 m^3) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28 m^3) or a system in a single-family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.
4. The *piping* system shall withstand the test pressure specified without showing any evidence of leakage or other defects. Any reduction of test pressures as indicated by pressure gauges shall be deemed to indicate the presence of a leak unless such reduction can be readily attributed to some other cause.
5. The leakage shall be located by means of an *approved* gas detector, a noncorrosive leak detection fluid or other *approved* leak detection methods.
6. Where leakage or other defects are located, the affected portion of the *piping* system shall be repaired or replaced and retested.

3.6 CLEANING AND DISINFECTION

A. Cleaning, General: Clean pipe systems as follows:

1. Thoroughly clean all piping, including flushing with water, dry air, or inert gas as required, in manner approved by ENGINEER, prior to placing in service. Flush chlorine solution and sodium hypochlorite piping with water.
2. Piping 24-inch diameter and larger shall be inspected from inside and debris, dirt and foreign matter removed.
3. For piping that requires disinfection and has not been kept clean during storage or installation, swab each section individually before installation with five percent sodium hypochlorite solution.

B. Cleaning of Gas and Air Piping:

1. Unless otherwise specified, non-chlorine gas and air system piping six-inch diameter and smaller shall be blown out, using air or testing medium specified.

Piping larger than six-inch diameter shall be cleaned by having a swab or "pig" drawn through each pipe reach.

2. After connecting to equipment, blow out pipe using the equipment.
3. Upon completion of cleaning, piping shall be drained and dried with blown air. Propane systems shall be purged with nitrogen and nitrogen pad maintained at ten psi until pipe is placed in service. Purge digester gas systems with nitrogen and maintain nitrogen pad at three psi until line is placed in service.

D. Disinfection:
   1. Disinfect all potable and finished water piping.
   2. Suggested procedure for accomplishing complete and satisfactory disinfection is specified below. Other procedures may be considered for acceptance by ENGINEER.
      a. Prior to disinfection, clean piping as specified and flush thoroughly.
      b. Conform to procedures described in ANSI/AWWA C651. Use continuous feed method of disinfecting, unless alternative method is acceptable to ENGINEER.
   3. Water for initial flushing, testing, and disinfection will be furnished by OWNER. CONTRACTOR shall provide all temporary piping, hose, valves, appurtenances, and services required. Cost of water required for re-disinfection will be paid by CONTRACTOR to OWNER at water utility's standard rates.
   4. Chlorine shall be provided by CONTRACTOR.
   5. Bacteriologic tests will be performed by OWNER. Certified test laboratory report will be provided to CONTRACTOR, if requested.
   6. Chlorine concentration in water entering the piping shall be between 50 and 100 ppm, such that minimum residual concentration of 25 mg/L remains after 24-hour retention period. Disinfect piping and all related components. Repeat as necessary to provide complete disinfection.
   7. After required retention period, flush chlorinated water to closed drain line, unless otherwise acceptable to ENGINEER. Properly dispose of chlorinated water in accordance with Laws and Regulations. Do not discharge chlorinated water to storm sewers, ditches, or overland.

3.7 SCHEDULES

A. Schedules listed below, following the "End of Section" designation, are part of this Specification section.
   1. Table 33 05 05-A, Buried Piping Schedule.

+ + END OF SECTION + +

TABLE 33 05 05-A, BURIED PIPING SCHEDULE

Service	Diameter (inch)	Material	Interior Lining	Exterior Coating	Pressure Class/ Thickness	Joint	Test	Remarks
GAS	6”	MDPE	-	-	DR 11	BW	GP(48)	

A. Service Abbreviations

Service	Abbrev		Service	Abbrev.
Sanitary Sewer	SAN		Wastewater	WW
Storm Sewer	ST		Overflow	OF
Combined Sewer	CS		Centrate	CEN
Sanitary Force Main	SFM		Filtrate	FILT
Raw Water	RW		Scum	SCUM
Potable Water	PW		Primary Sludge	PS
City Water	CW		Return Activated Sludge	RAS
Non-Potable Water	NPW		Waste Activate Sludge	WAS
Plant Effluent Water	PEW		Thickened Sludge	TS
Spray Water	SPW		Mixed Sludge	MS
Backwash Water	BW		Digested Sludge	DS
Hot Water Supply	HWS		Chlorine Solution	CLS
Hot Water Return	HWR		Sodium Hydroxide	NAOH
Influent	INF		Sodium Hypochlorite	NAOCL
Effluent	EFF		Polymer Solution	POLYS
Drain	DR		Alum	AL
Process Air	PA		Hydraulic Fluid	HF
Instrument Air	IA		Fuel Oil	FO
Digester Gas	DIG		Lube Oil	LO
Chlorine Gas	CLG		Lift Station Discharge Force Main	LSDFM

B. Material Abbreviations

Material	Abbrev		Material	Abbrev.
Ductile Iron	DI		Polyvinyl Chloride	PVC
Cast Iron	CI		Chlorinated Polyvinyl Chloride	CPVC
Carbon Steel	CS		Polyethylene	PE
Stainless Steel	SS		Fiberglass Reinforced Plastic	FRP
Copper	C		Acrylonitrile Butadiene Styrene	ABS
Corrugated Metal Pipe	CMP		Vitrified Clay	VC
Reinforced Concrete Pipe	RCP		Medium Density Polyethylene	MDPE
Prestressed Concrete Cylinder Pipe	PCCP			
Non-Prestressed Concrete Cylinder Pipe	CCP			
Steel Cylinder Pipe	SCP			

C. Lining/Coating Abbreviations

Lining	Abbrev		Coating	Abbrev.
Cement Mortar Lined	CL		Asphaltic Coated	AC
Glass Lined	GL		Polyethylene Wrapped	PEW
Ceramic Epoxy	CE		Painted	P
Fusion Bonded Epoxy Lined	FBEL		Fusion Bonded Epoxy Coated	FBEC
Plastic Lined	PL		Insulated	I
			Galvanized	Galv

D. Joint Abbreviations

Joint Type	Abbrev		Joint Type	Abbrev.
Bell and Spigot	BS		Butt Weld	BW
Restrained Bell and Spigot	RBS		Lap Weld	LW
Push-on Joint	POJ		Butt Fusion Weld	BFW
Restrained Push-on Joint	RPOJ		Solvent Weld	SW
Mechanical Joint	MJ		Sleeve-type Flexible Coupling	SLFC
Restrained Mech. Joint	RMJ		Split Flexible Coupling	SPFC
Soldered	Sd		Plasticized PVC Coupling	PPVC
Brazed	Bz		Grooved or Shouldered End Coupling	GSEC
Threaded	Thd		Flanged	Flg
Compression Sleeve Coupling	CSC		Compression Flange Adapter	CFA

E. Test Abbreviations

Test	Abbrev		Test	Abbrev.
Hydrostatic Test (test pressure in psig)	HYD ( )		Gas Pipe Test (test pressure in psig)	GP ( )
Exfiltration	EX		Chlorine Pipe Test	CL
Infiltration	INF		Disinfection and Bacteriological Testing	DBT
Low-pressure Air Sewer Test	AIR		Examination of Welds	EW
Vacuum Test	VAC		Televised Inspection	TV
Vertical Deflection	VD		No Test Required	NR

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COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS
PROJECT NUMBER 2019-05
NW BELL STREET PAVING AND EXTENSION

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. All blanks on Bid Proposal sheet shall be filled in and 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 excepted 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. 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. 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.

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

35. All contractors submitting bids for road projects in excess of $150,000 must be pre-qualified with the Florida Department of Transportation and shall provide proof of such qualification upon request.

36. 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.

37. 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.

38. 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 is pursuant to the contract with the County.

39. Contractor shall register online at http://www.columbiacountyfla.com/PurchasingBids.asp for this specific project. All addendums are delivered via email through this website, and it is the contractor's responsibility to ensure all addendums are used in the bid submittal.

40. Any existing materials demolished within county right of way may be retained by Columbia County.

CONSTRUCTION AGREEMENT

COLUMBIA COUNTY, a political subdivision of the State of Florida, by and through its Board of County Commissioners, situated at 135 NE Hernando Avenue, Suite 203, Lake City, Florida 32056-1529 (the "County"), hereby contracts with ____. _ (the "Contractor") of ____ _ (address) a contractor licensed to perform all work in the State of Florida in connection with the County's Project No.__ (the "Project"), as said work is set forth in the Plans and Specifications and other Contract Documents hereafter specified (the "Work"). The designated Engineer for the Project and the Work, as referenced in this Agreement, shall be

The County and the Contractor, for the consideration herein set forth, agree as follows:

Section 1. Contract Documents

The Contract Documents consist of this Agreement, the Exhibits described in Section 4 hereof, the Legal Advertisement, the Instructions to Bidders, the Proposal and any duly executed and issued addenda, Change Orders, Work Directive Changes, Field Orders, Work Authorizations and amendments relating thereto. All of the foregoing Contract Documents are incorporated by reference and made a part of this Agreement (all of said documents including the Agreement sometimes being referred to herein as the "Contract Documents" and sometimes as the "Agreement"). A copy of the Contract Documents shall be maintained by Contractor at the Project site at all times during the performance of the Work.

Section 2. Scope of Work

The Contractor agrees to furnish and pay for all management, supervision, financing, labor, materials, tools, fuel, supplies, utilities, equipment and services of every kind and type necessary to diligently, timely, and fully perform and complete in a good and workmanlike manner the Work required by this Agreement.

Section 3. Contract Amount

In consideration of the faithful performance by the Contractor of the covenants in this Agreement to the full satisfaction and acceptance of the County, the County agrees to pay, or cause to be paid, to Contractor the following amount (herein "Contract Amount"), in accordance with the terms of this Agreement: .

[INSERT SCHEDULE OF UNIT PRICES AS APPLICABLE]

Section 4. Exhibits Incorporated

The following documents are expressly agreed to be incorporated by reference and made a part of this Agreement:

A. Legal Advertisement
B. Invitation to Bid
C. Bid Proposal with required forms
D. Performance Bond
E. Public Payment Bond
F. Insurance Requirements, including certificates of insurance
G. Form of Release and Affidavit
H. Change Order Form
I. Notice of Award
J. Notice to Proceed Form
K. Application for Payment Form
L. Special Conditions, if any
M. Project Plans
N. 2017 FDOT Standard Specifications for Road and Bridge Construction

Section 5. Bonds

A. The Contractor shall provide Performance and Payment Bonds, in the form prescribed in the Exhibits to the Agreement, in the amount of 100% of the Contract Amount, the costs of which are to be paid by Contractor. The Performance and Payment Bonds shall be underwritten by a surety authorized to do business in the State of Florida and otherwise acceptable to the County; provided, however, the surety shall be rated as "A-" or better as to general policy holders rating and Class V or higher rating as to financial size category and the amount required shall not exceed 5% of the reported policyholders surplus, all as reported in the most current Best Key Rating Guide, published by A.M. Best Company, Inc. of 75 Fulton Street, New York, New York 10038.

B. If the surety for any bond furnished by Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall, within five (5) calendar days thereafter, substitute another bond and surety, both of which shall be subject to the County's approval.

Section 6. Contract Time and Liquidated Damages

A. Time is of the essence in the performance of the Work under this Agreement. The "Commencement Date" shall be established in the Notice to Proceed to be issued by the County. The Contractor shall commence the Work within five (5) calendar days from the Commencement Date. No Work shall be performed at the Project site prior to the Commencement Date. Any Work performed by the Contractor prior to the Commencement Date shall be at the sole risk of the

Contractor. The Work shall be substantially completed within calendar days from the Commencement Date. The date of substantial completion of the Work (or designated portions thereof) is the date certified by the Engineer when construction is sufficiently complete, in accordance with the Contract Documents, so the County can occupy or utilize the Work (or designated portions thereof) for the use for which it is intended. The Work shall be fully completed and ready for final acceptance by the County within ___ calendar days from the Commencement Date (herein "Contract Time").

B. The County and the Contractor recognize that, since time is of the essence for this Agreement, the County will suffer financial loss if the Work is not substantially completed within the time specified above, as said time may be adjusted as provided for herein. Should the Contractor fail to substantially complete the Work within the time period noted above, the County shall be entitled to assess, as liquidated damages, but not as a penalty, **$ [USE FDOT Schedule of LD's based upon Project $ Value**[1] for each calendar day thereafter until substantial completion is achieved. The Project shall be deemed to be substantially completed on the date the Engineer issues a Substantial Completion Certificate pursuant to the terms hereof. The Contractor hereby expressly waives and relinquishes any right which it may have to seek to characterize the above noted liquidated damages as a penalty, which the parties agree represents a fair and reasonable estimate of the County's actual damages at the time of contracting if the Contractor fails to substantially complete the Work in a timely manner.

C. When any period of time is referenced by days herein, it shall be computed to exclude the first day and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day shall be omitted from the computation, and the last day shall become the next succeeding day which is not a Saturday, Sunday or legal holiday.

Section 7. Intent of Contract Documents and Contractor Representations

A. It is the intent of the Contract Documents to describe a functionally complete project (or portion thereof) to be constructed in accordance with the Contract Documents. Any work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association or to the laws or regulations of any governmental authority having jurisdiction over the Project, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, law or regulation in effect at the time the Work is performed, except as may be otherwise specifically stated herein.

[1] The Liquidated Damages have been valued based upon the Florida Department of Transportation's Standard Specifications for Road and Bridge Construction, published **July 2017**.

B. If before or during the performance of the Work, Contractor discovers a conflict, error or discrepancy in the Contract Documents, Contractor immediately shall report same to Engineer in writing and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from the Engineer. Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents before commencing any portion of the Work.

C. Drawings are intended to show general arrangements, design and extent of Work and are not intended to serve as shop drawings. Specifications are separated into divisions for convenience of reference only and shall not be interpreted as establishing divisions for the Work, trades, subcontracts, or extent of any part of the Work. In the event of a discrepancy between or among the drawings, specifications or other Contract Document provisions, Contractor shall be required to comply with the provision which is the more restrictive or stringent requirement upon the Contractor, as determined by the Engineer.

D. In order to induce Owner to enter into this Agreement Contractor makes the following representations:

D.1 Contractor has examined and carefully studied the Contract Documents (including those listed in Section 4) and the other related data identified in the Project Documents including "technical data."

D.2 Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance or furnishing of the Work.

D.3 Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

D.4 Contractor has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor and safety precautions, and

programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

D.5 Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract Documents.

D.6. Contractor has correlated the information known to Contractor, information and observation obtained from visits to the site, reports, and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

D.7. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Section 8. Investigation and Utilities

A. Contractor shall have the sole responsibility of satisfying itself concerning the nature and location of the Work and the general and local conditions, and particularly, but without limitation, with respect to the following: those affecting transportation, access, disposal, handling and storage of materials; availability and quality of labor; water and electric power; availability and condition of roads; work area; living facilities; climatic conditions and seasons; physical conditions at the work-site and the project area as a whole; topography and ground surface conditions; nature and quantity of the surface materials to be encountered; subsurface conditions; equipment and facilities needed preliminary to and during performance of the Work; and all other costs associated with such performance. The failure of Contractor to acquaint itself with any applicable conditions shall not relieve Contractor from any of its responsibilities to perform under the Contract Documents, nor shall it be considered the basis for any claim for additional time or compensation.

B. Contractor shall locate all existing roadways, railways, drainage facilities and utility services above, upon, or under the Project site, said roadways, railways, drainage facilities and utilities being referred to in this Sub-Section 8.B. as the "Utilities". Contractor shall contact the owners of all Utilities to determine the necessity for relocating or temporarily interrupting any Utilities during the construction of the Project. Contractor shall schedule and coordinate its Work around any such relocation or temporary service interruption. Contractor shall be responsible for properly shoring, supporting and protecting all Utilities at all times during the course of the Work.

Section 9. Schedule

A. The Contractor, within ten (10) calendar days after receipt of a Notice of Award, shall prepare and submit to the County and Engineer, for their review and approval, a progress schedule for the Project (herein "Progress Schedule"). The Progress Schedule shall relate to all Work required by the Contract Documents and shall: show the various activities of work in sufficient detail to demonstrate a reasonable and workable plan to complete the Project within the Contract Time; show the order and interdependence of activities and the sequence for accomplishing the Work and describe all activities in sufficient detail so that the Engineer can readily identify the work and measure the progress of each activity; show each activity with a beginning work date, a duration, and a monetary value; include activities for procurement fabrication, and delivery of materials, plant, and equipment, and review time for shop drawings and submittals; include milestone activities when milestones are required by the Contract Documents; and in a Project with more than one phase, adequately identify each phase and its completion date, and not allow activities to span more than one phase. The Contractor shall also submit a working plan with the Progress Schedule, consisting of a concise written description of the construction plan.

B. The Engineer will return inadequate schedules to the Contractor for corrections and Contractor shall resubmit a corrected schedule within five (5) calendar days from the date of the Engineer's return transmittal. The Engineer will use the accepted Project Schedule as the baseline against which to measure the progress. However, by acceptance of the Project Schedule, the Engineer does not endorse or otherwise certify the validity or accuracy of the activity durations or sequencing of activities.

B. The Progress Schedule shall be updated by the Contractor if there is a significant change in the planned order or duration of an activity or upon the request of the Engineer, which shall not be requested more than [INSERT TIMES] a month. All updates to the Progress Schedule shall be subject to the County's and Engineer's review and approval. The Engineer's review and approval of submitted the Progress Schedule and any required or requested updates shall be a condition precedent to the County's obligation to pay the Contractor.

Section 10. Progress Payments

A. Prior to submitting its first Application for Payment, Contractor shall submit to the County and the Engineer, for their review and approval, a schedule of values based upon the Contract Price, listing the major elements of the Work and the dollar value for each element. After its approval by the County and Engineer, this schedule of values shall be used as the basis for the Contractor's monthly Applications for Payment. This schedule shall be updated and submitted each month to the Engineer along with a completed and notarized copy of the Application for Payment form.

B. Prior to submitting its first Application for Payment, Contractor shall submit to the Engineer a complete list of all its proposed subcontractors and materialmen. The first Application for Payment shall be submitted no earlier than thirty (30) days after the Commencement Date.

C. If payment is requested on the basis of materials and equipment not incorporated into the Project, but delivered and suitably stored at the site or at another location agreed to by the County in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that the County has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances, together with evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the County's interest therein, all of which shall be subject to the County's satisfaction.

D. Contractor shall submit its monthly Application for Payment to the Engineer on or before the 25th day of each month for work performed during the previous month. Invoices received after the 25th day of each month shall be considered for payment as part of the next month's application. Within ten (10) calendar days after receipt of each Application for Payment, the Engineer shall either:

D.1 indicate his approval of the requested payment;

D.2 indicate his approval of only a portion of the requested payment, stating in writing his reasons therefore; or

D.3 return the Application for Payment to the Contractor indicating, in writing, the reason for refusing to approve payment.

In the event of a total denial and return of the Application for Payment by the Engineer, the Contractor may make the necessary corrections and resubmit the Application for Payment. The County shall, within thirty (30) calendar days after County approval of an Application for Payment, pay the Contractor the amounts so approved. Provided, however, in no event shall the County be obligated to pay any amount greater than that portion of the Application for Payment approved by the Engineer.

E. The County shall retain ten percent (10%) of the gross amount of each monthly payment request or ten percent (10%) of the portion thereof approved by the Engineer for payment, whichever is less. After fifty percent (50%) of the services are completed, the County will reduce the retainage to five percent (5%) of each subsequent progress payment. Such sums shall be accumulated and released to Contractor with final payment.

F. Monthly payments to Contractor shall in no way imply approval or acceptance of Contractor’s work.

G. Each Application for Payment shall be accompanied by a Release and Affidavit, in the form attached to this Agreement, showing that all materials, labor, equipment and other bills associated with that portion of the Work for which payment is being requested have been paid in full.

The County shall not be required to make payment until and unless these affidavits are furnished by the Contractor.

H. The County reserves the right to issue joint checks to Contractor and its material suppliers, subcontractors, labor unions, equipment suppliers, etc., if, in the County's sole judgment, it is necessary to do so to ensure payment to the above named parties or if above named parties have filed a notice of nonpayment, lien or intent to lien, stop notice, etc.

Section 11. Payments Withheld

A. The Engineer or the County may decline to approve any Application for Payment, or portions thereof, because of subsequently discovered evidence or subsequent inspections. The Engineer or the County may nullify the whole or any part of any approval for payment previously issued and the County may withhold any payments otherwise due Contractor under this Agreement or any other agreement between the County and Contractor, to such extent as may be necessary in the County's opinion to protect it from loss because of:

A.1 Defective Work not remedied;

A.2 Third party claims filed or reasonable evidence indicating probable filing of such claims;

A.3 Failure of Contractor to make payment properly to subcontractors or for labor, materials or equipment;

A.4 Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Amount;

A.5 Reasonable indication that the Work will not be completed within the Contract Time;

A.6 Unsatisfactory prosecution of the Work by the Contractor;

A.7 Failure to provide accurate and current "As-Builts"; or

A.8 Any other material breach of the Contract Documents.

B. If these conditions in Subsection 11.A are not remedied or removed, the County may, after three (3) days written notice, rectify the same at Contractor's expense. The County also may offset against any sums due Contractor the amount of any liquidated or unliquidated obligations of Contractor to the County, whether relating to or arising out of this Agreement or any other agreement between Contractor and the County.

Section 12. Final Payment

A. The County shall make final payment to Contractor within thirty (30) calendar days after the Work is finally inspected and accepted by both the County and the Engineer in accordance with Section 25.B. herein, provided that Contractor first, and as an explicit condition precedent to the accrual of Contractor's right to final payment, shall have furnished the County with a properly executed and notarized copy of the Release and Affidavit, as well as, a duly executed copy of the Surety's consent to final payment and such other documentation that may be required by the Contract Documents and the County.

B. Contractor's acceptance of final payment shall constitute a full waiver of any and all claims by Contractor against the County arising out of this Agreement or otherwise relating to the Project, except those previously made in writing and identified by parties as unsettled at the time of the final Application for Payment. Neither the acceptance of the Work nor payment by the County shall be deemed to be a waiver of the County's right to enforce any obligations of Contractor hereunder or to the recovery of damages for defective Work not discovered by the Engineer or the County at the time of final inspection.

Section 13. Submittals and Substitutions

A. Contractor shall carefully examine the Contract Documents for all requirements for approval of materials to be submitted such as a schedule of values, safety manual, shop drawings, data, test results, schedules and samples. Contractor shall submit all such materials at its own expense and in such form as required by the Contract Documents in sufficient time to prevent any delay in the delivery of such materials and the installation thereof.

B. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other suppliers may be accepted by the County if sufficient information is submitted by Contractor to allow the County to determine that the material or equipment proposed is equivalent or better than to that named. Requests for review of substitute items of material and equipment will not be accepted by the County from anyone other than Contractor and all such requests must be submitted by Contractor to Engineer within thirty (30) calendar days after Notice of Award is received by Contractor.

C. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make application to the Engineer for acceptance thereof, certifying that the proposed substitute shall perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application shall state that the evaluation and acceptance of the proposed substitute will not prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract

Documents (or in the provisions of any other direct contract with the County for the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service shall be indicated. The application also shall contain an itemized estimate of all costs that will result, directly or indirectly, from acceptance of such substitute, including costs for redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the Engineer in evaluating the proposed substitute. The Engineer may require Contractor to furnish at Contractor's expense additional data about the proposed substitute.

D. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Engineer, if Contractor submits sufficient information to allow the Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedures for submission to and review by the Engineer shall be the same as those provided herein for substitute materials and equipment.

E. The Engineer shall be allowed a reasonable time within which to evaluate each proposed substitute. The Engineer shall be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Engineer's prior written acceptance which shall be evidenced by either a Change Order or an approved Shop Drawing. The County may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

Section 14. Daily Reports, As-Builts and Meetings

A. Unless waived in writing by the County, Contractor shall complete, maintain, and submit to Engineer on a __**Weekly**___ basis a daily log of the Contractor's work in a format approved by the Engineer. The daily log shall document all activities of Contractor at the Project site including, but not limited to, the following:

A.1. Weather conditions showing the high and low temperatures during work hours, the amount of precipitation received on the Project site, and any other weather conditions which adversely affect the Work;

A.2. Any Conditions which adversely affect the Work;

A.3. The hours of operation by Contractor's and subcontractor's personnel;

A.4. The number of Contractor's and subcontractor's personnel present and working at the Project site, by subcontract and trade;

A5. All equipment present at the Project site, description of equipment use and designation of time equipment was used (specifically indicating any down time);

A.6. Description of Work being performed at the Project site;

A.7. Any unusual or special occurrences at the Project site;

A.8. Materials received at the Project site;

A.9. A list of all visitors to the Project site; and

A.10. Any problems that might impact either the cost or quality of the Work or the time of performance.

The daily log shall not constitute nor take the place of any notice required to be given by Contractor to the County or Engineer pursuant to the Contract Documents.

B. Contractor shall maintain in a safe place at the Project site one record copy of the Contract Documents, including, but not limited to, all drawings, specifications, addenda, amendments, Change Orders, Work Directive Changes and Field Orders, as well as all written interpretations and clarifications issued by the Engineer, in good order and annotated to show all changes made during construction. The annotated drawings shall be continuously updated by the Contractor throughout the prosecution of the Work to accurately reflect all field changes that are made to adapt the Work to field conditions, changes resulting from Change Orders, Work Directive Changes and Field Orders, and all concealed and buried installations of piping, conduit and utility services. All buried and concealed items, both inside and outside the Project site, shall be accurately located on the annotated drawings as to depth and in relationship to not less than two (2) permanent features (e.g. interior or exterior wall faces). The annotated drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color. The "As-Built" record documents, together with all approved samples and a counterpart of all approved shop drawings shall be available to Engineer for reference. Current and accurate "As-Built" record documents shall be submitted with each Application for Payment. Failure to provide current and accurate "As-Built" record drawings shall be reason for rejecting the Application for Payment. Upon completion of the Work and as a condition precedent to Contractor's entitlement to final payment, these "As-Built" record documents, samples and shop drawings shall be delivered to Engineer by Contractor for the County.

C. Contractor shall keep all records and supporting documentation which concern or relate to the Work hereunder for a minimum of five (5) years from the date of termination of this Agreement or the date the Project is completed, whichever is later. The County, or any duly authorized agents or representatives of the County, shall have the right to audit, inspect and copy all such records and documentation as often as they deem necessary during the period of this Agreement

and during the five (5) year period noted above; provided, however, such activity shall be conducted only during normal business hours.

D. In addition to other requirements provided herein, Contractor shall:

D.1. Keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the Work.

D.2. Provide the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

D.3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

D.4. Meet all requirements for retaining public records and transfer, at no cost, to the County all public records in possession of the Contractor upon termination of the Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County.

D.5. If the Contractor does not comply with a public records request, the County may terminate this Contract in accordance with Section 23 hereof.

Section 15. Independent Contractor

Contractor is an independent contractor and shall, at its sole cost and expense and without increase in the contract price, comply with all laws, rules, ordinances, and regulations of all governing bodies having jurisdiction over the Work. Contractor shall be responsible for securing timely inspections and approvals of its work from all such authorities and as required by the Contract Documents. Contractor shall obtain and pay for all necessary permits and licenses, including business licenses; pay all fees, manufacturer's taxes, sales taxes, use taxes, processing taxes, and all federal and state taxes, insurance and contributions for social security and unemployment or disability insurance, which are measured by wages, salaries, or other remunerations paid to Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. Contractor shall maintain proof that it has complied with all aspects of the foregoing provision and shall make such proof available for review by the County at County's request.

Section 16. Contractor Performance, Extensions, and No Damages for Delay of Work

A. Contractor shall diligently pursue the completion of the Work and coordinate the Work being done on the Project by its subcontractors and materialmen, as well as coordinating its Work with all work of others at the Project Site, so that its Work or the work of others shall not be delayed or impaired by any act or omission by Contractor. Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures, as well as coordination of all portions of the Work under the Contract Documents.

B. Should Contractor be obstructed or delayed in the prosecution of or completion of the Work as a result of unforeseeable causes beyond the control of Contractor, and not due to its fault or neglect, including but not restricted to acts of God or of the public enemy, acts of government, fires, floods, epidemics, quarantine regulation, strikes or lockouts, Contractor shall notify the County in writing within forty-eight (48) hours after the commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which Contractor may have had to request a time extension.

C. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the Work from any cause whatever, including those for which the County may be responsible, in whole or in part, shall relieve Contractor of his duty to perform or give rise to any right to damages or additional compensation from the County. Contractor expressly acknowledges and agrees that it shall receive no damages for delay. Contractor's sole remedy, if any, against the County will be the right to seek an extension to the Contract Time; provided, however, the granting of any such time extension shall not be a condition precedent to the aforementioned "No Damage For Delay" provision. This paragraph shall expressly apply to claims for early completion, as well as to claims based on late completion.

Section 17. Changes in the Work

A. The County shall have the right at any time during the progress of the Work to increase or decrease the Work. Promptly after being notified of a change, Contractor shall submit an itemized estimate of any cost or time increases or savings it foresees as a result of the change. Except in an emergency endangering life or property, or as expressly set forth herein, no addition or changes to the Work shall be made except upon written order of the County, and the County shall not be liable to the Contractor for any increased compensation without such written order. No officer, employee or agent of the County is authorized to direct any extra or changed work orally.

B. A Change Order, in the form attached to this Agreement, shall be issued and executed promptly after an agreement is reached between Contractor and the County concerning the requested changes. Contractor shall promptly perform changes authorized by duly executed Change Orders. The Contract Amount and Contract Time shall be adjusted in the Change Order in the manner as the County and Contractor shall mutually agree.

C. If the County and Contractor are unable to agree on a Change Order for the requested change, Contractor shall, nevertheless, promptly perform the change as directed by the County in a written Work Directive Change. In that event, the Contract Amount and Contract Time shall be adjusted as directed by the County. If Contractor disagrees with the County's adjustment determination, Contractor must make a claim pursuant to Section 18 of this Agreement or else be deemed to have waived any claim on this matter it might otherwise have had.

D. In the event a requested change results in an increase to the Contract Amount, the amount of the increase shall be limited to the Contractor's reasonable direct labor and material costs and reasonable actual equipment costs as a result of the change (including allowance for labor burden costs) plus a maximum ten percent (10%) markup for all overhead and profit. In the event such change Work is performed by a Subcontractor, a maximum ten percent (10%) markup for all overhead and profit for all Subcontractors' and sub-subcontractors' direct labor and material costs and actual equipment costs shall be permitted, with a maximum five percent (5%) markup thereon by the Contractor for all of its overhead and profit, for a total maximum markup of fifteen percent (15%). All compensation due Contractor and any Subcontractor or sub-subcontractor for field and home office overhead is included in the markups noted above.

E. The County shall have the right to conduct an audit of Contractor's books and records to verify the accuracy of the Contractor's claim with respect to Contractor's costs associated with any Change Order.

F. The Engineer shall have authority to order minor changes in the Work not involving an adjustment to the Contract Amount or an extension to the Contract Time exceeding his/her authority and not inconsistent with the intent of the Contract Documents. Minor changes approved by the Engineer, whether changes to Work and or Contract Time, cumulatively may not exceed ten percent (10%) of the Work and or Original Contract Time. Such changes may be effected by Field Order or by other written order. Such changes shall be binding on the Contractor.

Section 18. Claims and Disputes

A. A Claim is a demand or assertion by one of the parties seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time or other relief with respect to the terms of the Contract Documents. The term "Claim" also includes other disputes and matters in question between the County and Contractor arising out of or relating to the Contract Documents. The responsibility to substantiate a Claim shall rest with the party making the Claim.

B. Claims by the Contractor shall be made in writing to the Engineer within forty-eight (48) hours after the first day of the event giving rise to such Claim or else the Contractor shall be deemed to have waived the Claim. Written supporting data shall be submitted to the Engineer within fifteen (15) calendar days after the occurrence of the event, unless the County grants additional time in writing, or else the Contractor shall be deemed to have waived the Claim. All claims shall be priced in accordance with the provisions of Subsection 17.D. Engineer will render a formal decision

on the claim in writing within fifteen (15) calendar days after receipt of the Contractor's Claim. Engineer's written decision will be final and binding upon Contractor and unless Contractor submits a written notice to the County and Engineer requesting non-binding voluntary mediation within fifteen (15) calendar days of the date of such decisions, then Contractor forever waives and relinquishes any rights to bring any future legal actions or court claims with respect to such Claim. Non-binding Mediation shall be completed within sixty (60) days from the date of Contractor's timely submission of a written notice requesting non-binding voluntary mediation.

C. The Contractor shall proceed diligently with its performance as directed by the County, regardless of any pending Claim, action, suit or administrative proceeding, unless otherwise agreed to by the County in writing. The County shall continue to make payments in accordance with the Contract Documents during the pendency of any Claim.

Section 19. Indemnification and Insurance

A. To the fullest extent permitted by law, Contractor and its surety covenant and agree to indemnify and hold County harmless of and from any and all claims, losses, demands, causes of action and the like, including but not limited to, attorneys' fees and court costs which may be asserted against County by anyone other than Contractor, resulting from, arising out of, or occurring in connection with the failure of Contractor or supplier of Contractor to perform all work required within the scope of this agreement in strict accordance with the contract documents.

B. To the full extent permitted by law, Contractor hereby agrees to defend and indemnify, protect and hold harmless County, its agents, employees, servants and sureties (individually the "Indemnified Party" and collectively the "Indemnified Parties") of and from any loss or damage and to reimburse the Indemnified Parties for any and all expenses, including legal fees, expert witness fees and other litigation costs to which the Indemnified Parties may be put because of:

B.1. the liability for claims and liens for labor performed or materials used or furnished through or under Contractor for the project for which Contractor is liable due to any failure of Contractor to adhere to the terms of this agreement or any of the contract documents;

B.2. liability to County resulting from Contractor's failure to comply with applicable licensing requirements;

B.3. any personal injury, loss, damage or death to any person or persons (including employees, officers or agents of County, Contractor and lower tier subcontractors) and any property damage arising out of, result from, or in connection with the performance or nonperformance of work required in this contract or by reason of any act, omission, fault or negligence whether active or passive of Contractor whether on the project or proceeding to or from the site, including, without limitation, any personal injury, loss, damage, death or

property damage caused (or alleged to be caused) by any negligent or grossly negligent act, error or omission of any person or entity, including any Indemnified Party whether such Indemnified Party's or the person's or entity's negligence be joint or concurrent however, Contractor shall not be required to indemnify an Indemnified Party for that party's sole negligence; or

B.4. liability imposed upon County directly or indirectly by Contractor's failure or the failure of any of its employees to comply with any law, ordinance, rule, regulation or requirement, including, but not limited to, any Occupational Safety and Health Administration violations and any penalties, including enhancements, resulting in whole or in part by subcontractor's acts or omissions as well as the Immigration Reform and Control Act of 1986 and all rules and regulations adopted pursuant thereto.

C. To the fullest extent permitted by law, in addition to the express duty to indemnify County when there is any causal connection between Contractor's work and any injury, loss, damage, death or property damage, Contractor expressly undertakes a duty to defend County as a separate duty, independent of and broader than the duty to indemnify. The duty to defend agreed to by Contractor hereby expressly include all costs of litigation, attorney's fees, settlement costs and reasonable expenses in connection with the litigation, whether or not the claims made for loss, injury, damage or property damage are valid or groundless and regardless of whether the defense of County is maintained by the County or assumed by Contractor as long as the claims made could be causally connected to Contractor as reasonable determined by County (claims).

D. The County and Contractor agree the first $100.00 of the Contract Amount paid by the County to Contractor shall be given as separate consideration for this indemnification and duty to defend, and any other indemnification of the County by Contractor provided for within the Contract Documents, the sufficiency of such separate consideration being acknowledged by Contractor by Contractor's execution of the Agreement. The Contractor's obligation under this provision shall not be limited in any way by the agreed upon contract price as shown in this contract or the Contractor's limit of, or lack of, sufficient insurance protection.

E. Contractor shall obtain and carry, at all times during its performance under the Contract Documents, insurance of the types and in the amounts set forth in the Insurance Requirements attached to this Agreement. All insurance policies shall be from responsible companies duly authorized to do business in the State of Florida and/or responsible risk retention group insurance companies which are registered with the State of Florida. Within fifteen (15) calendar days after Notice of Award is received by Contractor, Contractor shall provide the County with properly executed Certificates of Insurance to evidence Contractor's compliance with the insurance requirements of the Contract Documents. Said Certificates of Insurance shall be on forms approved by the County. The Certificates of Insurance shall be personally, manually signed by the authorized representatives of the insurance company/companies shown on the Certificates of Insurance, with proof that they are authorized representatives thereof. In addition, certified, true and

exact copies of all insurance policies required hereunder shall be provided to the County, on a timely basis, when requested by the County.

F. The Certificates of Insurance and required insurance policies shall contain provisions that thirty (30) days prior written notice by registered or certified mail shall be given the County of any cancellation, intent not to renew, or reduction in the policies or coverages, except in the application of the aggregate limits provisions. In the event of a reduction in the aggregate limit of any policy, Contractor shall immediately take steps to have the aggregate limit reinstated to the full extent permitted under such policy.

G. All insurance coverages of the Contractor shall be primary to any insurance or self-insurance program carried by the County applicable to this Project. The acceptance by the County of any Certificate of Insurance does not constitute approval or agreement by the County that the insurance requirements have been satisfied or that the insurance policy shown on the Certificate of Insurance is in compliance with the requirements of the Contract Documents. No work shall commence at the Project site unless and until the required Certificates of Insurance are received by the County.

H. Contractor shall require each of its subcontractors to procure and maintain, until the completion of the subcontractor's work, insurance of the types and to the limits specified in the Insurance Requirements attached to this Agreement, unless such insurance requirements for the subcontractor is expressly waived in writing by the County. All liability insurance policies, other than professional liability, worker's compensation, employer's liability and business auto liability policies, obtained by Contractor to meet the requirements of the Contract Documents shall name the County and Engineer as additional insureds and shall contain severability of interest provisions. If any insurance provided pursuant to the Contract Documents expires prior to the completion of the Work, renewal Certificates of Insurance and, if requested by the County, certified, true copies of the renewal policies, shall be furnished by Contractor within thirty (30) days prior to the date of expiration.

I. Should at any time the Contractor not maintain the insurance coverages required herein, the County may terminate the Agreement or at its sole discretion shall be authorized to purchase such coverages and charge the Contractor for such coverages purchased. The County shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company or companies used. The decision of the County to purchase such insurance coverages shall in no way be construed to be a waiver of any of its rights under the Contract Documents.

J. Contractor shall submit to Engineer a copy of all accident reports arising out of any injuries to its employees or those of any firm or individual to whom it may have subcontracted a portion of the Work, or any personal injuries or property damages arising or alleged to have arisen on account of any work by Contractor under the Contract Documents.

Section 20. Compliance with Laws

Contractor agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not limited to those dealing with taxation, worker's compensation, equal employment and safety. If Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the County and Engineer in writing.

Section 21. Cleanup and Protections

A. Contractor agrees to keep the Project site clean at all times of debris, rubbish and waste materials arising out of the Work. At the completion of the Work, Contractor shall remove all debris, rubbish and waste materials from and about the Project site, as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the Project site clean and ready for occupancy by the County.

B. Any existing surface or subsurface improvements, including, but not limited to, pavements, curbs, sidewalks, pipes, utilities, footings, structures, trees and shrubbery, not indicated in the Contract Documents to be removed or altered, shall be protected by Contractor from damage during the prosecution of the Work. Any such improvements so damaged shall be restored by Contractor to the condition equal to that existing at the time of Contractor's commencement of the Work.

Section 22. Assignment

Contractor shall not assign this Agreement or any part thereof, without the prior consent in writing of the County. If Contractor does, with approval, assign this Agreement or any part thereof, it shall require that its assignee be bound to it and to assume toward Contractor all of the obligations and responsibilities that Contractor has assumed toward the County.

Section 23. Permits, Licenses and Taxes

A. Pursuant to Section 218.80, F.S., the County will pay for all County permits and fees, including license fees, permit fees, impact fees or inspection fees applicable to the work. Contractor is not responsible for paying for permits issued by the County wherein the work is to be performed, but is responsible for acquiring all permits. The County may require the Contractor to deliver internal budget transfer documents to applicable County agencies when the Contractor is acquiring permits.

B. All permits, fees and licenses necessary for the prosecution of the Work which are not issued by the County shall be acquired and paid for by the Contractor.

C. Contractor shall pay any and all sales, use, or other taxes, assessments and other similar charges when due, as required by any local, state of federal law, as it pertains to the services

provided herein. Contractor further agrees that it shall protect, reimburse, and indemnify the County from and assume all liability for its tax obligations under the terms of this Agreement.

Section 24. Termination for Default

A. Contractor shall be considered in material default of the Agreement and such default shall be considered cause for the County to terminate the Agreement, in whole or in part, as further set forth in this Section, if Contractor: (1) fails to begin the Work under the Contract Documents within the time specified herein; or (2) fails to properly and timely perform the Work as directed by the County or the Engineer or as provided for in the approved Progress Schedule; or (3) performs the Work unsuitably or neglects or refuses to remove materials or to correct or replace such Work as may be rejected as unacceptable or unsuitable; or (4) discontinues the prosecution of the Work; or (5) fails to resume Work which has been suspended within a reasonable time after being notified to do so; or (6) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy; or (7) allows any final judgment to stand against it unsatisfied for more than ten (10) days; or (8) makes an assignment for the benefit of creditors; or (9) fails to obey any applicable codes, laws, ordinances, rules or regulations with respect to the Work; or (10) materially breaches any other provision of the Contract Documents.

B. The County shall notify Contractor in writing of Contractor's default(s). If the County determines that Contractor has not remedied and cured the default(s) within seven (7) calendar days following receipt by Contractor of said written notice, then the County, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties and without prejudice to any other right or remedy it may be entitled to hereunder or by law, may terminate Contractor's right to proceed under the Agreement, in whole or in part, and take possession of all or any portion of the Work and any materials, tools, equipment, and appliances of Contractor, take assignments of any of Contractor's subcontracts and purchase orders, and complete all or any portion of Contractor's Work by whatever means, method or agency which the County, in its sole discretion, may choose.

C. If the County deems any of the foregoing remedies necessary, Contractor agrees that it shall not be entitled to receive any further payments hereunder until after the Project is completed. All monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses (including Engineer and attorneys' fees) or damages incurred by the County incident to such completion, shall be deducted from the Contract Amount, and if such expenditures exceed the unpaid balance of the Contract Amount, Contractor agrees to pay promptly to the County on demand the full amount of such excess, including costs of collection, attorney's fees (including appeals) and interest thereon at the maximum legal rate of interest until paid. If the unpaid balance of the Contract Amount exceeds all such costs, expenditures and damages incurred by the County to complete the Work, such excess shall be paid to the Contractor. The amount to be paid to the Contractor or the County, as the case may be, shall be approved by the Engineer, upon application, and this obligation for payment shall survive termination of the Agreement.

D. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained, and obligations assumed by the County in good faith under the belief that such payments or assumptions were necessary or required, in completing the Work and providing labor, materials, equipment, supplies, and other items therefore or re-letting the Work, and in settlement, discharge or compromise of any claims, demands, suits, and judgments pertaining to or arising out of the Work hereunder.

E. If, after notice of termination of Contractor's right to proceed pursuant to this Section, it is determined for any reason that Contractor was not in default, or that its default was excusable, or that the County is not entitled to the remedies against Contractor provided herein, then Contractor's remedies against the County shall be the same as and limited to those afforded Contractor under Section 24 below.

Section 24. Termination for Convenience and Right of Suspension

A. The County shall have the right to terminate this Agreement without cause upon seven (7) calendar days written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against the County shall be limited to that portion of the Contract Amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred, but Contractor shall not be entitled to any other or further recovery against the County, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.

B. The County shall have the right to suspend all or any portions of the Work upon giving Contractor not less than two (2) calendar days' prior written notice of such suspension. If all or any portion of the Work is so suspended, Contractor's sole and exclusive remedy shall be to seek an extension of time to its schedule in accordance with the procedures set forth in the Contract Documents. In no event shall the Contractor be entitled to any additional compensation or damages. Provided, however, if the ordered suspension exceeds six (6) months, the Contractor shall have the right to terminate the Agreement with respect to that portion of the Work which is subject to the ordered suspension.

Section 25. Completion

A. When the entire Work (or any portion thereof designated in writing by the County) is ready for its intended use, Contractor shall notify the Engineer in writing that the entire Work (or such designated portion) is substantially complete and request that Engineer issue a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion). Within a reasonable time thereafter, the Contractor and Engineer shall make an inspection of the Work (or designated portion thereof) to determine the status of completion. If the Engineer does not consider the Work (or designated portion) substantially complete, Engineer shall notify Contractor in writing giving the reasons therefor. If the Engineer considers the Work (or designated portion) substantially complete, Engineer shall prepare and deliver to Contractor a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion) which shall fix the date of Substantial Completion for

the entire Work (or designated portion thereof) and include a tentative punchlist of items to be completed or corrected by Contractor before final payment. The County shall have the right to exclude Contractor from the Work and Project site (or designated portion thereof) after the date of Substantial Completion, but the County shall allow Contractor reasonable access to complete or correct items on the tentative punchlist.

B. Upon receipt of written certification by Contractor that the Work is completed in accordance with the Contract Documents and is ready for final inspection and acceptance and upon receipt of a final Application for Payment, Engineer will make such inspection and, if he finds the Work acceptable and fully performed under the Contract Documents, he shall promptly issue a final Certificate for Payment, recommending that, on the basis of his observations and inspections, and the Contractor's certification that the Work has been completed in accordance with the terms and conditions of the Contract Documents, that the entire balance found to be due Contractor is due and payable. Neither the final payment nor the retainage shall become due and payable until Contractor submits: (1) the Release and Affidavit in the form attached, (2) consent of surety to final payment, and (3) if required by the County, other data establishing payment or satisfaction of all obligations, such as receipts, releases and waivers of liens, arising out of the Contract Documents, to the extent and in such form as may be designated by the County. The County reserves the right to inspect the Work and make an independent determination as to the Work's acceptability, even though the Engineer may have issued his recommendations. Unless and until the County is completely satisfied, neither the final payment nor the retainage shall become due and payable.

Section 26. Warranty

Contractor shall obtain and assign to the County all express warranties given to Contractor or any subcontractors by any materialmen supplying materials, equipment or fixtures to be incorporated into the Project. Contractor warrants to the County that any materials and equipment furnished under the Contract Documents shall be new unless otherwise specified, and that all Work shall be of good quality, free from all defects and in conformance with the Contract Documents. Contractor further warrants to the County that all materials and equipment furnished under the Contract Documents shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturers, fabricators, suppliers or processors except as otherwise provided for in the Contract Documents. If, within one (1) year after final completion, any Work is found to be defective or not in conformance with the Contract Documents, Contractor shall correct it promptly after receipt of written notice from the County. Contractor shall also be responsible for and pay for replacement or repair of adjacent materials or Work which may be damaged as a result of such replacement or repair. These warranties are in addition to those implied warranties to which the County is entitled as a matter of law.

Section 27. Tests and Inspections.

A. The County, Engineer, their respective representatives, agents and employees, and governmental agencies with jurisdiction over the Project shall have access at all times to the Work, whether the Work is being performed on or off of the Project site, for their observation, inspection

and testing. Contractor shall provide proper, safe conditions for such access. Contractor shall provide Engineer with timely notice of readiness of the Work for all required inspections, tests or approvals.

B. If the Contract Documents or any codes, laws, ordinances, rules or regulations of any public authority having jurisdiction over the Project requires any portion of the Work to be specifically inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval. All inspections, tests or approvals shall be performed in a manner and by organizations acceptable to the Engineer and the County.

C. If any Work that is to be inspected, tested or approved is covered without written concurrence from the Engineer, such work must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness to respond to such notice. If any Work is covered contrary to written directions from Engineer, such Work must, if requested by Engineer, be uncovered for Engineer's observation and be replaced at Contractor's sole expense.

D. The County shall charge to Contractor and may deduct from any payments due Contractor all engineering and inspection expenses incurred by the County in connection with any overtime work. Such overtime work consisting of any work during the construction period beyond the regular eight (8) hour day and for any work performed on Saturday, Sunday or holidays.

E. Neither observations nor other actions by the Engineer nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

Section 28. Defective Work

A. Work not conforming to the requirements of the Contract Documents shall be deemed defective Work. If required by the County or Engineer, Contractor shall, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or if the defective Work has been rejected by the County or Engineer, remove it from the site and replace it with conforming Work. Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including, but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby, and shall hold the County harmless for same.

B. If any portion of the Work is defective, or Contractor fails to supply sufficient skilled workers with suitable materials or equipment, or fails to finish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the County or Engineer may order Contractor to stop the Work, or any portion thereof, until the cause for such stop in the work has been eliminated; however, this right of the County or Engineer to stop the Work shall not give rise to

any duty on the part of the County or Engineer to exercise this right for the benefit of Contractor or any other party.

C. If Contractor fails, within a reasonable time after the written notice from the County or Engineer, to correct defective Work or to remove and replace rejected defective Work as required by Engineer or the County, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any of the provisions of the Contract Documents, the County may, after seven (7) days written notice to Contractor, correct and remedy any such deficiency.

Section 29. Supervision and Superintendents

Contractor shall plan, organize, supervise, schedule, monitor, direct and control the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents. Contractor shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without prior written notice to the County and Engineer except under extraordinary circumstances. The superintendent shall be Contractor's representative at the Project site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

Section 30. Protection of Work

Contractor shall fully protect the Work from loss or damage and shall bear the cost of any such loss or damage until final payment has been made. If Contractor or any one for whom Contractor is legally liable is responsible for any loss or damage to the Work, or other work or materials of the County or the County's separate contractors, Contractor shall be charged with the same, and any monies necessary to replace such loss or damage shall be deducted from any amounts due Contractor.

Section 31. Emergencies

In the event of an emergency affecting the safety or protection of persons or the Work or property at the Project site or adjacent thereto, Contractor, without special instruction or authorization from the County or Engineer is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Engineer written notice within forty-eight (48) hours after the occurrence of the emergency, if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the Engineer determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Change Order shall be issued to document the consequences of the changes or variations. If Contractor fails to provide the forty-eight (48) hour written notice noted above, the Contractor shall be deemed to have waived any right it otherwise may have had to seek an adjustment to the Contract Amount or an extension to the Contract Time.

Section 32. Use of Premises

Contractor shall confine all construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other lands and areas permitted by law, rights of way, permits and easements, and shall not unreasonably encumber the Project site with construction equipment or other material or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or any land or areas contiguous thereto, resulting from the performance of the Work.

Section 33. Safety

A. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

A.1. All employees on the Work and other persons and/or organizations who may be affected thereby;

A.2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site; and

A.3. Other property on Project site or adjacent thereto, including trees, shrubs, walks, pavements, roadways, structures, utilities and any underground structures or improvements not designated for removal, relocation or replacement in the Contract Documents.

B. Contractor shall comply with all applicable codes, laws, ordinances, rules and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of underground structures and improvements and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation or replacement of their property. Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as the Work is completed and final acceptance of same by the County has occurred.

C. Contractor shall designate a responsible representative at the Project site whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to the County.

Section 34. Project Meetings

Prior to the commencement of Work, the Contractor shall attend a preconstruction conference with the Engineer and others as appropriate to discuss the Progress Schedule, procedures for handling shop drawings and other submittals, and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work. During the prosecution of the Work, the Contractor shall attend any and all meetings convened by the Engineer or the County with respect to the Project, when directed to do so by the County or Engineer. Contractor shall have its subcontractors and suppliers attend all such meetings (including the preconstruction conference) as may be directed by the County or Engineer.

Section 35. Notices

A. All notices required or made pursuant to this Agreement by the Contractor to the County or Engineer shall be in writing and delivered by hand or by United States Postal Service Department, first class mail, postage pre-paid, return receipt requested, or by Federal Express, addressed to the following:

County

Ben Scott, Columbia County Administrator
135 NE Hernando Avenue, Suite 203
Lake City, Florida 32056-1529

and

Engineer

[INSERT ENGINEER NAME AND CONTACT INFORMATION]

With courtesy copies also provided to:

Joel F. Foreman, County Attorney
Columbia County, Florida
207 S. Marion Avenue
Lake City, Florida 32025

Kevin Kirby, Public Works Director
Columbia County, Florida
Post Office Box 969
Lake City, Florida 32056-0969

Chad Williams, County Engineer
Columbia County Public Works

Post Office Box 1529
Lake City, Florida 32056

B. All notices required or made pursuant to this Agreement by the County to Contractor shall be made in writing and shall be delivered by hand or by United States Postal Service Department, first class mail, postage pre-paid, return receipt requested, or by Federal Express, addressed to the following:

Corporate Name of Contractor: _____

Address (including city, state and zip): _____

_____

Name of person with their title to whose

Attention the notice should be sent: _____

Telephone and Fax numbers: _____

C. Either party may change its above noted address by giving written notice to the other party in accordance with the requirements of this Section.

Section 36. Modification

No modification or change to the Agreement shall be valid or binding upon the parties unless in writing and executed by the party or parties intended to be bound by it.

Section 37. Successors and Assigns

Subject to other provisions hereof, the Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the parties to the Agreement.

Section 38. Governing Law

The Agreement shall be interpreted under and its performance governed by the laws of the State of Florida.

Section 39. Venue

The state courts in and for Columbia County, Florida shall be the proper and sole venue for any legal action on any and all claims, disputes or other matters in controversy arising out of or relating to this Agreement, whether stated as contractual, tort, equitable, statutory or any other claims or causes of action.

Section 40. No Waiver

The failure of the County to enforce at any time or for any period of time any one or more of the provisions of the Agreement shall not be construed to be and shall not be a waiver of any such provision or provisions or of its right thereafter to enforce each and every such provision.

Section 41. Remedies Cumulative

No right or remedy in this Agreement is intended to be exclusive of any other right or remedy, but every such right or remedy shall be cumulative and shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

Section 42. Entire Agreement

Each of the parties hereto agrees and represents that the Agreement comprises the full and entire agreement between the parties affecting the Work contemplated, and no other agreement or understanding of any nature concerning the same has been entered into or will be recognized, and that all negotiations, acts, work performed, or payments made prior to the execution hereof shall be deemed merged in, integrated and superseded by the Agreement.

Section 43. Severability

Should any provision of the Agreement be determined by a court to be unenforceable, such a determination shall not affect the validity or enforceability of any other section or part thereof.

Section 44. Third Party Beneficiaries

It is specifically agreed between the parties executing this Agreement that it is not intended by any of the provisions of any part of the Agreement to create in the public or any member thereof, a third party beneficiary under this Agreement, or to authorize anyone not a party to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Agreement.

Section 45. Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (INSERT TELEPHONE NUMBER, E-MAIL ADDRESS, AND MAILING ADDRESS).

Contractor must comply with the public records laws, Florida Statute chapter 119, specifically Contractor must:

A. Keep and maintain public records required by the County to perform the service.

B. Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119 Florida Statutes or as otherwise provided by law.

C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.

D. Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the contractor or keep and maintain public records required by the County to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining the public records. All records stored electronically must be provided to the public agency, upon the request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) indicated below.

CONTRACTOR: _____
(Company Name)

ATTEST:

By:_____ (Signature) _____ (Printed)
Its: _____ (Title)
Date: _____

Witness:

Its:_____
President/Corporate Secretary/Witness Date:_____
[Corporate Seal]

_____
2nd Witness (if not incorporated)

OWNER: Board of County Commissioners of Columbia County, Florida

(SEAL) By:_____
Chairman

Clerk: _____ Date:_____

_____
Approved as to Form and Content:

_____
County Attorney

EXHIBIT A
LEGAL ADVERTISEMENT

EXHIBIT B
INVITATION TO BID

EXHIBIT C
BID PROPOSAL WITH REQUIRED FORMS

EXHIBIT D
PERFORMANCE BOND

BOND NO._____

KNOW ALL MEN BY THESE PRESENTS: That _____ _____, as Principal, whose principal business address is _____ and phone number is _____, and _____, as Surety, whose principal address is_____ _____ and phone number is: _____ are held and firmly bound to Columbia County, Florida (the "COUNTY"), as Obligee in the sum of:_____ _____ ($_____) for the payment whereof we bond ourselves, our heirs, executors, personal representatives, successors and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract dated as of the _____ day of _____, 20____, with Obligee for _____ _____ _____ _____ COLUMBIA COUNTY Project No.:_____ in accordance with drawings and specifications, which contract is incorporated by reference and made a part hereof, and is referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Contract at the times and in the manner prescribed in the Contract; and

2. Pays Obligee any and all losses, damages, costs and attorneys' fees, including appellate proceedings, that Obligee sustains because of any default by Principal under the Contract, including, but not limited to, all delay damages, whether liquidated or actual, incurred by Obligee; and

3. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or other work to be performed hereunder, or the specifications referred to therein shall in anywise affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to work or to the specifications.

This bond is intended to comply with provisions of Section 255.05, Florida Statutes, and all terms and conditions of said statute are incorporated herein by reference thereto, specifically including but not limited to the notice and time limitation provisions of said section. In the event of any conflict, ambiguity or discrepancy between Section 255.05, Florida Statutes, and this Bond, Florida Statutes shall control. No right of action shall accrue on this Bond to or, for the use of any person or entity other than the COUNTY and those persons or corporations provided for by said statute, their heirs, executors, administrators, successors or assigns.

It is further agreed and understood that if the COUNTY is required to initiate legal proceedings to recover on this Bond, the COUNTY may also recover its costs relating there to, including a reasonable amount for its attorney's fees and legal assistant's fees before trial, at trial, on appeal and in bankruptcy.

IN WITNESS WHEREOF, the above parties have executed this instrument this _____ day of _____, 20____, the name of each party being affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered
in the presence of:

PRINCIPAL: _____
(Company Name of Contractor)

By:_____(Officers Signature)
_____ (Officers Name Printed)

Witnesses as to Principal Name:_____ (Signature)
Its:_____ (Title)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____day of _____, 20 _____, by _____(officer's name), as _____ (title) of _____ (company name), a(n)_____ (state) corporation, on behalf of the corporation. He/she is personally known to me OR has produced _____ as identification and did (did not) take an oath.

My Commission Expires: _____

Signature of Notary :_____
(Legibly Printed) _____

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No. _____

ATTEST: SURETY:

_____
(Printed Company Name)
_____

_____

(Business Address)

_____ _____
(Surety Authorized Signature) (Printed Name)

Witness as to Surety _____(Signature)
_____(Printed Name)

OR

_____ _____
As Attorney in Fact (Signature) (Printed Name)

(Attach Power of Attorney)

Witnessed by: _____ _____
(Signature) (Printed Name)

_____ _____
(Business Address) (Telephone Number)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____day of _____, 20____, by_____ (officer's name), as_____ (title) of _____ Surety, on behalf of Surety. He/She is personally known to me OR has produced _____ as identification and who did (did not) take an oath.

My Commission Expires: _____

Signature of Notary :_____
(Legibly Printed) _____

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No. _____

EXHIBIT E
PUBLIC PAYMENT BOND

BOND No. _____

KNOW ALL MEN BY THESE PRESENTS: That_____
_____, as Principal, whose principal business address is:
_____
and phone number and fax numbers are: _____
and _____, as Surety, whose principal address is:
_____
_____
and phone number and fax numbers are: _____ are held and firmly bound to COLUMBIA COUNTY, FLORIDA (the "COUNTY") as Obligee in the sum of_____
_____ ($_____)
for the payment whereof we bind ourselves, our heirs, executors, personal representatives, successors and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract dated as of the ____ day of _____, 20___, with Obligee for _____
in accordance with drawings and specifications, which contract is incorporated by reference and made a part hereof, and this referred to as the Contract.

THE CONDITION OF THIS BOND is that if Principal promptly makes payment to all claimants as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Contract, then is bond is void; otherwise it remains in full force.

Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

The provisions of this bond are subject to the time limitations of Section 255.05(2). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

IN WITNESS WHEREOF, the above parties have executed this instrument this _____ day of _____, 20___, the name of each party being affixed and these presents duly signed by its under-signed representative, pursuant to authority of its governing body.
Signed, sealed and delivered in the presence of:

PRINCIPAL: _____
(Company Name of Contractor)

By:_____ (Officer's Signature)
_____ (Officer's Name Printed)

Witnesses as to Principal Name:_____ (Signature)
Its:_____ (Title)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___day of _____, 20_____,

by_____ (officer's name), as

_____ (title) of _____, a

_____corporation, on behalf of the corporation. He/she is personally known to me OR has

produced_____ as identification and did (did not) take an oath.

My Commission Expires: _____
Signature of Notary: _____
(Legibly Printed) _____
(AFFIX OFFICIAL SEAL) Notary Public, State of _____
Commission No.:_____

ATTEST: SURETY:

_____
(Printed Company Name)
_____
_____
(Business Address)

_____ _____
(Surety Authorized Signature) (Printed Name)

Witness as to Surety: _____ (Signature)

_____(Printed Name)

OR

_____ _____

As Attorney in Fact (Signature) (Printed Name)

(Attach Power of Attorney)

Witnessed by: _____ _____

(Signature) (Printed Name)

_____

_____

(Business Address)

_____

(Telephone Number)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ____day of _____, 20 __, by_____ _____ (officer's name), as_____ (title) of_____ Surety, on behalf of Surety. He/She is personally known to me OR has produced _____ as identification and who did (did not) take an oath.

My Commission Expires: _____

Signature of Notary: _____

(Legibly Printed) _____

(AFFIX OFFICIAL SEAL)

Notary Public, State of _____

Commission No:_____

EXHIBIT F
INSURANCE REQUIREMENTS
CERTIFICATES OF INSURANCE

(1) The Contractor shall obtain and maintain such insurance as will protect it from: (1) claims under worker's compensation laws, disability benefit laws, or other similar employee benefit laws; (2) claims for damages because of bodily injury, occupational sickness or disease or death of his employees including claims insured by usual personal injury liability coverage; (3) claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees including claims insured by usual personal injury liability coverage; and (4) from claims for injury to or destruction of tangible property including loss of use resulting there from -- any or all of which claims may arise out of, or result from, the services, work and operations carried out pursuant to and under the requirements of the Contract Documents, whether such services, work and operations be by the Contractor, its employees, or by subcontractor(s), or anyone employed by or under the supervision of any of them, or for whose acts any of them may be legally liable.

(2) This insurance shall be obtained and written for not less than the limits of liability specified hereinafter, or as required by law, whichever is greater.

(3) The Contractor shall require, and shall be responsible for assuring throughout the time the Agreement is in effect, that any and all of its subcontractors obtain and maintain until the completion of that subcontractor's work, such of the insurance coverages described herein as are required by law to be provided on behalf of their employees and others.

(4) The Contractor shall obtain, have and maintain during the entire period of the Agreement insurance policies, which contain the following information and provisions:

(A) The name and type of policy and coverages provided;
(B) The amount or limit applicable to each coverage provided;
(C) The date of expiration of coverage;
(D) The designation of the COUNTY as an additional insured and a certificate holder. (This requirement may be excepted for Worker's Compensation and professional liability Insurance.);
(E) The following clause must appear on the Certificate of Insurance:

Should any material change occur in any of the above described policies or should any of said policies be canceled before the expiration date thereof, the issuing company will mail at least thirty (30) days written notice to the COUNTY.

(5) If the initial, or any subsequently issued Certificate of Insurance expires prior to the completion of the Work or termination of the Agreement, the Contractor shall furnish to the COUNTY, in triplicate, renewal or replacement Certificate(s) of Insurance not later than thirty (30) calendar days prior to the date of their expiration. Failure of the Contractor to provide the COUNTY

with such renewal certificate(s) shall be considered justification for the COUNTY to terminate the Agreement.

(6) Contractor shall include the COUNTY, the COUNTY's agents, officers and employees in the Contractor's General Liability and Automobile Liability policies as additional insureds.

(7) If the COUNTY has any objection to the coverage afforded by other provisions of the insurance required to be purchased and maintained by Contractor in accordance with the requirements of the Contract Documents on the basis of its not complying with the Contract Documents, the COUNTY shall notify Contractor in writing thereof within thirty (30) days of the delivery of such certificates to the COUNTY. Contractor shall provide to the COUNTY such additional information with respect to its insurance as may be requested.

(8) The Contractor shall obtain and maintain the following insurance coverages as provided hereinbefore, and in the type, amounts and in conformance with the following minimum requirements:

WORKER'S COMPENSATION **[REVISE AS NEEDED TO MEET COUNTY'S REQUIREMENTS]**

State: Statutory
Applicable Federal:
(e.g. Longshoremen's) Statutory
Employer's Liability: $1,000,000.00

COMPREHENSIVE GENERAL LIABILITY

Bodily Injury: $1,000,000.00 Each Occurrence
Property Damage: $1,000,000.00 Each Occurrence

Comprehensive General Liability Insurance shall include:

Contractual Liability, Explosion, Collapse and Underground Coverages and Products and Completed Operations Coverages.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily Injury: $1,000,000.00 Each Occurrence
Property Damage: $1,000,000.00 Each Occurrence

Comprehensive Automobile Liability shall include coverage for any owned auto, non-owned autos and hired autos.

EXHIBIT G
RELEASE AND AFFIDAVIT

COUNTY OF_____

STATE OF FLORIDA

Before me, the undersigned authority, personally appeared _____ _____, who after being duly sworn, deposes and says:

(1) In accordance with the Contract Documents and in consideration of $_____ paid, _____ ("Contractor") releases and waives for itself and its subcontractors, materialmen, successors and assigns, all claims demands, damages, costs and expenses, whether in contract or in tort, against Columbia County, Florida (the "COUNTY"), its Board of County Commissioners, employees and agents relating in any way to the performance of the Agreement between Contractor and the COUNTY, dated _____, ____, for the period from _____ to _____.

(2) Contractor certifies for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which the COUNTY might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

(3) Contractor agrees to indemnify, defend and save harmless the COUNTY, its Board of County Commissioners, employees and agents from all demands or suits, actions, claims of liens or other charges filed or asserted against the COUNTY arising out of the performance by Contractor of the Work covered by this Release and Affidavit.

(4) This Release and Affidavit is given in connection with Contractor's [monthly/final] Application for Payment No._____.

CONTRACTOR:

_____

By: _____ (signature of the executive officer)

Its:_____ (title of the executive officer)

Date:_____

Witnesses

_____ _____

[Corporate Seal]

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, _____, by _____, as _____ of _____, a _____ corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ _____ as identification and did (did not) take an oath.

My Commission Expires: _____
(Signature of Notary)

Name:_____
(Legibly Printed)

(AFFIX OFFICIAL SEAL) Notary Public, State of_____

Commission No.:_____

EXHIBIT H
CHANGE ORDER FORM

CHANGE ORDER NO. _____ COLUMBIA COUNTY PROJECT NO. _____

TO: _____
_____
_____

DATE: _____

PROJECT NAME: _____

Columbia County Project No._____

Under our AGREEMENT dated_____.

****

You hereby are authorized and directed to make the following change(s) in accordance with terms and conditions of the Agreement:

_____
_____

FOR THE ADDITIVE or DEDUCTIVE Sum of:
_____($_____).

Original Agreement Amount $_____

Sum of Previous Changes $_____

This Change Order ADD/DEDUCT $_____

Present Agreement Amount $_____

The time for completion shall be (increased/decreased) by _____ calendar days due to this Change Order. Accordingly, the Contract Time is now _____ (_____) calendar days and the final completion date is _____. Your acceptance of this Change Order shall constitute a modification to our Agreement and will be performed subject to all the same terms and conditions as contained in our Agreement indicated above, as fully as if the same were repeated in this acceptance. The adjustment, if any, to the Agreement shall constitute a full and final settlement of any and all claims arising out of or related to the change set forth herein, including claims for impact and delay costs.

Accepted:_____ , 20____ .

COLUMBIA COUNTY, FLORIDA CONTRACTOR

By:_____ By:_____
Chair President

ENGINEER: By:_____

EXHIBIT I
NOTICE OF AWARD

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INSERT THE NOTICE OF AWARD BEHIND THIS COVER PAGE

EXHIBIT J

NOTICE TO PROCEED

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INSERT THE NOTICE TO PROCEEED BEHIND THIS COVER PAGE

EXHIBIT K

APPLICATION FOR PAYMENT

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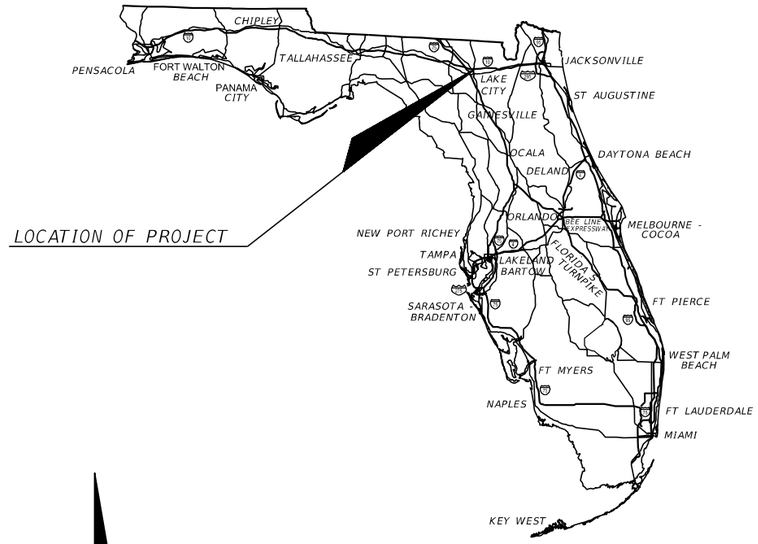
INSERT THE APPLICATION FOR PAYMENT BEHIND THIS COVER PAGE

COMPONENTS OF CONTRACT PLANS SET
ROADWAY PLANS

COLUMBIA COUNTY
BOARD OF COUNTY COMMISSIONERS

CONTRACT PLANS

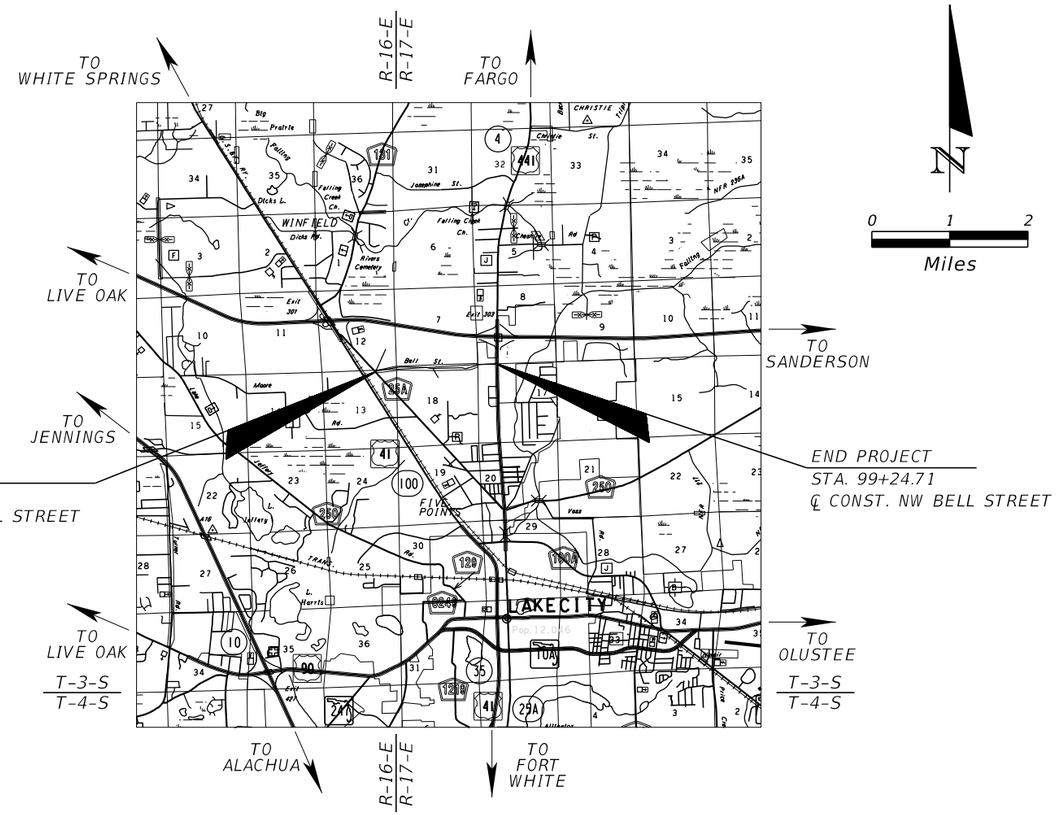
NW BELL STREET PAVING AND EXTENSION
(CR 25A TO US 441) (PHASE I)



INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-5	DRAINAGE MAP
6	TYPICAL SECTION
SQ-1 Thru SQ-11	SUMMARY OF QUANTITIES
7-8	PROJECT LAYOUT
9-10	PROJECT NOTES
11-18	PLAN/PROFILE
19	DRAINAGE STRUCTURE DETAILS
20	SPECIAL DETAILS
21-22	POND GEOMETRY
23-53	CROSS SECTIONS
54-58	POND CROSS SECTIONS
59	STORMWATER POLLUTION PREVENTION PLAN
60-66	EROSION CONTROL PLAN
67-86	MAINTENANCE OF TRAFFIC
87-94	SIGNING AND MARKING PLAN

FINAL SUBMITTAL
JUNE 2017



0 1 2
Miles

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

REVISIONS:

KEY SHEET REVISIONS	
DATE	DESCRIPTION

ROADWAY PLANS ENGINEER OF RECORD:

WALTER J. NEMECEK III, P.E.
P.E. NO.: 58122
ARCADIS U.S., INC.
1650 PRUDENTIAL DRIVE, SUITE 400
JACKSONVILLE, FLORIDA 32207
CERTIFICATE OF AUTHORIZATION NO.: 7917

PROJECT MANAGER:

CHAD WILLIAMS, P.E.
COLUMBIA COUNTY ENGINEER

FISCAL YEAR	SHEET NO.
17	1

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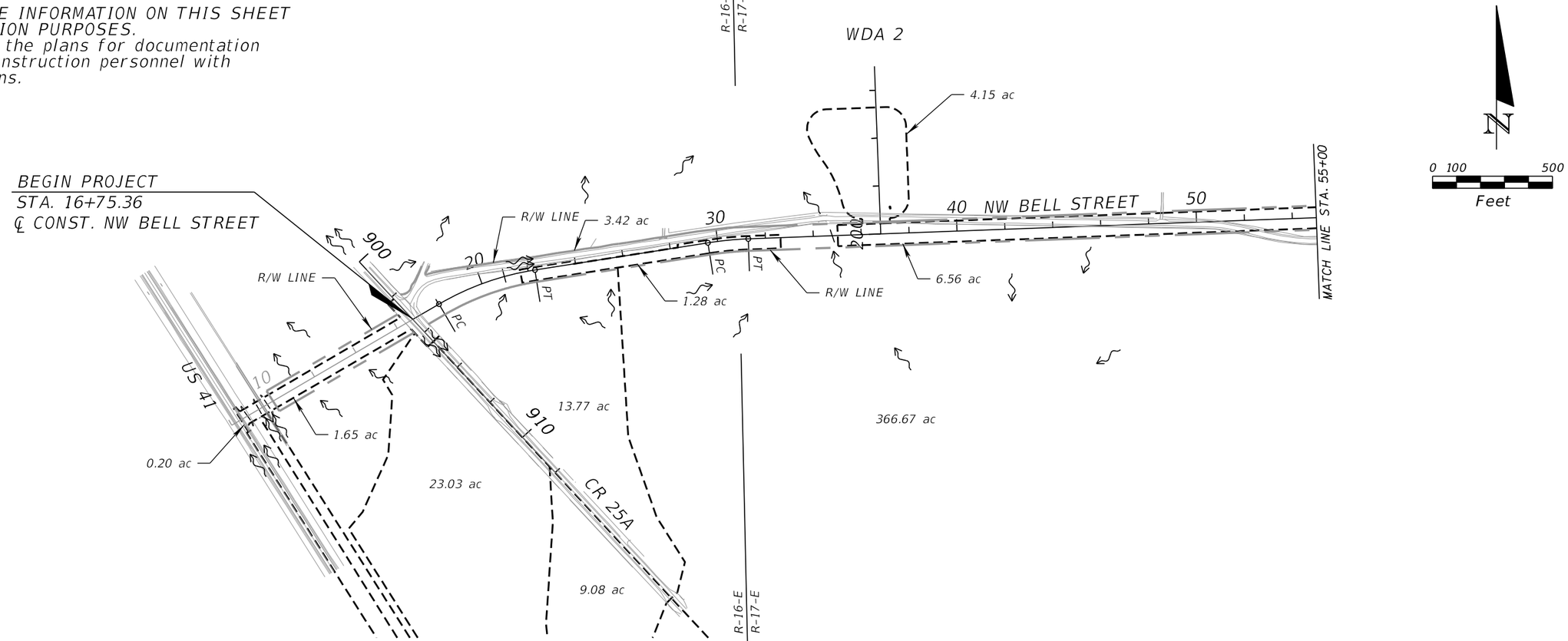

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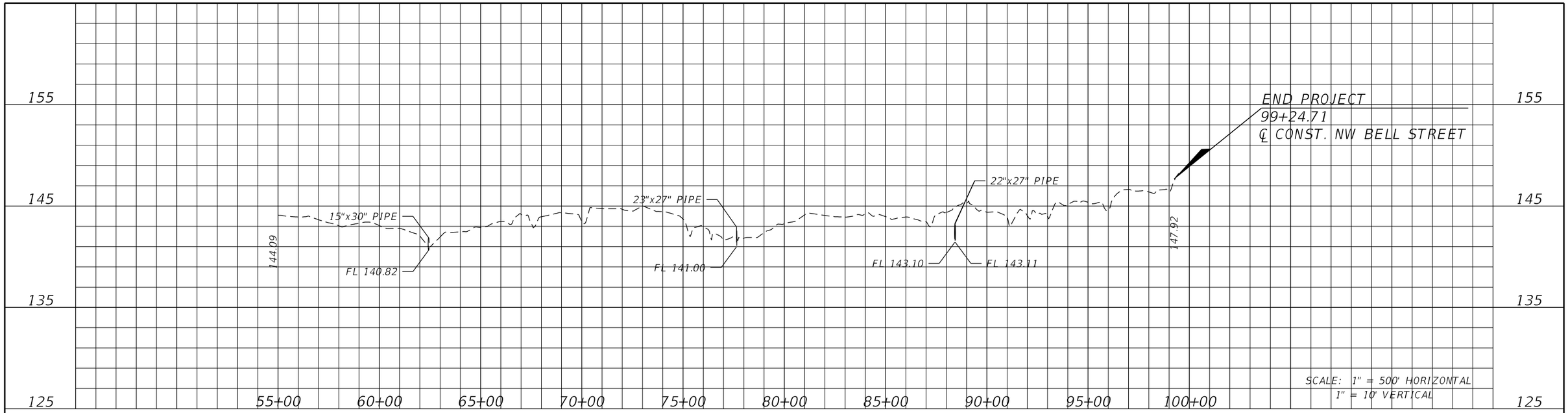
REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	PRE-DEVELOPMENT DRAINAGE MAP	SHEET NO. 2

tdelicato 10/25/2019 12:10:11 PM G:\TRA\14004 Bell Road\14004_SS4\drainage\DRMPRD01.dgn



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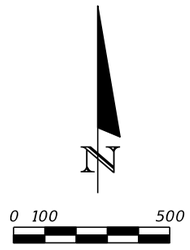

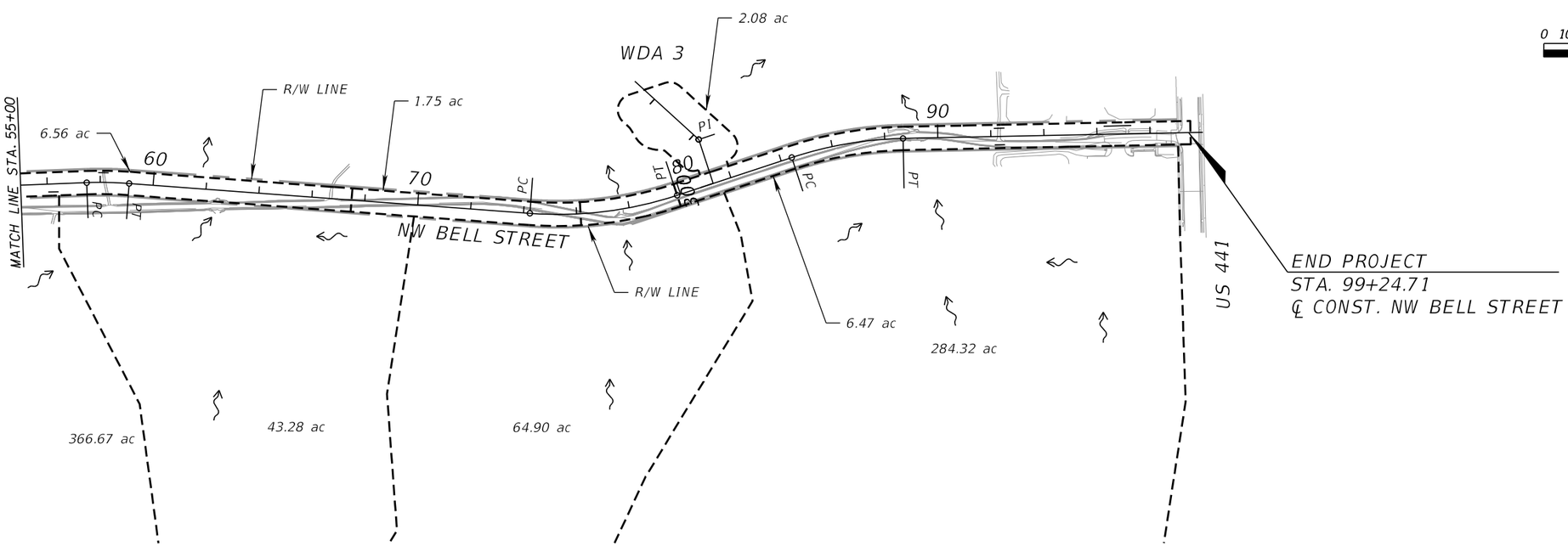

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	PRE-DEVELOPMENT DRAINAGE MAP	SHEET NO. 3

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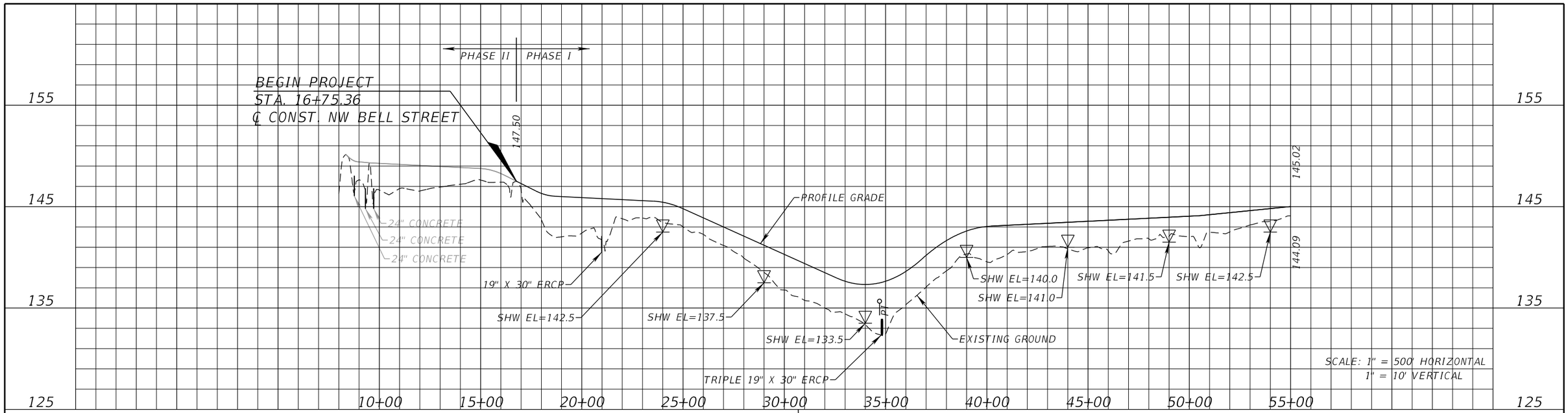

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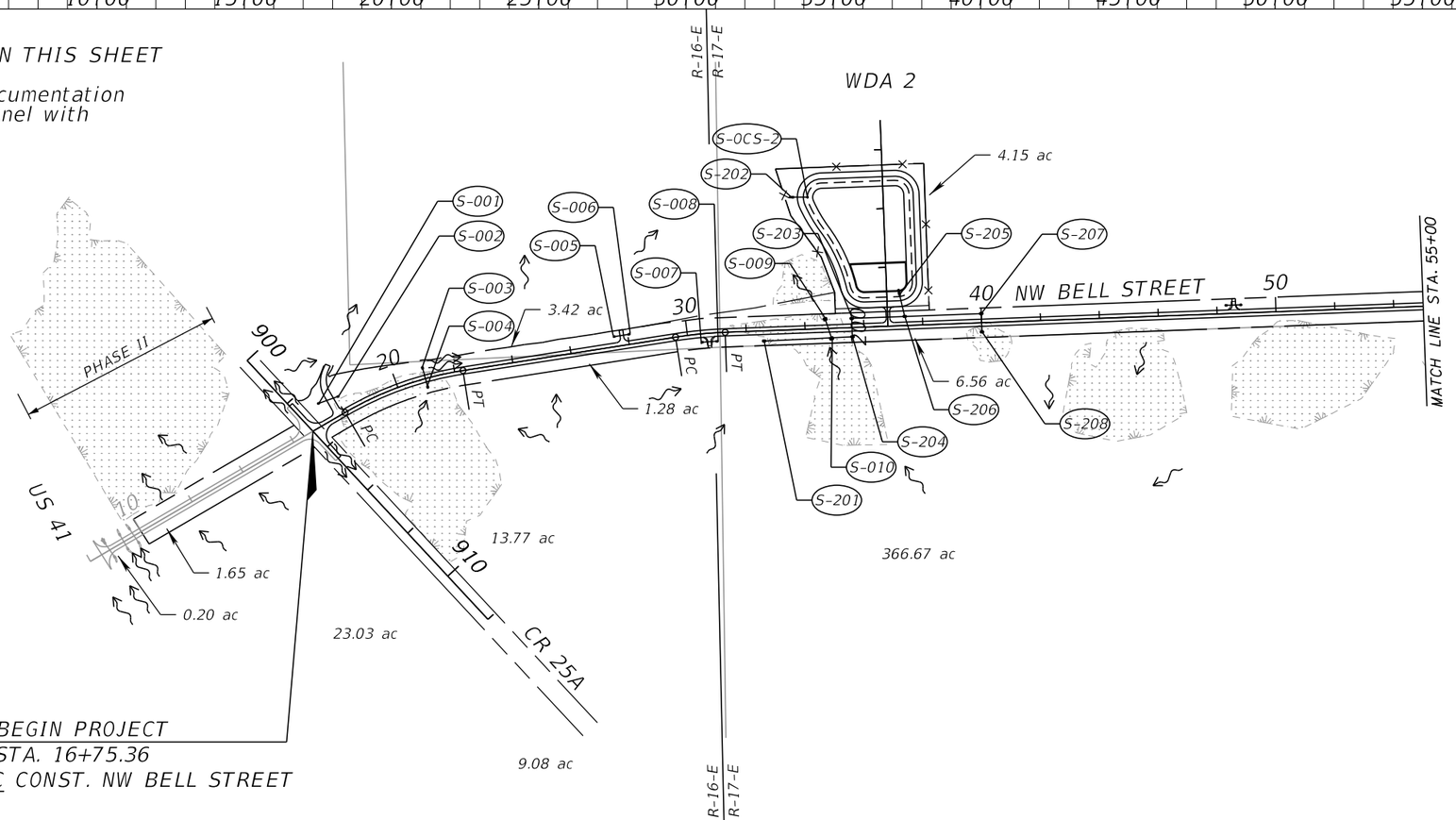

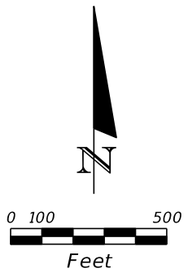

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REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	POST DEVELOPMENT DRAINAGE MAP	SHEET NO. 4

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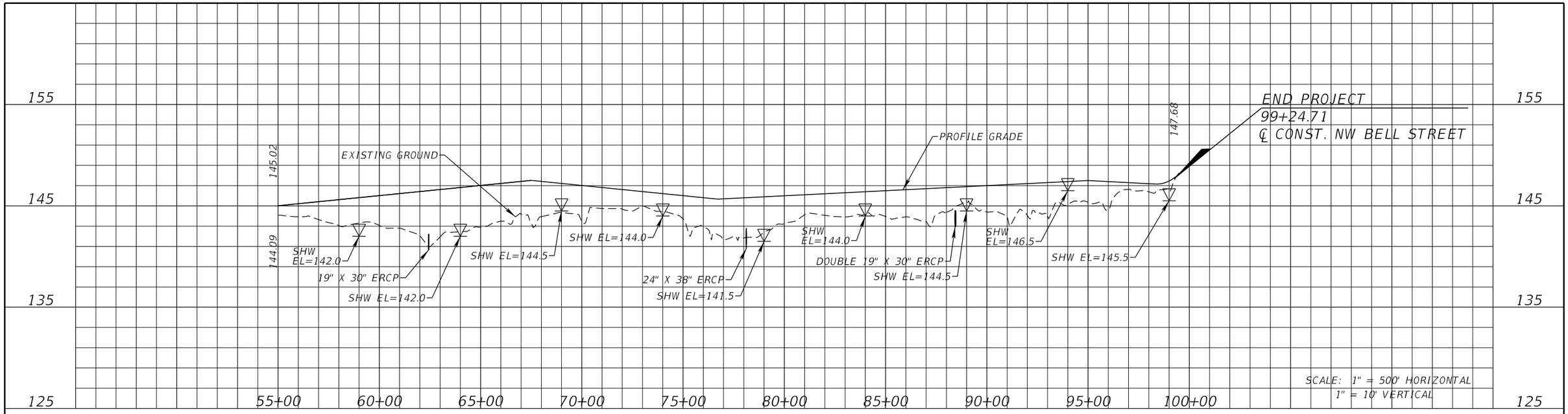

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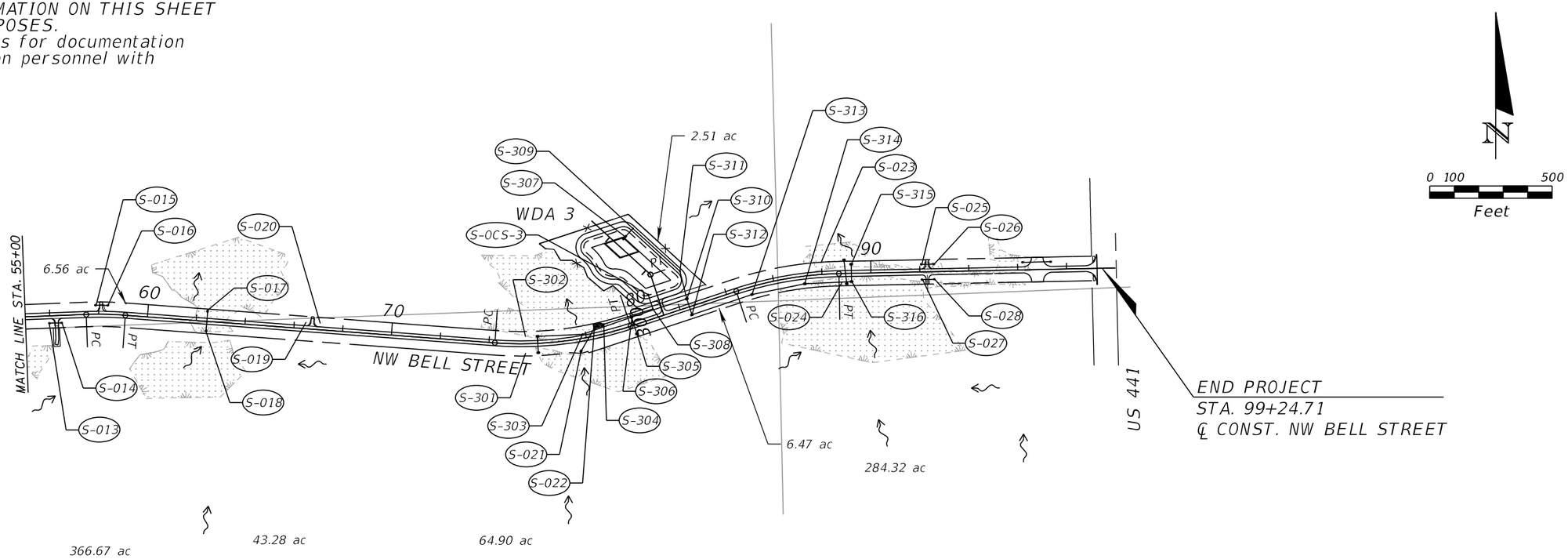

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REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	POST DEVELOPMENT DRAINAGE MAP	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		5
					PROJECT ID		

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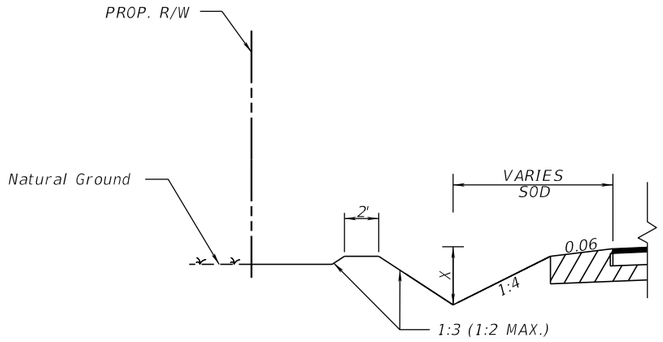
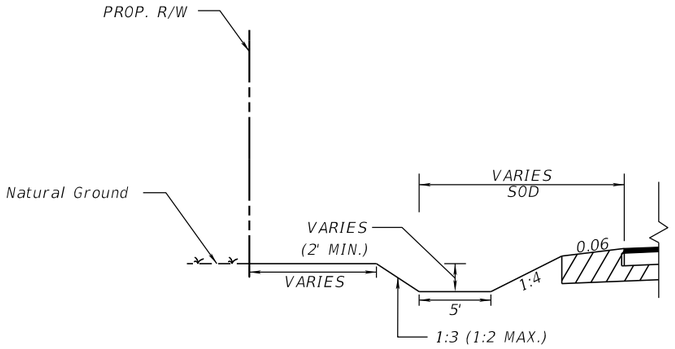


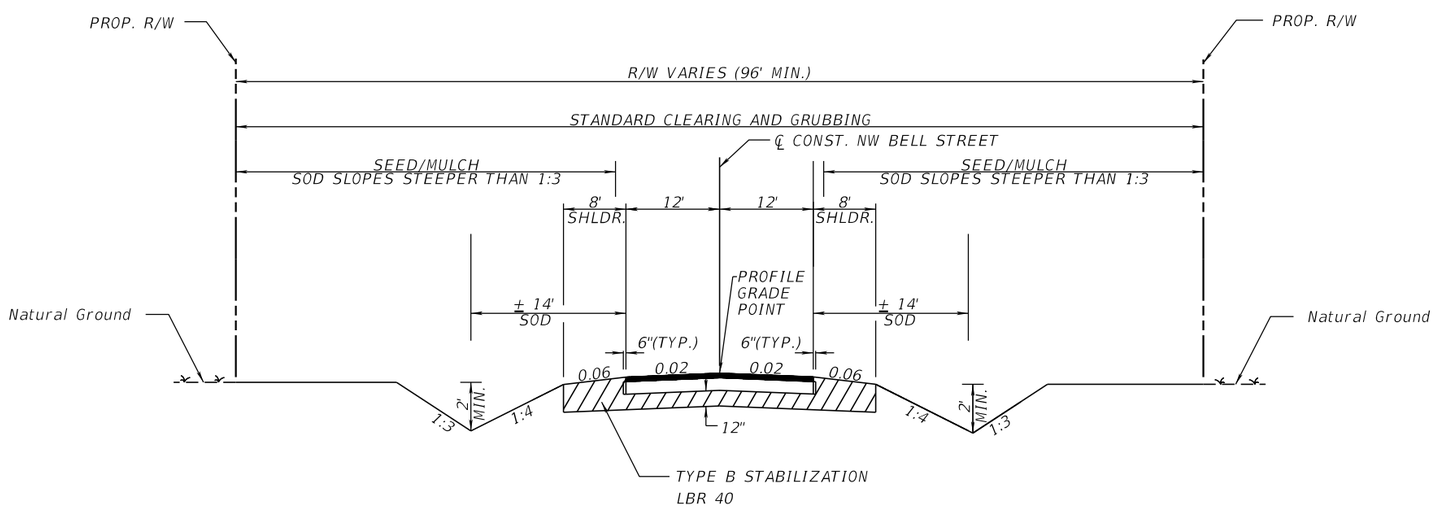
BERM DETAIL
NW BELL STREET

LT/RT	LIMITS	*X(DEPTH)
RT	STA. 21+66 - STA. 32+60	3.50 FT
LT/RT	STA. 35+02 - STA. 53+51	2.72 FT
LT/RT	STA. 53+51 - STA. 62+35	**VARIES
LT/RT	STA. 62+35 - STA. 67+50	2.14 FT
LT/RT	STA. 67+50 - STA. 76+20	2.84 FT
LT/RT	STA. 79+87 - STA. 92+61	3.50 FT
LT/RT	STA. 92+61 - STA. 96+16	**VARIES

*DEPTH MEASURED FROM PGL ELEVATION
**SEE SPECIAL DITCH PROFILES FOR ELEVATIONS



BERM DETAIL
NW BELL STREET
STA. 18+10 - STA. 31+90 (LT)



TYPICAL SECTION
NW BELL STREET
STA. 8+44.72 - STA. 99+24.71

PAVEMENT

LIMEROCK BASE (8") WITH
STRUCTURE COURSE SP-12.5 (TRAFFIC B) (1.5")
AND FRICTION COURSE FC-9.5 (TRAFFIC B) (1.25")

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REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY COLUMBIA PROJECT ID	TYPICAL SECTION	SHEET NO. 6

tdelicato 10/25/2019 12:10:18 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\typsrd01.dgn

SUMMARY OF LUMP SUM ITEMS

PAY ITEM NO.	PAY ITEM DESCRIPTION	QUANTITY		DESIGN NOTES	CONSTRUCTION REMARKS
		P	F		
0101 1	MOBILIZATION	1			

SUMMARY OF TEMPORARY TRAFFIC CONTROL PLAN ITEMS

PAY ITEM NO.	PAY ITEM DESCRIPTION	UNIT	PHASE I			PHASE II			TOTAL		DESIGN NOTES	CONSTRUCTION REMARKS
			DURATION	QUANTITY	TOTAL	DURATION	QUANTITY	TOTAL				
			DAYS	P	P	DAYS	P	P	P	F		
0102-1	MAINTENANCE OF TRAFFIC	LS							1		291 DAYS	
0102-2-1	SPECIAL DETOUR 1	LS					1	1	1			
0102-60	WORK ZONE SIGN	ED	146	12	1752	145	14	2030	3782			
0102-61	BUSINESS SIGN	EA		1	1		2	2	3			
0102-74-1	TEMPORARY BARRICADES- DRUM	ED	146	153	22338	145	128	18560	40898			
0102-74-2	BARRICADE, TEMPORARY, TYPE III, 6'	ED	146	17	2482	145	12	1740	4222			
0102-78	RETROREFLECTIVE PAVEMENT MARKERS	EA		14	14		142	142	156			
0102-99	PORTABLE CHANGEABLE MESSAGE SIGN, TEMPORARY	ED	146	2	292	145	2	290	582			
0102-150-1	PORTABLE REGULATORY, SIGN	ED	146	2	292	145	2	290	582			

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-1

SUMMARY OF EROSION AND SEDIMENT CONTROL DEVICES

LOCATION	SIDE	AREA ID	ARTIFICIAL COVERINGS		SEDIMENT BASIN/SYSTEM CLEANOUT		SEDIMENT BARRIER		FLOATING TURBIDITY BARRIER		STAKED TURBIDITY BARRIER		SOIL TRACKING PREVENTION DEVICE		INLET PROTECTION SYSTEM		DESIGN NOTES	CONSTRUCTION REMARKS
STA. TO STA.			0104 1		0104 9		0104 10 3		0104 11		0104 12		0104 15		0104 18			
			SY		EA		LF		LF		LF		EA		EA			
			P	F	P	F	P	F	P	F	P	F	P	F	P	F		
BEGIN PROJECT to END PROJECT	LT/RT												4				ONE PER MILE, ONE PER POND	
BEGIN PROJECT to END PROJECT	LT/RT				4												FOR 2 PONDS, ARE USED TO CLEAN SEDIMENT OUT OF POND BOTTOMS PRIOR TO FINAL ACCEPTANCE AND DURING CONST.	
BEGIN PROJECT to END PROJECT	LT/RT		951														1% OF TOTAL PERMANENT GRASSING	
16+92.36 to 18+19.18	LT						199.1										INCLUDES MES LOCATION	
17+27.23 to 22+28.81	RT						568.7											
18+15.05 to 21+62.53	LT						426.9										INCLUDES MES LOCATIONS	
27+50.37	LT						46.2											
30+44.30	RT						46.2											
31+28.56 to 35+14.78	LT						432.5										INCLUDES MES LOCATION	
31+28.58 to 63+63.34	RT						3322.1											
32+60.00	RT														1			
35+60.00	LT														1			
35+60.00	RT														1			
37+40.00 to 40+00.00	LT														2		SEE PLANS FOR EXACT LOCATION	
38+14.05 to 48+51.23	LT						1037.2											
40+00.00	RT														1			
48+63.31 to 58+05.04	LT						990.0										INCLUDES MES LOCATION	
58+17.65 to 61+96.08	LT						427.5										INCLUDES MES LOCATION	
61+96.10 to 63+63.39	LT										167.2							
63+63.40 to 64+32.59	LT						69.2											
64+32.59 to 64+88.08	LT										55.5							
64+88.08 to 66+68.25	LT						180.2											
66+81.85 to 74+63.30	LT						827.3										INCLUDES MES LOCATION	
74+63.30 to 80+54.63	LT										576.8							
74+96.21 to 80+39.27	RT						614.6										INCLUDES MES LOCATION	
75+50.00 to 80+02.00	LT														2			
75+50.00 to 89+20.00	RT														6			
82+40.00 to 89+20.00	LT														2			
83+81.99 to 87+70.62	LT						399.7											
85+76.11 to 92+24.36	RT						685.1										INCLUDES MES LOCATION	
87+70.46 to 90+16.54	LT										248.9							
90+16.54 to 92+24.71	LT						208.2											
92+36.36 to 96+21.65	RT						431.5										INCLUDES MES LOCATION	
92+37.04 to 94+81.86	LT						291.1										INCLUDES MES LOCATION	
200+40.24 to 205+38.09	LT/RT						1515.3										WDA 2	
300+45.09 to 305+00.00	LT/RT						1350.4										WDA 3	
SUB-TOTAL:			951		4		14069				1048		4		16			
TOTAL:			951		4		14069				1048		4		16			

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REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	SUMMARY OF QUANTITIES	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		SQ-2

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SUMMARY OF FENCING

PAY ITEM NO.	DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	QUANTITY P	QUANTITY F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0550 10 110	FENCING, TYPE A, 5.1-6.0', STANDARD	33+20.00 TO 38+23.00	LT	FT	1816.2		1816		WDA 2	WITH 24 FT TYPE A GATE
0550 10 110	FENCING, TYPE A, 5.1-6.0', STANDARD	76+36.00 TO 83+29.00	LT	FT	1616.3		1616		WDA 3	WITH 24 FT TYPE A GATE

SUMMARY OF REMOVAL ITEMS

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	AREA ID	UNITS	AREA LENGTH	AREA WIDTH	AREA SY	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0110 1 1	CLEARING AND GRUBBING	16+75.36 to 99+24.71	LT/RT		LS				1		29.02 ACRES	

SUMMARY OF EARTHWORK

PAY ITEM NO.	PAY ITEM DESCRIPTION	CY P	CY F	TOTAL	DESIGN NOTES	CONSTRUCTION REMARKS
0120 1	REGULAR EXCAVATION			40532		
	BELL STREET	1730				
	W.D.A. 2	25728				
	W.D.A. 3	13074				
0120 4	SUBSOIL EXCAVATION					
	BELL STREET	903		903		
	W.D.A. 2	0				
	W.D.A. 3	0				
0120 6	EMBANKMENT			46119		
	BELL STREET	39997				
	W.D.A. 2	3450				
	W.D.A. 3	2672				

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REVISIONS DATE	REVISIONS DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-3

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	AREA ID	LENGTH	WIDTH	QUANTITY (SY) P	QUANTITY (SY) F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0160 4	TYPE B STABILIZATION	MAINLINE								38711			
		16+75.36 to 17+46.75	RT	SY		71.4	20	158.6					
		17+46.75 to 30+51.89	RT	SY	148717			2890.6					
		30+51.89 to 56+48.17	RT	SY		2596.3	20	5769.5					
		56+48.17 to 94+99.14	RT	SY	148745			8557.0					
		94+99.14 to 99+24.80	RT	SY		425.7	20	945.9					
		16+75.36 to 17+46.75	LT	SY		71.4	20	158.6					
		17+46.75 to 30+51.89	LT	SY	148950			2910.0					
		30+51.89 to 56+49.37	LT	SY		2597.5	20	5772.2					
		56+49.37 to 94+99.85	LT	SY	148882			8553.1					
		94+99.85 to 99+24.66	LT	SY		424.8	20	944.0					
		TURNOUT/SIDESTREET											
		16+29.94 to 17+46.75	RT	SY	148463			540.1					
		96+21.65 to 97+39.65	RT	SY	148562			248.1					
		98+79.44 to 99+24.80	RT	SY	148594			70.8					
		8+44.04 to 8+89.62	LT	SY	148425			73.6					
		16+04.50 to 17+21.30	LT	SY	148544			499.9					
		96+21.65 to 97+39.65	LT	SY	148581			248.1					
		98+77.53 to 99+24.66	LT	SY	148603			76.7					
		DRIVEWAY											
		17+67.90 to 17+91.90	LT	SY	149471			293.8					

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REVISIONS DATE	REVISIONS DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
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Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-4

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	AREA ID	LENGTH	WIDTH	QUANTITY (SY) P	QUANTITY (SY) F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
285-701	OPTIONAL BASE, BASE GROUP 01	DRIVEWAY		SY						906			
		17+52.92 to 18+06.79	LT	SY	146421			134.3					
		27+58.29 to 28+00.29	LT	SY	146456			65.3					
		36+61.86 to 37+03.86	LT	SY	146611			92.1					
		48+36.04 to 48+78.04	LT	SY	146716			61.4					
		57+91.66 to 58+32.89	LT	SY	146925			61.6					
		66+53.26 to 66+95.26	LT	SY	147848			61.4					
		81+12.83 to 81+54.83	LT	SY	147676			92.1					
		92+09.36 to 92+51.36	LT	SY	147805			61.4					
		30+52.34 to 30+94.24	RT	SY	146511			61.2					
		56+06.46 to 56+48.46	RT	SY	146816			153.7					
		92+09.36 to 92+51.36	RT	SY	148471			61.4					
285-706	OPTIONAL BASE, BASE GROUP 6	MAINLINE		SY						24057			
		16+75.36 to 17+46.75	RT	SY		71.4	12.33	97.8					
		17+46.75 to 30+51.89	RT	SY	148717			1784.8					
		30+51.89 to 56+48.45	RT	SY		2596.6	12.33	3557.3					
		56+48.45 to 94+99.30	RT	SY	148745			5276.8					
		94+99.30 to 99+24.78	RT	SY		425.5	12.33	582.9					
		16+75.36 to 17+46.75	LT	SY		71.4	12.33	97.8					
		17+46.75 to 30+51.89	LT	SY	148950			1743.7					
		30+51.89 to 56+49.37	LT	SY		2597.5	12.33	3558.5					
		56+49.37 to 94+99.80	LT	SY	148882			5276.3					
		94+99.80 to 99+24.69	LT	SY		424.9	12.33	582.1					
		TURNOUT/SIDESTREET											
		16+29.94 to 17+46.75	RT	SY	148463			415.8					
		96+21.65 to 97+39.65	RT	SY	148562			261.0					
		98+79.75 to 99+24.78	RT	SY	148594			56.2					
		8+44.21 to 8+89.62	LT	SY	148425			52.2					
		16+04.50 to 17+21.30	LT	SY	148544			391.0					
		96+21.65 to 97+39.65	LT	SY	148581			261.0					
		98+77.53 to 99+24.69	LT	SY	148603			62.1					

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REVISIONS DATE	REVISIONS DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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1650 Prudential Drive, Suite 400
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Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-5

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	AREA ID	LENGTH	WIDTH	AREA (SY)	SPREAD RATE	QUANTITY (TN) P	QUANTITY (TN) F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0334 1 12	SUPERPAVE ASPH CONC, TRAFFIC B	MAINLINE		TN								1983.0			
		16+75.36 to 17+46.75	RT	TN		71.39	12.0	95.19	165	7.85					
		17+46.75 to 30+51.89	RT	TN	148717			1736.69	165	143.28					
		30+51.89 to 56+48.45	RT	TN		2596.56	12.0	3462.08	165	285.62					
		56+48.45 to 94+99.30	RT	TN	148745			5134.18	165	423.57					
		94+99.30 to 99+24.78	RT	TN		425.48	12.0	567.31	165	46.80					
		16+75.36 to 17+46.75	LT	TN		71.39	12.0	95.19	165	7.85					
		17+46.75 to 30+51.89	LT	TN	148950			1743.65	165	143.85					
		30+51.89 to 56+49.37	LT	TN		2597.48	12.0	3463.31	165	285.72					
		56+49.37 to 94+99.80	LT	TN	148882			5133.72	165	423.53					
		94+99.80 to 99+24.69	LT	TN		424.89	12.0	566.52	165	46.74					
		TURNOUT/SIDESTREET													
		16+29.94 to 17+46.75	RT	TN	148463			409.92	165	33.82					
		96+21.65 to 97+39.65	RT	TN	148562			261.10	165	21.54					
		98+79.75 to 99+24.78	RT	TN	148594			55.37	165	4.57					
		16+04.50 to 17+21.30	LT	TN	148544			385.81	165	31.83					
		96+21.65 to 97+39.65	LT	TN	148581			261.07	165	21.54					
		98+77.53 to 99+24.69	LT	TN	148603			61.24	165	5.05					
		DRIVEWAY													
		17+52.92 to 18+06.79	LT	TN	146421			134.3	110	7.39					
		27+58.29 to 28+00.29	LT	TN	146456			65.3	110	3.59					
		36+61.86 to 37+03.86	LT	TN	146611			92.1	110	5.07					
		48+36.04 to 48+78.04	LT	TN	146716			61.4	110	3.38					
		57+91.66 to 58+32.89	LT	TN	146925			61.6	110	3.39					
		66+53.26 to 66+95.26	LT	TN	147848			61.4	110	3.38					
		81+12.83 to 81+54.83	LT	TN	147676			92.1	110	5.07					
		92+09.36 to 92+51.36	LT	TN	147805			61.4	110	3.38					
		30+52.34 to 30+94.24	RT	TN	146511			61.2	110	3.36					
		56+06.46 to 56+48.46	RT	TN	146816			153.7	110	8.45					
		92+09.36 to 92+51.36	RT	TN	148471			61.4	110	3.38					

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS DATE	REVISIONS DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-6

SUMMARY OF PAVEMENT

PAY ITEM NO.	PAY ITEM DESCRIPTION	LOCATION STA. TO STA.	SIDE	UNIT	AREA ID	LENGTH	WIDTH	AREA (SY)	SPREAD RATE	QUANTITY (TN) P	QUANTITY (TN) F	TOTAL P	TOTAL F	DESIGN NOTES	CONSTRUCTION REMARKS
0337 7 40	FRICTION COURSE FC-9.5, TRAFFIC B	MAINLINE		TN								1633.8			
		16+75.36 to 17+46.75	RT	TN		71.39	12.0	95.19	138	6.54					
		17+46.75 to 30+51.89	RT	TN	148717			1736.69	138	119.40					
		30+51.89 to 56+48.45	RT	TN		2596.56	12.0	3462.08	138	238.02					
		56+48.45 to 94+99.30	RT	TN	148745			5134.18	138	352.97					
		94+99.30 to 99+24.78	RT	TN		425.48	12.0	567.31	138	39.00					
		16+75.36 to 17+46.75	LT	TN		71.39	12.0	95.19	138	6.54					
		17+46.75 to 30+51.89	LT	TN	148950			1743.65	138	119.88					
		30+51.89 to 56+49.37	LT	TN		2597.48	12.0	3463.31	138	238.10					
		56+49.37 to 94+99.80	LT	TN	148882			5133.72	138	352.94					
		94+99.80 to 99+24.69	LT	TN		424.89	12.0	566.52	138	38.95					
		TURNOUT/SIDESTREET													
		16+29.94 to 17+46.75	RT	TN	148463			230.55	138	15.85					
		96+21.65 to 97+39.65	RT	TN	148562			261.10	138	17.95					
		98+79.75 to 99+24.78	RT	TN	148594			55.37	138	3.81					
		16+04.50 to 17+21.30	LT	TN	148544			173.25	138	11.91					
		96+21.65 to 97+39.65	LT	TN	148581			261.07	138	17.95					
		98+77.53 to 99+24.69	LT	TN	148603			61.24	138	4.21					
		DRIVEWAY													
		17+52.92 to 18+06.79	LT	TN	146421			134.3	110	7.39					
		27+58.29 to 28+00.29	LT	TN	146456			65.3	110	3.59					
		36+61.86 to 37+03.86	LT	TN	146611			92.1	110	5.07					
		48+36.04 to 48+78.04	LT	TN	146716			61.4	110	3.38					
		57+91.66 to 58+32.89	LT	TN	146925			61.6	110	3.39					
		66+53.26 to 66+95.26	LT	TN	147848			61.4	110	3.38					
		81+12.83 to 81+54.83	LT	TN	147676			92.1	110	5.07					
		92+09.36 to 92+51.36	LT	TN	147805			61.4	110	3.38					
		30+52.34 to 30+94.24	RT	TN	146511			61.2	110	3.36					
		56+06.46 to 56+48.46	RT	TN	146816			153.7	110	8.45					
		92+09.36 to 92+51.36	RT	TN	148471			61.4	110	3.38					

SUMMARY OF SIDEWALK & DETECTABLE WARNINGS

LOCATION STA. TO STA.	SIDE	AREA ID	LENGTH	WIDTH	CONC SIDEWALK 0522 1 SY P	CONC SIDEWALK 0522 1 SY F	CONC DRIVEWAY 0522 2 SY P	CONC DRIVEWAY 0522 2 SY F	DETECTABLE WARNINGS 0527 2 SF P	DETECTABLE WARNINGS 0527 2 SF F	DESIGN NOTES	CONSTRUCTION REMARKS
BELL STREET												
99+07.80 to 99+15.80	LT	147820			19.3				16.0			
99+08.29 to 99+16.29	RT	147825			19.3				16.0			
SUB-TOTAL:					38.6				32.0			
TOTAL:					39				32.0			

REVISIONS DATE	REVISIONS DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-7

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

SUMMARY OF PERFORMANCE TURF

LOCATION STA. TO STA.	SIDE	AREA ID	LENGTH	WIDTH	PERFORMANCE TURF 0570 1 1 SY	PERFORMANCE TURF (SOD) 0570 1 2 SY	DESIGN NOTES	CONSTRUCTION REMARKS
16+61.94 to 99+08.29	LT/RT				56055.0	39071.0	BELL ROAD	
200+64.96 to 206+28.96	LT/RT				4514.2	5385.6	W.D.A. 2	
300+64.98 to 304+55.25	LT/RT				3264.2	4001.3	W.D.A. 3	
				SUB-TOTAL:	63833.4	48457.8		
				FINAL TOTAL:	63833	48458		

SUMMARY OF TEMPORARY TRAFFIC CONTROL PLAN ITEMS

PAY ITEM NO.	PAY ITEM DESCRIPTION	UNIT	PHASE I			PHASE II			TOTAL		DESIGN NOTES	CONSTRUCTION REMARKS
			DURATION DAYS	QUANTITY P	TOTAL P	DURATION DAYS	QUANTITY P	TOTAL P	P	F		
0710-11-125	PAINTED PAVT MARKINGS, STD, WHITE, SOLID, 24"	LF		19	19		32	32	51			
0710-11-101	PAINTED PAVT MARKINGS, STD, YELLOW, SOLID, 6"	GM		0.11	0.11		0.99	0.99	1.10			

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

SUMMARY OF QUANTITIES

SHEET NO.: SQ-8

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			88		89		90		91		92		93		94						
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
0700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	3		1										1		5				
0700-1-60	SINGLE POST SIGN, REMOVE	AS	1														1				
0710-11-101	PAINTED PVMT MARKINGS, STD, WHITE, SOLID, 6"	GM	0.509		0.477		0.477		0.480		0.477		0.480		0.480		3.380				
0710-11-123	PAINTED PVMT MARKINGS, STD, WHITE, SOLID FOR	LF																			
	CROSSWALK AND ROUNDABOUT, 12"																				
0710-11-125	PAINTED PVMT MARKINGS, STD, WHITE, SOLID, 24"	LF	80														80				
0710-11-131	PAINTED PVMT MARKINGS, STD, WHITE, 10-30 SKIP, 6" WIDE	GM	0.046														0.046				
0710-11-201	PAINTED PVMT MARKINGS, STD, YELLOW, SOLID, 6"	GM	0.358		0.118										0.042		0.518				
0710-11-231	PAINTED PVMT MARKINGS, STD, YELLOW, 10-30 SKIP, 6" WIDE	GM			0.223		0.239		0.239		0.239		0.239		0.239		1.416				

TABULATION OF QUANTITIES

PAY ITEM NO.	DESCRIPTION	UNIT	SHEET NUMBERS														TOTAL THIS SHEET		GRAND TOTAL		REF. SHEET
			95																		
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	
0700-1-11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	2														2		7		
0700-1-60	SINGLE POST SIGN, REMOVE	AS																	1		
0710-11-101	PAINTED PVMT MARKINGS, STD, WHITE, SOLID, 6"	GM	0.193														0.193		3.574		
0710-11-123	PAINTED PVMT MARKINGS, STD, WHITE, SOLID FOR	LF	120														120		120		
	CROSSWALK AND ROUNDABOUT, 12"																				
0710-11-125	PAINTED PVMT MARKINGS, STD, WHITE, SOLID, 24"	LF	19														19		99		
0710-11-131	PAINTED PVMT MARKINGS, STD, WHITE, 10-30 SKIP, 6" WIDE	GM																	0.046		
0710-11-201	PAINTED PVMT MARKINGS, STD, YELLOW, SOLID, 6"	GM	0.182														0.182		0.700		
0710-11-231	PAINTED PVMT MARKINGS, STD, YELLOW. 10-30 SKIP, 6" WIDE	GM																	1.416		

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

TABULATION OF QUANTITIES

SHEET NO.: SQ-9

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM AND CROSS DRAIN OPTIONAL MATERIAL			MANHOLES		DITCH BOTTOM INLETS		CROSS DRAIN MITERED END SECTION		SIDE DRAIN MITERED END SECTION			REMARKS
											C	E						
						ROUND SHAPE			P-8	P-8	MOD	MOD						
						18"	24"	30"	<10'	>10'	<10'	<10'	24"	30"	18"	24"	30"	
P	S-201	32+60	RT	DBI, Pipe	1	298					1							
F																		
P	S-203	35+60	LT	DBI, Pipe	1	178					1							
F																		
P	S-204	35+60	RT	DBI, Pipe	1	60					1							
F																		
P	S-205	37+25	LT	MES	1												1	
F																		
P	S-206	37+40	LT	DBI, Pipe	1			75			1							
F																		
P	S-207	40+00	LT	DBI, Pipe	1		258				1							
F																		
P	S-208	40+00	RT	DBI, Pipe	1	60					1							
F																		
P	S-301	76+00	RT	DBI, Pipe	1	65					1							
F																		
P	S-302	76+00	LT	DBI, Pipe	1		182				1							
F																		
P	S-303	77+87	LT	Manhole, Pipe	1		210		1									
F																		
P	S-305	80+02	RT	DBI, Pipe	1	69					1							
F																		
P	S-306	80+02	LT	DBI, Pipe	1		236				1							
F																		
P	S-307	80+83	LT	MES	1												1	
F																		
P	S-308	80+95	LT	Manhole, Pipe, MES	1		206		1							1		WDA 3 Outfall Pipe
F																		
P	S-309	81+21	LT	Manhole, Pipe	1			41		1								
F																		
P	S-310	82+40	LT	DBI, Pipe	1			113			1							
F																		
P	S-311	82+48	LT	Manhole, Pipe	1			257	1									
F																		
P	S-312	82+40	RT	DBI, Pipe	1		67				1							
F																		
P	S-313	85+00	RT	DBI, Pipe	1		257				1							
F																		
P	S-314	87+25	RT	DBI, Pipe	1	218					1							
F																		
P	S-315	89+20	LT	DBI, Pipe	1	69					1							
F																		
P	S-316	89+20	RT	DBI, Pipe	1	190					1							
F																		
P	S-001	17+40	LT	MES, Pipe, MES	1	59									2			
F																		
P	S-004	20+98	RT	MES, Pipe, MES	1		59						2					19"x30" ERCP
F																		
P	S-006	28+03	LT	MES, Pipe, MES	1	40									2			
F																		
P	S-008	30+97	RT	MES, Pipe, MES	1	39									2			
F																		
P	S-010	34+88	RT	MES, Pipe, MES	3		59						2					Triple 19"x30" ERCP
F																		
P	S-012	48+80	LT	MES, Pipe, MES	1	39									2			
F																		
P	S-014	56+46	RT	MES, Pipe, MES	1	39									2			
F																		
P	S-016	58+35	LT	MES, Pipe, MES	1	39									2			
F																		
P	S-018	62+43	RT	MES, Pipe, MES	1		72						2					19"x30" ERCP
F																		
P	S-019	77+70	RT	MES, Pipe, MES	1			99						2				24"x38" ERCP
F																		
P	S-022	89+00	RT	MES, Pipe, MES	2		88						2					Double 19"x30" ERCP
F																		
SHEET TOTALS -				PLAN QUANTITY		1,462	1,694	585	3	1	16	0	8	2	12	1	2	
				FINAL QUANTITY														

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

SUMMARY OF DRAINAGE STRUCTURES

SHEET NO. SQ-10

QUANTITY	STR. NO.	STATION	SIDE	DESCRIPTION	BARRELS	STORM AND CROSS DRAIN OPTIONAL MATERIAL			MANHOLES		DITCH BOTTOM INLETS		CROSS DRAIN MITERED END SECTION		SIDE DRAIN MITERED END SECTION			REMARKS
											C	E						
						ROUND SHAPE			P-8	P-8	MOD	MOD						
						18"	24"	30"	<10'	>10'	<10'	<10'	24"	30"	18"	24"	30"	
P	S-024	92+56	LT	MES, Pipe, MES	1	40									2			
F																		
P	S-026	92+57	RT	MES, Pipe, MES	1	40									2			
F																		
P	S-028	97+34	LT	MES, Pipe, MES	1	104									2			
F																		
P	S-0CS-2	33+76	LT	DBI, Pipe, MES	1		46					1				1		WDA 2 Outfall Structure
F																		
P	S-0CS-3	80+95	LT	DBI, Pipe	1		59					1						WDA 3 Outfall Structure
F																		
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SHEET TOTALS -		PLAN QUANTITY				184	105	0	0	0	0	2	0	0	6	1	0	
		FINAL QUANTITY																
GRAND TOTALS -		PLAN QUANTITY				1,646	1,799	585	3	1	16	2	8	2	18	2	2	
		FINAL QUANTITY																

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

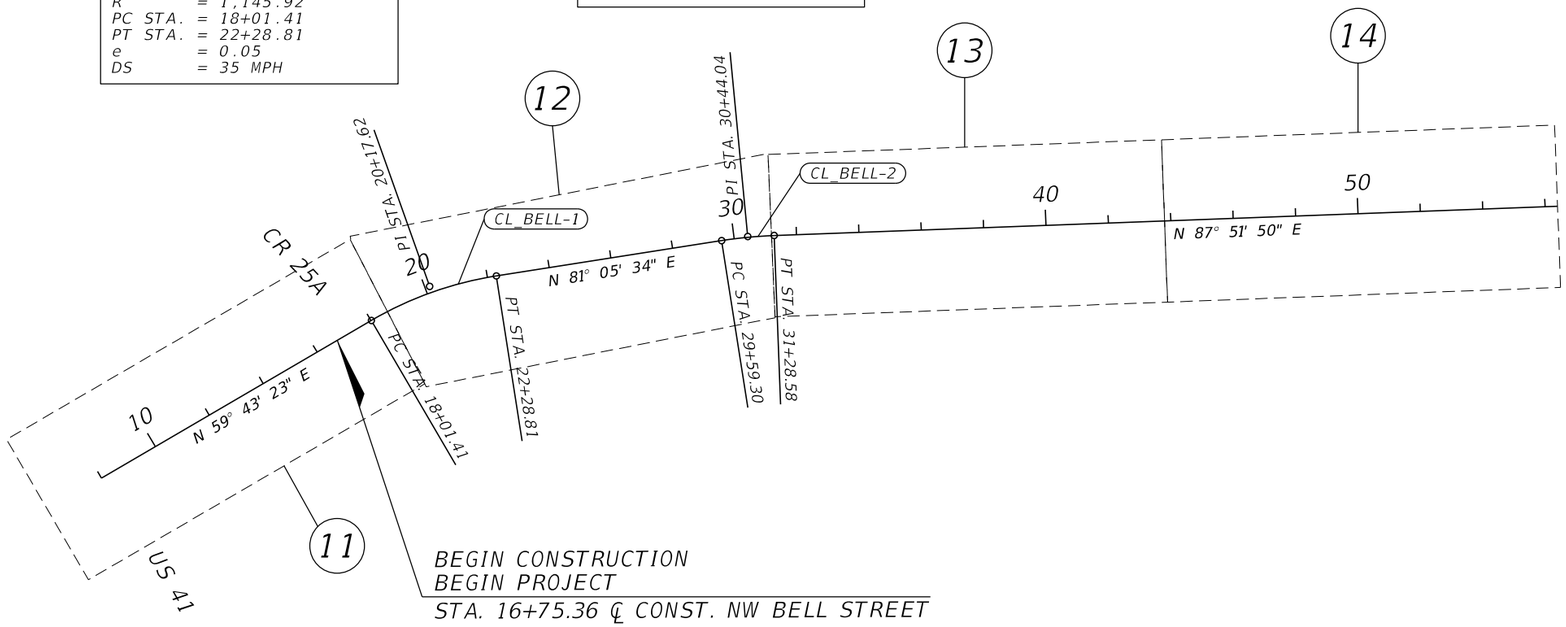
PROJECT ID:

SUMMARY OF DRAINAGE STRUCTURES

SHEET NO. SQ-11

CURVE DATA CL_BELL-1
PI STA. = 20+17.62
Δ = 21° 22' 11" (RT)
D = 5° 00' 00"
T = 216.21
L = 427.40
R = 1,145.92
PC STA. = 18+01.41
PT STA. = 22+28.81
e = 0.05
DS = 35 MPH

CURVE DATA CL_BELL-2
PI STA. = 30+44.04
Δ = 6° 46' 16" (RT)
D = 4° 00' 00"
T = 84.74
L = 169.28
R = 1,432.41
PC STA. = 29+59.30
PT STA. = 31+28.58
e = 0.072
DS = 50 MPH



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Feet

(#) = DESIGNATES PLAN SHEET NUMBER

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REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	PROJECT LAYOUT	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		7

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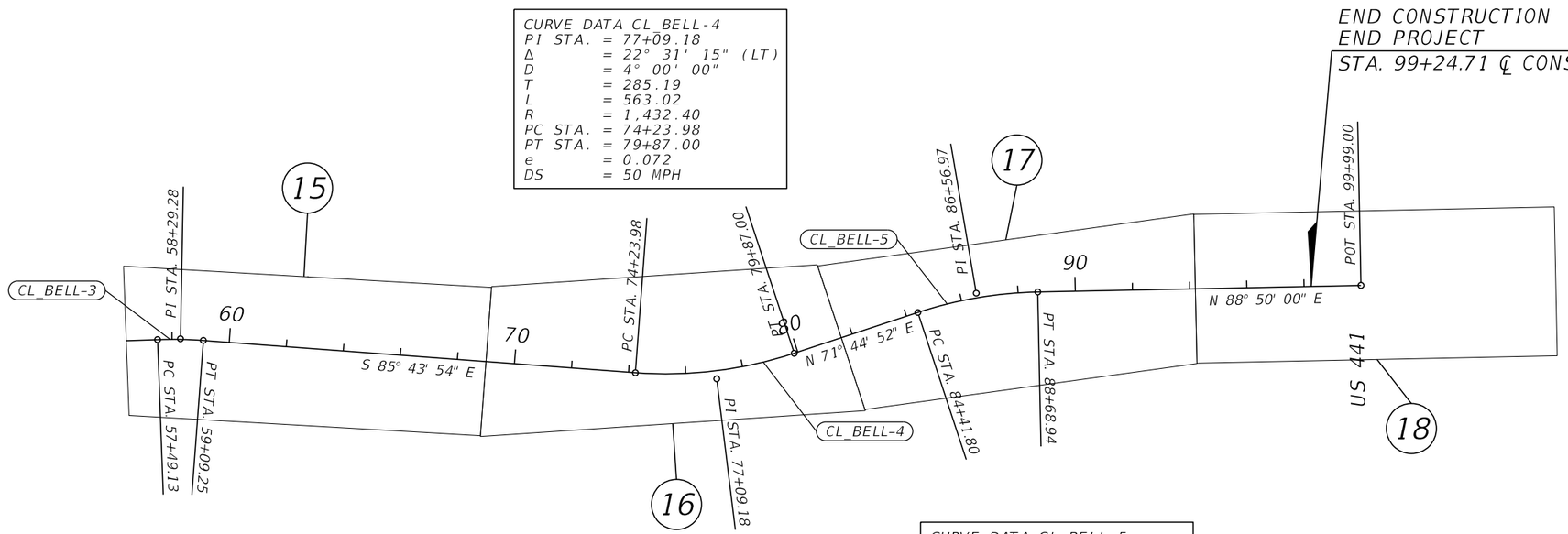

(#) = DESIGNATES PLAN SHEET NUMBER

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	PROJECT LAYOUT	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		8

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GENERAL

1. GOVERNING STANDARDS: FLORIDA DEPARTMENT OF TRANSPORTATION, 2016 DESIGN STANDARDS AND REVISED INDEX DRAWINGS AS APPENDED HEREIN, AND 2016 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AS SET FORTH BY THE ISSUED SUWANNEE RIVER WATER MANAGEMENT DISTRICT ENVIRONMENTAL RESOURCE PERMIT.
3. ALL SLOPES STEEPER THAN 3:1 SHALL BE STAPLED SOD.
4. ALL DISTURBED AREAS NOT SODDED SHALL BE SEEDED WITH A MIXTURE OF WITH A MIXTURE OF LONG-TERM VEGETATION AND QUICK GROWING SHORT-TERM VEGETATION FOR THE FOLLOWING CONDITIONS. FOR THE MONTHS FROM SEPTEMBER THROUGH MARCH, THE MIX SHALL CONSIST OF 70 POUNDS PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF WINTER RYE. FOR THE MONTHS OF APRIL THROUGH AUGUST, THE MIX SHALL CONSIST OF 70 POUNDS PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF MILLET.
5. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS WITHIN PROJECT AREA.
6. CONTRACTOR SHALL PROVIDE ACTUAL INVERT ELEVATIONS ON ALL DRAINAGE STRUCTURES, INCLUDING CULVERTS, PRIOR TO PLACING ANY BASE MATERIAL. DEVIATIONS FROM THE PLANS SHALL BE APPROVED BY THE ENGINEER BEFORE CONTINUING WORK.
7. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
8. THE CONTRACTOR SHALL SUBMIT A NOTICE OF CONSTRUCTION COMMENCEMENT TO THE WATER MANAGEMENT DISTRICT AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
9. NO WORK SHALL BE PERFORMED ON SATURDAY, SUNDAY, OR ANY COUNTY RECOGNIZED HOLIDAYS WITHOUT A WRITTEN APPROVAL FORM FROM THE COUNTY AND COUNTY ENGINEER.
10. ALL ROADWAY CONNECTIONS SHALL BE PRIVATE DRIVES UNLESS OTHERWISE DENOTED IN THE PLANS.
11. CONTRACTOR SHALL MAINTAIN MAILBOXES DURING CONSTRUCTION. ALL MAILBOXES SHALL BE RELOCATED, AS NECESSARY.
12. ALL PIPE LENGTHS LISTED IN THE PLANS EXCLUDE MITERED END LENGTH.
13. CONTRACTOR SHALL RETAIN ON THE WORK SITE COPIES OF ANY PERMITS REQUIRED FOR CONSTRUCTION.
14. CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERD.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, STRUCTURES, AND OTHER FEATURES CAUSED BY CONSTRUCTION ACTIVITIES.
16. CONTRACTOR SHALL COORDINATE CONSTRUCTION SCHEDULE WITH INDIVIDUAL COMPANIES CONCERNING RELOCATION OF UTILITIES AND ANY ADDITIONAL RELOCATIONS RESULTING FROM CONFLICTS NOT DELINEATED ON THE DRAWINGS.
17. CONTRACTOR IS RESPONSIBLE FOR BRACING, SHORING, OR PROVIDING OTHER MEANS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES EXPOSED OR UNEXPOSED DURING CONSTRUCTION.
18. ALTHOUGH MEASUREMENTS MAY BE SHOWN ON THE DRAWINGS, CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL MATERIAL QUANTITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
19. IT IS THE RESPONSIBILITY OF THE 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.
20. CONTRACTOR SHALL PROVIDE AN "AS-BUILT" SURVEY FOR MODIFICATIONS MADE DURING CONSTRUCTION.
21. 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.
22. 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.
23. THE CONTRACT TIME SHALL BE 291 CALENDAR DAYS FROM THE DATE OF CONTRACT EXECUTION. LIQUIDATED DAMAGES SHALL BE $300 PER CALENDAR DAY.
24. FOR ABBREVIATIONS USED IN THE PLANS, SEE FDOT STANDARD INDEX NO. 001
25. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE TO ENSURE THAT ALL NEW WORK WILL FIT IN THE MANNER INTENDED ON THE PLANS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE PLANS, NOTIFY THE ENGINEER OF SUCH DIFFERENCES IMMEDIATELY, PRIOR TO PROCEEDING WITH THE WORK.

GENERAL

26. MAINTAIN THE CONSTRUCTION SITE AT ALL TIMES IN A SECURE MANNER. ALL OPEN TRENCHES AND EXCAVATED AREAS SHALL BE PROTECTED FROM ACCESS BY THE GENERAL PUBLIC.
27. ALL STORMWATER PIPES SHALL HAVE A MINIMUM COVER OF 6". USE LIMEROCK BACKFILL IF PIPE UNDER PAVEMENT HAS LESS THAN 12" COVER. BACKFILL TO BE INCLUDED IN COST OF PIPE.
28. ALL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS SHOWN IN PLANS PRIOR TO CONSTRUCTION AND SHALL BE CONTINUED UNTIL CONSTRUCTION IS COMPLETE. TAKE NECESSARY MEASURES TO MINIMIZE EROSION, TURBIDITY, NUTRIENT LOADING, AND SEDIMENTATION TO ADJACENT LANDS AND LOW AREAS. THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED AS DESIGNED AND UPGRADED AS NEEDED AS DIRECTED BY ENGINEER OR SRWMD PERSONNEL. CONSTRUCTION DESIGNS AND SPECIFICATIONS AS OUTLINED BY THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTORS MANUAL" SHALL BE ADHERED TO.
29. EMPLOY A QUALIFIED GEOTECHNICAL TESTING FIRM FOR MATERIAL TESTING INCLUDING CONCRETE, ASPHALT, EMBANKMENTS, ETC.
30. ALL CONSTRUCTION SIGNING NECESSARY FOR THE PROTECTION OF WORKERS AND MOTORISTS SHALL BE PROVIDED BY THE CONTRACTOR. STRIPING (TEMPORARY ON PAVEMENT) WILL BE REQUIRED FOLLOWING EACH DAY OF ASPHALTIC CONCRETE APPLICATION.
31. ALL DISTURBED FENCING MUST BE REPLACED IN KIND TO THE ORIGINAL CONDITION.
32. GIVE PROPERTY OWNERS WRITTEN NOTIFICATION OF ANY RELOCATION OR REPLACEMENT OF ANY FENCES, SHRUBS, OR OTHER PERSONAL ITEMS OUT OF THE CONSTRUCTION LIMITS ONE MONTH PRIOR TO CONSTRUCTION ACTIVITIES BEGINNING. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE COMPENSATED BY REPLACEMENT OF THE FEATURE(S).
33. THE CONSTRUCTION AND PLACEMENT OF ANY CURB CUT RAMPS OR LANDING PADS WITHIN COLUMBIA COUNTY RIGHT OF WAYS SHALL AT A MINIMUM ADHERE TO THE STANDARDS AS SET FORTH BY THE FDOT STANDARD INDEX 304, SHEETS 1 THROUGH 7, AND 28 CODE OF FEDERAL REGULATIONS (CFR) PART 36, APPENDIX A LATEST REVISION, FLORIDA ACCESSIBILITY CODE, AS WELL AS APPLICABLE COUNTY REQUIREMENTS; LDC SECTION 6.04.02.C. DETECTABLE WARNING SURFACES SHALL MEET COLUMBIA COUNTY'S STANDARDS. CONTACT THE ENGINEERING DIVISION FOR FURTHER INFORMATION AT (386) 758-1019.
34. NPDES PERMIT TO BE FILED TO FDEP 48 HOURS PRIOR TO CONSTRUCTION.
35. PERMITS MUST BE CLOSED OUT BY THE ENGINEER AFTER FINAL INSPECTION.
36. PROVIDE A VIDEO OF PROPOSED STORM SYSTEM UPON COMPLETION. COST TO BE INCLUDED IN COST OF PROPOSED PIPE.
37. PROVIDE A PRE-CONSTRUCTION VIDEO FOR PROJECT LIMITS AND ADJACENT PROPERTIES. COST TO BE INCLUDED IN COST OF DESILTING EXISTING PIPE.
38. SIDEWALKS TO BE CONSTRUCTED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 310.
39. ALL COMPACTION FOR ANY MATERIAL SHALL BE LIMITED TO STATIC MODE ONLY, UNLESS APPROVED BY THE ENGINEER.

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

PROJECT NOTES

SHEET NO. 9

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.

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 PROPOSED 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. PLACE ROADWAY BASE MATERIAL, ASPHALT SURFACE, AND INSTALL PERMANENT GRASSING.

SIGNING AND PAVEMENT MARKING NOTES

1. ALL PAVEMENT MARKINGS TO BE PAINT AND RPMS TO BE INSTALLED AS REQUIRED.
2. REGULATORY SIGNAGE TO BE MAINTAINED PER MUTCD.

SURVEY AND R/W

1. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. IF ANY PUBLIC LAND CORNER WITHIN LIMITS OF CONSTRUCTION IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, IMMEDIATELY NOTIFY THE ENGINEER IN CONJUNCTION WITH THE DISTRICT LOCATION SURVEYOR.
3. BOUNDARY AND TOPOGRAPHICAL INFORMATION SHOWN WAS OBTAINED FROM A SURVEY PERFORMED BY DONALD F. LEE & ASSOCIATES, INC. # LB 7042.

DRAINAGE STRUCTURES

1. EXISTING DRAINAGE STRUCTURES, PIPES, AND MES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
2. ALL MITERED ENDS FOR SIDE DRAINS AND CROSS DRAINS SHALL HAVE A 1:4 SLOPE.
3. EXCAVATION WORK WILL BE REQUIRED TO PROVIDE SMOOTH ALIGNMENT/TRANSITION TO MATCH THE EXISTING DITCH ALIGNMENTS AND DITCH GRADES DUE TO MOVING OF SIDE DRAIN PIPES OR PLACEMENT OF PROPOSED DRAINAGE STRUCTURES.

SODDING AND SEEDING

1. ALL GRASSING SHALL BE COMMON BERMUDA OR REPLACED WITH LIKE MATERIAL AS DIRECTED BY THE ENGINEER.

UTILITIES

1. REFER TO THE OCTOBER 2019 BELL STREET REGIONAL UTILITES CONTRACT PLANS FOR REQUIREMENTS OF UTILITIES CONSTRUCTION UNDER THIS CONTRACT.
2. THE LOCATIONS OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED VV, VH, AND VVH) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
3. CONTRACTOR SHALL HAND EXCAVATE WHEN CONSTRUCTION IS WITHIN 2 FEET OF EXISTING UTILITIES.
4. 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 FOR SUCH UTILITIES IN PLANNING AND PRIOR TO EXCAVATION OF WORK.
5. 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.
6. UTILITIES ARE TO BE ADJUSTED BY UTILITY OWNERS AS NECESSARY:

COMPANY	TELEPHONE NUMBER
BELLSOUTH	1-800-432-4770
CLAY ELECTRIC	1-888-434-9844
COLUMBIA COUNTY	386-758-1019
COMCAST CABLE	1-904-374-8000
ENERGY TRANSFER (GAS)	1-407-838-7171

PROPOSED PONDS

1. A CLEANOUT OF ALL PONDS SHALL BE PERFORMED PRIOR TO FINAL INSPECTION, AS DIRECTED BY THE ENGINEER.
2. PRIOR TO FINAL ACCEPTANCE, PROVIDE THE COUNTY WITH A COMPREHENSIVE CERTIFIED SURVEY SHOWING ALL DIMENSIONS AND ELEVATIONS OF STORMWATER MANAGEMENT SYSTEM COMPONENTS RELATING TO STORAGE, TREATMENT, AND ATTENUATION, INCLUDING POND CROSS SECTIONS, TOP OF CONTROL STRUCTURE ELEVATION, ORIFICE SIZE AND FLOWLINE ELEVATION, WEIR SIZE AND FLOWLINE ELEVATION, AND SKIMMER WIDTH AND ELEVATION. THE SURVEY MUST BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA.

RIGHT OF WAY

1. LANDSCAPE FEATURES INCLUDING, BUT NOT LIMITED TO, IRRIGATION PIPES, WATER SPIGOTS, AND SPRINKLER HEADS THAT ARE ENCOUNTERED SHALL BE REMOVED AND CAPPED AT THE R/W LINE OR WITHIN TEMPORARY EASEMENTS AS NECESSARY. NOTIFY THE PROPERTY OWNER IN WRITING SEVEN DAYS PRIOR TO THE REMOVAL OF THESE FEATURES.
2. EXISTING HARDSCAPE FEATURES INCLUDING, BUT NOT LIMITED TO, SIGNS AND LIGHTING FEATURES, SHALL REMAIN AND BE PROTECTED AS DIRECTED BY THE ENGINEER. CONTACT THE PROPERTY OWNER PRIOR TO WORKING IN LOCATIONS THAT INCLUDE THESE FEATURES.

PERMITTING

1. SUBMIT DETAILED DEWATERING AND FLOW DIVERSION PLANS TO SUWANNEE RIVER WATER MANAGEMENT DISTRICT AT LEAST TWO WEEKS PRIOR TO COMMENCEMENT OF ANY DEWATERING OR FLOW DIVERSION ACTIVITIES.

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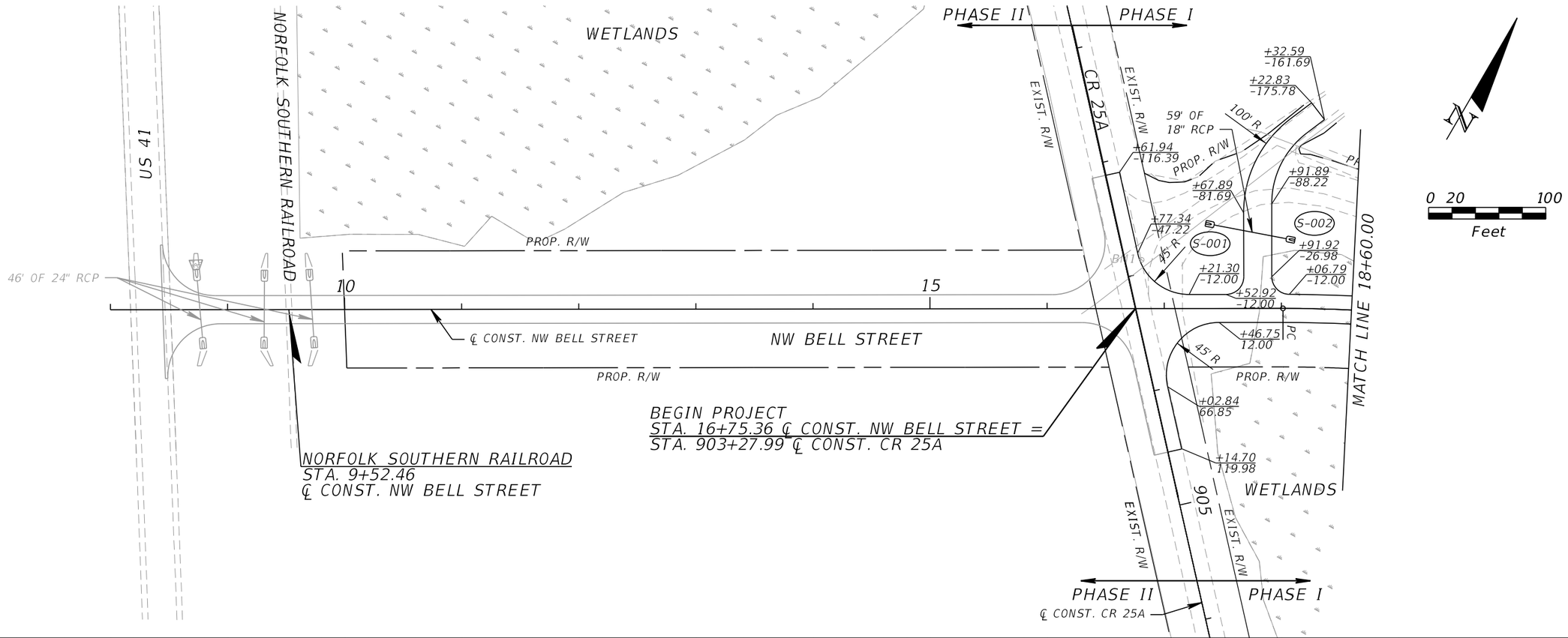
COUNTY: COLUMBIA
PROJECT ID:

PROJECT NOTES

SHEET NO. 10



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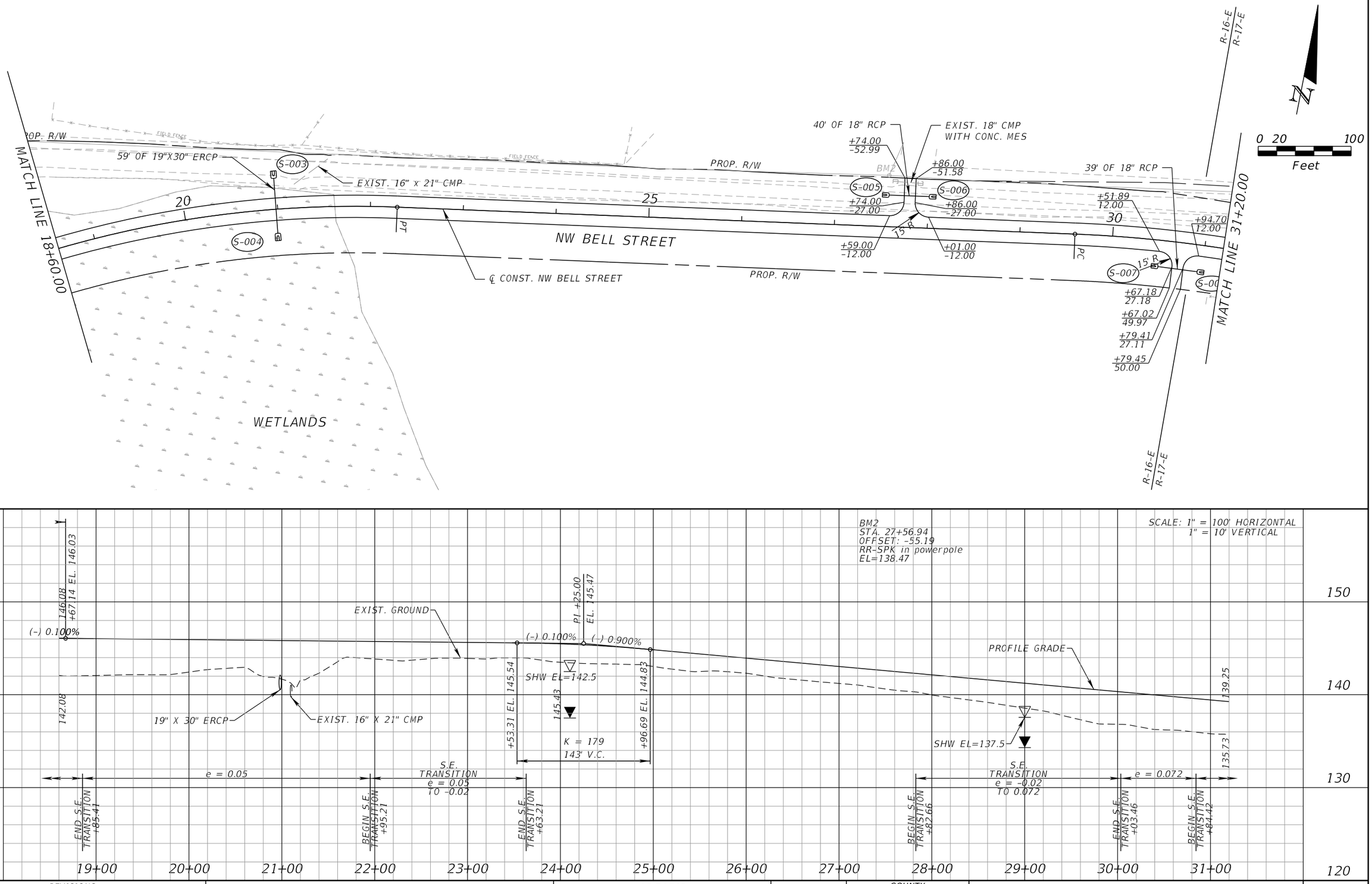
SHEET NO. 11



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SHEET NO. 12

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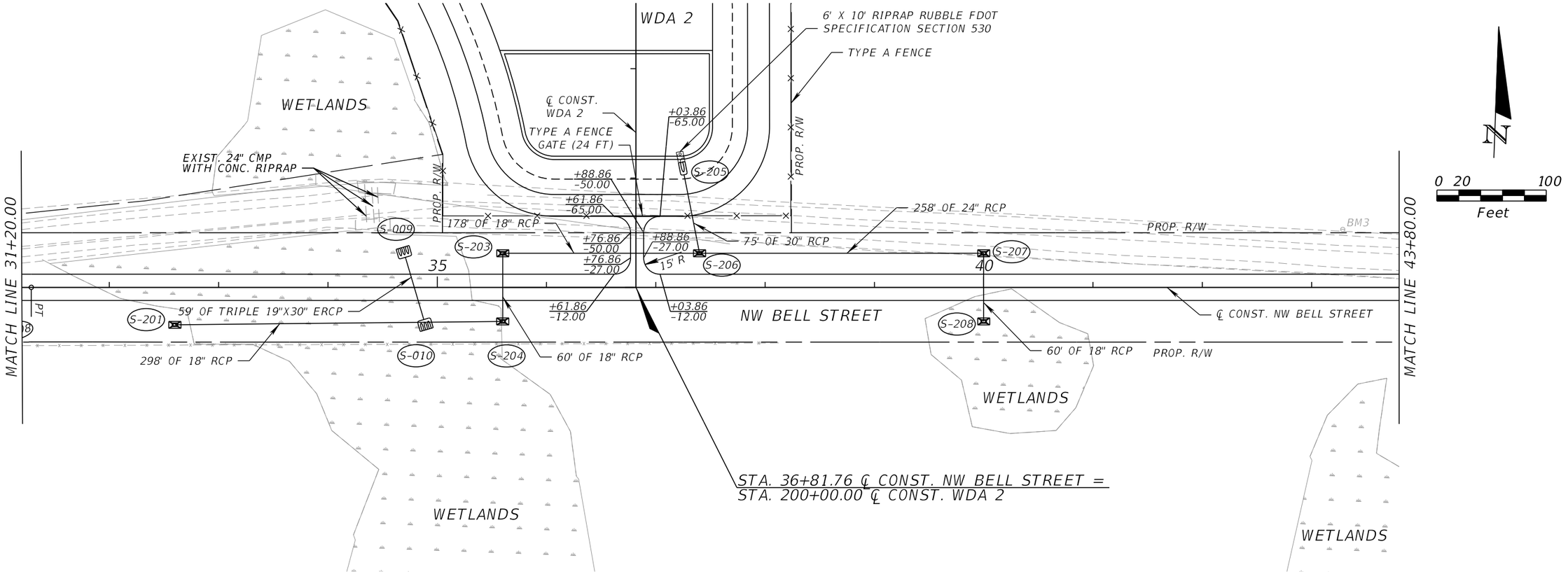

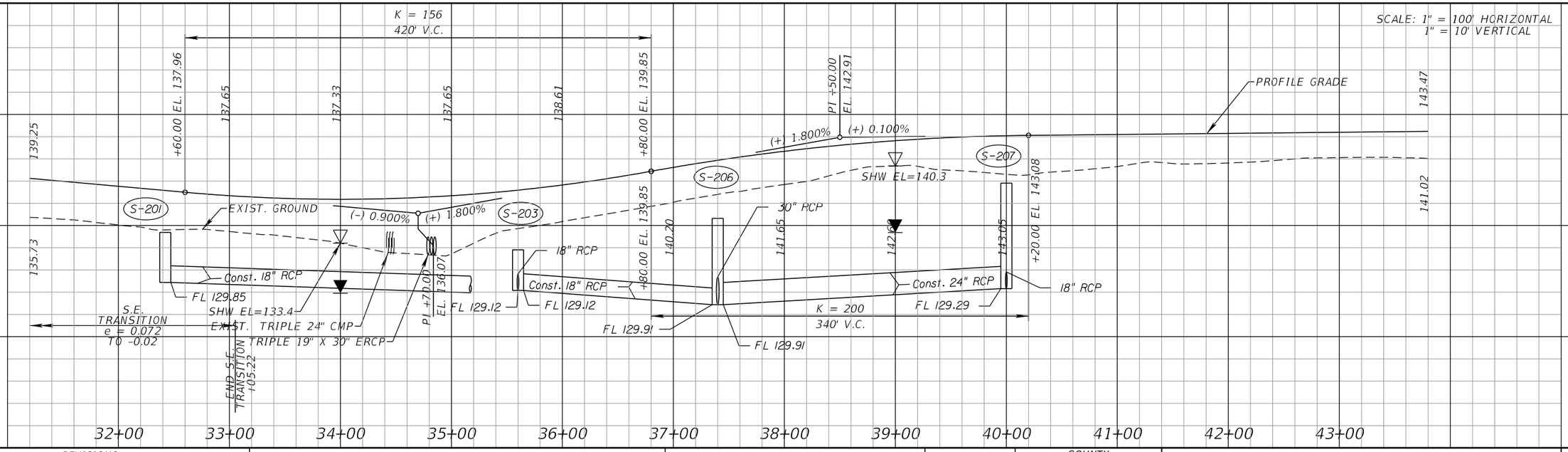

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SHEET NO. 13

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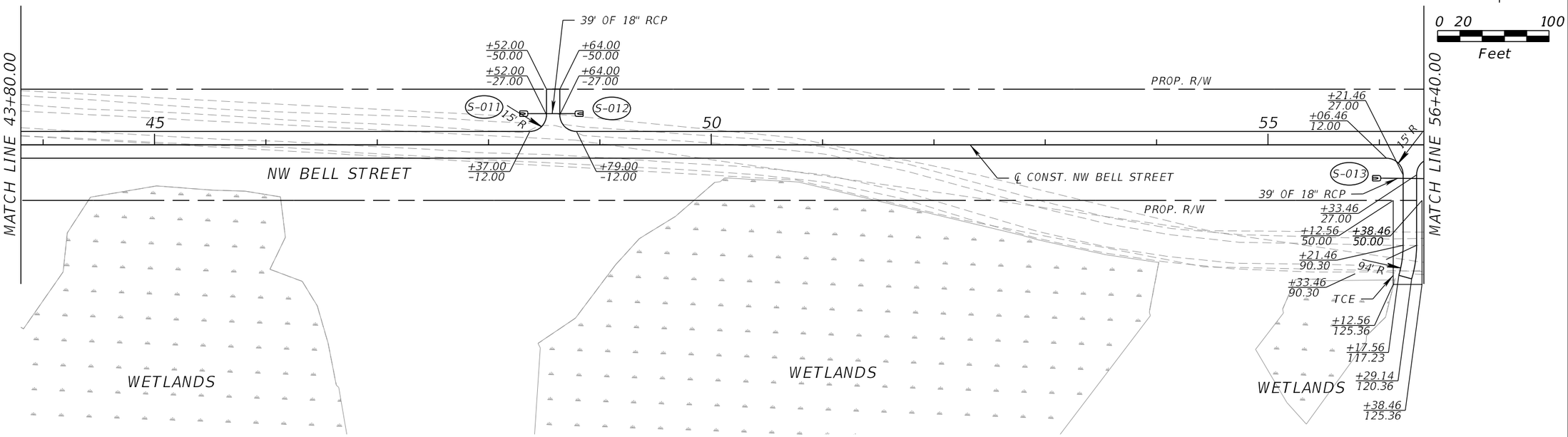

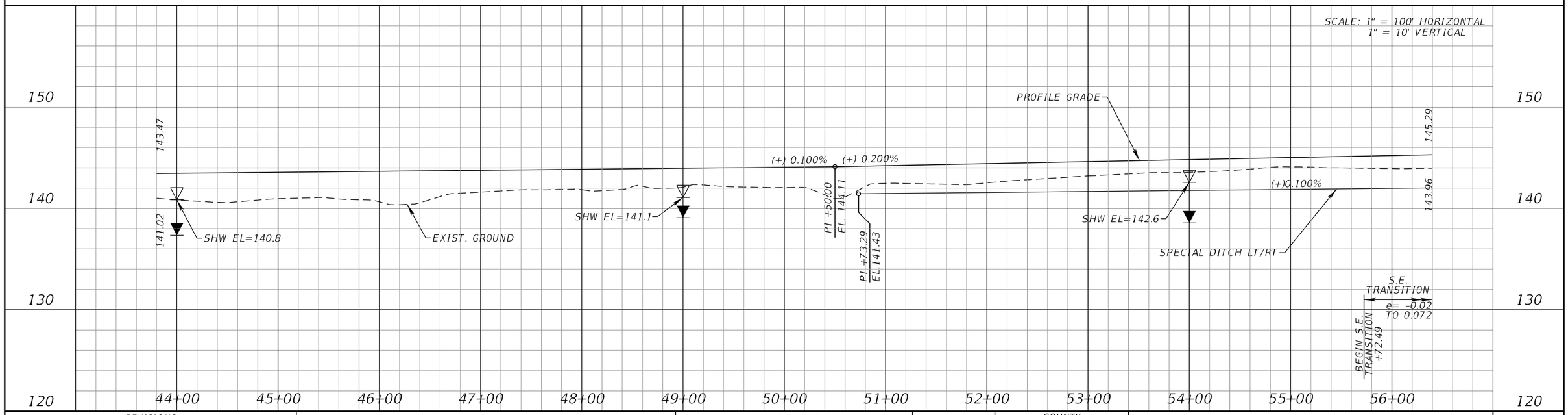

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SHEET NO. 14

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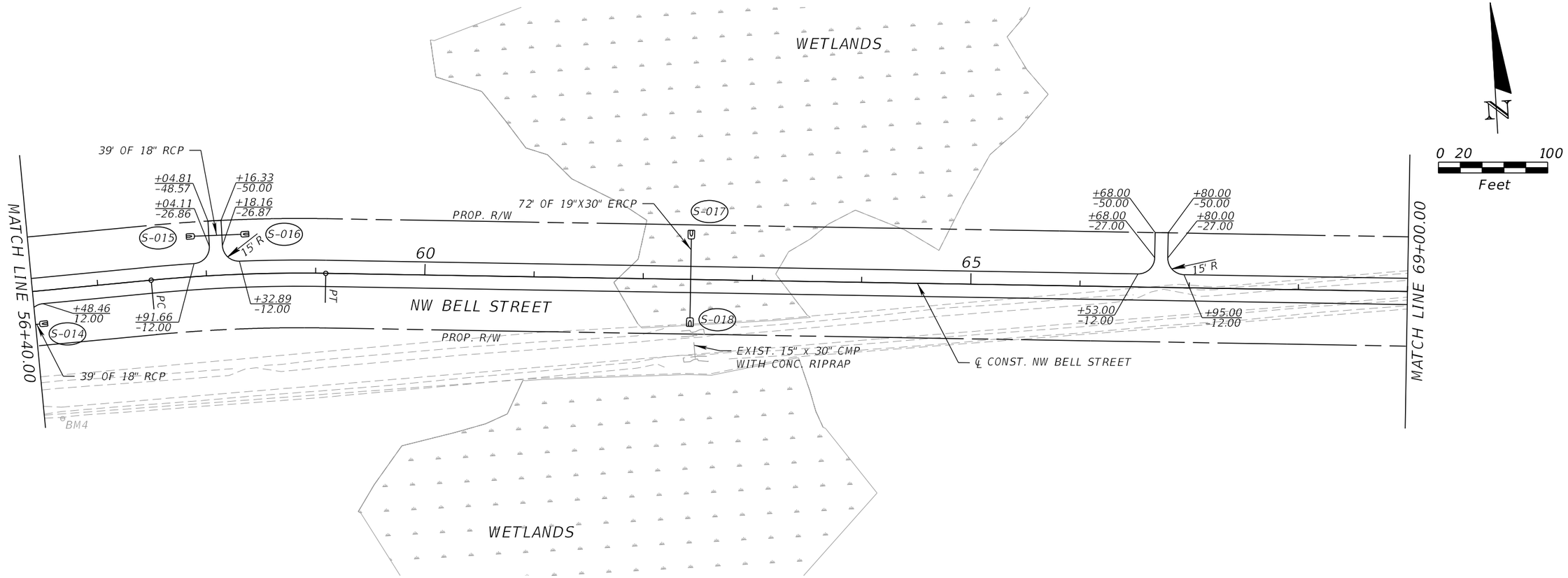

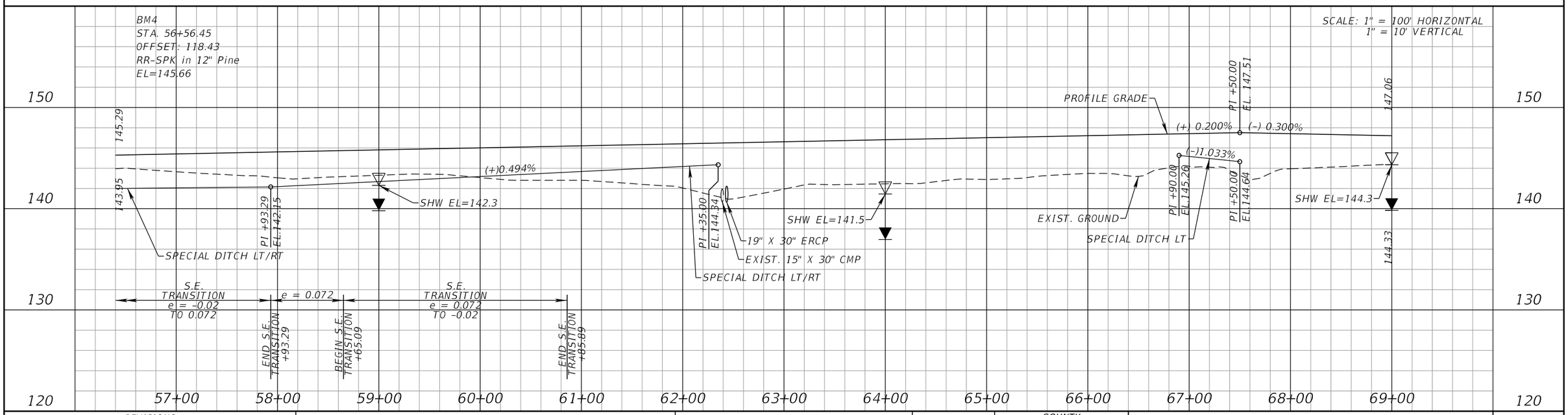

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SHEET NO. 15

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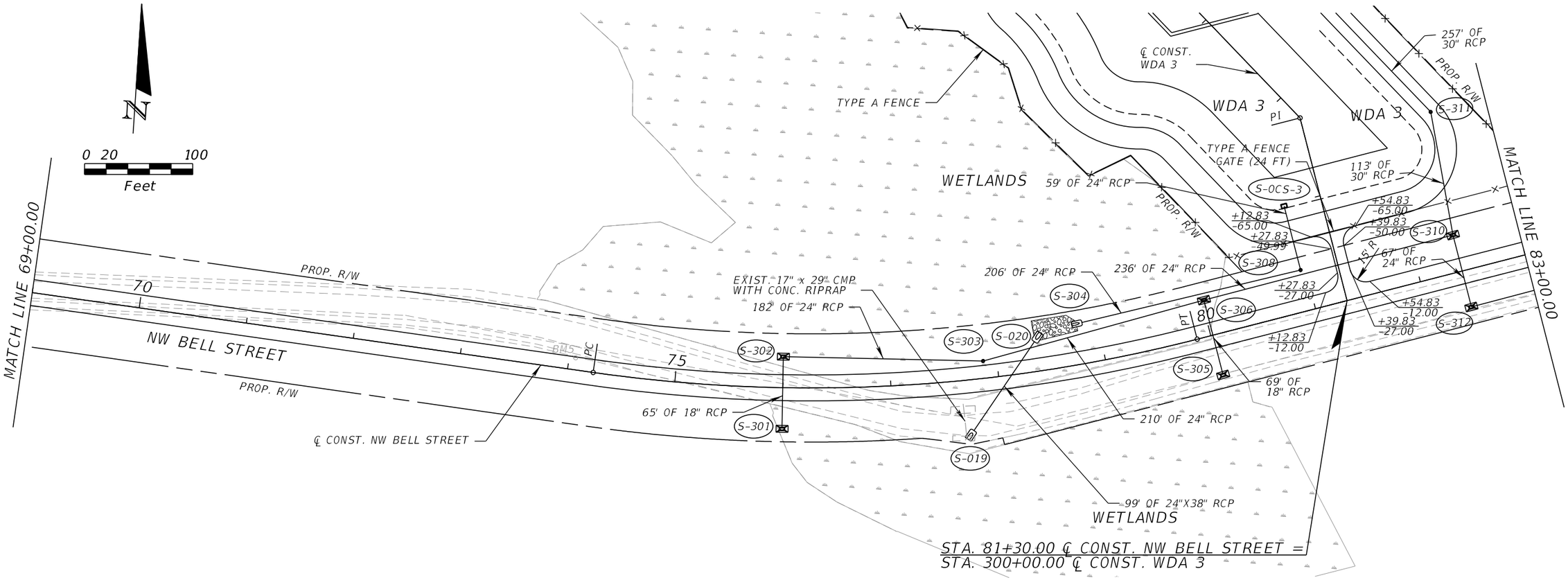

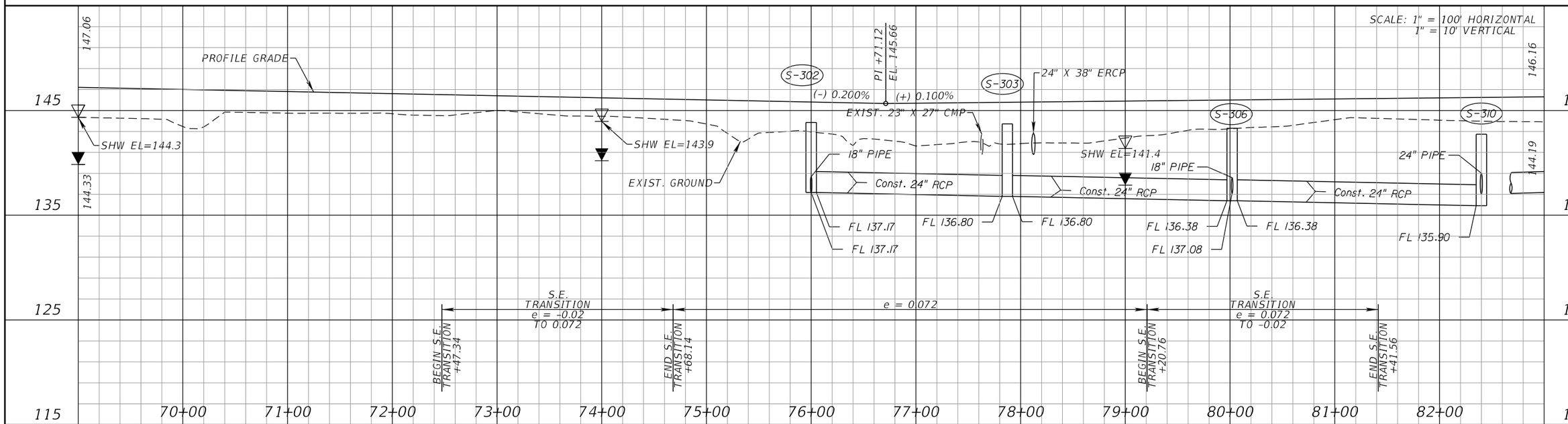

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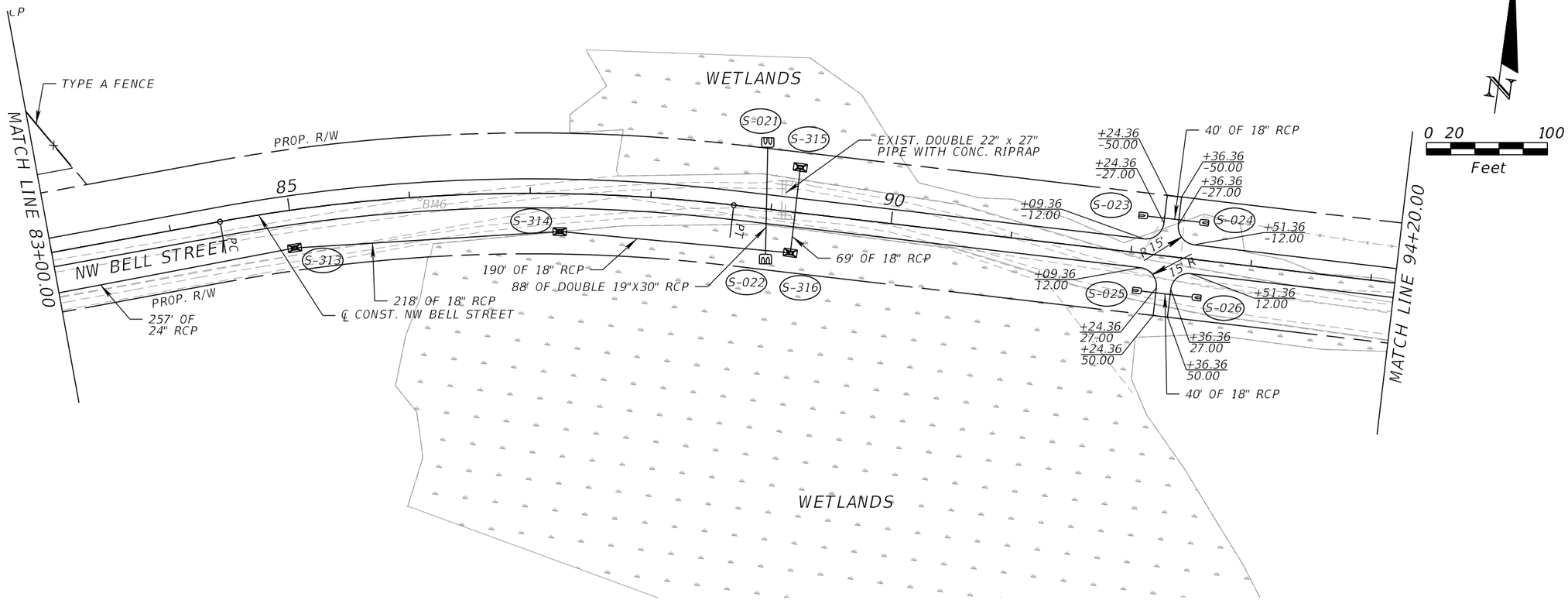

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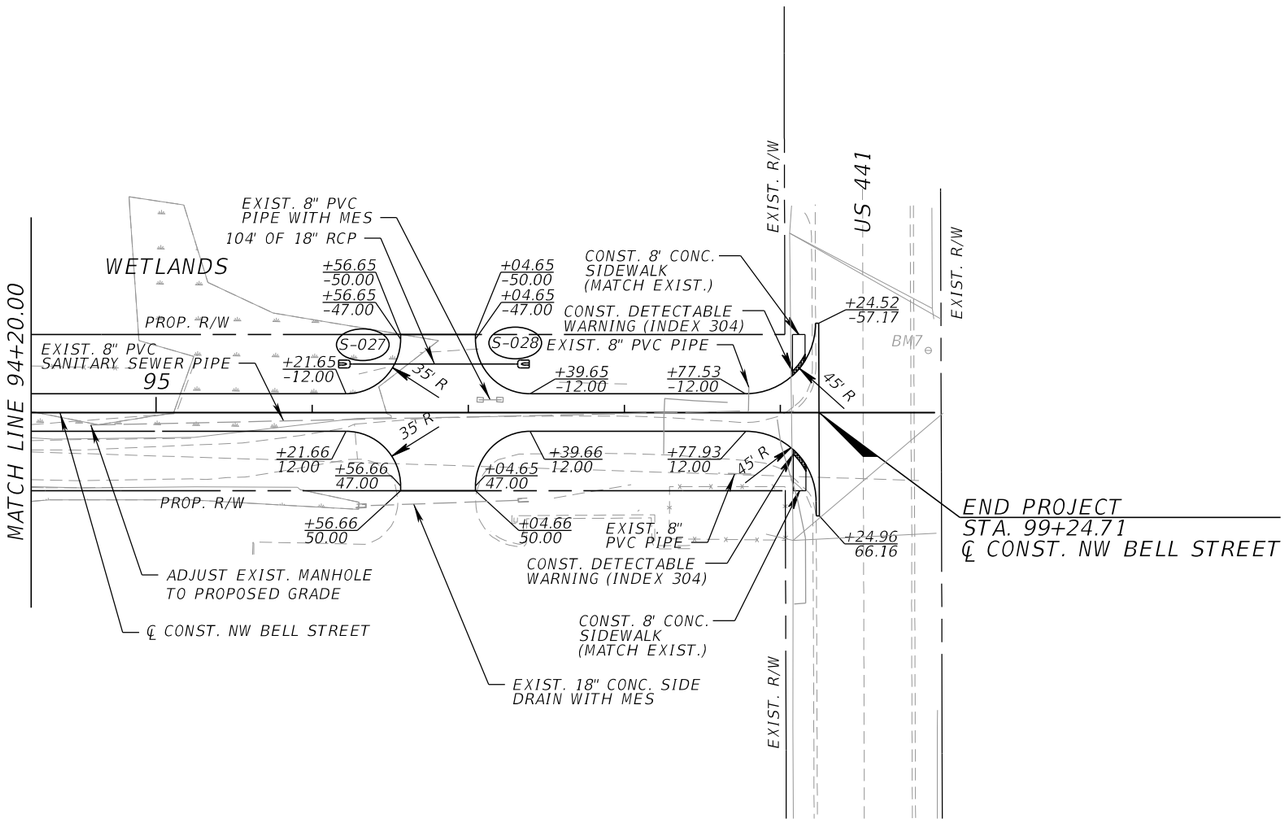

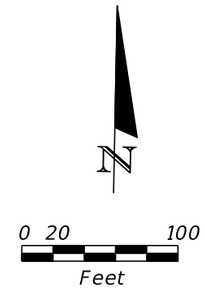

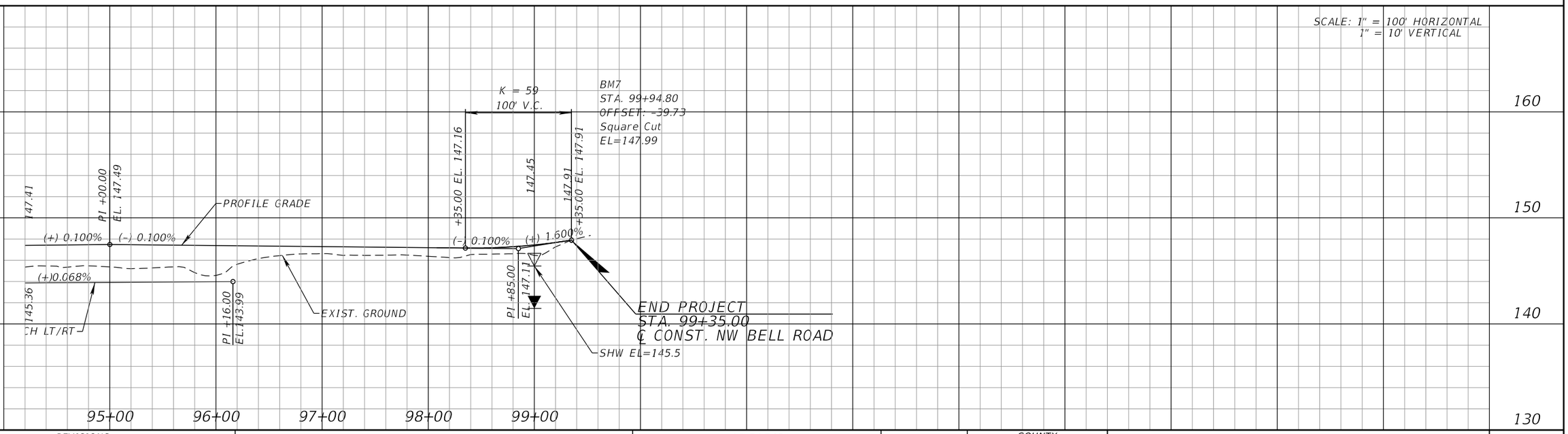

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY	SHEET NO.
COLUMBIA	
PROJECT ID	

PLAN/PROFILE

18

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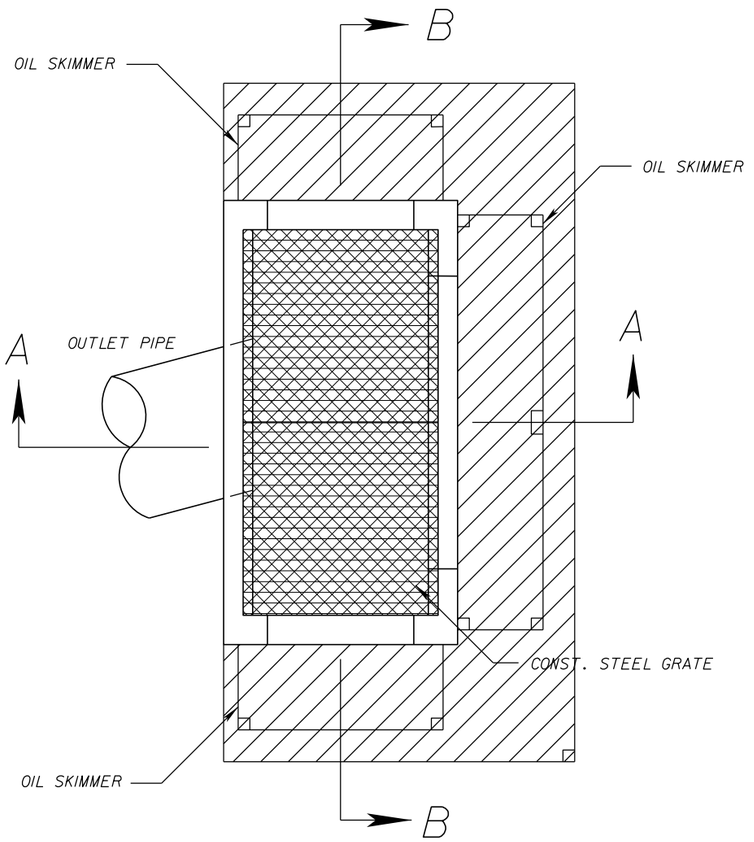
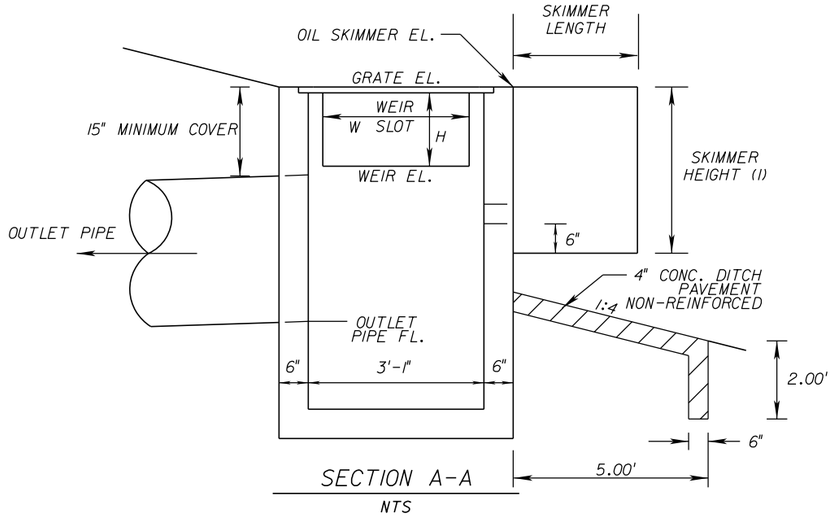
WDA CONTROL DETAIL TABLE

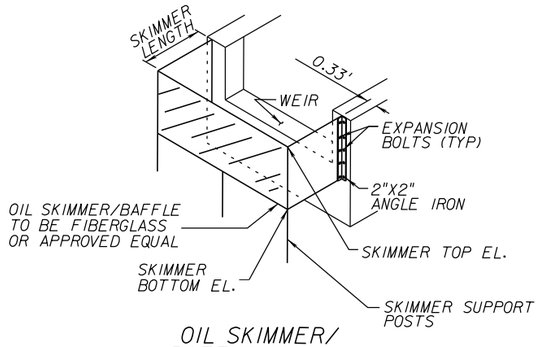
	STRUCT. NO.	WDA	STATION	OFFSET	REF.	INLET TYPE	INDEX NO.	GRATE ELEV. (FT NAVD)	WEIR ELEV. (FT NAVD)	OUTFALL PIPE FL. (FT NAVD)	OUTFALL PIPE DIA. (INCH)	WEIR SLOT 'W'	WEIR SLOT 'H' (INCH)	SKIMMER HEIGHT (1) (INCH)	SKIMMER HEIGHT (2) (INCH)	SKIMMER LENGTH (INCH)	ORIFICE DIA. (INCH)	ORIFICE ELEVATION (FT NAVD)	CONC DITCH PAVT (SY)	TOP OF SKIMMER ELEV. (FT NAVD)	TOP OF BERM ELEV. (FT NAVD)	WDA BOTTOM ELEV. (FT NAVD)	NORMAL WATER ELEV. (FT NAVD)	100YR/10DY SRWMD DHW ELEV. (FT NAVD)
P	S-OCS-2	2	34+27.00	448' LT	1	E	232	135.0	134.0	132.2	24	30"	12	30	-	20	4.0	133.0	13.0	135.0	136.0	128.0	132.5	134.94
F																								
P	S-OCS-3	3	80+95.44	100' LT	1	E	232	144.5	143.3	141.5	24	30"	14.4	30	-	24	3.0	142.5	13.0	144.5	145.5	135.0	142.5	144.42
F																								



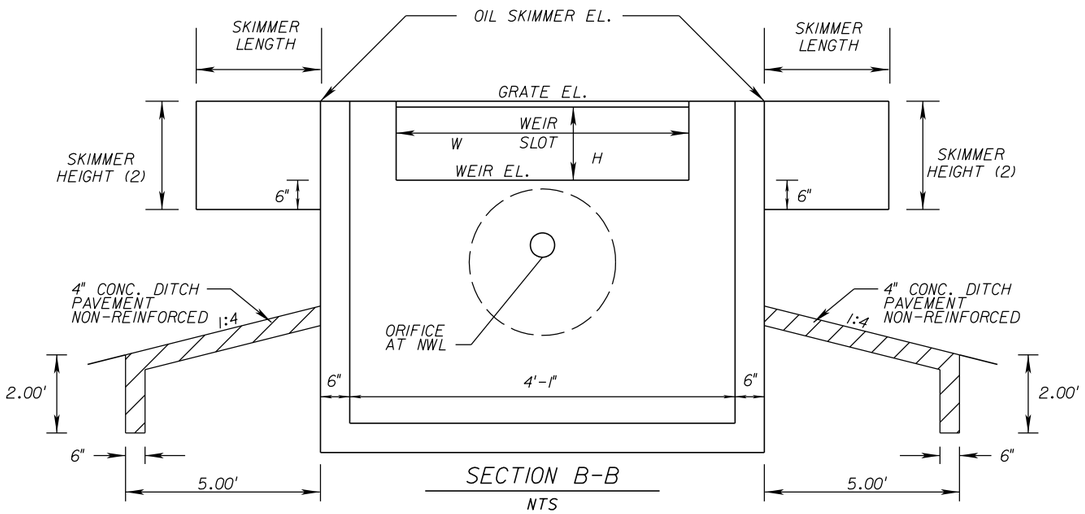
TOP VIEW
NTS



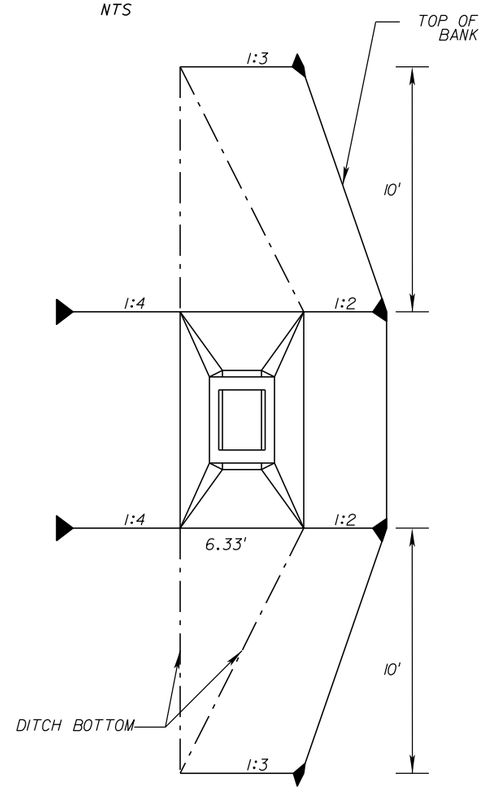
SECTION A-A
NTS



OIL SKIMMER/ BAFFLE DETAIL
NTS



SECTION B-B
NTS



V BOTTOM DITCH INLET GRADING DETAIL
NTS

4" CONC. DITCH PAVT. NON-REINFORCED (INCLUDED IN COST OF INLET)

REVISIONS DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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Jacksonville, Florida 32207
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Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

DRAINAGE STRUCTURE DETAILS

SHEET NO. 19

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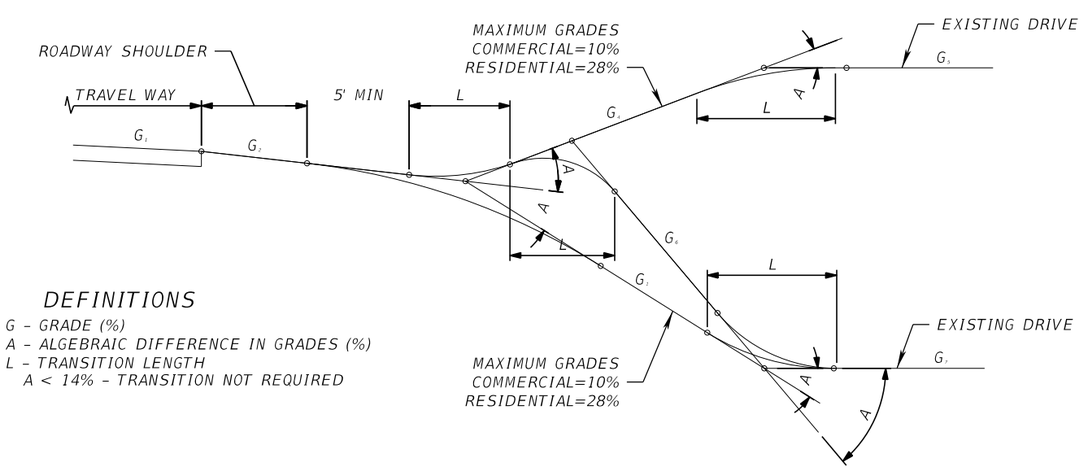
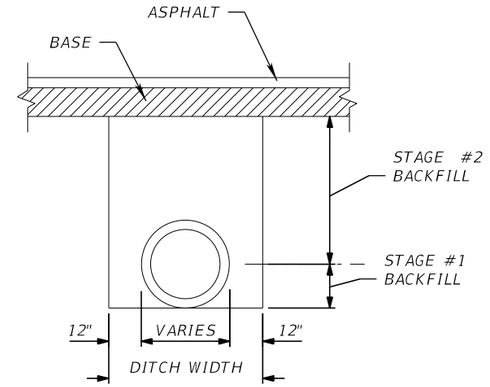


LENGTHS (L) (FT.)				
A	CRESTS		SAG	
	DESIRED	MINIMUM	DESIRED	MINIMUM
6-13%	5	0	5	0
14%	10	0	10	0
15%	10	3	10	5
16%	10	4	10	6
17%	10	5	10	7
18%	10	6	10	8
19%	10	7	12	9
20%	11	8	13	10
21%	12	9	14	11
22%	13	10	16	12
23%	14	10.5	16	12.5
24%	15	11	17	13
25%	15	11.5	18	13.5
26%	16	12	18	14
27%	17	12.5	19	14.5
28%	17	13	20	15

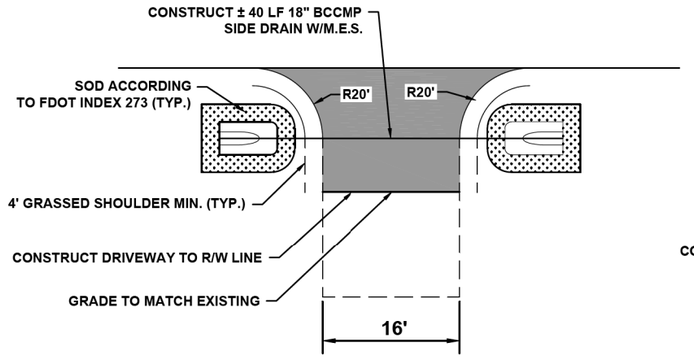
RURAL TURNOUT PROFILES



Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material beneath the haunches of the pipe and above any bedding.

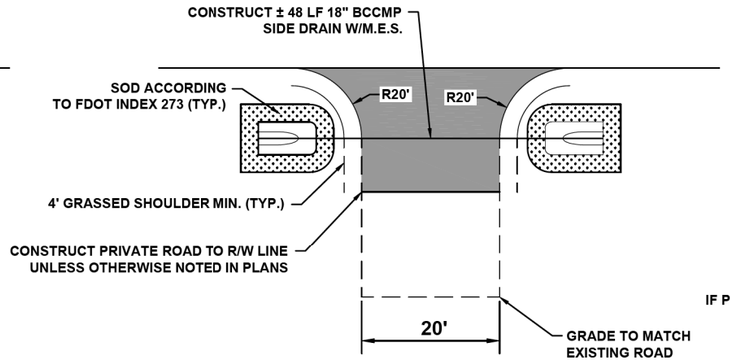
Stage #2, construct compacted fill along sides of the pipe and up to the bottom of the base, with the upper 12" receiving Type B Stabilization. In lieu of Type B Stabilization, the contractor may construct using Optional Base Group 3.

EXTRA BASE FOR CROSS CULVERTS UNDER FLEXIBLE PAVEMENT



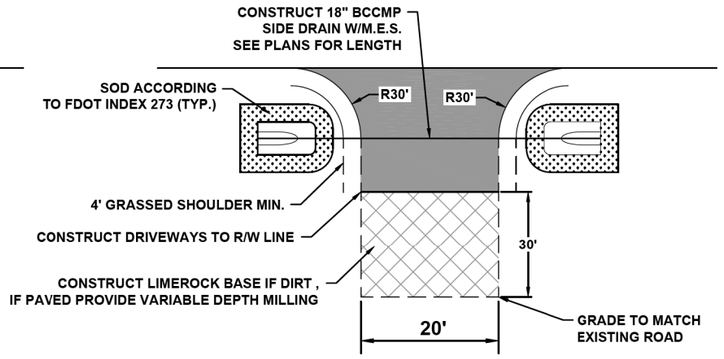
HATCHING DENOTES
PAVEMENT SHALL BE 165#/SY TYPE SP-12.5 SURFACE COURSE
TRAFFIC LEVEL "B" ASPHALTIC CONCRETE
OPTIONAL BASE GROUP 4

1/72 PRIVATE DRIVE CONNECTION
SCALE:N.T.S.



HATCHING DENOTES
PAVEMENT SHALL BE 165#/SY TYPE SP-12.5 SURFACE COURSE
TRAFFIC LEVEL "B" ASPHALTIC CONCRETE
OPTIONAL BASE GROUP 4

2/72 PRIVATE ROAD CONNECTION
SCALE:N.T.S.



HATCHING DENOTES
PAVEMENT SHALL BE 165#/SY TYPE SP-12.5 SURFACE COURSE
TRAFFIC LEVEL "B" ASPHALTIC CONCRETE
OPTIONAL BASE GROUP 4

3/72 DIRT/PAVED COUNTY ROAD CONNECTION
SCALE:N.T.S.

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REVISIONS	
DATE	DESCRIPTION

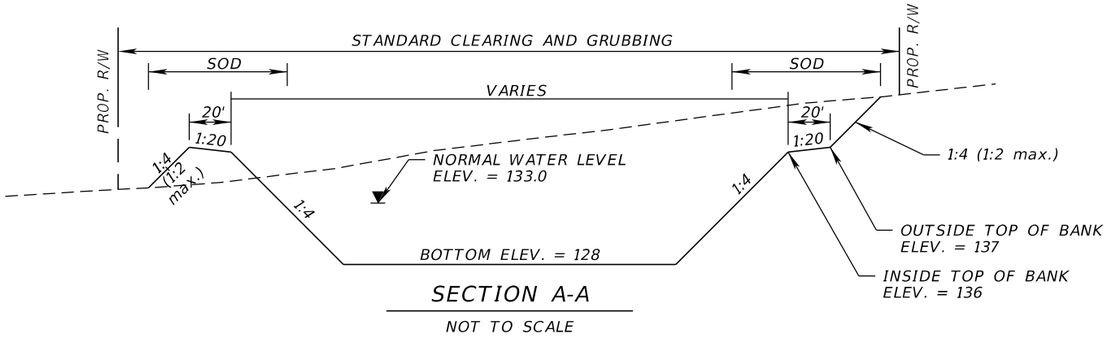
NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

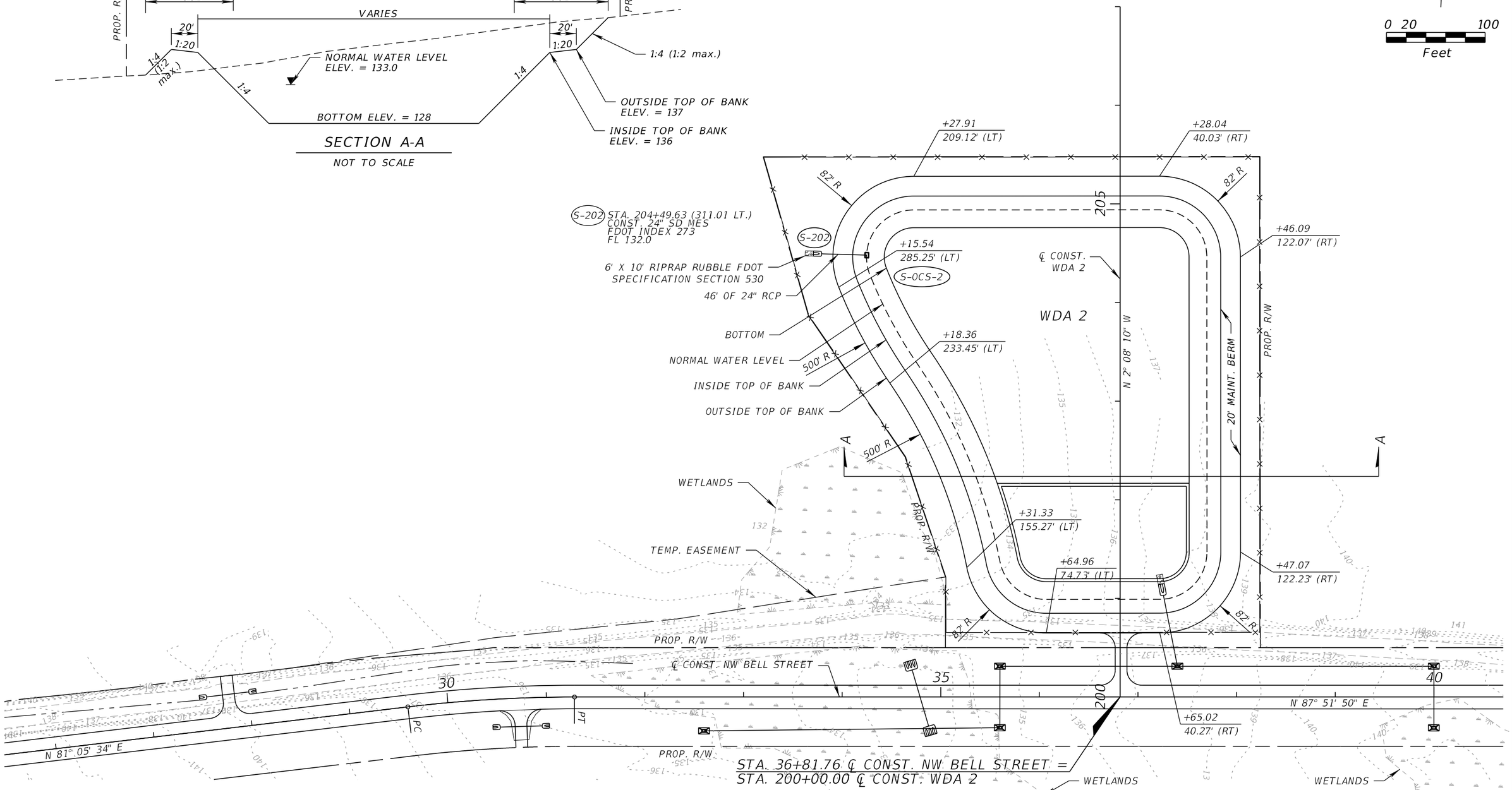
SPECIAL DETAILS

SHEET NO. 20



SECTION A-A

NOT TO SCALE



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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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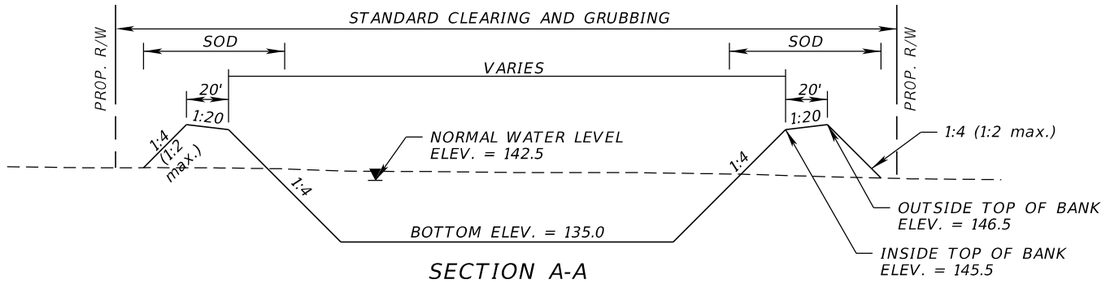
COUNTY
COLUMBIA
PROJECT ID

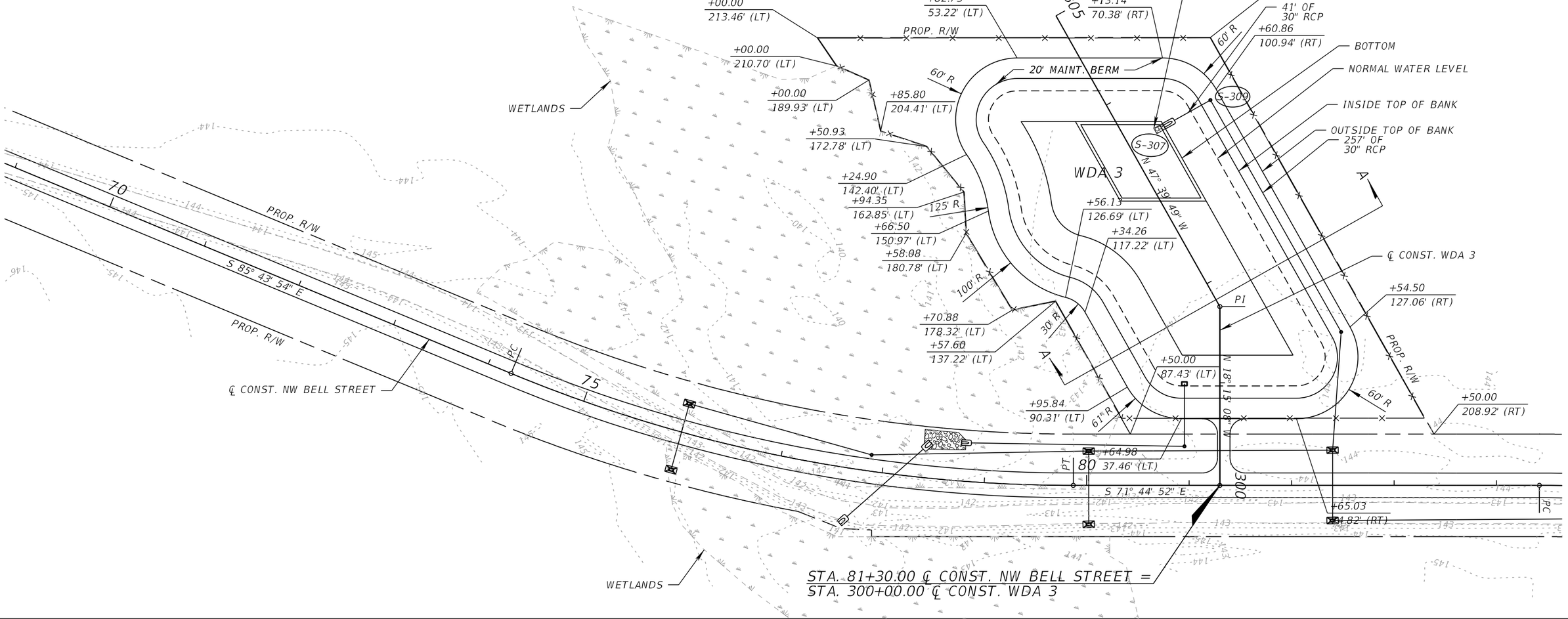
POND GEOMETRY WDA 2

SHEET NO. 21



SECTION A-A

NOT TO SCALE



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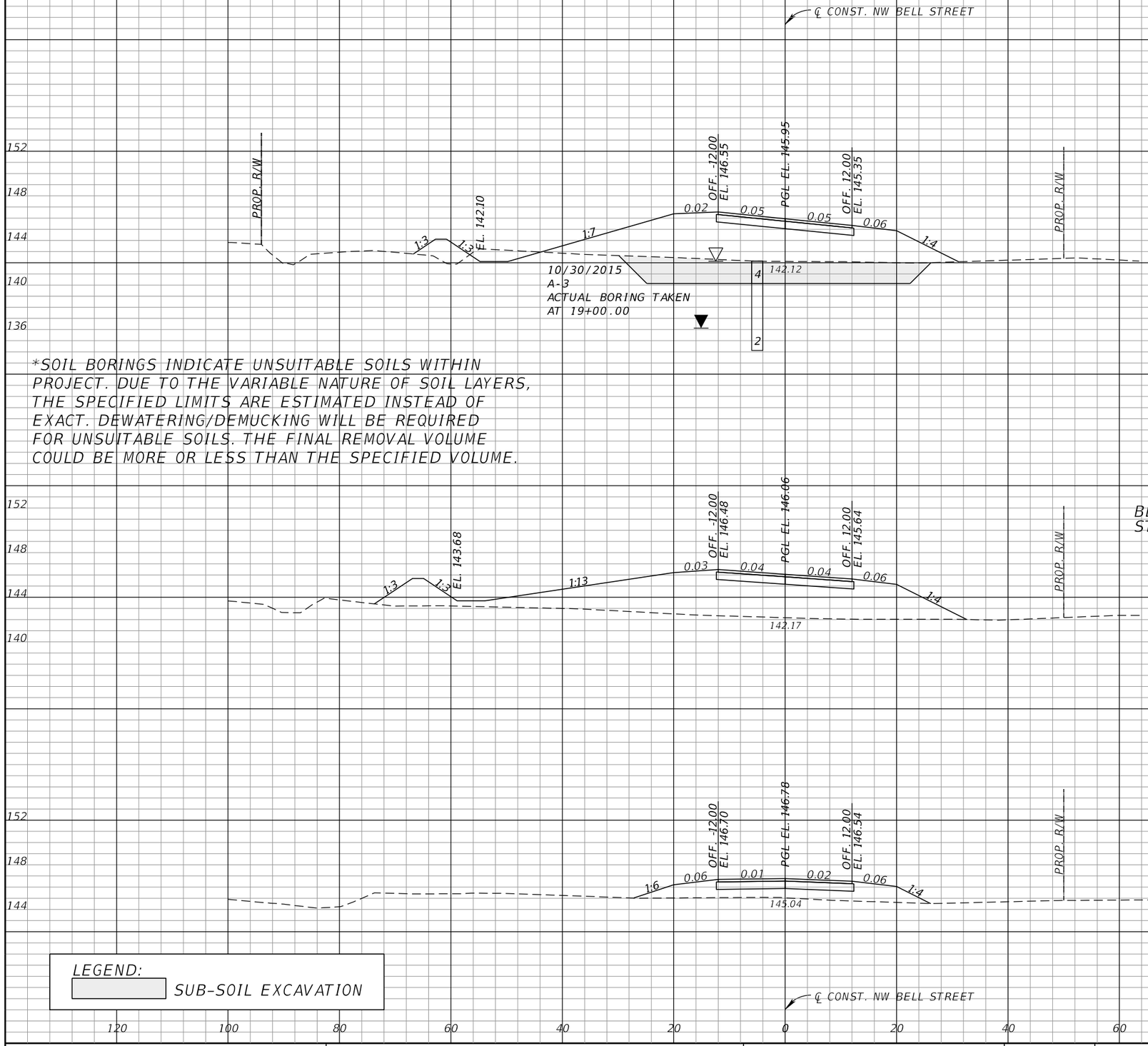
REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY COLUMBIA PROJECT ID	POND GEOMETRY WDA 3	SHEET NO. 22

tdelicato 10/25/2019 12:11:00 PM G:\TRA\14004 Bell Road\14004_SS4\drainage\DRDTRD103.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



*SOIL BORINGS INDICATE UNSUITABLE SOILS WITHIN PROJECT. DUE TO THE VARIABLE NATURE OF SOIL LAYERS, THE SPECIFIED LIMITS ARE ESTIMATED INSTEAD OF EXACT. DEWATERING/DEMUCKING WILL BE REQUIRED FOR UNSUITABLE SOILS. THE FINAL REMOVAL VOLUME COULD BE MORE OR LESS THAN THE SPECIFIED VOLUME.

LEGEND:
SUB-SOIL EXCAVATION

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
107	198	10	18	309	1024
0	0	0	0	244	548
0	0	0	0	52	96

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

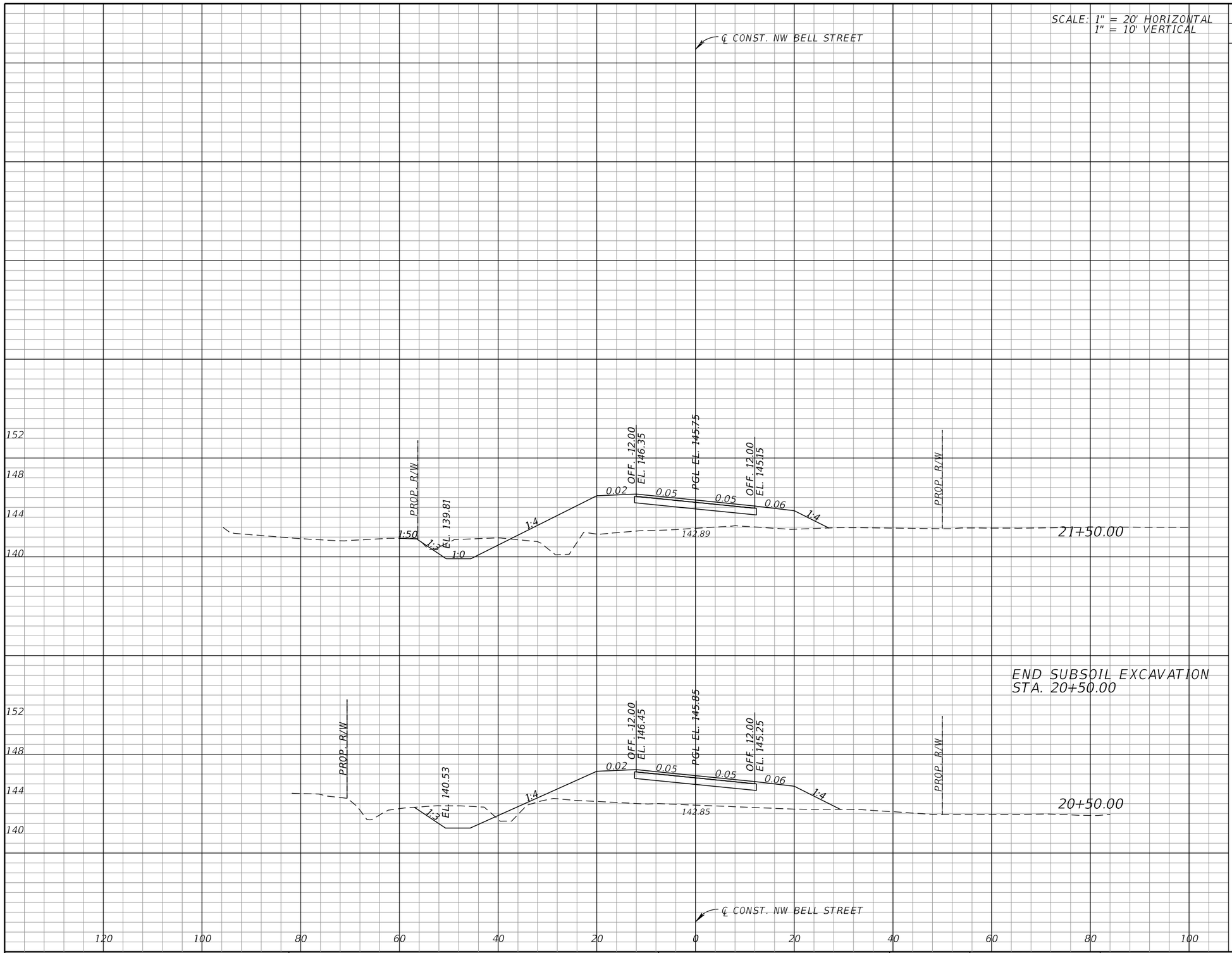
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 23

tdelicato 10/25/2019 12:11:01 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	20	84	147	515
0	198	25	65	131	816

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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Jacksonville, Florida 32207
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Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 24

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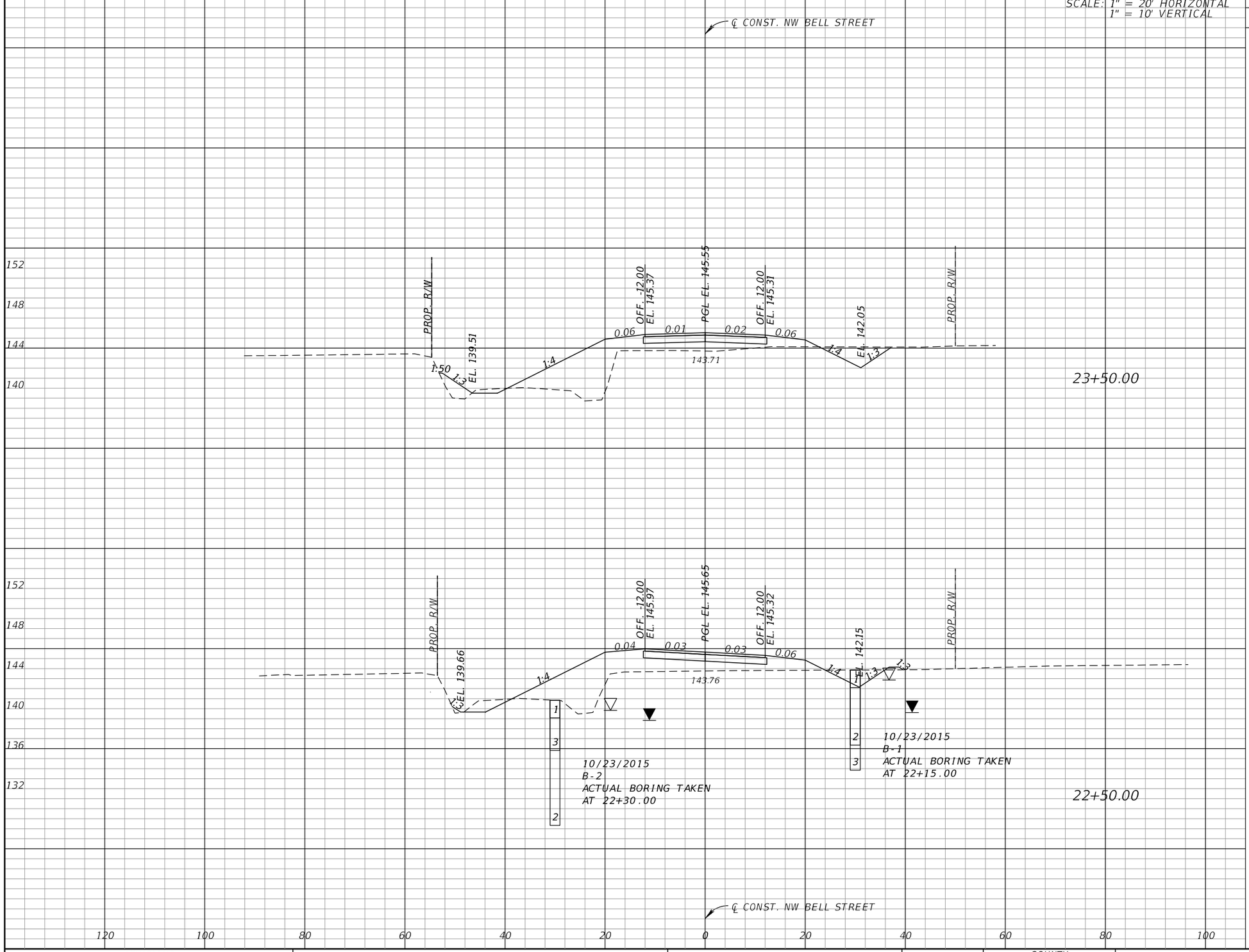
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	17	63	105	389
0	0	17	68	105	467

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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Walter J. Nemecek, III, PE | No. 58122

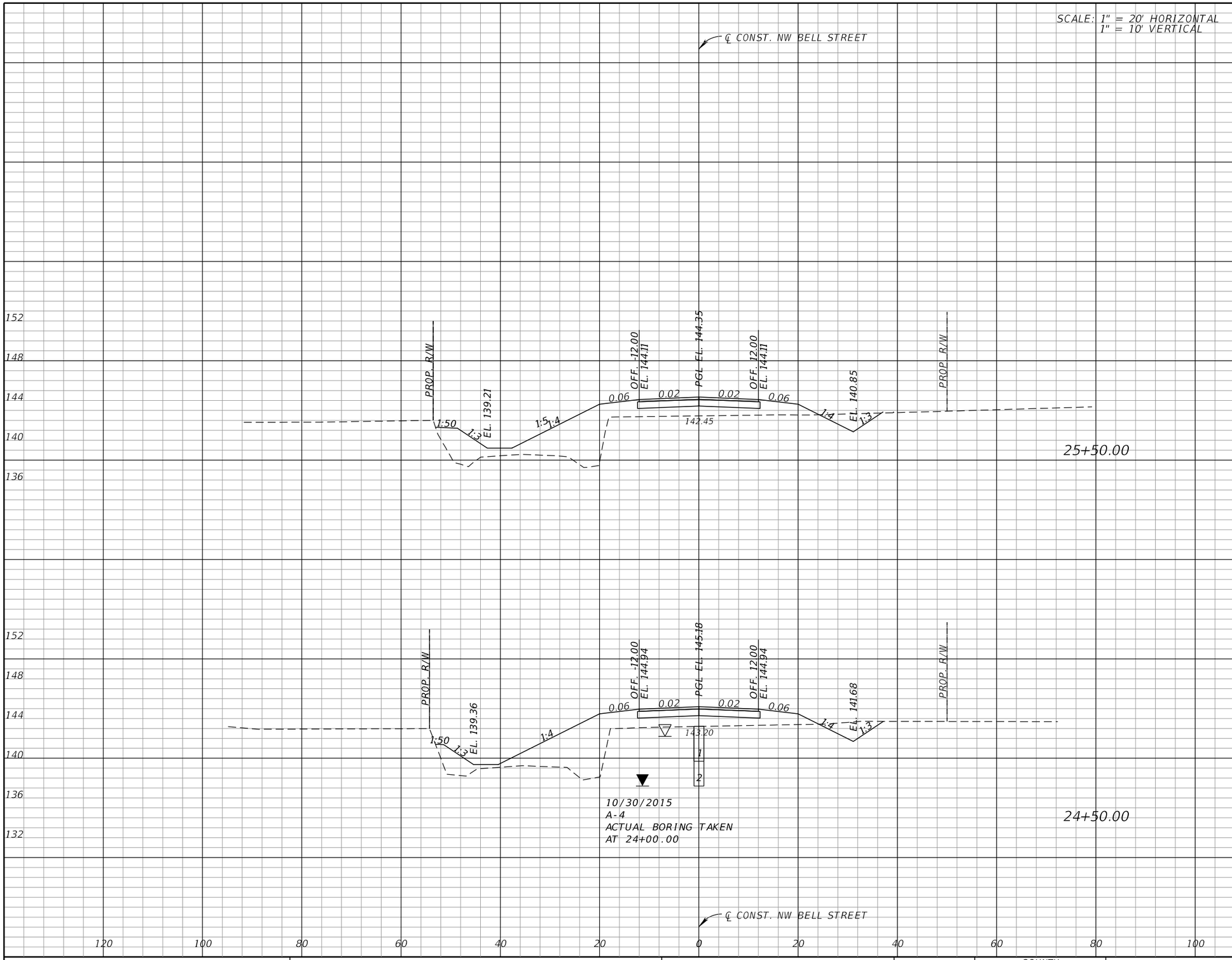
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 25

tdelicato 10/25/2019 12:11:02 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0		11		135	
	0		45		496
0		13		133	
	0		56		440

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REVISIONS	
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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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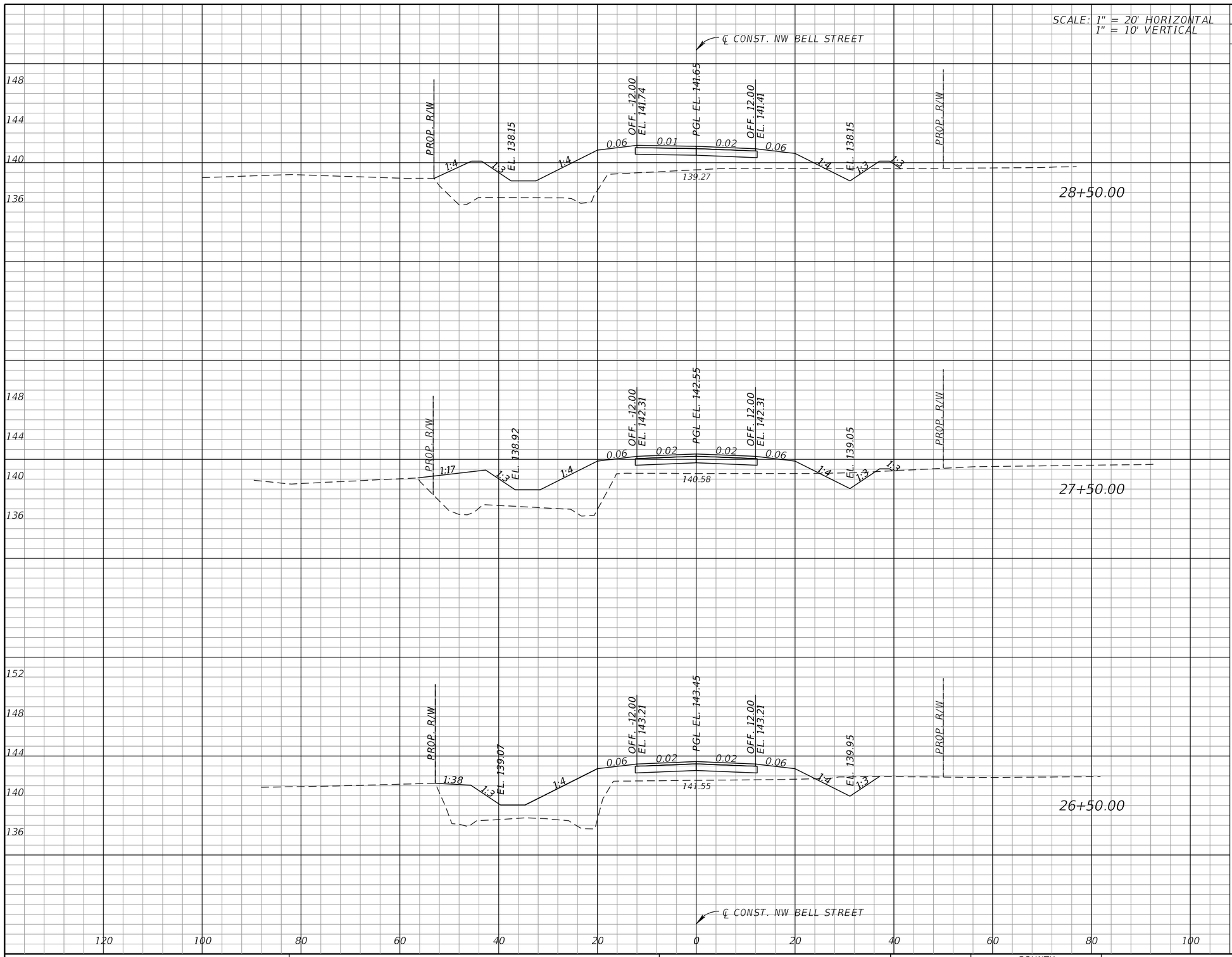
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 26

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	5	27	174	629
0	0	9	40	165	578
0	0	13	45	147	521

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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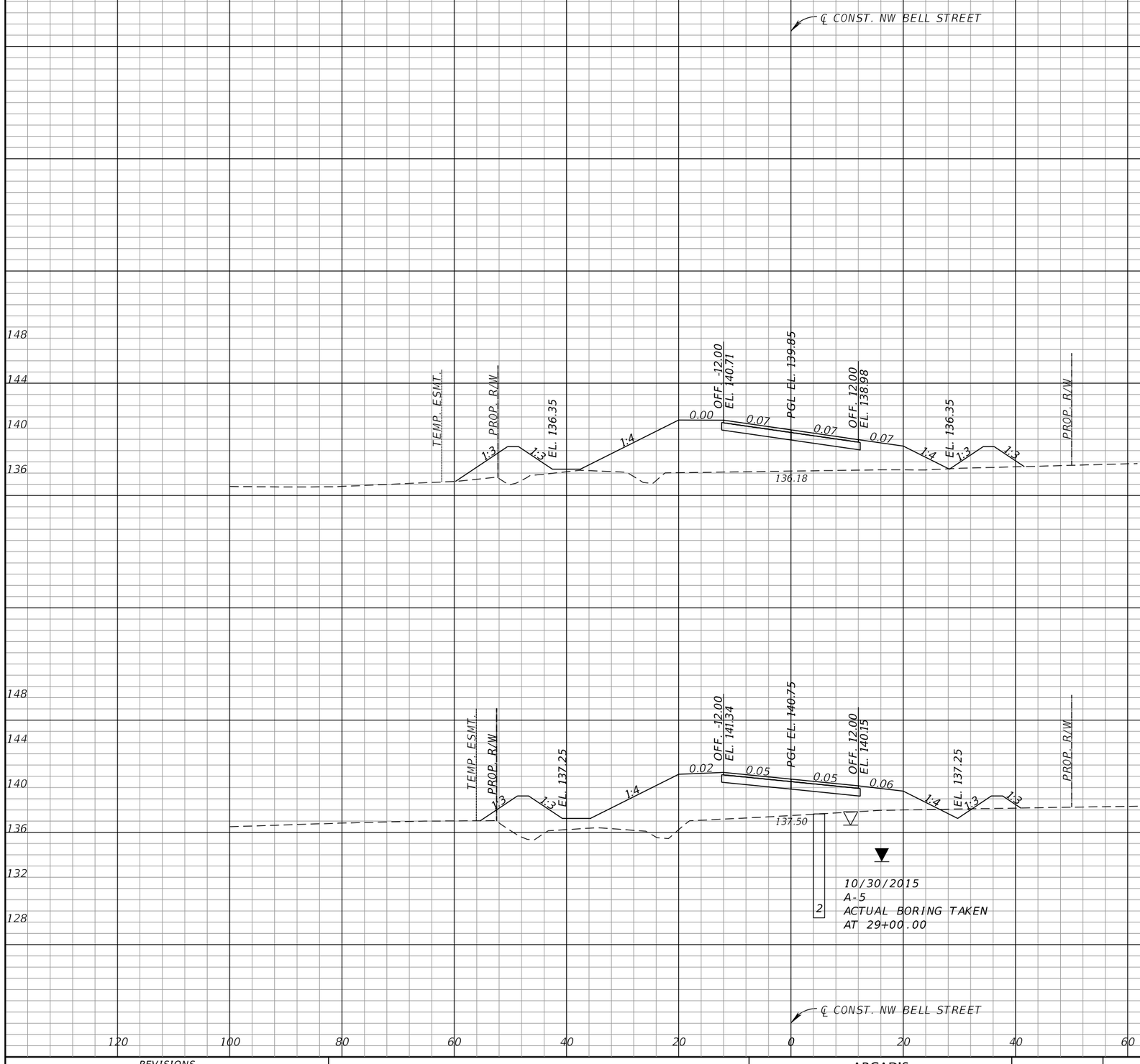
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 27

tdelicato 10/25/2019 12:11:02 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	4	222	787
0	0	2	14	203	698

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REVISIONS	
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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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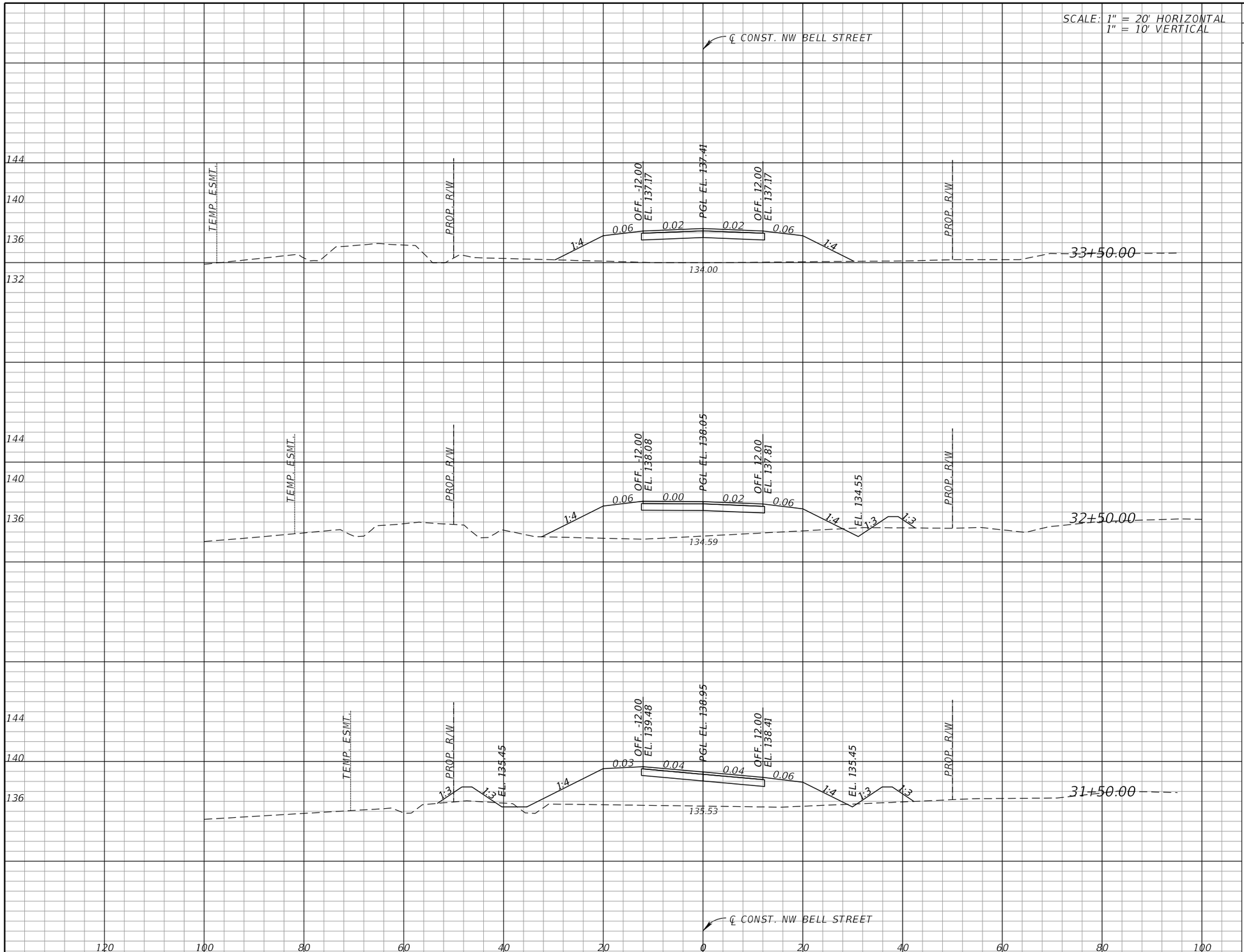
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 28

tdelicato 10/25/2019 12:11:12 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	5	128	503
0	0	3	7	143	583
0	0	2	3	171	729

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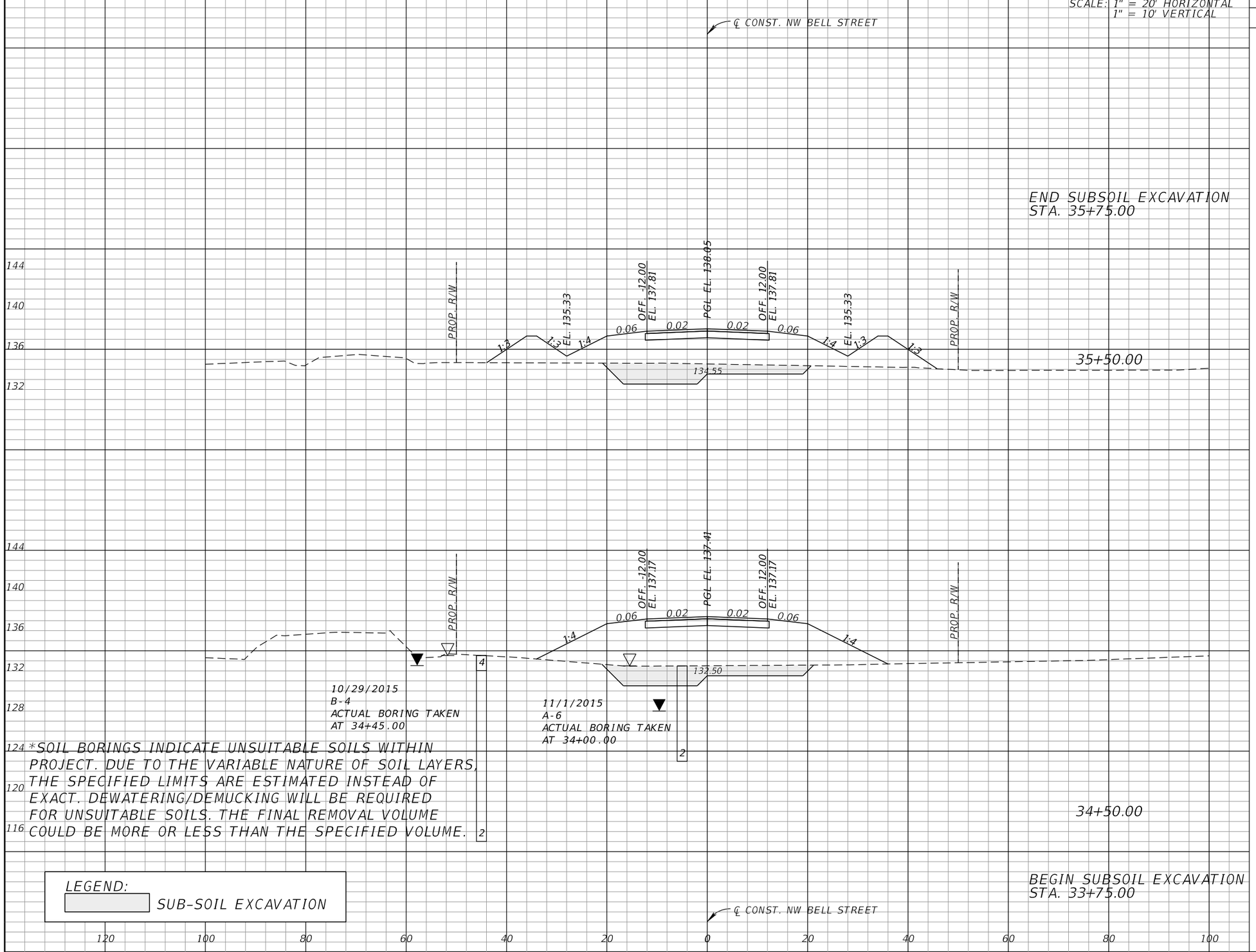
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 29

tdelicato 10/25/2019 12:11:12 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



LEGEND:
SUB-SOIL EXCAVATION

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
56	235	0	0	197	781
57	79	0	0	225	654

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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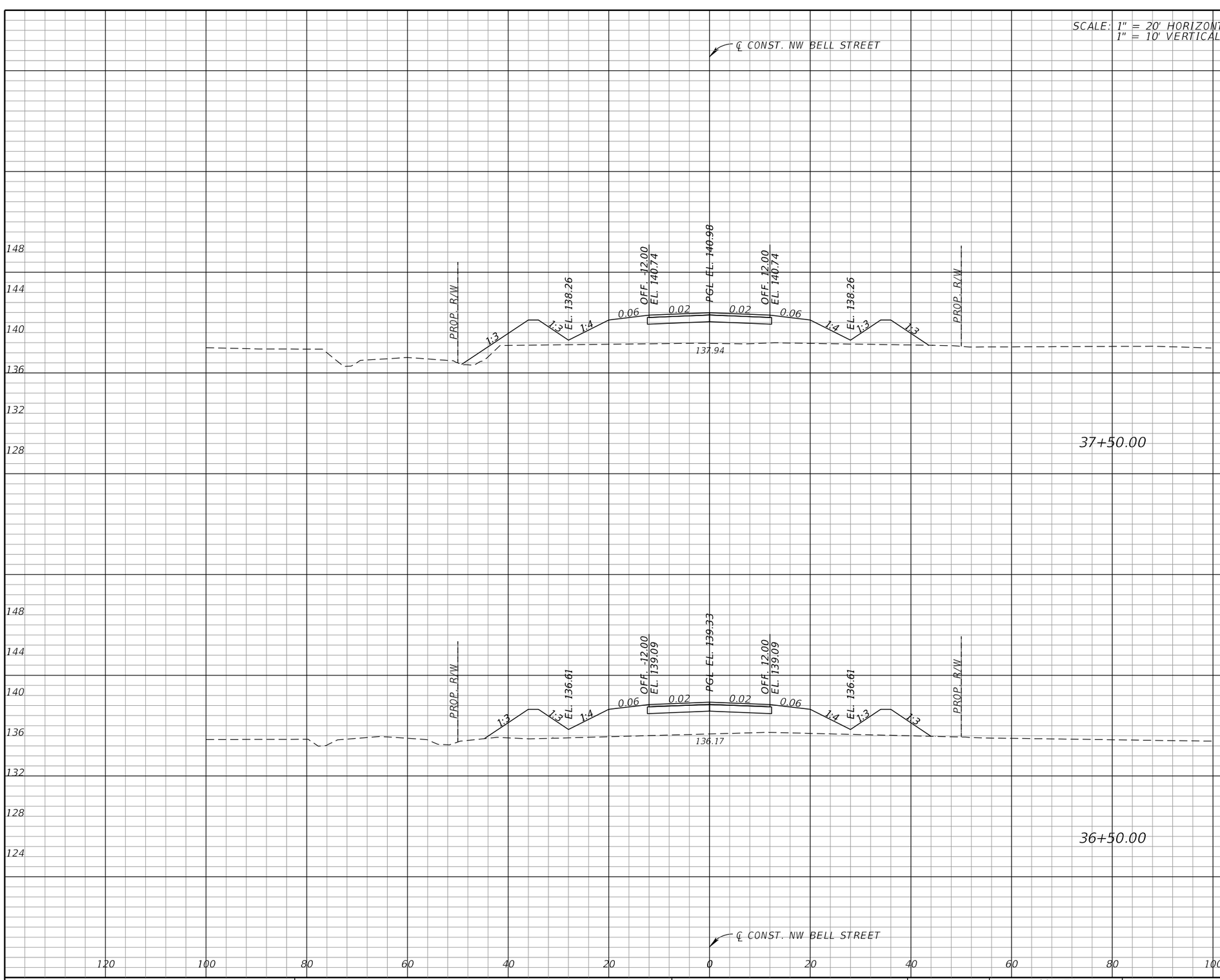
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 30

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	163	625
0	0	0	0	174	687

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
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T: 904 721 2991 | F: 904 861 2450
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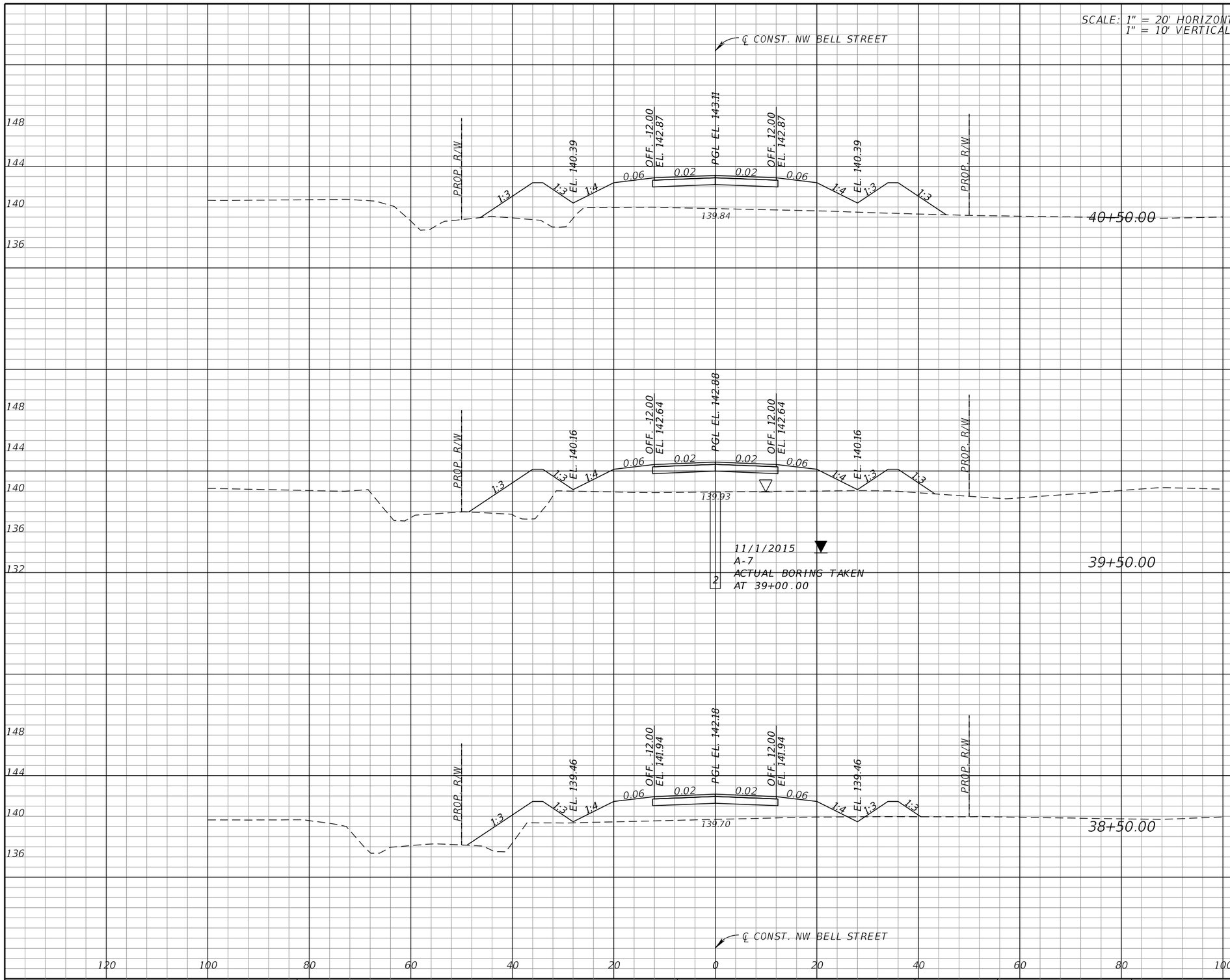
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 31

tdelicato 10/25/2019 12:11:13 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	202	690
0	0	0	1	171	548
0	0	1	1	125	534

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 32

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	125	492
0	0	0	0	140	531
0	0	0	0	147	646

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 33

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SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	3	5	84	422
0	0	0	0	144	518
0	0	0	0	136	483

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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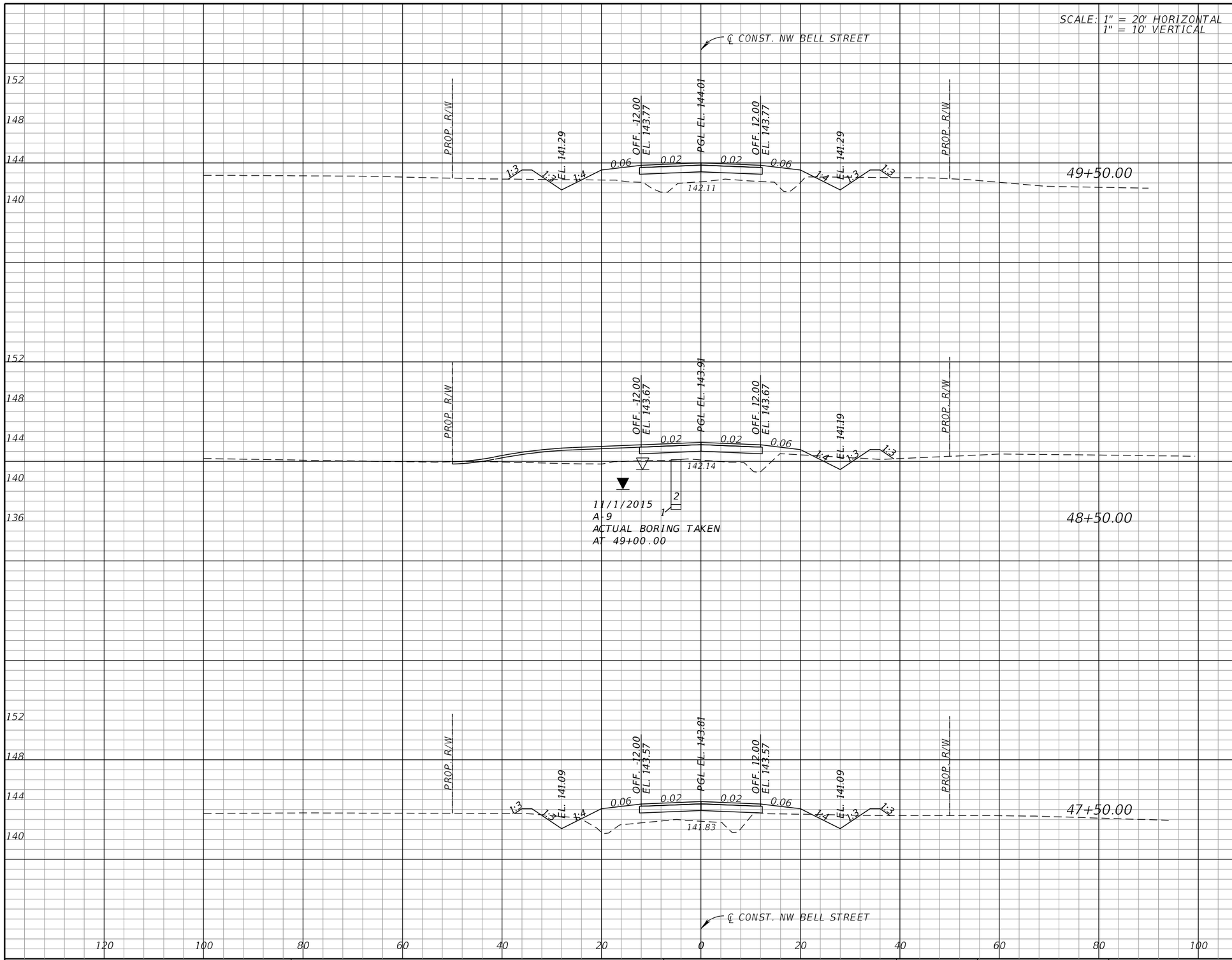
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 34

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	10	30	61	243
0	0	7	34	70	235
0	0	12	26	57	260

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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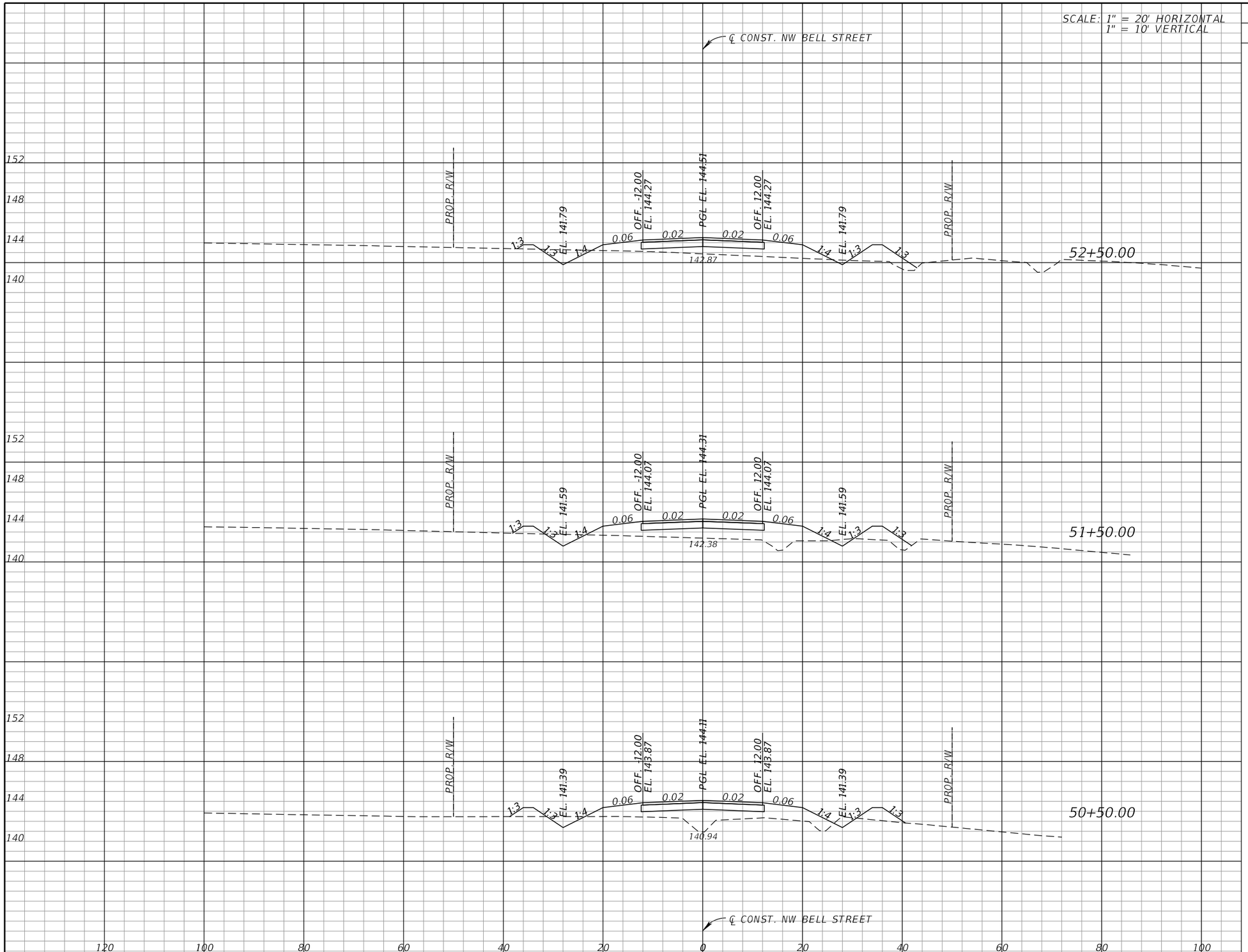
COUNTY	
COLUMBIA	
PROJECT ID	

CROSS SECTIONS
NW BELL STREET

SHEET NO.
35

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	9	27	54	226
0	0	6	24	68	246
0	0	7	30	65	233

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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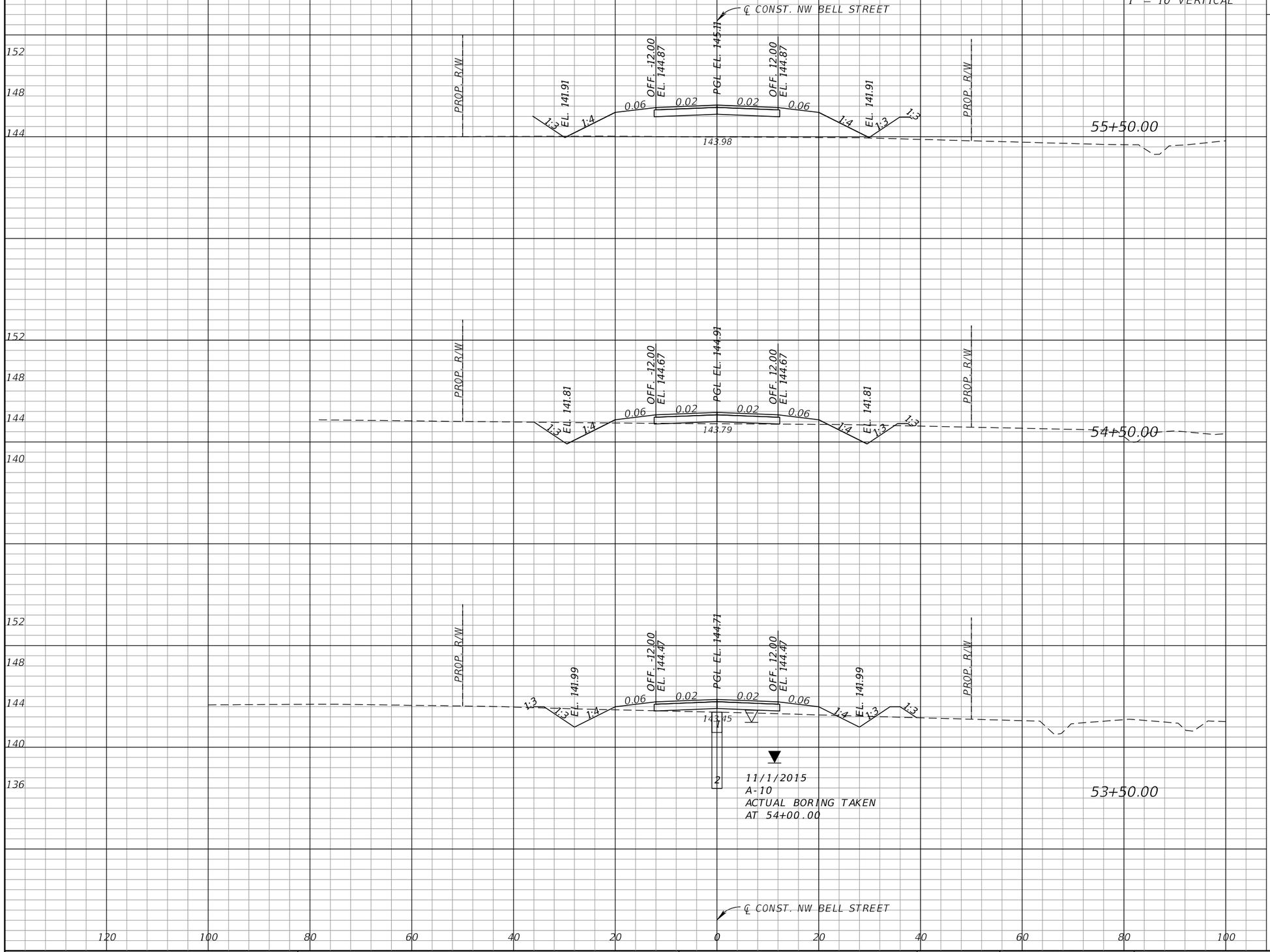
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 36

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	30	106	14	50
0	0	28	80	13	71
0	0	15	44	25	146

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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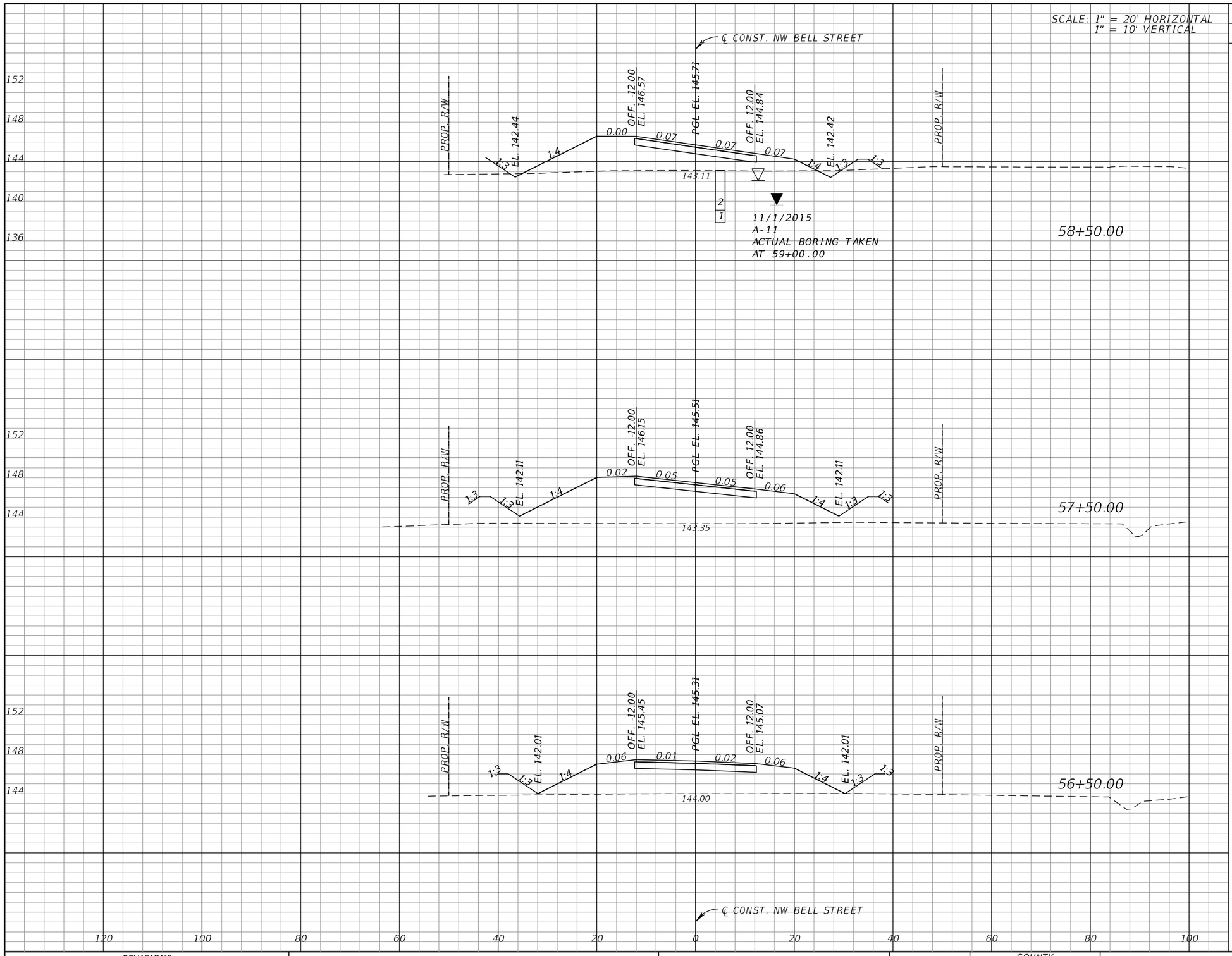
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 37

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	2	26	128	391
0	0	12	71	83	207
0	0	26	104	29	78

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COUNTY: COLUMBIA
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CROSS SECTIONS
NW BELL STREET

SHEET NO. 38

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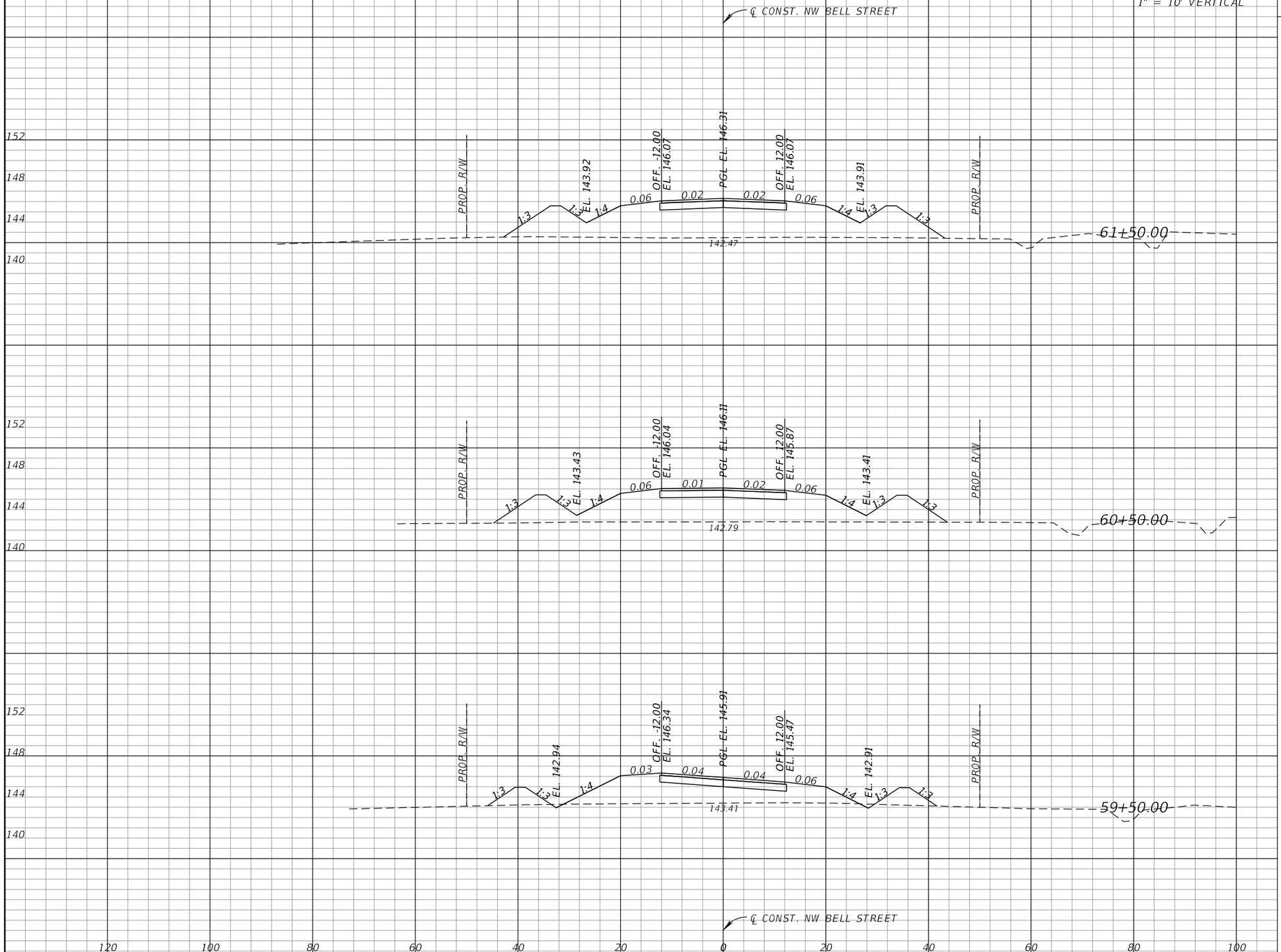
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	214	732
0	0	0	2	182	558
0	0	1	6	120	459

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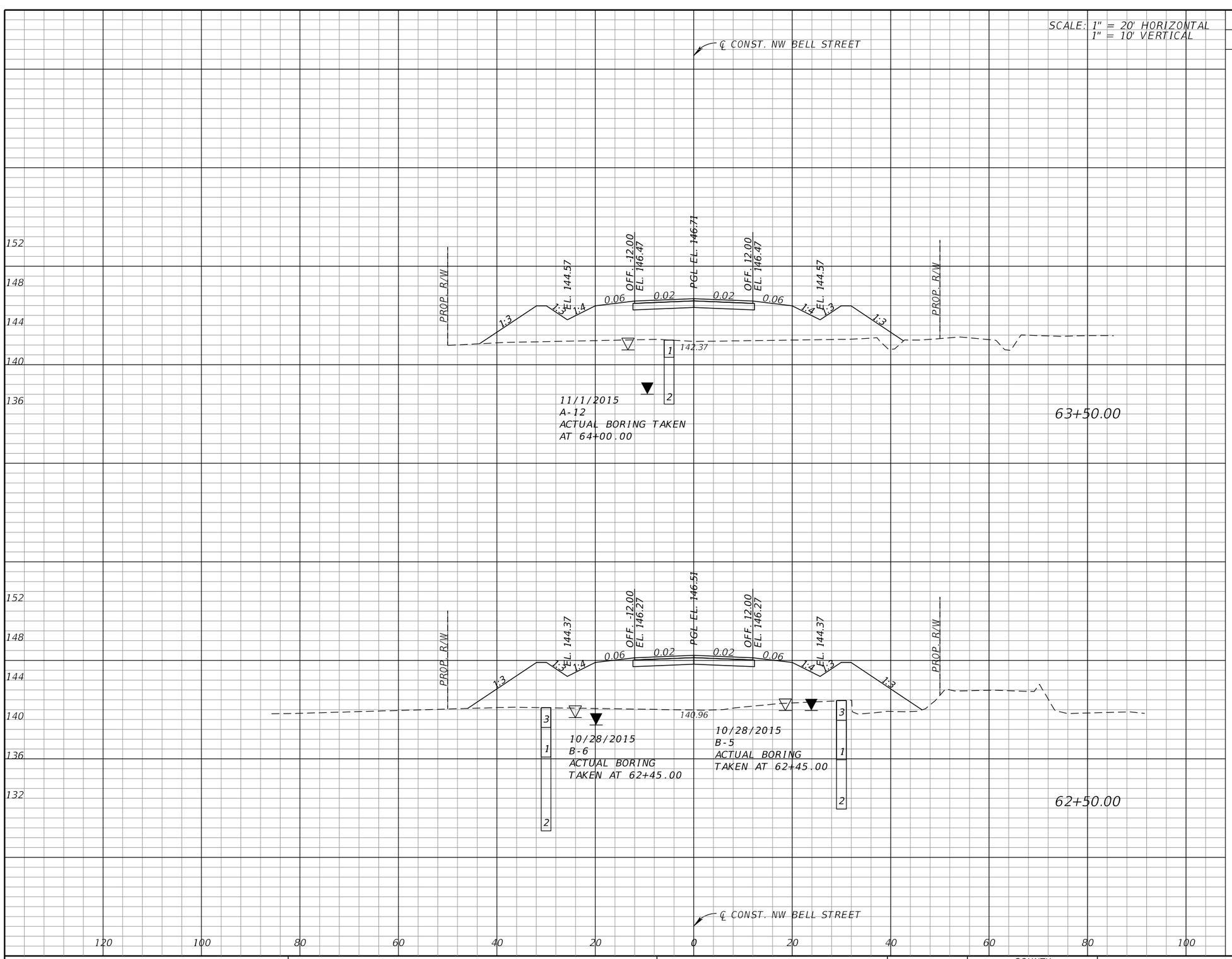
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 39

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	248	1088
0	0	0	0	340	1025

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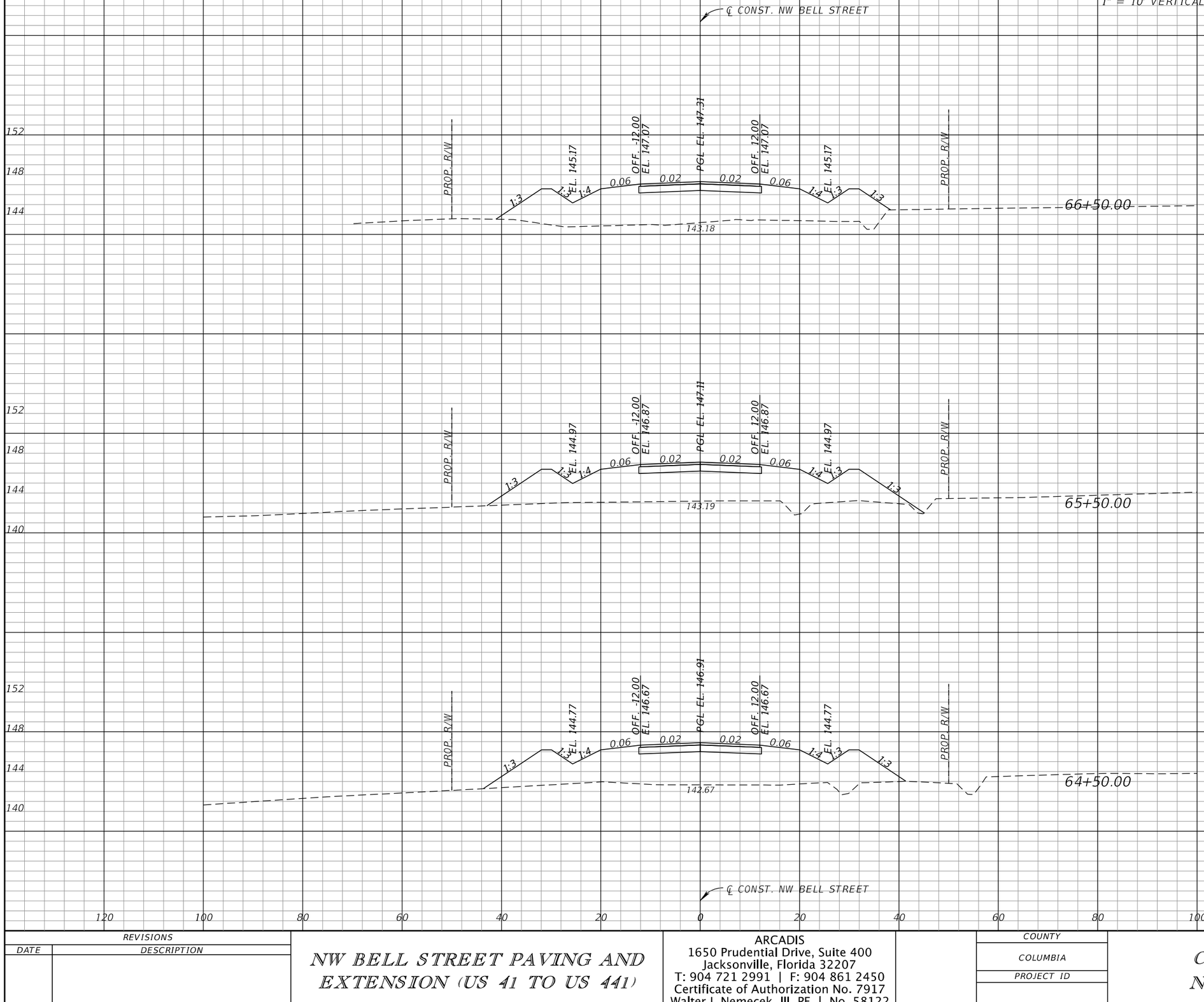
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 40

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	232	860
0	0	0	0	232	879
0	0	0	0	242	908

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 41

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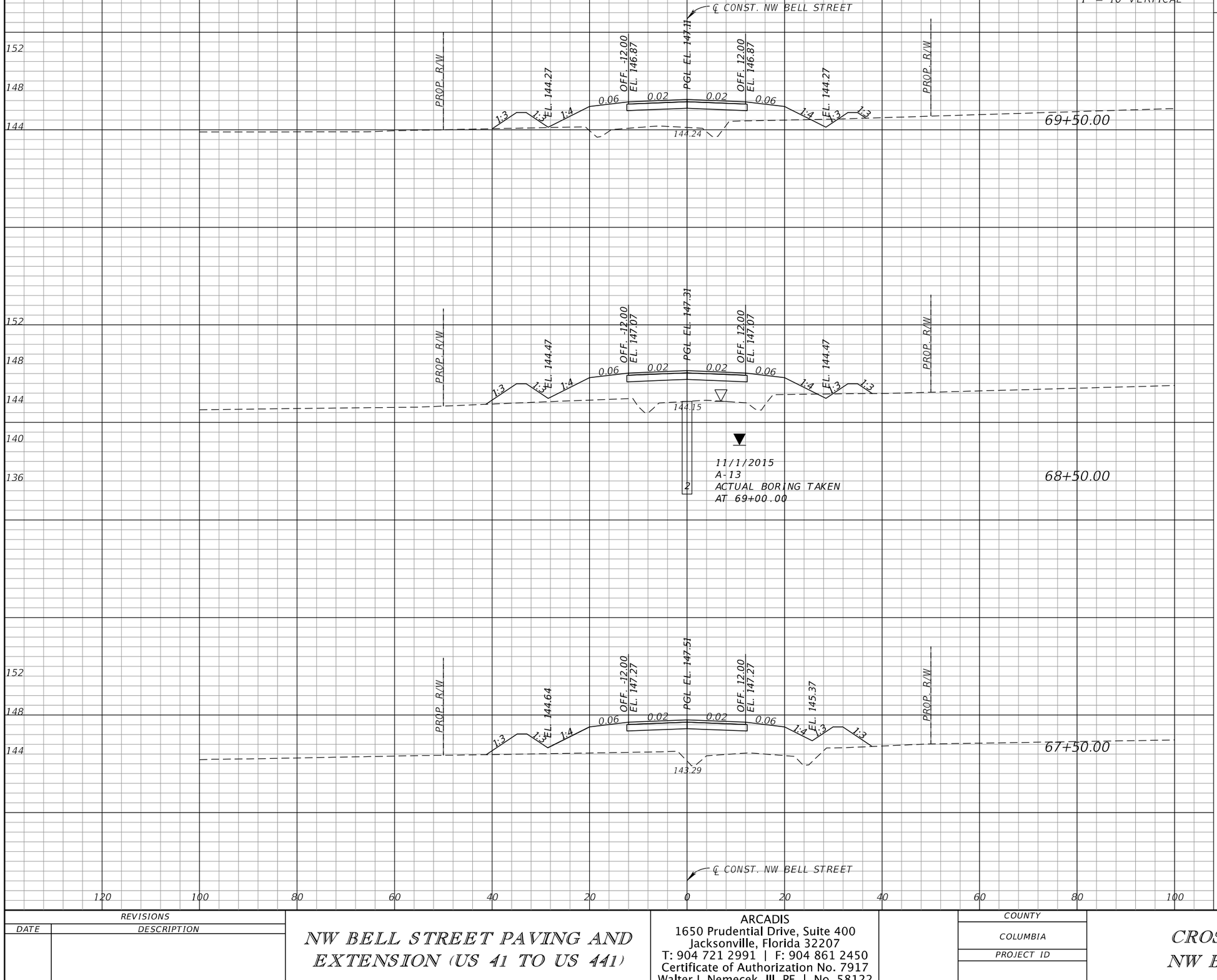
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	2	6	106	443
0	0	1	1	133	568
0	0	0	0	173	751

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REVISIONS	
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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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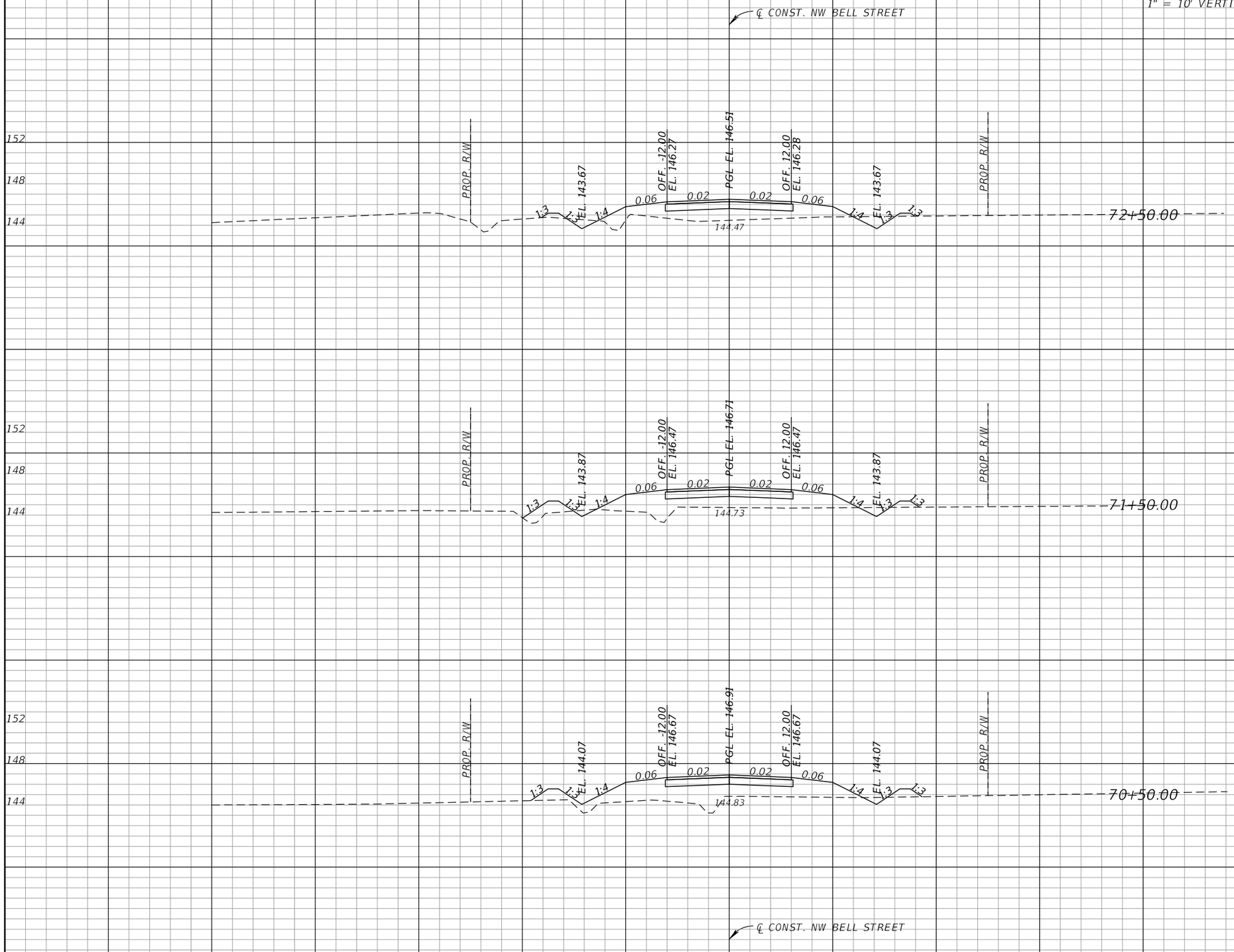
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 42

tdelicato 10/25/2019 12:11:16 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	7	21	53	232
0	0	4	10	72	297
0	0	2	7	88	359

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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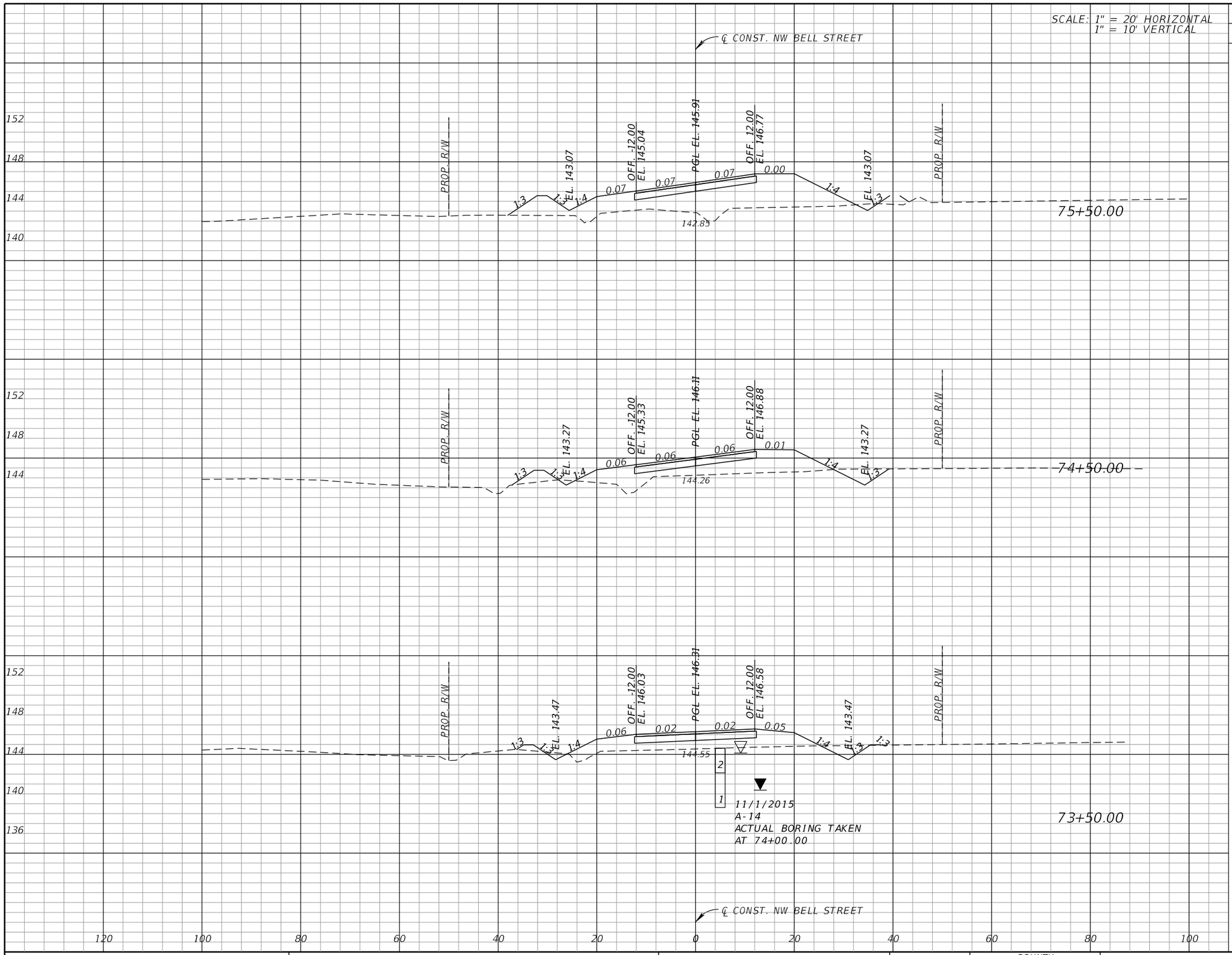
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 43

tdelicato 10/25/2019 12:11:16 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	2	21	141	405
0	0	10	35	78	251
0	0	9	30	57	204

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 44

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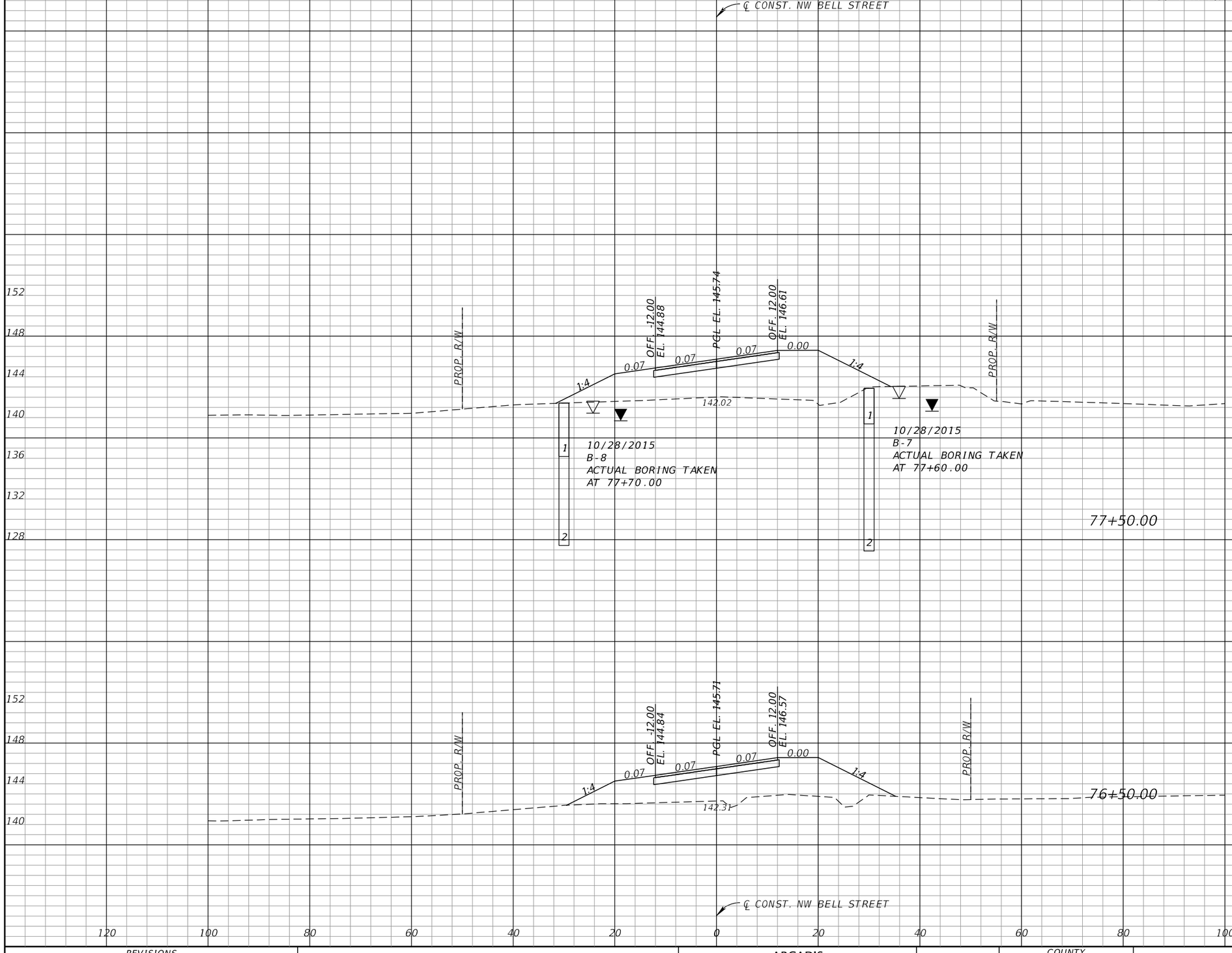
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	0	186	625
0	0	0	3	152	542

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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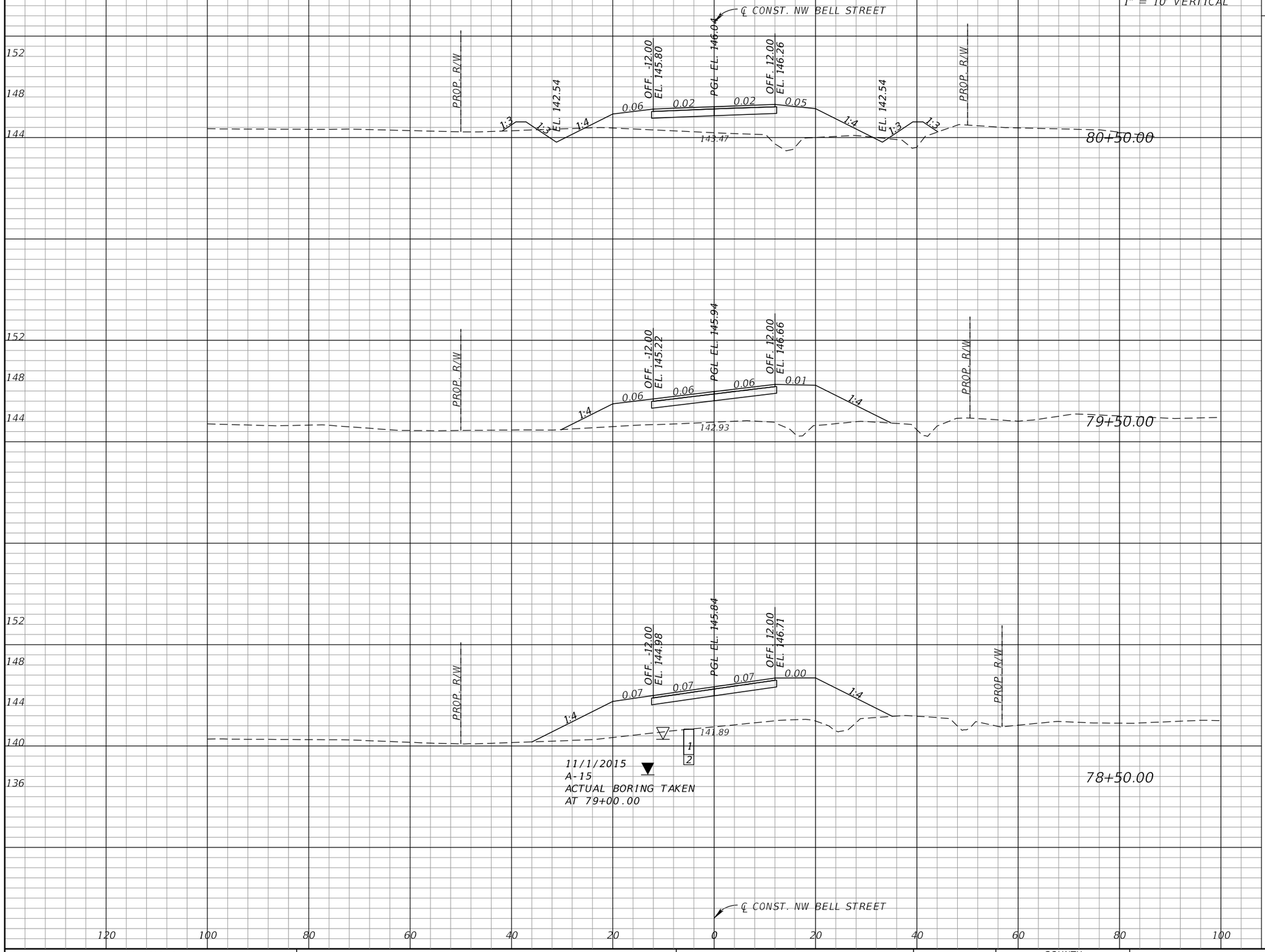
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 45

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	7	12	118	487
0	0	0	0	145	643
0	0	0	0	203	719

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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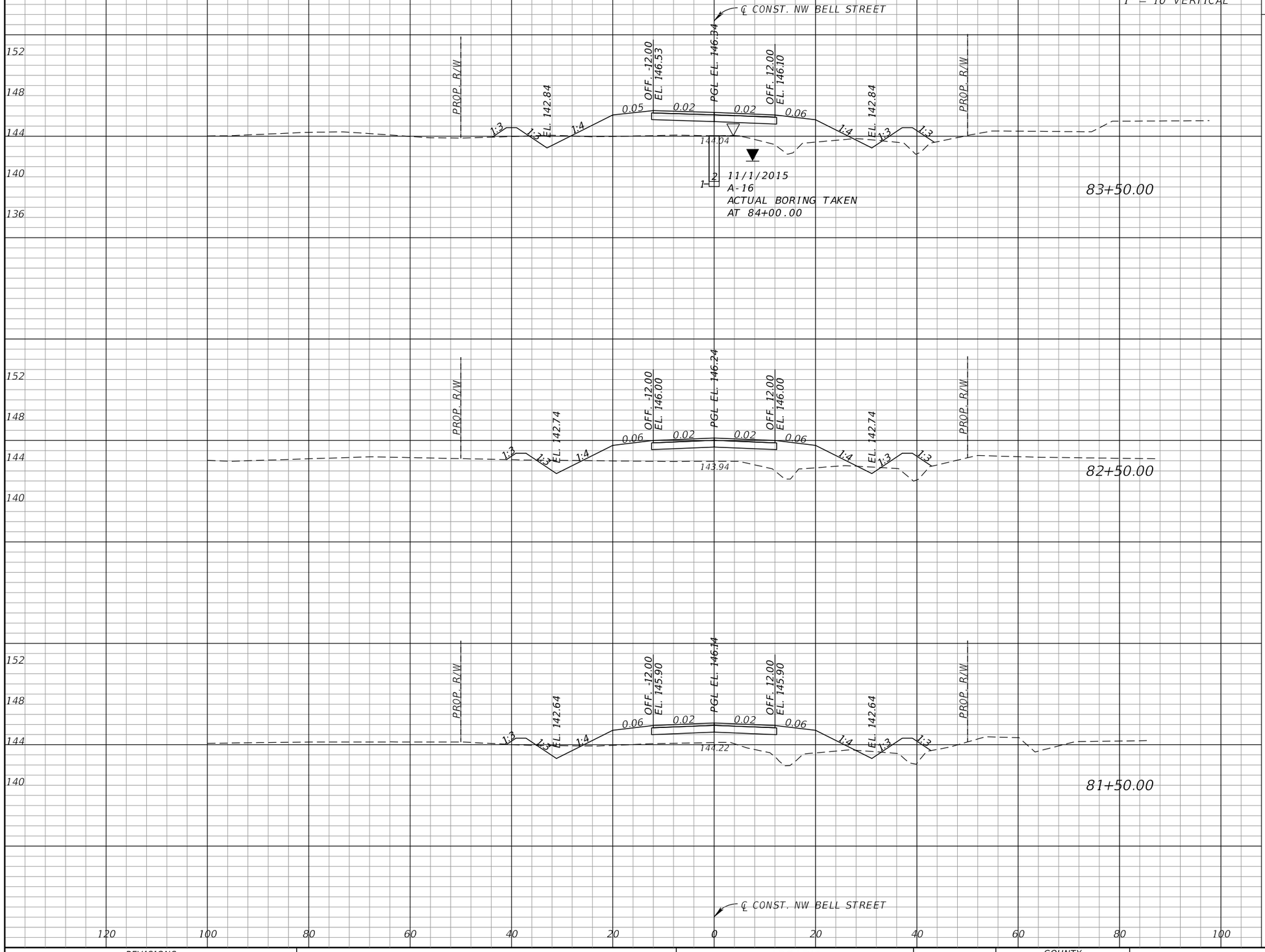
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 46

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	8	28	111	392
0	0	7	27	101	359
0	0	7	26	94	392

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PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 47

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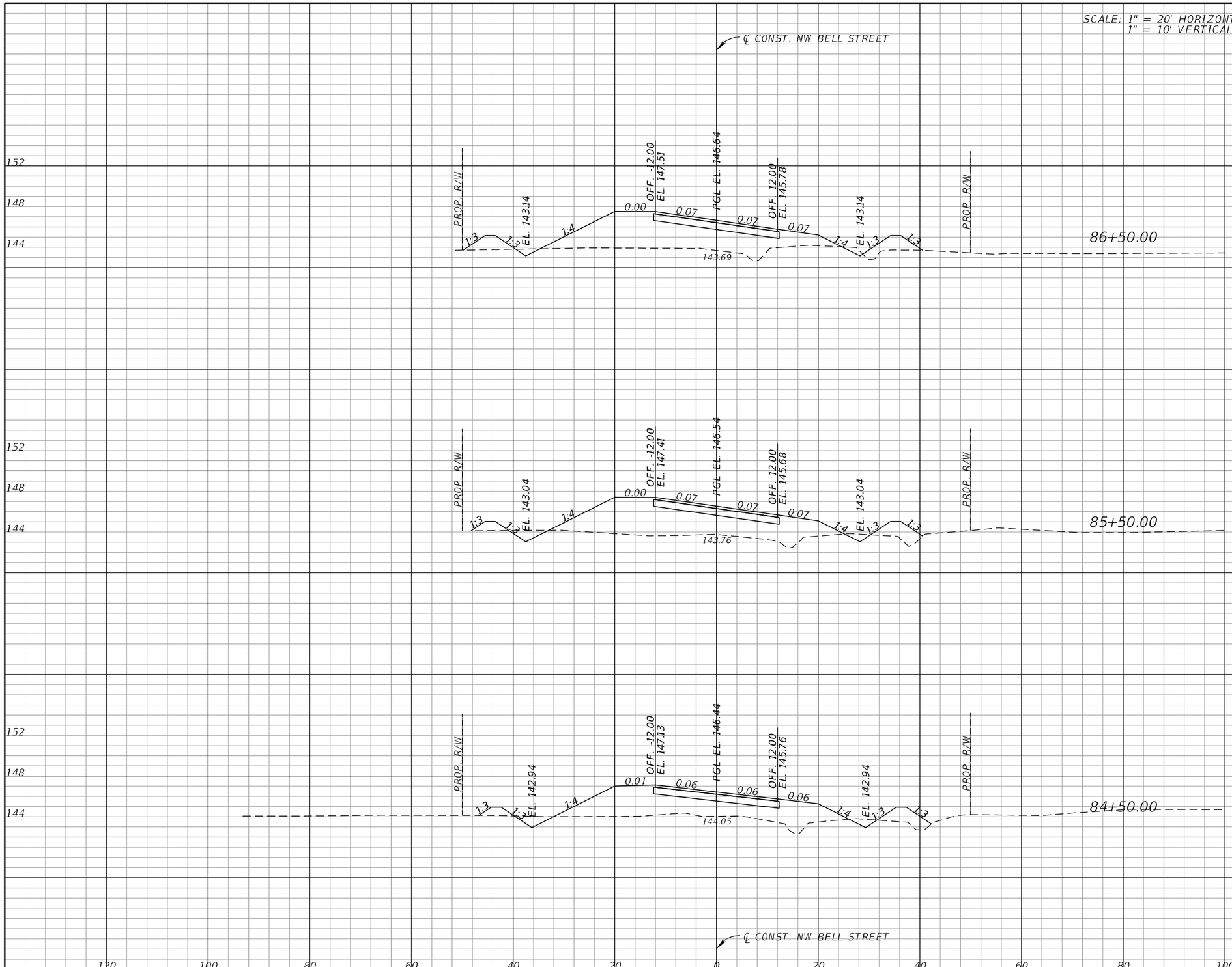
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	3	17	139	517
0	0	6	24	140	479
0	0	7	26	118	425

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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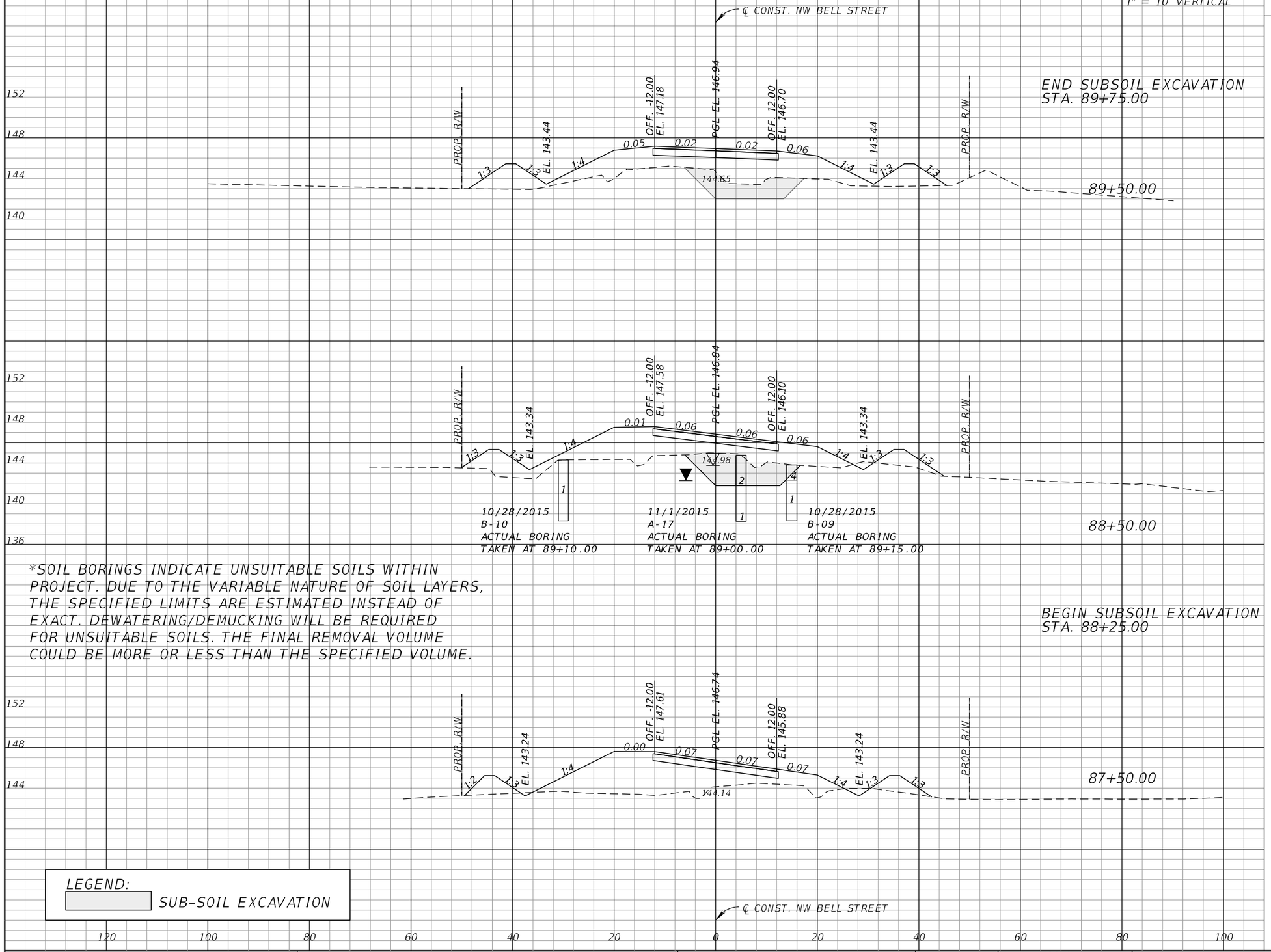
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 48

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
36	171	0	3	150	538
47	22	2	7	140	542
0	0	2	10	153	540

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T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

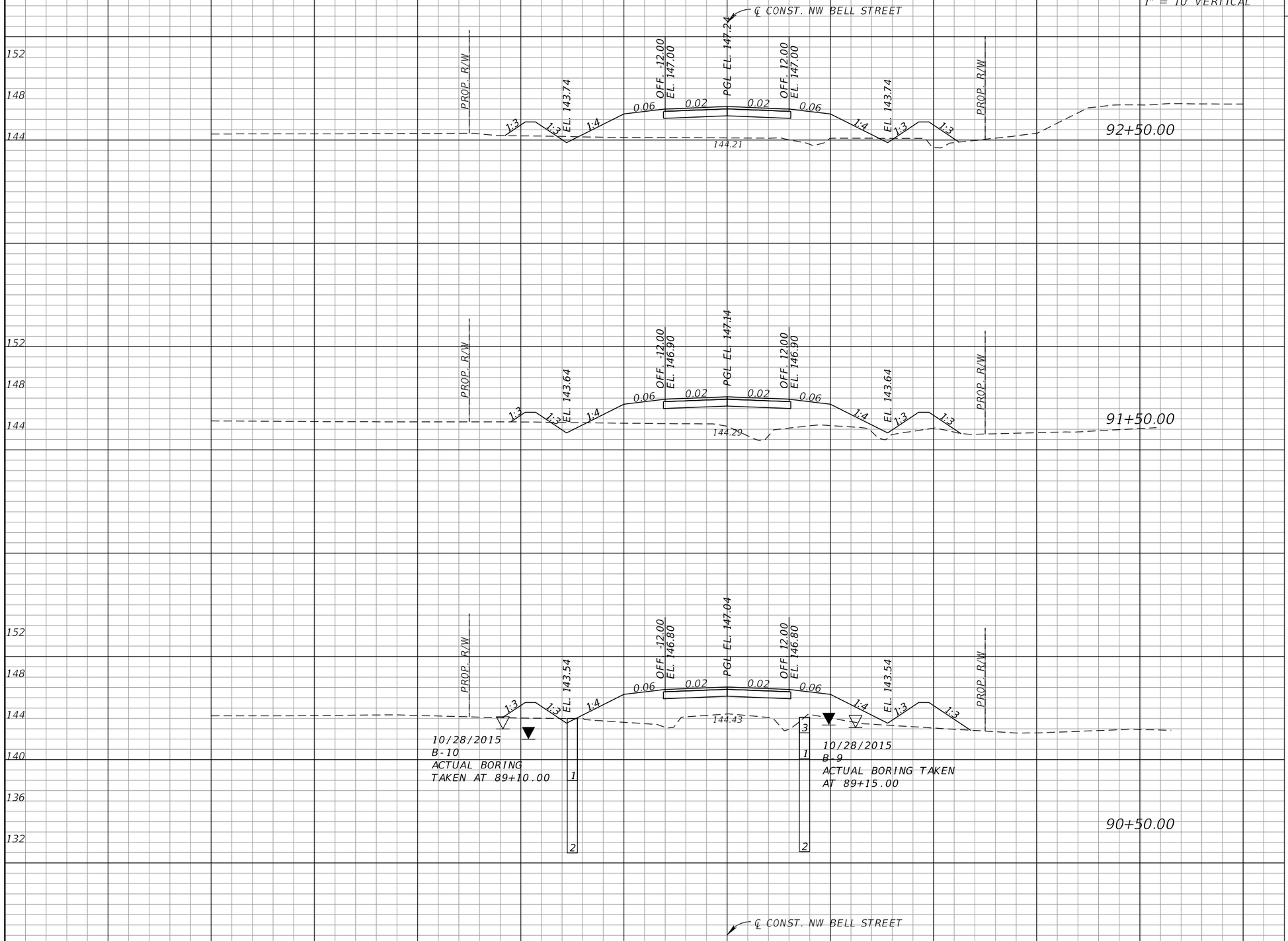
COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 49

tdelicato 10/25/2019 12:11:18 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	2	10	136	478
0	0	3	8	122	511
0	0	1	1	154	563

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

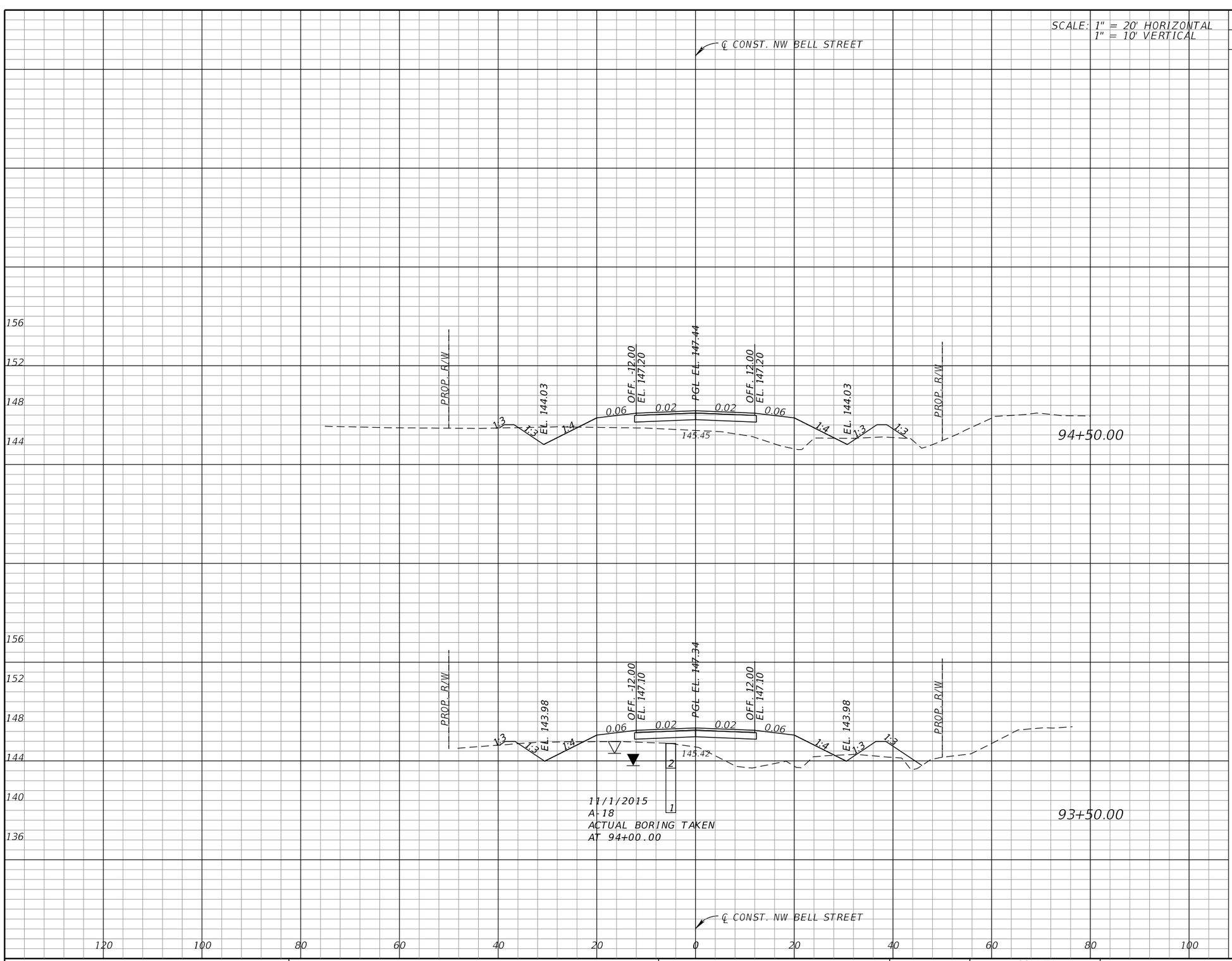
ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 50

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	13	51	78	313
0	0	15	31	91	420

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NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 51

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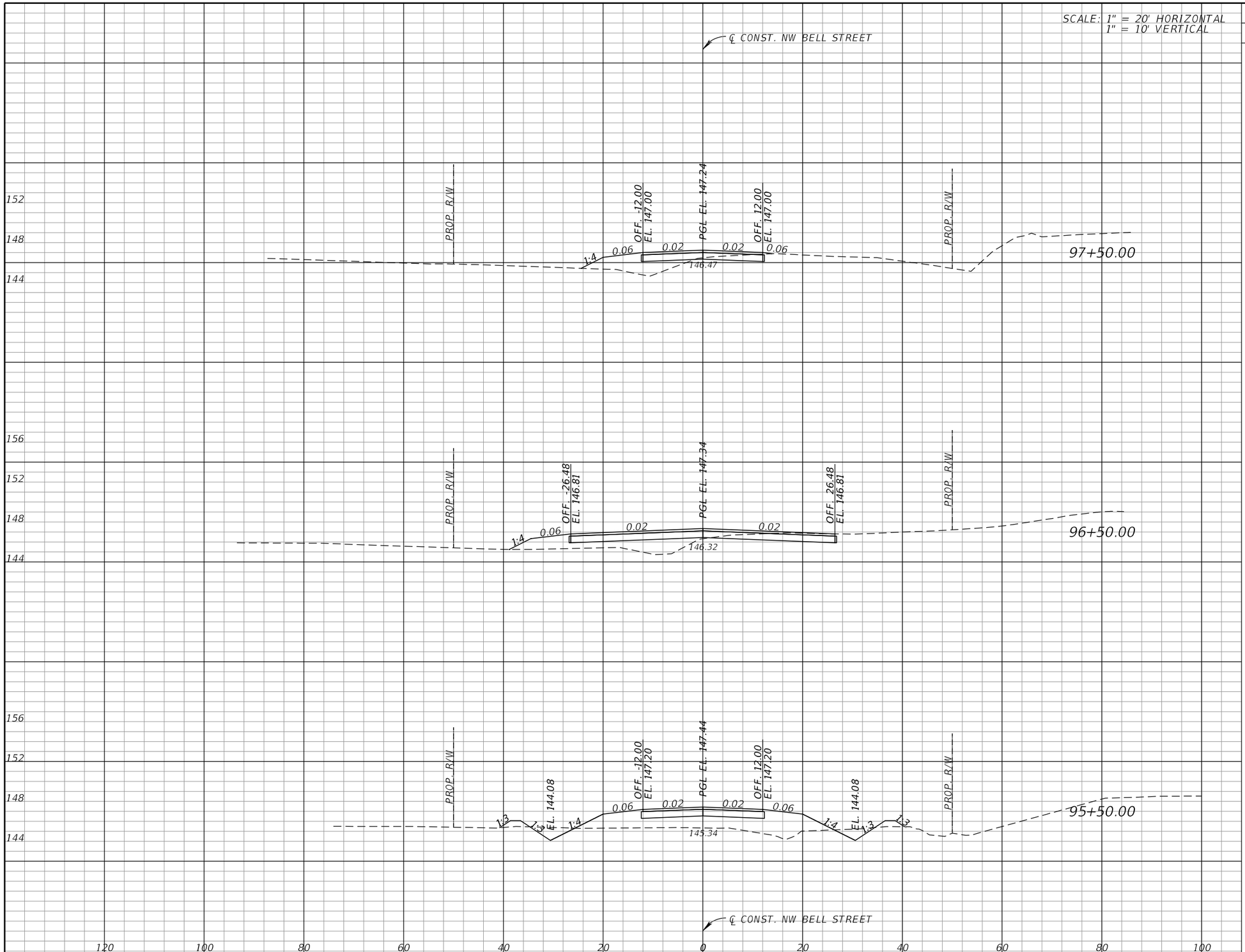
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	6	40	24	111
0	0	16	51	36	202
0	0	12	45	73	280

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REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 52

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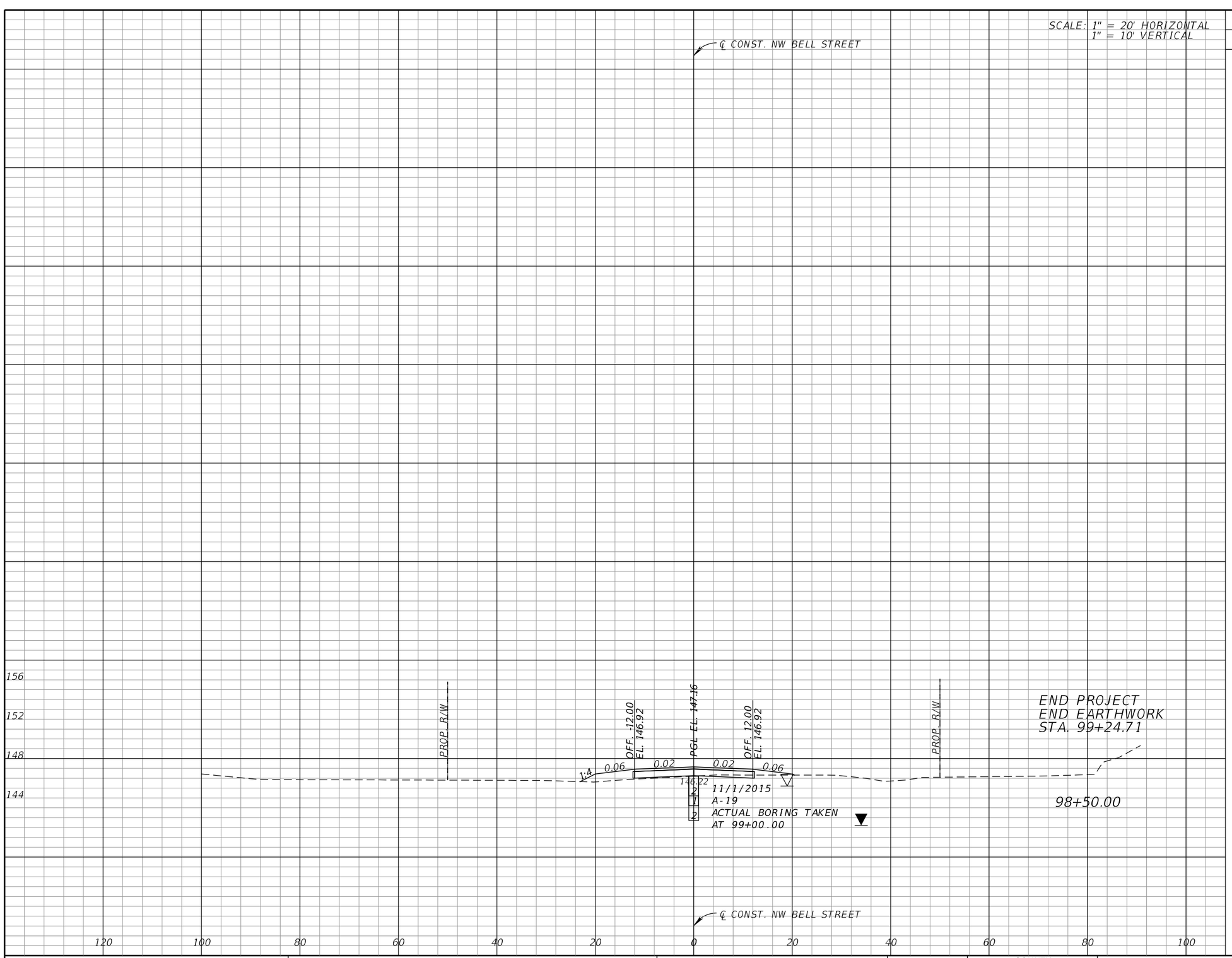
SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0	0	0	3	0	17
0	0	2	15	12	67

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

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COUNTY: COLUMBIA
PROJECT ID:

CROSS SECTIONS
NW BELL STREET

SHEET NO. 53

tdelicato 10/25/2019 12:11:19 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\RDXSRD01.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

℄ CONST. WDA 2

144 142 140 138 136 134 132 130 128

OFF. -248.65 EL. 131.28 | 1:5 | OFF. -221.47 EL. 137.00 | 1:23 | OFF. -198.10 EL. 136.00 | 1:5 | OFF. -161.32 EL. 128.00

OFF. 70.15 EL. 128.00 | 1:4 | OFF. 102.15 EL. 136.00 | 1:20 | OFF. 122.15 EL. 137.00 | 1:4 | OFF. 127.57 EL. 138.36

203+00.00

146 144 142 140 138 136 134 132 130 128 126

OFF. -192.69 EL. 132.54 | 1:4 | OFF. -173.76 EL. 137.00 | 1:21 | OFF. -152.64 EL. 136.00 | 1:4 | OFF. -119.03 EL. 128.00 | 1:1 | OFF. -115.88 EL. 125.00

OFF. 67.20 EL. 125.00 | 1:1 | OFF. 70.20 EL. 128.00 | 1:4 | OFF. 102.20 EL. 136.00 | 1:20 | OFF. 122.20 EL. 137.00 | 1:4 | OFF. 130.35 EL. 139.04

202+00.00

144 142 140 138 136 134

OFF. -154.69 EL. 134.32 | 1:5 | OFF. -141.96 EL. 137.00 | 1:27 | OFF. -115.21 EL. 136.00

OFF. 80.64 EL. 136.00 | 1:27 | OFF. 107.39 EL. 137.00 | 1:5 | OFF. 116.16 EL. 138.83

201+00.00

BEGIN EARTHWORK
STA. 200+65.00

1" = 40' Horizontal
1" = 10' Vertical

℄ CONST. WDA 2

280 240 200 160 120 80 40 0 40 80 120 160

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0		1911		229	
	0		7849		687
0		2328		143	
	0		5596		401
0		694		74	
	0		0		0

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

WDA 2 CROSS SECTIONS
NW BELL STREET

SHEET NO. 54

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

℄ CONST. WDA 2

END EARTHWORK
STA. 205+28.04

OFF. -301.80
EL. 130.65
1:5
OFF. -270.65
EL. 137.00
1:31
OFF. -239.35
EL. 136.00
OFF. 70.56
EL. 136.00
1:31
OFF. 101.77
EL. 137.00
OFF. 104.32
EL. 137.48

205+00.00

OFF. -306.19
EL. 130.69
1:4
OFF. -278.74
EL. 137.00
1:22
OFF. -256.81
EL. 136.00
1:4
OFF. -221.32
EL. 128.00
OFF. 70.09
EL. 128.00
1:4
OFF. 102.09
EL. 136.00
1:20
OFF. 122.09
EL. 137.00
1:4
OFF. 126.26
EL. 138.04

204+00.00

1" = 40' Horizontal
1" = 10' Vertical

℄ CONST. WDA 2

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0		0		0	
	0		154		229
0		296		441	
	0		4569		1263
0		2172		242	
	0		7560		870

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

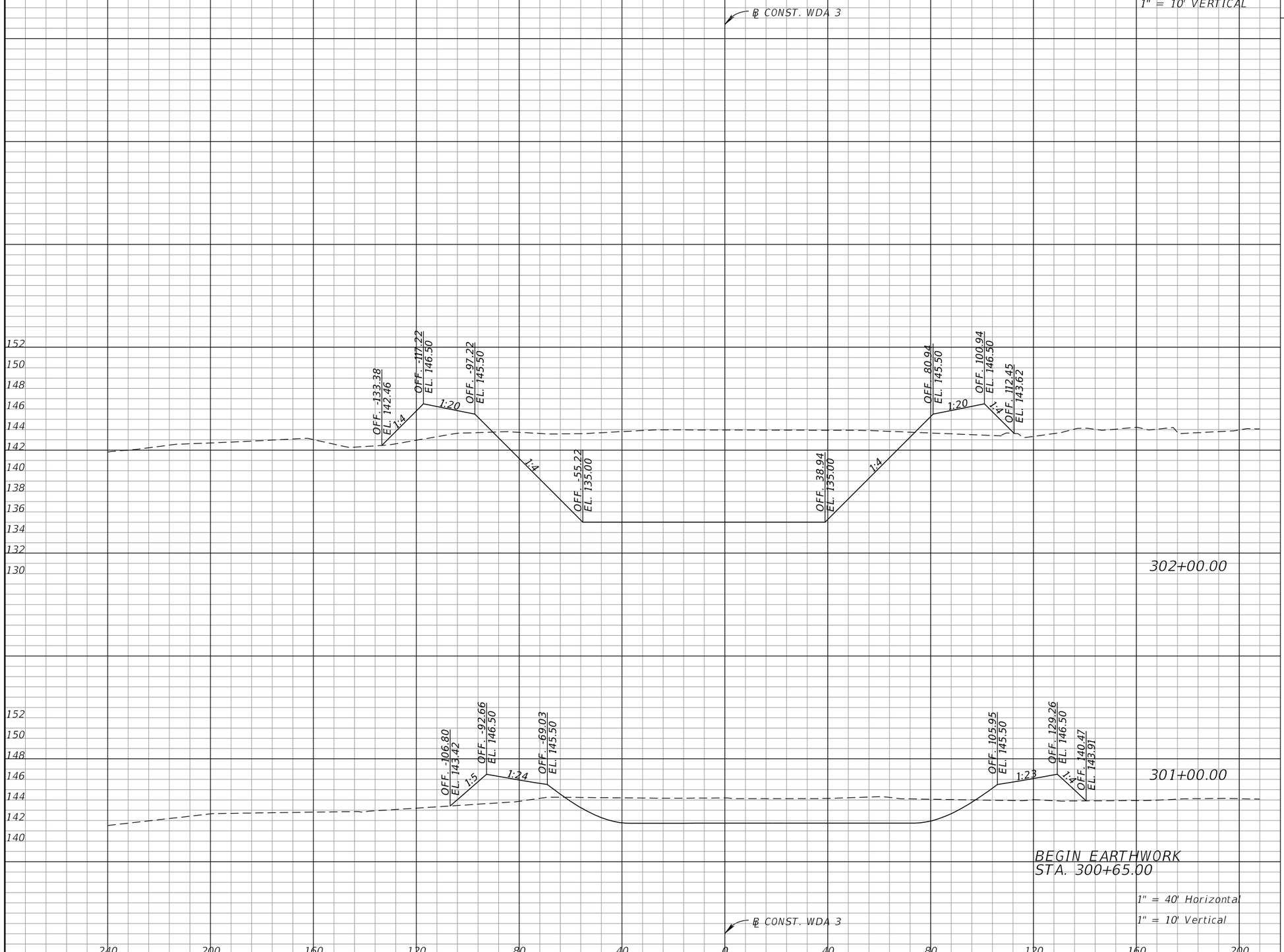
ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

WDA 2 CROSS SECTIONS
NW BELL STREET

SHEET NO. 55

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL



Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0		1146		158	
	0		2760		556
0		344		142	
	0		0		0

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY COLUMBIA PROJECT ID	WDA 3 CROSS SECTIONS NW BELL STREET	SHEET NO. 56

tdelicato 10/25/2019 12:11:21 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\PDXSRD01_WDA3.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

℄ CONST. WDA 3

OFF. -158.14
EL. 142.64
1:4
OFF. -142.60
EL. 146.50
1:20
OFF. -122.49
EL. 145.50
1:4
OFF. -80.38
EL. 135.00
OFF. -32.66
EL. 135.00
1:8
OFF. 52.95
EL. 145.50
1:33
OFF. 86.35
EL. 146.50
1:5
OFF. 104.53
EL. 142.82

304+00.00

OFF. -169.45
EL. 142.77
1:4
OFF. -153.92
EL. 146.50
1:21
OFF. -132.77
EL. 145.50
1:5
OFF. -83.00
EL. 135.00
OFF. -13.37
EL. 135.00
1:2
OFF. -7.25
EL. 132.00
1:0
OFF. 35.94
EL. 132.00
1:1
OFF. 38.94
EL. 135.00
1:4
OFF. 80.94
EL. 145.50
1:20
OFF. 100.94
EL. 146.50
1:4
OFF. 112.18
EL. 143.69

303+00.00

1" = 40' Horizontal
1" = 10' Vertical

℄ CONST. WDA 3

	Subsoil Exc.		Regular Exc.		Embankment	
	A	V	A	V	A	V
304+00.00	0		719		280	
		0		4096		831
303+00.00	0		1492		169	
		0		4886		606

REVISIONS		NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY COLUMBIA PROJECT ID	WDA 3 CROSS SECTIONS NW BELL STREET	SHEET NO. 57
DATE	DESCRIPTION					

tdelicato 10/25/2019 12:11:21 PM G:\TRA\14004 Bell Road\14004_SS4\roadway\PDXSRD01_WDA3.DGN

SCALE: 1" = 20' HORIZONTAL
1" = 10' VERTICAL

℄ CONST. WDA 3

Subsoil Exc.		Regular Exc.		Embankment	
A	V	A	V	A	V
0		0		0	
	0		0		11
0		0		81	
	0		1332		668

END EARTHWORK
STA. 305+07.52

305+00.00

OFF. -114.91
EL. 142.32

OFF. 41.55
EL. 141.91

148
146
144
142
140

240 200 160 120 80 40 0 40 80 120 160 200

1" = 40' Horizontal
1" = 10' Vertical

℄ CONST. WDA 3

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)

ARCADIS
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Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY
COLUMBIA
PROJECT ID

WDA 3 CROSS SECTIONS
NW BELL STREET

SHEET NO.
58

STORM WATER POLLUTION PREVENTION PLAN

OWNER'S REQUIREMENTS

SITE DESCRIPTION

PROJECT NAME AND LOCATION:

NW BELL STREET PAVING AND EXTENSTION

OWNER NAME AND ADDRESS:

COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS

DESCRIPTION:

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING, EARTHWORK AND GRADING, PAVING, AND PREPARATION FOR FINAL PLANTING AND GRASSING

RUNOFF CURVE NUMBERS:

1. PRE-CONSTRUCTION = 79.0
2. DURING CONSTRUCTION = 84 ESTIMATED
3. POST-CONSTRUCTION = 87.0

SOILS:
SCS SURVEY FOR SOILS DATA

SITE MAPS:

- SEE ATTACHED PLANS FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM-WATER DISCHARGE POINTS.
- SEE ATTACHED EROSION CONTROL PLANS FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES AND TURBIDITY BARRIERS.
- SEE GENERAL NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:

1. TOTAL AREA OF SITE = 23.3 ACRES
2. TOTAL AREA TO BE DISTURBED = 23.3 ACRES

NAME OF RECEIVING WATERS:

FALLING CREEK

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF. AN EROSION CONTROL PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT

STORM WATER DRAINAGE WILL BE PROVIDED BY (DESRIPTION:) _____
_____WET DETENTION_____

FOR THE PROJECT. AREAS WHICH ARE NOT TO BE CONSTRUCTED ON, BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE, WHEN CONSTRUCTION IS COMPLETE, A TOTAL OF 23.3 ACRES WILL HAVE BEEN REGRADED, 0.0 ACRES LEFT UNDISTURBED. THE SITE DISCHARGES TO A WET DETENTION SYSTEM. WHERE PRACTICAL, TEMPORARY SEDIMENT BASINS WILL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE PERMANENT DETENTION BASIN.

TIMING OF CONTROLS/MEASURES

REFER TO " CONTRACTORS RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

C.O.E. DREDGE/FILL PERMIT #_____
S.R.W.M.D. ENVIRONMENTAL RESOURCE PERMIT #230280-1

POLLUTION PREVENTION PLAN 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.

SIGNED:_____
OWNER

DATED:_____

CONTRACTOR'S REQUIREMENTS

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE
2. INSTALL SILT FENCES AND GEOSYNTHETIC BARRIERS AS REQUIRED
3. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN
4. CONSTRUCT SEDIMENTATION BASIN
5. CONTINUE CLEARING AND GRUBBING
6. STOCK PILE TOP SOIL IF REQUIRED
7. PERFORM PRELIMINARY GRADING ON SITE AS REQUIRED
8. STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLE
9. INSTALL STORM SEWER, AND IRRIGATION.
10. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING
11. REMOVE ACCUMULATED SEDIMENT FROM BASINS
12. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED

TIMING OF CONTROLS / MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND GEOSYNTHETIC BARRIERS, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN.

CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION CONTROLS AS SHOWN ON THE EROSION CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION CONTROLS SHOWN ON THE EROSON CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED BY THE CONTRACT DOCUMENTS, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. GEOSYNTHETIC BARRIER: GEOSYNTHETIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
   D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF GEOSYNTHETIC BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BARRIERS TO INSURE AGAINST WASHOUT.
   REFER TO CITY STANDARD DETAIL D-913 FOR CONSTRUCTING THE GEOSYNTHETIC BALE BARRIER. ALSO REFER TO D-90, D-911 AND D-12 FOR PROPER LOCATION, MATERIAL & USAGE.
2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   REFER TO CITY STANDARD DETAIL D-910 FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.
3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE. LEVEL SPREADER SHALL BE CONSTRUCTED IN ACCORDANCE TO CITY STANDARD DETAIL D-914.
5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE. MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX & AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.
11. TEMPORARY REGRASSING : IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY. AND IT SHALL BE CONSTRUCTED IN ACCORDANCE TO D-914.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN AN DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.
   THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDANTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:
   A. BLOCK & GRAVEL SEDIMENT FILTER - THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE. REFER TO D-902 FOR CONSTRUCTION OF A CURB INLET SEDIMENT FILTER, AND D-904 FOR CONSTRUCTION OF A DROP INLET SEDIMENT FILTER.
   B. GRAVEL SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES & UNPROTECTED AREAS. REFER TO D-903 FOR CONSTRUCTION OF CURB INLET & DROP SEDIMENT TRAP.
   C. DROP INLET SEDIMENT TRAP - THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S < 5%) AND WHERE SHEET OR OVERLAND FLOWS (Q < 0.5 CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS. REFER TO D-905 FOR CONSTRUCTION OF GEOSYNTHETIC BARRIERS & FABRIC SEDIMENT FILTER.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION & SEDIMENT PROBLEM TO THE RECEIVING WATER BODY. SILT FENCES & GEOSYNTHETIC BARRIERS ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3,600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL

WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

☐ Concrete	☐ Fertilizers	☐ Wood
☐ Asphalt	☐ Petroleum Based Products	☐ Masonry Blocks
☐ Tar	☐ Cleaning Solvents	☐ Roofing Materials
☐ Detergents	☐ Paints	☐ Metal Studs
☐ _____	☐ _____	☐ _____

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.
EXCESS WASH AND SURPLUS WILL BE CONTAINED ON SITE AND WILL NOT BE DISCHARGED

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

- NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
- ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
- ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
- DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
- TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED.
  THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS.
  THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
- THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
- PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE. SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

- WATER FROM WATER LINE FLUSHING
- PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

RESPONSIBLE FOR/DUTIES	GENERAL CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR
BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS						
SIGNATURE						

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

STORMWATER POLLUTION PREVENTION PLAN

SHEET NO. 59

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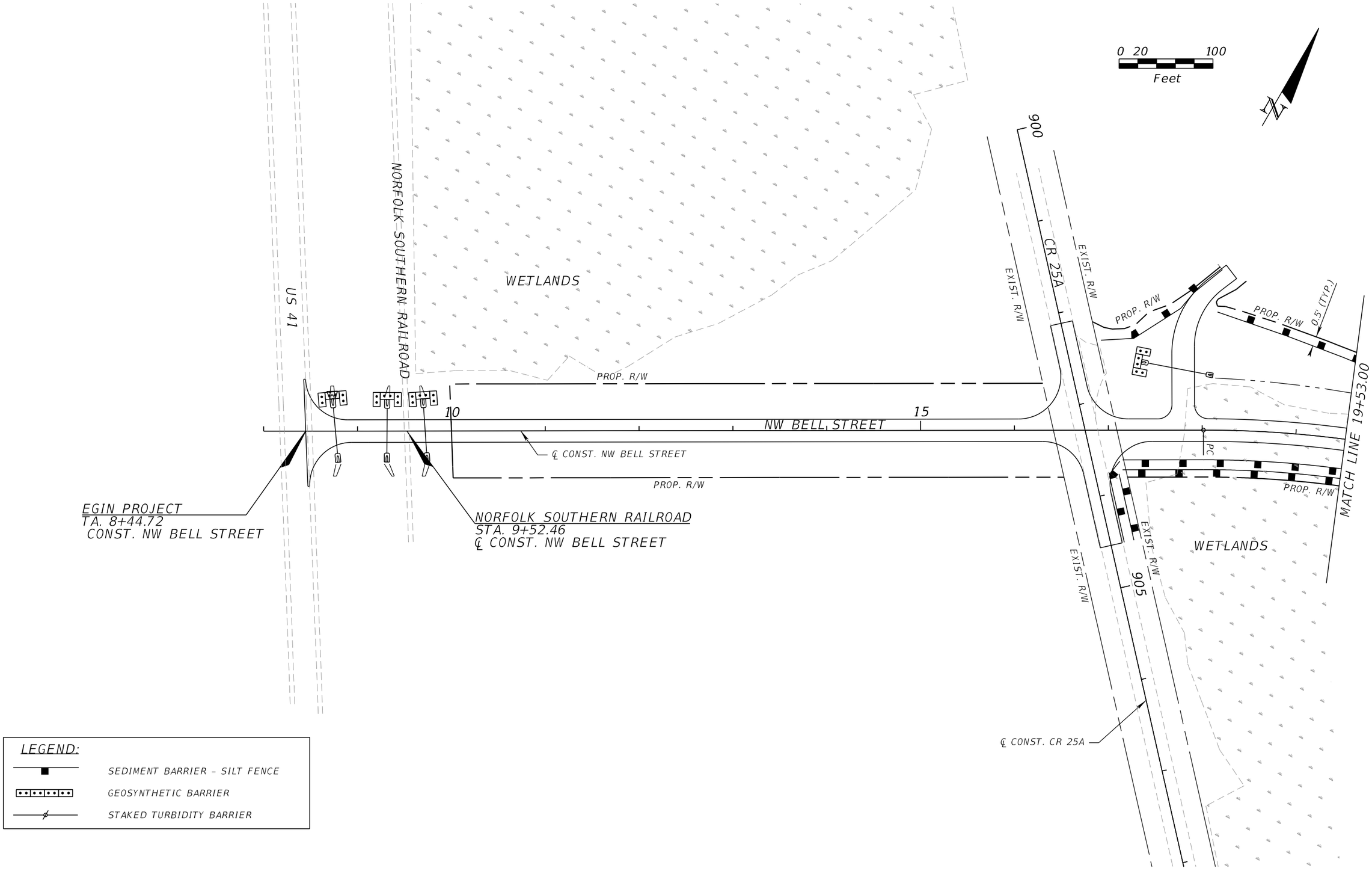

LEGEND:

- SEDIMENT BARRIER - SILT FENCE
- GEOSYNTHETIC BARRIER
- STAKED TURBIDITY BARRIER

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	EROSION CONTROL PLAN STA 8+44.72 TO 19+53.00	SHEET NO. 60

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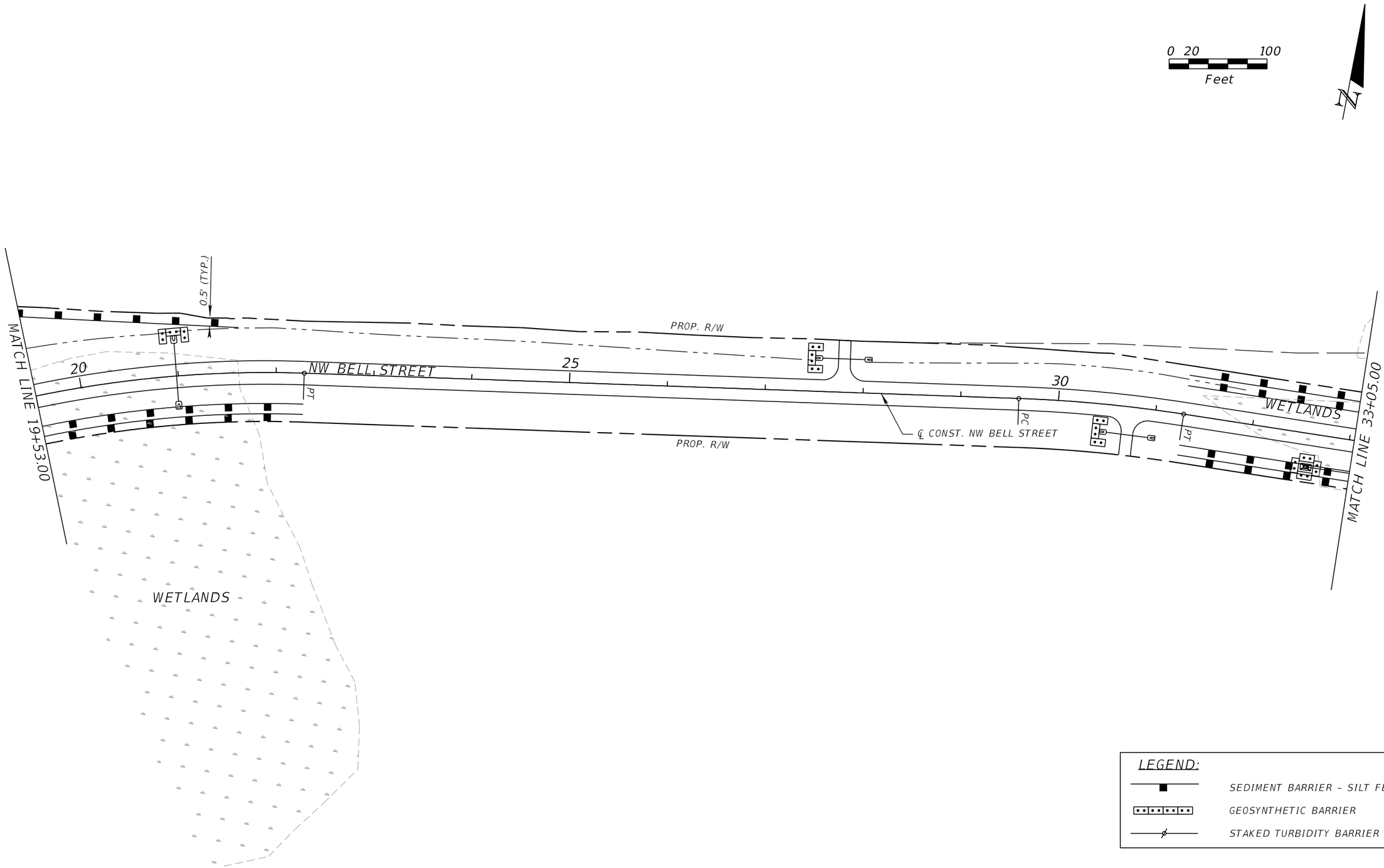

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NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

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T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

EROSION CONTROL PLAN STA. 19+55.00 TO 33+05.00

SHEET NO. 61

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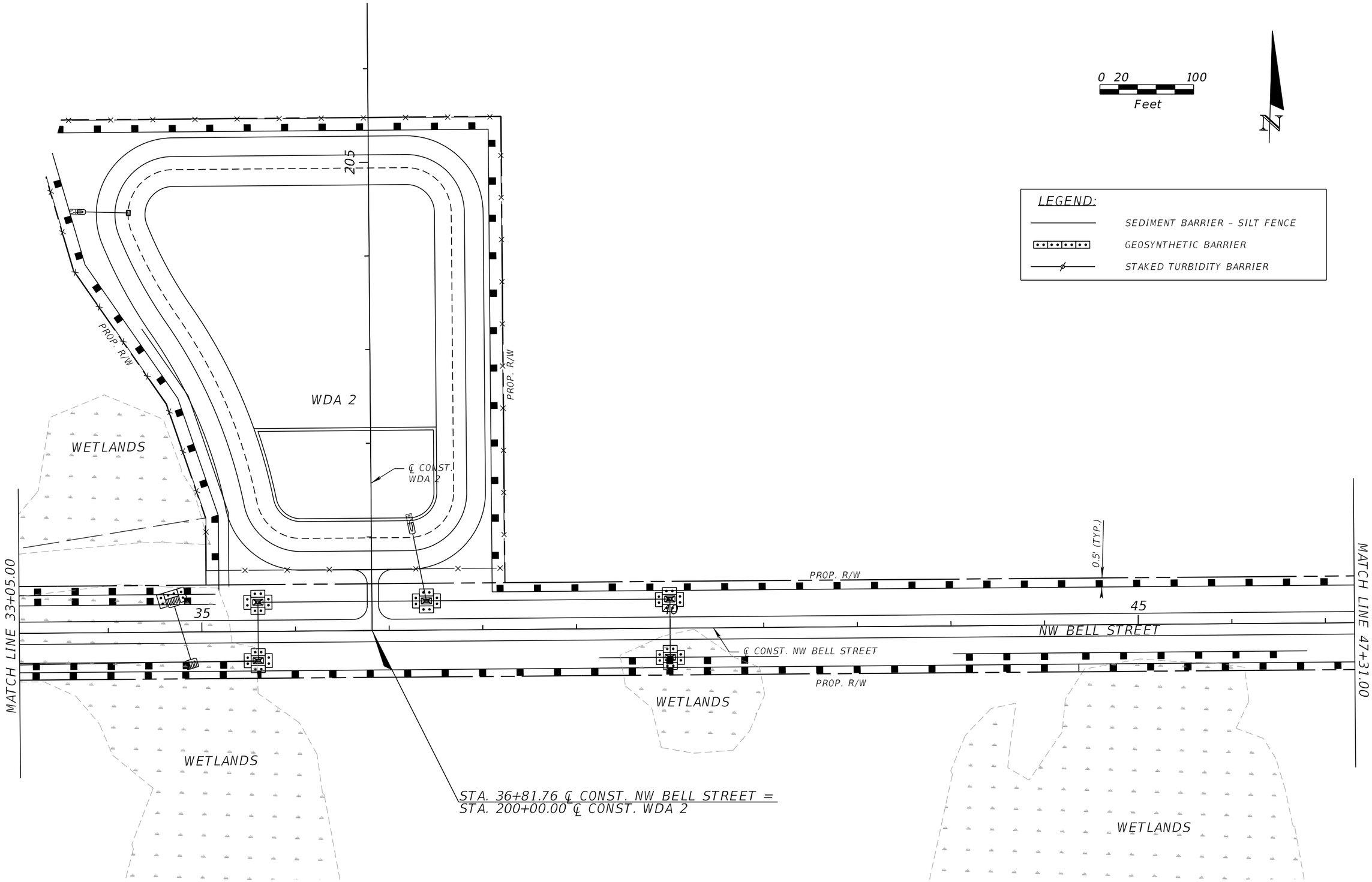

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REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	EROSION CONTROL PLAN STA 33+05.00 TO 47+31.00	SHEET NO. 62

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LEGEND:

SEDIMENT BARRIER - SILT FENCE

GEOSYNTHETIC BARRIER

STAKED TURBIDITY BARRIER

0 20 100

Feet

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MATCH LINE 47+31.00

0.5' (TYP.)

PROP. R/W

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NW BELL STREET

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WETLANDS

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WETLANDS

MATCH LINE 62+33.00

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REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	EROSION CONTROL PLAN STA. 47+31.00 TO 62+33.00	SHEET NO. 63

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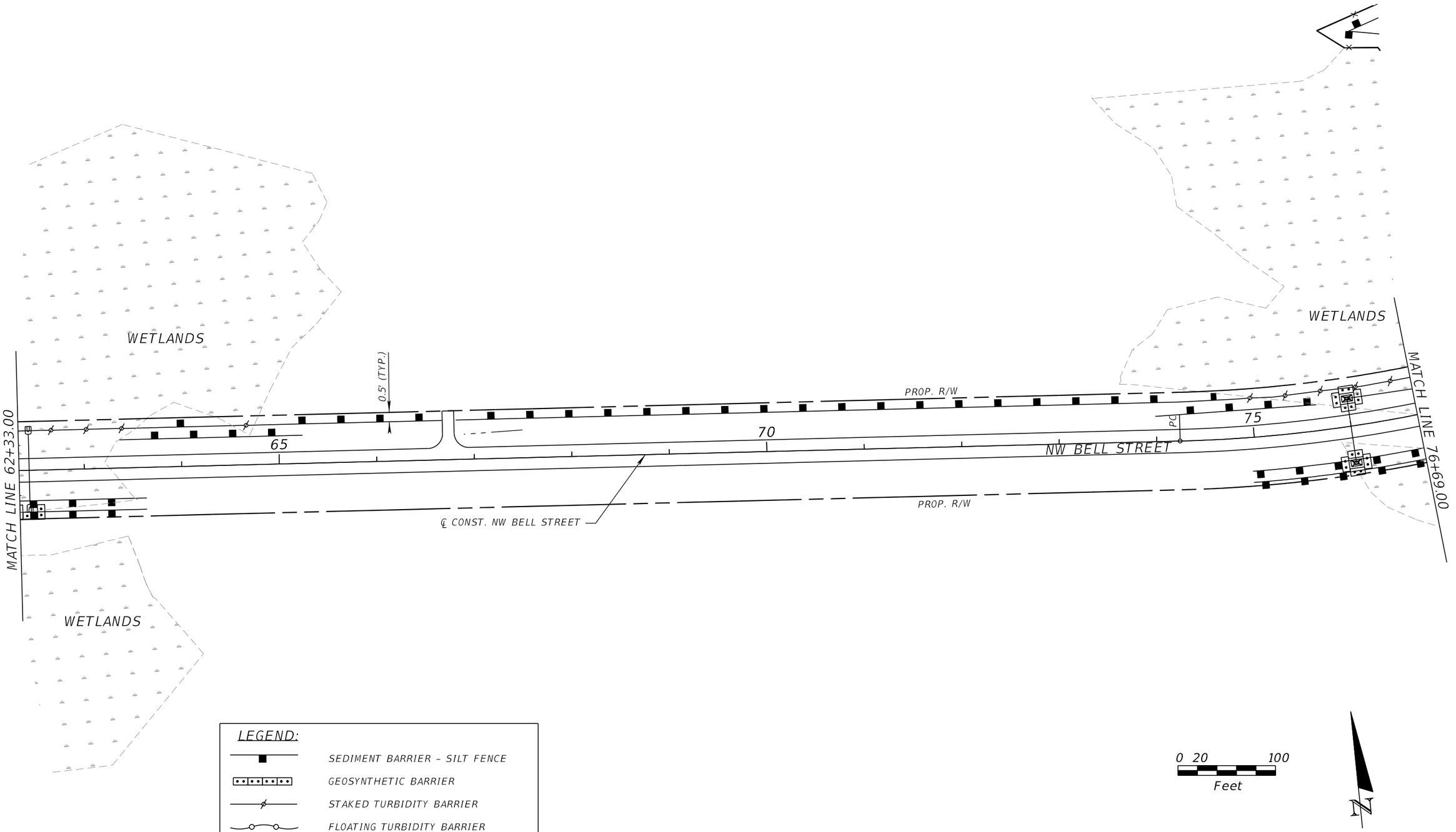

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REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	EROSION CONTROL PLAN STA 62+33.00 TO 76+69.00	SHEET NO. 64

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0 20 100
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805

℄ CONST. WDA 3

WDA 3

PI

PROP. R/W

PROP. R/W

WETLANDS

PT

80

85

PROP. R/W

0.5' (TYP.)

PC

PROP. R/W

℄ CONST. NW BELL STREET

WETLANDS

90

NW BELL STREET

PT

WETLANDS

MATCH LINE 91+52.00

MATCH LINE 76+69.00

STA. 81+30.00 ℄ CONST. NW BELL STREET =
STA. 300+00.00 ℄ CONST. WDA 3

LEGEND:

- SEDIMENT BARRIER - SILT FENCE
- GEOSYNTHETIC BARRIER
- STAKED TURBIDITY BARRIER
- FLOATING TURBIDITY BARRIER

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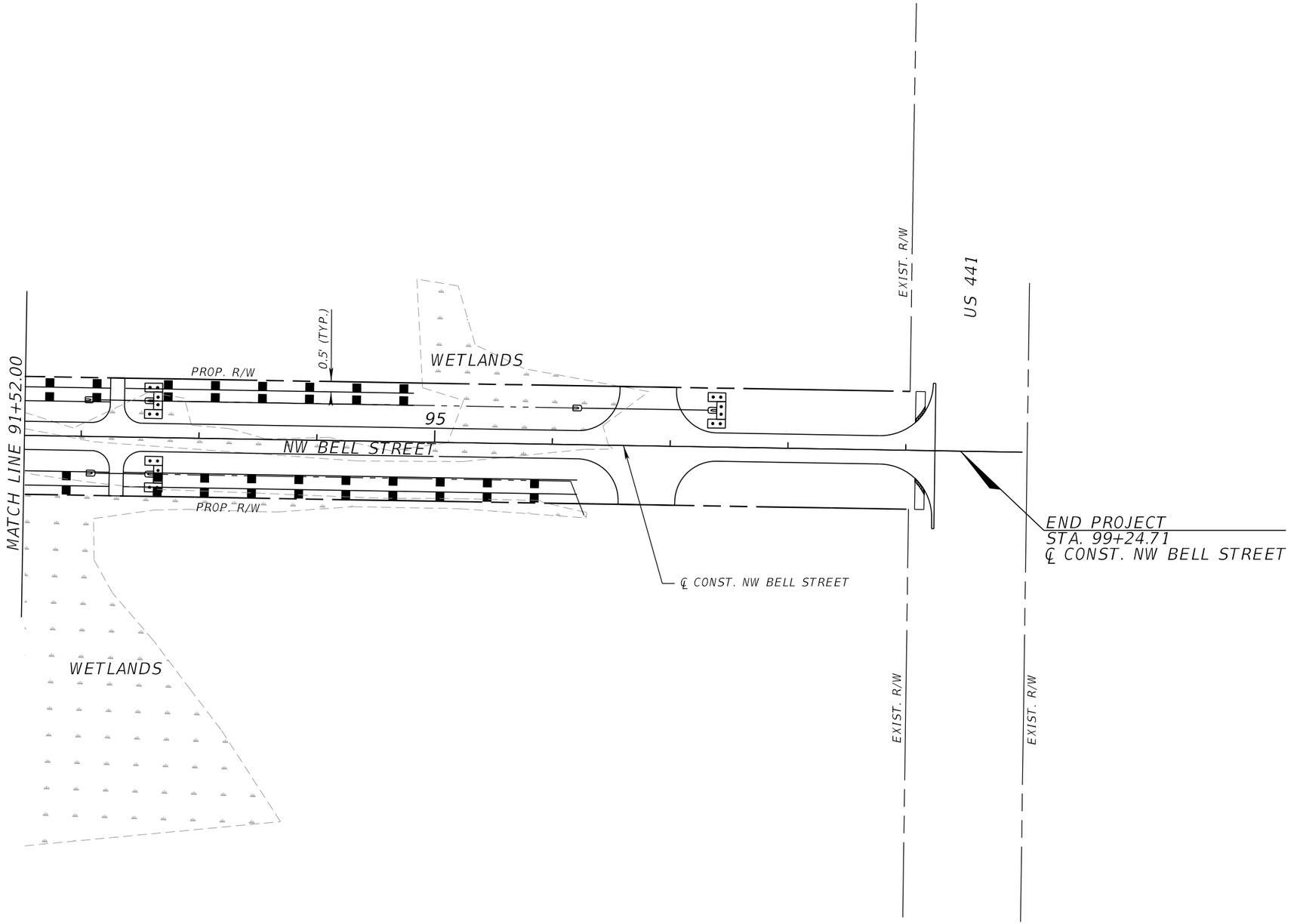

LEGEND:

- SEDIMENT BARRIER - SILT FENCE
- GEOSYNTHETIC BARRIER
- STAKED TURBIDITY BARRIER
- FLOATING TURBIDITY BARRIER

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DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

EROSION CONTROL PLAN
STA 91+52.00 TO 99+24.71

SHEET NO. 66

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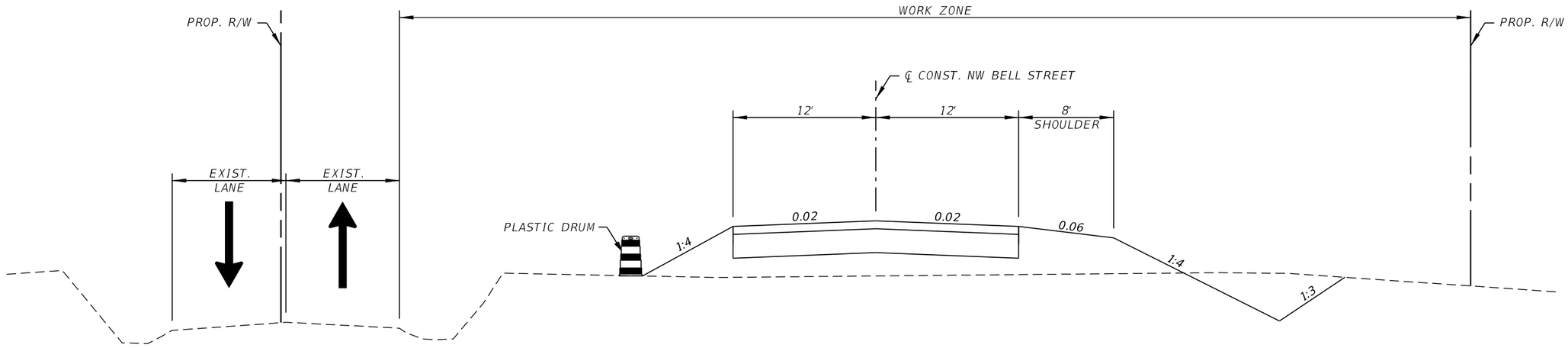

PHASE 1 TYPICAL SECTION
NW BELL STREET
STA. 16+75.36 TO STA. 41+00

DESIGN SPEED = 15 MPH

PHASE 1

1. INSTALL ADVANCE WARNING DEVICES UTILIZING FDOT DESIGN STANDARD INDEX SERIES 600.
2. PLACE EROSION CONTROL DEVICES.
3. CR 25A AND NW BELL STREET WILL HAVE AN APPROVED WORK ZONE THAT REQUIRES LANE CLOSURES. LANE CLOSURES WILL ONLY OCCUR DURING HOURS "APPROVED" BY COLUMBIA COUNTY.
4. TEMPORARY TRAVEL LANES WILL BE CONSTRUCTED FOR USE IN PHASE 2.
5. CONSTRUCT TO THE LIMITS SHOWN IN THE PHASE 1 PLANS.
6. BEGIN CONSTRUCTION OF PONDS WDA 2 AND WDA 3.

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

MAINTENANCE OF TRAFFIC PHASE 1

SHEET NO. 67

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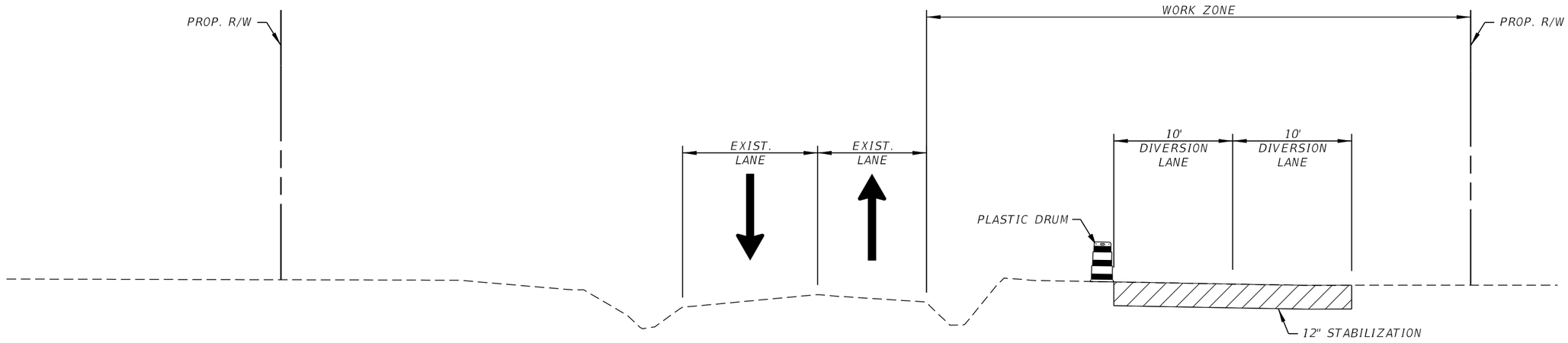

PHASE 1 TYPICAL SECTION
NW BELL STREET
STA. 41+00 TO STA. 53+00
STA. 65+00 TO STA. 93+00

DESIGN SPEED = 15 MPH

PHASE 1

1. INSTALL ADVANCE WARNING DEVICES UTILIZING FDOT DESIGN STANDARD INDEX SERIES 600.
2. PLACE EROSION CONTROL DEVICES.
3. CR 25A AND NW BELL STREET WILL HAVE AN APPROVED WORK ZONE THAT REQUIRES LANE CLOSURES. LANE CLOSURES WILL ONLY OCCUR DURING HOURS "APPROVED" BY COLUMBIA COUNTY.
4. TEMPORARY TRAVEL LANES WILL BE CONSTRUCTED FOR USE IN PHASE 2.
5. CONSTRUCT TO THE LIMITS SHOWN IN THE PHASE 1 PLANS.
6. BEGIN CONSTRUCTION OF PONDS WDA 2 AND WDA 3.

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REVISIONS	
DATE	DESCRIPTION

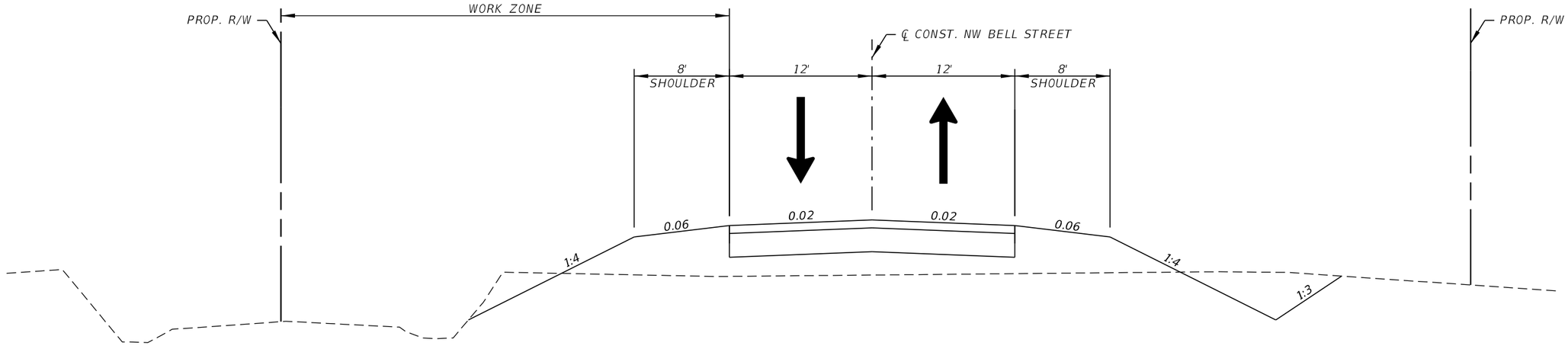
NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA
PROJECT ID:

MAINTENANCE OF TRAFFIC PHASE 1

SHEET NO. 68



PHASE 2 TYPICAL SECTION
NW BELL STREET
STA. 16+25.36 TO STA. 41+00

DESIGN SPEED = 15 MPH

PHASE 2

1. ADJUST / INSTALL ADVANCE WARNING DEVICES AND EROSION CONTROL DEVICES.
2. US 441 AND NW BELL STREET WILL HAVE AN APPROVED WORK ZONE THAT REQUIRES LANE CLOSURES. LANE CLOSURES WILL ONLY OCCUR DURING HOURS "APPROVED" BY COLUMBIA COUNTY.
3. TRAFFIC WILL REMAIN ON EXISTING ROAD AND WILL DIVERT TO TEMPORARY TRAVEL LANES WHERE APPLICABLE. SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED ROADWAY AND DIVERSIONS. TRAFFIC WILL DIVERT FROM TEMPORARY TRAVEL LANE TO THE PROPOSED ROADWAY FROM PREVIOUS PHASE.
4. CONSTRUCTION WILL CONSIST OF PROPOSED ROADWAY, DITCHES, DRAINAGE, AND WDA 3 UNTIL MINIMUM CLEAR ZONE OFFSET IS REACHED FROM EXISTING ROADWAY.
5. REMAINING PORTION OF ROADWAY, DITCHES, AND DRAINAGE FROM PHASE 1 SHALL BE CONSTRUCTED ONCE TRAFFIC IS PLACED ON NEWLY CONSTRUCTED ROADWAY.

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY: COLUMBIA

PROJECT ID:

MAINTENANCE OF TRAFFIC PHASE 2

SHEET NO. 69

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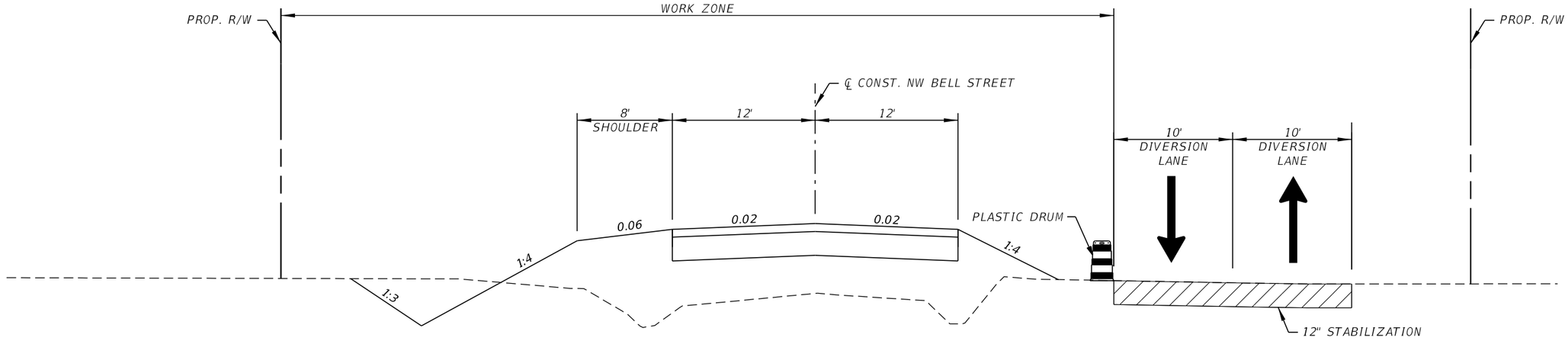

PHASE 2 TYPICAL SECTION
NW BELL STREET
STA. 41+00 TO STA. 93+00

DESIGN SPEED = 15 MPH

PHASE 2

1. ADJUST / INSTALL ADVANCE WARNING DEVICES AND EROSION CONTROL DEVICES.
2. US 441 AND NW BELL STREET WILL HAVE AN APPROVED WORK ZONE THAT REQUIRES LANE CLOSURES. LANE CLOSURES WILL ONLY OCCUR DURING HOURS "APPROVED" BY COLUMBIA COUNTY.
3. TRAFFIC WILL REMAIN ON EXISTING ROAD AND WILL DIVERT TO TEMPORARY TRAVEL LANES WHERE APPLICABLE. SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED ROADWAY AND DIVERSIONS. TRAFFIC WILL DIVERT FROM TEMPORARY TRAVEL LANE TO THE PROPOSED ROADWAY FROM PREVIOUS PHASE.
4. CONSTRUCTION WILL CONSIST OF PROPOSED ROADWAY, DITCHES, DRAINAGE, AND WDA 3 UNTIL MINIMUM CLEAR ZONE OFFSET IS REACHED FROM EXISTING ROADWAY.
5. REMAINING PORTION OF ROADWAY, DITCHES, AND DRAINAGE FROM PHASE 1 SHALL BE CONSTRUCTED ONCE TRAFFIC IS PLACED ON NEWLY CONSTRUCTED ROADWAY.

PHASE 3

1. US 441 AND NW BELL STREET WILL HAVE AN APPROVED WORK ZONE THAT REQUIRES LANE CLOSURES. LANE CLOSURES WILL ONLY OCCUR DURING HOURS "APPROVED" BY COLUMBIA COUNTY.
2. REMAINING PORTION OF ROADWAY, DITCHES, AND DRAINAGE FROM PHASE 2 SHALL BE CONSTRUCTED ONCE TRAFFIC IS PLACED ON NEWLY CONSTRUCTED ROADWAY.

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO. 70

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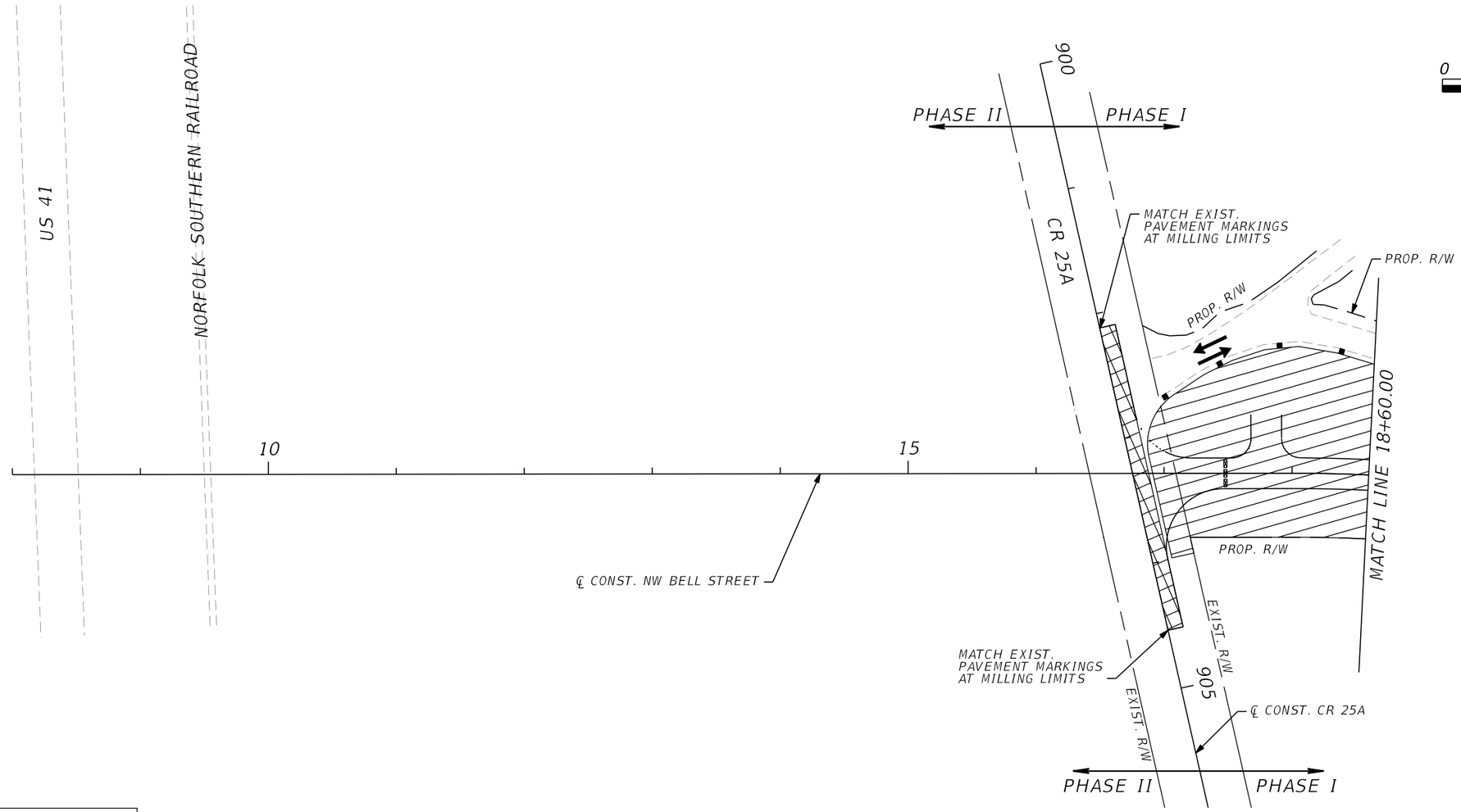

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		71
					PROJECT ID		

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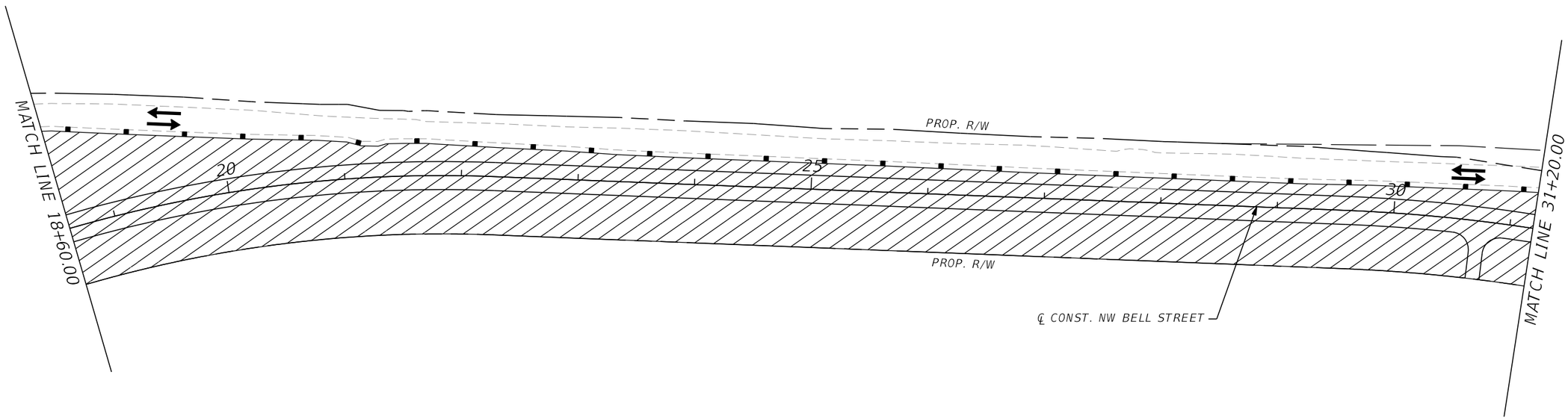

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		72
					PROJECT ID		

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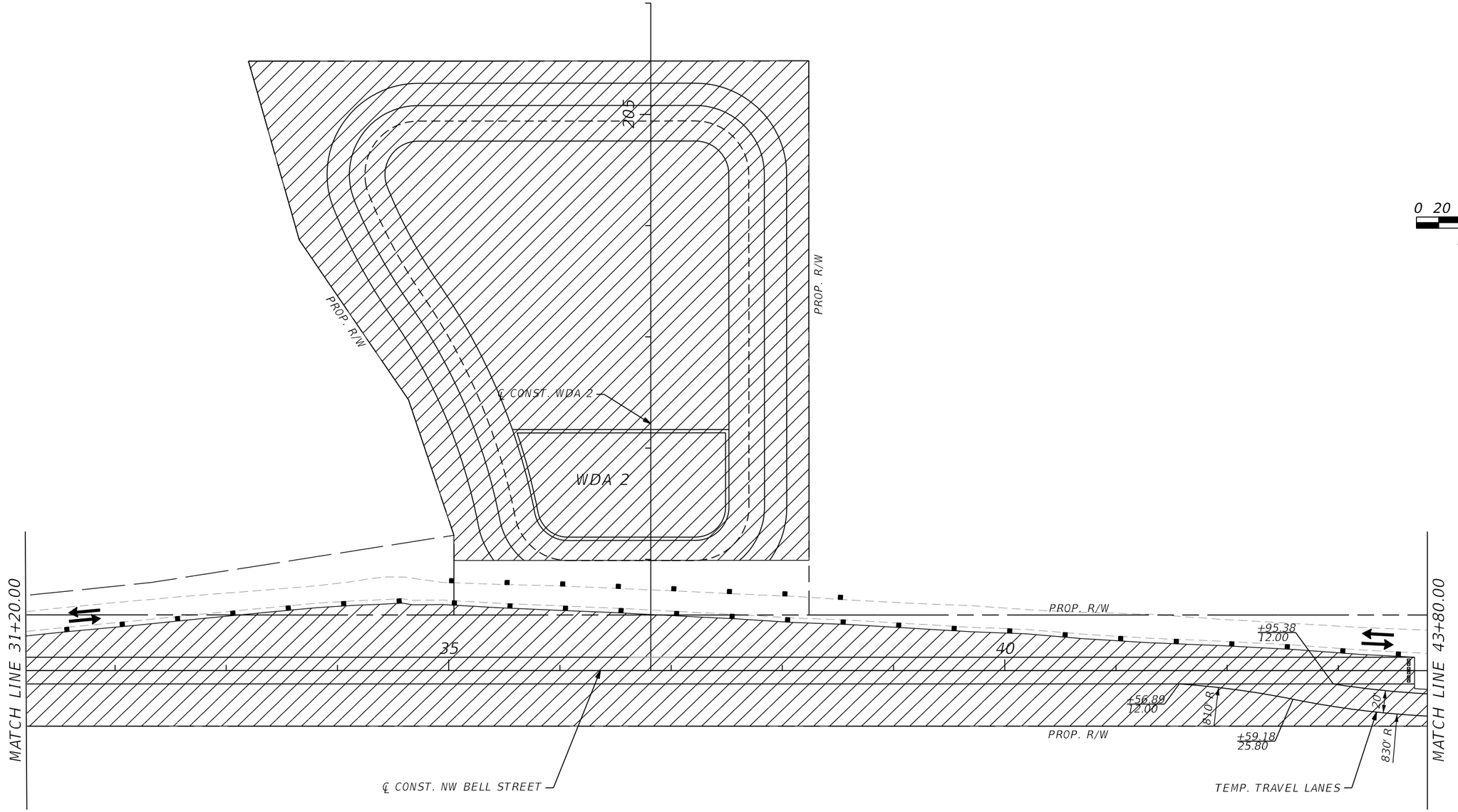

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0 20 100

Feet

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		73

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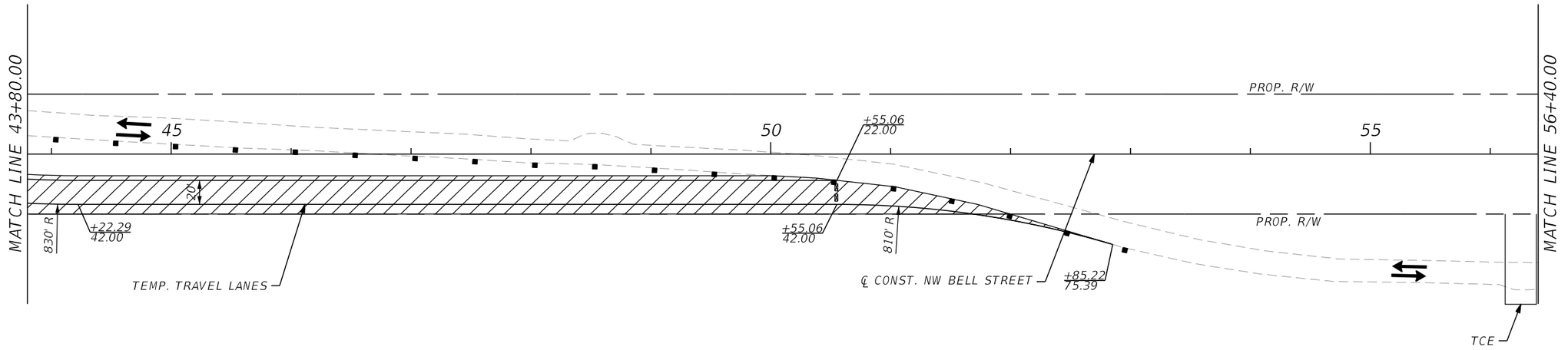

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		74
					PROJECT ID		

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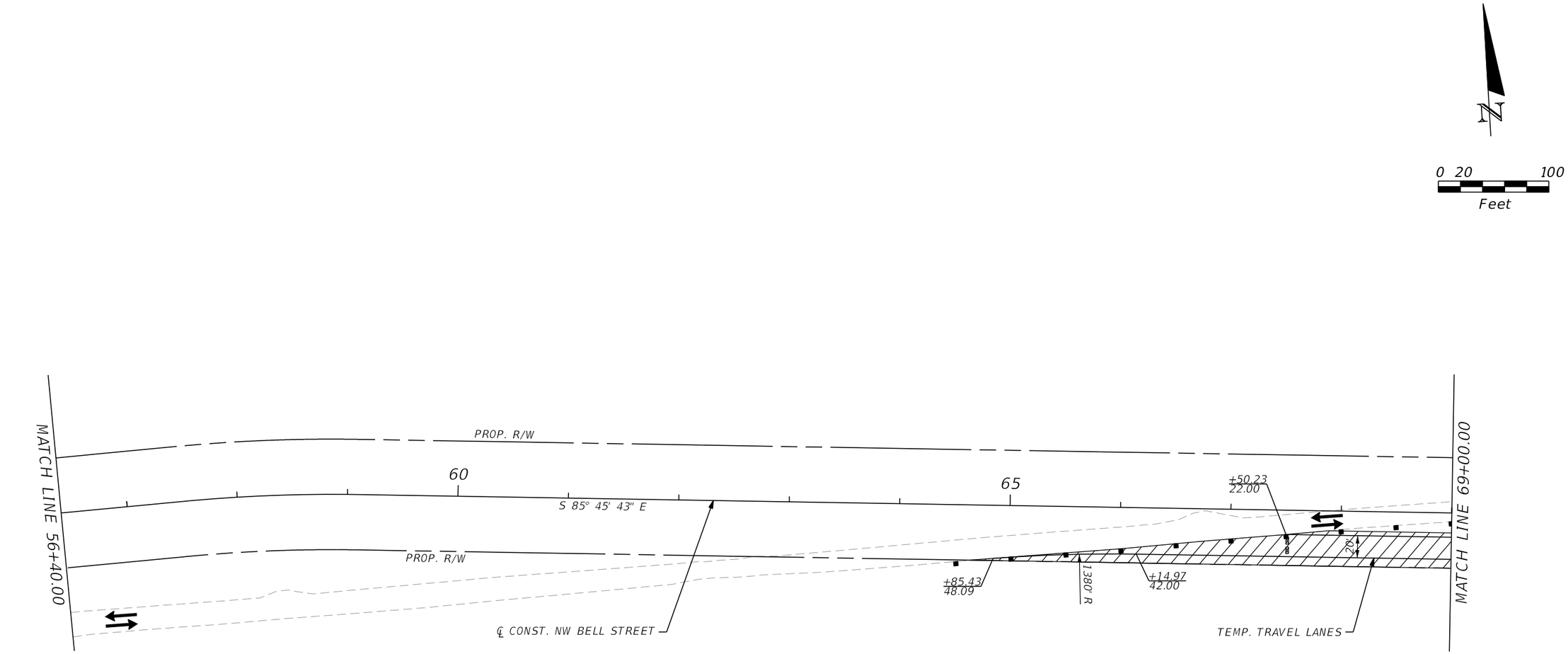

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO. 75

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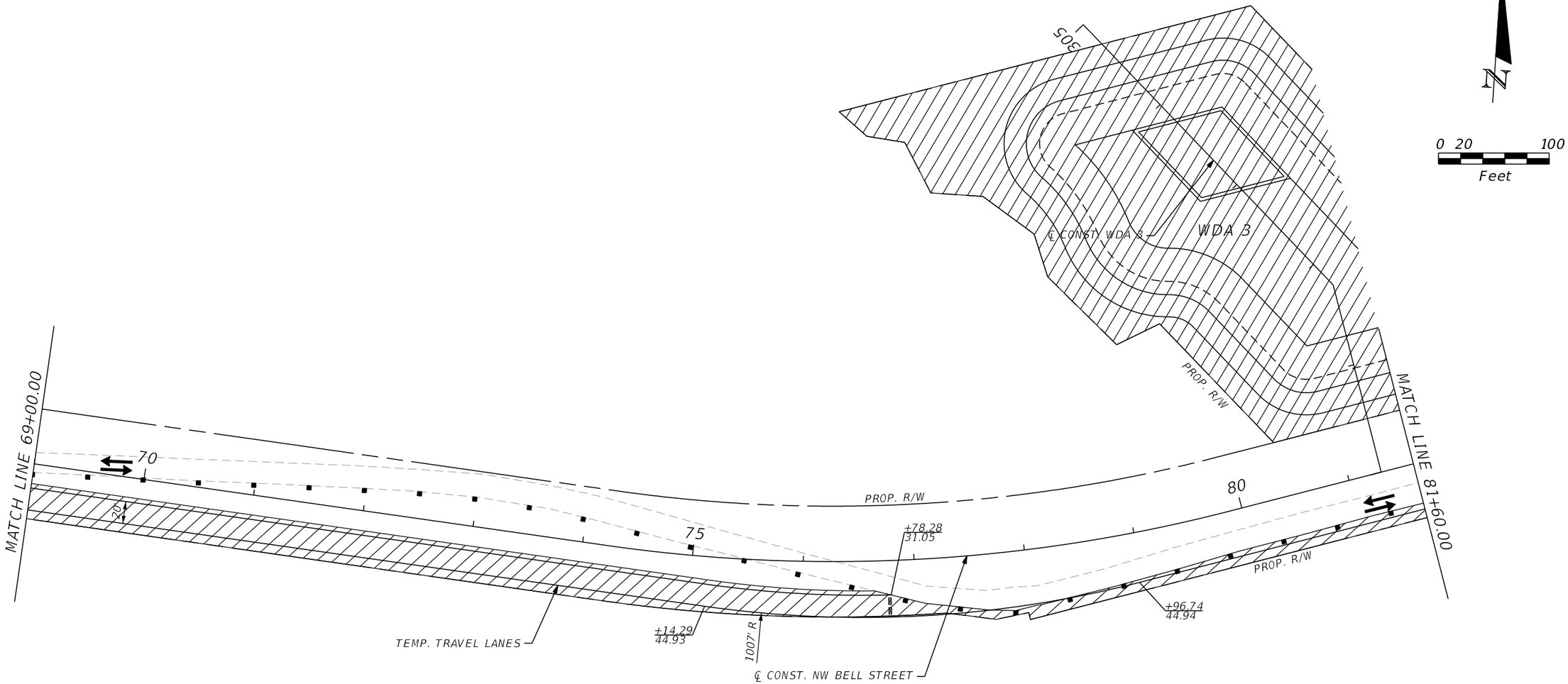

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO. 76

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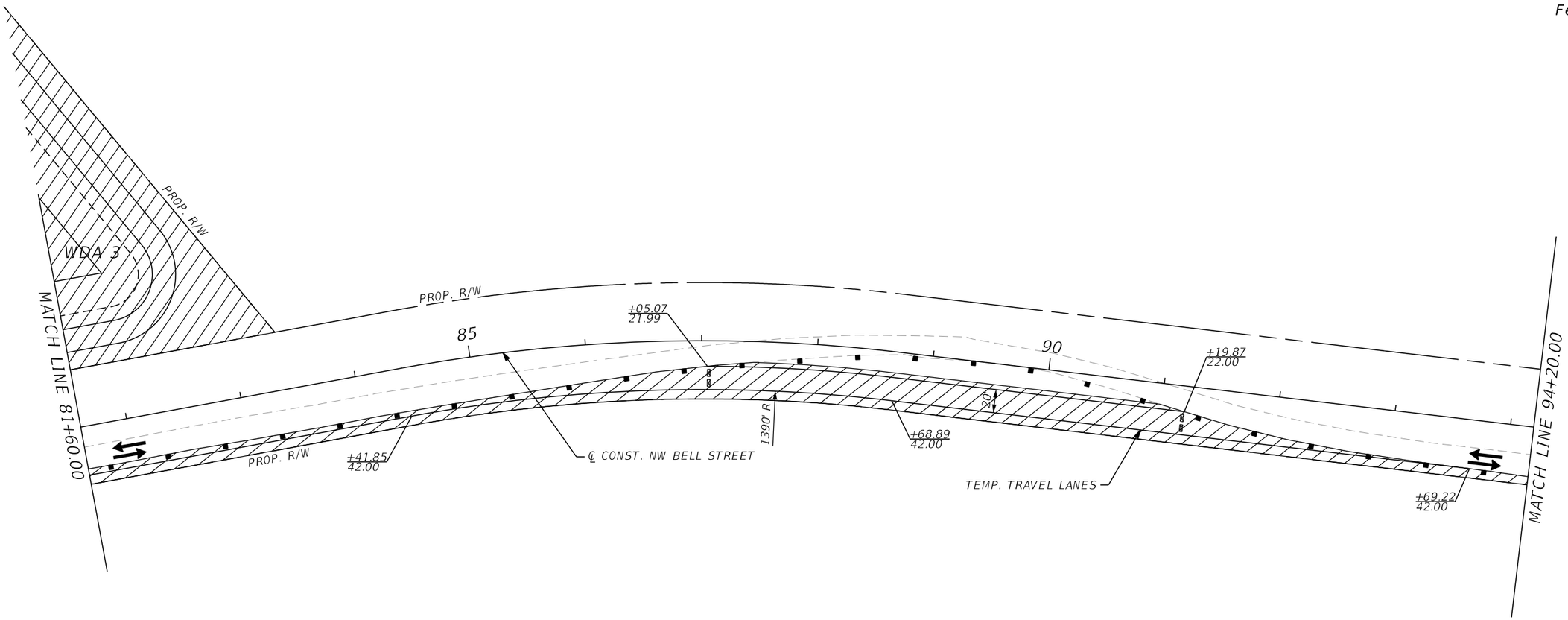

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO. 77

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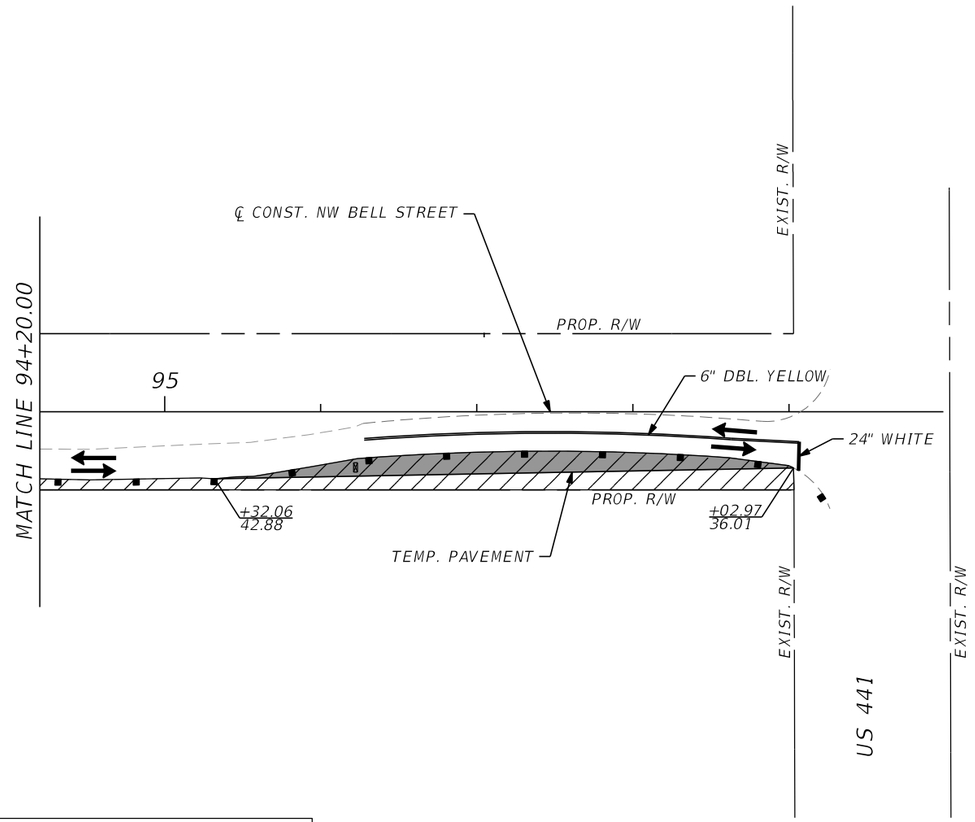

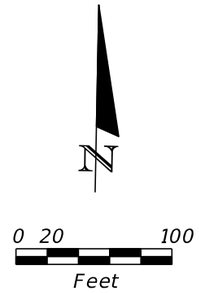

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 1	SHEET NO. 78

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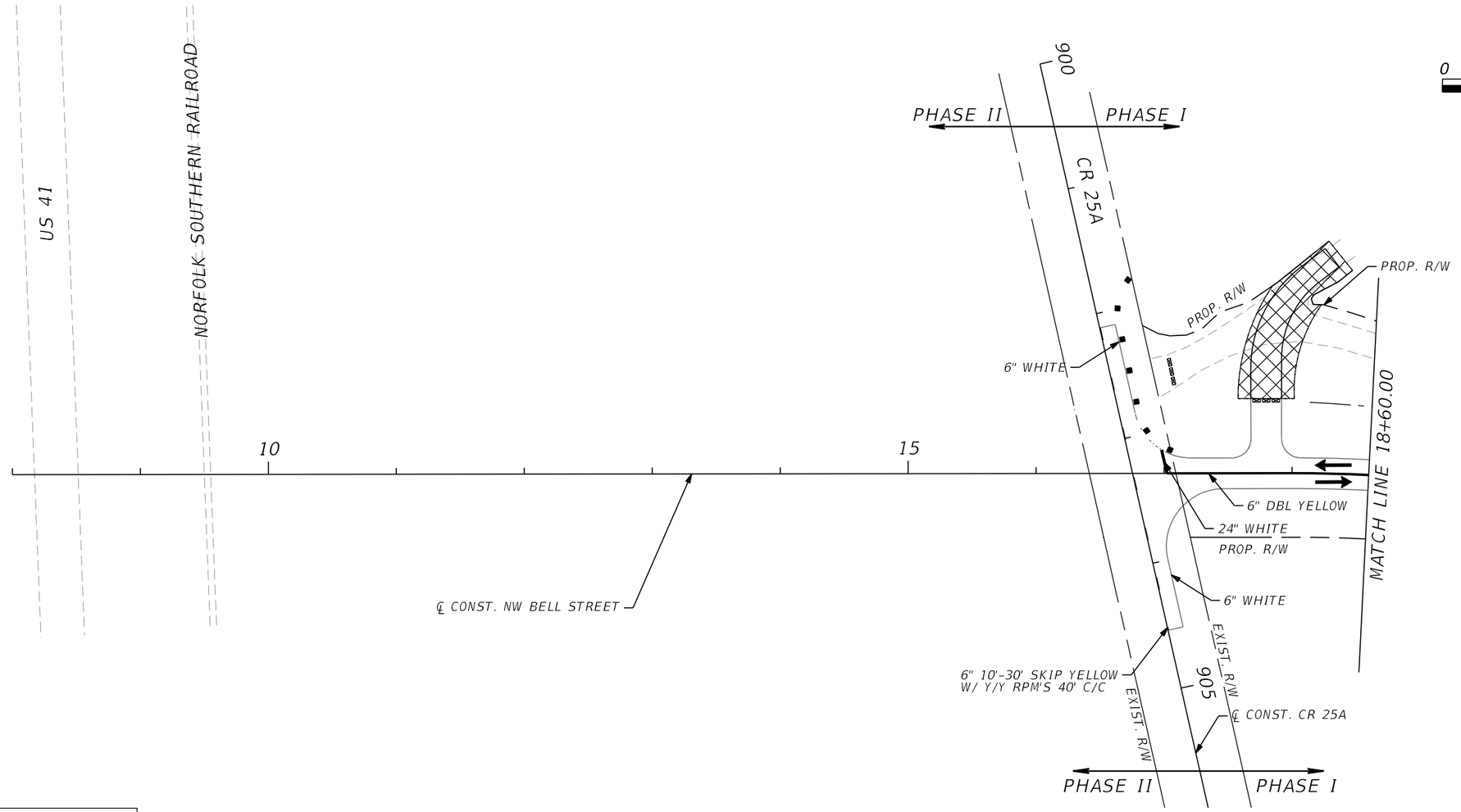

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS	
DATE	DESCRIPTION

NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)

ARCADIS
1650 Prudential Drive, Suite 400
Jacksonville, Florida 32207
T: 904 721 2991 | F: 904 861 2450
Certificate of Authorization No. 7917
Walter J. Nemecek, III, PE | No. 58122

COUNTY	SHEET NO.
COLUMBIA	79
PROJECT ID	

MAINTENANCE OF TRAFFIC PHASE 2

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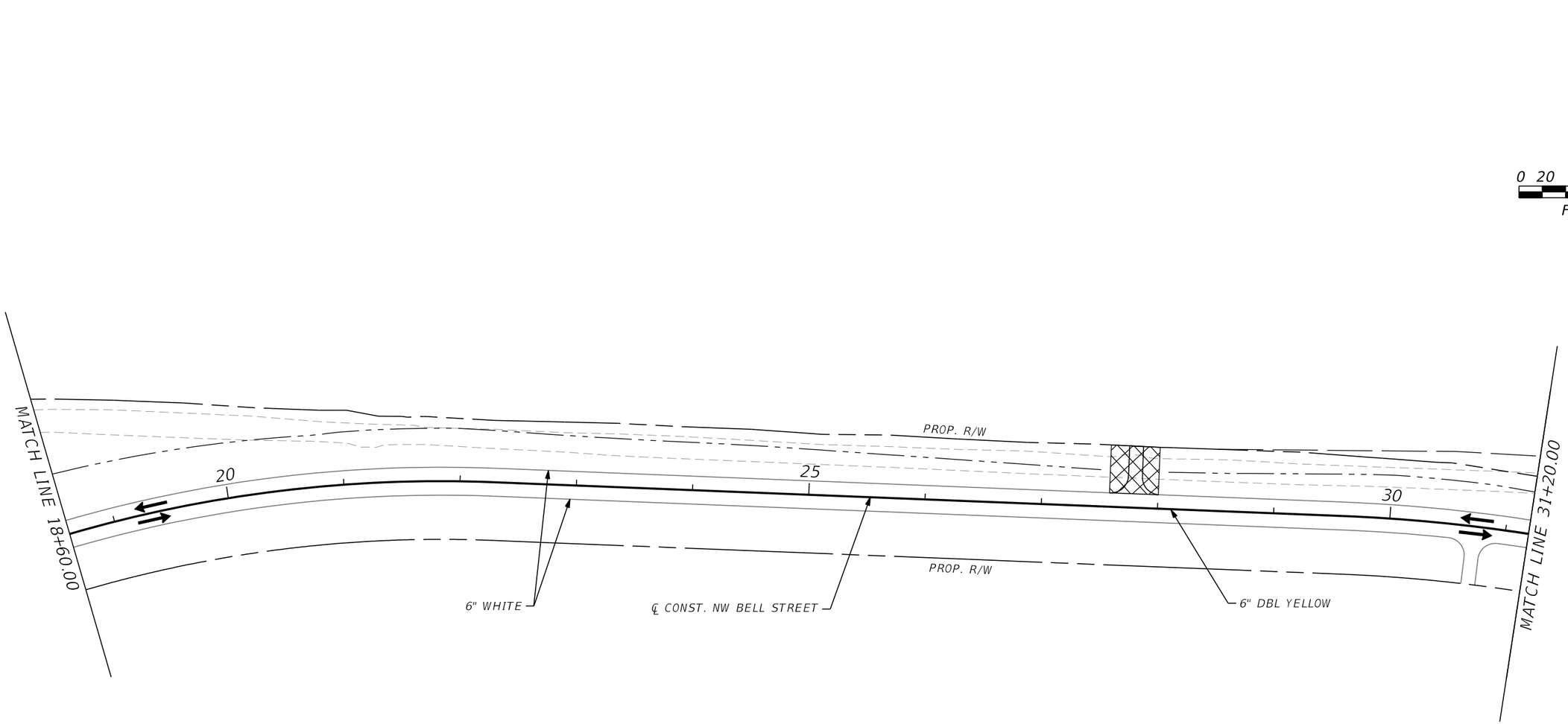

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		80
					PROJECT ID		

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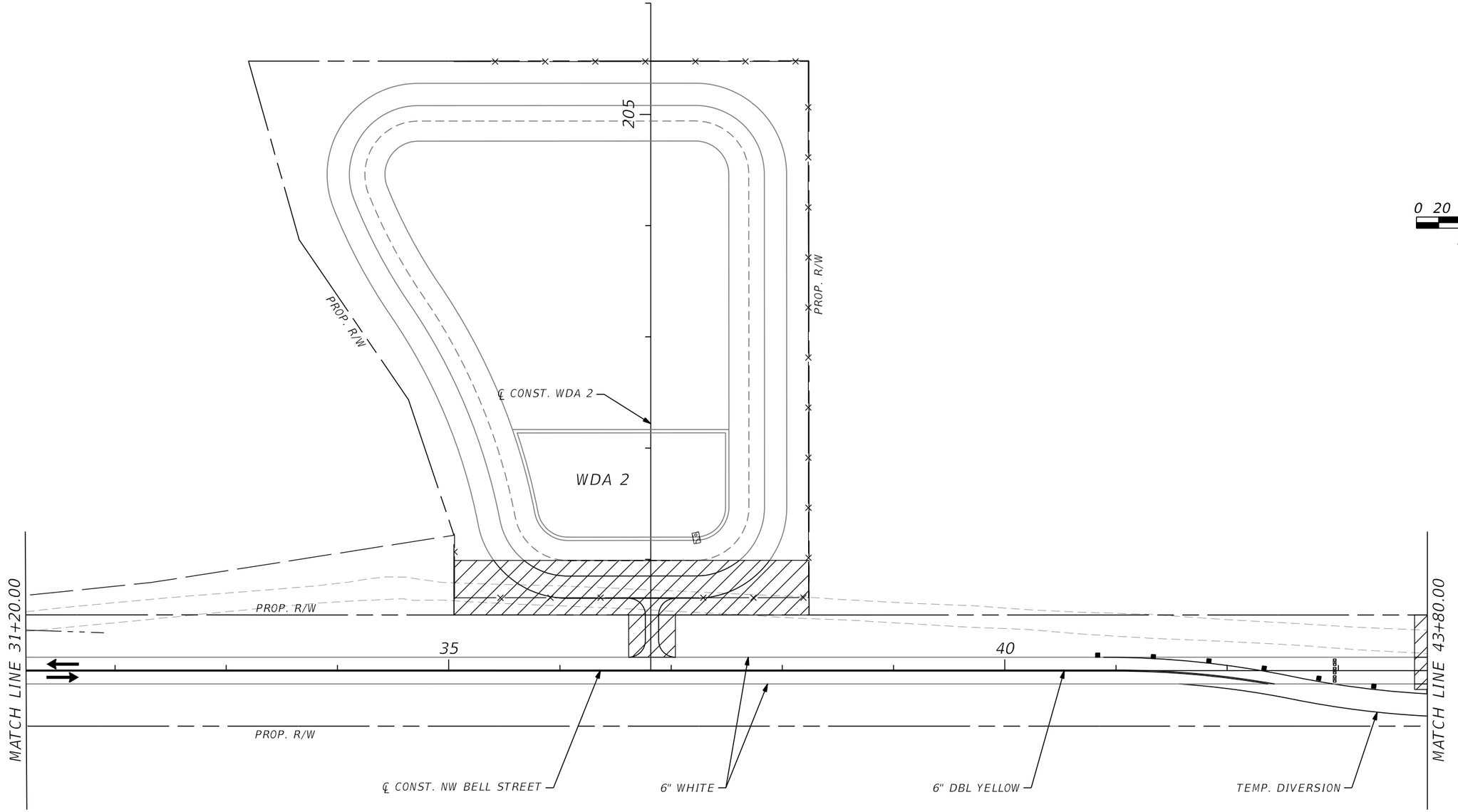

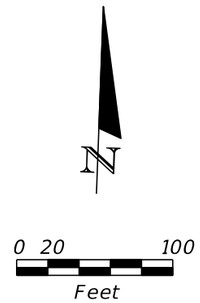

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO. 81

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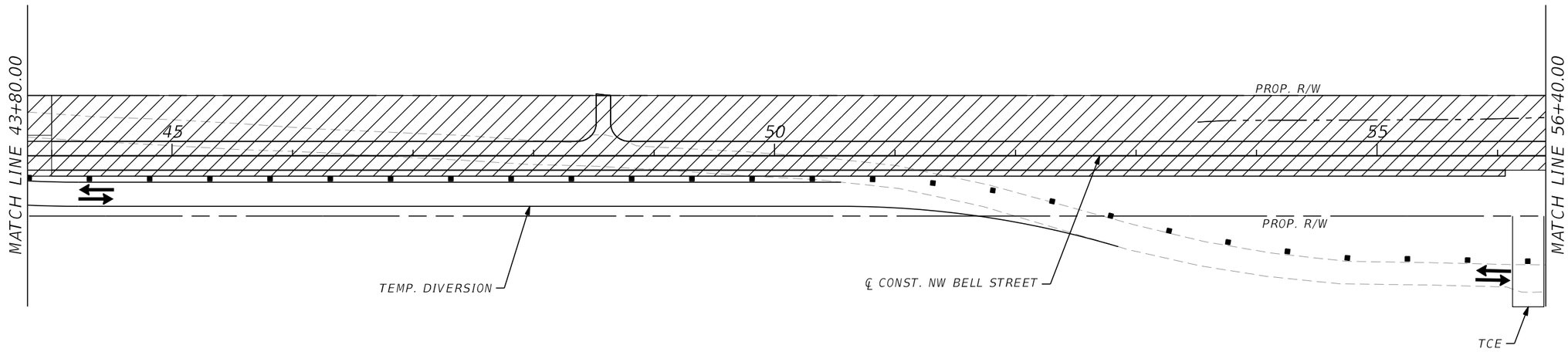

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS		NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		82

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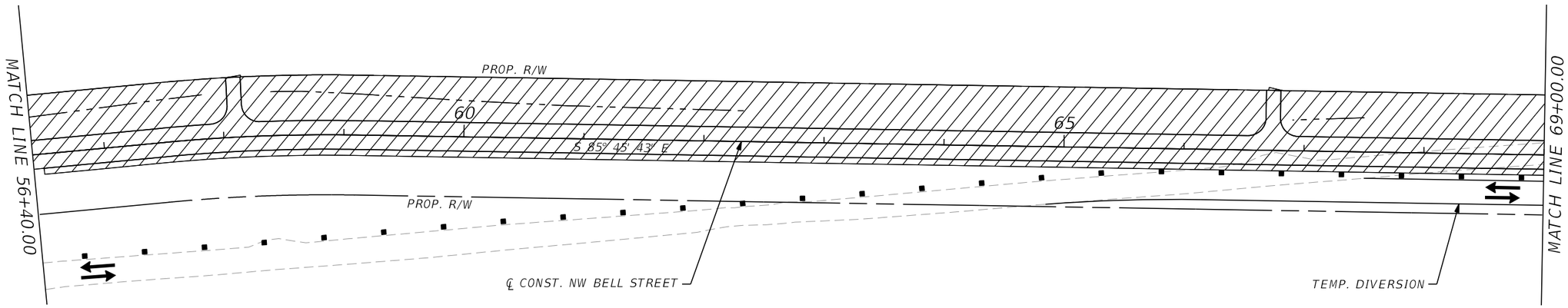

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Feet

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO. 83

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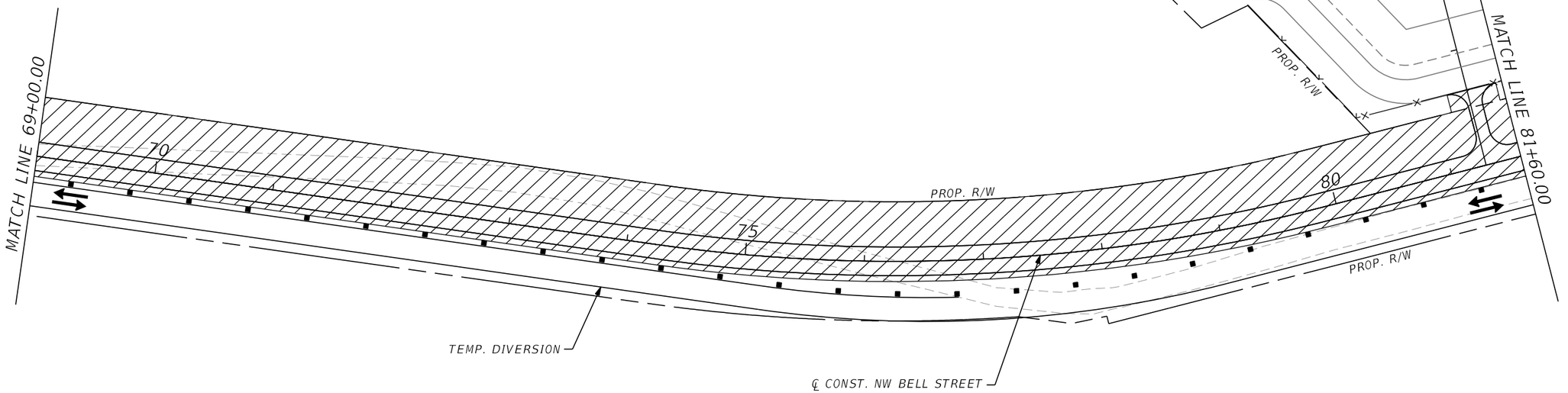

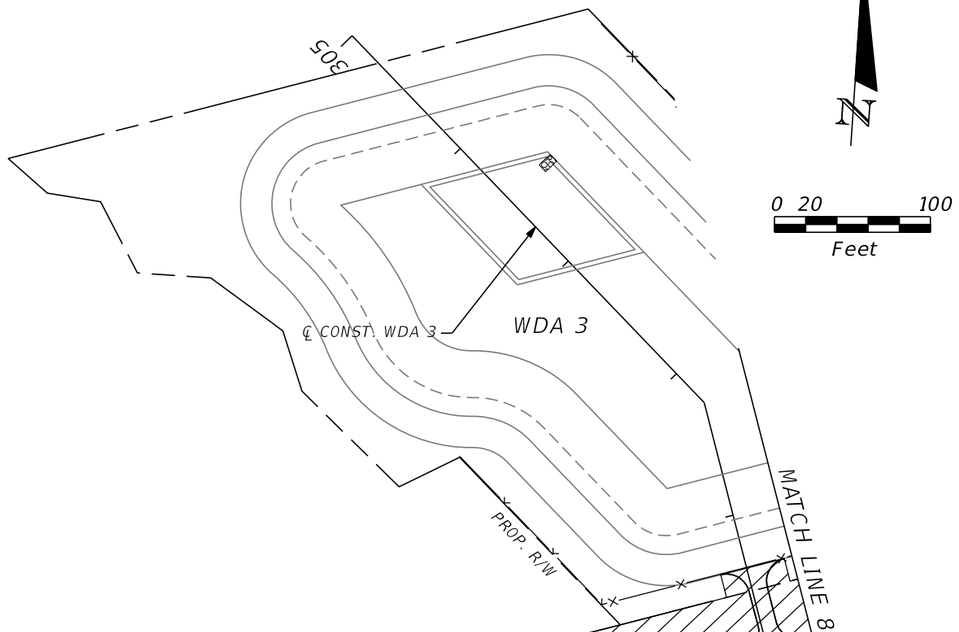

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO. 84

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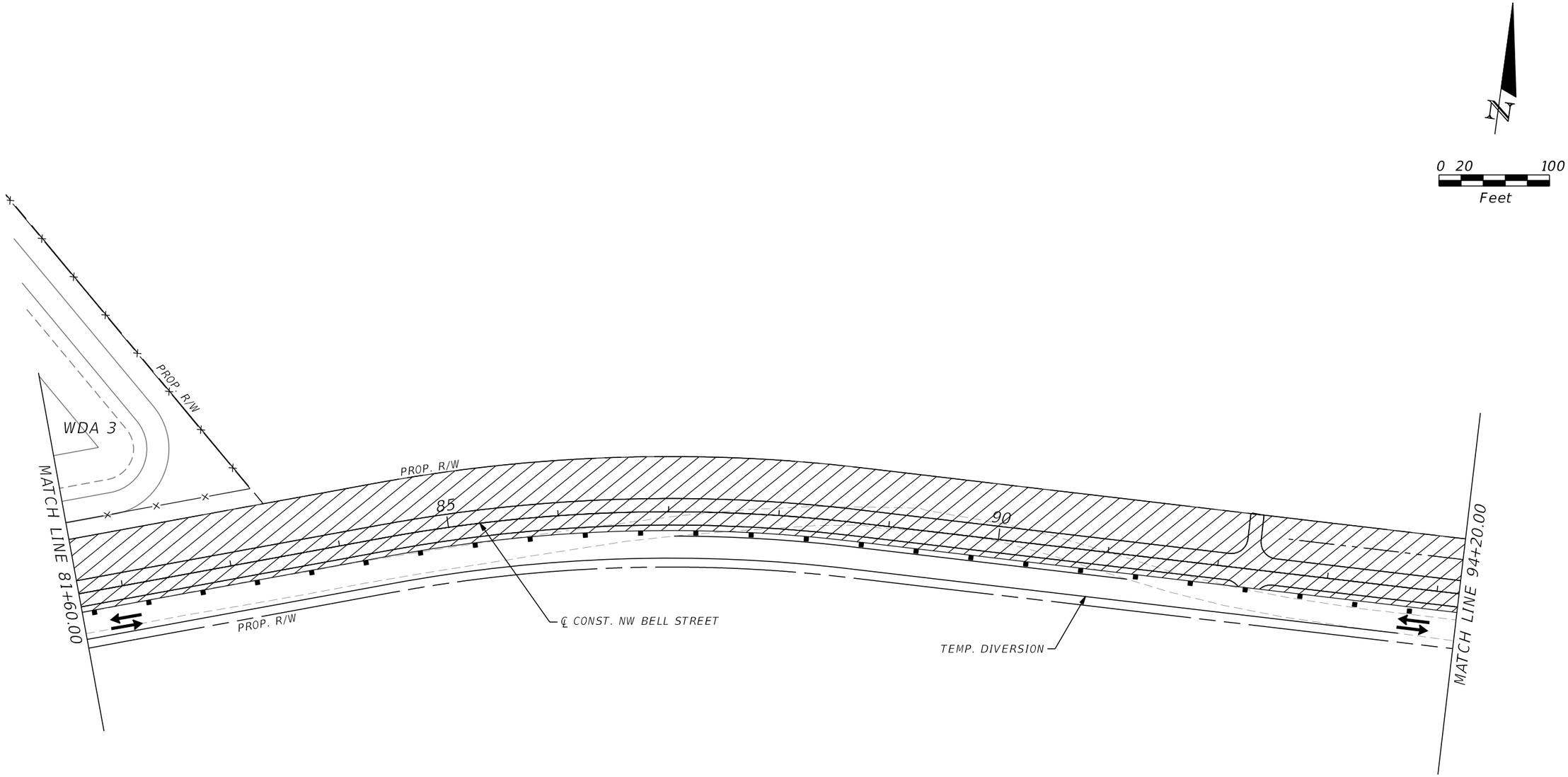

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
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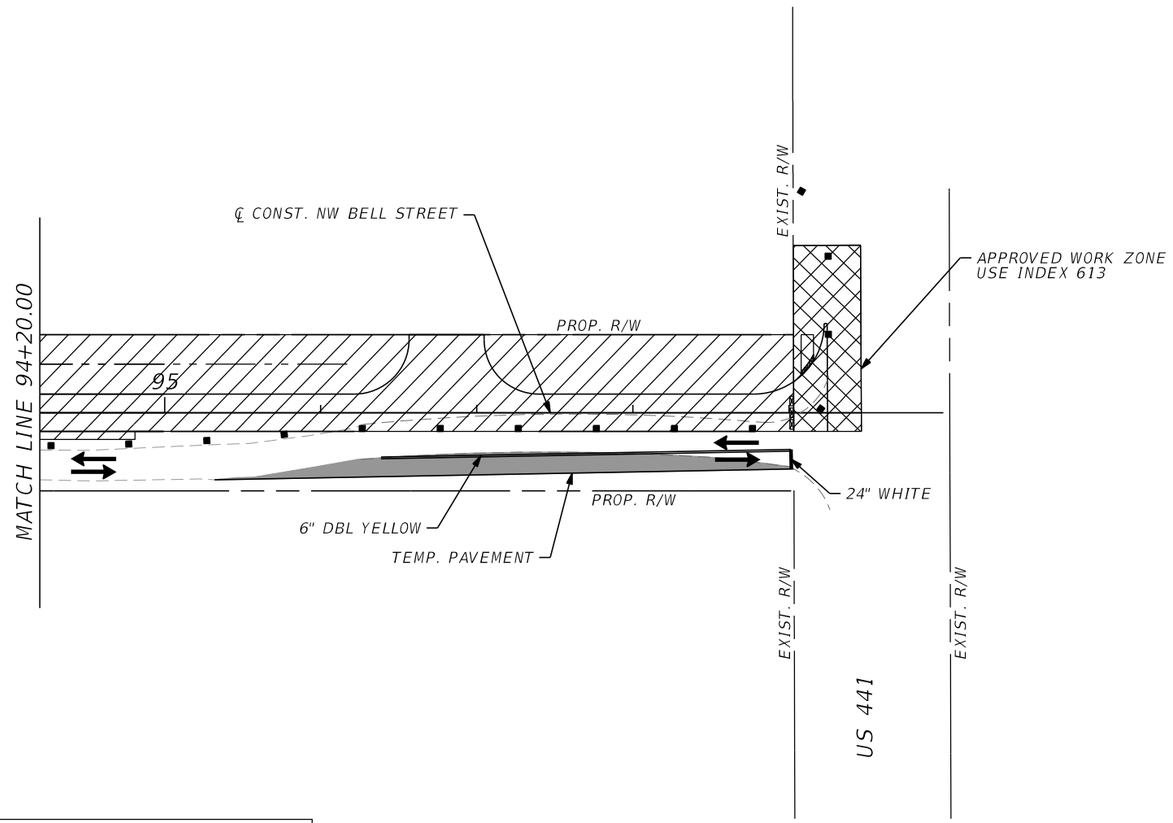

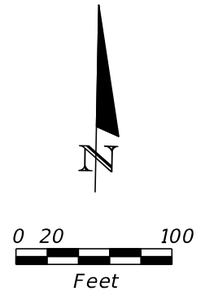

LEGEND:

- WORK ZONE
- APPROVED WORK ZONE
- TRAFFIC FLOW ARROW
- PLASTIC DRUM
- TYPE III BARRICADE

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DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (CR 25A TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	MAINTENANCE OF TRAFFIC PHASE 2	SHEET NO. 86

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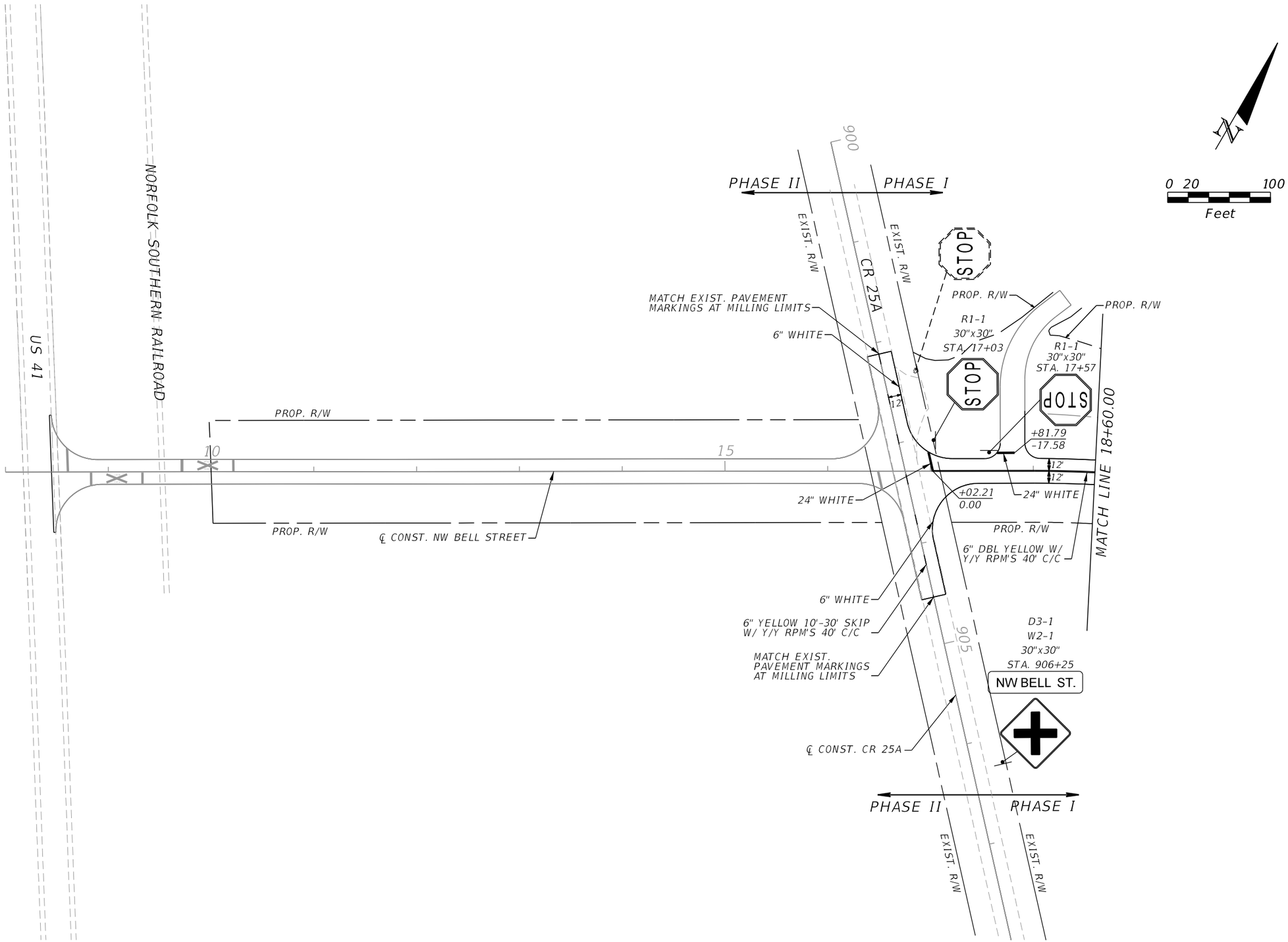

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REVISIONS					
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122	COUNTY: COLUMBIA PROJECT ID:	SIGNING AND MARKING PLAN STA. 16+75.36 TO STA. 18+60.00	SHEET NO. 87

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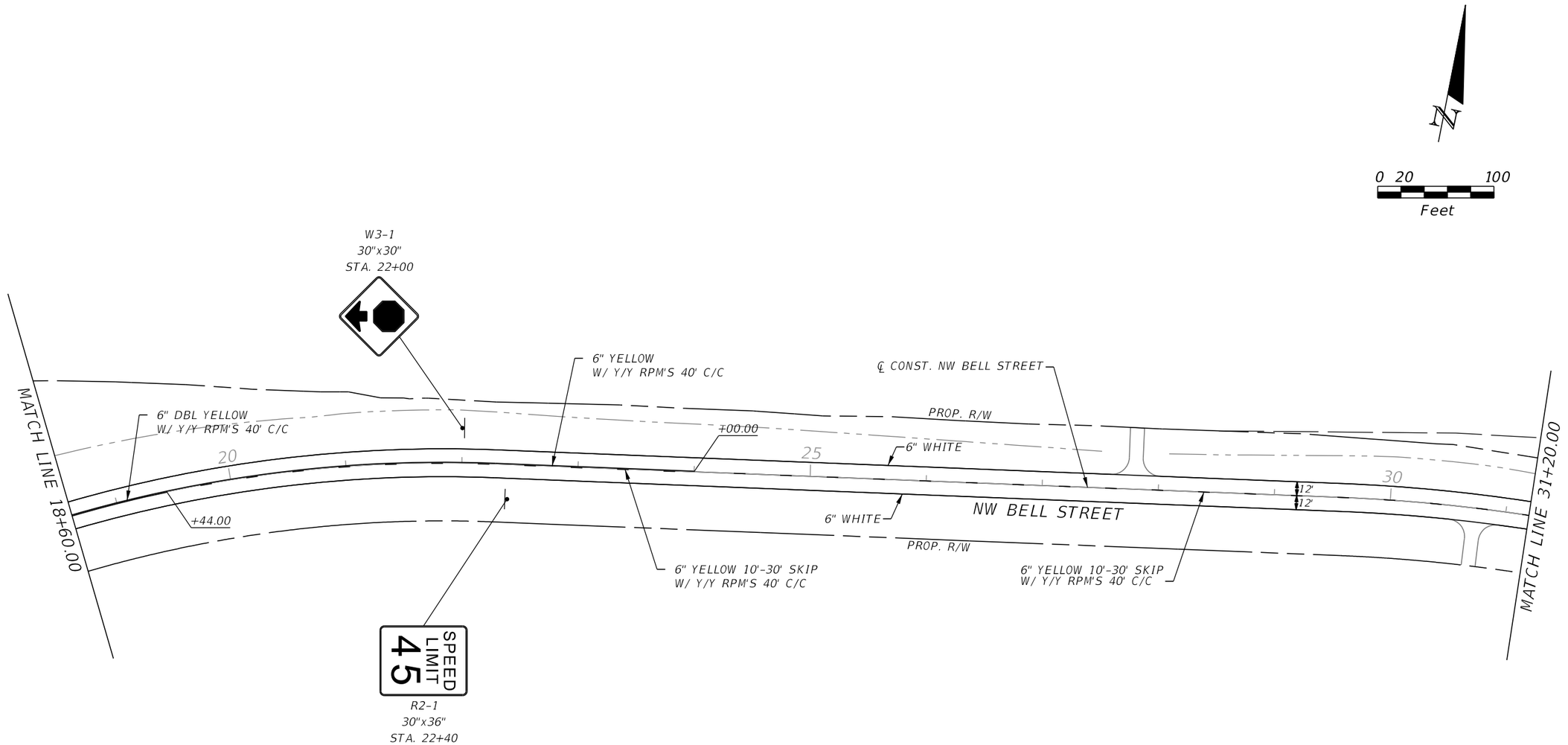

REVISIONS		NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY	SIGNING AND MARKING PLAN STA. 18+60.00 TO STA. 31+20.00	SHEET NO.
DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		88

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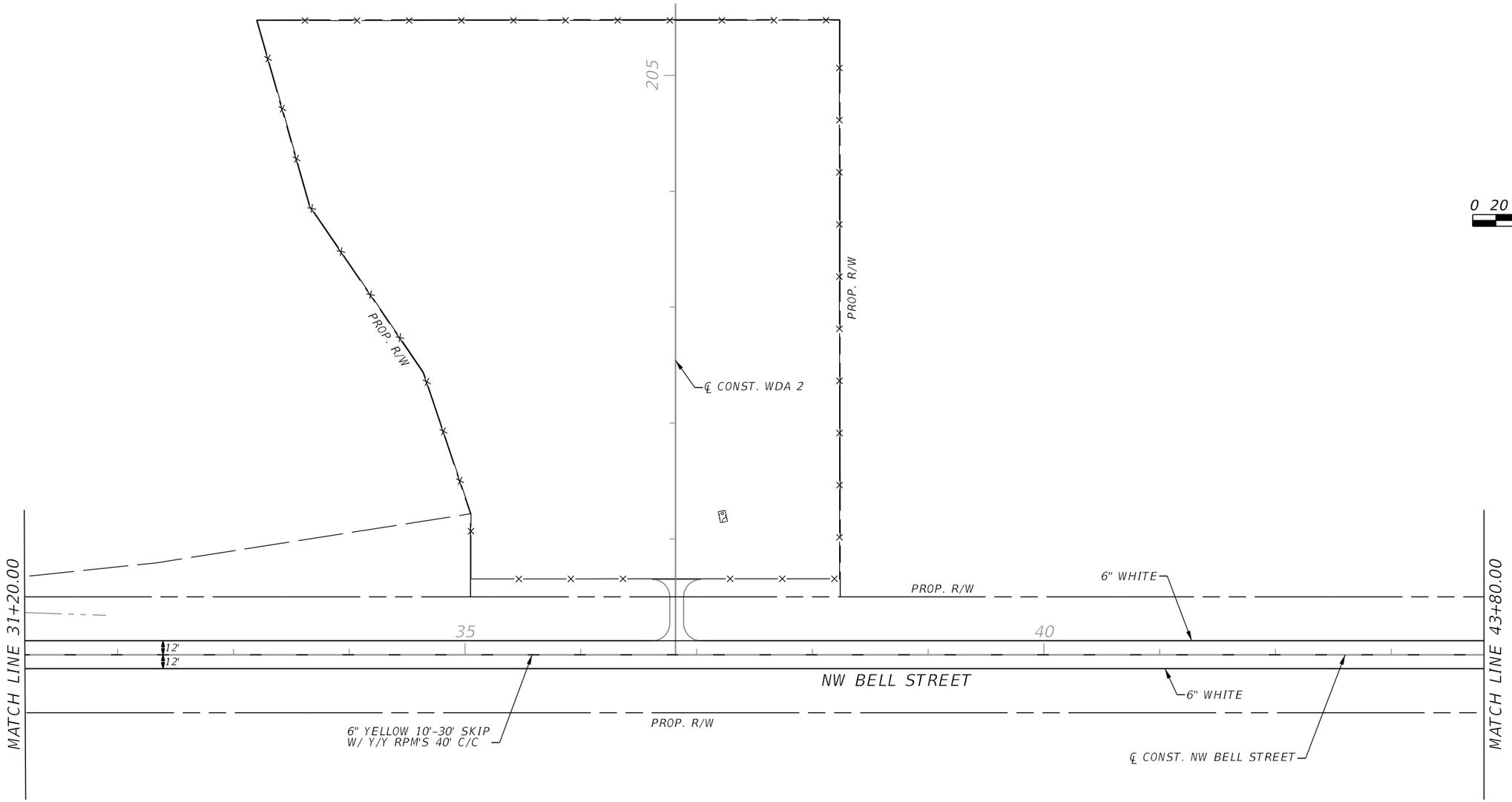

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REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY COLUMBIA PROJECT ID	SIGNING AND MARKING PLAN STA. 31+20.00 TO STA. 43+80.00	SHEET NO. 89

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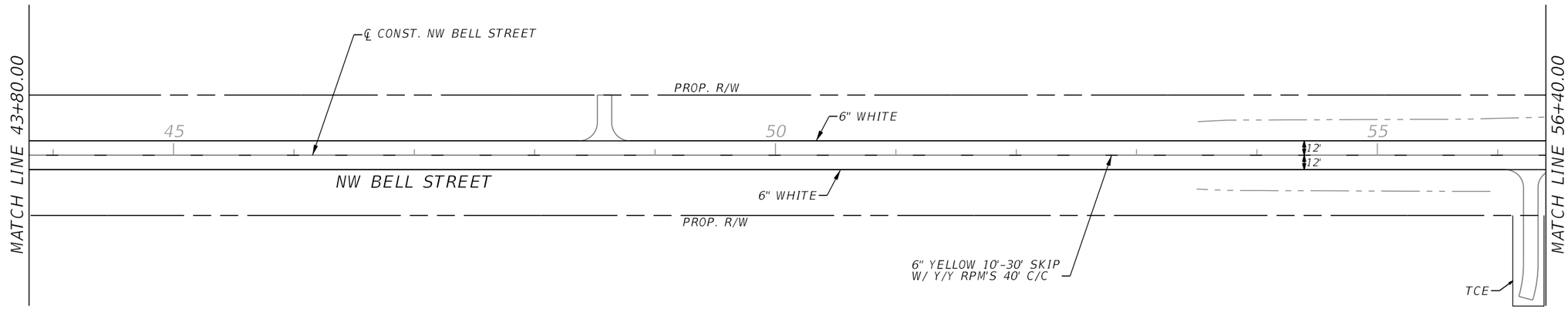

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Feet

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REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY COLUMBIA PROJECT ID	SIGNING AND MARKING PLAN STA. 43+80.00 TO STA. 56+40.00	SHEET NO. 90

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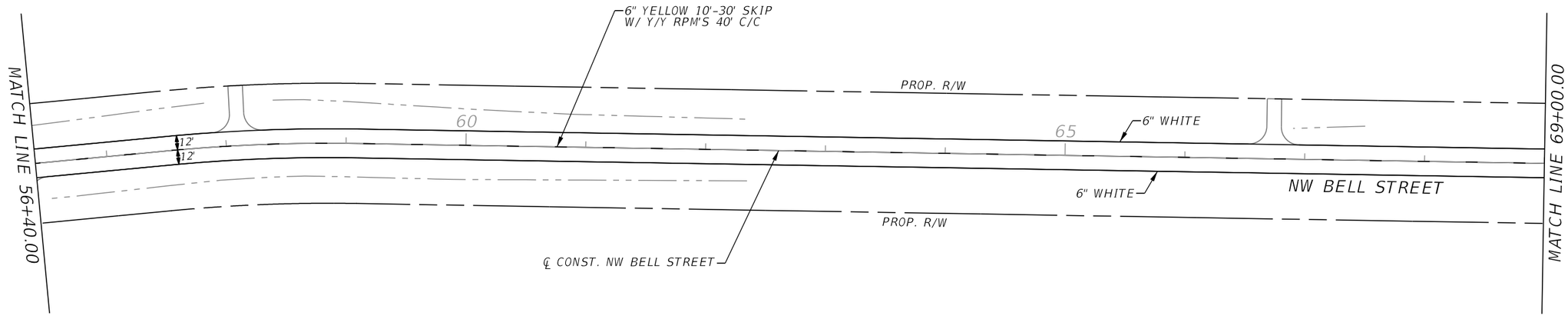

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0 20 100

Feet

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REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY COLUMBIA PROJECT ID	SIGNING AND MARKING PLAN STA. 56+40.00 TO STA. 69+00.00	SHEET NO. 91

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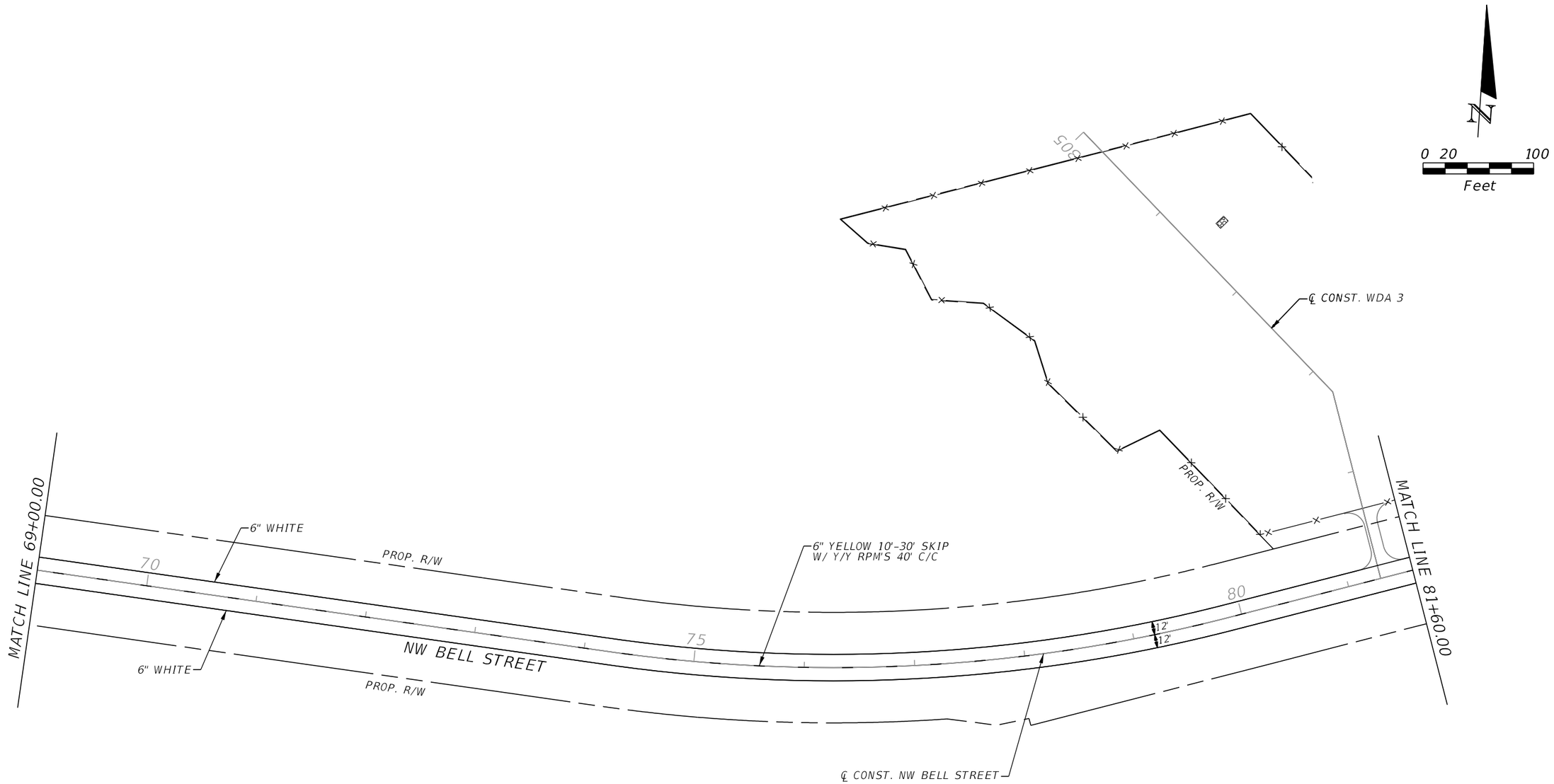

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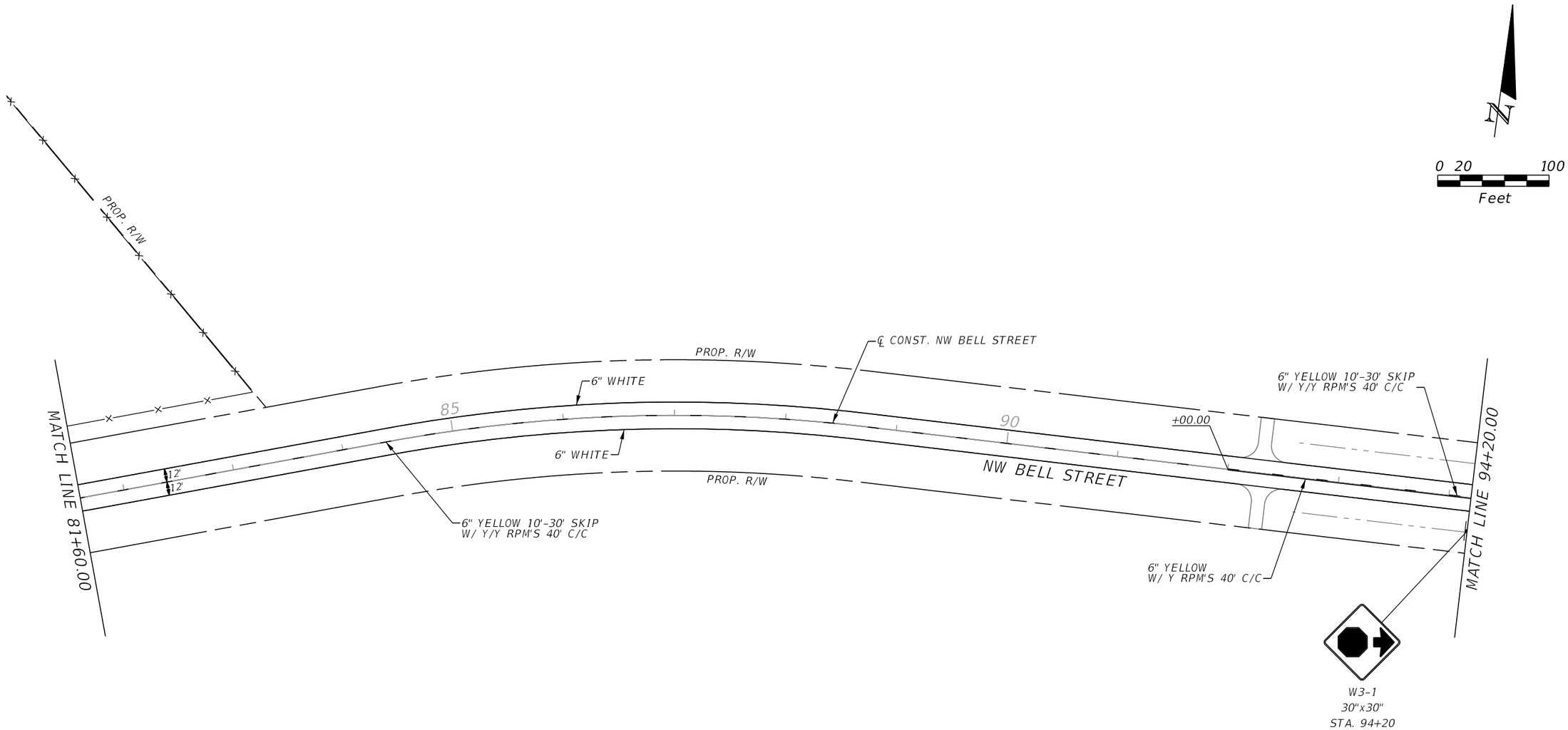

REVISIONS						
DATE	DESCRIPTION	NW BELL STREET PAVING AND EXTENSION (US 41 TO US 441)	ARCADIS 1650 Prudential Drive, Suite 400 Jacksonville, Florida 32207 T: 904 721 2991 | F: 904 861 2450 Certificate of Authorization No. 7917 Walter J. Nemecek, III, PE | No. 58122		COUNTY: COLUMBIA PROJECT ID:	SIGNING AND MARKING PLAN STA. 81+60.00 TO STA. 94+20.00	SHEET NO. 93

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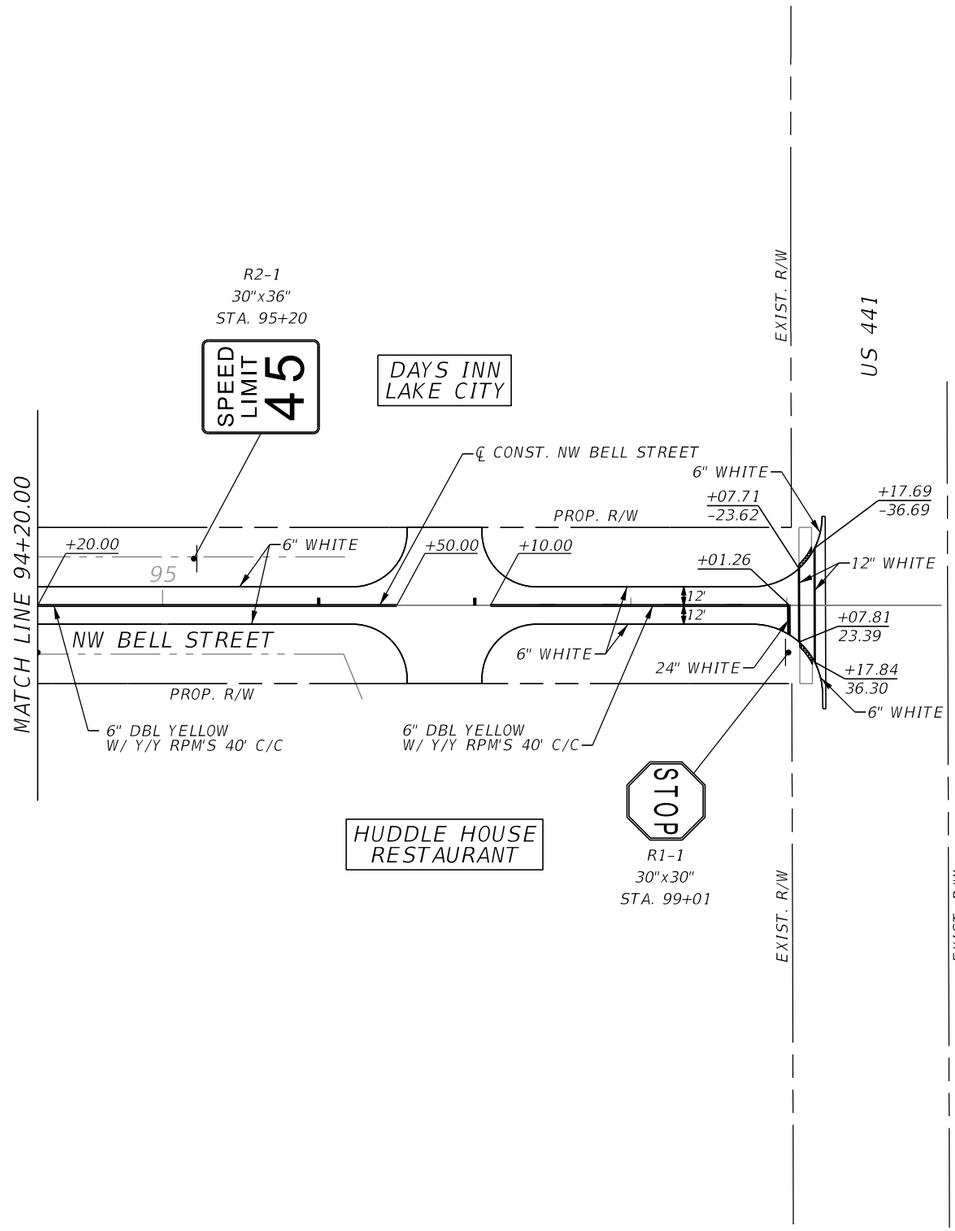

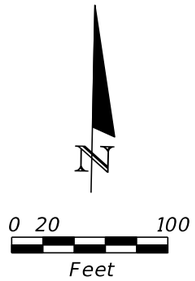

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DATE	DESCRIPTION				COLUMBIA		
					PROJECT ID		94

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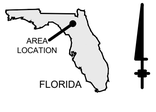
AUS-NCSMOD FULL MONO.CTB PLOTTED: 10/24/2019 10:42 AM BY: GUZMAN, ANDREA

COLUMBIA COUNTY
BELL STREET REGIONAL UTILITIES

100% SUBMITTAL

DATE ISSUED / DATE REVISED
OCTOBER 2019

LOCATION MAP



COLUMBIA COUNTY, FLORIDA

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G-02	GENERAL NOTES
G-03	ABBREVIATIONS, LEGENDS and SYMBOLS
G-04	KEY MAP
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C-02	BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN
C-03	BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN
C-04	BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN
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E-04	AREA CLASSIFICATION PLAN
E-05	ELECTRICAL DETAILS - I
E-06	ELECTRICAL DETAILS - II

WATER MAIN, FORCE MAIN AND LIFT STATION SHOWN ON PLANS TO BE CONSTRUCTED BY OTHERS. DO NOT INCLUDE IN BID.

PREPARED BY:

ARCADIS

CERTIFICATION OF AUTHORIZATION NO. 7917
3109 DR MARTIN LUTHER KING JR BLVD, STE 350 TAMPA, FLORIDA 33607

MICHAEL S. KNOWLES, P.E.
FLORIDA P.E. # 67489

DATE

KEY CONTACTS:

OWNER:
COLUMBIA COUNTY UTILITIES
P.O. BOX 1529
LAKE CITY, FLORIDA 32056

TELEPHONE: 386-758-1019
CONTACT: CHAD WILLIAMS, P.E.

ENGINEER:
ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350

TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100
ENGINEER OF RECORD:
MICHAEL S. KNOWLES

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE WITH THE "CITY OF LAKE CITY UTILITY STANDARDS" (LATEST EDITIONS), UNLESS OTHERWISE SHOWN IN THESE PLANS.

2. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA (SSOCOF) BY CALLING 811 OR 1-800-432-4770 AT LEAST 48 HOURS PRIOR TO EXCAVATION. ALL PROPOSED CONSTRUCTION SHALL BE WHITE-LINE PAINTED PRIOR TO CONTACTING SSOCOF.

3. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER NON-DESTRUCTIVE INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.

4. DETERMINING THE ACTUAL LOCATION OF ANY EXISTING UTILITY IS THE CONTRACTORS RESPONSIBILITY. BEFORE COMMENCING WORK, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA. (PROVIDE 72 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING INSTALLATION CONSTRUCTION). THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER AND ENGINEER ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. SCHEDULE AND EXECUTE ALL WORK INVOLVING EXISTING UTILITIES TO MINIMIZE INTERRUPTION OF SERVICES. WHENEVER SUCH INTERRUPTION IS NECESSARY FOR COMPLETION OF THE WORK, NOTIFY THE ENGINEER AND THE OWNER AT LEAST 72 HOURS IN ADVANCE. ALL WORK TO REPAIR/RESTORE UTILITY SERVICE SHALL BE PERFORMED AS REQUIRED BY THE APPROPRIATE UTILITY. IF IT IS NECESSARY TO SHORE, BRACE, OR SWING A UTILITY, CONTACT THE UTILITY COMPANY OR DEPARTMENT AFFECTED AND OBTAIN THEIR PERMISSION REGARDING THE METHOD TO USE FOR SUCH WORK. ALL COSTS RELATED TO SERVICE, MAINTENANCE, INTERRUPTION, REPAIR, RELOCATION AND RESTORATION ARE TO BE INCLUDED IN THE CONTRACTOR'S BID. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT, AND NO EXTRA COMPENSATION SHALL BE PAID.

5. FIELD CONDITIONS MAY NECESSITATE SLIGHT ALIGNMENT AND/OR GRADE DEVIATIONS FROM THOSE WHICH ARE INDICATED ON THE PLANS. ANY DEVIATIONS OR ADJUSTMENTS SHALL FIRST BE APPROVED BY THE ENGINEER BEFORE BEING PERFORMED.

6. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING, INCLUDING HORIZONTAL AND VERTICAL CONTROL FOR ALIGNMENT OF WORK. ALL SURVEY WORK TO ESTABLISH THE HORIZONTAL AND VERTICAL CONTROL SHALL BE UNDER THE GUIDANCE AND DIRECT SUPERVISION OF A FLORIDA REGISTERED PROFESSIONAL SURVEYOR AND MAPPER, PER FLORIDA ADMINISTRATIVE CODE, CHAPTER 61G17-6, "MINIMUM TECHNICAL STANDARDS."

7. PROVIDE ANY TEMPORARY CONTROLS AND/OR STRUCTURES REQUIRED TO MAINTAIN SUITABLE AND SAFE WORKING CONDITIONS AT ALL TIMES. SUCH ITEMS SHALL BE REMOVED ONCE THAT PORTION OF WORK HAS BEEN COMPLETED.

8. UPON COMPLETION OF THE PROJECT, PROVIDE AN AS-BUILT SURVEY OF ALL IMPROVEMENTS IN AUTOCAD FORMAT. THE AS-BUILT SURVEY MUST BE PREPARED BY A FLORIDA REGISTERED SURVEYOR AND MAPPER IN ACCORDANCE WITH THE STATE OF FLORIDA ADMINISTRATIVE CODE, CHAPTER 61G17-6, "MINIMUM TECHNICAL STANDARDS". AS A MINIMUM, AS-BUILT DRAWINGS FOR PLANT AND PIPELINE CONSTRUCTION SHALL SHOW CONSTRUCTED HORIZONTAL AND VERTICAL LOCATIONS OF ALL BENDS, FITTINGS, VALVES AND STRUCTURES, AND ELEVATIONS AT ALL LOCATIONS WHERE PROPOSED DESIGN ELEVATIONS ARE SHOWN ON THE DRAWINGS. THE AS-BUILT SURVEY SHALL BE TIED INTO THE STATE PLANE COORDINATE SYSTEM. ALSO PROVIDE TOP OF PIPE ELEVATIONS EVERY 40-FT FOR THE WATER MAIN, GAS MAIN, AND FORCE MAIN. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

9. SPECIAL EMPHASIS ON EXCAVATION SAFETY AND TRENCH CONSTRUCTION:
   A. OSHA'S EXCAVATION SAFETY STANDARDS 29, CFR PART 1926.650-652 SUBPART P, AS WELL AS FLORIDA'S TRENCH SAFETY ACT (FLORIDA STATUTE 90-96) ARE CONSIDERED AS COMPLIMENTARY TO THESE CONTRACT DOCUMENTS. IF THERE IS ANY DUPLICATION, REDUNDANCY OR CONFLICT BETWEEN THE STIPULATIONS OF THESE CONTRACT DOCUMENTS AND THOSE STANDARDS, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.

   B. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EXCAVATIONS DO NOT ENDANGER WORKMEN, EXISTING STRUCTURES, UTILITIES, OR OTHER FACILITIES. IF SUCH CONDITIONS OCCUR WHICH MAY ENDANGER WORKMEN, EXISTING STRUCTURES, UTILITIES, OR OTHER FACILITIES, IMMEDIATELY INSTALL AND MAINTAIN ADEQUATE SHEETING AND BRACING PER OSHA SPECIFICATIONS. CEASE ALL WORK UNTIL THE SHEETING AND BRACING HAS BEEN PROPERLY AND COMPLETELY INSTALLED. INSTALL THE SHEETING AND BRACING IN A MANNER THAT WILL ALLOW REMOVAL WITHOUT INJURING OR ENDANGERING WORKMEN, THE WORK, ADJACENT STRUCTURES, AND THE LIKE. PROMPTLY AND COMPLETELY FILL ALL VOIDS CAUSED BY THE WITHDRAWAL OF SHEETING WITH SAND AND COMPACT TO A DEGREE EQUAL TO THE SURROUNDING SOIL. REMOVE THE SHEETING AS THE WORK PROGRESSES OR, AT THE DISCRETION OF THE ENGINEER, CUT THE SHEETING OFF BELOW FINISHED GRADE AND LEAVE IN PLACE.

10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.

11. ALL AFFECTED GRASSED AREAS SHALL BE RESTORED WITH THE APPLICATION OF SAME TYPE REMOVED ARGENTINE BAHIA SOD, HYDROMULCH SEEDING OR APPROVED EQUAL. ALL SLOPED AREAS TO BE SODDED. ANY SOD LAID ON A INCLINE SHALL BE PROPERLY PINNED. ALL SOD SHALL BE WATERED BY CONTRACTOR AS NEEDED UNTIL ESTABLISHED TO THE SATISFACTION OF THE ENGINEER. ALL DEAD AREAS SHALL BE REPLANTED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER.

12. CONTRACTOR SHALL REPAIR ALL DISTURBED ROADWAYS TO 95% OF MAXIMUM DENSITY PER AASHTO T-180. (MODIFIED PROCTOR DENSITY).

13. CONTRACTOR SHALL MAINTAIN 36" MINIMUM COVER OVER PROPOSED FORCE MAIN, WATER MAIN AND GAS MAIN.

14. ALL WORK PERFORMED SHALL BE IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE OWNER, ENGINEER, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, COLUMBIA COUNTRY, LAKE CITY AND ALL OTHER AGENCIES WHICH MAY EXERT JURISDICTION. WHEN CONFLICTS OCCUR BETWEEN REQUIREMENTS SHOWN ON THESE DRAWINGS/SPECIFICATIONS AND REGULATORY CRITERIA, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL. THE CONTRACTOR SHALL VERBALLY BRING ANY CONFLICT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY, FOLLOWED BY AN OFFICIAL WRITTEN NOTIFICATION WITHIN 24 HOURS.

15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL OTHER PERMITS WHICH MAY BE REQUIRED THAT PERTAIN TO HIS CONTRACTED WORK. SUCH PERMITS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE CONTRACTOR BEGINNING WORK ON THE PORTION OF THE PROJECT REQUIRING SAID PERMITS. THIS INCLUDES BUT IS NOT LIMITED TO GROUNDWATER TESTING.

16. THE ENGINEER CANNOT GUARANTEE THAT TEMPORARY BENCH MARKS (TBM'S) OR OTHER SURVEY CONTROL POINTS WILL NOT BE DISTURBED PRIOR TO CONSTRUCTION. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY OR EXISTING SITE INFORMATION AS INDICATED IN THE DRAWINGS OR SPECIFICATIONS. SHOULD THE CONTRACTOR DISCOVER ANY ERRORS, INACCURACIES OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER. BEFORE BEGINNING WORK, TAKE CARE TO PRESERVE ALL CONTROL STAKES, BENCH MARKS, REFERENCE POINTS AND PROPERTY CORNERS. THE OWNER WILL GRANT NO CLAIM FOR DAMAGES OR LOSS OF TIME BY THE CONTRACTOR DUE TO LOSS OR DISTURBANCE OF SURVEY CONTROL POINTS. CONTROL STAKES, BENCH MARKS, REFERENCE POINTS AND PROPERTY CORNERS DISTURBED BY THE CONTRACTOR'S WORK SHALL BE REPLACED BY A FLORIDA REGISTERED PROFESSIONAL SURVEYOR AND MAPPER WHO WILL BE SELECTED BY AND PAID BY THE CONTRACTOR. THE OWNER WILL NOT MAKE FINAL PAYMENT TO THE CONTRACTOR UNTIL ALL DISTURBED OR DESTROYED PROPERTY CORNERS AND PERMANENT BENCH MARKS HAVE BEEN REPLACED BY THE FLORIDA REGISTERED SURVEYOR AND MAPPER. THE SURVEYOR SHALL CERTIFY THAT SUCH MARKERS HAVE BEEN REPLACED IN ACCORDANCE WITH THE STATE OF FLORIDA ADMINISTRATIVE CODE, CHAPTER 61G17-6, "MINIMUM TECHNICAL STANDARDS". RIGHT-OF-WAY LABELED "APPARENT R/W" ON 25A IS SHOWN BASED ON GIS RECORDS FROM THE COUNTY APPRAISER. CONTRACTOR TO LOCATE RIGHT OF WAY IN THE FIELD ESTABLISHED BY A FLORIDA REGISTERED PROFESSIONAL SURVEYOR AND MAPPERS. AS-BUILT TO REFLECT SURVEYED RIGHT OF WAY.

17. ALL TREES, SHRUBS, ETC., ALONG THE LINES OF CONSTRUCTION SHALL BE PROTECTED WHERE POSSIBLE UNLESS NOTED OTHERWISE ON THE DRAWINGS. NO TREES LARGER THAN THREE INCHES (3") IN DIAMETER SHALL BE DESTROYED WITHOUT PRIOR APPROVAL OF THE ENGINEER AND OWNER. DAMAGED OR DESTROYED LANDSCAPING SHALL BE RESTORED IN-KIND.

18. RESTORE ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK TO A CONDITION EQUAL TO OR BETTER THAN EXISTED BEFORE COMMENCING CONSTRUCTION WORK, UNLESS SPECIFICALLY EXEMPTED BY THE DRAWINGS. RESTORATION WORK INCLUDES, BUT IS NOT LIMITED TO PAVEMENT, BASE, SUBGRADE, CONCRETE CURBS, THERMOPLASTIC TRAFFIC MARKINGS, SIDEWALKS, STORM WATER PIPE, ETC. ALL RESTORATION WORK SHALL BE PER FDOT STANDARDS AND SPECIFICATIONS AND FDOT PERMIT REQUIREMENTS. IF THERE IS A CONFLICT WITH FDOT REQUIREMENTS AND THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN. IF ADDITIONAL TOPOGRAPHY OR ANY OTHER INFORMATION IS NECESSARY FOR THE CONTRACTOR TO RECONSTRUCT ALL FACILITIES TO PRE CONSTRUCTION GRADES AND DIMENSIONS, THE ACQUISITION OF SUCH ADDITIONAL INFORMATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND AT HIS EXPENSE. RECONSTRUCT ALL FACILITIES TO PRECONSTRUCTION GRADES AND DIMENSIONS, UNLESS OTHERWISE NOTED. WATER, FERTILIZE AND SUPPLY ALL ITEMS AND CARE NECESSARY TO MAINTAIN THE HEALTH OF ALL NEW VEGETATION AND VEGETATION REMOVED AND REPLACED, AT NO EXPENSE TO THE OWNER, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

19. PROVIDE ANY TEMPORARY CONTROLS AND/OR STRUCTURES REQUIRED TO MAINTAIN SUITABLE AND SAFE WORKING CONDITIONS AT ALL TIMES. SUCH ITEMS SHALL BE REMOVED ONCE THAT PORTION OF WORK HAS BEEN COMPLETED.

20. STORE CONSTRUCTION EQUIPMENT AND MATERIALS ONLY IN THOSE AREAS APPROVED BY THE OWNER. SECURITY OF CONSTRUCTION EQUIPMENT AND MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. PUBLIC RIGHTS-OF-WAY MAY NOT BE UTILIZED FOR STORAGE OF EQUIPMENT OR MATERIALS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENTITY WHICH OWNS THE RIGHT-OF-WAY.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND RELOCATING ALL INFORMATION AND TRAFFIC SIGNS TEMPORARILY DURING CONSTRUCTION. SIGN SHOULD BE VISIBLE TO MOTORIZED VEHICLES. REPOSITION SIGNS IN PRE-CONSTRUCTION LOCATION IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.

22. APPARENT RIGHT-OF-WAY SHOWN FOR CR 25A IS BASED ON COUNTY PROVIDED GIS FILES SHOWING APPROXIMATE LOCATION. PRIOR TO CONSTRUCTION, ESTABLISH RIGHT-OF-WAY ON CR 25A IN PROJECT AREA THRU A FLORIDA REGISTERED SURVEYOR AND MAPPER AND INCLUDE RIGHT-OF-WAY IN AS-BUILTS.

23. INSTALL TRACER WIRE TO GAS MAIN, WATER MAIN, AND FORCE MAIN. TRACER WIRE TO EXTEND UP VALVES ON WATER MAINS AND FORCE MAINS AND UP MARKER POLES ON GAS MAINS.

24. DETAILS NOT COVERED IN THE PLANS AND SPECIFICATIONS SHALL MEET CURRENT FDOT STANDARD SPECIFICATIONS.

TRAFFIC CONTROL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC MAINTENANCE IN ACCORDANCE WITH THE SPECIFICATIONS, U.S. DEPARTMENT OF TRANSPORTATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND OTHER GOVERNING AGENCY'S SPECIFICATIONS. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT SPECIFICATION OR REQUIREMENT SHALL GOVERN. PROVIDE ALL NECESSARY BARRICADES, WARNING SIGNS, DELINEATORS, FLAGMEN, PILOT CARS, ETC., REQUIRED FOR TRAFFIC CONTROL AND/OR MAINTENANCE.

2. THE CONTRACTOR IS TO PROVIDE NOTIFICATION TO THE CITY OF LAKE CITY AND COLUMBIA COUNTY IN WRITING FOUR (4) WEEKS PRIOR TO ANY REQUIRED OR ROAD CLOSURE WITHIN THE PROJECT AREA.

3. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC (MOT) PLAN TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. REFER TO MOT PLAN FROM NW BELL STREET PAVING AND EXTENSION CONTRACT PLANS FOR MOT REQUIREMENTS.

4. ALL TRENCHES SHALL BE BACKFILLED COMPLETELY TO PROVIDE SAFE CROSSING BY THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE.

5. THE CONTRACTOR IS TO MAINTAIN AND KEEP STREET NAME IDENTIFICATION VISIBLE DURING CONSTRUCTION OPERATIONS, IN ORDER TO FACILITATE EMERGENCY VEHICLE TRAFFIC.

6. LOCATION(S) OF WORK ZONE ACCESS TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

7. PRIOR TO THE REMOVAL OF ANY OF THE EXISTING ROADSIDE SIGNS, CONTRACTOR SHALL PROVIDE AND INSTALL ALTERNATE SIGNS (VIA PROPOSED OR TEMPORARY SIGNS). CONTRACTOR MAY USE THE EXISTING ROADSIDE SIGNS AS TEMPORARY SIGNS TO PLACE ADJACENT TO TRAFFIC, IF APPROPRIATE. AT ANY TIME DURING CONSTRUCTION, SIGNS SHALL PROVIDE CLEAR AND CONSISTENT MESSAGES.

EROSION/SEDIMENT CONTROL NOTES

1. NO UNAUTHORIZED DISTURBANCE OF EXISTING WETLANDS WILL BE PERMITTED. TEMPORARILY INSTALL SILT FENCES, BARRIERS OR SYNTHETIC BALES IMMEDIATELY ADJACENT TO AND UPLAND FROM ALL EXISTING WETLANDS PRIOR TO CONSTRUCTION ACTIVITIES WHICH MIGHT IMPACT THE WETLANDS. REMOVE ALL WETLAND PROTECTION MEASURES AFTER THE PROJECT HAS BEEN ACCEPTED BY THE OWNER.

2. ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. CONSTRUCTION PRACTICES INCLUDE:

   A. CONSTRUCT TEMPORARY SEDIMENTATION BASINS OR EARTHEN BERMS AT DOWN-GRADIENT ENDS OF NEWLY GRADED AREAS TO PROVIDE FOR SEDIMENT AND TURBIDITY REMOVAL.

   B. LIMIT SITE CLEARING TO THOSE AREAS REQUIRED FOR A PARTICULAR PHASE OF CONSTRUCTION. EXISTING TREES AND VEGETATION TO REMAIN WHEREVER POSSIBLE.

   C. TURBIDITY BARRIERS, SYNTHETIC BALES AND OTHER EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THE POTENTIAL FOR EROSION IS ELIMINATED.

3. SOD (DITCH AND SWALE BANKS) AS SOON AS POSSIBLE AFTER CONSTRUCTION IN ORDER TO STABILIZE THE SLOPES AND MINIMIZE EROSION. IN AREAS DELINEATED AS "WETLANDS," REVEGETATE IN ACCORDANCE WITH PERMIT CONDITIONS.

4. DO NOT EMPLOY SILT FENCES IN A MANNER TO CAUSE THEM TO ACT AS A DAM ACROSS PERMANENTLY FLOWING WATERCOURSES. USE SILT FENCES AT UPLAND LOCATIONS, AND TURBIDITY BARRIERS IN PERMANENT WATER BODIES, REGARDLESS OF WATER DEPTH.

5. TURBIDITY BARRIERS MAY BE EITHER FLOATING OR STAKED TYPE, OR ANY COMBINATION OF TYPES THAT WILL SUIT SITE CONDITIONS, AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. INSTALL POSTS IN STAKED TURBIDITY BARRIERS IN THE VERTICAL POSITION UNLESS OTHERWISE NOTED.

6. EROSION AND SEDIMENT CONTROL METHODS AND MEASURES SHALL CONFORM TO THE LATEST EDITION OF THE FDEP'S "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTORS MANUAL".

7. THE CONTRACTOR SHALL SUBMIT A DETAILED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

8. IF CONSTRUCTION ACTIVITIES DISTURB 1 ACRE OR MORE OF LAND, THE CONTRACTOR MUST OBTAIN COVERAGE UNDER A "NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM" (NPDES) PERMIT BEFORE CONSTRUCTION PROCEEDS. A "NOTICE OF INTENT" (NOI) FORM SHALL BE COMPLETED AND SUBMITTED TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP). FOR MORE INFORMATION, CONTACT 850-245-7520 OR VISIT THE FOLLOWING WEBSITE: WWW.DEP.FL.US/WATER/STORMWATER/NPDES/INDEX.HTM.

UTILITY & ROADWAY CONSTRUCTION NOTES

1. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.

2. ANY WORK SHOWN OUTSIDE OF RIGHT OF WAY OR EASEMENTS ARE SHOWN FOR REFERENCE ONLY, AND TO BE PERFORMED BY OTHERS. COMMERCIAL PROPERTY AND ASSOCIATED FEATURES ARE DONE BY OTHERS.

3. THE PIPE SHALL BE INSTALLED TO THE GRADE AND ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION ACTIVITIES.

4. IF NECESSARY, USE TEMPORARY SHEETING OR TRENCH BOXES TO MINIMIZE THE SIZE OF THE EXCAVATIONS AND TO PROTECT ADJACENT EXISTING ROADWAYS, UTILITIES AND OTHER FACILITIES. THERE SHALL BE NO ADDITIONAL COST TO THE OWNER UNLESS THE CONTRACTOR IS DIRECTED TO LEAVE THE SHEETING IN PLACE.

5. BACKFILL ALL TRENCHES AT THE END OF EACH DAYS WORK. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT. THE ENDS OF ALL PIPE SHALL BE PLUGGED AT THE CLOSE OF EACH DAYS WORK.

6. A LIST OF UTILITY COMPANIES THAT HAVE BEEN CONTACTED IS SHOWN ON THIS SHEET AND IS IN NO WAY INTENDED TO LIMIT THE UTILITY COMPANIES THE CONTRACTOR SHOULD CALL. SUNSHINE STATE (800-432-4770) SHOULD BE CALLED FOR ALL LOCATION WORK.

7. PERFORM SURFACE RESTORATION IMMEDIATELY FOLLOWING PIPE INSTALLATION, INCLUDING ROADWAY, DRIVEWAY, LANDSCAPING, GRASSING OR OTHER. RESHAPE DITCHES TO EXISTING CONTOURS. GRASSING SHALL BE WHERE EXISTING GRASS HAS BEEN DAMAGED BY CONSTRUCTION.

8. NO MACHINE EXCAVATION SHALL BE PERFORMED WITHIN 5 FEET OF A GAS MAIN.

9. THE CONTRACTOR SHALL RESTORE ALL DRIVEWAY OPEN CUTS WITHIN 24 HOURS WITH AN APPROVED TEMPORARY SURFACE UNTIL FINAL RESTORATION IS COMPLETE.

10. THE COST OF SAWCUTTING AND TEMPORARY SURFACE SHALL BE INCIDENTAL TO THE WORK BEING PERFORMED.

11. ALL PIPE LENGTHS SHOWN ON PLAN AND PROFILES ARE FROM CENTER TO CENTER OF MANHOLES, CATCH BASINS, INLETS ETC. OR ALONG THE CENTER LINE OF FORCE MAINS AND WATER MAINS.

12. CONTRACTOR TO OBTAIN ALL REQUIRED RIGHT-OF-WAY PERMITS.

13. THE DEPARTMENT OF TRANSPORTATION, COLUMBIA COUNTRY AND CITY OF LAKE CITY ARE TO BE NOTIFIED IN ADVANCE OF CONSTRUCTION PER THEIR RESPECTIVE PERMIT CONDITIONS.

14. THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITY CONTACT PERSONNEL NOT LESS THAN ONE WEEK PRIOR TO CONSTRUCTION OF FACILITIES IN THEIR RESPECTIVE AREAS.

15. CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITIES DURING CONSTRUCTION.

16. IN ORDER TO REDUCE THE DISRUPTION AND COST OF UTILITY DAMAGES OCCURRING IN THE RIGHT-OF-WAY AND IN EASEMENTS, THE CONTRACTOR SHALL PREVENT DAMAGES TO EXISTING UTILITIES CAUSED BY HIS WORK THROUGH FIELD VERIFICATION OF THE LOCATION OF THE EXISTING UTILITIES. IN THE CASE OF OPEN EXCAVATION, VERIFICATION MAY BE PERFORMED DURING THE CONTRACTORS WORK. IN THE CASE OF JACK & BORE OR DIRECTIONAL DRILLING, VERIFICATION SHALL TAKE PLACE PRIOR TO THE WORK.

17. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES AS NEEDED TO AVOID CONTACT. EXISTING UTILITIES SHALL BE EXPOSED USING DETECTION EQUIPMENT OR OTHER ACCEPTABLE MEANS. SUCH METHODS MAY INCLUDE BUT SHALL NOT BE LIMITED TO "SOFT DIG" EQUIPMENT AND GROUND PENETRATING RADAR (GPR). THE EXCAVATOR SHALL BE HELD LIABLE FOR DAMAGES CAUSED TO THE CITY'S INFRASTRUCTURE AND THE EXISTING FACILITIES OF OTHER UTILITY COMPANIES.

18. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND SURFACE. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

19. CONTRACTOR MUST MAINTAIN AND PRESERVE NEWLY GRADED AREAS AND REPAIR AREAS WHERE SETTLING AND EROSION HAVE OCCURRED.

20. WHEN THE DISTANCE BETWEEN A POWER POLE AND THE TRENCH IS LESS THAN THE TRENCH DEPTH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ELECTRICAL UTILITY TO SECURE POWER POLES. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED FOR AN OUTSIDE MEETING WITH ELECTRICAL UTILITY TO DISCUSS THE REQUIRED WORK. ADDITIONAL TIME WILL BE REQUIRED BY ELECTRICAL UTILITY FOR ANY REQUIRED WORK TO BE ACCOMPLISHED.

21. ALL VALVE BOXES, MANHOLE FRAME & COVERS, GRATES, ETC. SHALL BE ADJUSTED AS REQUIRED TO MATCH FINISHED GRADES.

22. FORCE MAIN CONSTRUCTION SHALL CONFORM TO THE CITY OF LAKE CITY "TECHNICAL STANDARDS FOR WASTEWATER AND RECLAIMED WATER CONSTRUCTION SPECIFICATION MANUAL".

23. FORCE MAIN CONSTRUCTION SHALL INCLUDE RESTRAINED JOINTS WITHIN THE LENGTHS SHOWN THE "CITY OF LAKE CITY RESTRAINED PIPE DETAILS".

24. WHERE IT IS NOT POSSIBLE TO MAINTAIN 36" OF COVER OVER A NEW WATER MAIN, GAS MAIN, OR FORCE MAIN.CONTRACTOR SHALL CONSTRUCT A 4" CONCRETE SHOCK PAD ABOVE IT (SEE DETAIL).

25. CONTRACTOR SHALL ENSURE THAT POSITIVE DRAINAGE IS PROVIDED AND NO PONDING OR BIRD-BATHS OF WATER IS CREATED AS A RESULT OF PROPOSED CURB AND PAVEMENT WORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER IF THERE ARE GRADE DISCREPANCIES THAT WILL NOT PROVIDE THIS REQUIREMENT.

26. UNDER NO CIRCUMSTANCES SHALL PIPE BE LAID IN A WET TRENCH OR STRUCTURES BE CONSTRUCTED IN A WET EXCAVATION. DEWATERING SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

27. IF TRENCH IS TO BE DEEPER THAN 5 FEET THEN USE OF TRENCH BOX(ES) OR SHEETING IS COMPULSORY.

28. LENGTH OF OPEN TRENCH IS NOT TO BE OVER 300 FEET, UNLESS THE MOT ALLOWS.

29. ALL CONTRACTORS MUST MEET STATE AND FEDERAL OQ GUIDELINES AS WELL AS CITY STANDARDS FOR INSTALLING NATURAL GAS MAINS TO BE OWNED AND OPERATED BY THE CITY OF LAKE CITY NATURAL GAS DEPARTMENT. THIS INCLUDES BUT IS NOT LIMITED TO COUNTY PERMITTING, PERFORMING COVERED TASKS AS STATED IN THE CITY OF LAKE CITY OPERATOR AND MAINTENANCE MANUAL AS WELL AS INFORMING THE FLORIDA PUBLIC SAFETY COMMISSION OF ANY NEW CONSTRUCTION CONSISTING OF 2000' OF GAS MAIN LARGER THAN 2 INCHES IN INNER DIAMETER.

30. SUBMIT WATER MAIN PROFILE AFTER INSTALLATION. OWNER TO IDENTIFY UPTO 2 LOCATIONS FOR BELOW GRADE VAULTED POTABLE WATER ARVs PER DETAIL ON C-14 FROM THIS PROFILE.

31. CONTRACTOR TO FURNISH AND INSTALL FOUR (4) STUB-OUTS CROSSING BELL STREET FOR THE WATER MAIN AND FORCE MAIN AT LOCATIONS TO BE DETERMINED BY OWNER DURING CONSTRUCTION (8 TOTAL CROSSINGS). EACH CROSSING SHALL BE UP TO 100-FEET OF 6" WM TERMINATING IN A BLOW-OFF (SEE DETAIL) AND 4" FM TERMINATING WITH A CAP. CONNECTION TO BE MADE TO WATER MAIN OR FORCE MAIN BY CUTTING IN A TEE WITH BRANCH VALVE (BFV FOR WM AND PLUG VALVE FOR FM).

32. WATER MAIN, FORCE MAIN AND LIFT STATION CONSTRUCTED BY OTHERS. DO NOT BID.

CONTRACTOR SHALL CONTACT THE FOLLOWING AGENCIES PRIOR TO CONSTRUCTION:

1. FLORIDA POWER AND LIGHT:

   SHANE EUBANK
   FPL CONSTRUCTION SERVICES
   2618 NE BASCOM NORRIS DR.
   LAKE CITY, FL 32055
   386-754-2020

2. CITY OF LAKE CITY
   BRIAN SCOTT
   CITY OF LAKE CITY ELIAS/ PUBLIC WORKS
   180 N.E. GUM SWAMP RD,
   LAKE CITY Fl. 32055
   (386)758-5456

3. AT&T
   DINO FORTUGGIO
   AT&T DISTRIBUTION
   1120 S.ROGERS CIRCLE
   BOCA RATON FL. 334787
   (561)997-0240

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
C:\Users\Nguyen.ARCADIS-US\BIM 360\Arcadis\ANA - 06704013.0000 - Lake City FL - Columbia County Bell Street Utilities Project\Project Files\0_WIP\AutoCAD\01-General\G-02.dwg LAYOUT: G-02 SAVED: 10/31/2019 9:15 AM ACADVER: 22.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 10/31/2019 4:06 PM BY: NGUYEN, VAN

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	**Drawn by**	**Checked by**
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

GENERAL NOTES

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD. STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

G-02

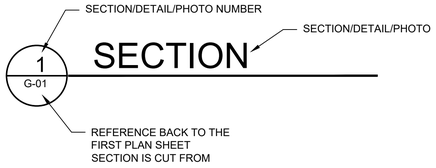
GENERAL, CIVIL, AND MECHANICAL ABBREVIATIONS

AB	ANCHOR BOLT
ABAN.	ABANDONED
ADD'L.	ADDITIONAL
ADJ.	ADJUSTABLE
AH	ACCESS HATCH
ALUM.	ALUMINUM
ALT.	ALTERNATE
APPROX.	APPROXIMATELY
ARV	AIR RELEASE VALVE
BC	BOTTOM OF CURB
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BITUM.	BITUMINOUS
BL	BASELINE
BLDG.	BUILDING
BM	BENCH MARK
BM.	BEAM
BOP	BOTTOM OF PIPE
BOT.	BOTTOM
BRG	BEARING
BRP	BUILDING REFERENCE POINT
CL	CENTERLINE
C/C	CENTER TO CENTER
CAP	CAPACITY
CB	CATCH BASIN
CHH	COMMUNICATION HANDHOLE
CJ	CONSTRUCTION JOINT
CL.	CLEAR
CMH	COMMUNICATION MANHOLE
CMP	CONCRETE MASONRY PIPE
CO	CLEANOUT
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUED
CPLG.	COUPLING
CR	CURVE RADIUS
CW	CITY WATER
CY	CUBIC YARD(S)
DET.	DETAIL
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DISCH.	DISCHARGE
DMH	DROP MANHOLE
DN.	DOWN
DO	DIESEL OIL
DWG.	DRAWING
DWL.	DOWELS
EA.	EACH
EF	EACH FACE
EFF.	EFFLUENT
EJ	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRIC
EMH	ELECTRICAL MANHOLE
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
EQ.	EQUAL
EW	EACH WAY
EX.	EXISTING
FD	FLOOR DRAIN
FD CON	FIRE DEPARTMENT CONNECTION
FDN.	FOUNDATION
FDND	FOUNDATION DRAIN
FF	FAR FACE
FIN.	FINISHED
FLEX.	FLEXIBLE
FLG.	FLANGE
FLR.	FLOOR
FM	FORCE MAIN
FMH	FUTURE MANHOLE
FSD	FLAT SIDE DOWN
FSU	FLAT SIDE UP
FTG.	FOOTING
FT., '	FEET
FYH	FUTURE YARD HYDRANT
G	GAS
GA.	GAGE OR GAUGE
GALV.	GALVANIZED
GE	GROOVED END JOINT
GRD.	GROUND
GRAT.	GRATING
HB	HOSE BIB
HORIZ.	HORIZONTAL
HP	HIGH POINT
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INLET
IN., "	INCHES
INF.	INFLUENT
INV.	INVERT
JST.	JOIST
JT.	JOINT
K	KIP (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
LFT	LINEAR FEET
LG.	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
L.P.	LOW POINT
LR	LONG RADIUS
L.S.	LIFT STATION
LSH	LEVEL SWITCH HIGH
LSLL	LEVEL SWITCH LOW LOW
MAS	MASONRY
MAX.	MAXIMUM
MCC	MOTOR CONTROL CENTER
MFR.	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN.	MINIMUM
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
NC	NORMALLY CLOSED
NE	NORTHEAST
NF	NEAR FACE
NO	NORMALLY OPEN
NO., #	NUMBER
NW	NORTHWEST
O	OVERFLOW
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG.	OPENING
OPP.	OPPOSITE
P/A	PLUG AND ABANDON
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	PLAIN END
PI	POINT OF INTERSECTION
PL	PLATE OR PROPERTY LINE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PS	PUMP STATION
PT	POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PW	POTABLE WATER
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RED.	REDUCER
REINF.	REINFORCEMENT OR REINFORCE
REQ'D.	REQUIRED
RJ	RESTRAINED JOINT
RM.	ROOM
R.O.W	RIGHT OF WAY
RW	RAW WATER
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SHT.	SHEET
SLP	SLOPE
SPA.	SPACING
SPEC.	SPECIFICATION
SR	SHORT RADIUS
SS	STAINLESS STEEL
ST.	STREET
STA	STATION
STD.	STANDARD
STL.	STEEL
STRUC.	STRUCTURAL
SW	SOUTHWEST
SWK	SIDEWALK
T/C	TOP OF CONCRETE
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TF	TOP OF FRAME
T&B	TOP AND BOTTOM
THK.	THICKNESS
TYP.	TYPICAL
UON	UNLESS OTHERWISE NOTED
USG	UNITED STATES STANDARD GAGE
V	VALVE
VERT.	VERTICAL
W	WATER
W/	WITH
WM	WATER MAIN
WP	WORK POINT
WS	WATER STOP
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
YH	YARD HYDRANT

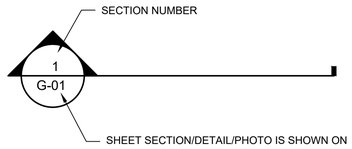
SEE ELECTRICAL SHEETS FOR LIST OF MORE ABBREVIATIONS

TITLE MARKERS

PLAN



SECTION MARKERS



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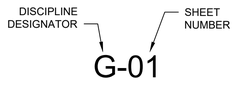

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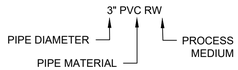
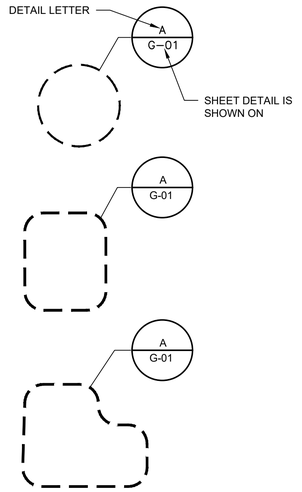


DETAIL MARKERS



MATERIALS LEGEND

EXISTING	PROPOSED	
		CONCRETE
		GROUT
		BRICK
		CONCRETE MASONRY UNIT
		INSULATION
		GLASS
		STEEL
		GRATING
		CHECKERED PLATE
		RAILING

EXISTING	PROPOSED	
		GENERAL FILL
		SELECT BACKFILL
		SUBBASE
		MUDMAT
		ROCK
		DUMPED ROCK FILL
		DEMOLITION
		PROPOSED FILL

LEGEND

EXISTING	PROPOSED	
		TRENCHLESS INSTALLATION
		FENCE LINE
OHE		OVERHEAD ELECTRICAL LINE
T	T	TELEPHONE LINE
(PIPE DIA.) G	G G	GAS LINE
(PIPE DIA.) W	W W	WATER LINE
	SF	PROPOSED SILT FENCE
GV	GV	GAS VALVE BOX
V	V	VALVE BOX
		GRADE TO DRAIN
	1+00 2+00	STATIONING
12.0 ×	12.0 ×	SPOT ELEVATION
		EDGE OF ROAD/CURB
CB CB	CB	CATCH BASIN
12	12	CONTOUR LINE
		GATE
		PROPERTY LINE
MH	MH	MANHOLE
●	⌀	ELECTRIC UTILITY POLE
		FLOW DIRECTION, PIPING,SLOPE
		PROJECT NORTH ARROW
		PROPOSED EASEMENT
		PROPOSED RIGHT OF WAY

NOTES:

1. THE SYMBOLS AND ABBREVIATIONS LISTED ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED ARE NECESSARILY USED.
2. SEE MECHANICAL LEGENDS FOR PROCESS EQUIPMENT VALVE SYMBOLS AND PIPE DESIGNATIONS.
3. SEE ELECTRICAL LEGENDS FOR SYMBOLS AND CONDUIT DESIGNATIONS.

MECHANICAL LEGEND

GATE VALVE	BUTTERFLY VALAVE
CHECK VALVE	HYDRANT
SAFETY RELIEF VALVE	AIR RELEASE VALVE
BALL VALVE	
PLUG VALVE	

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

ABBREVIATIONS, LEGEND AND SYMBOLS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

ARCADIS Project No. 06704013.0000
Date OCTOBER 2019

G-03

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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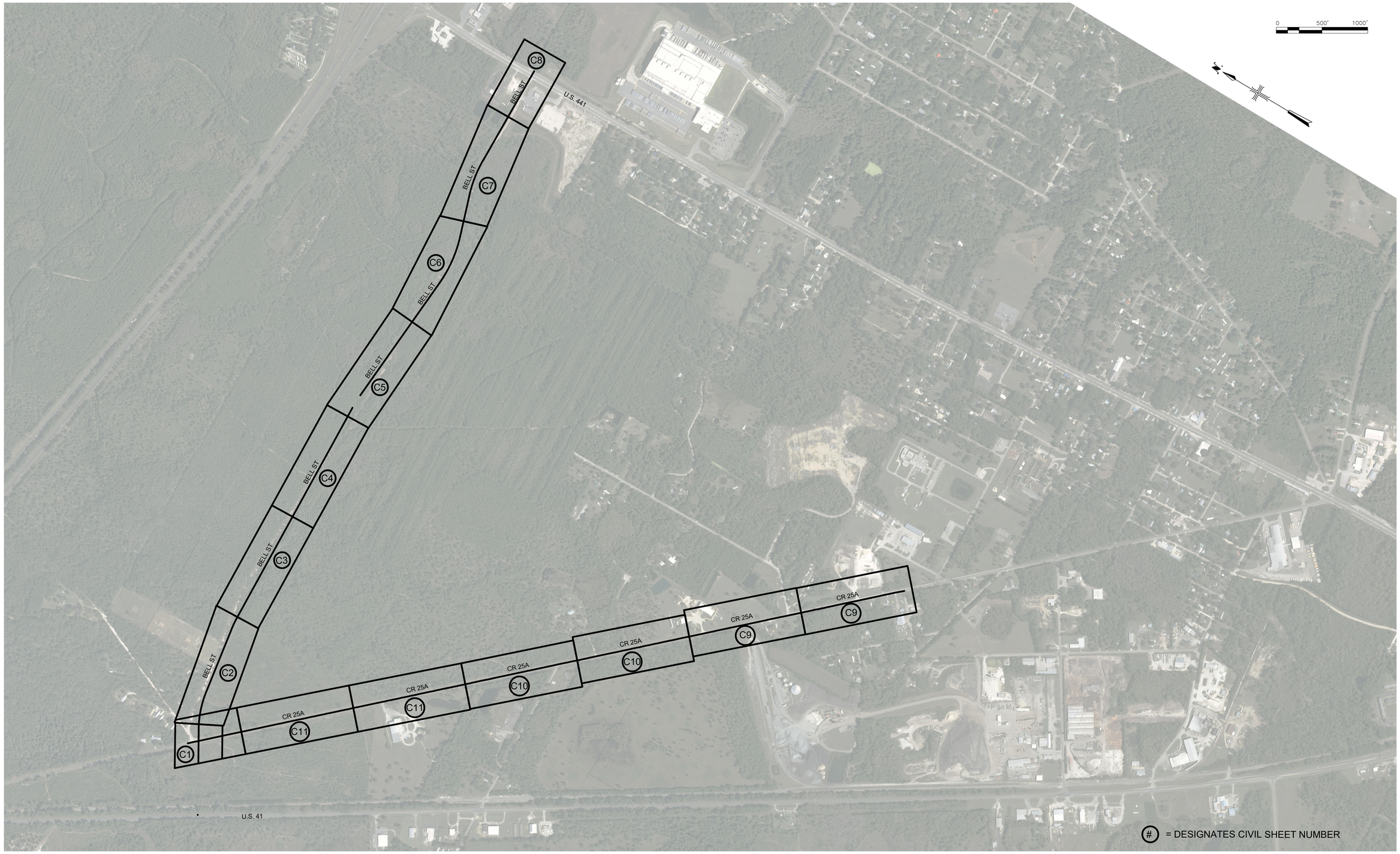

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Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY - GATEWAY TO FLORIDA

ARCADIS
ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

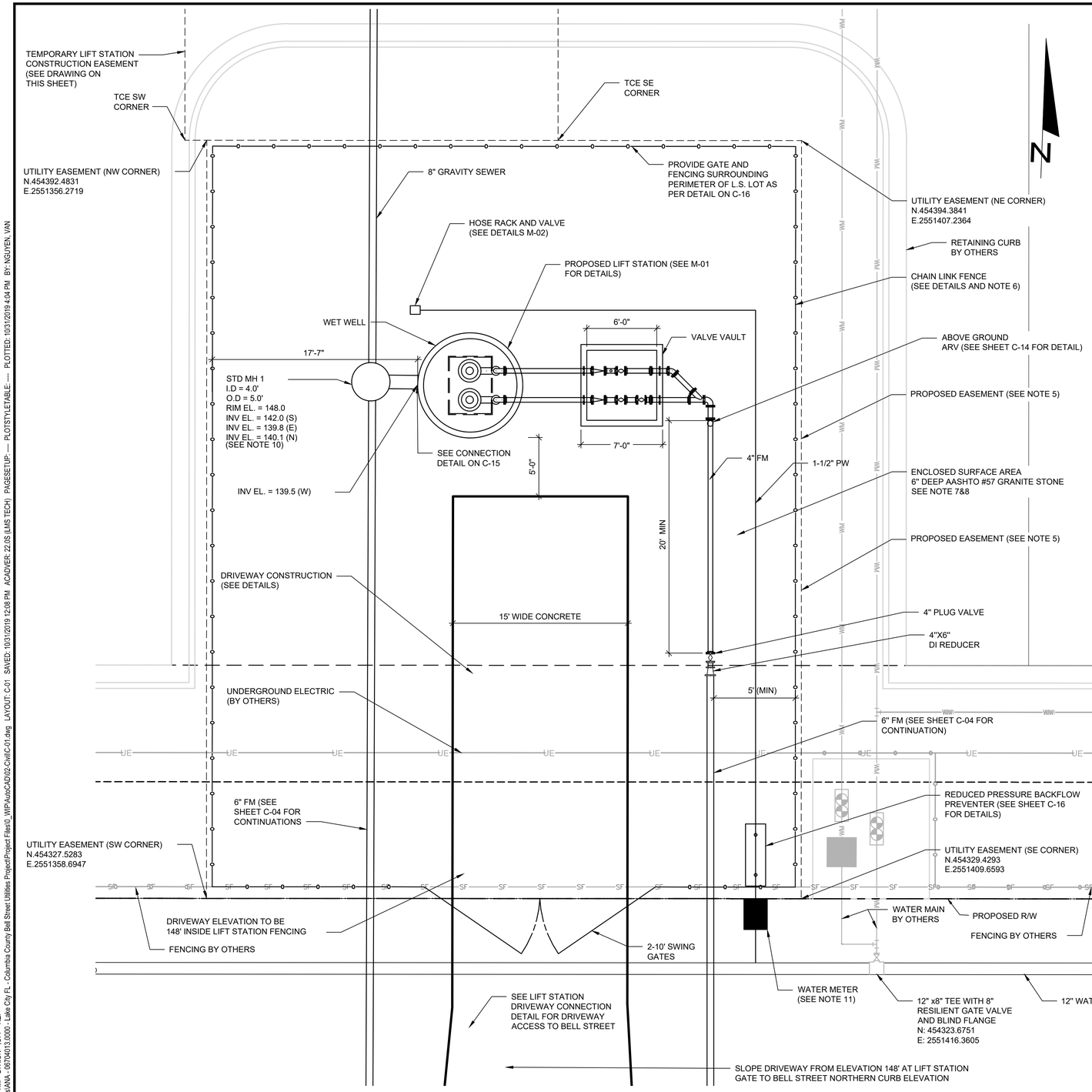
KEY MAP

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

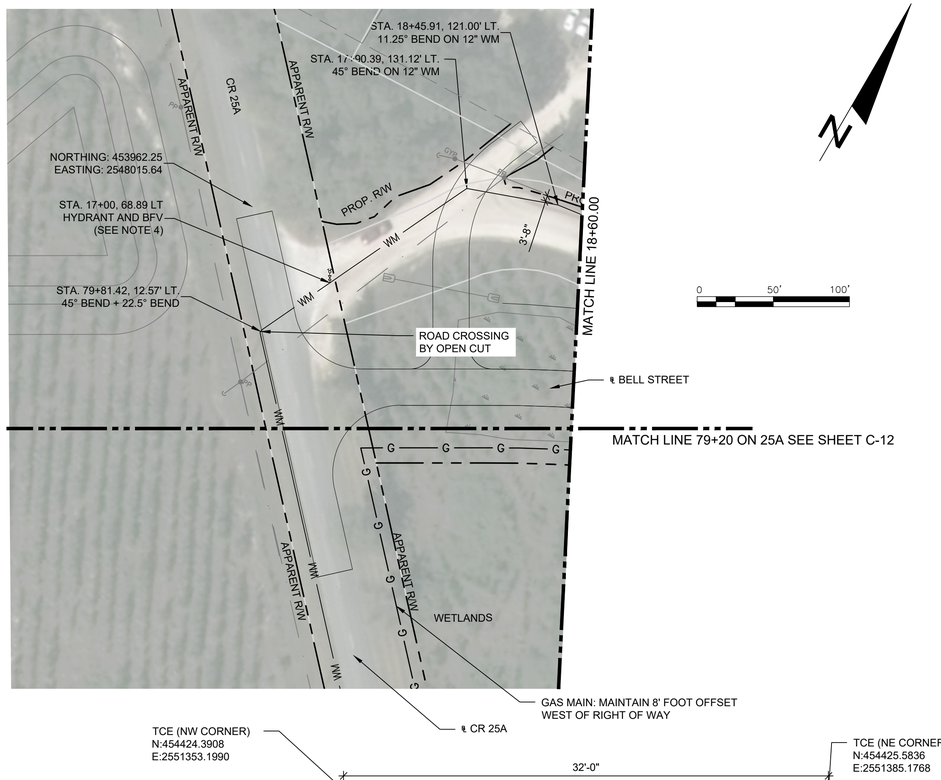
G-04

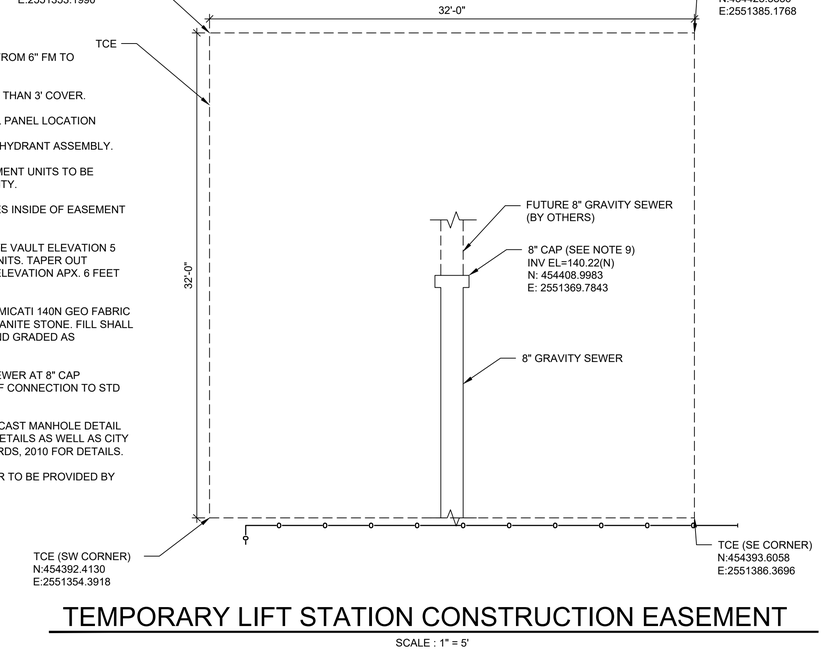


WASTEWATER LIFT STATION SITE PLAN

SCALE : 1" = 5'

0 5' 10'





NOTES:

1. PROVIDE DROP CONNECTION FROM 6" FM TO STANDARD MANHOLE.
2. CONCRETE CAP ON FM IF LESS THAN 3' COVER.
3. SEE SHEET E-03 FOR CONTROL PANEL LOCATION
4. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
5. LEGAL DESCRIPTION OF EASEMENT UNITS TO BE PROVIDED BY COLUMBIA COUNTY.
6. INSTALL FENCE POSTS 6 INCHES INSIDE OF EASEMENT LIMITS.
7. MAINTAIN WET WELL AND VALVE VAULT ELEVATION 5 FEET FROM EDGE OF THESE UNITS. TAPER OUT THROUGH FENCING TO CURB ELEVATION APX. 6 FEET FROM FENCING.
8. REGRADE, TAMP AND INSTALL MICATI 140N GEO FABRIC AND FILL WITH AASHTO #57 GRANITE STONE. FILL SHALL BE NO LESS THAN 6.0" DEEP AND GRADED AS DESCRIBED IN NOTE 7.
9. TERMINATE 8" PVC GRAVTIY SEWER AT 8" CAP APPROXIMATELY 36' NORTH OF CONNECTION TO STD MH.1
10. SEE SHEET C-14 AND C-15 PRECAST MANHOLE DETAIL AND MANHOLE CONNECTION DETAILS AS WELL AS CITY OF LAKE CITY UTILITY STANDARDS, 2010 FOR DETAILS.
11. METER BOX AND WATER METER TO BE PROVIDED BY LAKE CITY.

TEMPORARY LIFT STATION CONSTRUCTION EASEMENT

SCALE : 1" = 5'

0 5' 10'

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Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY - GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA

BELL STREET REGIONAL UTILITIES

LIFT STATION SITE PLAN AND BELL STREET FORCE MAIN, WATER MAIN AND GAS MAIN

ARCADIS Project No.: 06704013.0000

Date: OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-01

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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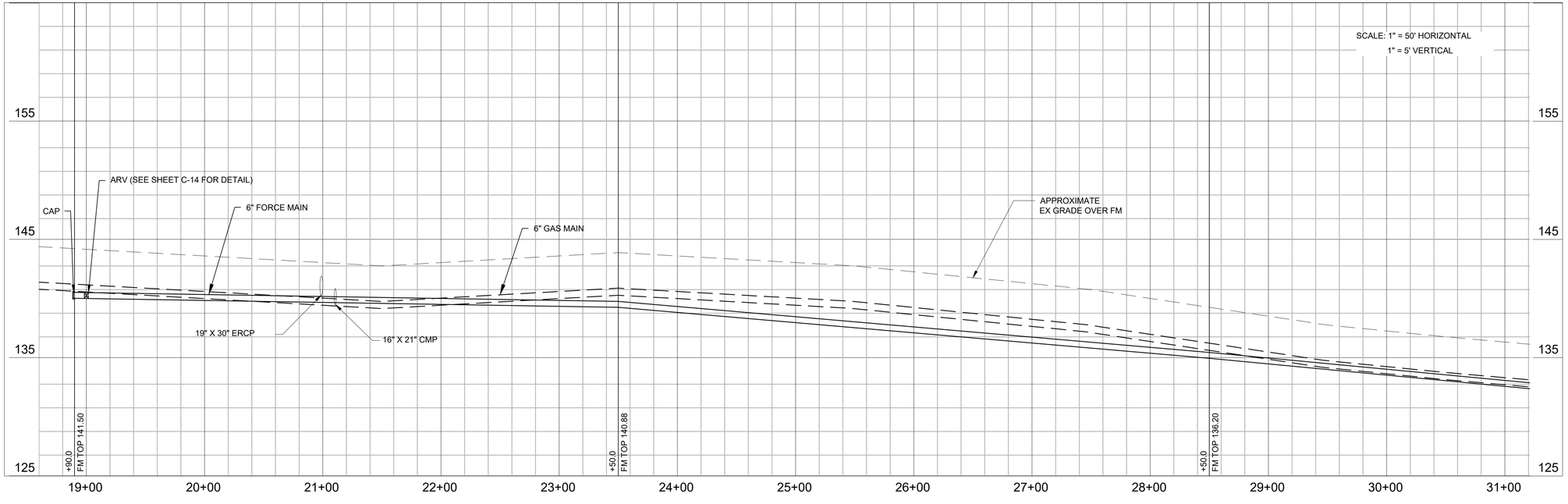
NOTE:

1. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
2. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.



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Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-02

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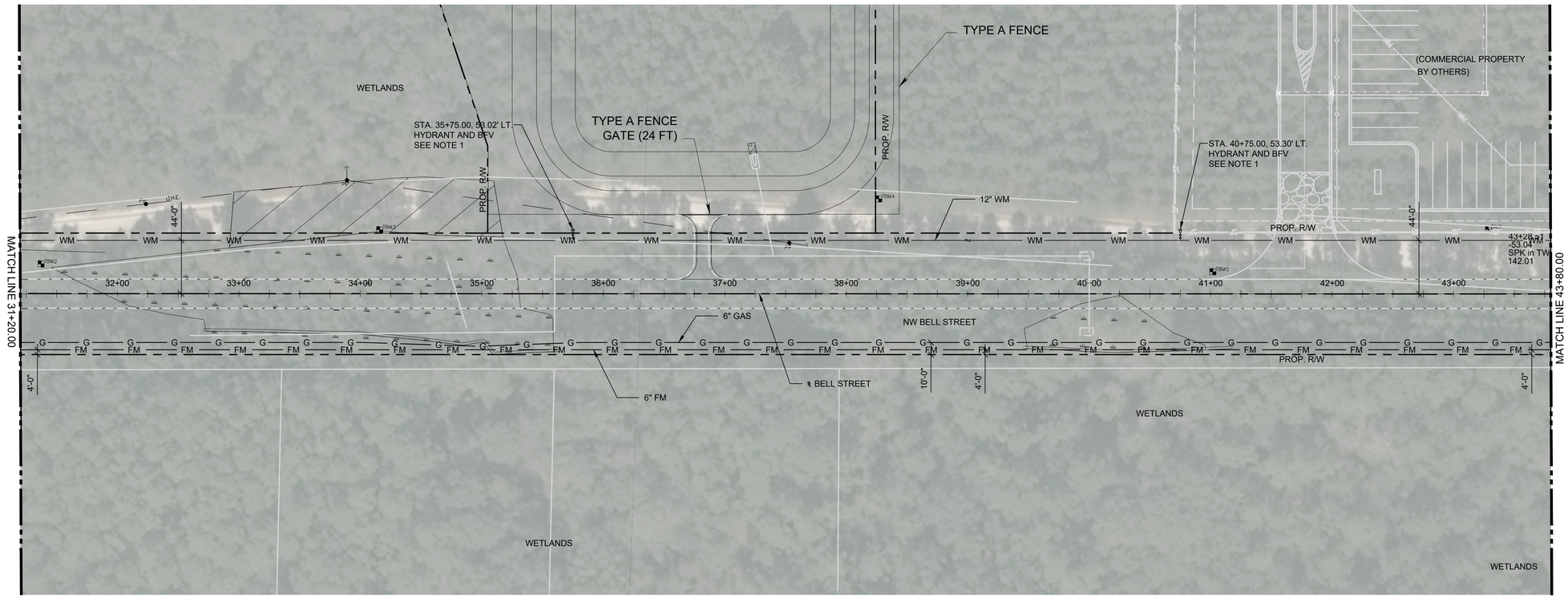
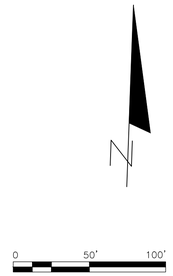
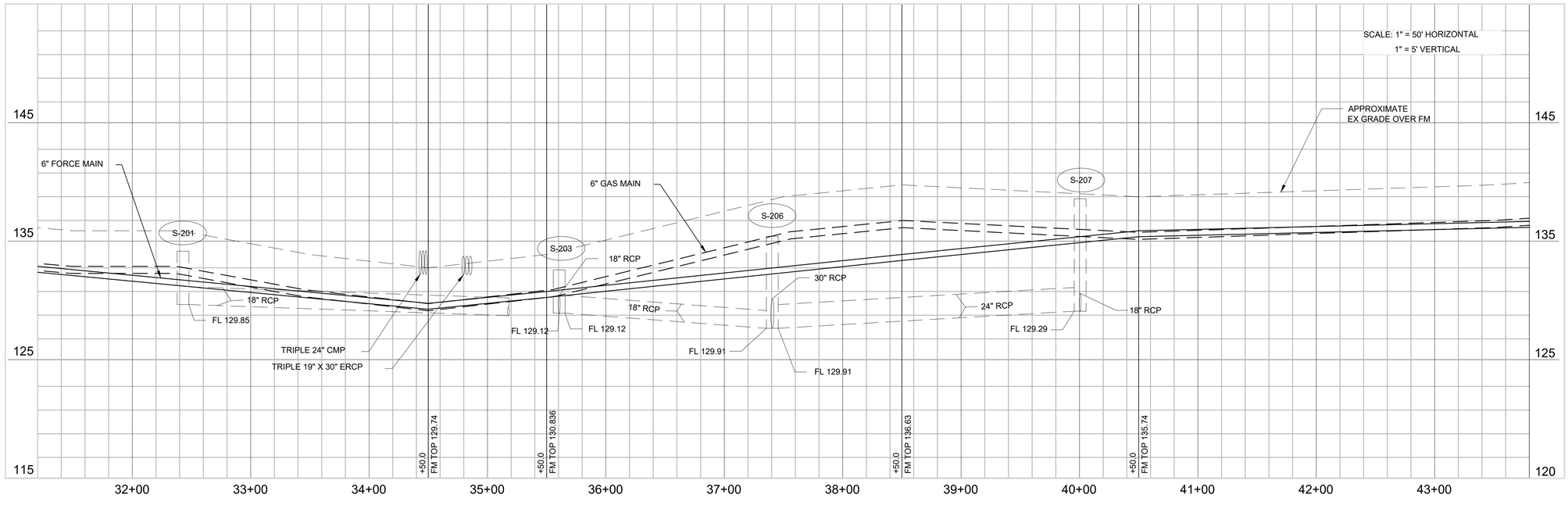




NOTE:

1. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
2. CONTRACTOR SHALL PROVIDE FOUR 100-FT 6-INCH CROSSINGS FOR THE WATER MAIN EACH TERMINATING WITH A BLOW OFF VALVE (SEE DETAIL IN CIVIL DETAILS). ALSO ADD FOUR 100-FT 4-INCH CROSSINGS FOR THE FORCE-MAIN ALONG BELL STREET. THE LOCATION OF THE WATER MAIN AND FORCE-MAIN CROSSINGS WILL BE DETERMINED BY THE COUNTY DURING CONSTRUCTION.
3. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.



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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.		
Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-03

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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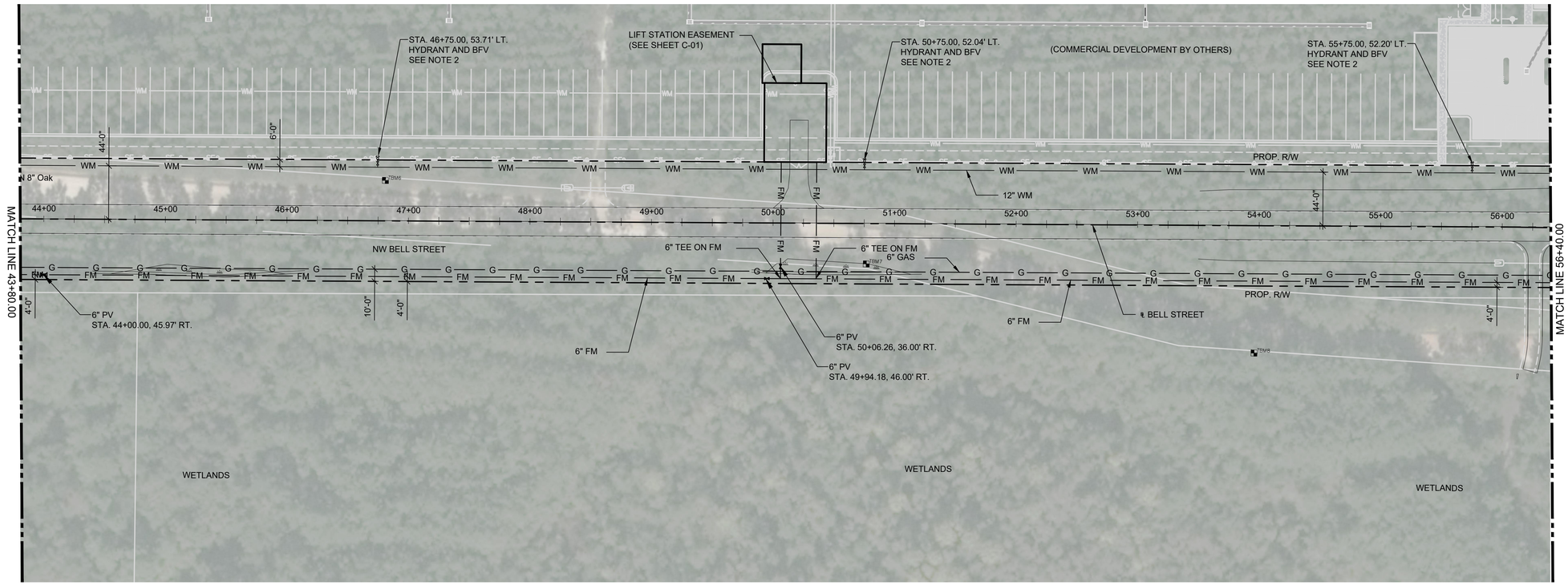

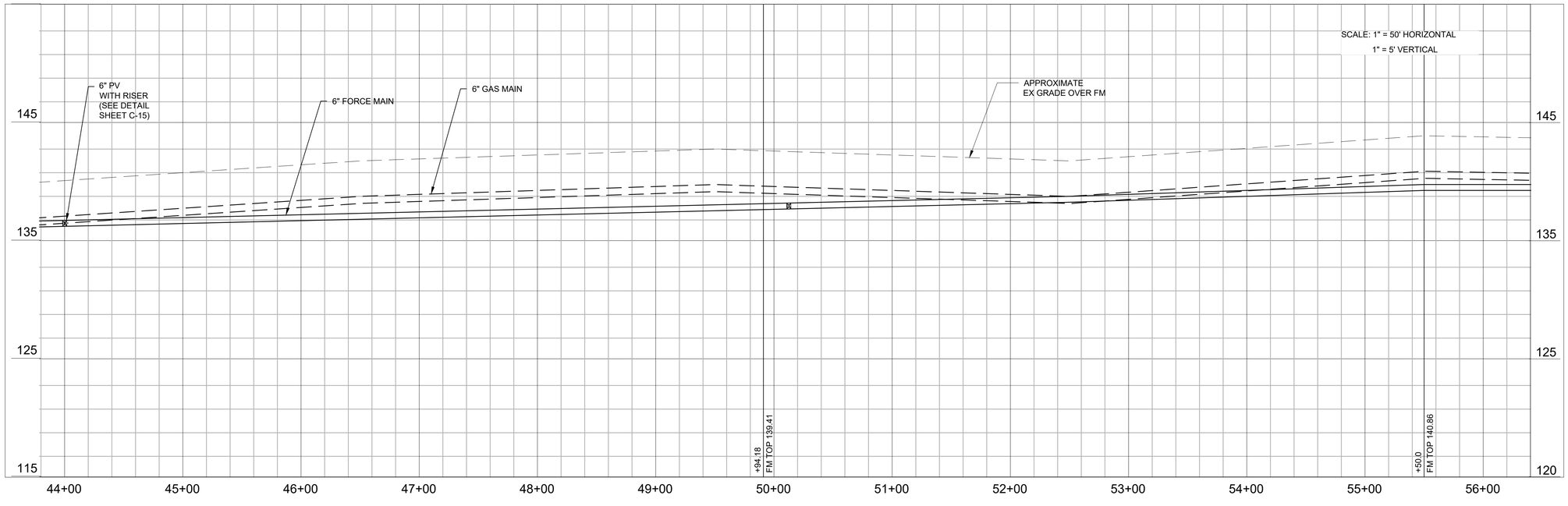

NOTE:

1. MAINTAIN FLAT FM TOP OF PIPE ELEVATION FOR ROAD CROSSINGS OFFSET 50' LT TO 50' RT
2. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
3. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.

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Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

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3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
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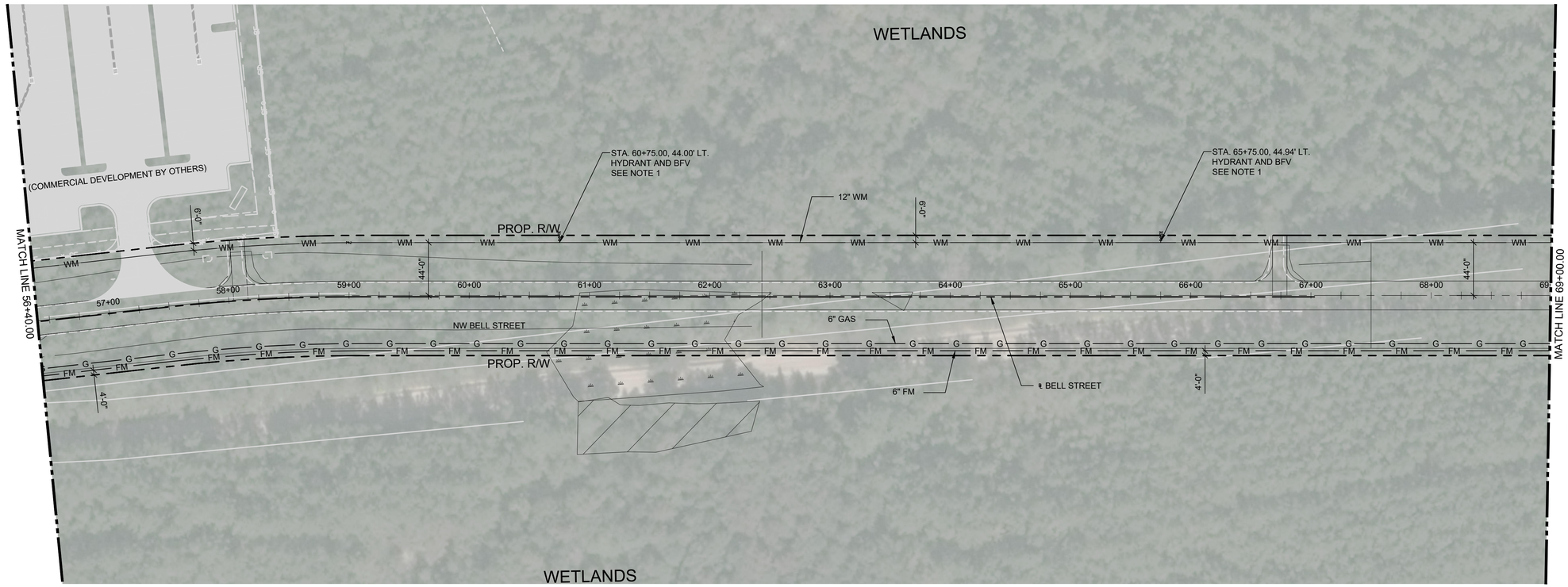
C-04



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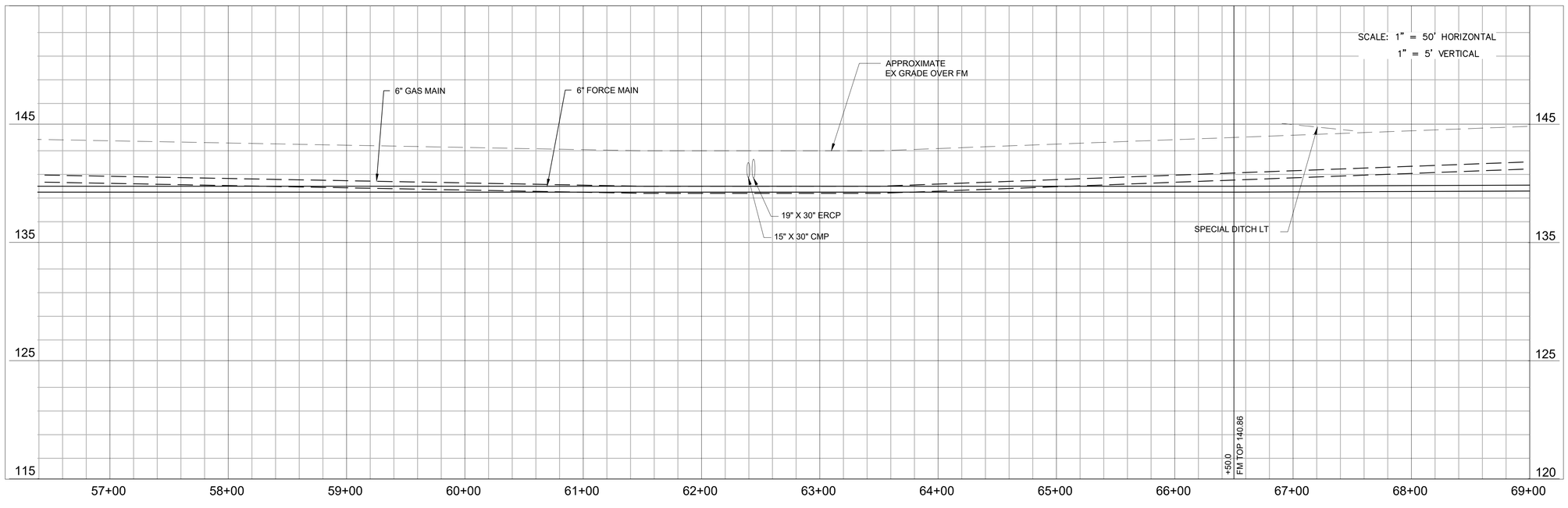

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State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

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FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
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Date
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3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
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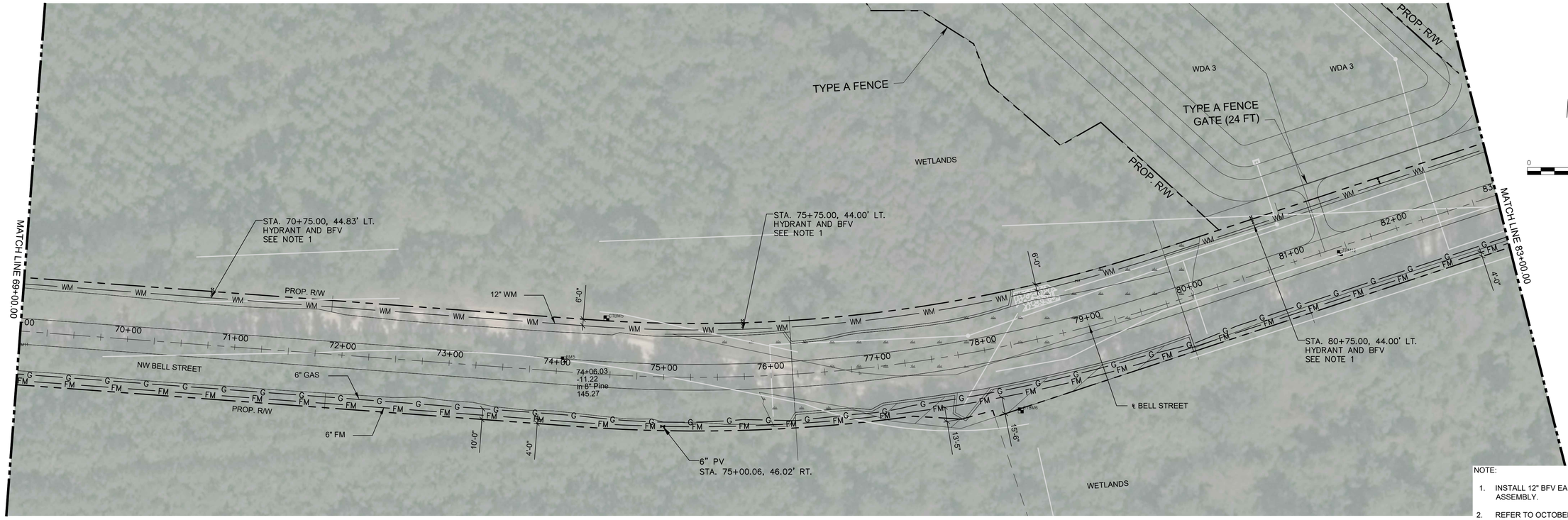
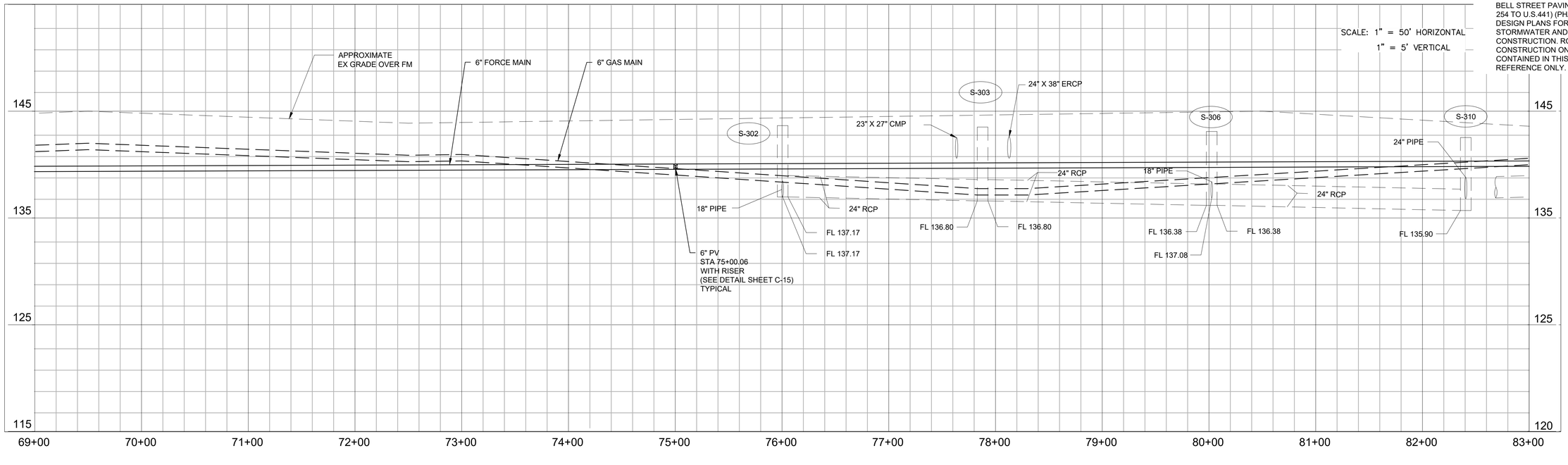


NOTE:

1. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
2. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.



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No.	Date	Revisions	By	Ckd

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

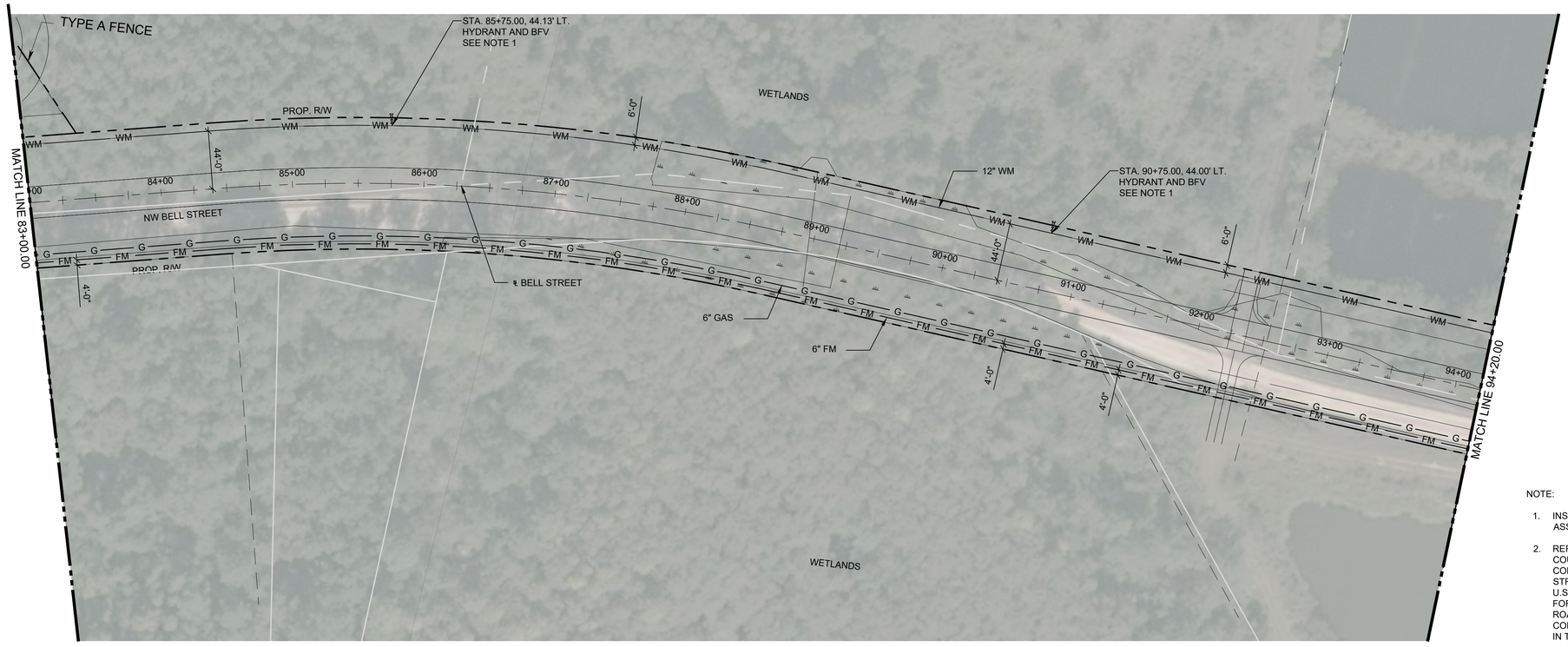
BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

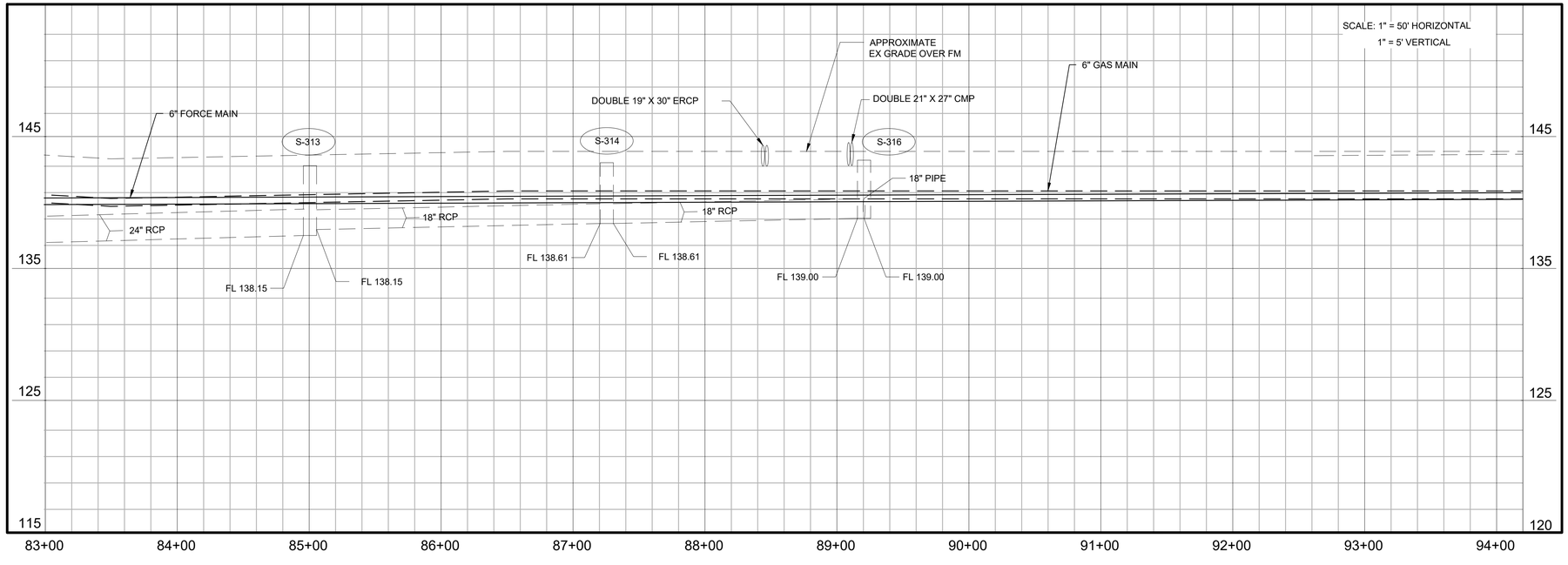
ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-06



NOTE:

1. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
2. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.



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Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-07

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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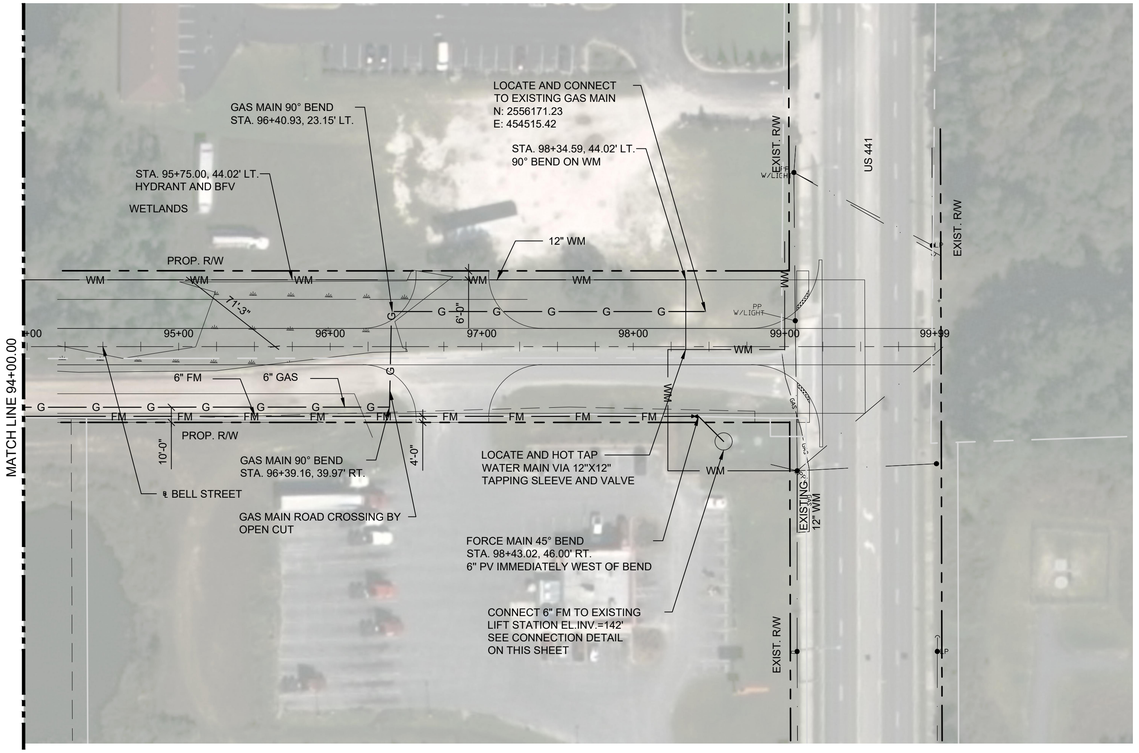
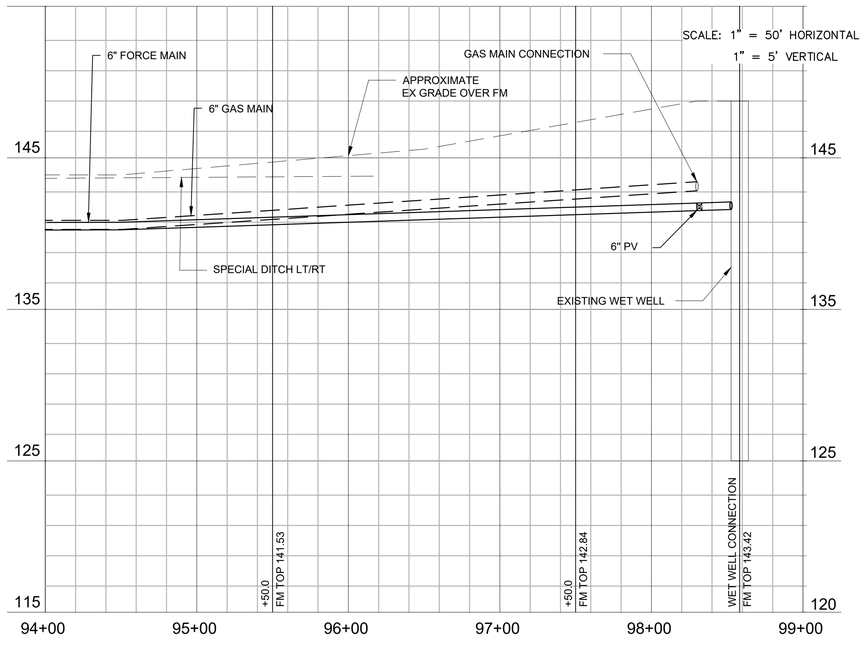
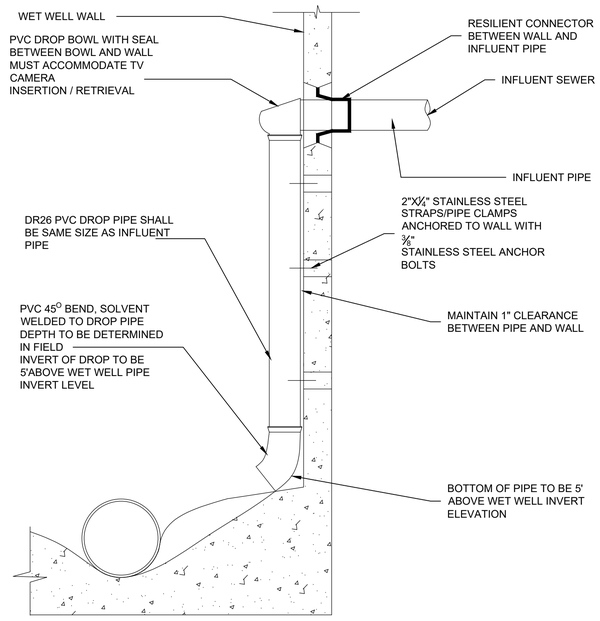




NOTE:

1. HOT TAP EXISTING 12" WM WITH 12" TAP AND VALVE.
2. INSTALL 12" BFV EAST OF FIRE HYDRANT ASSEMBLY.
3. REFER TO OCTOBER 2019 COLUMBIA COUNTY BOARD OF COUNTY COMMISSIONERS CONTRACT PLANS N.W. BELL STREET PAVING AND EXTENSION (CR 254 TO U.S.441) (PHASE I) ROADWAY DESIGN PLANS FOR REQUIREMENTS OF STORMWATER AND ROADWAY CONSTRUCTION. ROADWAY CONSTRUCTION ON THE SHEETS CONTAINED IN THIS PLAN SET ARE FOR REFERENCE ONLY.



INTERIOR DROP CONNECTION
SCALE: NTS

NOTES:

1. DROP PIPE AND FITTINGS SHALL BE OF A SIZE EQUAL TO THE INFLUENT FORCE MAIN

WET WELL CONNECTION DETAIL

N

0 50' 100'

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

BELL STREET FORCE MAIN, WATER MAIN, AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING
JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-08

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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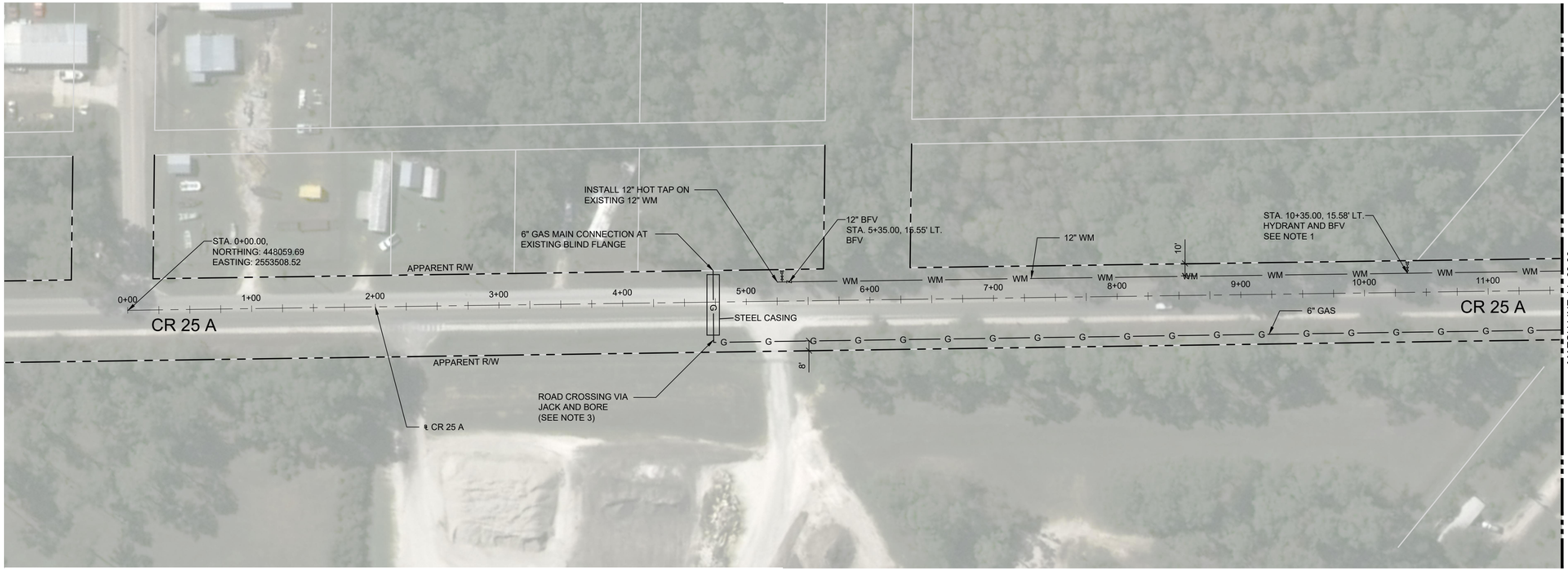

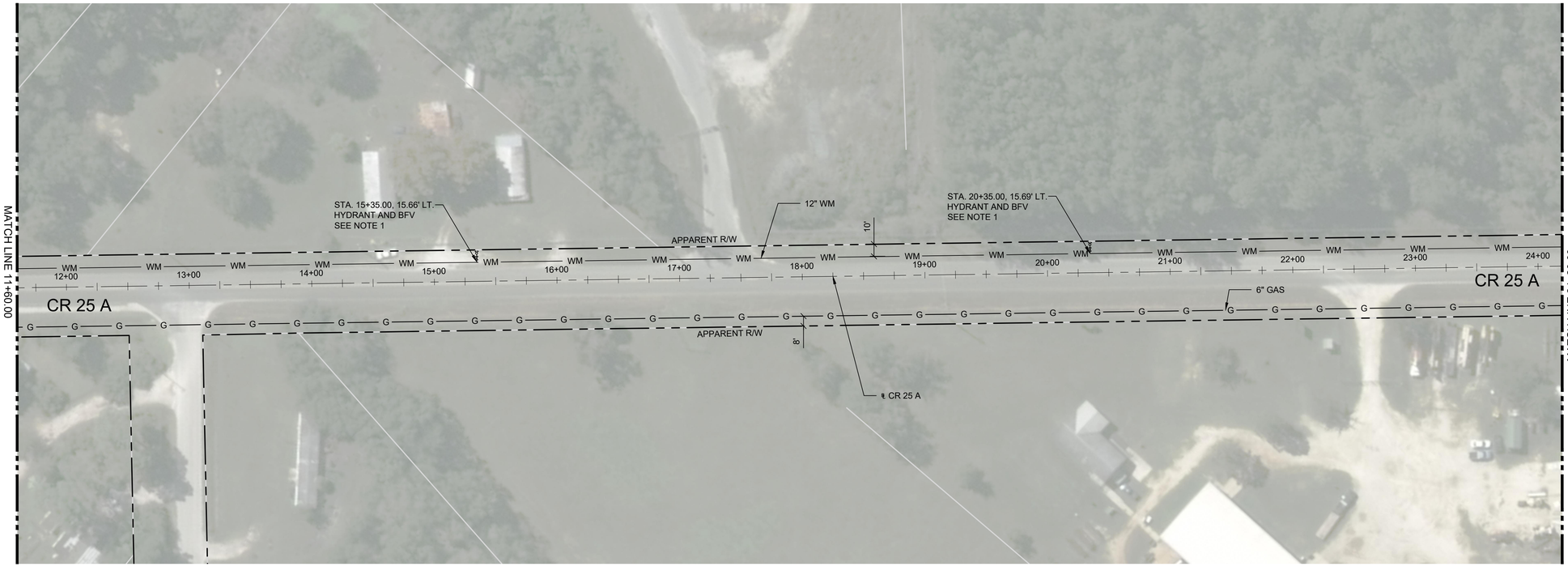

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3. COUNTY OWNED LAND NORTH OF CR 25 A ADJACENT TO JACK AND BORE TO BE UTILIZED AS TCE FOR CROSSING.

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
C:\Users\agutman\BIM 360\Arcadis\ANA - 06704013.0000 - Lake City FL - Columbia County Bell Street Utilities Project\Project Files\0_WIP\Auto\CAD\02-Civil\C-09.dwg LAYOUT: C-09 SAVED: 10/22/2019 10:49 PM ACADVER: 22.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 10/22/2019 10:50 PM BY: GUTMAN, ANDREA

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.		
Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

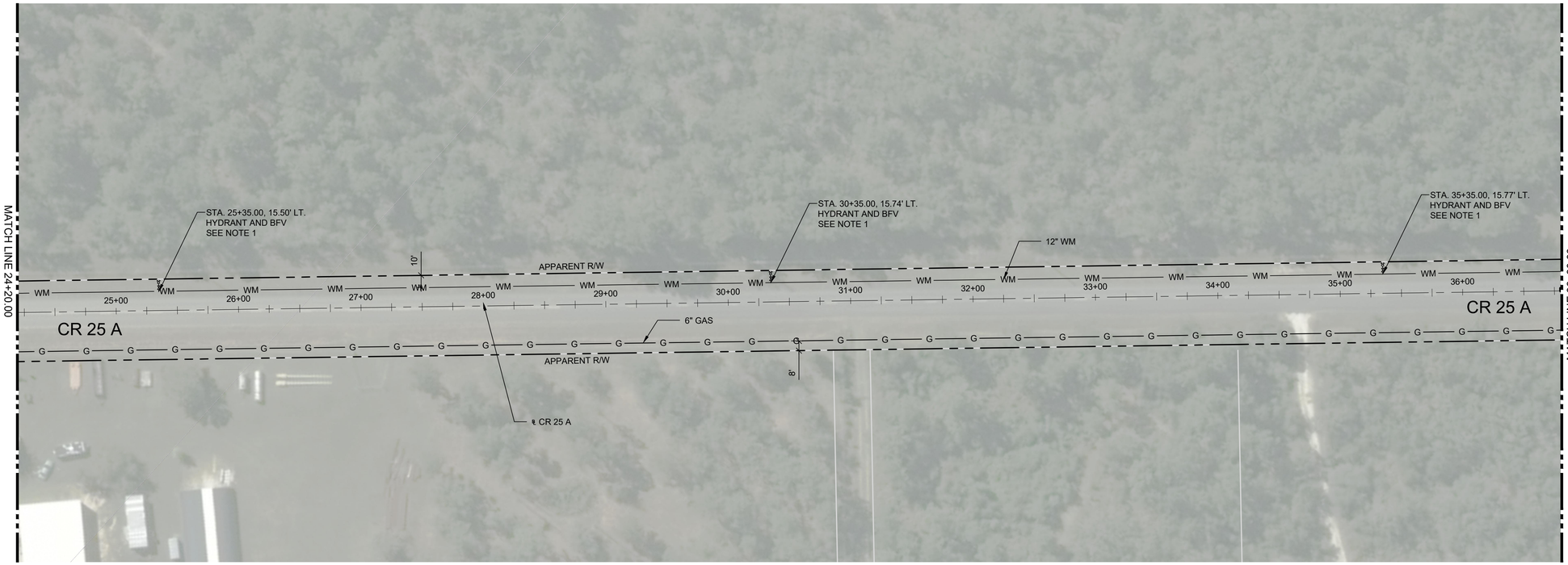
CR 25 A WATER MAIN AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-09



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ARCADIS Project No.
06704013.0000

Date
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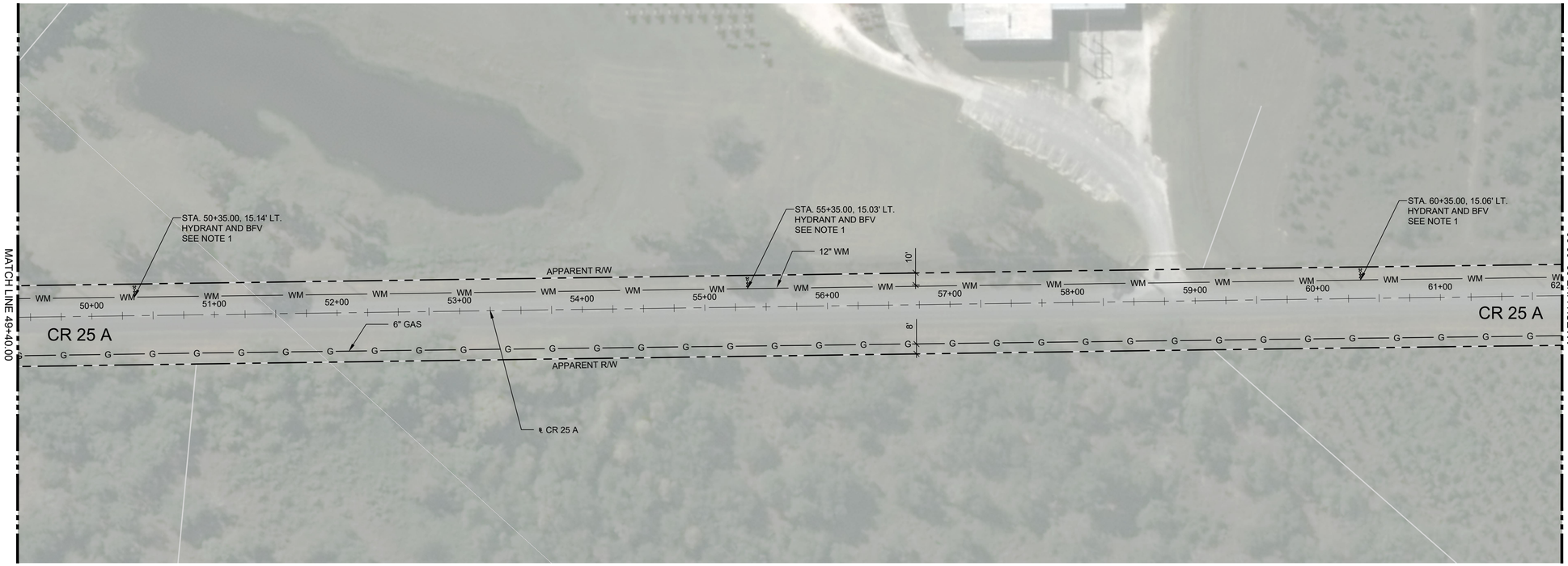
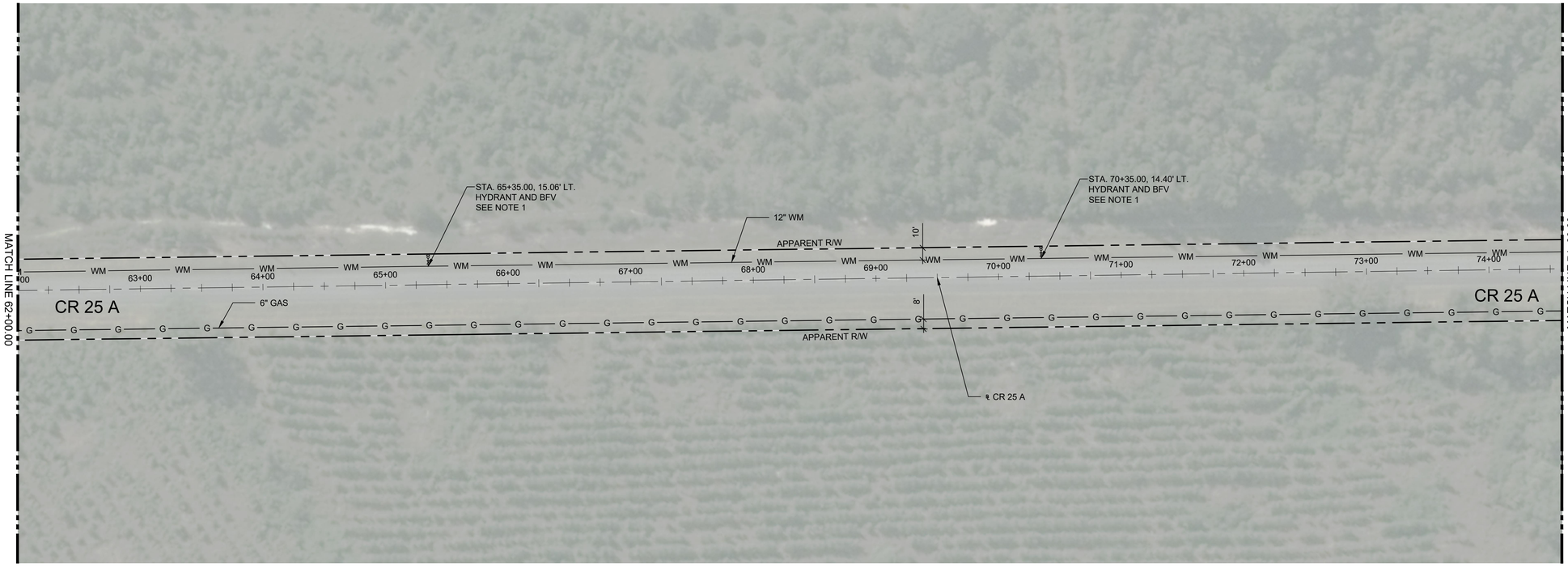
ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-10





0 50' 100'

NOTE:

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.		
Professional Engineer's No.: 67489		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: SP	Drawn by: AGG	Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

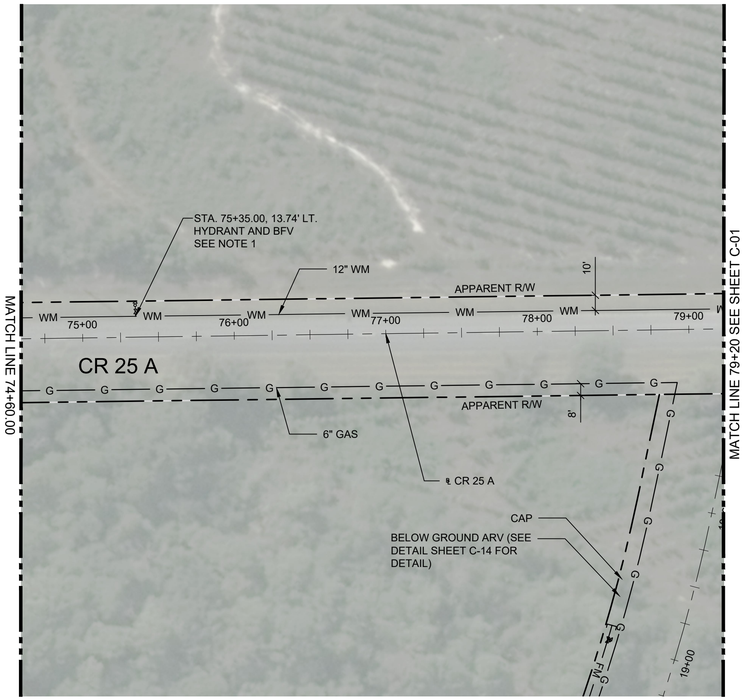
CR 25 A WATER MAIN AND GAS MAIN

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-11



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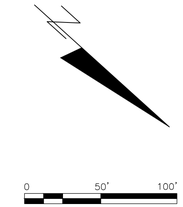

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Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	**Drawn by**	**Checked by**
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

CR 25 A WATER MAIN AND GAS MAIN

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

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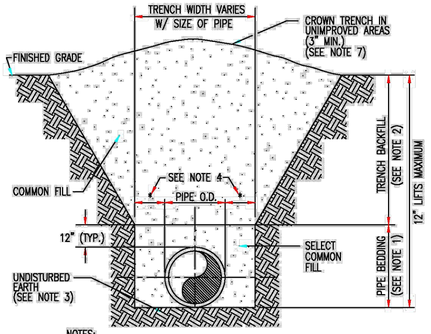
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

ARCADIS Project No.
06704013.0000

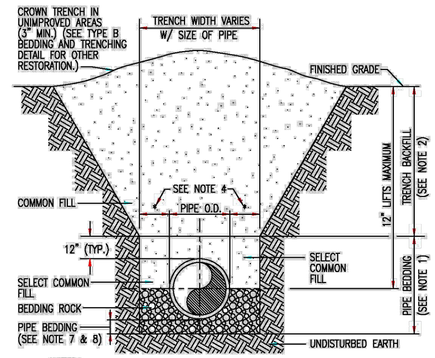
Date
OCTOBER 2019

C-12



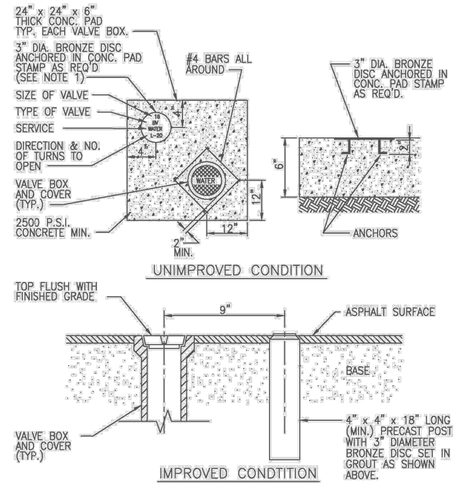
NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE CITY OF LAKE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITY OR COUNTY RIGHT-OF-WAY SHALL COMPLY WITH THE APPLICABLE REGULATIONS.

Date	Revisions	Appr. by	CITY OF LAKE CITY			
			TYPE B BEDDING AND TRENCHING DETAIL			
			Date: Sept. 1996	Scale: N.T.S.	Dwg: Q100	Fig: 100



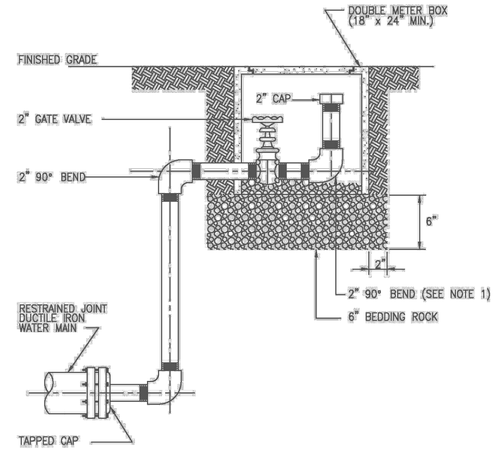
NOTES:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF LAKE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO SECTION 32.5 OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
7. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE COUNTY. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. APPLICABLE GOVERNING AGENCY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

Date	Revisions	Appr. by	CITY OF LAKE CITY			
			TYPE A BEDDING AND TRENCHING DETAIL			
			Date: Sept. 1996	Scale: N.T.S.	Dwg: Q101	Fig: 101



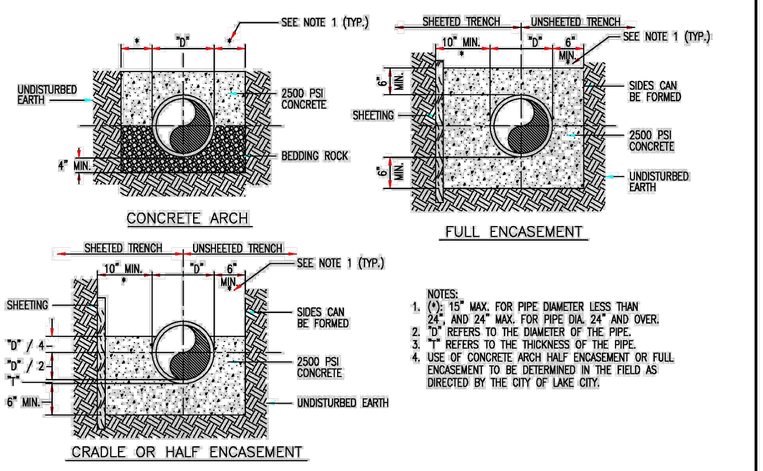
NOTES:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES.

Date	Revisions	Appr. by	CITY OF LAKE CITY			
			VALVE COLLAR DETAIL			
			Date: Sept. 1996	Scale: N.T.S.	Dwg: Q107	Fig: 107



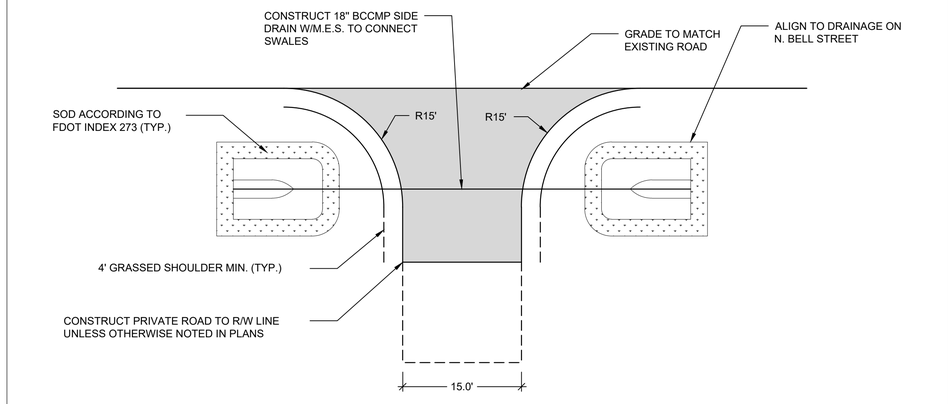
NOTES:
1. ALL 2" PIPE AND FITTINGS SHALL BE SCHEDULE 40 GALVANIZED STEEL OR BRASS WITH THREADED (NPT) JOINTS.
2. BEND SHALL BE ROTATED APPROXIMATELY 20° FROM VERTICAL.

Date	Revisions	Appr. by	CITY OF LAKE CITY			
			BLOW OFF VALVE DETAIL			
			Date: Sept. 1996	Scale: N.T.S.	Dwg: Q403	Fig: 403



NOTES:
1. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIA. 24" AND OVER.
2. "D" REFERS TO THE DIAMETER OF THE PIPE.
3. "T" REFERS TO THE THICKNESS OF THE PIPE.
4. USE OF CONCRETE ARCH HALF ENCASEMENT OR FULL ENCASEMENT TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF LAKE CITY.

Date	Revisions	Appr. by	CITY OF LAKE CITY			
			WASTEWATER PUMP STATION PLANS, SECTIONS AND NOTES			
			Date: Sept. 1996	Dwg: Q301	Fig: 301	



HATCHING DENOTES
PAVEMENT SHALL BE 165#/SY TYPE SP-12.5 SURFACE COURSE
TRAFFIC LEVEL "B" ASPHALTIC CONCRETE
OPTIONAL BASE GROUP 4

LIFT STATION DRIVEWAY CONNECTION

SCALE: N.T.S

CITY: DIVGROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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No.	Date	Revisions	By	Ckd

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Professional Engineer's Name		
MICHAEL S. KNOWLES, P.E.		
Professional Engineer's No.		
67489		
State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

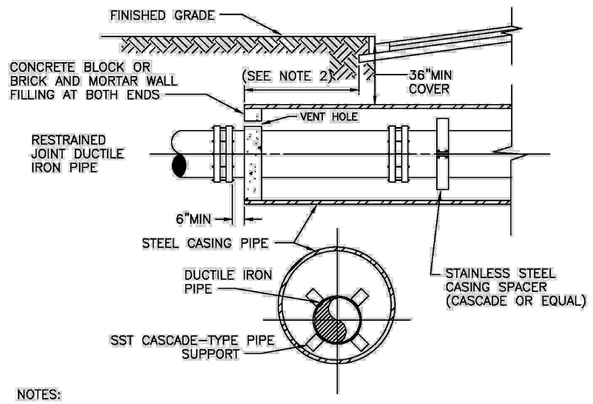
STANDARD DETAILS - I

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING
JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-13



NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMODATION MANUAL SHALL BE MET.
2. CASING SHALL BE OF SUFFICIENT LENGTH TO EXTEND UNDER ALL PAVEMENTS AND IN NO CASE SHALL THE END OF THE CASING BE CLOSER THAN EIGHT (8) FEET FROM THE PAVEMENT EDGE INCLUDING PAVED SHOULDERS PLUS ADDITIONAL LENGTH AS NECESSARY TO EXTEND TO THE EXCAVATED SLOPES OF THE JACKING AND RECEIVING PITS.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM OF A 2:1 SLOPE (ANY STEEPER AND PIT MUST BE SHEETED AND SHORED) BEGINNING EIGHT (8) FEET FROM EDGE OF PAVEMENT.
4. THE CONTRACTOR SHALL PROVIDE A 4-INCH DIP CASING VENT AS SHOWN ON THE DRAWINGS FOR RAILWAY CROSSINGS, IN LIEU OF VENT HOLE AS SHOWN ABOVE.

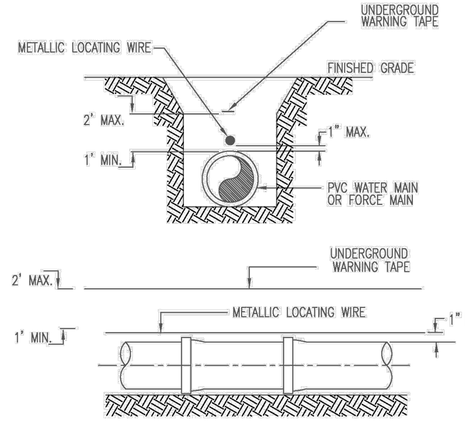
UTILITY CROSSING, BORE AND JACK

Date	Revisions	Appr. by

CITY OF LAKE CITY

BORING AND JACKING DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q106 | Fig: 106



NOTES:

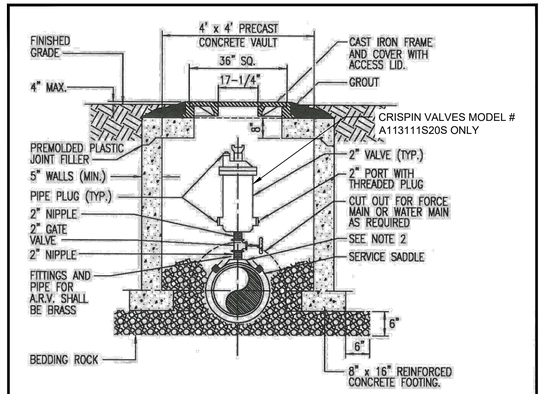
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.
2. PROPERLY COLOR CODED UNDERGROUND WARNING TAPE SHALL BE PLACED AT A MIMIMUM OF 1 FOOT ABOVE THE PIPE AND NO GREATER THAN 2 FEET ABOVE THE PIPE, FOR THE PURPOSE OF IDENTIFYING THE LOCATION OF UNDERGROUND UTILITY LINES.

Date	Revisions	Appr. by

CITY OF LAKE CITY

PVC PIPE LOCATING WIRE DETAIL

Date: FEB. 2010 | Scale: N.T.S. | Dwg: Q108 | Fig: 108



NOTES:

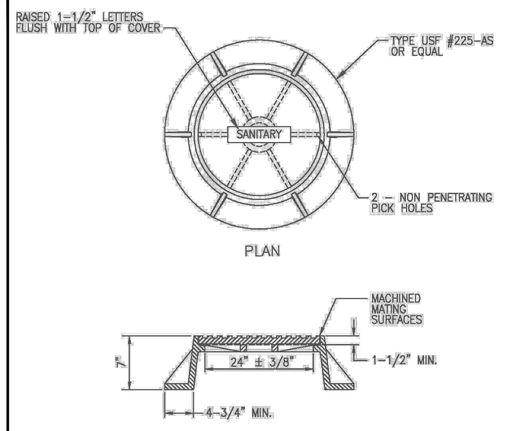
1. ABOVE DETAIL IS BASED ON 2" COMBINATION AIR/VACUUM RELEASE VALVE. CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
2. THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 4.0 FEET.

Date	Revisions	Appr. by

CITY OF LAKE CITY

AIR OR COMBINATION AIR/VACUUM RELEASE VALVE DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q109 | Fig: 109

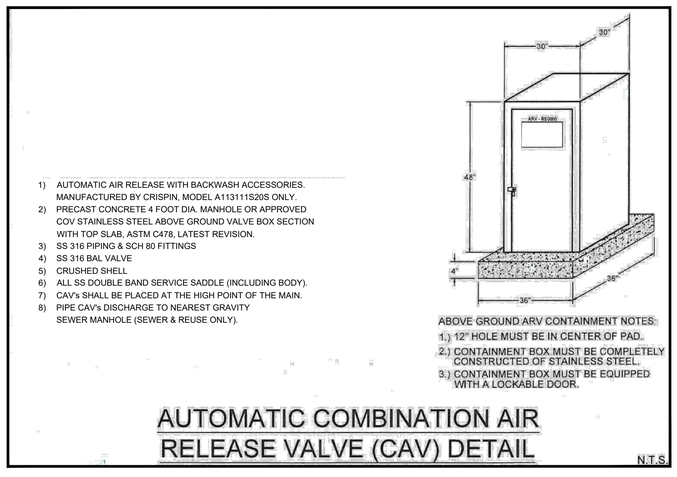


Date	Revisions	Appr. by

CITY OF LAKE CITY

SANITARY MANHOLE COVER

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q202 | Fig: 202



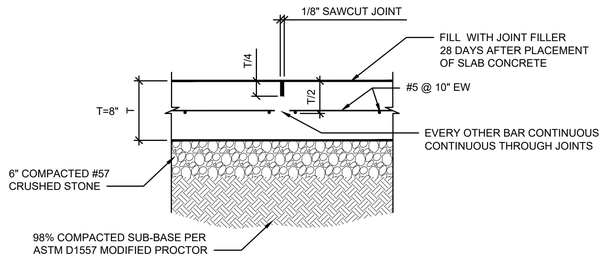
1) AUTOMATIC AIR RELEASE WITH BACKWASH ACCESSORIES. MANUFACTURED BY CRISPIN, MODEL A113111S20S ONLY.
2) PRECAST CONCRETE 4 FOOT DIA. MANHOLE OR APPROVED COV STAINLESS STEEL ABOVE GROUND VALVE BOX SECTION WITH TOP SLAB, ASTM C478, LATEST REVISION.
3) SS 316 PIPING & SCH 80 FITTINGS
4) SS 316 BAL VALVE
5) CRUSHED SHELL
6) ALL SS DOUBLE BAND SERVICE SADDLE (INCLUDING BODY).
7) CAV's SHALL BE PLACED AT THE HIGH POINT OF THE MAIN.
8) PIPE CAV's DISCHARGE TO NEAREST GRAVITY SEWER MANHOLE (SEWER & REUSE ONLY).

ABOVE GROUND ARV CONTAINMENT NOTES:

1.) 12" HOLE MUST BE IN CENTER OF PAD.
2.) CONTAINMENT BOX MUST BE COMPLETELY CONSTRUCTED OF STAINLESS STEEL.
3.) CONTAINMENT BOX MUST BE EQUIPPED WITH A LOCKABLE DOOR.

AUTOMATIC COMBINATION AIR RELEASE VALVE (CAV) DETAIL

N.T.S.

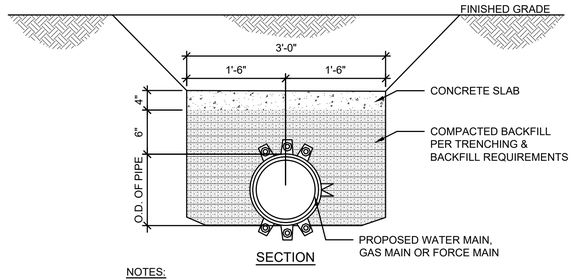


NOTES:

1. PROVIDE CONTROL (SAWCUT) JOINT EVERY 25 FT.

DRIVEWAY DETAIL

SCALE: N.T.S



SECTION

NOTES:

1. SLAB CONCRETE SHALL HAVE A MINIMUM OF 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI (MIN).
2. SHOCK PAD SHALL BE INSTALLED OVER NEW WATER MAINS, GAS MAINS OR FORCE MAINS WITH LESS THAN 36" COVER.

CONCRETE SHOCK PAD

SCALE: N.T.S

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

STANDARD DETAILS - II

ARCADIS
ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

ARCADIS Project No. 06704013.0000

Date OCTOBER 2019

C-14

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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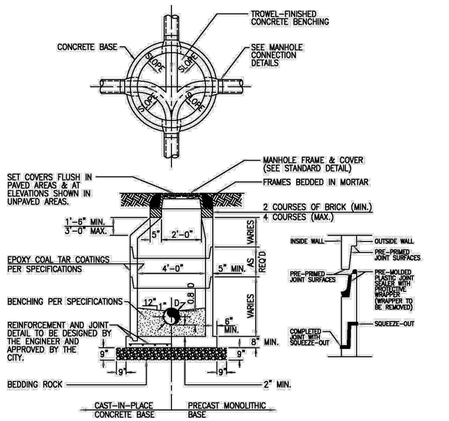


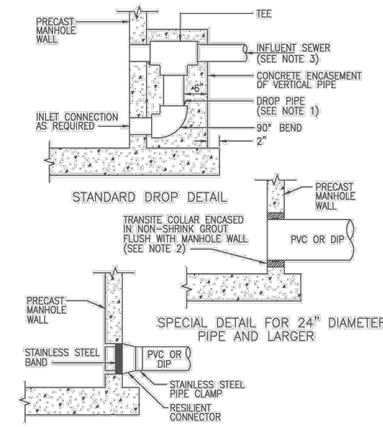
NOTES:
1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 24", SEE UTILITIES STANDARDS HANDBOOK FOR MANHOLE DIAMETER FOR SEWERS LARGER THAN 24".
2. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE MANHOLE CONNECTION DETAILS.
3. APPROVED CONCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE.

Date	Revisions	Appr. by

CITY OF LAKE CITY

PRECAST MANHOLE DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q200 | Fig: 200



STANDARD DROP DETAIL

SPECIAL DETAIL FOR 24" DIAMETER PIPE AND LARGER

STANDARD PRECAST MANHOLE PIPE CONNECTION

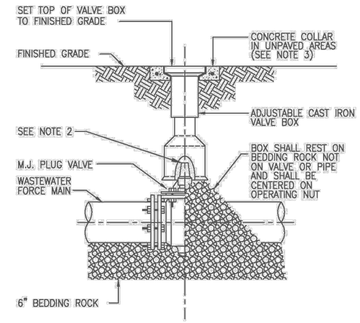
NOTES:
1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT SEWER.
2. THE CITY MAY APPROVE ALTERNATE WATER TIGHT CONNECTION DETAILS FOR CONNECTION OF 24" DIAMETER PIPES AND LARGER.
3. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT WHICH HAVE AN INVERT 2' OR MORE ABOVE THE MANHOLE INVERT.

Date	Revisions	Appr. by

CITY OF LAKE CITY

MANHOLE CONNECTION DETAILS

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q201 | Fig: 201



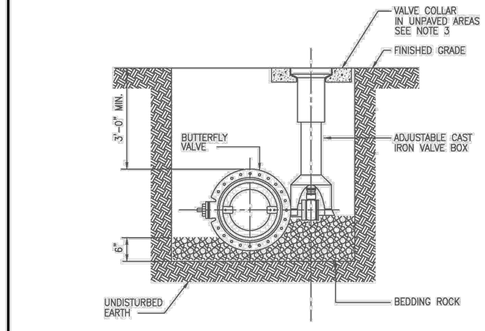
NOTES:
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.
3. VALVE COLLAR SHALL BE 18"X18"X6" CONCRETE COLLAR W/4 – #4 BARS.

Date	Revisions	Appr. by

CITY OF LAKE CITY

PLUG VALVE AND BOX DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q203 | Fig: 203



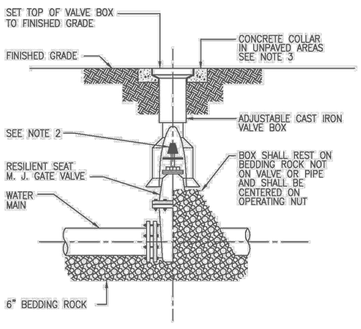
NOTES:
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. ALL WATER SHUT-OFF VALVES SIXTEEN (16) INCHES AND LARGER SHALL BE BUTTERFLY VALVES.
3. VALVE COLLAR SHALL BE 18"X18"X6" CONCRETE COLLAR W/4 – #4 BARS.

Date	Revisions	Appr. by

CITY OF LAKE CITY

BUTTERFLY VALVE AND BOX DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q401 | Fig: 401



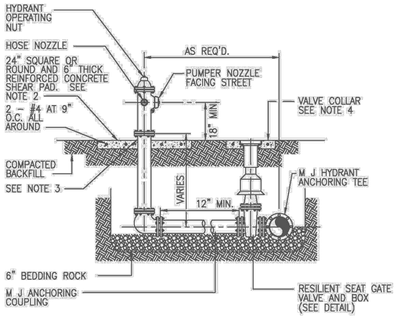
NOTES:
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.
3. VALVE COLLAR SHALL BE 18"X18"X6" CONCRETE COLLAR W/4 – #4 BARS.

Date	Revisions	Appr. by

CITY OF LAKE CITY

GATE VALVE AND BOX DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q400 | Fig: 400



NOTES:
1. FIRE HYDRANT SHALL BE SUPPLIED WITHOUT A WEEP HOLE, OR WITH A PERMANENTLY PLUGGED WEEP HOLE.
2. THE DEVELOPER MAY INSTALL THE SHEAR PAD RECESSED UP TO 4 INCHES BELOW FINISHED GRADE AND SOD THE RECESSED SECTION.
3. CLEARANCE BETWEEN BOTTOM OF BOLTS AND TOP OF SHEAR PAD SHALL BE A 6" MINIMUM.
4. VALVE COLLAR SHALL BE 18"X18"X6" CONCRETE COLLAR W/4 – #4 BARS
5. USE M&H MODEL 129 HYDRANT ONLY

Date	Revisions	Appr. by

CITY OF LAKE CITY

FIRE HYDRANT ASSEMBLY DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q402 | Fig: 402

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	**Drawn by**	**Checked by**
SP	AGG	MSK

MICHAEL S. KNOWLES P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

STANDARD DETAILS - III

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

ARCADIS Project No. 06704013.0000

Date OCTOBER 2019

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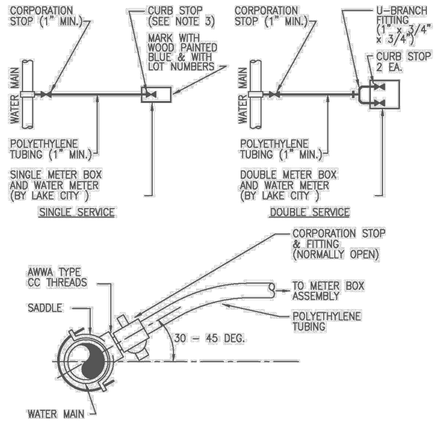


NOTES:
1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL TERMINATE UNDER A DRIVEWAY.
3. EACH SERVICE SHALL TERMINATE AT A CURB STOP(S) WHICH SHALL BE BURIED APPROXIMATELY 3" BELOW FINAL GRADE AND SHALL BE CLEARLY MARKED WITH A 2" X 2" X 18" STAKE WITH THE TOP PAINTED BLUE AND MARKED WITH THE NUMBER OF THE LOT(S) TO BE SERVED.
4. INDENT CURB WITH "W" AT EACH WATER SERVICE LOCATION

Date	Revisions	Appr. by

CITY OF LAKE CITY

WATER SERVICE CONNECTION DETAILS

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q405 | Fig: 405

MINIMUM LENGTH (FT) TO BE RESTRAINED UN EACH SIDE OF FITTING(S). *									
	PIPE SIZE								
	6"	8"	10"	12"	16"	20"	24"	30"	36"
90° BEND	71'	N/A	N/A	159'	N/A	N/A	N/A	N/A	N/A
45° BEND	20'	N/A	N/A	90'	N/A	N/A	N/A	N/A	N/A
22-1/2° BEND	20'	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A
11-1/4° BEND	20'	N/A	N/A	20'	N/A	N/A	N/A	N/A	N/A
PLUG BRANCH OF TEE OR VALVE	98'	N/A	N/A	189'	N/A	N/A	N/A	N/A	N/A

NOTES:
1. FITTINGS SHALL BE RESTRAINED JOINTS UNLESS OTHERWISE INDICATED.
2. INSTALL FULL LENGTH JOINTS WITH TOTAL LENGTH EQUAL TO OR GREATER THAN SHOWN IN THE TABLE.
3. WHERE TWO OR MORE FITTINGS ARE TOGETHER, USE FITTING WHICH YIELDS GREATEST LENGTH OF RESTRAINED PIPE.
4. IN LINE VALVES AND THROUGH RUN OF TEES OUTSIDE LIMITS OF RESTRAINED JOINTS FROM OTHER FITTINGS NEED NOT BE RESTRAINED UNLESS OTHERWISE INDICATED.
5. LENGTHS SHOWN IN THE TABLE HAVE BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AS PUBLISHED BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:

   WORKING PRESSURE: 150 P.S.I.*
   SOIL DESIGNATION: SP/SM *
   LAYING CONDITIONS: 3.0' *

6. FOR PIPE ENCASED IN POLYETHYLENE, USE VALUES GIVEN IN PARENTHESES OR INCREASE THE GIVEN VALUE BY A FACTOR OF 1.5.

* TO BE COMPLETED BY THE ENGINEER.

Date	Revisions	Appr. by

CITY OF LAKE CITY

RESTRAINED PIPE DETAIL

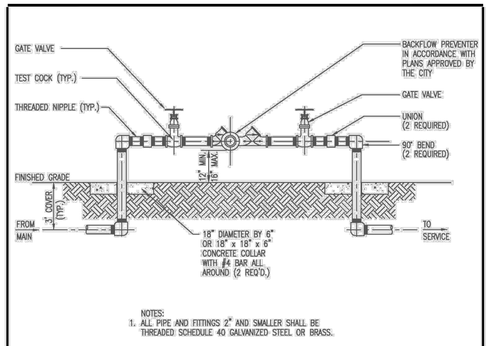
Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q104 | Fig: 104

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main — 3 ft. minimum	Water Main — 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum — Water Main
Vacuum Sanitary Sewer	Water Main — 10 ft. preferred, 3 ft. minimum	Water Main — 12 inches preferred, 6 inches minimum	Alternate 3 ft. minimum — Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main — 10 ft. preferred, 6 ft. minimum (3)	Water Main — 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum — Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer – This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.



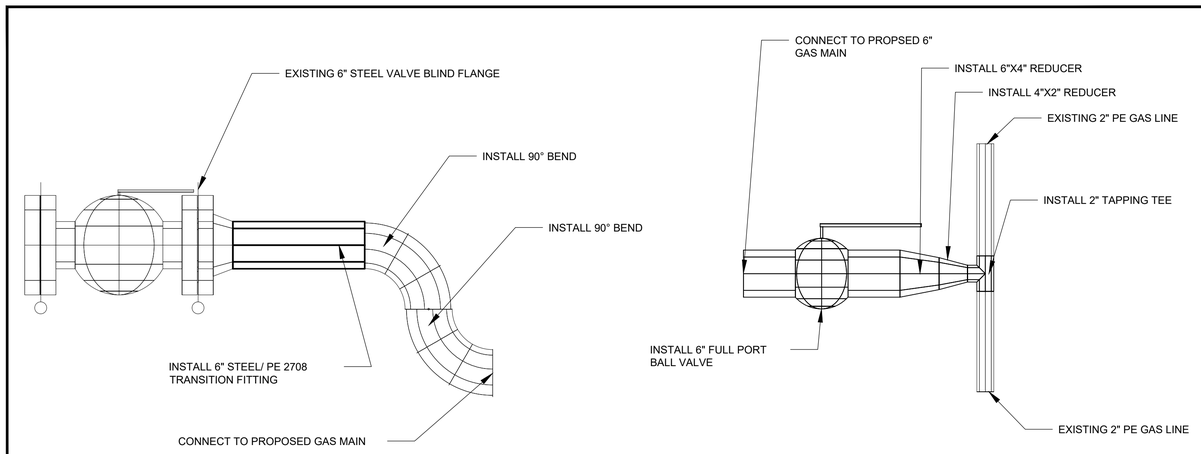
NOTES:
1. ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED SCHEDULE 40 GALVANIZED STEEL OR BRASS.

Date	Revisions	Appr. by

CITY OF LAKE CITY

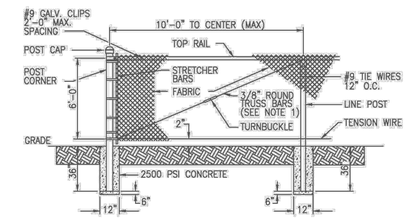
REDUCED PRESSURE BACKFLOW PREVENTER

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q501 | Fig: 501

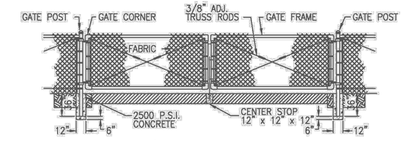


CONNECTION AT CR 25A

CONNECTION AT BELL ST AND U.S. 441



FENCE DETAIL



20' DOUBLE SWING GATE DETAIL

NOTES:
1. TRUSS BARS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.

Date	Revisions	Appr. by

CITY OF LAKE CITY

CHAIN LINK FENCE DETAIL

Date: Sept. 1996 | Scale: N.T.S. | Dwg: Q307 | Fig: 307

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489
State: FL | Date Signed: | Project Mgr.: SKC
Designed by: SP | Drawn by: AGG | Checked by: MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

STANDARD DETAILS - IV

ARCADIS Project No.: 06704013.0000
Date: OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

C-16

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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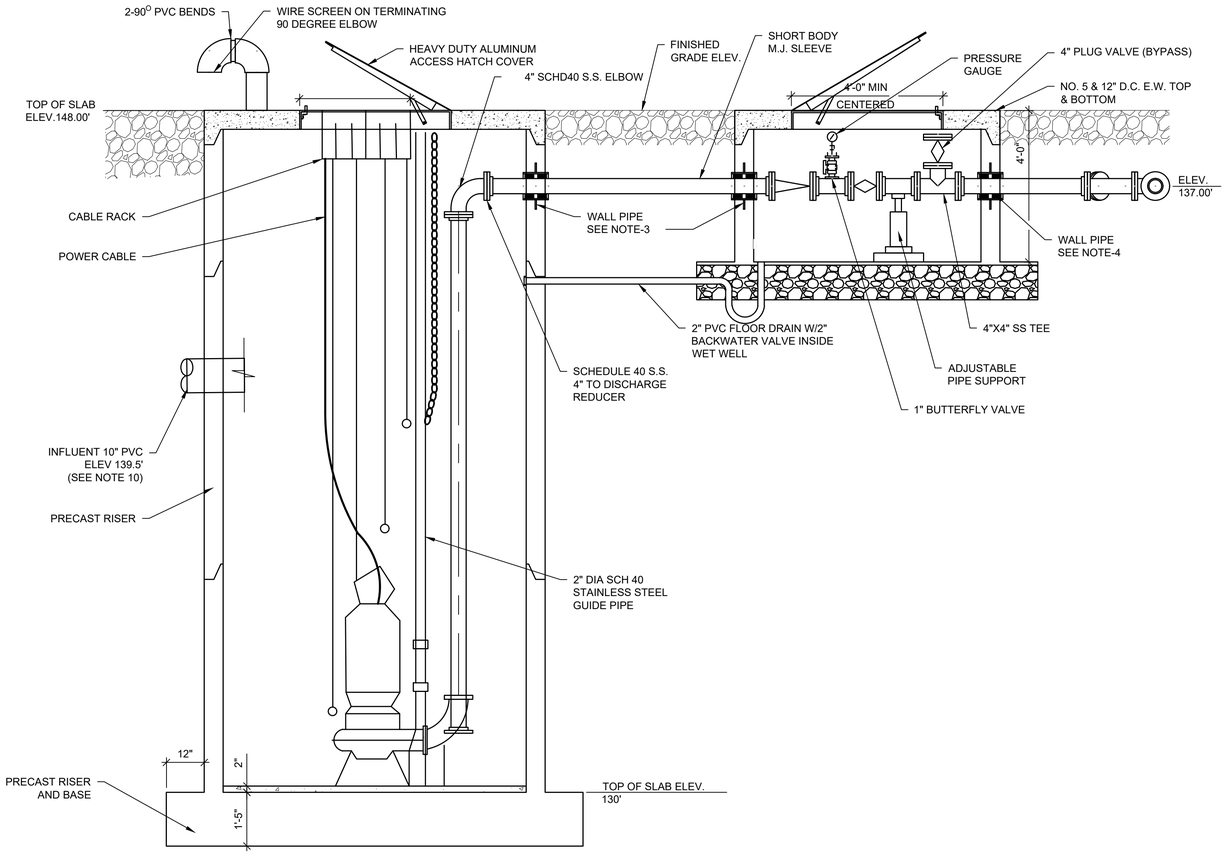
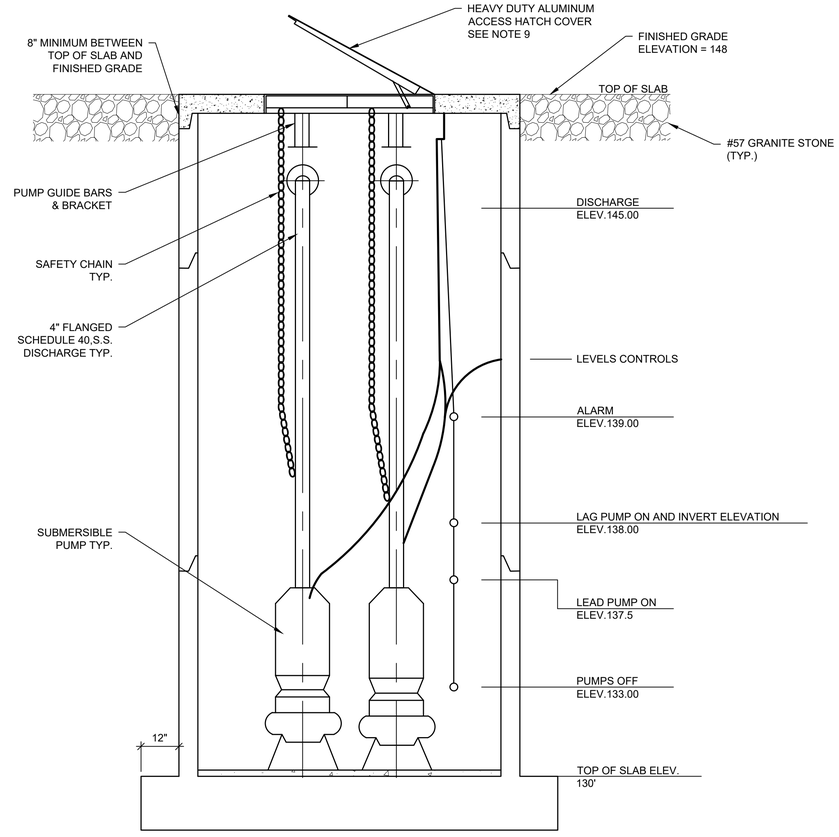


A M-01 SECTION

SCALE : 1/2" = 1'-0"

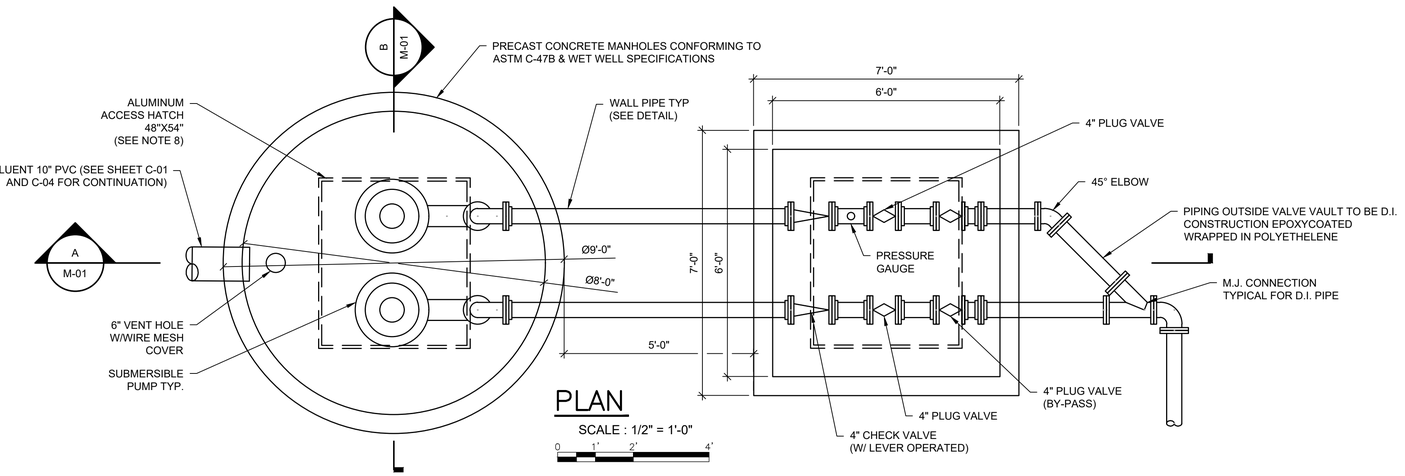
0 1' 2' 4'



B M-01 SECTION

SCALE : 1/2" = 1'-0"

0 1' 2' 4'



PLAN

SCALE : 1/2" = 1'-0"

0 1' 2' 4'

NOTES:

1. LIFT STATION PUMP ASSEMBLY SHALL INCLUDE ALL ELECTRICAL CONTROLS, ALARMS AND TELEMETRY CONTROLS AS REQUIRED BY THE CITY OF LAKE CITY.

PUMP STATION DATA			
	B.H.P.	G.P.M.	T.D.H.
CAPACITY PER PUMP	7.5	200	52'

2. WET WELL AND VALVE VAULT SHALL BE COATED WITH "FARBERTITE" OR COAL TAR EQUIVALENT INSIDE AND OUT (TWO COATS, 9 MILS EACH).
3. WET WELL BASE AND FIRST RISER SHALL BE PRECAST AS A CONTIGUOUS UNIT.
4. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE "BOOT" OR FILLED WITH NON-SHRINK GROUT.
5. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
6. WET WELL AND VALVE VAULT COVERS SHALL BE 48"X54" "HEAVY DUTY" ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET.
7. PROVIDE SUBMITTAL OF PRECAST WET WELL, VAULT STRUCTURES WITH SIGNED AND SEALED CALCULATIONS FOR REVIEW AND APPROVAL BY ENGINEER.
8. ALL PIPE FITTINGS INSIDE OF THE WET-WELL AND VALVE BOX SHALL BE FLANGE x FLANGE, ALL MJ PIPE FITTINGS OUTSIDE OF THE WET WELL & VALVE BOX SHALL BE RESTRAINED WITH MEG-A-LUG COLLARS.
9. WET WELL AND VALVE VAULT ACCESS HATCH SHALL BE MANUFACTURED BY RDS HATCHES, PERRY FLORIDA MODEL #10030 ONLY.
10. INSTALL INTERIOR DROP CONNECTION ON 10" PVC ENTERING WET WELL (SEE DETAIL C-08).
11. PROVIDE INSULATING COUPLINGS BETWEEN STAINLESS STEEL AND DUCTILE IRON PIPE MEETING REQUIREMENTS OF ASTM D 2000.
12. THE WET WELL FLOOR SHALL HAVE A MINIMUM SLOPE OF 1 TO 1 TO THE HOPPER BOTTOM. THE HORIZONTAL AREA OF THE HOPPER BOTTOM SHALL BE NO GREATER THAN NECESSARY FOR PROPER INSTALLATION AND FUNCTION OF THE PUMP INLET.

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.

Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	**Drawn by**	**Checked by**
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY · GATEWAY TO FLORIDA ·

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA

BELL STREET REGIONAL UTILITIES

LIFT STATION PLAN, SECTIONS AND NOTES

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

M-01

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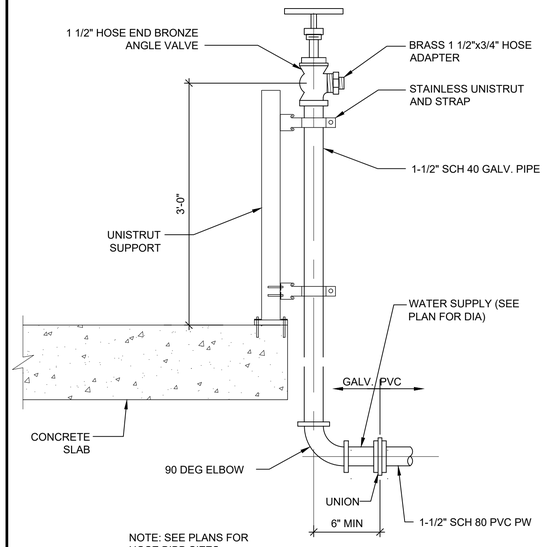
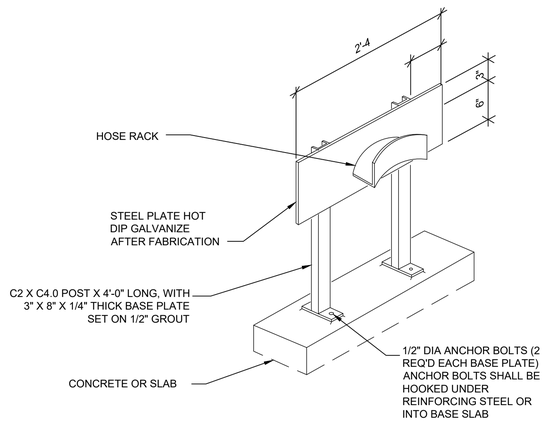


HOSE VALVE DETAIL



HOSE RACK SUPPORT DETAIL

GENERAL NOTES:

1. HOSE RACK SHALL BE OF ALL WELDED CONSTRUCTION. MATERIAL SHALL BE MINIMUM OF 3/16 INCH THICK STEEL.

2. UTILITY STATIONS FASTENERS AND MOUNTING HARDWARE SHALL BE TYPE 316 STAINLESS STEEL.

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Professional Engineer's Name: MICHAEL S. KNOWLES, P.E.
Professional Engineer's No.: 67489

State	Date Signed	Project Mgr.
FL		SKC
Designed by	Drawn by	Checked by
SP	AGG	MSK

MICHAEL S. KNOWLES
P.E. NO. 67489

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

MECHANICAL DETAILS - I

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

M-02

DIAGRAMS:

S [S] [S] — POWER ON-OFF SNAP SWITCH, 1PH, 120V AC, 20A
S2-DENOTES, 2 POLE, 240 VOLTS, 20A

[MS] — 20A TWO OR THREE POLE MANUAL STARTER,

PUSH-BUTTON STATION

PUSH-BUTTON STATION WITH LOCK-OUT FEATURE

SELECTOR SWITCH

INDICATING LIGHT

[CS] — CONTROL STATION

[H O A] — HAND-OFF-AUTO SELECTOR SWITCH CONTROL STATION

[VCS] — CONTROL STATION FURNISHED BY EQUIPMENT VENDOR

(A) (AS) — AMMETER - AMMETER SWITCH

(V) (VS) — VOLTMETER - VOLTMETER SWITCH

[F] 60/40 — DISCONNECT SWITCH - 480V 3POLE UNFUSED OR FUSED F
DENOTES FUSING, ONLY WHERE INDICATED. FIRST NUMBER
DENOTES SWITCH AMP RATING. SECOND NUMBER DENOTES
FUSE SIZE WHEN PROVIDED.

[VFD-B] — VARIABLE FREQUENCY DRIVE - VFD -B WHEN INDICATED
DENOTES WITH STARTING AND FULL SPEED BYPASS

[CS] — CONTROL STATION

[JB] — JUNCTION BOX; SIZE AS REQUIRED BY N.E.C.

[T] — TERMINAL BOX; SIZE AS REQUIRED BY N.E.C. AND
TO ACCOMODATE ALL TERMINATIONS ON
TERMINAL BLOCKS. TERMINATIONS TO INCLUDE
SPARE WIRING.

[PB] — PULL BOX; SIZE AS REQUIRED BY N.E.C.

(M) (5) — ELECTRIC MOTOR (NUMBER INDICATES HORSEPOWER).

[MV] — MOTORIZED VALVE WITH CONTROLLER BY VENDOR

[MG] — MOTORIZED GATE WITH CONTROLLER BY VENDOR

[SV] — SOLENOID VALVE

PFD — PFD DENOTES PULL FUSE
DISCONNECT TYPE

600/5 / 3 — CURRENT TRANSFORMER, RATIO AND QUANTITY DENOTED

POTENTIAL TRANSFORMER

S S T — 800/600 — FIXED MOUNTED POWER OR MOLDED CASE CIRCUIT BREAKER
WITH RMS TYPE SOLID STATE TRIP PROGRAMMER.

(400P) — DENOTES PLUG RATING WHEN LESS THAN SENSOR RATING IS
REQUIRED

100/CB 2P — (TRIP SIZE)

THERMAL-MAGNETIC CIRCUIT BREAKER 2P WHEN
NOTED DENOTES 2 POLE CIRCUIT BREAKERS ARE
3 POLE UON

7A/MCP — AC COMBINATION
FULL VOLTAGE NON-REVERSING STARTER
(CONTINUOUS AMP RATING)
(MOTOR CIRCUIT PROTECTOR)
MAGNETIC BREAKER

MAGNETIC MOTOR STARTER

OVERLOAD RELAY

7A/MCP, R — AC COMBINATION FULL VOLTAGE
REVERSING STARTER

TRANSFORMER- SIZE AS NOTED ON THE DRAWINGS

DISCONNECT SWITCH WITH
FUSING WHERE NOTED

SUBMERSIBLE CABLES
BY VENDOR

[TVSS] — TRANSIENT VOLTAGE SURGE SUPPRESSOR

PLANS:

I-2 / GF/SS — DUPLEX CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE, 120
VOLTS A.C. 20 AMP RECEPTACLE DESIGNATIONS, FIRST
NUMBER DENOTES PANEL, SECOND NUMBER DENOTES
CIRCUIT NUMBER. GF-DENOTES GROUND FAULT TYPE.
SS-DENOTES SURGE SUPPRESSION TYPE WP-DENOTES
WEATHERPROOF ENCLOSURE

SINGLE CONVENIENCE RECEPTACLE, 2 POLE,
3 WIRE; 120 VOLTS AC. 20 AMP UNLESS
NOTED OTHERWISE ON DRAWINGS.

POWER RECEPTACLE, 2 POLE, 3 WIRE
250 VOLTS A.C. 20 AMP UNLESS
NOTED OTHERWISE ON DRAWINGS.

GENERATOR RECEPTACLE

S^a — SINGLE POLE SWITCH - LOWER CASE
LETTER DENOTES SWITCHING.

S_2 — TWO POLE SWITCH

S_3 — THREE-WAY SWITCH

S_4 — FOUR-WAY SWITCH

INDICATES NEW EQUIPMENT/EXPOSED CONDUIT

INDICATES EXISTING EQUIPMENT/CONDUIT

INDICATES CONCEALED OR UNDERGROUND
EQUIPMENT/CONDUIT

CONDUIT TURN DOWN

CONDUIT TURN UP

CONDUIT CAPPED

[JB] LP1-2 / 10 — LETTERS AND NUMBERS INDICATE PANEL AND CIRCUIT NUMBER
(LP1-2). CROSS LINES INDICATE NUMBER OF CONDUCTORS. HALF
HASH MARKS INDICATES NEUTRAL. NUMBER (10) DENOTES WIRE
SIZE WHEN NOT #12 AWG. CONTINUE CONDUIT AND WIRE RUN
FROM BOX TO DEVICE IN ROOM OR AREA AS NOTED BY BRANCH
CIRCUIT NUMBER. #10 AWG WIRING SHALL BE USED FOR RUNS
BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE
EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.

INDICATES GROUND CONDUCTOR

C12 — INDICATES HOMERUN AND CONDUIT TAG

[EMH] — ELECTRICAL MANHOLE

[EHH] — ELECTRICAL HANDHOLE

[TMH] — TELEPHONE MANHOLE

[THH] — TELEPHONE HANDHOLE

[PC] — PHOTOCELL

FLUORESCENT LIGHTING FIXTURE - SURFACE OR PENDANT
MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (HW-LP),
SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER.
LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.

LED WALL MOUNTED LIGHTING FIXTURE.

FLUORESCENT LIGHTING FIXTURE - SURFACE OR PENDANT
MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (HW-LP),
SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER.
LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.

FLUORESCENT LIGHTING FIXTURE WITH BATTERY PACK -
SURFACE OR PENDANT MOUNTED.

WALL MOUNTED LIGHTING FIXTURE.

POLE OR STANCHION MOUNTED LIGHTING FIXTURE.

TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES

GF — POLE MOUNTED FIXTURE WITH GF RECEPTACLE

LED SELF CONTAINED DC EMERGENCY LIGHTING UNIT.
LETTER DENOTES FIXTURE TYPE.

LED SELF CONTAINED DC EMERGENCY LIGHTING UNIT.
LETTER DENOTES FIXTURE TYPE.

D / 150 / 10'-0" AFF — FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE
SCHEDULE FOR DESCRIPTION AND TYPE. ALL FIXTURES
SHOWN IN A ROOM WITH THIS SYMBOL SHALL BE OF TYPE
INDICATED BY LETTER; NUMBER IN SYMBOL INDICATES
LAMP WATTAGE AND NUMBER OF LAMPS WHERE MORE THAN
ONE (UNLESS OTHERWISE NOTED). NUMBER BELOW
SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED
FLOOR OR AS NOTED.

(M) 1-24 (UH) 1-24 OR 1-24 — MOTOR, UNIT HEATER-NUMERAL DENOTES
LIGHTING PANEL AND BRANCH CIRCUIT
NUMBER. MOTOR SYMBOL SHOWN DASHED
DENOTES EQUIPMENT LOCATED ON ROOF.

(T) — THERMOSTAT

GROUND ROD

GROUND TEST POINT

GROUND GRID CABLE CONNECTION

GROUND

#4/0 GROUND CABLE BURIED 2'-6" BELOW
GRADE, UNLESS NOTED OTHERWISE

INSTRUMENTS:

(PS 123) — INSTRUMENT DEVICE: LETTERS IDENTIFY
DEVICE FUNCTION, NUMBERS WHERE INDICATED
DENOTE LOOP NUMBER

(PC) — PRESSURE CONTROLLER

(PS) — PRESSURE SWITCH (PSH DENOTES PRESSURE SWITCH HIGH
AND PSL DENOTES PRESSURE LOW)

ABBREVIATIONS:

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
C, CND	CONDUIT
CB	CIRCUIT BREAKER
CBV	CABLE BY VENDOR, INSTALLED BY CONTRACTOR
CKT	CIRCUIT
CNTRL	CONTROL
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
DB	DECIBEL
DC	DIRECT CURRENT
DN	DOWN
DISC	DISCONNECT
DPDT	DOUBLE POLE DOUBLE THROW
DS	DISCONNECT SWITCH
EC	EMPTY CONDUIT
EHH	ELECTRICAL HANDHOLE
EL, ELEV	ELEVATION
EMH	ELECTRICAL MANHOLE
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
EXIST	EXISTING
FDR	FEEDER
FIXT	FIXTURE
FT	FEET OR FOOT
FVNR	FULL VOLTAGE NON-REVERSING
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
G, GND	GROUND
GFI	GROUND FAULT INTERRUPTOR
HH	HAND HOLE
HOA	HAND/OFF/AUTO
HZ	HERTZ
JB	JUNCTION BOX, CONDUIT, FITTING AS REQUIRED BY NEC, UNLESS OTHERWISE NOTED
KAIC	THOUSAND AMPERES INTERRUPTING CURRENT
KCMIL	THOUSAND CIRCULAR MILS
KVA	THOUSAND VOLT AMPERES
KW	KILOWATTS
LA	LIGHTNING ARRESTOR
LCP	LOCAL CONTROL PANEL
LS	LEVEL SWITCH
LTG	LIGHTING
M	MOTOR
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MIN	MINIMUM
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
NA	NON-AUTOMATIC
N/A	NOT APPLICABLE
NCTC	NORMALLY CLOSED, TIME CLOSE
NCTO	NORMALLY OPEN, TIME OPEN
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OL	OVERLOAD RELAY
PB	PUSH BUTTON
P/B	PULL BOX
PFC	POWER FACTOR CORRECTION CAPACITORS
PFD	PULL FUSE DISCONNECT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RECEP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SP	SPARE
SPD	SURGE PROTECTION DEVICE
SST	STAINLESS STEEL
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEW	THERMOCOUPLE EXTENSION WIRE
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES:

1. THE SYMBOLS AND ABBREVIATIONS LIST ON THIS SHEET IS A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND ABBREVIATIONS CONTAINED IN THIS LIST ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
2. THE CONTRACTOR SHALL READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE THAT HE UNDERSTANDS THE FULL SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE HIS ESTIMATORS, SUPPLIERS AND INSTALLERS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS.
4. PROVIDE MEANS TO FURNISH AND INSTALL.
5. COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION IN ORDER TO AVOID CONFLICTS DURING CONSTRUCTION.
6. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS.
7. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ENFORCED EDITION OF THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE, LIFE SAFETY CODE, FLORIDA BUILDING CODE AND ALL LOCAL AND STATE CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
9. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N.

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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Professional Engineer's Name: ERIC B. BATTLE II, P.E.
Professional Engineer's No.: 81285
State: FL | Date Signed: | Project Mgr.: SKC
Designed by: EB | Drawn by: VN | Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

ELECTRICAL NOTES, LEGEND & ABBREVIATIONS

ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING
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TAMPA, FLORIDA 33607
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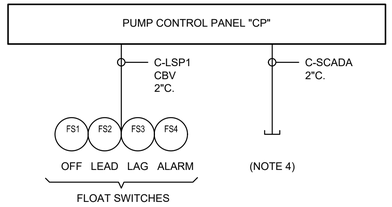


INTERCONNECT DIAGRAM

LIFT STATION CP LOAD CALC

EQUIPMENT	HP/KVA	CONNECTED LOAD (A)	RUNNING LOAD (A)
LIFT STATION PUMP NO. 1	7.5 HP	19.70	19.70
LIFT STATION PUMP NO. 2	7.5 HP	19.70	19.70
RECEPTACLE	0.18 KVA	1.30	1.30
120V CONTROLS	0.1 KVA	0.70	0.70
SUBTOTAL		41.40	41.40
25% OF LARGEST MOTOR			4.93
LOAD PER NEC 430.24			46.33

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE A	KVA PER PHASE B	KVA PER PHASE C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	40	SPD			3	0.5			1	3.6	0.5	AREA LIGHT	20	2
							0.2		1	1.3	0.18	DUPLEX RECEPTACLE	20	4
								0.0	1			SPARE	20	6
7	60	CP PANEL	17.2	41.4	3	5.7			3			SPARE	60	8
							5.7							
								5.7						
13	20	SPARE			1	0.0			1			SPACE		14
15	20	SPARE			1		0.0		1			SPACE		16
17		SPACE			1			0.0	1			SPACE		18
			TOTAL KVA			6.2	5.9	5.7						
			GRAND CONNECTED TOTAL KVA				17.9							

PANEL **DP**
LOCATION LIFT STATION
BUILDING
NOTES:

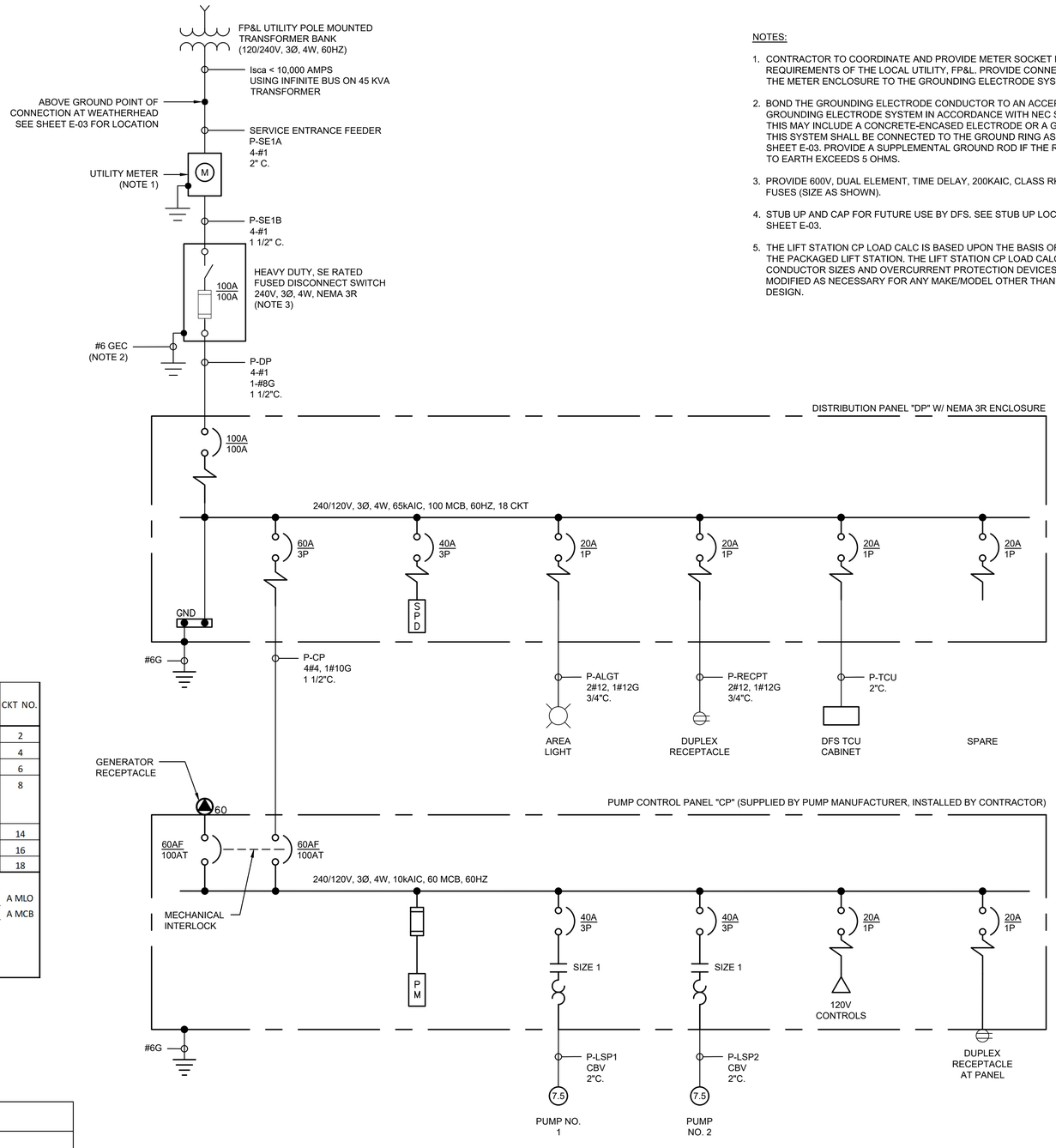
SERVICE CHARACTERISTICS
VOLTS: 240/120
PHASE: 3
WIRE: 4
65k MIN AIC SYMM, FULLY RATED ASSEMBLY

A MLO
100 A MCB

PANEL SCHEDULE

LIGHTING FIXTURE SCHEDULE

FIXTURE LETTER	FIXTURE DESCRIPTION	BULB TYPE	MANUFACTURE MODEL NO.	REMARKS
AL	LITHONIA POST-MOUNT OUTDOOR LED AREA LIGHT. DIE-CAST ALUMINUM HOUSING WITH CLEAR POLYCARBONATE LENS. TWIST-LOCK REPLACEABLE PHOTOCELL. 5000K LIGHT ENGINE	LED	TDD2 LED P1 50K 120 PER DNA M4 OMA	MOUNT TO 2" RGS CONDUIT AT HEIGHT INDICATED IN ON SHEET E-03



ONE LINE DIAGRAM

NOTES:

1. CONTRACTOR TO COORDINATE AND PROVIDE METER SOCKET PER THE REQUIREMENTS OF THE LOCAL UTILITY, FP&L. PROVIDE CONNECTION FROM THE METER ENCLOSURE TO THE GROUNDING ELECTRODE SYSTEM.
2. BOND THE GROUNDING ELECTRODE CONDUCTOR TO AN ACCEPTABLE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC SECTION 250. THIS MAY INCLUDE A CONCRETE-ENCASED ELECTRODE OR A GROUND ROD. THIS SYSTEM SHALL BE CONNECTED TO THE GROUND RING AS SHOWN ON SHEET E-03. PROVIDE A SUPPLEMENTAL GROUND ROD IF THE RESISTANCE TO EARTH EXCEEDS 5 OHMS.
3. PROVIDE 600V, DUAL ELEMENT, TIME DELAY, 200KAIC, CLASS RK5 TYPE FUSES (SIZE AS SHOWN).
4. STUB UP AND CAP FOR FUTURE USE BY DFS. SEE STUB UP LOCATION ON SHEET E-03.
5. THE LIFT STATION CP LOAD CALC IS BASED UPON THE BASIS OF DESIGN FOR THE PACKAGED LIFT STATION. THE LIFT STATION CP LOAD CALC, CONDUCTOR SIZES AND OVERCURRENT PROTECTION DEVICES SHALL BE MODIFIED AS NECESSARY FOR ANY MAKE/MODEL OTHER THAN THE BASIS OF DESIGN.

NOT TO SCALE

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No.	Date	Revisions	By	Ckd

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.

Professional Engineer's Name: ERIC B. BATTLE II, P.E.
Professional Engineer's No.: 81285
State: FL | Date Signed: | Project Mgr.: SKC
Designed by: EB | Drawn by: VN | Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

ONE LINE, INTERCONNECT DIAGRAMS & PANEL SCHEDULE

ARCADIS Project No. 06704013.0000
Date OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

E-02

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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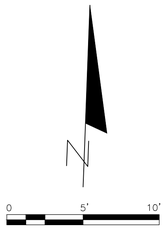

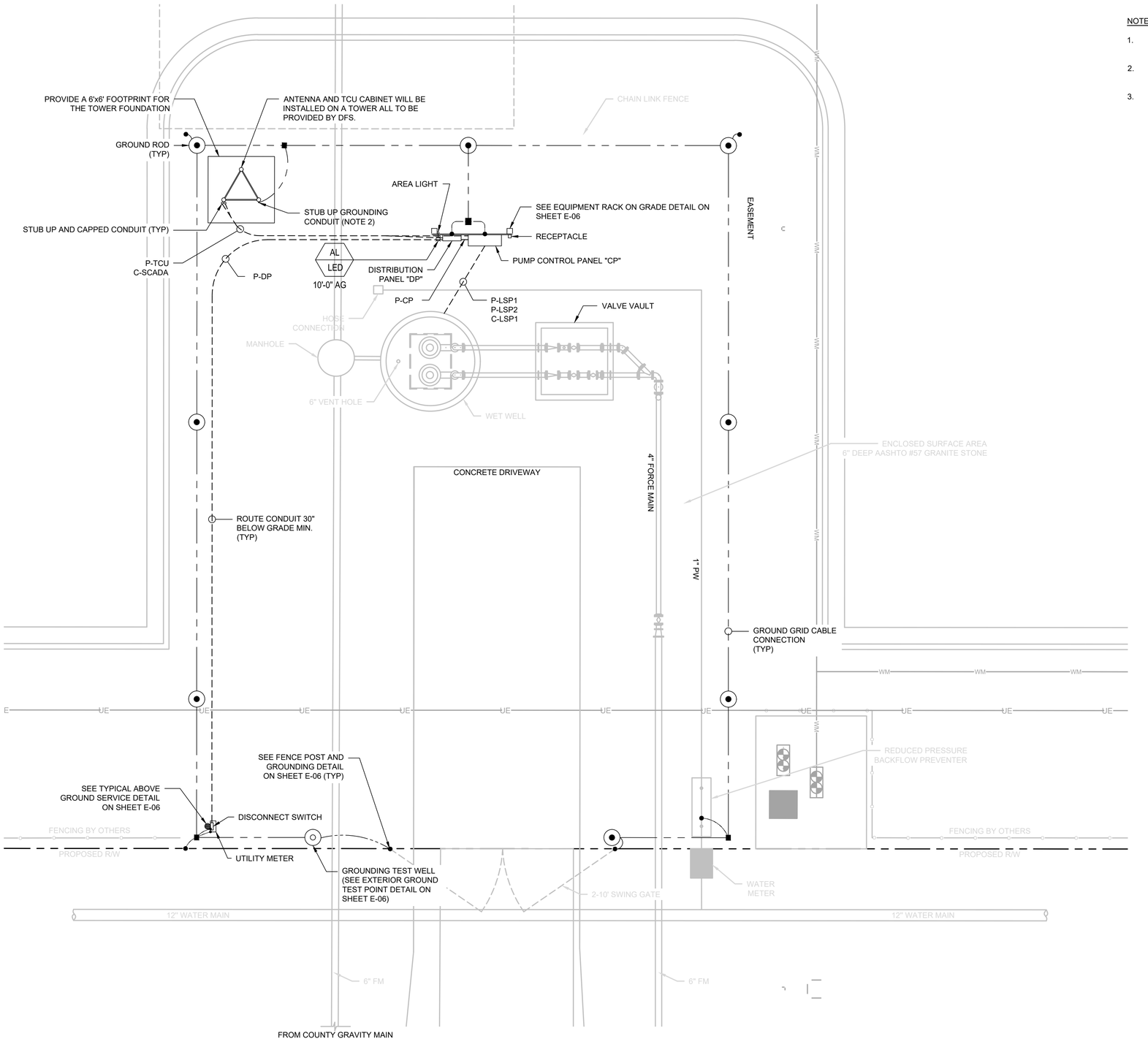

NOTES:

1. COORDINATE EXACT CONNECTION POINT WITH THE UTILITY FP&L PRIOR TO START OF WORK.
2. PROVIDE 20FT COILED GROUND CABLE AT EACH STUB UP GROUNDING CONDUIT LOCATIONS FOR FUTURE USE BY DFS.
3. FOR MORE INFORMATION ON THE SCOPE OF WORK FOR THE RTU PROVIDER/INSTALLER/INTEGRATOR, REFERENCE QUOTE NO. 190816-01-RW LOCATED IN DIVISION 0 SPECIFICATIONS.

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

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Professional Engineer's No.: 81285		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: EB	Drawn by: VN	Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

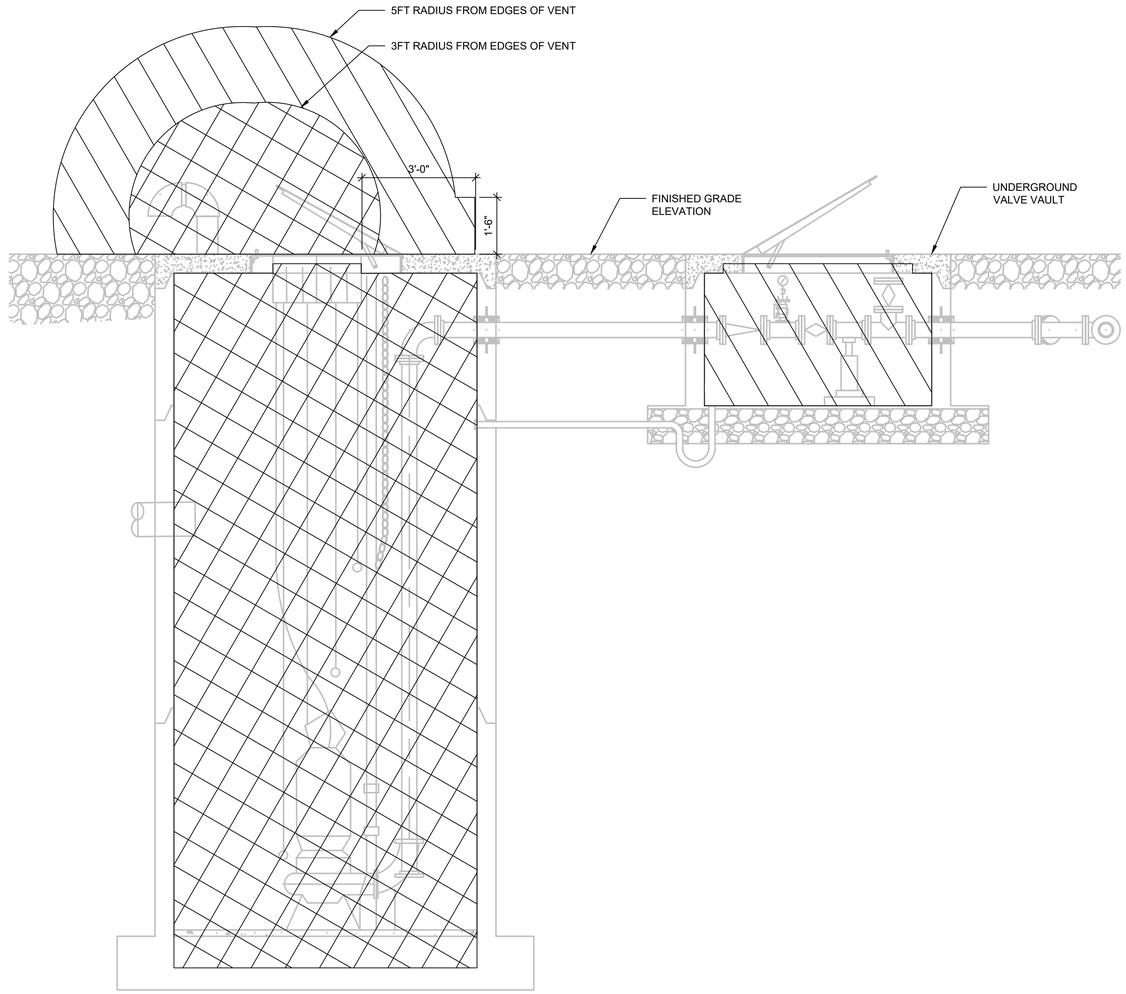
SITE AND GROUNDING PLAN

ARCADIS Project No.: 06704013.0000
Date: OCTOBER 2019

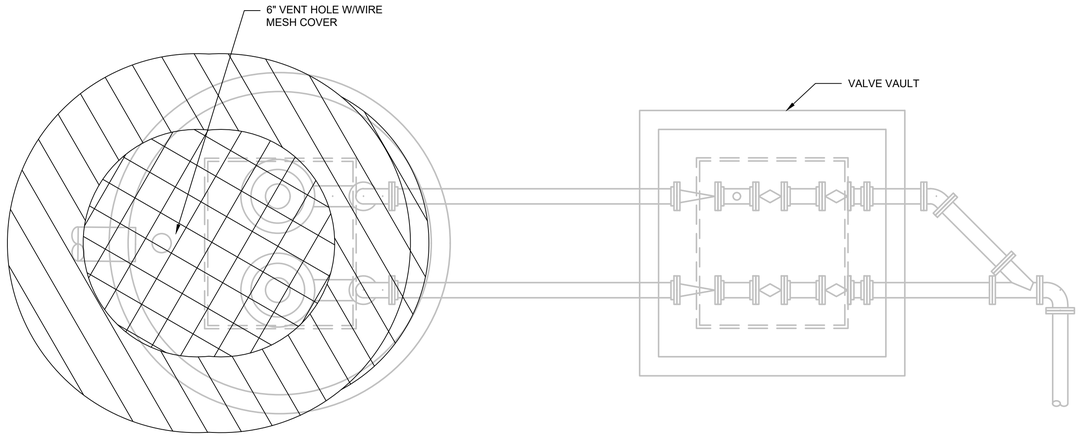
ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

E-03

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
C:\Users\agutman\BIM 360\Arcadis\ANA - 06704013.0000 - Lake City FL - Columbia County Bell Street Utilities Project\Project Files\0_WIP\Auto\CAD\05-Electrical\E-03.dwg LAYOUT: E-03 SAVED: 10/22/2019 11:52 PM ACADVER: 22.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 10/22/2019 11:52 PM BY: GUZMAN, ANDREA



ELEVATION VIEW



PLAN VIEW

NOTES:

1. WET WELL HAZARDOUS AREAS BASED ON NFPA 820, TABLE 4.2.2 ROW 16 FOR THE LIQUID SIDE OF A PUMPING STATION SERVICE A SANITARY SEWER OF COMBINED SYSTEM.
2. VALVE VAULT HAZARDOUS AREA BASED ON NFPA 820, TABLE 4.2.2 ROW 31 FOR A VALVE VAULT PHYSICALLY SEPARATED FROM THE WET WELL AND WITH CLOSED PIPING SYSTEM.
3. PROVIDE CONDUIT SEALS ON ALL CONDUITS ENTERING/LEAVING THE HAZARDOUS AREAS PER SPECIFICATION 26 05 33.13.

LEGEND:

CLASS 1, DIVISION 1 AREA

CLASS 1, DIVISION 2 AREA

SCALE: 1/2" = 1'-0"

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Professional Engineer's No.: 81285		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: EB	Drawn by: VN	Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

AREA CLASSIFICATION PLAN

ARCADIS Project No.	06704013.0000
Date	OCTOBER 2019
ARCADIS U.S. INC.	3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350 TAMPA, FLORIDA 33607 TELEPHONE: 813.903.3100

E-04

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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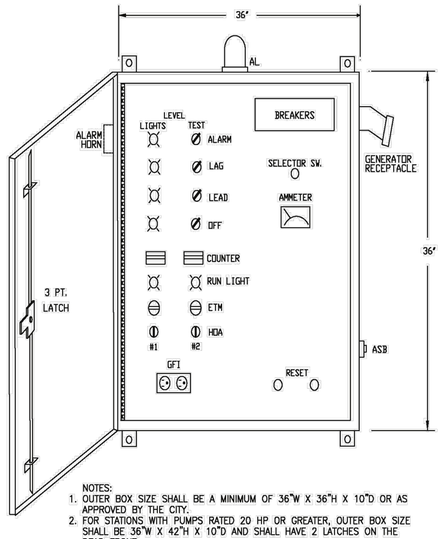


NOTES:
1. OUTER BOX SIZE SHALL BE A MINIMUM OF 36"W X 36"H X 10"D OR AS APPROVED BY THE CITY.
2. FOR STATIONS WITH PUMPS RATED 20 HP OR GREATER, OUTER BOX SIZE SHALL BE 36"W X 42"H X 10"D AND SHALL HAVE 2 LATCHES ON THE DEAD FRONT.
3. DRAWINGS SHALL BE REVISED FOR STATIONS WITH PUMPS RATED GREATER THAN 50 HP AND SUBMITTED TO THE CITY FOR APPROVAL.

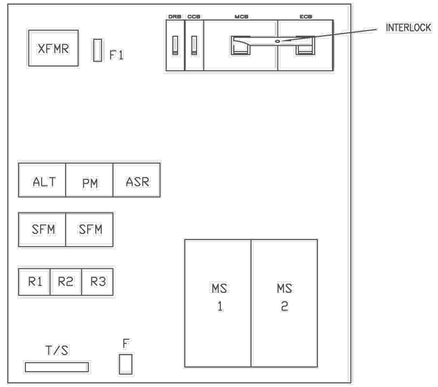
Date	Revisions	Appr. by

CITY OF LAKE CITY

DUPLEX CONTROL PANEL ENCLOSURE
DEAD FRONT LAYOUT

Date: Dec. 2000 | Scale: N.T.S. | Dwg: Q303 | Fig: 303

TYPICAL BACKPLATE LAYOUT

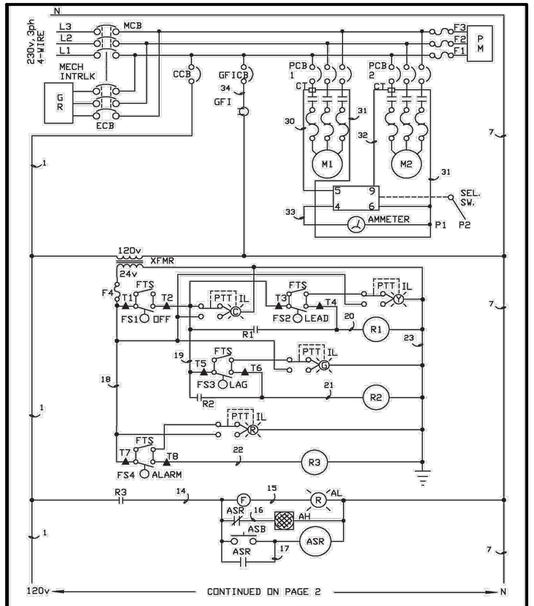


Date	Revisions	Appr. by

CITY OF LAKE CITY

DUPLEX CONTROL PANEL ENCLOSURE
SUBPANEL LAYOUT

Date: Dec. 2000 | Scale: N.T.S. | Dwg: Q304 | Fig: 304

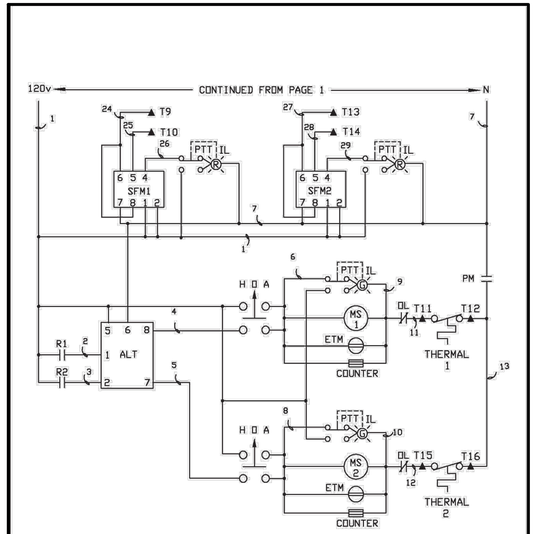


Date	Revisions	Appr. by

CITY OF LAKE CITY

DUPLEX CONTROL SCHEMATIC

Date: Dec. 2000 | Scale: N.T.S. | Dwg: Q305a | Fig: 305a



Date	Revisions	Appr. by

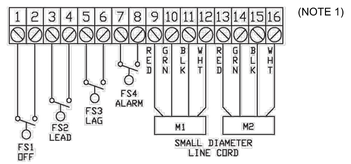
CITY OF LAKE CITY

DUPLEX CONTROL SCHEMATIC

Date: Dec. 2000 | Scale: N.T.S. | Dwg: Q305b | Fig: 305b

BILL OF MATERIALS

ENC	STAINLESS STEEL ENCLOSURE	CUST. EQUIP. 36X36X12 304SS 3PT LATCH
MCB	MAIN CIRCUIT BREAKER	SQ-D, FAL36
ECB	EMERGENCY CIRCUIT BREAKER	SQ-D, FAL36
PCB1, 2	PUMP CIRCUIT BREAKER	SQ-D, FAL36
CCB	CONTROL CIRCUIT BREAKER	SQ-D, FAL12015
GFICB	GFI CIRCUIT BREAKER	SQ-D, FAL12015
MS1, 2	STARTER	SQ-D, 8536
DL	HEATER	SQ-D, S.A.R.
XFMR	TRANSFORMER 120V/24V	SQ-D, 9070 T100D13
GR	GENERATOR RECEPTACLE	CROUSE-HINDS, AR1041 S22 S4
PM	PHASE MONITOR	TIME MARK, 258B-240
IL	INDICATING LIGHT	SQ-D, 9001 SKT3B PUSH TO TEST
RL	RUN LIGHT	SQ-D, 9001 SKT3B PUSH TO TEST
F	FLASHER	INGRAM, FL-120-60
AL	ALARM LIGHT	INGRAM, LRXB-40
AH	ALARM HORN	FEDERAL, 350-WB-120
ASB	ALARM SILENCE BUTTON	SQ-D, 9001 SKR1BH5
ASR	ALARM SILENCE RELAY	SQ-D, 8501 KP12 V20
R1-3	CONTROL RELAY	SQ-D, 8501 KP12 V14
HOA	HAND OFF AUTO SWITCH	SQ-D, 9001 SKS43BH13
ETM	ELAPSED TIME METER	ENM, T5DB2-08
ALT	ALTERNATOR	TIME MARK 2618XT120
GFI	CONVIENENCE RECEPTACLE	LEVITON, 6598-I
SFM	SEAL FAIL MODULE	SSAC, LLC54BA
F1-3	FUSES	BUSS, AGC 1/2
F4	FUSE COUNTER	BUSS, MDL-3 EATON, 4-Y-41314-406-MEQ
CT	CURRENT TRANSFORMER	INST. TRANSFORMERS, 2SFT-
AM	AMMETER	YOKOGAWA, TE-250-340-LS
AS	AMMETER SEL. SWITCH	SPR & SCH, LE2-12-8751-LES2-A-4-875
FTS	FLOAT TEST SWITCH	CARLING, 6FA53-73



Date	Revisions	Appr. by

CITY OF LAKE CITY

Control Panel Legend

Date: Dec. 2000 | Scale: N.T.S. | Dwg: Q306 | Fig: 306

NOTES:

1. PROVIDE A DIN RAIL 12 POSITION BARRIER TERMINAL BLOCK AS SPARE FOR SCADA SYSTEM INSTALLED BY THE CITY OF LAKE CITY.
2. DFS SHALL FIELD MODIFY AS DEFINED IN SCOPE OF WORK. FOR MORE INFORMATION ON THE SCOPE OF WORK FOR THE RTU PROVIDER/INSTALLER/INTEGRATOR, REFERENCE QUOTE NO. 90816-01-RW LOCATED IN DIVISION 0 SPECIFICATIONS.

NOT TO SCALE

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:

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Professional Engineer's Name: ERIC B. BATTLE II, P.E.
Professional Engineer's No.: 81285
State: FL | Date Signed: | Project Mgr.: SKC
Designed by: EB | Drawn by: VN | Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

COLUMBIA COUNTY GATEWAY TO FLORIDA

ARCADIS

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

ELECTRICAL DETAILS I

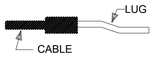
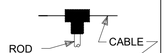
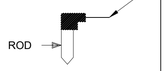
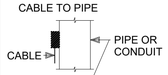
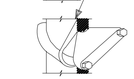
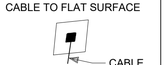
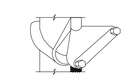
ARCADIS Project No.
06704013.0000

Date
OCTOBER 2019

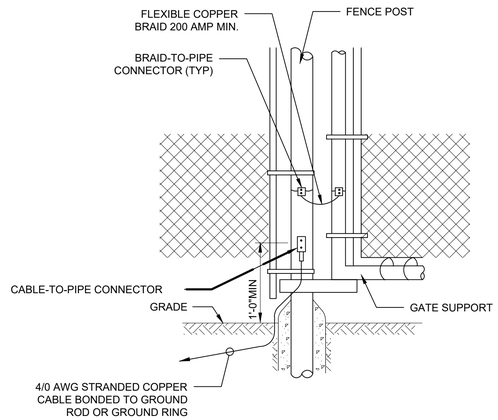
ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

E-05

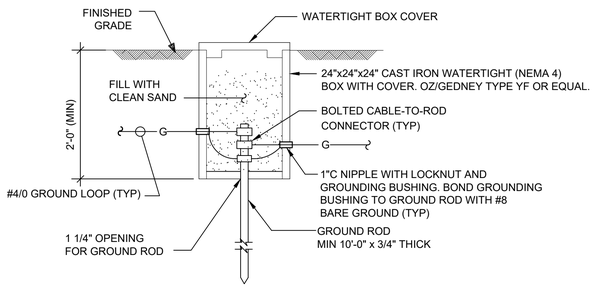
CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
C:\Users\agutman\BIM 360\Arcadis\NAA - 06704013.0000 - Lake City, FL - Columbia County Bell Street Utilities Project\Project Files\0_WIP\AutoCAD\05-Electrical\E-05.dwg LAYOUT: E-05 SAVED: 10/23/2019 11:57 AM ACADVER: 22.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 10/23/2019 11:57 AM BY: GUZMAN, ANDREA

TYPE OF CONNECTION	BOLTED OR COMPRESSION		WELDED
	BURNDY CAT#	T&B CAT#	CADWELL CAT#
CABLE TO LUG 	YA	54000 SERIES	LA
CABLE TO ROD 	-	53000 SERIES	GT
	GAR	-	GR
CABLE TO CABLE	GX	53000 SERIES	TV OR TA
CABLE TO PIPE 	-	-	HA OR VS
	GAR OR GD	3900 SERIES	-
CABLE TO FLAT SURFACE 	GB	-	HA OR HS
BRAID TO PIPE 	GG	-	-

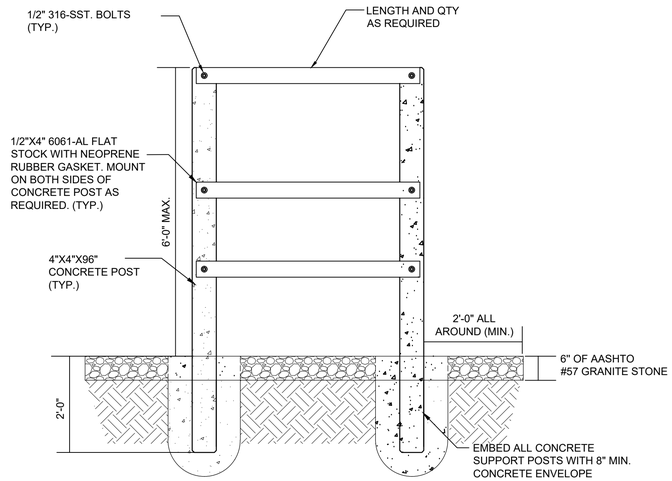
CONNECTIONS GROUNDING



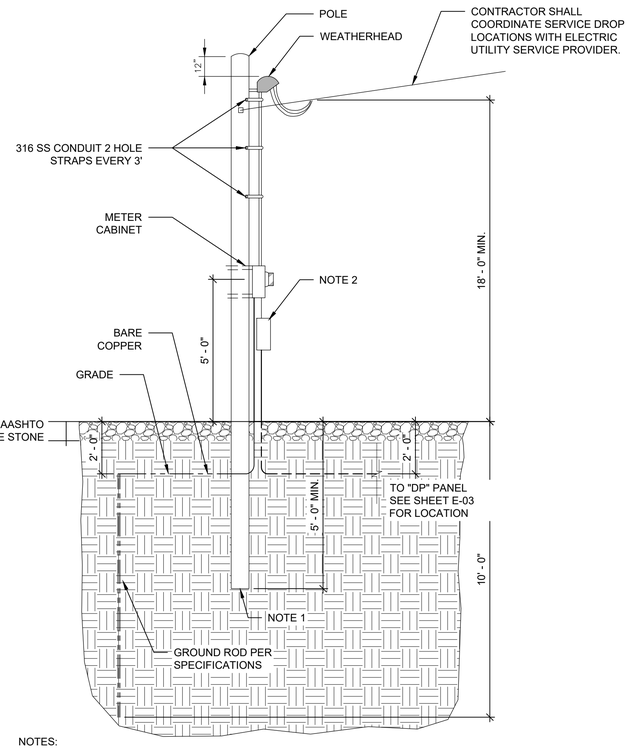
FENCE POST AND GATE GROUNDING DETAIL



EXTERIOR GROUND TEST POINT



EQUIPMENT RACK ON GRADE DETAIL



NOTES:

1. POLE DIAMETER SHALL BE AT LEAST 6 INCHES AT ITS SMALLEST DIMENSION, AND NO MORE THAN 30' TALL. POLE MUST BE APPROVED BY UTILITY PRIOR TO INSTALLATION.
2. NEMA 3R SERVICE ENTRANCE RATED DISCONNECT. SEE ONE-LINE DIAGRAMS FOR SIZE REQUIREMENTS. VERIFY FINAL DISCONNECT LOCATION WITH UTILITY.

TYPICAL ABOVE GROUND SERVICE DETAIL

NOT TO SCALE

NOT TO SCALE

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Professional Engineer's No.: 81285		
State: FL	Date Signed:	Project Mgr.: SKC
Designed by: EB	Drawn by: VN	Checked by: EB

ERIC B. BATTLE II, P.E.
P.E. NO. 81285

ARCADIS U.S., INC.
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7917

COLUMBIA COUNTY, FLORIDA
BELL STREET REGIONAL UTILITIES

ELECTRICAL DETAILS - II

ARCADIS Project No.: 06704013.0000
Date: OCTOBER 2019

ARCADIS U.S. INC.
3109 Dr. MARTIN LUTHER KING JR BLVD, STE 350
TAMPA, FLORIDA 33607
TELEPHONE: 813.903.3100

E-06

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYR:ON=* OFF=*REF*
C:\Users\aguzman\BIM 360\Arcadis\ANA - 16704013.0000 - Lake City FL - Columbia County Bell Street Utilities Project\Project Files\0_WIP\AutoCAD\05-Electrical\E-06.dwg LAYOUT: E-06 SAVED: 10/22/2019 11:59 PM ACADVER: 22.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 10/22/2019 11:59 PM BY: GUZMAN, ANDREA