

CONTRACT, LEASE, AGREEMENT CONTROL FORM

Date: 04/28/2021

Contract/Lease Control #: C20-2933-WS

Procurement#: ITB WS 26-20

Contract/Lease Type: AGREEMENT

Award To/Lessee: OKALOOSA COUNTY WATER & SEWER DEPARTMENT

Owner/Lessor: OKALOOSA COUNTY

Effective Date: 04/28/2020

Expiration Date: 06/30/2021

Description of: HIGHWAY 90 EAST WATER & SEWER MAIN EXTENSION

Department: WS

Department Monitor: LITTRELL

Monitor's Telephone #: 850-651-7172

Monitor's FAX # or E-mail: JLITTRELL@MYOKALOOSA.COM

Closed:

Cc: BCC RECORDS



CONTRACT: C20-2933-WS
 OKALOOSA COUNTY WATER & SEWER DEPT
 HWY 90 EAST WATER & SEWER MAIN EXT
 EXPIRES: 06/30/2021

**AMENDMENT TO THE AGREEMENT BETWEEN OKALOOSA COUNTY,
 FLORIDA AND OKALOOSA COUNTY WATER & SEWER DEPARTMENT
 HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSIONS
 CONTRACT NO. C20-2933-WS**

This Amendment to the Agreement between Okaloosa County, a political subdivision of the State of Florida (the "County"), and Okaloosa County Water & Sewer Department (the "Contractor") executed this 05 day of OCT, 2021, is made a part of the original Agreement dated April 28, 2020, Contract No. C20-2933-WS (the "original Agreement"), incorporated herein by reference. The County and Contractor hereby agree as follows:

1. **AMENDMENT.** The County and Contractor wish to delete Article 6, Payment Procedures, of the original Agreement in its entirety and replace it with the following to better align with the grant reimbursement process as contained in the Grant Award Agreement:

6.01 Okaloosa County shall pay the Contractor for the actual cost of Contractor's manpower and equipment utilized for the work on the Project. Contractor shall submit documentation evidencing the actual cost of such manpower and equipment along with documentation evidencing the completion of the work that is the subject of the invoice(s). In no event shall Contractor submit invoices that exceed the Contract Price set forth in section 5.01.A.

2. **OTHER PROVISIONS REMAIN IN EFFECT.** Except as specifically modified herein, all terms and conditions of the original Agreement shall remain in full force and effect.

3. **CONFLICTING PROVISIONS.** The terms, statements, requirements, or provisions contained in this Amendment shall prevail and be given superior effect and priority over any conflicting or inconsistent terms, statements, requirements or provisions contained in any other document or attachment.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment on the day and year first written above.

CONTRACTOR:

Jeff Littrell

Jeff Littrell, Water & Sewer Director

OKALOOSA COUNTY, FLORIDA

BY: Carolyn N. Ketchel
 Carolyn N. Ketchel, Chairman

ATTEST:

J.D. Peacock II
 J.D. Peacock II, Clerk of Courts



**PROCUREMENT/CONTRACT/LEASE
INTERNAL COORDINATION SHEET**

Procurement/Contract/Lease Number: C202933-WS Tracking Number: 441021
Procurement/Contractor/Lessee Name: Okaloosa County WS Grant Funded: YES ___ NO X
Purpose: amendment #7
Date/Term: 6-30-2021
Department #: _____
Account #: _____
Amount: \$ 2,069,155.77
Department: WS Dept. Monitor Name: L. Huel

1. GREATER THAN \$100,000
2. GREATER THAN \$50,000
3. \$50,000 OR LESS

Purchasing Review

Procurement or Contract/Lease requirements are met:
Darr Date: 9-24-21
Purchasing Manager or designee Jeff Hyde, DeRita Mason, Jessica Darr, Angela Etheridge

2CFR Compliance Review (if required)

Approved as written: _____ Grant Name: _____
NO Federal funds Date: _____
Grants Coordinator

Risk Management Review

Approved as written: _____ Date: _____
no federal funds
Risk Manager or designee Lisa Price

County Attorney Review

Approved as written: _____ Date: 9-24-21
see email attached
County Attorney Lynn Hoshihara, Kerry Parsons or Designee

Department Funding Review

Approved as written: _____ Date: _____

IT Review (if applicable)

Approved as written: _____ Date: _____

DeRita Mason

From: Lynn Hoshihara
Sent: Friday, September 24, 2021 10:19 AM
To: DeRita Mason
Subject: Re: 43 Hwy 90 E Reim Request Backup

This is approved as to legal sufficiency.

Lynn M. Hoshihara
County Attorney
Okaloosa County, Florida

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From: DeRita Mason
Sent: Friday, September 24, 2021 9:00:54 AM
To: Lynn Hoshihara
Subject: FW: 43 Hwy 90 E Reim Request Backup

Lynn,
I am placing this on the agenda for WS, can you please forward me your legal approval.
Thanks,

DeRita Mason



DeRita Mason, CPPB, NIGP-CPP
Senior Contracts and Lease Coordinator
Okaloosa County Purchasing Department
5479A Old Bethel Road
Crestview, Florida 32536
(850) 689-5960
dmason@myokaloosa.com

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CONTRACT, LEASE, AGREEMENT CONTROL FORM

Date: 10/08/2020

Contract/Lease Control #: C20-2933-WS

Procurement#: ITB WS 26-20

Contract/Lease Type: AGREEMENT

Award To/Lessee: OKALOOSA COUNTY WATER & SEWER DEPARTMENT

Owner/Lessor: OKALOOSA COUNTY

Effective Date: 04/28/2020

Expiration Date: 05/01/2021

Description of: HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSION

Department: WS

Department Monitor: LITTRELL

Monitor's Telephone #: 850-651-7172

Monitor's FAX # or E-mail: JLITTRELL@MYOKALOOSA.COM

Closed:

Cc: BCC RECORDS

CONTRACT#: C20-2933-WS
 OKALOOSA COUNTY WATER & SEWER DEPARTMENT
 HIGHWAY 90 EAST WATER & SEWER MAIN EXTENSION
 EXPIRES: 05/01/2021

CHANGE ORDER FORM

Date: 08/31/2020 Contract No.: C20-2933-WS Change Order No.: 01
 Owner: OKALOOSA COUNTY BOARD OF COUNTY COMMISSIONERS
 Contractor: Okaloosa County Water and Sewer Department

CHANGE TO CONTRACT PRICE	
DESCRIPTION	AMOUNT
Original Contract Price:	\$2,034,829.92
Net change by previously authorized Change Orders:	N/A
Present Contract Price:	\$2,034,829.92
This Change Order will (add/deduct):	\$34,325.85
New Contract Price:	\$2,069,155.77

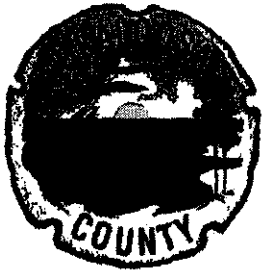
CHANGE TO CONTRACT TIME	
DESCRIPTION	DATE or NUMBER OF DAYS
Original Contract Time:	210
Original Substantial Completion Date:	October 16, 2020
Net change by previously authorized Change Orders:	N/A
This Change Order will (add/deduct):	197
New Contract Time:	407
New Substantial Completion Date:	May 1, 2021

APPROVALS

REQUESTED BY: Faye Douglas Digitally signed by Faye Douglas
Date: 2020.09.21 14:15:32 -0500 DATE: _____
 PROJECT ENGINEER: _____ Digitally signed by Michael C Evans
Date: 2020.09.09 09:13:48 -0500 DATE: _____
 CONTRACTOR: Jeff Littrell Digitally signed by Jeff Littrell
Date: 2020.09.21 14:15:32 -0500 DATE: 09/04/2020
 OWNER: Robert A. "Trey" Goodwin III, Chairman DATE: 10/06/2020



This Change Order is an amendment to the Contract/Agreement between Contractor and the Owner, and all other contract provisions shall remain in full force and effect unless specifically amended in writing, signed by both parties.



OKALOOSA COUNTY WATER & SEWER

September 4, 2020

Mr. Michael Evans, P.E.
Poly, Inc.
P.O. Box 841
Shalimar, FL 32579

RE: Hwy 90 East Water and Sewer Extensions

Dear Michael:

Okaloosa County Water and Sewer (OCWS) hereby requests a Change Order for a time extension and additional costs incurred during construction related to the boring installations.

During the installation of the bore just west of Shoal River, dewatering operations were necessary to control ground water levels. This was unforeseen and therefore, not included in the original contract. Additional maintenance of traffic (MOT) procedures were also utilized to install the bore. The additional cost associated with both dewatering and the MOT setup added \$34,325.85 to the original contract price. The additional cost is based on unit prices that are already set in Contract #C20-2905-WS with Gator Boring.

As you are aware, OCWS has had some challenges with the FGA rail crossing that we are working through. We are in the process of modifying our FGA agreements and would like to request a time extension to the contract. Since there is some uncertainty of how long this amendment will take and to align the contract with our Grant extension, OCWS is requesting a substantial completion date of May 1, 2021 and final completion by June 30, 2021. We currently are 80% complete with the project and feel that the requested extension is more than enough time to complete the project.

Should you need any further information or have any questions, don't hesitate to contact us.

Sincerely,

Jeff Littrell, Director
Okaloosa County Water & Sewer System

CONTRACT, LEASE, AGREEMENT CONTROL FORM

Date: 04/30/2020

Contract/Lease Control #: C20-2933-WS

Procurement#: ITB WS 26-20

Contract/Lease Type: AGREEMENT

Award To/Lessee: OKALOOSA COUNTY WATER & SEWER DEPARTMENT

Owner/Lessor: OKALOOSA COUNTY

Effective Date: 04/28/2020

Expiration Date: 210 DAYS FROM NTP

Description of HIGHWAY 90 EAST WATER AND SEWER MAIN
EXTENSIONS

Department: WS

Department Monitor: LITRELL

Monitor's Telephone #: 850-651-7172

Monitor's FAX # or E-mail: JLITRELL@MYOKALOOSA.COM

Closed:

Cc: BCC RECORDS

NOTICE TO PROCEED

**TO: Okaloosa County Water & Sewer Department
1804 Lewis Turner Blvd, Suite 300
Fort Walton Beach, FL 32547**

CONTRACT#: C20-2933-WS
OKALOOSA COUNTY WATER & SEWER DEPT.
HWY 90 EAST WATER & SEWER MAIN EXTENSIONS
EXPIRES: 210 DAYS FROM NTP

PROJECT: Hwy 90 East Water & Sewer Main Extensions

DESCRIPTION: Contract C20-2933-WS

You are hereby notified you are able to commence WORK in accordance with the Agreement dated April 28, 2020. The work shall have a substantial completion date of 150 days from the date of the NTP and shall be fully completed with 210 days from the date of the NTP.

You are required to return an acknowledged copy of this **NOTICE TO PROCEED** to the **OWNER**: Okaloosa County Purchasing, Attention: DeRita Mason, 5479A Old Bethel Road, Crestview, FL 32536, within 15 days from the date this **NOTICE TO PROCEED** is fully executed.

Dated this 19th day of May, 2020

OKALOOSA COUNTY BOARD OF COUNTY COMMISSIONERS

OWNER

BY:


Jeffrey Hyde, Purchasing Manager

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged.

Date of Commencement of Work: May 19, 2020

Okaloosa County Water & Sewer Department on Behalf of Okaloosa County Board of County Commissioners.
Company Name

This the 19 day of May, 2020


Jeff Littrell

Signature

By: Jeff Littrell / Director

Type or Print Name/Title

**PROCUREMENT/CONTRACT/LEASE
INTERNAL COORDINATION SHEET**

Procurement/Contract/Lease Number: TR310 Tracking Number: 4010-20
Procurement/Contractor/Lessee Name: Ocalaosa W+S Dep't Grant Funded: YES ___ NO X
Purpose: Hwy 90 East water: Sewer man ext
Date/Term: 210 Days from NTP 1. GREATER THAN \$100,000
Department #: _____ 2. GREATER THAN \$50,000
Account #: _____ 3. \$50,000 OR LESS
Amount: 2,034,829.92
Department: WS Dept. Monitor Name: Littell

Purchasing Review

Procurement or Contract/Lease requirements are met:
DeRita Mason Date: 4-16-2020
Purchasing Manager or designee Jeff Hyde, DeRita Mason, Jessica Darr

2CFR Compliance Review (if required)

Approved as written: no see mail attached Grant Name: Triumph Funds
_____ Date: 4-16-2020
Grants Coordinator Danielle Garcia

Risk Management Review

Approved as written: see email attached Date: 4-16-2020
_____ Edith Gibson or Karen Donaldson
Risk Manager or designee

County Attorney Review

Approved as written: see email attached Date: 4-16-2020
_____ Lynn Hoshihara, Kerry Parsons or Designee
County Attorney

Department Funding Review

Department funding confirmed: _____ Date: _____

DeRita Mason

From: Danielle Garcia
Sent: Thursday, April 16, 2020 2:09 PM
To: DeRita Mason
Subject: RE: Hwy 90 Project Contract

Approved for grant procurement procedures.

State funded – no federal clauses required

Regards,
Danielle Garcia
850-689-5960 x 6971

From: DeRita Mason <dmason@myokaloosa.com>
Sent: Thursday, April 16, 2020 9:37 AM
To: Danielle Garcia <dgarcia@myokaloosa.com>
Subject: Hwy 90 Project Contract

Danielle,

Please review the attached.
It is the same contract that was included in the bid.
It is using triumph funds.

Thank you,

DeRita Mason



DeRita Mason
Contracts and Lease Coordinator
Okaloosa County Purchasing Department
5479A Old Bethel Road
Crestview, Florida 32536
(850) 689-5960
dmason@myokaloosa.com

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DeRita Mason

From: Jane Evans
Sent: Monday, April 20, 2020 7:20 AM
To: Jeff Littrell; DeRita Mason
Cc: Faye Douglas; 'Parsons, Kerry'
Subject: FW: 43 W&S Contract for review

See Triumph's approval to proceed with the contract execution for the Highway 90 East Water and Sewer Expansion Project.

Jane

From: Cori Henderson <chenderson@myfloridatriumph.com>
Sent: Saturday, April 18, 2020 5:45 AM
To: Jane Evans <jevans@myokaloosa.com>
Subject: Re: 43 W&S Contract for review

Jane, Triumph's Construction Expert has completed his review of the construction contract. The county may continue to move forward with the project.

Thank you,
Cori

Cori Henderson
Triumph Gulf Coast

From: Jane Evans <jevans@myokaloosa.com>
Date: Thursday, April 16, 2020 at 5:13 PM
To: Cori Henderson <chenderson@myfloridatriumph.com>
Cc: "'randylewisaia@gmail.com'" <randylewisaia@gmail.com>
Subject: 43 W&S Contract for review

Good afternoon,

I have uploaded to 43 Smartsheet the proposed Contract for the Okaloosa County Water and Sewer Department to complete the construction. I uploaded to line 28.

Thank you,
Jane

Jane Evans
Grants and RESTORE Manager
Office of Management and Budget
1250 North Eglin Parkway
Suite 102
Shalimar, FL 32579
Phone: 850-651-7521
Fax: 850-651-7551

DeRita Mason

From: Karen Donaldson
Sent: Thursday, April 16, 2020 3:06 PM
To: DeRita Mason
Subject: RE: 43 Okaloosa Hwy 90 W&S

DeRita

This is approved by risk management for insurance purposes.

Thank you

Karen Donaldson

Karen Donaldson
Public Records and Contracts Specialist
Okaloosa County Risk Management
302 N Wilson Street, Suite 301
Crestview, Fl. 32536
850.683.6207
KDonaldson@myokaloosa.com



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From: DeRita Mason <dmason@myokaloosa.com>
Sent: Thursday, April 16, 2020 2:33 PM
To: Karen Donaldson <kdonaldson@myokaloosa.com>
Subject: RE: 43 Okaloosa Hwy 90 W&S

Let me send you the entire thing, I bet it is in the supplemental section.

DeRita Mason

DeRita Mason

From: Parsons, Kerry <KParsons@ngn-tally.com>
Sent: Thursday, April 16, 2020 9:58 AM
To: DeRita Mason
Subject: RE: 43 Okaloosa Hwy 90 W&S
Attachments: Hwy 90 Contract 4.16.2020.docx

I revised it a little, see attached, very minor. As revised, this is approved for legal purposes.

Kerry A. Parsons, Esq.

**Nabors
Giblin &
Nickerson**
ATTORNEYS AT LAW

1500 Mahan Dr. Ste. 200
Tallahassee, FL 32308
T. (850) 224-4070
kparsons@ngn-tally.com

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From: DeRita Mason <dmason@myokaloosa.com>
Sent: Thursday, April 16, 2020 10:32 AM
To: Parsons, Kerry <KParsons@ngn-tally.com>
Cc: Parsons, Kerry <KParsons@ngn-tally.com>
Subject: RE: 43 Okaloosa Hwy 90 W&S

Please review and approve the attached. I will work on getting the entire document with attachments ready as well.

DeRita Mason



DeRita Mason
Contracts and Lease Coordinator
Okaloosa County Purchasing Department
5479A Old Bethel Road
Crestview, Florida 32536
(850) 689-5960
dmason@myokaloosa.com



Board of County Commissioners Purchasing Department

State of Florida

Date: April 10, 2020

OKALOOSA COUNTY PURCHASING DEPARTMENT
NOTICE OF INTENT TO AWARD
ITB WS 26-20

Highway 90 East Water and Sewer Main Extensions

Okaloosa County would like to thank all businesses which submitted responses to Highway 90 East Water and Sewer Main Extensions. (ITB WS 26-20)

After in-depth examination of all responses in accordance with the County's Purchasing Manual, the County announces its intent to award the contract/purchase order to the following:

**Okaloosa County Water and Sewer Department on behalf of
Okaloosa County Board of County Commissioners
1804 Lewis Turner Blvd, Ste. 300
Fort Walton Beach, FL 32547**

This Notice of Intent does NOT constitute the formation of a contract/purchase order between Okaloosa County and the apparent successful bidder/respondent. The County reserves the right to enter into negotiations with the successful bidder/respondent in order to finalize contract terms and conditions. No agreement is entered into between the County and any parties until a contract is approved and fully executed.

Any person/entity desiring to file a procurement protest must meet all the standards and criteria in accordance with Section 30 of the Okaloosa County Purchasing Manual. Failure to file a protest within the time prescribed in Section 30.02 of the Okaloosa County Purchasing Manual, shall constitute a waiver of protest proceedings.

Respectfully,

A handwritten signature in blue ink that reads "Jeffrey A Hyde".

Jeffrey Hyde
Purchasing Manager

DeRita Mason

From: Jane Evans
Sent: Friday, April 3, 2020 2:27 PM
To: Jeffrey Hyde; DeRita Mason
Cc: Faye Douglas
Subject: FW: 43 Bids submitted and recommendation

Importance: High

See Triumph's answer below.

Jane

From: Cori Henderson <chenderson@myfloridatriumph.com>
Sent: Friday, April 3, 2020 2:26 PM
To: Jane Evans <jevans@myokaloosa.com>
Cc: Faye Douglas <fdouglas@myokaloosa.com>
Subject: Re: 43 Bids submitted and recommendation

Jane, we've completed our staff review and you may move forward with the bid/project. Randy made a note in Smartsheet and I will upload a memo as well.

Thank you and have a great weekend,
Cori

Cori Henderson
Triumph Gulf Coast

From: Jane Evans <jevans@myokaloosa.com>
Date: Friday, March 27, 2020 at 5:10 PM
To: Cori Henderson <chenderson@myfloridatriumph.com>
Cc: Faye Douglas <fdouglas@myokaloosa.com>
Subject: 43 Bids submitted and recommendation

Good afternoon,

I have uploaded into #43 Smartsheet the two bids submitted and the engineer recommendation.

Thank you,
Jane

Jane Evans
Grants and RESTORE Manager
Office of Management and Budget
1250 North Eglin Parkway
Suite 102
Shalimar, FL 32579
Phone: 850-651-7521
Fax: 850-651-7551

Internal Courier: CAO-S/Grants
Email: jevans@myokaloosa.com



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**AGREEMENT BETWEEN OKALOOSA COUNTY, FLORIDA
AND
OKALOOSA COUNTY WATER & SEWER DEPARTMENT
HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSIONS**

THIS AGREEMENT is by and between Okaloosa County, a political subdivision of the State of Florida, by and through its Board of County Commissioners, situated at 1250 N. Eglin Parkway, Shalimar, Florida (“OWNER”) and Okaloosa County Water & Sewer Department, with a mailing address of 1804 Lewis Turner Blvd., Suite 300, Fort Walton Beach Fl, 32547, (hereinafter referred to as “Contractor”).

RECITALS:

WHEREAS, the County is in need of a contractor to provide construction services for the Highway 90 East Water and Sewer Extensions (“Work” or “Services”); and

WHEREAS, pursuant to the Okaloosa County Purchasing Manual, the County went through a competitive selection via a sealed bid known as ITB WS 26-20 titled “Highway 90 East Water and Sewer Main Extensions”, to perform these Services. A copy of the procurement Contractor’s response is included as part of this Agreement; and

WHEREAS, upon reviewing the bids, Contractor’s bid was the most responsible and responsive vendor who submitted the lowest responsive bid; and

WHEREAS, for purposes of the Services to be provided under this Agreement, Contractor shall be considered independent of the County; and

WHEREAS, the County wishes to enter into this Agreement with Contractor to provide the Services to the County for an amount of Two Million, Thirty-Four Thousand, Eight Hundred Twenty-Nine Dollars and Ninety-Two Cents (\$ 2,034,829.92), as further detailed below.

NOW THEREFORE, in consideration of the promises and the mutual covenants herein, the parties agree as follows:

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all WORK as specified or indicated in the Contract Documents. The WORK is generally described as follows: Highway 90 East Water and Sewer Main Extensions Project.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Water and sewer pipeline installation to include clearing and grubbing, earthwork, erosion control, excavation, pipeline and appurtenance installation, horizontal directional drilling, jack-and-boring, testing, backfilling, grading, stabilization, restoration and other WORK as shown on the construction drawings and described in the specifications to construct complete pipeline installations.

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the WORK has been designed by Poly, Inc.
3.02 The OWNER has retained Poly, Inc. (“ENGINEER”) to act as OWNER’s representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the

Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Contract Times: Days

A. The Work will be substantially completed within **150** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **210** calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

A. Section 337.18(2) of the Florida Statutes, requires the OWNER adopt regulations for the determination of default and provisions that the Contractor pay liquidated damages (daily charge per calendar day) for any failure of the Contractor to complete the Contract work within the Contract Time.

B. B. Applicable liquidated damages are based on the total awarded contract.

C. CONTRACTOR and OWNER recognize that time is of the essence as stated in Paragraph 4.01 above and that OWNER will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay. Contractor specifically acknowledges that the liquidated damages is not a penalty and waives any right to argue such at a later time.

D. In case of failure on the part of the Contractor to complete the work within the time(s) specified in the contract, or within such additional time(s) as may be granted by Okaloosa County, the County will suffer damage, the amount of which is difficult, if not impossible, to ascertain. Therefore, the Contractor shall pay to the County, as liquidated damages, the amount established in the schedule below for each calendar day of delay that actual completion extends beyond the time limit specified until such reasonable time as may be required for substantial and/or final completion of the work. In no way shall costs for liquidated damages be construed as penalty on the contractor.

Daily Liquidated Damages Charge for this Agreement is \$1,924.00 per calendar day.

ARTICLE 5 – CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents the amounts equal to the sum of the amounts determined pursuant to Paragraph 5.01.A below:

A. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto, for a total amount of Two Million, Thirty-Four Thousand, Eight Hundred Twenty-Nine Dollars and Ninety-Two Cents (\$ 2,034,829.92).

- B. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in Paragraph 10.06 of the General Conditions. Unit prices have been computed as provided in Paragraph 13.03 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment in accordance with § 218.70-218.79 F.S. (Local Government Prompt Payment Act) during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established in Paragraph 2.03 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

- 1. Progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as OWNER may withhold, including but not limited to liquidated damages, in accordance with the Contract:
 - a. 95 percent of Work completed (with the balance being retainage)
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 15.06.

ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS

7.01 In order to induce OWNER to enter into this Contract, CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. CONTRACTOR has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, 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. CONTRACTOR 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. CONTRACTOR has carefully studied all, if any: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. CONTRACTOR has considered the information known to CONTRACTOR itself; information commonly known to CONTRACTORS doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports, if any, and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR; and (3) CONTRACTOR's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, CONTRACTOR agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. 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.
- H. 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.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. CONTRACTOR's entry into this Contract constitutes an incontrovertible representation by CONTRACTOR that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 8 – CONTRACT DOCUMENTS

8.01 Contents

- A. The Contract Documents consist of the following:
 - 1. Bid Form with Attachments (pages 00410-1 to 00410-30, inclusive).
 - 2. This Agreement (pages 00520-1 to 00520-13, inclusive).
 - 3. EJCDC General Conditions (pages 00700-1 to 00700-62, inclusive).
 - 4. Supplementary Conditions (pages 00800-1 to 00800-11, inclusive).
 - 5. Summary of Work (page 01010-1, inclusive).
 - 6. Project Coordination (pages 01040-1 to 01040-3, inclusive).
 - 7. Warranties and Manuals (page 01350-1, inclusive).
 - 8. Temporary Facilities (pages 01500-1 to 01500-3, inclusive).
 - 9. Project Closeout (pages 01700-1 to 01700-3, inclusive).
 - 10. Record Documents (pages 01750-1 to 01750-3, inclusive).
 - 11. Appendix A - Technical Specifications as prepared by Poly, Inc. bearing the title, Technical Specifications – Highway 90 East Water and Sewer Main Extensions, *January 2020* consisting of 124 pages.
 - 12. Appendix B – Technical Drawings consisting of 51 sheets with each sheet bearing the following general title: Highway 90 East Water and Sewer Main Extensions, (incorporated by reference).
 - 13. Addenda (numbers 1, inclusive).
 - 14. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.

- c. Contractor's Application for Payment
 - d. Change Orders.
 - e. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 9 – MISCELLANEOUS

9.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

9.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.03 Successors and Assigns

- A. OWNER and CONTRACTOR each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

9.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.05 CONTRACTOR's Certifications

- A. CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of OWNER, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive OWNER of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of OWNER, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

9.06 Audit Provision

- A. The OWNER and/or its designee shall have the right from time to time at its sole expense to audit the compliance by the CONTRACTOR with the terms, conditions, obligations, limitations, restrictions and requirements of this Agreement and such right shall extend for a period of five (5) years after termination of this Agreement.

9.07 Public Records

- A. CONTRACTOR shall adhere to the Public Records law of Florida.
- B. Specifically, CONTRACTOR must:
 1. Keep and maintain public records require by the OWNER to perform the service.
 2. Upon request from the OWNER's custodian of public records, provide the OWNER 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.
 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 for the duration of the Agreement term and following completion of the Agreement if the CONTRACTOR does not transfer the records to the OWNER.
 4. Upon completion of the Agreement, transfer, at no cost, to the OWNER all public records in possession of the CONTRACTOR or keep and maintain public records required by the OWNER to perform the service. If the CONTRACTOR transfers all public records to the OWNER 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 OWNER, upon the request from the OWNER's custodian of public records, in a format that is compatible with the information technology system of the OWNER.
- C. **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 OKALOOSA COUNTY RISK MANAGEMENT DEPARTMENT 302 N. Wilson Street, Suite 301 CRESTVIEW, FL 32536 PHONE (850) 689-5977 riskinfo@myokaloosa.com.**

9.08 Third Party Beneficiaries

- A. 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 part to this Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provision of this Agreement.

9.09 Other Provisions

- A. OWNER stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the ENGINEERS Joint Contract Documents Committee®, and if OWNER is the party that has furnished said General Conditions, then OWNER has plainly shown all

modifications to the standard wording of such published document to the CONTRACTOR, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

- B. The individual signing this Agreement on behalf of CONTRACTOR represents and warrants that he or she is duly authorized and has legal capacity to execute and deliver this Agreement. The CONTRACTOR represent and warrants to the OWNER that the execution and delivery of the Agreement and the performance of CONTRACTOR’s obligations hereunder have been duly authorized and that the Agreement is a valid and legal agreement binding on the CONTRACTOR and enforceable in accordance with its terms.
- C. The waiver by a party of any breach or default in performance shall not be deemed to constitute a waiver of any other or succeeding breach or default. The failure of the OWNER to enforce any of the provisions hereof shall not be construed to be a waiver of the right of the OWNER thereafter to enforce such provisions.
- D. All notices required by this Agreement shall be in writing to the representatives listed below:

AUTHORIZED REPRESENTATIVES:

OWNER:

Chairman – Board of County Commissioners
Address
1250 N. Eglin Parkway
Shalimar, FL 32579
Phone
850-651-7105

CONTRACTOR:

Okaloosa County Water & Sewer Department
Address
1804 Lewis Turner Blvd, Suite 300
Fort Walton Beach, FL 32547
Phone
850-651-7172

9.10 Equal Opportunity Employment

- A. During the performance of this CONTRACT, the contractor agrees as follows:
 - 1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
 - 2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
 - 3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers’ representatives of the contractor’s commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 - 4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 - 5. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or

pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders

6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

9.11 Federal Fair Labor Standards Act (Federal Minimum Wage)

- A. All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.
- B. The CONTRACTOR has full responsibility to monitor compliance to the referenced statute or regulation. The CONTRACTOR must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

9.12 Occupational Safety and Health Act of 1970

- A. All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. CONTRACTOR must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The CONTRACTOR retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). CONTRACTOR must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

9.13 COPELAND ANTI-KICKBACK ACT

- A. The Contractor shall comply with the following:
 1. Contractor. The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. pt. 3 as may be applicable, which are incorporated by reference into this contract.
 2. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as the FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier

subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

3. Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12.

9.14 CONTRACT WORK HOURS AND SAFETY STANDARDS

- A. If the Sub-Recipient, with the funds authorized by this Agreement, enters into a contract that exceeds \$100,000 and involves the employment of mechanics or laborers, then any such contract must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation.

9.15 CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

- A. If the Sub-Recipient, with the funds authorized by this Agreement, enters into a contract that exceeds \$150,000, then any such contract must include the following provision:
 1. Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387), and will report violations to FEMA and the Regional Office of the Environmental Protection Agency (EPA).

9.16 SUSPENSION AND DEBARMENT

- A. This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the contractor is required to verify that none of the contractor, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- B. The contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
- C. This certification is a material representation of fact relied upon by the Division. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the Division, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- D. The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

9.17 BYRD ANTI-LOBBYING AMENDMENT

- A. Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended). Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award

covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non- Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient.

9.18 E-Verify

A. Enrollment and verification requirements.

1. If the CONTRACTOR is not enrolled as a Federal Contractor in E-Verify at time of contract award, the CONTRACTOR shall-
 - a. Enroll. Enroll as a Federal Contractor in the E-Verify Program within thirty (30) calendar days of Contract award;
 - b. Verify all new employees. Within ninety (90) calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); and,
 - c. Verify employees assigned to the Contract. For each employee assigned to the Contract, initiate verification within ninety (90) calendar days after date of enrollment or within thirty (30) calendar days of the employee's assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)
2. If the CONTRACTOR is enrolled as a Federal Contractor in E-Verify at time of Contract award, the CONTRACTOR shall use E-Verify to initiate verification of employment eligibility of
 - a. All new employees.
 - 1) Enrolled ninety (90) calendar days or more. The CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the Contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section); or
 - b. Enrolled less than ninety (90) calendar days. Within ninety (90) calendar days after enrollment as a Federal Contractor in E-Verify, the CONTRACTOR shall initiate verification of all new hires of the CONTRACTOR, who are working in the United States, whether or not assigned to the contract, within three (3) business days after the date of hire (but see paragraph (3.) of this section; or
 - 1) Employees assigned to the Contract. For each employee assigned to the Contract, the CONTRACTOR shall initiate verification within ninety (90) calendar days after date of Contract award or within thirty (30) days after assignment to the Contract, whichever date is later (but see paragraph (4.) of this section.)
3. If the CONTRACTOR is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State of local government or the government of a Federally recognized Indian tribe, or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the CONTRACTOR may choose to verify only employees assigned to the Contract, whether existing employees or new hires. The CONTRACTOR shall follow the applicable verification requirements of (1.) or (2.), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the Contract.
4. Option to verify employment eligibility of all employees. The CONTRACTOR may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the Contract. The CONTRACTOR shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after

November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within one hundred eighty (180) calendar days of-

- a. Enrollment in the E-Verify program; or
 - b. Notification to E-Verify Operations of the CONTRACTOR's decision to exercise this option, using the Contract information provided in the E-Verify program Memorandum of Understanding (MOU)
5. The CONTRACTOR shall comply, for the period of performance of this Contract, with the requirements of the E-Verify program MOU.
- a. The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the CONTRACTOR's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the CONTRACTOR, will be referred to a suspension or debarment official.
 - b. During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the CONTRACTOR is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the CONTRACTOR, then the CONTRACTOR must reenroll in E-Verify.
 - c. Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify>.
 - d. Individuals previously verified. The CONTRACTOR is not required by this clause to perform additional employment verification using E-Verify for any employee-
 - 1) Whose employment eligibility was previously verified by the CONTRACTOR through the E-Verify program;
 - 2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or
 - 3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12. Policy for a Common Identification Standard for Federal Employees and Contractors.
6. Subcontracts. The CONTRACTOR shall include the requirements of this clause, including this paragraph € (appropriately modified for identification of the parties in each subcontract that -
- a. Is for
 - 1) Commercial and noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or
 - 2) Construction;
 - b. Has a value of more than \$3,500; and
 - c. Includes work performed in the United States.

9.19 Vendors on Scrutinized Companies List

- A. By executing this Agreement, the CONTRACTOR certifies that it is not:
 1. listed on the Scrutinized Companies that Boycott Israel List, created pursuant to section 215.4725, Florida Statutes,
 2. engaged in a boycott of Israel,

3. listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes, or
 4. engaged in business operations in Cuba or Syria.
- B. Pursuant to section 287.135(5), Florida Statutes, the OWNER may immediately terminate this Agreement for cause if the CONTRACTOR is found to have submitted a false certification as to the above or if the CONTRACTOR is placed on the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, during the term of the Agreement. If the OWNER determines that the CONTRACTOR has submitted a false certification, the OWNER will provide written notice to the CONTRACTOR. Unless the CONTRACTOR demonstrates in writing, within 90 calendar days of receipt of the notice, that the OWNER's determination of false certification was made in error, the OWNER shall bring a civil action against the CONTRACTOR. If the OWNER's determination is upheld, a civil penalty equal to the greater of \$2 million or twice the amount of this Agreement shall be imposed on the CONTRACTOR, and the CONTRACTOR will be ineligible to bid on any Agreement with a Florida agency or local governmental entity for three years after the date of OWNER's determination of false certification by CONTRACTOR. If federal law ceases to authorize the states to adopt and enforce the contracting prohibition identified in this Section 10.20, this Section 10.20 shall be null and void.

9.20 Contracting with Small and Minority Businesses, Women's Business Enterprises, and Labor Area Surplus Firms.

- A. The CONTRACTOR shall take the following affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus firms are used whenever possible:
1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
 2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
 3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
 4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
 5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
 6. Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (a) through (e) of this section.

9.21 Procurement of Recovered Materials

- A. Contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes

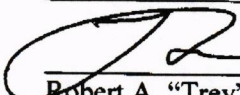
energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

- 9.22 Energy Policy and Conservation Act (43 U.S.C. §6201)
- A. All contracts except micro-purchases (\$3000 or less, except for construction contracts over \$2000). Contracts shall comply with mandatory standards and policies relating to energy efficiency, stating in the state energy conservation plan issued in compliance with the Energy Policy and Conservation act. (Pub. L. 94-163, 89 Stat. 871) [53 FR 8078, 8087, Mar. 11, 1988, as amended at 60 FR 19639, 19645, Apr. 19, 1995].
- 9.23 Safeguarding Personal Identifiable Information
- A. Contractor will take reasonable measures to safeguard protected personally identifiable information and other information designated as sensitive by the awarding agency or is considered sensitive consistent with applicable Federal, state and/or local laws regarding privacy and obligations of confidentiality.
- 9.24 Record Retention
- A. Contractor will retain of all required records pertinent to this contract for a period of five (5) years, beginning on a date as described in 2 C.F.R. §200.333 and retained in compliance with 2 C.F.R. §200.333.
- 9.25 Access to Public Records
- A. CONTRACTOR will make available to the OWNER's granting agency, the granting agency's Office of Inspector General, the Government Accountability Office, the Comptroller General of the United States, Okaloosa County, Okaloosa County Clerk of Court's Inspector General, or any of their duly authorized representatives any books, documents, papers or other records, including electronic records, of the contractor that are pertinent to the OWNER's grant award, in order to make audits, investigations, examinations, excerpts, transcripts, and copies of such documents. The right also includes timely and reasonable access to the contractor's personnel during normal business hours for the purpose of interview and discussion related to such documents. This right of access shall continue as long as records are retained.
- 9.26 Federal Changes
- A. Contractor shall comply with all applicable Federal agency regulations, policies, procedures and directives, including without limitation those listed directly or by reference, as they may be amended or promulgated from time to time during the term of the contract.
- 9.27 Buy America
- A. All unmanufactured and manufactured articles, materials and supplies which are acquired for public use under this Agreement must have been produced in the United States as required under 41 U.S.C. 10a, unless it would not be in the public interest or unreasonable in cost.
-

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement.

This Agreement will be effective on APR 28 2020, 2020 (which is the Effective Date of the Contract).

OWNER:
BOARD OF COUNTY
COMMISSIONERS
OKALOOSA COUNTY, FLORIDA


Robert A. "Trey" Goodwin, Chairman



Attest:


J.D. Peacock II,

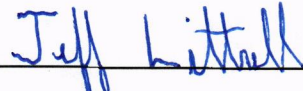


Address for giving notices:


1250 N. Eglin Parkway

Shalimar, FL 32579

CONTRACTOR:


By: Jeff Littrell

Title: Water & Sewer Director
(If CONTRACTOR is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Witness: 
Printed Name: Jeb S. Chesher

Address for giving notices:

1804 Lewis Turner Blvd, Suite 300

Fort Walton Beach, FL 32547



INVITATION TO BID (ITB) & RESPONDENT'S ACKNOWLEDGEMENT

ITB TITLE:
Highway 90 East Water and Sewer Main Extensions Project

ITB NUMBER:
ITB WS 26-20

ISSUE DATE:	February 17, 2020	9:00 A.M. CST
MANDATORY PRE-BID MEETING:	March 4, 2020	10:00 A.M. CST
LAST DAY FOR QUESTIONS:	March 10, 2020	3:00 P.M. CST
ITB OPENING DATE & TIME:	March 25, 2020	3:00 P.M. CST

NOTE: BIDS RECEIVED AFTER THE BID OPENING DATE & TIME WILL NOT BE CONSIDERED.

Okaloosa County, Florida solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this ITB are incorporated into your response. A bid will not be accepted unless all conditions have been met. All bids must have an authorized signature in the space provided below. All envelopes containing sealed bids must reference the "ITB Title", "ITB Number" and the "ITB Opening Date & Time". Okaloosa County is not responsible for lost or late delivery of bids by the U.S. Postal Service or other delivery services used by the respondent. Neither faxed nor electronically submitted bids will be accepted. Bids may not be withdrawn for a period of sixty (60) days after the bid opening unless otherwise specified.

RESPONDENT ACKNOWLEDGEMENT FORM BELOW MUST BE COMPLETED, SIGNED, AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE RESPONDENT.

COMPANY NAME Okaloosa County Water & Sewer Department on behalf of the Okaloosa County Board of County Commissioners

MAILING ADDRESS 1804 Lewis turner Blvd. Ste. 300

CITY, STATE, ZIP Fort Walton Beach, FL 32547

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN): 59-6000765

TELEPHONE NUMBER: (850) 651-7172 EXT. 7195 FAX: (850) 651-7193

EMAIL: jlittrell@myokaloosa.com

I CERTIFY THAT THIS BID IS MADE WITHOUT PRIOR UNDERSTANDING, AGREEMENT, OR CONNECTION WITH ANY OTHER RESPONDENT SUBMITTING A BID FOR THE SAME MATERIALS, SUPPLIES, EQUIPMENT OR SERVICES, AND IS IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD. I AGREE TO ABIDE BY ALL TERMS AND CONDITIONS OF THIS BID AND CERTIFY THAT I AM AUTHORIZED TO SIGN THIS BID FOR THE RESPONDENT.

AUTHORIZED: Jeff Littrell
TYPED OR PRINTED NAME

Water & Sewer Director
TITLE

SIGNATURE: *Jeff Littrell*

3/24/2020
DATE

Rev: September 22, 2015

DOCUMENT 00020 – ADVERTISEMENT FOR BIDS

**OKALOOSA BOARD OF COUNTY COMMISSIONERS
CRESTVIEW, FLORIDA****ITB WS 26-20 Highway 90 East Water and Sewer Main Extensions Project**

Notice is hereby given that Sealed Bids for the construction of the Highway 90 East Water and Sewer Main Extensions ITB WS 26-20 will be received by Board of County Commissioners of Okaloosa County at the Okaloosa County Courthouse, Room #282, 101 E. James Lee Blvd., Crestview, FL until 03:00 PM CST on March 25, 2020, at which time the Bids received will be publicly opened and read. No bids will be received after the designated time. The Project consists of water and sewer main installation including clearing and grubbing, earthwork, erosion control, excavation, pipeline and appurtenance installation, horizontal directional drilling, jack-and-boring, testing, backfilling, grading, stabilization, restoration and other WORK as shown on the construction drawings and described in the specifications to construct complete pipeline installations. The work is further defined as shown on the Plans and as described by the Contract Documents.

Interested respondents desiring consideration shall provide one (1) original and two (2) copies (total of 3) of their Invitation to Bids (ITB) response with the respondent's areas of expertise identified. Submissions shall be portrait orientation, unbound, and 8 ½" x 11" where practical. **All originals must have original signatures in blue ink.**

Proposal documents are available for download by accessing the following sites:

<http://www.myokaloosa.com/purchasing/hom>

<https://www.bidnetdirect.com/florida>

https://www.demandstar.com/supplier/bids/agency_inc/bid_list.asp?f=search&mi=2442519

A mandatory pre-bid conference will be held at 10:00 PM CST on March 4, 2020 in the Training Room, 1250 N. Eglin Pkwy, Shalimar, FL 32579.

At **3:00 p.m. (CST), March 25, 2020**, all bids will be opened and read aloud. All bids must be in sealed envelopes reflecting on the outside thereof the Respondent's name and "Highway 90 East Water and Sewer Main Extensions Project.". The County will consider all bids properly submitted at its scheduled bid opening in the **Okaloosa County Courthouse** located at 101 E. James Lee Boulevard, Room 282, Crestview, FL 32536. If delivering on the bid opening day, delivery must be in person to 101 E. James Lee Boulevard, Room 282, Crestview, FL 32536.

****NOTE: MUST RING DOORBELL TO GAIN ENTRANCE INTO ROOM 282. THE CLERK WILL COME ACCEPT YOUR PACKAGE OR SHOW YOU TO THE CONFERENCE ROOM FOR THE SCHEDULED BID OPENING****

NOTE: THE NEW CRESTVIEW COURTHOUSE HAS SECURITY AT ENTRY POINT-PLEASE ALLOW FOR TIME TO GET THROUGH SECURITY WHEN ARRIVING FOR THE BID OPENING.

NOTE: Crestview, FL is not a next day guaranteed delivery location by most delivery services. Respondents using mail or delivery services assume all risks of late or non-delivery.

The County reserves the right to award the bid to the lowest responsive respondent and to waive any irregularity or technicality in bids received. Okaloosa County shall be the sole judge of the bid and the resulting Agreement that is in its best interest and its decision shall be final.

Any Respondent failing to mark outside of the envelope as set forth herein may not be entitled to have their bid considered.

All bids should be addressed as follows:

Highway 90 East Water and Sewer Main Extensions Project ITB WS 26-20

Crestview Courthouse
Attn: BCC Records
101 E. James Lee Boulevard, Rm 282
Crestview FL 32536

**OKALOOSA COUNTY
BOARD OF COUNTY COMMISSIONERS**

Robert A. "Trey" Goodwin, III
Chairman

Jeff Hyde
Purchasing Manager

END OF DOCUMENT 00020 - ADVERTISEMENT FOR BIDS

DOCUMENT 00100 – INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

Terms used in these Instructions to BIDDERS will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

- 1.01 Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- 1.02 BIDDER – The individual or entity who submits a Bid directly to OWNER.
- 1.03 Successful BIDDER – The lowest, responsible BIDDER submitting a responsive bid to whom OWNER (on the basis of OWNER’s evaluation as hereinafter provided) makes an award.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the ENGINEER.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license or grant for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate qualifications to perform the Work, each BIDDER must have completed a minimum of five similar projects within the past five years. A similar project is defined as the successful installation and testing of 12” or larger water and/or sewer pressure pipelines, with a total length of piping per project of at least 5,000 linear feet.
- 3.02 Each BIDDER must also be prepared to submit, within five days of OWNER’s request, written evidence such as financial data, previous experience, present commitments and other such data as may be called for below. The successful low BIDDER will be required to acquire a county business license before the contract will be awarded.

ARTICLE 4 – PRE-BID CONFERENCE

- 4.01 A mandatory pre-bid conference will be held at 10:00 PM CST on March 4, 2020 at the Okaloosa County Administration Building, 1250 N. Eglin Parkway, Shalimar, FL 325479 in the Training Room.
- 4.02 BIDDERS are required to attend and participate in the conference.
- 4.03 ENGINEER will transmit to all prospective BIDDERS of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 5 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA AND SITE

- 5.01 Subsurface and Physical Conditions
 - A. Reference is made to the Supplementary Conditions for the identification of:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site, if any, that ENGINEER has used in preparing the Bidding Documents.
 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.
- B. Copies of reports and drawings referenced in Paragraph 5.01.A will be made available by OWNER to any BIDDER on request. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which BIDDER is entitled to rely as provided in Paragraph 5.03 of the General Conditions has been identified and established in Paragraph 5.03 of the Supplementary Conditions. BIDDER is responsible for any interpretation or conclusion BIDDER draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

5.02 Underground Facilities

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or adjacent or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by OWNERS of such Underground Facilities, including OWNER, or others. ENGINEER assumes no responsibility for the accuracy or completeness of the information furnished by said OWNERS.

5.03 Hazardous Environmental Condition

- A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bid Documents.
- B. Copies of reports and drawings referenced in Paragraph 5.03.A will be made available by OWNER to any BIDDER on request. These reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which BIDDER is entitled to rely as provided in Paragraph 5.06 of the General Conditions has been identified and established in Paragraph 5.06 of the Supplementary Conditions. BIDDER is responsible for any interpretation or conclusion BIDDER draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

5.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective BIDDERS with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 5.03, 5.04 and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective BIDDERS with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

5.05 On request, OWNER will provide BIDDER access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as BIDDER deems necessary for submission of Bid. BIDDER shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests and studies.

5.06 Reference is made to Article 8 of the General Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, OWNER will provide to each BIDDER for examination access to or copies of Contract Documents (other than portions thereof related to price) for each other work.

5.07 It is the responsibility of each BIDDER before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy BIDDER as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy BIDDER as to all federal, state and local Laws and Regulations that may affect cost, progress, or performance of the Work;
- D. carefully study all 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 or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 5.03 of the General Conditions, and carefully study all reports and drawings of Hazardous Environmental Conditions, if any, at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 5.06 of the General Conditions.
- E. obtain and carefully study (or assume responsibility for doing so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect 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 any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
- F. agree at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. correlate 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, tests, studies, and data with the Bidding Documents;
- I. promptly give Purchasing written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to BIDDER; and
- J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

5.08 The submission of a Bid will constitute an incontrovertible representation by BIDDER that BIDDER has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that BIDDER has given Purchasing written notice of all conflicts, errors, ambiguities, and discrepancies that BIDDER has discovered in the Bidding Documents and the written resolutions thereof by Purchasing are acceptable to BIDDER, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 – SITE AND OTHER AREAS

6.01 The site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing

facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Purchasing in writing prior to last day for questions. The last day for questions will be 3:00 PM CST on March 10, 2020 and shall be submitted on the Pre-Bid Question Form (Section 00150-1). Interpretations or clarifications considered necessary by Purchasing in response to such questions will be issued by Addenda mailed, emailed, faxed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. **Oral and other interpretations or clarifications will be without legal effect.**
- 7.02 Addenda may be issued to clarify, correct or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

Note: For BIDDER's convenience, this form of **Addendum Acknowledgement is enclosed as Attachment "A"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of BIDDER's maximum Bid price and in the form of a cashier's check or a Bid Bond on the form attached issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of the Successful BIDDER will be retained until such BIDDER has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful BIDDER fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that BIDDER will be forfeited. The Bid security of other BIDDERS whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of ten (10) days after the effective date of the Agreement or sixty (60) days after the bid opening whereupon Bid security furnished by such BIDDER will be returned.
- 8.03 Bid security of other BIDDERS that OWNER believes do not have a reasonable chance of receiving the award will be released within ten days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed, and (b) also completed and ready for final payment, are set forth in Article 4 of the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in Article 4 of the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplement in the General Requirements.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 The CONTRACTOR shall perform a minimum of 30% of work by his own forces unless specifically authorized by the OWNER and ENGINEER and no Subcontractor shall be allowed to perform work on the project unless they are acceptable to the OWNER and ENGINEER.
- 12.02 If OWNER requests the identity of certain Subcontractors, Suppliers, individuals or entities to be submitted to OWNER in advance of the Effective Date of the Agreement as provided for in Paragraph 7.06 of the General Conditions, the apparent Successful BIDDER, and any other BIDDER so requested, shall within seven (7) days after receipt of a written request from the OWNER or the ENGINEER, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful BIDDER to submit a substitute, in which case apparent Successful BIDDER shall submit an acceptable substitute, BIDDER’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and OWNER may consider such price adjustment in evaluating Bids and making the Contract award.
- 12.03 If apparent Successful BIDDER declines to make any such substitution, OWNER may award the Contract to the next lowest BIDDER that proposes to use acceptable Subcontractors, Suppliers, individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any BIDDER. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to subsequent revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 7.06 of the General Conditions.
- 12.04 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual or entity against who CONTRACTOR has reasonable objection.

Note: For BIDDER’s convenience, this form of **Schedule of Subcontractors is enclosed as Attachment “B”** with Section 00410 “Bid Form with Attachments”. Attachment “B” is not required to be submitted as part of the Bid Package as defined in Paragraph 12.02.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents. **The BIDDER shall submit an original and two (2) copies of the bid form.**
- 13.02 All blanks on the Bid Form shall be completed in ink or type written and the Bid Form signed in ink. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit
-

- price item, and unit price item listed therein, or the words “No Bid”, “No Change”, or “Not Applicable” entered. Bids having erasures or corrections must be initialed in ink by the BIDDER. If a correction is necessary, draw a single line through the entered figure and enter the corrected figure above it and initial the correction. Any illegible entries, pencil bids or corrections not initialed may not be accepted.
- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer who has legal authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature). The official address of the partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- 13.06 A Bid by an individual shall show the BIDDER’s name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture must be shown below the signature.
- 13.08 All names shall be typed or printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on Attachment “A” with Section 00410 “Bid Form with Attachments”.
- 13.10 The address and telephone number for communications regarding the Bid shall be shown.
- 13.11 If the BIDDER is an out-of-state corporation, the Bid shall contain evidence of BIDDER’s authority and qualification to do business as an out-of-state corporation in the State of Florida. BIDDER’s state contractor license number for the State of Florida shall also be shown on the Bid Form. Contractor shall be licensed in accordance with the requirements of Chapter 489 of the Florida Statutes.

ARTICLE 14 – BASIS OF BID, EVALUATION OF BIDS

- 14.01 Unit Price
- A. BIDDERS shall submit a Bid on a unit price basis for each item of Work listed in the Bid Schedule.
- B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- 14.02 The Bid price shall include such amounts as the BIDDER deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents, as provided in Paragraph 13.02 of the General Conditions.
- 14.03 When completion times are not set forth in the Agreement but instead are to be specified by the BIDDER, bid prices will be compared after adjusting for differences in the time designated by BIDDERS for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial Completion for each day before or after the desired date appearing in Article 9 of the Agreement.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project Title, the name and address of BIDDER, and shall be accompanied by the Bid security and other required documents.
- 15.02 Bids delivered in person shall be brought to Room #282, Okaloosa County Courthouse, 101 E. James Lee Blvd., Crestview, FL 32536.
- a. Bidder must ring doorbell to gain entrance into Room #282. The Clerk will come accept your package or show you to the conference room for the scheduled Bid opening.
- 15.03 If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation “ITB Title”, ITB Number” and the “ITB Opening Date & Time”. A mailed Bid shall be addressed to:

Okaloosa County Courthouse-Crestview
Attn: BCC Records
101 E. James Lee Blvd., Room 282
Crestview, FL 32536

NOTES: CRESTVIEW IS NOT A NEXT DAY DELIVERY SITE FOR OVERNIGHT CARRIERS. A SECURITY CHECK IS REQUIRED PRIOR TO ENTERING THE COURTHOUSE – PLAN ON BEING DELAYED WHEN YOU ARRIVE

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 Once bids are open, the bid submittal may not be withdrawn for sixty (60) days, unless within 24 hours after Bids are opened the BIDDER files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that BIDDER may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that BIDDER will be disqualified from (1) further bidding on the Work, and (2) doing any work on the Contract, either as a subcontractor or any other capacity.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bid opening shall be public, on the date and time specified on the Bid form. It is the BIDDER's responsibility to assure that his bid is delivered at the proper time and place. Offers by email, telegram, facsimile, or other electronic means or telephone are not acceptable.
- 17.02 Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. A tabulation of the amounts of Bids will be made available to BIDDERS after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of sixty (60) days after the day of the bid opening, but the OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – AWARD OF CONTRACT

19.01 The OWNER will award to the lowest responsive, responsible bidder.

19.02 Any of the following reasons may be considered as sufficient for the disqualification of a BIDDER and the rejection of his Bid or Bids:

- A. More than one Bid for the same work from an individual, firm or corporation under the same or different name.
- B. Evidence that the BIDDER has a financial interest in the firm of another BIDDER for the same work.
- C. Evidence of collusion among BIDDERS. Participants in such collusion will receive no recognition as BIDDERS for any future work of the County until such participant shall have reinstated as a qualified BIDDER.
- D. Uncompleted work which in the judgement of the County might hinder or prevent the prompt completion of additional work if awarded.
- E. Failure to pay or satisfactorily settle all bills due for labor and material on former contracts in force at the time of advertisement for Bids.
- F. Default under previous contract.
- G. The Board of County Commissioners, in its absolute discretion, may reject any Bid or a BIDDER that has failed, in the opinion of the Board, to complete or perform and Okaloosa County contracted project in a timely fashion or has failed in any other way, in the opinion of the Board, to perform a prior contract in a satisfactory manner, and has directed the Okaloosa County Purchasing Director to emphasize this condition to potential proposers.
- H. Listing of the BIDDER by any Local, State or Federal Government on its barred/suspended vendor list.
- I. Bids will not be considered from BIDDERS who are currently involved in official financial reorganization or bankruptcy proceedings.
- J. Listing on any Scrutinized Companies list.

ARTICLE 20 – SIGNING OF AGREEMENT

20.01 When OWNER issues a Notice of Award to the Successful BIDDER, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful BIDDER shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten days thereafter, OWNER shall deliver one fully signed counterpart to Successful BIDDER with a complete set of the Drawings with appropriate identification.

ARTICLE 21 – PUBLIC ENTITY CRIME INFORMATION

21.01 A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to the public entity, may not be awarded or perform work as contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for CATEGORY TWO for the period of 36 months from the date of being placed on the convicted vendor list.

ARTICLE 22 – CONFLICT OF INTEREST

- 22.01 The award hereunder is subject to the provision of Chapter 112, Florida Statutes. All BIDDERS must disclose with their bid proposal the name of any officer, director or agent who is also a public officer or an employee of the Okaloosa County Board of County Commissioners, or any of its agencies. Further, all BIDDERS must disclose with their bid proposal the name of any County officer or employee who owns, directly or indirectly an interest of five percent (5%) or more in the firm or any of its branches.
- 22.02 The Contractor, prior to or at the time of submission of the bid proposal, must file a statement with the Clerk of Circuit Court of Okaloosa County, or other designated official in the case of another OWNER, if he is an officer or employee of the County, disclosing his or spouse’s or child’s interest and the nature of the intended business.

Note: For BIDDER’s convenience, this form of **Conflict of Interest Disclosure is enclosed as Attachment “C”** with Section 00410 “Bid Form” and is made a part of the Bid Package.

ARTICLE 23 – RECYCLED CONTENT INFORMATION

- 23.01 In support of the Florida Waste Management Law, BIDDERS are encouraged to supply with their bid any information available regarding recycled material content in the projects bid. The County is particularly interested in the type of recycled material used (such as paper, plastic, glass, metal, etc.) and the percentage of recycled material contained in the product. The County also requests information regarding any known or potential material content in the product that may be extracted and recycled after the product has served its intended purpose.

Note: For BIDDER’s convenience, this form of **Recycled Content is enclosed as Attachment “D”** with Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 24 – VENDORS ON SCRUTINIZED COMPANIES LISTS

- 24.01 Proposer shall certify it is not on any Scrutinized Companies list.

Note: For BIDDER’s convenience, this form of Vendors on Scrutinized Companies Lists is enclosed as Attachment “N” within Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 25 – OMITTED

ARTICLE 26 – IDENTICAL TIE PROPOSALS

- 26.01 In cases of identical procurement responses, the award shall be determined either by lot or on the basis of factors deemed to serve the best interest of the County. In the case of the latter, there must be adequate documentation to support such a decision.

ARTICLE 27 – DRUG-FREE WORKPLACE PROGRAM

- 27.01 Bids will only be received from BIDDERS who can certify to having in place a drug-free workplace program. To have a Drug-Free Workplace program, a business shall, at a minimum, meet the requirements of Florida Statutes, Section 287.087.

Note: For BIDDER’s convenience, this form of **Drug-Free Workplace Program Certification is enclosed as Attachment “E”** within Section 00410 “Bid Form with Attachments” and is made a part of the Bid Package.

ARTICLE 28 – INDEMNIFICATION AND HOLD HARMLESS

- 28.01 Each BIDDER must submit with his bid an executed sworn certification that he will comply with the Hold Harmless in accordance with the provisions of Florida Statutes, Section 725.06.
- 28.02 To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless the OWNER, the Design Engineer and the officers and employees from each from liabilities, damages, losses and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness or intentional wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.

Note: For BIDDER's convenience, this **Indemnification and Hold Harmless is enclosed as Attachment "F"** with Section 00410 "Bid Form Attachments" and is made a part of the Bid Package.

ARTICLE 29 – DISCRIMINATION

- 29.01 An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.
- 29.02 BIDDER will not discriminate against any employee or an applicant for employment because of race, color, religion, gender, sexual orientation, national origin, age, familial status or handicap.

ARTICLE 30 – CONTRACT SECURITY AND INSURANCE

- 30.01 Each BIDDER along with his insurance agent/carrier shall review the insurance requirements for this project and each BIDDER shall submit with his bid an executed sworn certification that insurance policies currently in effect meet the requirements or that a quotation for additional policies or policy modifications was obtained to meet the requirements of this project.
- 30.02 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to performance and payment Bonds and insurance. When the Successful BIDDER delivers the executed Agreement to OWNER, it must be accompanied by such Bonds and Insurance Certificates.
- 30.03 Contractors working within 50 of the railroad will be required to provide the Florida Gulf & Atlantic, LLC insurance requirements attached hereto as Exhibit "C". This insurance must name both Okaloosa County Board of County Commissioners and Florida Gulf & Atlantic, LLC as Additional insureds.

Note: For BIDDER's convenience, this **Insurance Compliance Certification is enclosed as Attachment "G"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 31 – CONE OF SILENCE CLAUSE

- 31.01 The Okaloosa County Board of County Commissioners has established a solicitation silence policy (Cone of Silence Clause) that prohibits oral and written communication regarding all formal solicitations for goods and services (Invitation to Bid, Request for Proposals, Invitation to Quote, Invitation to Negotiate, and Request for Qualifications) issued by the Board through the County Purchasing Department. The period commences from the time of

advertisement until CONTRACT award. Each BIDDER shall review and sign the enclosed form indicating that the BIDDER agrees to abide by the County's "Cone of Silence Clause" and understands that a violation of this policy shall result in disqualification of their bid.

Note: For BIDDER's convenience, this **Cone of Silence is enclosed as Attachment "H"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 32 – PROTECTION OF RESIDENT WORKERS

- 32.01 The Okaloosa County Board of County Commissioners actively supports the Immigration & Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Under the INA, employers may hire only persons who may legally work in the United States, (i.e., citizens and nationals of the U.S.) and aliens authorized to work in the U.S. the employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verification. The contractor shall establish appropriate procedures and controls so no services or products under the contract documents will be performed or manufactured by any worker who is not legally eligible to perform such services or employment.
- 32.02 Okaloosa County reserves the right to request documentation showing compliance with the requirement.
- 32.03 BIDDERS doing construction business with Okaloosa County are required to use the Federal Government Department of Homeland Security's website and use the E-Verify Employment Eligibility Verifications System to confirm eligibility of all new and existing employees hired by the CONTRACTOR during the term of the Contract and shall expressly require subcontractors performing work or providing services pursuant to the Contract to likewise utilize the E-Verify system during the Contract term.

Note: For BIDDER's convenience, this **Federal E-Verify Compliance Certification is enclosed as Attachment "I"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 33 – CHILD LABOR

- 33.01 BIDDER certifies no knowledge of forced nor indentured child labor from any person under the age of 18 was used in the supply of any end product that was mined, produced or manufactured in a corresponding country as defined in 48 CFR 52.222-18.

Note: For BIDDER's convenience, this **Certification Regarding Child Labor is enclosed as Attachment "J"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

ARTICLE 34 – NON-COLLUSION STATEMENT

- 34.01 BIDDER certifies that it has entered into no Agreement to commit a fraudulent, deceitful, unlawful or wrongful act, or any act which may result in an unfair advantage over other BIDDERS. See Florida Statute 838.22.

Note: For BIDDER's convenience, this **Non-Collusion Statement is enclosed as Attachment "K"** with Section 00410 "Bid Form with Attachment" and is made a part of the Bid Package.

ARTICLE 35 – OMITTED

ARTICLE 36 – REVIEW OF PROCUREMENT DOCUMENTS

- 36.01 Per Florida Statute 119.071(1)(b)2. sealed bids, proposals, or replies received by an agency pursuant to a competitive solicitation are exempt from s. 119.07(1) (Inspection and copying of public records) and s. 24(a), Art. I of the State Constitution until such time as the agency

provides notice of an intended decision or until 30 days after opening the bids, proposals, or final replies, whichever is earlier.

ARTICLE 37 – COMPLIANCE WITH FLORIDA STATUTE 119.071

- 37.01 The BIDDER shall comply with all the provisions of section 119.071, Florida Statutes relating to the public records which requires, among other things, that the BIDDER: (a) Keep and maintain public records; (b) Provide the public with access to public records on the same terms and conditions that the public agency would provide the records; (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; and (d) Meet all requirements for retaining public records and transfer, at no cost, to the public agency all public records in possession of the BIDDER upon termination of the contract.

ARTICLE 38 – HIERARCHY OF CONTRACT DOCUMENTS

In the event of conflicts, inconsistencies, discrepancies or ambiguities between the Contract Document arise, unless otherwise provided, the controlling instrument shall be determined by the descending order of the Contract Documents as follows:

1. Modifications issued after the execution of the Agreement
2. Agreement between Owner & Contractor for Construction Contract
3. Addenda issued after the Bid Specifications were advertised to potential Bidders
4. Supplementary Conditions
5. EJCDC General Conditions, 2013 Edition
6. Technical Specifications
7. Construction Drawings
8. Computed dimensions govern over scaled dimensions

ARTICLE 39 – APPLICABLE LAWS & REGULATIONS

- 39.01 All applicable Federal and State laws, County and municipal ordinances, orders, rules and regulations of all authorities having jurisdiction over the project shall apply to the bid throughout, and they will be deemed to be included in the contract the same as though they were written in full therein.

ARTICLE 40 – SYSTEM FOR AWARD MANAGEMENT (SAM)

- 40.01 The BIDDER shall ensure registration with the Federal Government's System for Award Management (SAM) database prior to award, during performance and through final payment of the CONTRACT. All mandatory information must be entered to include the Core, Assertions, Representations and Certifications, and Points of Contact sections.
- 40.02 Information on registration for and use of the SAM database can be obtained via the internet at the U.S. General Services Administration site: <http://www.sam.gov/>. Processing time for new registration normally takes 48 hours, BIDDER should apply for registration immediately upon receipt of this ITB.
- 40.03 If the BIDDER does not register in the SAM database in a timely manner, the OWNER may proceed to award to the next otherwise successful registered BIDDER.
- 40.04 The BIDDER is required to provide their SAM information as part of **Article 9 - Bid Submittal** in Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.

-
- 40.05 See this Section, Exhibit A, "System for Award Management (Oct 2016)" for additional information.

ARTICLE 41 – OTHER STATEMENTS, FORMS AND DOCUMENTATION

- 41.01 Company Data – **Included as Attachment "L"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.
- 41.02 List of References – **Included as Attachment "M"** with Section 00410 "Bid Form with Attachments" and is made a part of this Bid Package.
- 41.03 Certification of Disclosure of Lobbying Activities on Federal Aid Contracts **included as Attachment "O"** with Section 00410 "Bid Form with Attachments" and is made a part of the Bid Package.
- 41.04 Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion for Federal Aid Contracts – **Included as Attachment "P"** with Section 00410 "Bid Form with Attachments" and is made a part of this Bid Package.

Exhibit A**SYSTEM FOR AWARD MANAGEMENT (OCT 2016)**

(a) Definitions. As used in this provision.

“Electronic Funds Transfer (EFT) indicator” means a four-character suffix to the unique entity identifier. The suffix is assigned at the discretion of the commercial, nonprofit, or Government entity to establish additional System for Award Management records for identifying alternative EFT accounts (see [subpart 32.11](#)) for the same entity.

“Registered in the System for Award Management (SAM) database” means that—

(1) The Offeror has entered all mandatory information, including the unique entity identifier and the EFT indicator, if applicable, the Commercial and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see [subpart 4.14](#)) into the SAM database;

(2) The offeror has completed the Core, Assertions, and Representations and Certifications, and Points of Contact sections of the registration in the SAM database;

(3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The offeror will be required to provide consent for TIN validation to the Government as a part of the SAM registration process; and

(4) The Government has marked the record “Active”.

“Unique entity identifier” means a number or other identifier used to identify a specific commercial, nonprofit, or Government entity. See www.sam.gov for the designated entity for establishing unique entity identifiers.

(b) (1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the SAM database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The Offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “Unique Entity Identifier” followed by the unique entity identifier that identifies the Offeror’s name and address exactly as stated in the offer. The Offeror also shall enter its EFT indicator, if applicable. The unique entity identifier will be used by the Contracting Officer to verify that the Offeror is registered in the SAM database.

(c) If the Offeror does not have a unique entity identifier, it should contact the entity designated at www.sam.gov for establishment of the unique entity identifier directly to obtain one. The Offeror should be prepared to provide the following information:

- (1) Company legal business name.
 - (2) Tradestyle, doing business, or other name by which your entity is commonly recognized.
 - (3) Company Physical Street Address, City, State, and Zip Code.
 - (4) Company Mailing Address, City, State and Zip Code (if separate from physical).
 - (5) Company telephone number.
 - (6) Date the company was started.
 - (7) Number of employees at your location.
 - (8) Chief executive officer/key manager.
 - (9) Line of business (industry).
 - (10) Company Headquarters name and address (reporting relationship within your entity).
- (d) If the Offeror does not become registered in the SAM database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.
- (e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.
- (f) Offerors may obtain information on registration at <https://www.acquisition.gov>.

Offerors SAM information:

Entity Name: _____ *N/A*

Entity Address: _____

Duns Number: _____

CAGE Code: _____

END OF DOCUMENT 00100 – INSTRUCTIONS TO BIDDERS

*Bid includes sales Tax for evaluation purposes only, Okaloosa County will not pay sales tax.

BID SCHEDULE - UNIT PRICES

Okaloosa County Water & Sewer Department
on behalf of the Okaloosa County Board of

CONTRACTOR: County Commissioners

DATE: 3/24/2020

PROJECT NAME: **HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSIONS**

BID SCHEDULE

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price (\$)	Bid Price (\$)
1	12" DR18 (C900) PVC Water Main, Complete In Place For	20,100	L.F.	\$23.64	\$475,164.00
2	12" DR18 (C900) PVC Sewer Force Main, Complete In Place For	15,900	L.F.	\$23.65	\$376,035.00
3	12" DR18 (C900) Fusible PVC Water Sewer Force Main Installed via Horizontal Directional Drilling, Complete In Place For	3,500	L.F.	\$88.00	\$308,000.00
4	12" DR18 (C900) Fusible PVC Sewer Force Water Main Installed via Horizontal Directional Drilling, Complete In Place For	2,150	L.F.	\$88.00	\$189,200.00
5	12" CL350 Restrained Joint Ductile Iron Water Main, Complete In Place For	500	L.F.	\$42.45	\$21,225.00
6	12" CL350 Restrained Joint Ductile Iron Sewer Force Main, Complete In Place For	130	L.F.	\$74.93	\$9,740.90
7	12" Gate Valve And Box For Water Main, Complete And In Place For	10	Each	\$1,636.65	\$16,366.50
8	12" Plug Valve And Box For Sewer Force Main, Complete In Place For	7	Each	\$2,802.99	\$19,620.93
9	Fire Hydrant Assembly, Complete In Place For	10	Each	\$3,306.78	\$33,067.80
10	12" Tapping Tee And Tapping Valve For Water Main, Complete In Place For	1	Each	\$5,526.63	\$5,526.63
11	Cast Iron or Ductile Iron Fittings for Water Main, Complete In Place For	4,500	Lb.	\$12.33	\$55,485.00

Sewer Force

Water

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price (\$)	Bid Price (\$)
12	Cast Iron or Ductile Iron Fittings for Sewer Force Main, Complete In Place For	3,750	Lb.	\$20.96	\$78,600.00
13	20" Steel Casing (Min. 0.25" Wall) Installed Beneath Highway Via Jack and Bore, Complete In Place For	325	L.F.	\$375.00	\$121,875.00
14	20" Steel Casing (Min. 0.344" Wall) Installed Beneath Railroad Via Jack and Bore, Complete In Place For	225	L.F.	\$380.00	\$85,500.00
15	2" Testing Assembly Including, Tapping Saddle, Corporation Stop, Curb Stop and Service Tubing, Complete In Place For	35	Each	\$846.56	\$29,629.60
16	Air Release Valve Assembly in Concrete Manhole With Aluminum Hatch, Complete In Place For	9	Each	\$6721.92	\$60,497.28
17	Tie-In New 12" Pipeline To Existing 12" Valve, Complete In Place For	3	Each	\$620.36	\$1,861.08
18	Tie-In New 12" Pipeline To Existing 12" Water Or Sewer Main, Complete In Place For	3	Each	\$686.74	\$2,060.22
19	Remove and Replace Gravel Driveway, Complete In Place For	135	L.F.	\$39.31	\$5,306.18
20	Remove and Replace Asphalt Pavement in Driveway, Including 6" of Crushed Stone Base, Complete In Place For	225	L.F.	\$94.37	\$21,233.25
21	Remove and Replace Concrete Pavement in Driveway, Including 6" of Crushed Stone Base, Complete In Place For	35	L.F.	\$104.59	\$3,660.65
22	Clearing and Grubbing, Complete In Place For	0.75	Ac.	\$12,605.06	\$9,453.80
23	Silt Fence Installation And Maintenance Per Plans & Specifications, Complete In Place For	6,400	L.F.	\$1.57	\$10,048.00
24	Solid Sod, Complete In Place For	750	S.Y.	\$10.49	\$7,867.50

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price (\$)	Bid Price (\$)
25	Seed and Mulch All Disturbed Earth, Complete In Place For	19	Ac.	\$1,292.20	\$24,551.80
26	As-Built Documentation Via RTK GPS Data Acquisition In Accordance With Specifications, Complete In Place For	1	Lump Sum	\$38,480.52	\$38,480.52
27	Preparation/Submission of SWPPP and NPDES Notice of Intent for Large Construction Activities, Complete In Place For	1	Lump Sum	\$2,352.10	\$2,352.10
28	Mobilization and Demobilization, Complete In Place For	1	Lump Sum	\$18,965.34	\$18,965.34
29	Bonds and Insurance, Complete In Place For	1	Lump Sum	*N/A	*N/A
30	Complete with All Safety Requirements, Including Trench Safety Act, Complete In Place For	1	Lump Sum	\$1,687.01	\$1,687.01
31	Coordinate with Existing Utilities, Complete In Place For	1	Lump Sum	\$1,768.84	\$1,768.84

For all work required to perform the work specified in the Bid above in accordance with the construction drawings, specifications, and other contract documents, including all costs related to the work, and any required permits, taxes, bonds and insurance, the undersigned submits a total amount of:

TOTAL BID (amount in words):

Two Million Thirty Four Thousand Eight Hundred Twenty Nine Dollars and

Ninty two Cents

(\$ 2,034,829.92)

(Amount in numbers)

Note: Total Bid amount shall equal the sum of the totals for the Bid Items No. 1 through 31.

The Bidder represents that it has examined the site of the Work and informed itself fully in regard to all conditions pertaining to the place where the work is to be done; that it has examined the plans and specifications for the work and other Contract Documents relative thereto and has read all of the Addenda furnished prior to the opening of the Bids, as acknowledged below; and that it has otherwise fully informed itself regarding the nature, extent, scope and details of the Work to be performed.

If provided with a Notice of Intent to Award the Contract by the Owner, the Bidder shall execute and deliver to the Owner all of the documents required by the Contract Documents, including but not limited to, the Addendum to the Agreement and the Performance and Payment Bonds in the form contained in the Contract Documents, furnish the required evidence of the specified insurance coverages, furnish all necessary permits, license, materials, equipment, machinery, maintenance, tools, apparatus, means of transportation and labor necessary to complete the Work.

Okaloosa County Administration
Dated and signed at Water & Sewer building, this 24th day of March, 2020.

Okaloosa County Water & Sewer Department on behalf
of the Okaloosa County Board of County Commissioners

(Name of Bidder)

Jeff Littell

(Authorized Signature)

Water & Sewer Director

(Title)

1804 Lewis Turner Blvd. Ste. 300

(Mailing Address)

Fort Walton Beach, FL 32547

(City, State, Zip)

59-6000765

(Federal ID No. or SS No.)

DOCUMENT 00410 – SCHEDULE OF SUBCONTRACTORS – ATTACHMENT “B”

Attachment “B” is not required to be submitted as part of the Bid Package as defined in Paragraph 11.02 of the Instructions to Bidders.

The following is a complete list of all subcontractors utilized for this project (if applicable):

- | | | |
|----|----------------------------------|--------------------|
| 1. | Potpan's Asphalt Maintenance LLC | Asphalt Paving |
| | Company Name | Type of Work |
| | 5505 Poplar Head Church Rd. | (850) 259-3800 |
| | Address | Telephone Number |
| | Holt, FL 32564 | 38-3693126 |
| | City, State, Zip | Federal ID Number |
| 2. | Gator Boring & Trenching | Bore Installations |
| | Company Name | Type of Work |
| | 1800 Blackbird Lane | (850) 477-0742 |
| | Address | Telephone Number |
| | Pensacola, FL 32534 | 59-3552831 |
| | City, State, Zip | Federal ID Number |
| 3. | DBE Utility Services | Bore Installations |
| | Company Name | Type of Work |
| | 13387 Bryan Rd. | (561) 644-2182 |
| | Address | Telephone Number |
| | Loxahatchee, FL 33470 | 20-1331070 |
| | City, State, Zip | Federal ID Number |
| 4. | _____ | _____ |
| | Company Name | Type of Work |
| | _____ | _____ |
| | Address | Telephone Number |
| | _____ | _____ |
| | City, State, Zip | Federal ID Number |

Authorized Signature: Jeff Lettall

DOCUMENT 00410 – CONFLICT OF INTEREST DISCLOSURE – ATTACHMENT “C”

For purposes of determining any possible conflict of interest, all BIDDERS, must disclose if any Okaloosa Board of County commissioner, employee(s), elected official(s) or if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either “YES” (a county employee, elected official or agency is also associated with your business) or “NO”. If yes, give person(s) name(s) and position(s) with your business.

YES: _____ NO: _____ X
**The Individuals preparing this bid and constructing the project are employees of the Okaloosa County Board of County Commissioners Water & Sewer Department.

NAME

POSITION

NAME	POSITION

Date 3/24/2020

Okaloosa County Water & Sewer Department on behalf of the Okaloosa County Board of County Commissioners
Firm Name

1804 Lewis Turner Blvd. Ste. 300
Address

Fort Walton Beach, FL 32547
Address

(850) 651-7172
Office Number

By (Signature) Jeff Littrell

Jeff Littrell
By (Printed)

Water & Sewer Director
Title

jlittrell@myokaloosa.com
Email

(850) 978-0017
Cell Number

DOCUMENT 00410 – RECYCLED CONTENT – ATTACHMENT “D”

1. Material: N/A

Is the above material: Virgin _____ Recycled _____ If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes _____ No _____

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes _____ No _____

If yes, explain: _____

2. Material: _____

Is the above material: Virgin _____ Recycled _____ If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes _____ No _____

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes _____ No _____

If yes, explain: _____

3. Material: _____

Is the above material: Virgin _____ Recycled _____ If recycled, what percentage _____ %

Describe: _____

Is the material packaged/shipped in packaging containing recycled content? Yes _____ No _____

If yes, specify packaging: _____

Is the material recyclable after it has reached the end of its intended use? Yes _____ No _____

If yes, explain: _____

DOCUMENT 00410 – DRUG-FREE WORKPLACE PROGRAM CERTIFICATION – ATTACHMENT “E”

THE BELOW SIGNED BIDDER CERTIFIES that it has implemented a drug-free workplace program. In order to have a drug free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business’s policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under quote a copy of the statement specified in subsection 1.
4. In the statement specified in subsection 1, notify the employees that, as a condition of working on the commodities or contractual services that are under quote, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893, Florida Statutes, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in, drug abuse assistance or rehabilitation program if such is available in employee’s community, by any employee who is convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

3/24/2020

 Date
 Okaloosa County Water & Sewer Department on behalf of
 the Okaloosa County Board of County Commissioners

 Company Name

 1804 Lewis Turner Blvd. Ste. 300

 Address

 Fort Walton Beach, FL 32547

 Address

 (850)651-7172

 Office Number

Jeff Littrell

 By (Signature)
 Jeff Littrell

 By (Printed)
 Water & Sewer Director

 Title

 jlittrell@myokaloosa.com

 Email

 (850) 978-0017

 Cell Number

DOCUMENT 00410 – INDEMNIFICATION AND HOLD HARMLESS – ATTACHMENT “F”

To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless the OWNER, the Design Engineer and the officers and employees from each from liabilities, damages, losses and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness or intentional wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.

3/24/2020

Jeff Littrell

Date
Okaloosa County Water & Sewer Department on behalf of
the Okaloosa County Board of County Commissioners
Firm Name

By (Signature)
Jeff Littrell
By (Printed)

1804 Lewis Turner Blvd. Ste. 300
Address

Water & Sewer Director
Title

Fort Walton Beach, FL 32547
Address

jlittrell@myokaloosa.com
Email

(850)651-7172
Office Number

(850) 978-0017
Cell Number

(850) 651-7193
Fax Number

(850) 651-7174
After-Hour Number(s)

DOCUMENT 00410 – INSURANCE COMPLIANCE CERTIFICATION – ATTACHMENT “G”

This form is to be completed and signed by you certifying that your policy either meets the insurance requirements as specified in Bid No. **ITB WS 26-20**, or that the insurance company has reviewed the bid requirements and certifies that you were quoted any price increase due to required coverage.

I certify that the insurance requirements have been reviewed.

3/24/2020
Date

Okaloosa County Water & Sewer Department on behalf of
the Okaloosa County Board of County Commissioners
Firm Name

1804 Lewis Turner Blvd. Ste. 300
Address

Fort Walton Beach, FL 32547
Address

(850)651-7172
Office Number

Jeff Littrell
By (Signature)

Jeff Littrell
By (Printed)

Water & Sewer Director
Title

jlittrell@myokaloosa.com
Email

(850) 978-0017
Cell Number

DOCUMENT 00410 – CONE OF SILENCE CLAUSE – ATTACHMENT “H”

The Board of County Commissioners has established a solicitation silence policy (**Cone of Silence**) that prohibits oral and written communication regarding all formal solicitations for goods and services (ITB, RFP, ITQ, ITN, and RFQ) or other competitive solicitation between the bidder (or its agents or representatives) or other entity with the potential for a financial interest in the award (or their respective agents or representatives) regarding such competitive solicitation, and any County Commissioner or County employee, selection committee member or other persons authorized to act on behalf of the Board including the County’s Architect, Engineer or their subconsultants, or anyone designated to provide a recommendation to award a particular contract, other than the Purchasing Department Staff.

The period commences from the time of advertisement until contract award.

Any information thought to affect the committee or staff recommendation submitted after bids are due, should be directed to the Purchasing Director or an appointed representative. It shall be the Purchasing Director’s decision whether to consider this information in the decision process.

Any violation of this policy shall be grounds to disqualify the bidder from consideration during the selection process.

All bidders must agree to comply with this policy by signing the following statement and including it with their submittal.

I, Jeff Littell, representing Okaloosa County Water & Sewer Department on behalf of the Okaloosa County Board of County Commissioners
Signature Company Name

On this 24th day of March, 2020 hereby agree to abide by the County’s “**Cone of Silence Clause**” and understand violation of this policy shall result in disqualification of my proposal/submittal.

DOCUMENT 00410 – FEDERAL E-VERIFY COMPLIANCE CERTIFICATION – ATTACHMENT “1”

In accordance with Okaloosa County Policy and Executive Order Number 11-116 from the office of the Governor of the State of Florida, BIDDER hereby certifies that the U.S. Department of Homeland Security’s E-Verify system will be used to verify the employment eligibility of all new employees hired by the BIDDER during the contract term, and shall expressly require any subcontractors performing work or providing services pursuant to the contract to likewise utilize the U.S. Department of Homeland Securities E-Verify system to verify the employment of all new employees hired by the subcontractor during the contract term; and shall provide documentation of such verification to the COUNTY upon request.

As the person authorized to sign this statement, I certify that this company complies/will comply fully with the above requirements.

3/24/2020
Date
Okaloosa County Water & Sewer Department on behalf of
the Okaloosa County Board of County Commissioners
Firm Name
1804 Lewis Turner Blvd. Ste. 300
Address
Fort Walton Beach, FL 32547
Address
(850)651-7172
Office Number

Jeff Littrell
By (Signature)
Jeff Littrell
By (Printed)
Water & Sewer Director
Title
jlittrell@myokaloosa.com
Email
(850) 978-0017
Cell Number

DOCUMENT 00410 – CERTIFICATION REGARDING CHILD LABOR – ATTACHMENT “J”

In accordance with solicitation provision 45 CFR 22.15, BIDDER hereby certifies the review of the “List of Products Requiring Contractor Certification or Indentured Child Labor” as published by the Department of Labor in accordance with Executive Order 13126 of June 12, 1999 if any end products are used within this Contract as required by the Prohibition of Acquisition of Products Produced by Forced or Indentured Child Labor, 48 CFR 52.222-18. The list identifies products by their country of origin that the Departments of Labor, Treasury and State have a reasonable basis to believe might have been mined, produced or manufactured by forced or indentured child labor. (www.dol.gov/ilab/) see (22.1505(a))

The BIDDER certifies that they have made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture as listed for that end product. On the basis of those efforts, the BIDDER certifies that it is not aware of any such use of child labor. Specifically, any electrical equipment is not allowed from China per ORCA Certification 52.222-18.

As the person authorized to sign this statement, I certify that this company complies/will comply fully with the above requirements.

3/24/2020
Date
Okaloosa County Water & Sewer Department on behalf of
the Okaloosa County Board of County Commissioners
Firm Name

1804 Lewis Turner Blvd. Ste. 300
Address

Fort Walton Beach, FL 32547
Address

(850)651-7172
Office Number

Jeff Littrell
By (Signature)

Jeff Littrell
By (Printed)

Water & Sewer Director
Title

jlittrell@myokaloosa.com
Email

(850) 978-0017
Cell Number

DOCUMENT 00410 – NON-COLLUSION STATEMENT – ATTACHMENT “K”

The below signed BIDDER has not divulged to, discussed or compared his bid with other BIDDERS and has not colluded with any other BIDDER or parties to bid whatever. (Note: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery of materials.) Any such violation will result in the cancellation and/or return of material (as applicable) and the removal from bid list(s).

3/24/2020

Jeff Littrell

Date
Okaloosa County Water & Sewer Department on behalf of
the Okaloosa County Board of County Commissioners
Firm Name

By (Signature)
Jeff Littrell
By (Printed)

1804 Lewis Turner Blvd. Ste. 300
Address

Water & Sewer Director
Title

Fort Walton Beach, FL 32547
Address

jlittrell@myokaloosa.com
Email

(850)651-7172
Office Number

(850) 978-0017
Cell Number

DOCUMENT 00410 – COMPANY DATA – ATTACHMENT “L”

Bidder’s Company Name: Okaloosa County Water & Sewer Department on behalf of the Okaloosa County Board of County Commissioners

Physical Address: 1804 Lewis Turner Blvd. Ste. 300
Fort Walton Beach, FL 32547

Contact Person (printed): Jeff Littrell

Phone Number: (850) 651-7172 Fax Number: (850) 651-7193

Cell Number: (850) 978-0017

Email: jlittrell@myokaloosa.com

Federal ID or SS Number: 59-6000765

Bidder’s License Number: N/A

Emergency After-Hours,
Weekend or Holiday Contact
with Number: (850) 651-7174

DOCUMENT 00410 – LIST OF REFERENCES – ATTACHMENT "M"

1. _____
N/A

_____	_____
Company Name	Contact Person
_____	_____
Address	Telephone Number
_____	_____
City, State, Zip	Email

2. _____

_____	_____
Company Name	Contact Person
_____	_____
Address	Telephone Number
_____	_____
City, State, Zip	Email

3. _____

_____	_____
Company Name	Contact Person
_____	_____
Address	Telephone Number
_____	_____
City, State, Zip	Email

DOCUMENT 00410 – VENDORS ON SCRUTINIZED COMPANIES LISTS – ATTACHMENT “N”

By executing this Certificate ^{Okaloosa County Water & Sewer Department on behalf of} the Okaloosa County Board of County Commissioners, the bid proposer, certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to section 215.4725, Florida Statutes, (2) engaged in a boycott of Israel, (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes, or (4) engaged in business operations in Cuba or Syria. Pursuant to section 287.135(5), Florida Statutes, the County may disqualify the bid proper immediately or immediately terminate any agreement entered into for cause if the bid proposer is found to have submitted a false certification as to the above or if the Contractor is placed on the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, during the term of the Agreement. If the County determines that the bid proposer has submitted a false certification, the County will provide written notice to the bid proposer. Unless the bid proposer demonstrates in writing, within 90 calendar days of receipt of the notice, that the County’s determination of false certification was made in error, the County shall bring a civil action against the bid proposer. If the County’s determination is upheld, a civil penalty shall apply, and the bid proposer will be ineligible to bid on any Agreement with a Florida agency or local governmental entity for three years after the date of County’s determination of false certification by bid proposer.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

DATE: 3/24/2020
Okaloosa County Water & Sewer Department on behalf of the Okaloosa County Board of County Commissioners
COMPANY: _____
ADDRESS: 1804 Lewis Turner Blvd. Ste. 300
Fort Walton Beach, FL 32547

PHONE NO.: (850) 651-7172

SIGNATURE: Jeff Littrell
NAME: Jeff Littrell
(Typed or Printed)
TITLE: Water & Sewer Director
E-MAIL: jlittrell@myokaloosa.com

DOCUMENT 00410 – CERTIFICATION REGARDING LOBBYING – ATTACHMENT “O”

LOBBYING - 31 U.S.C. 1352, 49 CFR Part 19, 49 CFR Part 20

APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

(To be submitted with each bid or offer exceeding \$100,000)

The undersigned [CONTRACTOR] certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)]
3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1) -(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, Okaloosa County Water & Sewer Department on behalf of the okaloosa County Board of County Commissioners, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

Okaloosa County Water & Sewer Department on behalf of the okaloosa County Board of County Commissioners

Company Name

Jeff Littell
Contractor's Authorized Official (Signature)

Date

3/24/2020

Water & Sewer Director

Title

DOCUMENT 00410 – DEBARMENT & SUSPENSION – ATTACHMENT “P”

**Certification Regarding
Debarment, Suspension, Ineligibility**

Contractor Covered Transactions

Okaloosa County Water & Sewer Department on
behalf of the Okaloosa County Board of County
Commissioners

- (1) The prospective subcontractor of the Sub-recipient, _____, certifies, by submission of this document, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the Sub-recipient's subcontractor is unable to certify to the above statement, the prospective contract shall attach an explanation to this form.

CONTRACTOR

Okaloosa County Water & Sewer Department on behalf of the okaloosa County
Board of County Commissioners

By: Jeff Littrell
Signature

Jeff Littrell, Water & Sewer Director

Name and Title

1804 Lewis Turner Blvd. Ste. 300

Street Address

Fort Walton Beach, FL 32547

City, State, Zip

3/24/2020

Date

Okaloosa County BOCC
Sub-Recipient's Name

DEM Contract Number

FEMA Project Number

END OF DOCUMENT 00410 – BID FORM WITH ATTACHMENTS



OKALOOSA COUNTY WATER & SEWER

Attachment 1
Article 3 – “Qualifications of Bidders”
Section 00100 “Instructions to Bidders”
Page 00100-1
Paragraphs 3.01 and 3.02
Qualifications for Pipe Installation

Large diameter water and/or sewer pressure pipeline projects completed by Okaloosa County Water and Sewer In-House Construction Crews in the past 5 years.

- 1. Eglin Main Lift Station Main: 3.6 miles of 24” Sewer Force Main.*
- 2. Plew Lift Station Main: 3.6 miles of 16” Sewer Force Main.*
- 3. Taxiway H Main: 2.4 miles of 10” Water Main.*
- 4. East County Transmission Main Phase I: 3.7 miles of 24” Sewer Force Main.*
- 5. East County Transmission Main Phase II: 3.0 miles of 30” Sewer Force Main.*
- 6. East County Transmission Main Phase III: 1.0 miles of 16” Sewer Force Main.*
- 7. PJ Adams Water Main Relocation Phase I: 1.1 miles of 12” Water Main.*



OKALOOSA COUNTY WATER & SEWER

Attachment 2
Article 7 – “Attachments to this Bid”
Section 00410 “Bid Forms with Attachments”
Page 00410-7
Paragraphs 7.01 A, B, & C

The paragraphs listed below are not applicable to Okaloosa County Government

7.01A: “Required bid security as discussed in Article 7 of the instructions to bidders.”

7.01B: “Evidence of authority to do business in the state of the project; or written covenant to obtain such license within the time for acceptance of Bids.”

7.01C: “Contractor’s License Number or Evidence of BIDDER’s ability to obtain a State Contractor’s License and a covenant by BIDDER to obtain said license within the time for acceptance of Bids”

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

**STANDARD GENERAL CONDITIONS
OF THE CONSTRUCTION CONTRACT**

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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(202) 347-7474
www.acec.org

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.
 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c)

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- the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 20. *Engineer*—The individual or entity named as such in the Agreement.
 21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
 22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
 23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
 24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
 25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
 26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
 27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
 28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
 29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities)

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or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.

45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives*:
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day*:
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*:
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

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- c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. *Bonds:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor's Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner's Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:

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1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.
- 2.04 Preconstruction Conference; Designation of Authorized Representatives
- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
 - B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.
- 2.05 Initial Acceptance of Schedules
- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
- 2.06 Electronic Transmittals
- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
 - B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
 - C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 Reference Standards

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
 - 2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved,

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by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Requirements of the Contract Documents

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 Reuse of Documents

- A. Contractor and its Subcontractors and Suppliers shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

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ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

- 4.01 Commencement of Contract Times; Notice to Proceed
- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.
- 4.02 Starting the Work
- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.
- 4.03 Reference Points
- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.
- 4.04 Progress Schedule
- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.
- 4.05 Delays in Contractor's Progress
- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and

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interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

- A. *Limitation on Use of Site and Other Areas:*
 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

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2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 Subsurface and Physical Conditions

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 Differing Subsurface or Physical Conditions

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 Underground Facilities

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing

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of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

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2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
 - D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
 - E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
 - F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
 - G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
 - H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
 - I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous

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Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

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- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 Insurance—General Provisions

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

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6.03 Contractor's Insurance

- A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.

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- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 Owner's Liability Insurance

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 Property Insurance

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
 5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.

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12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 Waiver of Rights

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

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2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
 - C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
 - D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.
- 6.07 Receipt and Application of Property Insurance Proceeds
- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
 - B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
 - C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

- 7.01 Supervision and Superintendence
- A. Contractor shall supervise, inspect, and direct 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 solely responsible for the means, methods, techniques, sequences, and procedures of construction.
 - B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.
- 7.02 Labor; Working Hours
- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

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- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in

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Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 Concerning Subcontractors, Suppliers, and Others

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation.

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Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.

- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 Patent Fees and Royalties

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to

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all fees and charges of engineers, architects, attorneys, and other professionals, and all court or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 Permits

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 Taxes

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 Laws and Regulations

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

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7.11 Record Documents

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

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- 7.13 Safety Representative
- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- 7.14 Hazard Communication Programs
- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- 7.15 Emergencies
- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.
- 7.16 Shop Drawings, Samples, and Other Submittals
- A. *Shop Drawing and Sample Submittal Requirements:*
1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
 5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
 7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.
- E. *Resubmittal Procedures:*
 1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
 2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or

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anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 Delegation of Professional Design Services

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 Other Work

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to

starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.

- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 Coordination

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages,

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delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 Communications to Contractor

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Engineer

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 Furnish Data

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 Pay When Due

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

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- 9.07 Change Orders
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 Inspections, Tests, and Approvals
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 Limitations on Owner's Responsibilities
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 Undisclosed Hazardous Environmental Condition
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 Evidence of Financial Arrangements
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).
- 9.12 Safety Programs
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

- 10.01 Owner's Representative
- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.
- 10.02 Visits to Site
- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 Shop Drawings, Change Orders and Payments

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the

case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 Compliance with Safety Program

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 Amending and Supplementing Contract Documents

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. Change Orders:
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. Work Change Directives: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
 - 3. Field Orders: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 Owner-Authorized Changes in the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set

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forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. Contractor's Fee: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 Change Proposals

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
 - 1. Procedures: Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 - 2. Engineer's Action: Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 - 3. Binding Decision: Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. Resolution of Certain Change Proposals: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 Notification to Surety

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS**12.01 Claims**

- A. Claims Process: The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. Submittal of Claim: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. Review and Resolution: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by

mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

- D. Mediation:
1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. Partial Approval: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. Denial of Claim: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. Final and Binding Results: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. Purposes for Determination of Cost of the Work: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. Costs Included: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full

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- time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
 5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any

Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. Costs Excluded: The term Cost of the Work shall not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. Contractor's Fee: When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. Cash Allowances: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract

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Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

- C. Contingency Allowance: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the

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Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.

- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. Contractor's Obligation: It is Contractor's obligation to assure that the Work is not defective.
- B. Engineer's Authority: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. Notice of Defects: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. Preservation of Warranties: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages

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resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 Acceptance of Defective Work

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 Uncovering Work

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to

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perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. Basis for Progress Payments: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. Applications for Payments:
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

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C. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;

- c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. Payment Becomes Due:
- 1. Twenty (20) days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. Reductions in Payment by Owner:
- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
 - 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

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3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or

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which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 Final Inspection

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

- A. Application for Payment:
 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
 2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in

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any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

- B. Engineer's Review of Application and Acceptance:
 - 1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. Completion of Work: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. Payment Becomes Due: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 Correction Period

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

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4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid

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Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.

- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate For Convenience

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has

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failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. Final Resolution of Disputes: For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 Computation of Times

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first 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 will be omitted from the computation.

18.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

- 18.04 Limitation of Damages
 - A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.
- 18.05 No Waiver
 - A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.
- 18.06 Survival of Obligations
 - A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.
- 18.07 Controlling Law
 - A. This Contract is to be governed by the law of the state in which the Project is located.
- 18.08 Headings
 - A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

END OF DOCUMENT 00700 – GENERAL CONDITIONS

DOCUMENT 00800 – SUPPLEMENTARY CONDITIONS

GENERAL

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

ARTICLE 2 – PRELIMINARY MATTERS**2.02 Copies of Documents**

Delete Paragraph 2.02.A in its entirety and insert the following in its place.

- A. Owner shall furnish to Contractor one printed copy of the Contract including one fully executed counterpart of the Agreement. An electronic portable document format (PDF) may be requested by Contractor.

2.03 Before Starting Construction

Delete Paragraph 2.03 in its entirety.

2.04 Preconstruction Conference; Designation of Authorized Representatives

Delete Paragraph 2.04.A in its entirety and insert the following in its place:

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

2.05 Initial Acceptance of Schedules

Delete Paragraph 2.05 in its entirety.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE**3.04 Requirements of the Contract Documents**

Delete Paragraph 3.04.C in its entirety and insert the following:

- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided FDOT Section 5-12 Claims by Contractor.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

Delete Paragraph 4.01.A in its entirety and insert the following in its place.

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the one hundred twenty-fifth (125th) day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.04 Progress Schedule

- A. Amend Paragraph 4.04 where all references to Paragraph 2.05 should now read FDOT Section 8-3.2 Submission of Working Schedule.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.02 Use of Site and Other Areas

Delete Paragraph 5.02.A.2 in its entirety and insert the following:

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by mediation, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

5.03 Subsurface and Physical Conditions

Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

5.06 Hazardous Environmental Conditions

Delete Paragraphs 5.06.B and 5.06.I in their entirety.

Delete Paragraphs 5.06.A and 5.06.J in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys,

and other professionals and all court or mediation or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual’s or entity’s own negligence.

ARTICLE 6 – BONDS AND INSURANCE

6.03 Performance, Payment and Other Bonds

Add the following paragraph immediately after Paragraph 6.01.C:

1. All bonds shall be written by a surety with no less than an “A” rating by national rating agency. All sureties must be on the U.S. Department of Treasury’s Listing of Approved Sureties (Department Circular 570) and bonds must be within the Treasury’s underwriting limitation.

6.02 Insurance – General Requirements

Delete Paragraph 6.02.B in its entirety and insert the following:

- B. All insurance required by the Contract to be purchased and maintained by OWNER and CONTRACTOR shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. All companies that provide insurance policies required under this CONTRACT shall have a minimum A+, Class X or higher in the Bests Key Rating Guide.

Add the following new paragraph immediately after Paragraph 6.02.J:

- K. Where applicable, Okaloosa County Board of County Commissioners shall be shown as an Additional insured with a waiver of subrogation on the certificate of insurance.

6.03 Contractor’s Insurance

Add the following new paragraph immediately after Paragraph 6.03.J:

- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers’ Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	Statutory
Federal, if applicable (e.g., Longshoreman’s):	Statutory
Employer’s Liability:	
Bodily injury, each accident	\$ 500,000
Bodily injury by disease, each employee	\$ 500,000
Bodily injury/disease aggregate	\$ 500,000

2. Contractor’s Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	\$ 1,000,000
Products - Completed Operations Aggregate	\$ 1,000,000
Personal and Advertising Injury	\$ 1,000,000
Each Occurrence (Bodily Injury and Property Damage)	\$ 1,000,000

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Bodily Injury:	
Each person	\$ <u>1,000,000</u>
Each accident	\$ <u>1,000,000</u>
Property Damage:	
Each accident	\$ <u>500,000</u>
<i>[or]</i>	
Combined Single Limit of	\$ <u>1,000,000</u>

4. Additional Insureds: In addition to Owner (Okaloosa County Board of County Commissioners) include as additional insureds the following: POLY, INC. 102 Sunset Lane, Shalimar, FL, 32579.

5. Contractor’s Pollution under Paragraph 6.03.F of the General Conditions

Each Occurrence	\$ <u>1,000,000</u>
General Aggregate	\$ <u>1,000,000</u>

Delete Paragraph 6.03.C.1 in its entirety and insert the following in its place:

1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence continuation of such insurance at final payment and two years thereafter.

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.02 Labor; Working Hours

Delete Paragraph 7.02 B. in its entirety and insert the following:

- B. In the absence of any Laws or Regulations to the contrary, Contractor may perform the Work on holidays, during any or all hours of the day, and on any or all days of the week, at Contractor's sole discretion.

Add the following new paragraph immediately after Paragraph 7.02.B:

1. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer’s services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

7.07 Patent Fees and Royalties

Delete Paragraphs 7.07.B and C in their entirety and replace with the following:

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or mediation or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the

incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.10 Patent Fees and Royalties

Delete Paragraph 7.10.B in its entirety and replace with the following:

- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

7.16 Shop Drawings, Samples and Other Submittals

Delete Paragraph 7.16 in its entirety.

7.18 Indemnification

Delete Paragraph 7.18.A in its entirety and insert the following:

- A. To the fullest extent permitted by law, CONTRACTOR shall indemnify and hold harmless the OWNER, the Design Engineer and the officers and employees from each from liabilities, damages, losses and costs including but not limited to reasonable attorney fees, to the extent caused by the negligence, recklessness or intentional wrongful conduct of the CONTRACTOR and other persons employed or utilized by the CONTRACTOR in the performance of this Agreement.

This indemnification shall survive the termination of this Contract. Nothing contained in this subarticle 7.18.A is intended to nor shall it constitute a waiver of the Owner's sovereign immunity.

ARTICLE 8 – OTHER WORK AT THE SITE

8.03 Legal Relationships

Delete Paragraph 8.03.D in its entirety and insert the following:

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer (both Design and CEI, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by

mediation or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or mediation or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 10 – ENGINEER’S STATUS DURING CONSTRUCTION

10.03 Project Representative

Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.
 1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning acceptability.
 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
 4. Liaison:
 - a. Serve as Engineer’s liaison with Contractor. Working principally through Contractor’s authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner’s liaison with Contractor when Contractor’s operations affect Owner’s on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 6. Shop Drawings and Samples:
 - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
 7. Modifications: Consider and evaluate Contractor’s suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR’s recommendations, if any, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
 8. Review of Work and Rejection of Defective Work:
 - a. Conduct on-Site observations of Contractor’s work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Engineer whenever RPR believes that any part of Contractor’s work in progress is defective, will not produce a completed Project that conforms generally to the Contract

- Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
9. Inspections, Tests, and System Start-ups:
 - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
 10. Records:
 - a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
 - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
 - c. Maintain records for use in preparing Project documentation.
 11. Reports:
 - a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
 - b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
 - c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
 12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
 13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
 14. Completion:
 - a. Participate in Engineer's visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
 - b. Participate in Engineer's final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.

- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the notice of acceptability of the work.
- C. The RPR shall not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
 7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
 8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.03 Unit Price Work

Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
1. if the extended price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 25 percent from the estimated quantity of such item indicated in the Agreement; and
 2. if there is no corresponding adjustment with respect to any other item of Work; and
 3. if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.03 Progress Payments

Delete Paragraph 15.01.B.1 in its entirety and insert the following in its place:

- B. Applications for Payment
1. Application for payment shall generally be submitted on a monthly basis (no more than once per month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

Delete Paragraph 15.01.C.1 in its entirety and insert the following in its place:

C. Review of Application

1. Engineer will within 5 business days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

15.04 Substantial Completion

Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.04 Contractor May Stop Work or Terminate

Delete Paragraphs 16.04.A and 16.04.B in their entirety and insert the following in their place:

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 60 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 60 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 18 – MISCELLANEOUS

18.07 Controlling Law

Delete paragraph 18.07.A in its entirety and replace the following in its place:

- A. This Contract shall be interpreted in accordance with the laws of the State of Florida without regard to its principles of conflicts of laws. The parties agree that venue for any legal proceedings arising out of this Contract shall be in the state courts of Okaloosa County, Florida.

Add the following two sub articles to Article 18.

18.09 Coordination of Contract Documents

- A. The following documents are integral parts of the Contract; a requirement occurring in one is as binding as though occurring in all. All parts of the Contract are complementary and describe and provide for a complete Work. In addition to the work and materials specified in the Standard Specifications as being included in any specific pay item, include in such pay items additional, incidental work not specifically mentioned, when so shown in the plans, or if indicated, or obvious

and apparent, as being necessary for the proper completion of the Work under such pay item and not stipulated as being covered under other pay items.

- B. In cases of discrepancy, the governing order of the documents is as follows:
1. Modifications issued after the execution of the Agreement
 2. Agreement between Owner & Contractor for Construction Contract
 3. Addenda issued after the Bid Specifications were advertised to potential Bidders
 4. Supplementary Conditions
 5. EJCDC General Conditions, 2013 Edition
 6. Technical Specifications
 7. Construction Drawings
 8. Computed dimensions govern over scaled dimensions
- 18.10 Construction Closeout Requirements to County
- A. Immediately after being notified by the Engineer that all other requirements of the Agreement have been completed Contractor shall complete the following items
1. Signed Release of Liens;
 2. Certificate of Insurance for two year period, letter from Contractor stating Certificate of Insurance will be maintained for two (2) years;
 3. Certifications from Surety that Payment/Performance Bond shall remain in effect one year following final payment;
 4. Consent of Surety for Final Payment;
 5. Final Invoice with Engineer's Recommendation, final payment of this Contract shall be made within sixty (60) days after completion by the Contractor of all Work covered by the Agreement and acceptance of such Work by the County;
 6. Record (As-Built) Drawing

END OF DOCUMENT 00800 – SUPPLEMENTARY CONDITION

DOCUMENT 01010 – SUMMARY OF WORK

PART 1 - GENERAL

1.01 Work Covered by the Contract Documents

- A. New Water Main - Installation of approximately 22,479 LF of 12" water main along Hwy 90 east of Crestview, FL. The pipeline consists of approximately 20,026 LF of 12" C-900 DR-18 PVC Water Main installed via open trench, 1,963 LF of fusible PVC C-900 DR-18 water main installed via directional bore and 490 LF of 12" CL-350 Ductile Iron Pipe installed inside steel casing to be installed via jack-and-bore. The water main includes typical appurtenances associated with water main installation including valves, fittings, thrust restraints, fire hydrants, taps, services, tie-ins to existing lines, and other WORK as shown on the construction drawings and described in the specifications.
- B. New Sewer Force Main - Installation of approximately 15,823 L.F. of 12" PVC (C900, DR18), 3,456 L.F. of 12" Fusible PVC (C-900, DR18), and 120 L.F. of 12" DIP (CL350) sewer force main along Fairchild Road from Hwy 90, north to the Jerry D. Mitchem WRF and along Hwy 90 from Fairchild Road east to Jericho Road. The sewer force main includes typical appurtenances associated with sewer force main installation including valves, fittings, thrust restraints, testing taps, air release valves, air release valve vaults, tie-ins to existing lines, and other WORK as shown on the construction drawings and described in the specifications.

1.02 Work Sequence

- A. Contractor's option, but planned so that all work will be completed in the time allocated in the Agreement..

1.03 Contractor's Use of Premises

- A. Contractor shall limit his use of the premises for work and for storage, to allow for Owner occupancy and continuous operation of all facilities in the work area.
- B. Contractor shall coordinate use of premises under direction of Owner.
- C. Contractor shall assume full responsibility for the protection and safekeeping of products under this contract, stored on the site.
- D. Contractor shall move any stored products, under Contractor's control, which interfere with operations of the Owner.

PART 2 - PRODUCTS OMITTED**PART 3 - EXECUTION OMITTED**

END OF DOCUMENT 01010 – SUMMARY OF WORK

DOCUMENT 01040 – PROJECT COORDINATION

PART 1 - GENERAL

1.01 Related Documents

- A. Drawings and general provisions of CONTRACT, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 Summary

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
 - 4. Cleaning and protection.

1.03 Coordination

- A. Coordination: Coordinate construction activities included under various sections of these Specifications to assure efficient and orderly installation of each part of the WORK. Coordinate construction operations included under different sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the WORK is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. The Contractor shall coordinate the WORK with the Owner so that the construction will not restrain or hinder the operation of the existing facilities.
 - 5. Connections to the existing facilities or alteration of existing facilities will be made at times when the use of the piping or facility can be conveniently interrupted for the period of time needed to make the connection or alteration.
 - 6. After having coordinated the WORK with the Owner, the Contractor shall notify the Engineer of the time, time limits and methods of each connection or alteration and have the approval of the Engineer before any work is undertaken on the connections or alterations.
 - 7. The Contractor shall coordinate operations with all utility companies near or adjacent to the area of the WORK. The Contractor shall require said utilities to identify in the field their property and provide drawings as necessary to locate them.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the OWNER and separate CONTRACTORS where coordination of their WORK is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the WORK. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.

4. Progress meetings.
5. Project Close-out activities.

1.04 Submittal

- A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 1. Show the interrelationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Comply with requirements contained in Section 00700 Article 7.16
- B. Staff Names: Within 15 days of Notice to Proceed, submit a list of the CONTRACTOR's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Installation Provisions

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which WORK is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing WORK. Secure WORK true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed WORK. Arrange joints in exposed WORK to obtain the best visual effect. Refer questionable choices to the Engineer for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Engineer for final decision.

3.02 Cleaning and Protection

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious

exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading
2. Excessive internal or external pressures
3. Excessively high or low temperatures
4. Thermal shock
5. Excessively high or low humidity
6. Air contamination or pollution
7. Water
8. Solvents
9. Chemicals
10. Puncture
11. Abrasion
12. Heavy traffic
13. Soiling, staining and corrosion
14. Bacteria
15. Rodent and insect infestation
16. Combustion
17. Electrical current
18. Improper lubrication
19. Unusual wear or other misuse
20. Contact between incompatible materials
21. Misalignment
22. Excessive weathering
23. Unprotected storage
24. Improper shipping or handling
25. Theft
26. Vandalism

END OF DOCUMENT 01040 – PROJECT COORDINATION

DOCUMENT 01350 – WARRANTIES AND MANUALS

PART 1 – GENERAL

1.01 Warranties

- A. The CONTRACTOR shall provide a warranty on all materials and workmanship for at least one (1) year (min.) from the date of Substantial Completion as per the General Conditions.
- B. Additional Warranties apply to individual products, materials and / or assemblies; refer to each of the respective Specification sections to obtain the minimum required warranty information.

1.02 Operation Manuals

- A. The CONTRACTOR shall file (in one place) all operation, maintenance or other manuals received with equipment and upon completion of project, they must be presented to the OWNER with a notification, in writing, to the ENGINEER that this has been accomplished.

PART 2 - PRODUCTS OMITTED

PART 3 - EXECUTION OMITTED

END OF DOCUMENT 01350 – WARRANTIES AND MANUALS

DOCUMENT 01500 – TEMPORARY FACILITIES

PART 1 – GENERAL

1.01 Temporary Storage and Office

- A. The CONTRACTOR shall provide for his own use at project site, such storage and office space as deemed necessary.
- B. Provide Construction barriers and /or barricades, locations will be coordinated with the OWNER's Representative on the site, before installation.
- C. Trailers and sheds as necessary shall be located with-in the construction barriers, and only with the ENGINEER's and OWNER's approval.

1.02 Use Charges

- A. Usage charges for temporary services of facilities are not chargeable to the Owner or the ENGINEER.

1.03 Regulations

- A. Comply with requirements of local laws and regulations governing construction and local industry standards, in the installation of temporary services and facilities.

1.04 Standards

- A. Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", the ANSI-AIO Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJG-6 "Temporary Job Utilities and Services".

1.05 Inspections

- A. Inspect and test each service before placing temporary utilities in use. Arrange for inspections and tests by governing authorities, and obtain certifications and permits for use.

1.06 Submittals

- A. Submit copies of reports and permits required or necessary for the installation and operation; including any reports of tests, inspections and / or permits necessary for installation, use and operation of the temporary facilities.

1.07 Temporary Services

- A. Toilet Facilities
 - 1. The CONTRACTOR shall provide temporary, on-site toilet facilities for the duration of construction. Cleaning shall conducted in accordance with 2.07.
- B. General Utilities
 - 1. Water: The CONTRACTOR shall pay and provide for water needed for the Project during Construction.
 - 2. Power: The CONTRACTOR shall pay for electricity used for the Project during the Construction. CONTRACTOR shall coordinate with Gulf Power for connection.
 - a. Comply with applicable requirements of NEMA, NECA and UL standards and governing regulations. Install temporary lighting of adequate illumination levels to perform the WORK specified as needed.
 - b. Comply with NECA pertaining to installation of temporary wiring service and grounding. Provide transformers, and over current protective devices at main distribution panel for power and light circuitry.
 - c. Provide disconnects for equipment circuits.

-
- 1.08 Protection of Occupants
- A. Provide all warning signs, temporary fencing, barricades, supports, partitions, etc. as required to provide protection to the occupants, and to exclude unauthorized persons from the WORK areas.
 - 1. Comply with recognized standards and code requirements for erection of barricades where needed to prevent accidents. Paint with appropriate colors and warning signs to inform personnel at the site and the public of the hazard being protected against. Provide lighting where needed, including flashing red lights where appropriate.
- 1.09 Lifting Devices and Hoisting
- A. Provide cranes, hoists, towers and other lifting devices necessary for the proper and efficient movement of materials; provide operating personnel for equipment as required. Equipment shall be provided with proper guys, bracing and other safety devices as required by Local or State codes.
 - B. Remove towers and hoisting equipment when they are no longer needed, or as directed by the Engineer.
- 1.10 First Aid Supplies
- A. Comply with governing regulations and recognized recommendations within the construction industry.
- 1.11 Rodent and Pest Control
- A. The CONTRACTOR shall retain a local exterminator and/or pest control company to perform extermination and control procedures at regular intervals so that the project will be relatively free of pests and their residues at all times during the construction project.
 - B. Any pest control operations will be done in a lawful manner using environmentally safe materials.
- 1.12 Collection and Disposal of Waste
- A. Establish a system for collection and disposal of waste materials. Enforce requirements strictly. Do not hold collected materials longer than seven (7) days during normal weather or three (3) days when the daily temperature is expected to rise above 80 degrees F. (27 degrees C).
 - B. Handle waste materials that are hazardous, dangerous, or unsanitary separately from other waste by containerizing.
 - C. Dispose of all waste material in a lawful manner.
- 1.13 Site Drainage
- A. Utilize the existing facilities for temporary drainage where feasible.
 - B. Maintain the existing site, existing building and construction areas free of water.
 - C. Dispose of rainwater in a lawful manner which will not result in flooding in project, nor endanger either existing or new WORK or temporary facilities.
 - D. Take necessary measures to prevent erosion.
- 1.14 Environmental Protection
- A. Conduct all construction activities, by means and methods that comply with any and all environmental regulations, to minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of WORK at the site.
- 1.15 General Protection
- A. Provide protection from damage, dust, etc. to all items in vicinity of the CONTRACT WORK including, but not limited to, existing building surfaces, finishes, items of equipment, utilities, etc. The CONTRACTOR will repair any new damage caused and / or created due to this construction

project, to Owner's satisfaction at no additional cost to Owner. (Non-Construction related damage would be exempt from this clause)

PART 2 – PRODUCTS OMITTED

PART 3 - EXECUTION

3.01 General Operations

- A. Supervision: Limit the availability of temporary services and facilities to essential and intended uses to minimize waste and abuse.
 - 1. Do not permit temporary installation to be abused or endangered.
- B. Maintenance: Operate and maintain temporary services and facilities in good operating condition and in a safe and efficient manner until removal is authorized.
 - 1. Do not overload services or facilities.
 - 2. Protect from damage by freezing temperatures and/or similar elements.
 - 3. Do not allow unsanitary and/or hazardous conditions to develop or persist on site.
- C. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour basis where required to achieve indicated results and avoid the possibility of damage to the WORK or to temporary facilities.

3.02 General Removal

- A. Remove each temporary service and facility promptly when need has ended, or when it is replaced by use of a permanent facility, but no later than Substantial Completion.
- B. Complete or, if necessary, restore permanent WORK delayed because of interference with the temporary service or facility.
- C. Repair all damaged WORK, clean exposed surfaces and replace any WORK which cannot be repaired.
- D. Clean and renovate any permanent services and/or facilities that may have been used to provide a temporary service and/or facilities during the construction period.

END OF DOCUMENT 01500 – TEMPORARY FACILITIES

DOCUMENT 01700 – PROJECT CLOSE-OUT

PART 1 - GENERAL

1.01 Related Documents

- A. Drawings and general provisions of Contract, including General and Supplementary General Conditions and other Division-0 Specification sections, apply to the WORK of this section.

1.02 Description of Requirements

- A. Definitions: Close-out is hereby defined to include general requirements near end of the Contract Time, in preparation for final acceptance, final payment and normal termination of contract.
- B. Specific requirements for individual units of WORK are specified in sections of Division 0 through 40. Time of close-out is directly related to the "Substantial Completion", and must be a single time period for entire WORK.

1.03 Prerequisites to Substantial Completion

- A. General: Prior to requesting the ENGINEER's inspection for certification of Substantial Completion, complete the following and list any known exceptions (if any) in request.
 - 1. The in progress payment request will coincident with or first following date claimed, show either 100% completion for portion of WORK claimed as "Substantially Complete", or list incomplete items, value of incompleteness, and reasons for the items being incomplete.
 - 2. Include any supporting documentation required for completion as indicated in these Contract Documents.
 - 3. Submit statement showing accounting of any changes to the Contract Sum.
 - 4. Contractor shall notify and advise the OWNER of any pending insurance change over requirements.
 - 5. Submit specific warranties, workmanship / maintenance bonds, maintenance agreements, final certifications and similar documents.
 - 6. Obtain and submit releases enabling OWNER's full and unrestricted use of the WORK and access to services and utilities, including, where required, Occupancy Permits, operating certificates, and similar releases.
 - 7. Deliver tools, spare parts, extra stocks of materials, and similar physical items to the OWNER.
 - 8. Complete the start-up testing of the systems, and deliver the instructions of the operating systems to the OWNER and / or maintenance personnel. Discontinue (or change over) and remove from project site all temporary facilities and services, along with any construction tools and facilities, mock-ups, and similar elements.
 - 9. Complete the final cleaning up requirements, including the touch-up of any marred surfaces as required.
 - 10. Touch-up and otherwise repair and restore marred exposed finishes.

1.04 Inspection Procedures

- A. Upon the receipt of the Contractor's request. The Engineer of Record will either proceed with the inspection or advise the Contractor of any prerequisites not fulfilled.
- B. Following the initial inspection the Engineer of Record will either prepare a Certificate of Substantial Completion, or advise the Contractor of WORK that must be performed prior to the issuance of the certificate; and repeat the inspection when requested and assured that WORK has been substantially completed.
- C. The Contractor shall prepare a type written "punch-list" of items to be completed and attach it to the Substantial Completion Form. Results of the completed inspection will form initial "punch-list" for the final acceptance.

1.05 Prerequisites to Final Acceptance

- A. General: Prior to requesting the ENGINEER's final construction review for certification of final acceptance and final payment, as required by General Conditions, complete the following and list any known exceptions (if any) in request:
 - 1. Submit final payment request with final releases and supporting documentation not previously submitted and/or accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 - 3. Submit a certified copy of ENGINEER's "final punch-list" of itemized WORK to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the ENGINEER.
 - 4. Submit Consent of Surety.
 - 5. Submit Certified and Notarized Lien Release stating that all parties have been or will be paid (showing amounts).
 - 6. Submit final liquidated damages settlement statement, acceptable to OWNER.
 - 7. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Review Procedure: Upon receipt of Contractor's notice that WORK has been completed, including punch-list items resulting from earlier construction reviews, and excepting incomplete items delayed because of acceptable circumstances. The ENGINEER will re-inspect the WORK.
- C. Upon completion of review, the ENGINEER will either prepare the Certificate of Final Acceptance or advise the Contractor of WORK not completed or of obligations not fulfilled as required for final acceptance.
- D. If necessary, procedure will be repeated.

1.06 Equipment Close-out

- A. General Operating / Maintenance Instructions: Arrange for each installer of the WORK that requires a continuing maintenance or operation, to meet with OWNER's personnel, at the project site, to provide basic instructions needed for the proper operation and any type of equipment maintenance.
 - 1. Include instructions by manufacturer's representatives where installers are not experts in the required procedures.
 - 2. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities.
 - 3. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy /efficiency adjustments, and similar operations.
 - 4. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments

1.07 Final Cleaning

- A. For any special cleaning requirements for the specific units of WORK, would be specified in individual sections, of Divisions 31 through 40.
- B. General cleaning during the progress of WORK is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division.
- C. Provide final cleaning of the WORK, at time indicated, consisting of cleaning each surface or unit of WORK to normal "clean" condition as expected for a first-class building cleaning and maintenance program.
- D. Comply with the manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

1. Remove labels which are not required as permanent labels.
 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing any substances which are noticeable as a vision obscuring material. Replace broken glass and all damaged transparent materials.
 3. Clean all exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to the original reflective condition.
 4. Wipe surfaces of mechanical and electrical equipment clean; remove any excess lubrication and other substances.
 5. Clean the project site (within limits of construction), including landscape areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits.
- E. Removal of Protection: Except as otherwise indicated or requested by the ENGINEER and / or OWNER. Remove all temporary protection devices and facilities.
- F. Comply with safety standards and governing regulations for the cleaning operations. Do not burn waste materials at site, or bury any debris or excess materials on the OWNER's property, or discharge volatile or other harmful or dangerous materials into the drainage systems. Remove all waste materials from site and dispose of in a lawful manner.
- G. When extra materials are remaining after the completion of associated WORK, which have become the OWNER's property, dispose of these to OWNER's best advantage as directed.

END OF DOCUMENT 01700 – PROJECT CLOSE-OUT

**FLORIDA GULF & ATLANTIC, LLC
INSURANCE REQUIREMENTS
EXHIBIT C**

A. INSURANCE REQUIREMENTS - DURING INSTALLATION PERIOD

If the LICENSEE shall use its own forces or shall employ a contractor for the installation of the Pipeline, then, before commencing work, the LICENSEE or LICENSEE'S CONTRACTOR, as the case may be, shall provide and maintain the following insurance, in form and amount and with the companies satisfactory to, and as approved by, the RAILROAD.

- (a) **Workmen's Compensation Insurance** which fully meets the requirements of any Workmen's Compensation Law in force at the place where the work is to be performed. Employers Liability insurance shall be an amount not less than \$500,000.00 Each Accident for Bodily Injury, \$500,000 Policy Limit for Bodily Injury by Disease, and \$500,000.00 Each Employee for Bodily Injury by Disease. RAILROAD requires LICENSEE or LICENSEE'S CONTRACTOR to provide a "**Waiver of Subrogation**" in favor of RAILROAD.
- (b) **Commercial General Liability Insurance** on an "occurrence" form covering all operations by or on behalf of the LICENSEE or LICENSEE'S CONTRACTOR providing insurance for bodily injury liability, property damage liability and personal injury liability for the limits of liability indicated below and including coverage for:
 - 1. Premises and Operations
 - 2. Products and Completed Operations
 - 3. Owners and Contractors Protective
 - 4. Blanket Contractual Liability insuring the obligations assumed by the LICENSEE or LICENSEE'S CONTRACTOR under this Agreement.
 - 5. Broad Form Property Damage (including completed operations)
 - 6. The Explosion, Collapse and Underground Hazards
 - 7. Cross Suits Liability
 - 8. Independent Contractors
 - 9. Delete any reference or restriction: to work performed within 50 feet of a railroad or railroad property, and affecting any railroad bridge or trestle, tracks, road-beds, tunnel underpass, or crossing; or that refers to any agreement which indemnifies a railroad.

The limits of liability shall not be less than:
 \$ 5,000,000.00 Each Occurrence (combined single limit for Bodily Injury and Property Damage)
 \$ 5,000,000.00 for Personal Injury Liability
 \$ 10,000,000.00 Aggregate for Products - Completed Operations
 \$ 10,000,000.00 General Aggregate

Except with respect to bodily injury and property damage included within the products and completed operations hazards, the aggregate limit shall apply separately to each project.

RAILROAD requires LICENSEE or LICENSEE'S CONTRACTOR to name RAILROAD as "**Additional Insured**" and provide a "**Waiver of Subrogation**" in favor of RAILROAD.

- (c) **Automobile Liability** in the minimum amount of \$1,000,000.00 combined single limit, if LICENSEE or LICENSEE'S CONTRACTOR owns motor vehicle(s) and the operation of its business involves the use of such motor vehicle(s). RAILROAD requires LICENSEE or LICENSEE'S CONTRACTOR to name RAILROAD as "**Additional Insured**" and provide a "**Waiver of Subrogation**" in favor of RAILROAD.
- (d) **Contractor's Pollution Liability ("CPL")** on an "occurrence" basis with \$5,000,000.00 occurrence limit. CPL should be endorsed to include "transported cargo". Licensee or Licensee's Contractor shall name Railroad as "**Additional Insured**" and provide waiver of subrogation in favor of Railroad.
- (e) An Occurrence Form Railroad Protective Policy with limits of not less than Two Million (\$2,000,000.00) Dollars per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with Six Million (\$6,000,000.00) Dollars aggregate for the term of the policy with respect to

Bodily Injury Liability, Property Damage Liability and Physical Damage to Property. The Policy must name

**FLORIDA GULF & ATLANTIC, LLC
5200 TOWN CENTER CIR., STE. 550
BOCA RATON, FL 33486**

as the Insured, and shall provide for not less than Thirty (30) days' prior written notice to Railroad of cancellation of, or any material change, in the policy.

B. POST INSTALLATION

Before commencing work, and until this Agreement shall be terminated or the Pipeline removed (whichever date is later), the LICENSEE shall provide and maintain the following insurance, in form and amount with companies satisfactory to, and as approved by, the RAILROAD:

- (a) **Workmen's Compensation Insurance** which fully meets the requirements of any Workmen's Compensation Law in force at the place where the work is to be performed. Employers Liability insurance shall be an amount not less than \$500,000.00 Each Accident for Bodily Injury, \$500,000.00 Policy Limit for Bodily Injury by Disease, and \$500,000.00 Each Employee for Bodily Injury by Disease. RAILROAD requires LICENSEE or LICENSEE'S CONTRACTOR to provide a "**Waiver of Subrogation**" in favor of RAILROAD.
- (b) **Commercial General Liability Insurance** on an "occurrence" form covering all operations by or on behalf of the LICENSEE providing insurance for bodily injury liability, property damage liability and personal injury liability for the limits of liability indicated below and including coverage for:
 - 1. Premises and Operations
 - 2. Products and Completed Operations
 - 3. Owners and Contractors Protective
 - 4. Blanket Contractual Liability insuring the obligations assumed by the LICENSEE or LICENSEE'S CONTRACTOR under this Agreement.
 - 5. Broad Form Property Damage (including completed operations)
 - 6. The Explosion, Collapse and Underground Hazards
 - 7. Cross Suits Liability
 - 8. Independent Contractors
 - 9. Delete any reference or restriction: to work performed within 50 feet of a railroad or railroad property, and affecting any railroad bridge or trestle, tracks, road-beds, tunnel underpass, or crossing; or that refers to any agreement which indemnifies a railroad.

The limits of liability shall not be less than:

\$ 5,000,000.00 Each Occurrence (combined single limit for Bodily Injury and Property Damage)
\$ 5,000,000.00 for Personal Injury Liability
\$ 10,000,000.00 Aggregate for Products - Completed Operations
\$ 10,000,000.00 General Aggregate

Except with respect to bodily injury and property damage included within the products and completed operations hazards, the aggregate limit shall apply separately to each project.

RAILROAD requires LICENSEE to name RAILROAD as "**Additional Insured**" and provide a "**Waiver of Subrogation**" in favor of RAILROAD.

- (c) **Automobile Liability** in the minimum amount of \$1,000,000.00 combined single limit, if LICENSEE owns motor vehicle(s) and the operation of its business involves the use of such motor vehicle(s). RAILROAD requires LICENSEE to name RAILROAD as "**Additional Insured**" and provide a "**Waiver of Subrogation**" in favor of RAILROAD. The policy must name

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as an Additional Insured and must not contain any exclusions related to doing business on, near, or adjacent to Railroad facilities.

LICENSEE shall provide RAILROAD with a CERTIFICATE of INSURANCE, evidencing such coverage and, upon request, the LICENSEE shall deliver a certified, true and complete copy of the policy or policies. The policies shall provide for not less than Thirty (30) days' prior written notice to the RAILROAD of cancellation of, or any material change in, the policies.

It is understood and agreed that the foregoing insurance coverage is not intended to, and shall not, relieve the LICENSEE from or serve to limit LICENSEE'S liability under the provisions of the License Agreement.

It is further understood and agreed that, so long as this Agreement shall remain in force and the Pipeline shall not have been removed (whichever shall be later), the RAILROAD shall have the right, from time to time, to revise the amount or form of insurance coverages provided in this paragraph as circumstances or changing economic conditions may require. The RAILROAD shall give the LICENSEE written notice of any such requested change at least Thirty (30) days' prior to the date of expiration of the then existing policy or policies, which notice constitutes an amendment to this Agreement and shall become a part hereof; and the LICENSEE agrees to, and shall, thereupon provide the RAILROAD with such revised policy or policies therefor.

All Insurance provided must be primary and shall not be reduced or limited by any insurance procured by RAILROAD. Insurance must be placed with carriers earning a minimum rating of A- X or better and contain a written waiver of subrogation in favor of Railroad. No policies shall contain exclusion for coverage of railroad employees.

END OF EXHIBIT.

Appendix A

Technical Specifications as prepared by Poly, Inc. bearing the title, Highway 90 East Water and Sewer Main Extensions, dated January 2020, 124 pages.

SECTION 00950

SPECIAL CONDITIONS

1. INSPECTION FACILITIES

The Contractor shall at all times provide access to, and all means necessary to provide for inspection of all parts of the work by the Engineer.

2. UTILITIES

The Contractor shall be responsible for any damage done by him or any of his subcontractors to all utilities within the limits of the work. It shall be his responsibility to locate and determine the depth of the existing utilities and manholes as far ahead of his operations as practicable and shall keep the Engineer informed of possible vertical and horizontal conflicts. The Engineer shall adjust the alignment and/or profile of the proposed facilities insofar as practically feasible to eliminate potential conflicts. Unavoidable conflicts will be eliminated as described below. Should any utilities or appurtenances be damaged by the Contractor's activities and operations under this contract, the Contractor shall cause the necessary repairs to be made and shall pay the entire cost thereof without compensation. Temporary repairs may be made by the Contractor to utilities damaged by his operations when such utilities are to be relocated, provided such temporary repairs are adequate to maintain the utility in service until the permanent relocation or adjustment is made.

No separate compensation shall be allowed the Contractor for any work required by this paragraph due to conflicts with lines and appurtenances or as a result of grade revisions.

- a. High Pressure Gas Lines: Where they interfere with work, high-pressure gas lines and appurtenances will be moved by the Okaloosa Gas District. The Contractor shall pay any charges made by the Gas District.
- b. Low Pressure Gas Lines: Where they interfere with work, low pressure gas lines and appurtenances will be moved by the Contractor at no expense to the Owner.
- c. Sanitary Sewers: Where they interfere with the work, existing sanitary sewer lines and laterals will be moved by the Contractor. The Contractor shall notify the Director of the Water and Sewer System at least twenty-four (24) hours prior to the initiation of any such relocation work.
- d. Water Lines: Where water lines interfere with the work they will be relocated by the Contractor. The Contractor shall notify the Director of the Water and Sewer System at least twenty-four (24) hours prior to the initiation of any such relocation work.

- e. Storm Drainage Pipe: The Contractor shall excavate a sufficient distance ahead of his work to allow the Engineer time and space to resolve conflicts with any storm drainage pipes which are not shown on the plans. It is the Contractor's responsibility to protect all existing storm drainage pipes which interfere with his operations. When the plans do not indicate the conflict and the Engineer finds that the conflict creates an undue hardship on the Contractor or calls for work outside the scope of the contract, the Engineer will determine the most appropriate method for resolving the conflict which is satisfactory to both the Owner and the Contractor. This additional work shall be handled by contract change order or field instructions by the Engineer or his representative depending upon the extent and cost of said additional work.

3. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the work by the Owner, the work shall be in the custody and under the charge and care of the Contractor and he shall take every necessary precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from execution or from the non-execution of the work, unless otherwise provided for elsewhere in the Contract Documents. The Contractor shall rebuild, repair, restore, and make good, without extra compensation, all injuries or damages to any portion of the work occasioned by any of the above causes before its completion and acceptance, and shall bear the expenses thereof. In case of suspension of the work from any cause whatever, the Contractor shall be responsible for all materials and equipment and shall properly store them, if necessary, and shall provide suitable shelter from damage and shall erect temporary structures where necessary.

4. EXTRA CHARGES

Upon receiving a change order or field order, the Contractor shall notify the Engineer of any additional charges the Contractor feels he is due prior to initiating the work under consideration.

5. EXAMINATION OF PLANS, SPECIFICATIONS, SUPPLEMENTARY CONDITIONS, AND SITE WORK

Before submitting a proposed Task Order under this Contract, bidders shall examine carefully the site of the proposed work, the general and local conditions, the proposal form, standard specifications, supplemental specifications, provisions, and the contract forms, and it is mutually agreed that the submission of a proposal shall be prima facie evidence that the bidder has made such examination and has judged for and satisfied himself as to the surface and subsurface conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of plans, standard specifications, supplemental specifications, special provision contract, and any other documents provided during drafting of each Task Order. No adjustments or compensation will be allowed for losses caused by failure to comply with this requirement.

Bidders are advised that the Owner disclaims responsibility for any opinions, conclusions, interpretations, or deductions that may be expressed or implied in any of the information presented or made available to bidders; it being expressly understood that the making of deductions, interpretations, and conclusions from all of the accessible factual information is the bidder's sole responsibility.

6. SUBSURFACE CONDITIONS

The Contractor shall check all subsurface conditions and satisfy himself on those conditions before submitting a bid. Subsurface conditions discovered during construction shall not be a basis for extra compensation.

7. ENVIRONMENTAL CONTROL

The Contractor shall insure that good environmental protection practices and methods are instituted to protect surface waters from excessive silt, sediments and nutrients caused by his construction operations.

Storm drainage facilities and temporary dikes, checks, channelization, grassing and any other prudent control shall be installed in the initial stages and as necessary in order to fulfill the requirements set forth in the above regulations. The Contractor shall be responsible for all environmental damages caused by his operations.

Cost for complying with these regulations shall be considered incidental to the work on the bid schedule and no separate payment will be made unless specified in the Measurement and Payment Section of these Specifications.

8. PROSECUTION OF WORK

- a. All the work shall be prosecuted in a manner which according to local conditions shall be best calculated to promote rapidity in construction, to secure safety to life and property and also to reduce to a minimum any interference with abutting property or public travel.
- b. The Contractor shall conduct his operations diligently in all parts of the work, coordinating his part so that the completion of the work shall not be unnecessarily delayed.

9. USE OF ADJOINING PROPERTY

Whenever it is necessary for the Contractor to occupy or otherwise use land adjacent to the work which is not the property of the Owner or for use of which no permit has been granted, the Contractor must make his own arrangements with the Owner of such property.

10. SAFETY AND HEALTH REGULATIONS

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

11. OBSERVANCE OF LAWS AND REGULATIONS

The Contractor shall keep himself informed of all laws, ordinances, and regulations in any manner affecting those employed on the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. He shall at all times himself observe and comply with, and shall require all his agents, employees and subcontractors to observe and comply with all such applicable laws, ordinances, regulations, orders and decrees in effect or which may become effective before completion of this contract; and shall protect and indemnify the Owner against any claim of liability arising from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by himself, his employees or his subcontractors. When local or state laws or ordinances conflict with federal laws or regulations, federal laws or regulations shall take precedence.

12. FINAL CONSTRUCTION INSPECTION

Whenever the Contractor considers the work required by the contract is nearing completion and ready for use, he shall notify the Engineer and request an inspection of substantial completion. Within five (5) days after receiving the notification by the Contractor, the Engineer will inspect all work in the contract. If the Engineer finds that the work has been substantially completed, he will issue a letter of substantial completion. If the Engineer finds that the work has not been substantially completed at the time of such inspection, he will advise the Contractor in writing as to the work to be done or the particular defects in the construction discovered during the inspection. After such work has been completed satisfactorily, the Engineer will re-inspect the work for substantial completion.

When the Contractor considers the work completed, he shall notify the Engineer and request a final inspection. Within five (5) days after receiving the notification by the Contractor, the Engineer shall conduct a final inspection. If the Engineer finds the work has been completed, he will issue a letter stating that the project is complete. If the Engineer finds that the work has not been completed at the time of the inspection, he will advise the Contractor in writing as to the work to be done to complete the project. After such work has been satisfactorily completed, the Engineer will re-inspect the work. When the Engineer considers the work complete, he will issue a letter of final completion.

13. EQUIPMENT AND MATERIALS REMOVED

All equipment and materials removed and/or replaced in the contract which the Owner wants shall become the property of the Owner and shall be placed at a location on the site designated by the Owner. All other equipment and materials which the Owner does not want shall be disposed of off-site at the expense of the Contractor. The Owner shall be final judge of what is salvageable.

14. REMOVAL OF DEBRIS

The Contractor shall frequently clean up all refuse, rubbish, scrap materials and debris caused by his operations, so that at all times the site of the work shall present a neat, orderly and workmanlike appearance.

15. TEMPORARY ROADS, DETOURS AND MAINTENANCE OF ACCESS

- a. Detours and temporary structures necessary for travel during the prosecutions of the work will be at the expense of the Contractor, unless covered under specific MOT per day bid items in the Contract and included in the subject Task Order.
- b. No section of the work shall be closed to traffic unless approved by the Owner. Suitable signs indicating "Road Closed" or "Detour" shall be erected by the Contractor as ordered by the Owner at no expense beyond that covered in specific MOT bid items in the Contract and included in the subject Task Order.
- c. If in the opinion of the Owner the Contractor does not comply with the above requirements such work as the Owner may deem necessary may be performed by others at the direction of the Owner and the charges therefor held from any money due or to become due to the Contractor on this or any other Contract.

16. RESTORATION OF THE GROUNDS

As the work progresses and whenever so directed by the Owner, the Contractor is to remove all surplus material and completely restore to good condition, all surface, disturbed, destroyed or removed by the Contractor, or his agent, or on account of construction, unless other arrangements were established in the subject Task Order defining the Work in the Project. When the Contractor fails to promptly restore the streets or other property, the Owner, after having given three (3) days notice to the Contractor shall have the work shut down until the streets and other property have been restored. Loss of time due to such shut-down will not entitle the Contractor to any extension of time or extra compensation.

Before final inspection is made, all surfaces disturbed on account of this construction shall be leveled up and all surplus material and rubbish incident to the construction must be removed and disposed of and streets, gutters, ditches, sidewalks, crossings, railroads, grass plots and other property affected by the Construction shall be left in good and acceptable condition.

17. UNDERGROUND UTILITIES AND SERVICES

The plans for each project may show certain features of the topography and certain underground utilities, but they do not purport to show in detail all such lines or obstructions. Such topography and notes on the plans were inserted from records available and are for the Contractor's convenience only and shall not be used as basis for any claims of extra compensation.

All pipes or other underground utilities shall be maintained in continuous service where possible and shall be properly protected and supported. In no case shall interruptions to utilities be allowed to exist outside of working hours.

Prior to starting the Work, the proper authorities of all utilities shall be notified by the Contractor and the Contractor shall cooperate in every way possible with these authorities. Whenever necessary to determine the location of existing pipes, valves or other underground structures, the Contractor shall examine all available records and shall make all explorations and excavations necessary for such purpose.

18. CHEMICALS

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or other classification, must show approval of either EPA or USDA. Use of such chemicals and disposal of residues shall be in strict conformance with manufacturer's instructions.

19. COOPERATION BETWEEN CONTRACTORS

Contractor shall cooperate to the fullest extent in order to expedite the completion of the entire project. Any contractor deemed by the Owner to be in violation of this clause can be subject to disciplinary action including but not limited to fines to be paid to the Owner or direct payment to other contractors.

20. DAMAGE BETWEEN CONTRACTORS

If a Contractor damages any of the work performed by another contractor, that contractor causing the damage shall replace, repair, or make any other compensation deemed appropriate by the Owner to the Contractor who did the original work.

21. PROJECT WARRANTY

The one-year warranty period provided under this contract shall begin on the date of the final inspection when the Engineer certifies the project substantially complete. In accordance with Section 29 of the General Conditions, this warranty shall cover defects in all material, equipment, and labor furnished under this contract.

Included in each manufacturer's submittal data shall be a certified statement that the manufacturer will comply with the above warranty provisions. In the event that the manufacturer's warranty expires prior to the Contractor's warranty, the Contractor shall assume full responsibility for all warranties to the Owner for the remainder of the contract warranty period.

22. DEPOSITS AND WATER USAGE ON A HYDRANT METER

1. For any construction water utilized via a hydrant meter, the Contractor shall setup an account with OCWS' Customer Service office and provide contract information.
2. The account shall be setup in the Contractor's name with a deposit and service fee paid by the Contractor. The deposit will be refunded when the account terminates if the meter has not been damaged or lost.
3. OCWS will be responsible for setting the hydrant meter, along with the monthly reading. If the hydrant meter needs to be relocated, Contractor to coordinate this with OCWS Maintenance.
4. Water usage will not be charged to the contractor, provided that the above conditions are met.

END OF SECTION 00950.

SECTION 01 22 00 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 GENERAL

- A. This section describes the methods by which measurement will be made of the quantities for which payment will be made for the project.
- B. It is the intention of this specification that payment will be made for those items listed in the Bid Schedule only. All items of work not specifically listed in the Bid Schedule shall be considered incidental to the construction, and the cost of all such work and material shall be included in the prices bid for the various items listed.

1.2 STORED MATERIALS

- A. Partial payment shall be made for approved materials stored at the project site at the presentation of material invoices in the proper manner as stated in the General Conditions and Contract.

1.3 MOBILIZATION

- A. Mobilization shall cover the preparatory work and operations, including, but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings, and other facilities necessary for work on the project, and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.
- B. Payment for mobilization shall be full compensation for organizing and moving all labor, tools, equipment, supplies, and incidentals to the project site and for disbanding, disorganizing, and removing all labor, tools, equipment, supplies, and incidentals from the project site, regardless of number of times such moves are made, including all preconstruction costs exclusive of bidding costs.
- C. Payment for mobilization when the amount bid for mobilization is \leq 12% of the total contract amount will be as follows:
 - 1. 20% of the amount bid for mobilization will be paid in the first estimate.
 - 2. After the first estimate and upon completion of 5% of the original contract amount for the entire project excluding prior payment for mobilization, 50% of the amount bid for mobilization will be paid.
 - 3. After the first estimate and upon completion of 50% of the original contract amount for the entire project including prior payment for mobilization, the remaining 30% of the amount bid for mobilization will be paid.
 - 4. The total sum of all payments shall not exceed the original contract amount bid for the item of mobilization, regardless of the fact that the Contractor may have, for any reason,

shut down his work on the project or moved equipment away from the project and then back again.

- D. Payment for mobilization when the amount bid for mobilization is $\geq 12\%$ of the total contract amount will be as follows:
1. 2% of the amount bid for mobilization will be paid in the first estimate.
 2. After the first estimate and upon completion of 5% of the original contract amount for the entire project excluding prior payment for mobilization, 6% of the amount bid for mobilization will be paid.
 3. After the first estimate and upon completion of 50% of the original contract amount for the entire project including prior payment for mobilization, 4% of the amount bid for mobilization will be paid.
 4. The remaining 88% will be paid with the final estimate.
 5. The total sum of all payments shall not exceed the original contract amount bid for the item of mobilization, regardless of the fact that the Contractor may have, for any reason, shut down his work on the project or moved equipment away from the project and then back again.

1.4 SECTION 01040, COORDINATION

- A. Coordination of the work with the Owner and other utilities shall be paid for at the Lump Sum price included in the Bid Schedule. This Lump Sum price shall include all coordination, including required utility locates, and temporary shoring and/or support of power or communication poles.

1.5 SECTION 01 35 24, SAFETY

- A. Complying with all safety requirements including temporary detours and structures and barricades, maintenance of traffic, onsite traffic control officers, lights and signs shall be paid for at the Lump Sum price included in the Bid Schedule.

1.6 SECTION 01 46 26, NPDES PERMIT FOR CONSTRUCTION

- A. Obtaining the permit will be paid for at the Lump Sum Price included in the Bid Schedule.

1.7 SECTION 01 57 13, TEMPORARY EROSION CONTROL

- A. Measurement for silt fencing shall be actual linear feet of silt fence installed. Payment shall be made at the price per linear foot included in the Bid Schedule.

1.8 SECTION 01 78 29, AS-BUILT DOCUMENTATION

- A. Obtaining and delivering required survey grade RTK GPS as-built data in accordance with all requirements of section 01 78 29 will be paid for at the Lump Sum Price included in the Bid Schedule.

1.9 SECTION 31 00 00, EARTHWORK

A. Excavation:

1. No separate measurement or payment will be made for trench earth excavation for sewers and other pipelines, nor for any other appurtenant facilities such as manholes, collars, saddles, piers, and pipe protection or encasement. Payment for all such excavation shall be included in the unit prices bid per linear foot of the various sizes of pipe laid for the respective trench depths as provided for in the contract Bid Schedule. Where special bedding or cradles are shown on the Drawings or required by the Engineer, no allowance shall be made for extending earth excavation in trenches to the bottom of such bedding or cradles; such costs shall be included in the unit price bid per cubic yard of bedding material or cradle.
2. The removing of all pavements, pavement foundations, sidewalks, driveways, etc., will be included in the trench excavation for which payment will be made as provided for in paragraph a. above. No separate payment will be made for these items.
3. No separate payment shall be made for pumping, bailing, dewatering, testing, disposal of water, draining, backfilling, removing debris or waste material nor for the disposal of any materials or similar work. Where water mains or sewers or structures are located in, near, or across stream beds or drainage ditches, no separate payment shall be made for diverting the stream flow or drainage and dewatering each section as the work progresses.

B. Sheeting and Shoring: For temporary sheeting and shoring required to comply with all safety regulations refer to Section 01 35 24.

1. No separate payment will be made for sheeting and shoring left in place in trenches in accordance with these Specifications.

C. Sand-Clay or Crushed Stone Base or Temporary Surfacing: If specifically listed as a pay item in the Bid Schedule, separate payment will be made for crushed stone for temporary surfacing of cut streets. Measurement will be made on an in-place basis based on width, depth, and length of area placed. Payment will be made at the unit price bid in the Bid Schedule.

D. Rock Excavation: No separate measurement or payment will be made for trench rock excavation for sewers and other pipelines, or for any other appurtenant facilities such as manholes, collars, saddles, piers, and pipe protection or encasement. Payment for all such excavation shall be included in the unit prices bid per linear foot of the various sizes of pipe laid for the respective trench depths as provided for in the Bid Schedule for this contract. Where special bedding or cradles are shown on the Drawings, or required by the Engineer, no allowance shall be made for extending rock excavation in trenches to the bottom of such bedding or cradle.

E. Select Backfill Borrow Material: If specifically listed as a pay item in the Bid Schedule, separate payment will be made for Select Backfill Borrow Material at designated or authorized locations. Measurement will be on a Loose Truck Basis using truck dump tickets signed by the Engineer. Payment will be made at the unit price bid in the Bid Schedule.

F. Testing: The cost of all testing shall be included in the various bid items associated with the construction. No separate payment will be made for compaction testing.

1.10 SECTION 31 11 00, CLEARING AND GRUBBING

Clearing and grubbing will be measured in acres of actual land cleared and grubbed. Payment will be made at the per acre unit price included in the Bid Schedule. Compensation shall be for all work included in Section 31 11 00.

1.11 SECTION 33 12 19, FIRE HYDRANTS

- A. Payment for Fire Hydrant Assemblies be furnished as specified in Section 33 12 19 shall be made per each at the price included in the Bid Schedule. Each assembly shall include fire hydrant, 12" x 6" mainline tee, ductile iron hydrant lead, 6" gate valve and box, restraints, anchorage, drainage pit with crushed stone, cleaning, excavation, installation, backfill, compaction and all incidentals necessary to provide a complete installation.

1.12 SECTION 32 20 10, REPLACEMENT PAVING, DRIVEWAYS

- A. Gravel, Concrete and Asphalt Paving to be removed and replaced (not resurfacing) under these Specifications will be paid for according to the price bid per linear foot for the various types of paving replaced regardless of width. Measurement shall be the actual lineal footage of pavement replaced along the pipe centerline. The price bid for removal and replacement of asphalt and concrete paving shall include all sand-clay, crushed stone or concrete base course, concrete or asphaltic concrete, and any and all additional work incidental to the installation.
- B. No separate payment shall be made for striping. It shall be included in the price bid for paving.

1.13 SECTION 32 92 20, SEEDING AND SODDING

Seeding performed under these Specifications will be paid for according to the rate bid per acre in the Bid Schedule for the actual installation as measured in the field in the construction area only. Sodding performed under these specifications will be paid for according to the rate bid per square yard in the Bid Schedule for the actual installation as measured in the field in the construction area only. Measurement for payment shall be the area calculated from field measurements of width and length along pipeline centerline. Price bid for grassing shall include all soil preparation required, including furnishing and placing topsoil, lime, and fertilizer, all seeding, and maintenance of grassed area until a stand of grass is achieved and until acceptance by Owner.

1.14 SECTION 33 05 13, PRECAST MANHOLES FOR AIR RELEASE VALVES

- A. Unless indicated otherwise on the drawings, manholes for air release valves installed under these Specifications will be included in the bid item for the Air Release Valve Assembly and will not be paid for separately.

1.15 SECTION 33 05 23.12, FUSIBLE POLYVINYL CHLORIDE PIPE AND SECTION 33 05 23.13, UTILITY HORIZONTAL DIRECTIONAL DRILLING

- A. Pipeline installed by horizontal, directional drilling shall be measured in linear feet along a straight, horizontal line from end to end.
- B. Payment shall be made at the per linear foot price included in the Bid Schedule and shall include payment for all labor, materials, fittings, equipment, anchoring, pressure testing and all other incidentals required for a complete and operational pipeline.

1.16 SECTION 33 05 23.16, JACKING AND BORING OF UTILITY PIPE

- A. Payment for furnishing all labor, materials, equipment and services required for the complete installation of casing pipe by boring or jacking methods, including all classes of excavation, crushed stone, concrete, wooden blocks, anchors, straps, casing spacers, casing end seals, etc., all in accordance with these Specifications and details shown on the Drawings, shall be made at the applicable unit price bid in the Bid Schedule and the actual number of linear feet of casing pipe installed. This measurement shall be made from outside end to outside end of casing pipe and shall include the end sections that may be installed in open trench excavation. Unit price bid shall also include the cost of any additional insurance required by the highway department or railroad for the individual crossing(s). Unit Price bid shall also include the cost of flagging required by railroad.
- B. Carrier pipe shall be furnished, installed and paid for under applicable provisions of the piping sections of these Specifications at the unit price bid under the respective section in the Bid Schedule.
- C. Payment for pipeline construction in state highway rights-of-way or railroad rights-of-way shall be contingent upon approval and acceptance by the railroad or highway department.

1.17 SECTION 33 05 50, POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

- A. Polyvinyl chloride pipe and plastic tubing shall be measured in linear feet along the centerline of the installed pipe or tubing with no deduction for fittings, valves, etc., within the limits of the installation work performed under these Contracts.
- B. Any necessary repairs to existing mains and service lines damaged during performance of work under these Contracts shall be made at the Contractor's expense and no reimbursement will be made for any labor, materials, equipment or other costs involved in such repairs. Materials furnished by the Owner shall not be used for such repairs unless approved by the Owner and the Contractor compensates the Owner for the cost of such materials so used.
- C. Where connections are shown or required to be made between new and existing mains, the cost of all such work, services and equipment, including excavation, cutting pipe, pumping, etc., as required to complete such connection shall be included in the unit prices bid in the Bid Schedule and no separate payment therefor will be made. Payment for furnishing and installing any new pipe and fittings and furnishing and installing accessory items such as valves, etc., required for such connections shall be made at the applicable unit prices bid.

- D. No separate payment shall be made for concrete for concrete thrust blocking or joint restraints at bends and other fittings. The cost for all thrust blocking or joint restraints shall be included in the unit price bid for each size and type of pipe in the Bid Schedule.
- E. Payment for furnishing and installing, testing, sterilizing, and placing in service, complete in place, polyvinyl chloride pipe, plastic tubing, polyvinyl chloride fittings and polyvinyl chloride adapters and specials including all common excavation, backfill and all standard bedding material shall be made per linear foot of pipe installed at the applicable contract unit prices set forth for each size and type of pipe in the Bid Schedule.
- F. Payment so made shall constitute full compensation to the Contractor for material, excavation, backfill, and standard bedding material, installation, sterilization and tests, including all labor, materials, tools, equipment and services necessary to complete the work as specified herein.

1.18 SECTION 33 05 51, DUCTILE IRON PIPING AND DUCTILE IRON AND CAST IRON FITTINGS

A. Measurement:

- 1. The quantities of cast iron and ductile iron pipe, including common excavation, for which payment will be made under this item shall be expressed in linear feet for each size and type of pipe and applicable depth as shown in the Bid Schedule and shall be the horizontal length of ductile iron pipe installed complete in place as measured along the centerline of the pipe with no deductions made for tees, connections, or manholes.
- 2. The quantities of cast iron or ductile iron fittings shall be determined in pounds based upon the catalog weight of such fittings actually installed. Weight for payment shall be calculated using actual field count of fittings installed and the published individual catalog weights of fittings exclusive of gaskets, glands, bolts, and other accessories.

B. Payment:

- 1. Ductile iron or cast iron fittings installed under these Specifications will be paid or at the rate bid per pound in the Bid Schedule.
- 2. No separate payment shall be made for any borrow excavation, clearing, or backfill. The cost of these items shall be included in the unit price bid for pipe under Section 33 05 51 and as provided for in the Bid Schedule.
- 3. Payment for ductile iron pipe constructed under these Specifications shall be made for the quantities determined in the manner specified above in A-1 at the price per linear foot, for each size and type of pipe and applicable depth listed in the Bid Schedule.
- 4. Payment so made shall constitute full compensation to the Contractor for the material, common excavation, backfill, installation, including all labor, materials, tools, equipment, and services necessary to complete the work as specified herein.

1.19 SECTION 33 05 52, VALVES

- A. Payment for various valves to be furnished as specified in Section 40 05 51 shall be made per each at the price included in the Bid Schedule. This price shall include valves and operators, valve boxes, joint restraints, excavation, installation, backfill, compaction and all incidentals necessary to provide a complete installation.

- B. For air release valves, the price shall also include the manhole, aluminum hatch, tapping saddle, isolation valves, nipples, tapping the pipe, flushing assembly, and all other incidentals necessary.
- C. For 2" Testing Assemblies, the price shall include tapping saddle, 2" corporation stop, 2" curb stop, 2" service tubing, excavation, installation, backfill, compaction and all incidentals necessary to provide a complete installation.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 22 00

SECTION 01 31 19.13 - PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. After award of bid and prior to beginning construction, a conference will be held with representatives of the Contractor, Owner, Engineer and the affected utility companies to discuss schedules and utility conflicts in the Project. This conference is intended to establish lines of communication between the parties involved. Time and place of preconstruction conference will be determined after bid award.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 31 19.13

SECTION 01 31 19.23 - PROGRESS MEETINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Owner may request meetings with the Contractor at any time on matters pertaining to the progress of Work being carried out under this Contract. It will be the responsibility of the Contractor to supply whatever information is requested by the Owner concerning the Project throughout its duration and to meet with the Owner and Engineer. These meetings may be as often as monthly (or more often if conditions of the construction require).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 31 19.23

SECTION 01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION AND REQUIREMENTS

- A. Type of Submittals. This Section of the Specifications describes the procedures for submittals of Schedule of Submittals, Schedule of Construction, Insurance Certificates, List of Subcontractors, Anticipated Payment Schedules, Shop Drawings, Product Data, Samples, and miscellaneous work-related submittals.
- B. Related Work Specified Elsewhere:
 - 1. Definitions and Additional Responsible Parties:
 - a. Section 00 72 00: General Conditions.
 - b. Section 00 73 00: Supplementary Conditions.
- C. Submittal Contents. The submittal contents required are specified in each section and in this specification.
- D. Definitions. Submittals are categorized as follows:
 - 1. Shop Drawings:
 - a. Shop drawings shall include technical data, drawings, diagrams, performance curves, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name of preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by the Engineer to be used in connection with the Work.
 - 2. Product Data:
 - a. Product data includes standard printed information on materials, products and systems, not specially prepared for this project, other than the designation of selections from among available choices printed therein.
 - b. Collect required data into one submittal for each unit of work or system, and clearly mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.
 - c. Show all performance characteristics, capacities, clearances required, and wiring or piping diagrams. Supplement standard information to provide all information specifically applicable to work.
 - 3. Samples:

- a. Samples include both fabricated and unfabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or (where indicated) for more detailed testing and analysis.
 - b. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Engineer's selection is required. Prepare samples to match the Engineer's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of "kind" by the Engineer. Engineer will not "test" samples (except as otherwise indicated) for other requirements, which are the exclusive responsibility of the Contractor.
 - c. Samples shall be of sufficient size to clearly indicate functional characteristics of the products and full range of color, texture, and pattern.
4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

E. List of Required Submittals:

<u>No.</u>	<u>Description</u>	<u>Section No.</u>
1.	List of Subcontractors	00100
2.	Insurance Certificates	00700
3.	Schedule of Construction	00700
4.	Advertisement of Completion (Affidavit)	00800
5.	Contractor's Release of Liens	00800
6.	Proof of Completed Operations Insurance	00800
7.	NOI, NOT and SWPPP; Name of BMP Inspector and Inspection Reports	01 41 26.02
8.	Construction "As-Builts" GPS Data	01 78 29
9.	Compaction Test Reports	31 00 01
10.	Engineering Data on Precast Manholes and Hatches for ARVs	33 05 13.02
11.	Engineering Data on Fusible PVC Piping	33 05 23.12
12.	Complete HDD Bore Planning & Engineering Data	33 05 23.13
13.	Complete Jacking and Boring Planning & Engineering Data	33 05 23.16
14.	Engineering Data on PVC Pressure Pipe	33 05 50
15.	Shop Drawings and Product Data on Ductile Iron Pipe	33 05 51
16.	Shop Drawings and Product Data on Ductile Iron Fittings	33 05 51
17.	Shop Drawing and Product Data on Testing Tap Assemblies	33 12 13
18.	Shop Drawing and Product Data on Fire Hydrant Assemblies	33 12 19
19.	Shop Drawings and Product Data on Valves	40 05 51

1.2 GENERAL SUBMITTAL REQUIREMENTS

- A. Scheduling. Where appropriate in various required administrative submittals (listings of products, manufacturers, supplier and subcontractors, and in job progress schedule), show principle work-related submittal requirements and time schedules for coordination and integration of submittal activity with related work in each instance.
- B. Coordination of Submittal Times. Prepare and transmit each submittal to the Engineer sufficiently in advance of performing related work or other applicable activities, so the installation will not be delayed or improperly sequenced by processing times, including non-approval and resubmittal (if required). Coordinate with other submittals, testing, purchasing, delivery and similar sequenced activities. No extension of time will be authorized because of Contractor's failure to transmit submittals to the Engineer sufficiently in advance of the work.
- C. Sequencing Requirements. As applicable in each instance, do not proceed with a unit of work until submittal procedures have been sequenced with related units of work, in a manner which will ensure that the action will not need to be later modified or rescinded by reason of a subsequent submittal which should have been processed earlier or concurrently for coordination.
- D. Preparation of Submittals. Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking and provide space for the Engineer's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the Contractor's office will be returned "without action".
- E. Transmittal Identification.
 - 1. Number transmittals in sequence for each Division of the Specifications. The number before the dash indicates the Section of the Specifications, and the number after the dash is the sequence number of the transmittal (33 11 00-1 would be the first transmittal applicable to Section 33 11 00 of the Specifications. 33 11 00-2 would be the second transmittal for Section 33 11 00, etc.)
 - 2. Identify resubmittals with a letter of the alphabet following the original number, using A for the first resubmittal, B for the second resubmittal, etc. A resubmittal affecting transmittal 33 11 00-1 would then be numbered 33 11 00-1A. The 33 11 00-1 would then be entered in the space "Previous Transmittal Number", which is left blank except on resubmittals.

1.3 SPECIFIC CATEGORY REQUIREMENTS

- A. General. Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal.
 - 1. Submittals shall be accompanied by a cover sheet which shall contain:
 - a. The date of submission and the dates of any previous submissions.
 - b. The Project title and number.
 - c. Date.
 - d. Contract No.
 - e. The names of the:
 - 1) Contractor

- 2) Supplier
- 3) Manufacturer
- f. Identification of the product, with the Specification Section number.
- g. A list of all the sheets included in the submittal.
- h. Field dimensions, clearly identified as such.
- i. Relation to adjacent or critical features of the work or materials.
- j. Applicable standards, such as ASTM or Federal Specification numbers.
- k. Notification to the Engineer in writing, at time of submission, of any deviations on the submittals from requirements of the Contract Documents.
- l. Identification of revisions on resubmittals.
- m. An 8 inch x 3 inch blank space for Contractor and Engineer stamps.
- n. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
- o. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.4 CONTRACTOR RESPONSIBILITIES

- A. In addition to any other requirements of this section, the Contractor shall be responsible to:
 1. Review shop drawings, product data and samples prior to submission.
 2. Determine and verify:
 - a. Field measurements.
 - b. Field construction criteria and required clearances.
 - c. Catalog numbers and similar data.
 - d. Conformance with specifications.
 3. Coordinate each submittal with requirements of the work and of the Contract Documents.
 4. Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.
 5. Begin no fabrication or work which requires submittals until return of submittals with Engineer approval.

1.5 ROUTING OF SUBMITTALS

- A. Submittals and routine correspondence shall be routed as follows:
 1. Supplier to Contractor (through representative if applicable) for detailed review.
 2. Contractor to Consulting Engineer for review or comment.
 3. Consulting Engineer to Contractor.
 4. Contractor to Field Office and Supplier.

1.6 SUBMITTAL COPIES REQUIRED

- A. Shop Drawings, Product Data, and Miscellaneous Submittals. All released submittals will be distributed as follows:
 1. For Poly, Inc. 2 copies

2. For Owner	2 copies
3. For Contractor	3 copies
TOTAL	<u>7 copies</u>

- B. To the above number may be added additional copies as required by the Contractor.
- C. The Engineer will mark all copies of each shop drawing. One will be retained in the Engineer's office, one sent to the Engineer's Field office, two will be retained for the Owner and the remaining copies sent to the Contractor for his records and distribution.

NOTE: Electronic submittals may be substituted for paper submittals with the approved of the Owner.

- D. For nonapproval items, such as parts lists, operation and maintenance data, five (5) copies are required, unless specified otherwise:

1. For Poly, Inc.	2 copies
2. For Owner	2 copies
TOTAL	<u>5 copies</u>

- E. Samples
 - 1. Submittal. At Contractor's option, provide preliminary submittal of a single set of samples for the Engineer's review and "action." Otherwise, initial submittal is final submittal unless returned with "action" which requires resubmittal. Submit two (2) sets of samples in final submittal; one set will be returned.
 - 2. Quality Control Set. Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Engineer and by others.

1.7 REVIEW OF SUBMITTALS

- A. Review Time. Allow a minimum of two (2) weeks for the Engineer's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals or when a sufficiently large number of submittals are sent during a short period. The Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed. Allow two weeks for reprocessing each submittal. Advise the Engineer on each submittal as to whether processing time is critical to progress of the work, and therefore the work would be expedited if processing time could be foreshortened.
- B. Engineer's Action:
 - 1. Final Unrestricted Release. Work may proceed, provided it complies with contract documents, when submittal is returned with the following:
 - a. Marking: "A" - No Exceptions Taken.
 - 2. Final-But-Restricted Release. Work may proceed, provided it complies with notations and corrections on submittal and with contract documents, when submittal is returned with the following:
 - a. Marking: "B" - Make Corrections Noted.
 - 3. Returned for Resubmittal. Do not proceed with Work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking.

Do not allow submittals with the following marking (or unmarked submittals where a marking is required) to be used in connection with performance of the work.

- a. Marking: "C" - Revise and resubmit.
 - b. Marking: "D" - Rejected - Does Not Comply with Project Requirements.
4. Only three (3) copies of items marked "C" or "D" will be reviewed and marked. One copy will be retained in the Poly, Inc. office and the other copies with all remaining unmarked copies will be returned to the contractor for resubmittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 33 00

SECTION 01 35 24 - SAFETY

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for conducting all work in a safe manner and taking all necessary precautions to ensure the safety and protection of workers, property, and the general public. The Contractor's responsibility for protecting the public is described in the "General Conditions".
- B. All construction work shall be conducted in accordance with the latest applicable requirements of 29CFR, Part 1926, Subpart P of the Occupational Safety and Health Act, Safety and Health Regulations for Construction, Section 107 of the Contract Work Hours and Safety Standards Act, as well as any other local and state safety codes and regulations.
- C. The Contractor shall designate a trained and qualified employee who is to be responsible for ensuring that the work is performed safely and in conformance with all applicable regulations.
- D. The Contractor shall determine for himself the safety hazards involved in prosecuting the work and the precautions necessary to conduct the work safely. If the Contractor is unsure as to any special hazards which may be unique on this project, it shall be his responsibility to hire a qualified professional to assist the Contractor in completing the project in a safe manner.
- E. The Contractor shall bear all risks associated with performing the work and shall fully indemnify the Owner and Engineer.
- F. All traffic control shall conform to the Manual on Uniform Traffic Control Devices published by the U.S. Department of Transportation, Federal Highway Administration and the Florida Department of Transportation.
- G. The Contractor shall comply with all provisions of the Trench Safety Act.

1.2 MAINTENANCE OF TRAFFIC

- A. General: No streets or roads shall be closed to traffic unless approved by the Owner and Engineer. Before approval will be granted, the Contractor shall submit a traffic accommodation plan and construction schedule satisfactory to the Owner and Engineer.
- B. Directional Boring/Jacking and Boring: In accordance with Florida Department of Transportation requirements, an approved Traffic Control Officer must be onsite during highway crossing operations.
- C. Lane Closures: Prior to closing any traffic lane, the Contractor shall furnish, erect and maintain, at no expense to the Owner, suitable barrels, cones, warning signs or other devices necessary to protect the safety of the public. If the traffic lane is to be closed during the night, suitable lights shall be kept burning from sunset to sunrise.

- D. Detours: Prior to closing any street or road to traffic, the Contractor shall furnish, erect, and maintain, at no expense to the Owner, suitable barricades, warning signs or lights which shall be kept burning from sunset to sunrise to keep traffic out of the area of construction and suitable signs saying "Detour" with directional arrows.
- E. If in the opinion of the Engineer the Contractor does not comply with the above requirements, the Engineer and Owner may deem necessary such work to be performed by others and the charges therefore withheld from any money due or to become due to the Contractor.

1.3 PAYMENT

- A. Compensation for complying with all safety provisions; furnishing, erecting, and maintaining the necessary detours, temporary structures, barricades, lights, signs and providing an approved traffic control officer; or for any other incidentals necessary for the good and proper safety, convenience, and direction of traffic during the period prior to final inspection and acceptance shall be made at the Lump Sum price bid in the Bid Proposal for Safety.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 35 24

SECTION 01 41 00 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Permits and Responsibilities. The Contractor shall, without additional expense to the Owner, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State and municipal laws, codes and regulations, in connection with the prosecution of the Work. He shall take proper safety and health precautions to protect the Work, the workers, the public and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the Work, except for any completed unit of construction thereof which may heretofore have been accepted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 41 00

SECTION 01 41 26.02 - FDEP STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

PART 1 - GENERAL

1.1 SUMMARY

- A. Not applicable.

1.2 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
1. ENVIRONMENTAL PROTECTION AGENCY (EPA):
 - a. EPA Publications 832-R-92-005 (SEP 1992) Storm Water Management for Construction Activities - Developing Pollution Prevention Plans and Best Management Practices.
 - b. EPA Stormwater Pollution Prevention for Construction Activities, Office of Wastewater Enforcement and Compliance, U. S. Environmental Protection Agency, Washington, D.C., 20460, as amended.
- B. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP):
1. The Generic Permit for Stormwater Discharge from Construction Activities that Disturb One Acre or more of Land (CGP) (DEP Document 62-621.300 (4) (a)).
 2. CGP Notice of Intent (NOI) (FDEP Form 62-621.300 (4) (b)).
 3. CGP Notice of Termination (NOT) (FDEP Form 62-621.300 (6)).

1.3 GENERAL REQUIREMENTS

- A. Permit: The scope of work includes filing a Notice of Intent (NOI) with the FDEP NPDES Stormwater Notices Center at least thirty (30) days prior to initiating construction activities. Additionally, a site specific Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for the project. Grading operations shall be undertaken only after the permit has been issued and all construction activities shall be prosecuted in accordance with the Contractor's approved SWPPP and the rules of the various authorities having jurisdiction. The Contractor shall comply with the FDEP regulation and SWPPP for construction practices, and conducting tests, inspections, and other activities required by law to prevent pollution of the waters of the state.
1. The Contractor shall by his administrative and construction practices maintain the permit in effect until the eligibility requirements for termination specified in the CGP have been met. At that time the Contractor shall file a Notice of Termination with the FDEP NPDES Stormwater Notices Center.
- B. Submittals: Two (2) copies of the NOI and all applications, plans, reports, tests, NOT, and all other documents and correspondence submitted to or received from the regulating agencies shall be submitted to the Owner and Engineer.

1. Submit names and qualifications of Contractor personnel assigned to inspect implementation and effectiveness of the BMP Plan. Submit phone numbers for Contractor personnel on a 24 hour basis in case of emergency.
 2. At the termination of the project the Contractor shall furnish to the owner one copy of all records of inspections and monitoring information along with materials listed above in a bound volume or volumes filed by date for records retention.
- C. Record Retention: The Contractor and the owner shall maintain records listed in 1.3.2. for a period of three (3) years.

1.4 FORMS AND INSTRUCTIONS

- A. The Contractor shall obtain at his expense all forms, instructions, rules and reference publications required and needed to obtain and implement the general permit. Forms and instructions can be obtained from NPDES Stormwater Program, 2600 Blair Stone Road, Mail Station 2500, Tallahassee, Florida 32399. Information may also be obtained from the FDEP website at <http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm>.

1.5 APPLICATION, FORMS, AND DATA

- A. The application to FDEP Stormwater Notices Center shall contain the following items:
1. Notice of Intent.
 2. Appropriate permit fee.
 3. A Copy of the SWPPP (If required by the FDEP).
- B. Site specific data required on the NOI and site location map will be furnished by the engineer and attached to these specifications.

1.6 LIABILITY

- A. Liability and responsibility for compliance with the permittee's duties under this permit are not delegable by contract or otherwise. The permittee shall ensure that any agent, Contractor, subcontractor or other person employed by, under contract, or paid a salary by the permittee complies with this permit. Any violations resulting from the actions of such person shall be considered violations of this permit and may subject the permittee to enforcement action.

PART 2 - EXECUTION

2.1 FORMS

- A. Prepare and execute all forms and reports as required, conduct all necessary tests and prosecute the work in accordance with the SWPPP.

END OF SECTION 01 41 26.02

SECTION 01 42 19 - APPLICABLE CODES AND STANDARDS

PART 1 - GENERAL

1.1 GENERAL

- A. All materials, equipment, fabrication, and installation practices shall comply with the following applicable codes and standards, except in those cases where the Contractor's quality standards establish more stringent quality requirements, as determined by the Engineer.
1. Piping:
 - a. ANSI (American National Standards Institute)
 - b. API (American Petroleum Institute)
 - c. ASME (American Society of Mechanical Engineers)
 - d. AWWA (American Water Works Association)
 - e. NSF (National Sanitation Foundation)
 2. Materials:
 - a. AASHTO (American Association of State Highway and Transportation Officials)
 - b. ANSI (American National Standards Institute)
 - c. ASTM (American Society for Testing and Materials)
 3. Painting and Surface Preparation:
 - a. NACE (National Association of Corrosion Engineers)
 - b. SSPC (Steel Structures Painting Council)
 4. Steel:
 - a. AISC (American Institute of Steel Construction)
 5. Concrete:
 - a. ACI (American Concrete Institute)
 6. Safety:
 - a. OSHA (Occupational Safety and Health Act)
 7. Plumbing:
 - a. AGA (American Gas Association)
 - b. NSF (National Sanitation Foundation)
 - c. PDI (Plumbing Drainage Institute)
 - d. SPC (SBCC Standard Plumbing Code)
- B. In addition, all work shall comply with the applicable requirements of local codes, utilities, and other authorities having jurisdiction.
- C. All material and equipment, for which a UL Standard, an AGA approval, or an ASME requirement is established, shall be so approved and labeled or stamped. Label or stamp shall be conspicuous and not covered, painted, or otherwise obscured from visual inspection.

END OF SECTION 01 42 19

SECTION 01 57 13.02 - TEMPORARY EROSION CONTROL FOR FLORIDA

PART 1 - GENERAL

1.1 SCOPE OF THE WORK

- A. Erosion control shall be employed during the construction period and shall include all necessary temporary measures required to prevent soil erosion from the site until permanent erosion control and finished surfaces are installed.
- B. Erosion control measures shall be considered incidental to all construction involving land disturbing activities.

1.2 RELATED SECTIONS

- A. Section 01 41 26.02 - FDEP Stormwater Permit for Construction Activity

1.3 QUALITY ASSURANCE

- A. The Contractor shall comply with applicable codes, rules, ordinances, regulations, and laws of local, municipal, state or federal authorities having jurisdiction over the project.
- B. Work on the various state and federal highways shall comply with the current Standard Specifications for Construction.
- C. Erosion control measures for construction shall conform to these Specifications and the applicable federal, state, or local codes regarding erosion.

PART 2 - PRODUCTS

2.1 FILTER CLOTH

- A. Filter cloth for silt fences shall be a pervious sheet of synthetic polymer filaments forming a stable network so that fibers retain their relative positions. Filter cloth shall be of the type recommended by its manufacturer for the intended application. The filter cloth shall meet the following requirement.
 - 1. Minimum Average Thickness: 30 mils (by ASTM D1777).
 - 2. Air Permeability: 250 to 550 C.F.M./Sq. Ft.
 - 3. Minimum Grab Strength: 110 lbs. (by ASTM D1682).

PART 3 - EXECUTION

3.1 GENERAL

- A. Temporary erosion control construction shall be directed toward and have the purpose of controlling soil erosion at its potential source. Downstream sediment entrapment measures shall be employed, but only as a backup to primary control at the source.
- B. A continuing program of installation and maintenance of sediment control shall be employed during the construction period.

3.2 TEMPORARY EROSION CONTROL DURING CONSTRUCTION

- A. Temporary erosion control construction shall be employed until such time as permanent paving, planting, and restoration of natural areas is effective in control of erosion from the site. Measures shall conform to the SWPPP approved as part of the submittal required in Section 01 41 26.02 of these specifications.
- B. Silt Fences:
 - 1. Temporary silt fences shall be located at all points where surface water can leave the construction area if the source area is subject to soil erosion.
 - 2. Silt fences shall be constructed to remove sediments from flowing water through filtration and sedimentation. Silt fences shall be constructed in accordance with the details shown on the drawings and the manufacturer's printed instructions.
 - 3. Silt fences shall be arranged to create ponding behind them. Provision shall be made for removing accumulated sediments and maintaining ponding capacity.
 - 4. Silt fences shall be removed and the area restored when permanent erosion control is effective.
- C. Grading Operations: Grading operations shall be scheduled so that the ground surface will be disturbed for the shortest possible time before permanent construction is installed. Large areas shall be maintained as flat as possible to minimize soil transport through surface flow.
 - 1. Wherever steeper slopes or abrupt changes in grade are required, a diversion or berm shall be constructed at the top of the slope to cause the surface water to flow along the diversion to a control point to be transported downslope in a slope drain. In no case shall surface water be allowed to flow uncontrolled down slopes.
- D. Slope Drains: Temporary slope drains shall be provided to convey surface water down slopes. Slope drains shall be provided with an apron at their tops to anchor them and properly direct water into them. Stone or rubble shall be placed at slope drain outlets to prevent scour at these points.
- E. Ground Cover:
 - 1. All exposed soils sloping 5% or greater shall be protected by application of ground cover.
 - 2. Ground cover may consist of any effective erosion preventative treatment such as straw or other mulches, plantings, etc.
 - 3. All grassing or planting operations shall include mulching as stabilization until ground cover by planting is effective.
- F. Hay Bales: This work shall consist of construction of baled hay or straw dams to protect against downstream accumulations of silt. The baled hay or straw shall be constructed as detailed or in such a manner to remain securely in place subject to the approval of the Engineer. The dam shall be placed so as to effectively control silt dispersion under conditions present on this project.

3.3 CLEANUP AND REMOVAL

- A. At the time that permanent erosion control is effective temporary devices and their accumulated sediments shall be removed.

END OF SECTION 01 57 13.02

SECTION 01 57 26 - DUST CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Limit blowing dust caused by construction operations by applying water or employing other appropriate means or methods to maintain dust control, subject to the approval of the Owner.

1.2 PROTECTION OF EXISTING FACILITIES AND ADJACENT PROPERTY

- A. The bidders shall visit the site and note the buildings, landscaping, roads, parking areas and other facilities near the work site that may be damaged by their operations. The Contractor shall make adequate provision to fully protect the surrounding area and will be held fully responsible for all damages resulting from his operations.
- B. Protect all existing facilities (indoors or out) from damage by dust, fumes, spray or spills (indoors or out):
 - 1. Protect motors, bearings, electrical gear, instrumentation, and building or other surfaces from dirt, dust, welding fumes, paint spray, spills or droppings causing wear, corrosion, malfunction, failure or defacement by enclosure, sprinkling or other dust palliatives, masking and covering, exhausting or containment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 57 26

SECTION 01 66 00 - STORAGE AND PROTECTION

PART 1 - GENERAL

1.1 GENERAL

- A. Material shall be received, inspected, unloaded, handled, stored, maintained, and protected by the Contractor in a suitable location on or off site, if necessary, until such time as installation is required.
- B. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept thoroughly dry at all times. All equipment shall be stored above ground level and adequately supported on wood blocking or other approved support material. Printed storage instructions of the manufacturer shall be strictly adhered to.
- C. Painted, anodized, or otherwise coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. All coated surfaces which are damaged prior to acceptance of shall be cleaned and coated painted to the satisfaction of the Engineer with the same or equivalent coating used in the original application.

1.2 STORAGE

- A. The Contractor shall be responsible for providing satisfactory storage facilities which are acceptable to the Engineer. In the event that satisfactory facilities cannot be provided on site, satisfactory warehouse, acceptable to the Engineer, will be provided by the Contractor for such time until the equipment, materials, and products can be accommodated at the site.
- B. Equipment, materials and products which are stored in a satisfactory warehouse acceptable to the Engineer will be eligible for progress payments as though they had been delivered to the job site.
- C. The Contractor shall be responsible for the maintenance and protection of all equipment, materials, and products placed in storage and shall bear all costs of storage, preparation for transportation, rehandling, and preparation for installation.
- D. Equipment and products stored outdoors shall be supported above the ground on suitable wooden blocks or braces arranged to prevent excessive deflection or bending between supports. Items such as pipe, structural steel, and sheet construction products shall be stored with one end elevated to facilitate drainage.
- E. Tarps and other coverings shall be supported above the stored equipment or materials on wooden strips to provide ventilation under the cover and minimize condensation. Tarps and covers shall be arranged to prevent ponding of water.

END OF SECTION 01 66 00

SECTION 01 66 01 - TRANSPORTATION AND HANDLING

PART 1 - GENERAL

1.1 GENERAL

- A. The Contractor shall provide transportation of all equipment, materials, and products furnished under these Contract Documents to the site of the work. In addition, the Contractor shall provide preparation for shipment and storage, unloading, handling and rehandling, short-term storage, extended storage, storage facilities, maintenance and protection during storage, preparation for installation, and all other work and incidental items necessary or convenient to the Contractor for the satisfactory prosecution and completion of the work.

1.2 TRANSPORTATION

- A. All material shall be suitably boxed, crated, or otherwise protected during transportation.
- B. The Contractor shall be responsible for ensuring that the equipment is assembled and transported in such a manner so as to clear buildings, power lines, bridges, and similar structures encountered during shipment or delivery to the site of the work.

1.3 HANDLING

- A. All equipment, materials, and products shall be carefully handled to prevent damage or excessive deflections during unloading or transportation. All equipment, materials, and products damaged during transportation or handling shall be repaired or replaced by the Contractor at no additional cost to the Owner prior to being incorporated into the work.
- B. Under no circumstances shall equipment or products such as pipe, structural steel, casting, reinforcement, etc., be thrown or rolled off of trucks onto the ground.
- C. Items such as nonmetallic pipe shall be handled using nonmetallic slings or straps.

END OF SECTION 01 66 01

SECTION 01 74 23 - CLEANUP

PART 1 - GENERAL

1.1 GENERAL

- A. This section covers the general cleanup which the Contractor shall be required to perform both during construction and before final acceptance of the project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.2 HAZARD CONTROL

- A. The Contractor shall prevent accumulation of wastes which create hazardous conditions.
- B. Burning or burying rubbish and waste materials on the site shall not be allowed.

1.3 DISPOSAL OF SURPLUS MATERIALS

- A. Unless otherwise shown on the Drawings, specified or directed, the Contractor shall dispose of all surplus excavated materials and equipment from demolition, legally off the site, and shall provide his own suitable, off-site spoil area, unless an on-site area is designated by the Owner.

1.4 DURING CONSTRUCTION

- A. Execute periodic cleanup to keep the work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

1.5 FINAL CLEANING

- A. The Contractor shall:
 - 1. Remove from the site all waste material and leave the site with an appearance acceptable to the Engineer.
- B. Restoration of Landscape Damage. Any landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Engineer will decide what method of restoration shall be used.

- C. Post-Construction Cleanup or Obliteration. The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, stockpiles of excess or waste materials, or any other vestiges of construction, as directed by the Engineer.

END OF SECTION 01 74 23

SECTION 01 77 19 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Comply with requirements stated in General, Supplemental and Special Conditions and in Specifications for administrative procedures in closing out the work.
- B. Related requirements in other parts of the Project Manual:
 - 1. Fiscal provisions, legal submittals and additional administrative requirements: General Supplemental and Special Conditions.
- C. Related requirements specified in other sections:
 - 1. Section 01 74 23: Cleanup
 - 2. Section 01 78 39: Record Documents
 - 3. Section 01 78 23: Operating and Maintenance Data

1.2 SUBSTANTIAL COMPLETION

- A. When Contractor considers the work is substantially complete, he shall submit to Engineer:
 - 1. A written notice that the work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, Engineer will make an inspection to determine the status of completion.
- C. Should Engineer determine that the work is not substantially complete:
 - 1. Engineer will promptly notify the Contractor in writing, giving the reasons therefor.
 - 2. Contractor shall remedy the deficiencies in the work, and send a second written notice of substantial completion to the Engineer.
 - 3. Engineer will reinspect the work.
- D. When Engineer finds that the work is substantially complete, he will:
 - 1. Prepare and deliver to Owner a tentative letter of Substantial Completion with a tentative list of items to be completed or corrected before final payment.
 - 2. After consideration of any objections made by the Owner as provided in General, Supplemental and Special Conditions, and when Engineer considers the work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Letter of Substantial Completion with a revised tentative list of items to be completed or corrected.

1.3 FINAL INSPECTION

- A. When Contractor considers the work is complete, he shall submit written certification that:
 - 1. Contract Documents have been reviewed.

2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. Work is completed and ready for final inspection.
- B. Engineer will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Engineer consider that the work is incomplete or defective:
1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Engineer that the work is complete.
 3. Engineer will reinspect the work.
- D. When the Engineer finds that the work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals and begin project Advertisement of Completion.

1.4 REINSPECTION FEES

- A. Should the Engineer perform reinspections due to failure of the work to comply with the claims of status of completion made by the Contractor:
1. Owner will compensate Engineer for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.5 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

- A. Section 01 78 39: Project Record Documents
- B. Section 01 79 00: Warranties and Bonds as required.
- C. Spare Parts and Maintenance Materials as required.
- D. Release of Liens - A certified letter from the Contractor (as shown in this section) to release and discharge the Owner, its officers, agents and employees of and from all liabilities, obligations, and claims under or arising out of said contract.
- E. Completed Operations Insurance - Submit certificates of completed operations insurance coverage for a period of one year from the date of acceptance of the work by the Owner or the date of payment of the final amounts owed the Contractor by the Owner whichever occurs first.
- F. Contractor's Advertisement of Completion - The Contractor immediately after being notified by the Engineer that all other requirements of his contract have been completed shall give notice of said completion by an advertisement (as shown in this section) for a period of four (4) successive weeks in some newspaper of general circulation published within the county or counties where the work is performed. Proof of publication of said notice shall be made by the

Contractor to the Owner, by affidavit of the publisher and a printed copy of the published notice. If no newspaper is published in any county where the work is done, the notice may be given by posting at the Court House for 30 days and proof of same shall be made by the Probate Judge or Sheriff and the Contractor.

1.6 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final settlement of accounting to Engineer.
- B. Statement shall reflect all adjustments to the Contract Sum:
 - 1. The Original Contract Sum.
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders
 - b. Unit Prices
 - c. Deductions for uncorrected work
 - d. Penalties and Bonuses
 - e. Deductions for liquidated damages
 - f. Deductions for reinspection payments
 - g. Other adjustments
 - 3. Total Contract Sum, as adjusted.
 - 4. Previous Payments
 - 5. Sum remaining due
- C. Engineer will prepare a final change order, reflecting approval adjustments to the Contract Sum which were not previously made by Change Orders.

1.7 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract. Included in the Final Application For Payment shall be the affidavit of the Advertisement For Completion, Release of Liens, and Proof of Completed Operations Insurance.

ADVERTISEMENT OF COMPLETION

_____ (Contractor)

_____ (Address)

gives notice of completion of _____ (Project)

and sets _____ as the date of final settlement. All persons and firms should file

all claims for payment to the below address prior to the settlement date:

_____ (Owner)

By: _____ (Name)

_____ (Title)

Leg: _____ (Publication Dates)

CONTRACTOR'S RELEASE OF LIENS

STATE OF: _____

COUNTY OF: _____

Before me, the undersigned Notary Public, in and for the said County and State personally appeared _____, representing the Contractor, _____, who being duly sworn according to law deposes and says that all labor, materials, and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract with _____, the Owner, for _____, have been paid in full and that for the final payment in the amount of \$ _____, the Contractor releases and discharges the Owner and his authorized representatives from any liens or claims of any nature because of or arising from this contract and/or its performance which it has had, has, or may have in the future.

By: _____

Sworn to and subscribed before me this
_____ day of _____, 20____.

Notary Public Signature

My Commission Expires _____

END OF SECTION 01 77 19

SECTION 01 78 29 – AS-BUILT DOCUMENTATION

PART 1 - GENERAL

1.1 AS-BUILTS

As-Built Drawings adhering to the criteria provided here and in the special conditions.

- A. Recording the Information – Provide the Record As-Built information in both Electronic and Hardcopy mediums, with the exception of the Field Sketches. Field Sketches are not required to be in the electronic format. The electronic medium format shall be .TXT files in PNEZD format.
- B. Coordinate System and Datum – Coordinate system shall be Florida North (US Survey Feet) and the Datum shall be NAD83. Provide the required survey coordinates captured through traditional survey or RTK GPS (survey or GIS mapping grade). GPS locations captured with a recreational GPS receiver will not be acceptable. The drawing features included shall be as noted herein.
- C. Submitting the Information – Record information (.TXT Files) shall be submitted to the Owner's Project Manager for approval on a WEEKLY basis. The files may be submitted via email or on a CD or USB drive.
- The Information Process - The Owner's Project Manager will review each submission and 'red line' any information needing to be corrected or added, and return it for resubmission.

1.2 PRODUCTS

The Contractor shall deliver as-built data in the TXT file format. The data shall represent accurate as-built points adhering to the following requirements and quality standards.

- A. Deliverable shall be comprised of a weekly TXT file in PNEZD format
- B. All asset locations shall be collected through traditional survey, mapping or survey grade GPS. All GPS locations shall be collected with real-time correction. The following are the minimum items requiring location collection. All fittings, valves, valve nuts, transitions between pipe types/materials, ends of bores, ends of casings, sleeves, taps, air release valves, hydrants, connection points to existing lines, restraint locations, and the crown of every bell along pipelines.
- C. The descriptions for each data point collected shall clearly indicate which pipeline (forcemain or water main) the type (fitting type/angle, sleeve, tap, etc.) the size, and the material (PVC, DI, Brass, etc.)
- D. As-built shall be provided with +/- 0.05' horizontal accuracy and +/- 0.05' for vertical accuracy.

END OF SECTION 01 78 39

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Maintain at the site for the Owner one record of:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Engineer Field Orders or written instructions.
 - 6. Approved Shop Drawings, Product Data and Samples.
 - 7. Field Test Records.

1.2 RELATED WORK ELSEWHERE

- A. Section 01 33 00: Submittals

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
 - 1. Provide files and racks for storage of documents.
 - 2. Provide locked cabinet or secure storage space storage samples.
- B. File documents and samples in accordance with Data Filing Format of the Uniform Construction Index.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by Engineer.

1.4 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- C. Drawings: Legibly mark to record actual construction:
 - 1. Depths of various elements of foundation in relation to finish first floor datum.
 - 2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
4. Field changes of dimension and detail.
5. Changes made by Field Order or by Change Order.
6. Details not on original contract drawings.

D. Specifications and Addenda: Legibly mark each Section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by Field Order or by Change Order.

1.5 SUBMITTALS

- A. At Contract closeout, deliver Record Documents to Engineer for the Owner.
- B. Accompany submittal with transmittal letter in duplicate, containing:
 1. Date
 2. Project title and number
 3. Contractor's name and address
 4. Title and number of each Record Document
 5. Signature of Contractor or his authorized representative.

END OF SECTION 01 78 39

SECTION 01 79 00 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 PROJECT MAINTENANCE AND WARRANTY

- A. Maintain and keep in good repair the improvements covered by these drawings and specifications during the life of the Contract.
- B. Indemnify the Owner against any repairs which may become necessary to any part of the work performed and to items of equipment and systems procured for or furnished under this Contract, arising from defective workmanship or materials used therein, for a period of one (1) year after acceptance from the final date of final resolution of the Owner accepting work.
- C. The Contractor shall not be obligated to make replacements which become necessary because of ordinary wear and tear, or as a result of improper operation or maintenance, or as a result of improper work or damage by another Contractor or the Owner, or to perform any work which is normally performed by a maintenance crew during operation.
- D. In the event of failure due to faulty materials, equipment or installation prior to the expiration of the one-year warranty described above, the affected unit shall be disassembled, inspected, and modified or replaced as necessary to prevent further occurrences. All related components which may have been damaged or rendered non-serviceable as a consequence of the failure shall be replaced. A new 12 month warranty against defective or deficient materials, equipment and installation shall commence on the day that the item is reassembled and placed back into operation. The new 12-month warranty shall also include but not be limited to all items disassembled or removed to facilitate repairs. Failures may include, but are not limited to, cracked or broken housings, piping, or vessels, excessive deflections, bent or broken shafts, broken or chipped gear teeth, premature bearing failure, excessive wear, vibration or excessive leakage around seals. Failures which are directly and clearly traceable to operator abuse, such as operations in conflict with published operating procedures, or improper maintenance, such as substitution of unauthorized replacement parts, use of incorrect lubricants or chemicals, flagrant over or under-lubrication, and using maintenance procedures not conforming with published maintenance instructions, shall be exempted from the scope of the one-year warranty.

Should multiple failures occur during a warranty period, all products of the same size and type shall be disassembled, inspected, modified or replaced, as necessary and rewarranted for one year. As used herein, multiple failures shall be interpreted to mean two (2) or more failures of the same kind in the same item or failures of the same kind in two (2) or more items of the same type.

The Contractor shall be responsible for any expenses incurred by the Owner arising out of any repairs made during the warranty period(s). Expenses may include but are not limited to water purchases, equipment rentals and loss of income.

- E. The Contractor shall, at his own expense, furnish all labor, materials, tools and equipment required and shall make such repairs and removals or shall perform such work or reconstruction

as may be made necessary by any structural or functional defect or failure resulting from neglect, faulty workmanship or faulty materials, in any part of the Work performed by him. Such repair shall also include refilling of trenches, excavations or embankments which show settlement or erosion after backfilling or placement.

- F. Except as noted on the Drawings or as specified, all structures such as embankments and fences shall be returned to their original condition prior to the completion of the Contract. Any and all damage to any facility not designated for removal, resulting from the Contractor's operations, shall be promptly repaired by the Contractor at no cost to the Owner.
- G. The Contractor shall be responsible for all road and entrance reconstruction and repairs and maintenance of same for a period of one year from the date of such reconstruction. In the event the repairs and maintenance are not made immediately and it becomes necessary for the Owner of the road to make such repairs, the Contractor shall reimburse the Owner of the road for the cost of such repairs.
- H. In the event the Contractor fails to proceed to remedy the defects of which he has been notified within 15 days of the date of such notice, the Owner reserves the right to cause the required materials to be procured and the work to be done, as described in the drawings and specifications, and to hold the Contractor and the sureties on his bond liable for the cost and expense thereof.
- I. Notice to Contractor for repairs and reconstruction will be made in the form of a registered letter addressed to the Contractor at his home office.
- J. Neither the foregoing paragraphs nor any provision in the Contract Documents, nor any special guarantee time limit implies any limitation of the Contractor's liability with the law of the place of construction.
- K. The Contractor shall provide the Owner copies of all manufacturers' warranties for materials, equipment, parts and components installed under this contract. The copies shall list the model number, part number, serial number of the covered items as well as the item's installation location. Copies of material warranties shall also include the name and address of the manufacturer of each warranty item.

Copies of warranties shall be bound in loose-leaf form with a cover sheet and table of contents indicating item description and page number.

END OF SECTION 01 79 00

SECTION 31 00 01 - EARTHWORK FOR UTILITY LINES

PART 1 - GENERAL

1.1 SCOPE

- A. This specification section includes earthwork and related operations, including but not limited to, dewatering, as required; excavating all classes of material encountered; pumping, draining and handling of water encountered in the excavations; handling, storage, transportation, and disposal of all excavated and unsuitable material; backfilling all trenches and pits; compacting; all sheeting, shoring and bracing; and any other similar, incidental, or appurtenant earth-work operation which may be necessary to properly complete the work involving the construction of water, sewer, and force mains.
- B. The Contractor shall provide all services, labor, materials, and equipment required for all earthwork and related operations necessary or convenient to the Contractor for furnishing a complete work as shown on the Drawings or specified in these Contract Documents.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 41 26.02 - Stormwater Permit for Construction Activities.
- B. Section 32 20 10 - Replacement Paving, Driveways, and Sidewalks.

1.3 GENERAL

- A. Earthwork operations shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards.
- B. All excavated and filled areas for manholes, trenches, etc., shall be maintained by the Contractor in good condition at all times until final acceptance by the Owner. All damage caused by erosion or other construction operations shall be repaired by the Contractor using material of the same type as the damaged material.
- C. Earthwork within the rights-of-way of the State Department of Transportation and the County Road Department shall be done in accordance with requirements and provisions of the permits issued by those agencies for the construction within their respective rights-of-way. Such requirements and provisions, where applicable, shall take precedence and supersede the provisions of these Specifications.
- D. The Contractor shall control grading in a manner to prevent water from running into excavations. Obstruction of surface drainage shall be avoided and means shall be provided whereby storm water can be uninterrupted in existing gutters, other surface drains, or temporary drains. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and kept shaped so as to cause the least possible interference with public travel. Free access must be provided to all fire hydrants, meters, and private drives.

- E. No classification of excavated materials will be made. Excavation and trenching work shall include the removal and subsequent handling of all materials excavated or otherwise removed in performance of the contract work, regardless of the type, character, composition, or condition thereof.
- F. Tests of compaction and density shall be conducted by an independent testing laboratory approved by the Engineer. Costs of compaction tests shall be paid for directly by the Contractor. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests. The cost of all retests made necessary by the failure of materials to conform to the requirements of these Contract Documents shall be paid by the Contractor.
- G. All earthwork operations shall comply with the requirements of OSHA Construction Standards, Part 1926, Subpart P, Excavations, Trenching, and Shoring, and Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations, and the Florida Trench Safety Act and shall be conducted in a manner acceptable to the Engineer.
- H. It is understood and agreed that the Contractor has made a thorough investigation of the surface and subsurface conditions of the project and any special construction problems which might arise as a result of nearby watercourses and flood plains, particularly in areas where construction activities may encounter water-bearing sands and gravels or limestone solution channels. The Contractor shall be responsible for providing all services, labor, equipment, and materials necessary or convenient to him for completing the work within the time specified in these Contract Documents.

PART 2 - PRODUCTS

2.1 SELECT EARTH MATERIAL

- A. Fine, sound, loose earth containing optimum moisture content for compaction to 100% of maximum density, free from all wood, vegetable matter, debris, and other objectionable material, and having scattered clods, stones, or broken concrete less than 1½ inches in maximum dimension except that the maximum particle size shall be ¾-inch when used with PVC or other flexible thermoplastic pipe.

2.2 COMMON EARTH BACKFILL

- A. Sound, loose earth containing optimum moisture content for compaction to 100 percent of maximum density as determined by AASHTO T-99, Methods A, free from all wood, vegetable matter, debris, and other objectionable material, and have scattered clods, stones, or broken concrete and pavement less than ¾ inches in maximum dimension.

2.3 SELECT BACKFILL BORROW MATERIAL

- A. Select backfill borrow material shall be obtained from offsite and shall be an approved sand/clay free from all wood, vegetable matter, debris, or other objectionable material.

2.4 SAND

- A. Natural or imported sand conforming to ASTM D 1073.

2.5 CRUSHED STONE SELECT FOUNDATION MATERIAL

- A. Crushed stone size 67 conforming to Section 901 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2020 Edition.

2.6 CLASS B CONCRETE

- A. Class B concrete as specified in the section entitled "Cast-in-Place Concrete" of these specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, buildings, and other structures which are located in the construction area but not within designated clearing limits. The Contractor shall be responsible for the repair and/or replacement of any of the aforementioned items damaged by his operation or construction activities.

3.2 DEWATERING

- A. The Contractor shall provide and maintain at all times during construction ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the work. Dewatering shall be accomplished by methods which will ensure a dry excavation and preservation of the final lines and grades of the bottoms of excavations. Methods of dewatering may include sump pumps, well points, deep wells, or other suitable methods which do not damage or weaken structures, foundations, or subgrades. Shallow excavations may be dewatered using open ditches provided such ditches are kept open and free-draining at all times. The actual dewatering methods used shall be acceptable to the Engineer.
- B. Unless specifically authorized by the Engineer, no concrete or mortar shall be placed in water nor shall water be allowed to rise over newly-placed concrete or mortar for at least 24 hours after placement.
- C. Water shall not be allowed to rise above bedding during pipe-laying operations. The Contractor shall exercise care to prevent damage to pipelines or manholes resulting from flotation, undermining, or scour. Dewatering operations shall commence when ground or surface water is first encountered and shall be continuous until such times as water can safely be allowed to rise in accordance with the provisions of this section.

- D. Standby pumping equipment shall be on the jobsite. A minimum of one standby unit shall be available for immediate installation should any pumping unit fail. The design and installation of well points or deep wells shall be suitable for the accomplishment of the work. Drawings or diagrams on proposed well point or deep well dewatering systems shall be submitted to the Engineer for his files, if requested.
- E. The Contractor shall dispose of the water from the work in a suitable manner without damage to adjacent property. Conveyance of the water shall be such as to not interfere with traffic flow or treatment facilities operation. The Contractor will be held responsible for the condition of any pipe or conduit which he may use for drainage purposes, and all such pipes or conduits shall be left clean and free of sediment.
- F. The Contractor shall be responsible for obtaining coverage under the *Generic Permit for the Discharge of Produced Ground water from Non-Contaminated Site Activity* (FDEP Document Number 62-621.300 (2)) for any water that is discharged to surface waters of the State, as defined in Chapter 62-620, F.A.C., during dewatering operations.
 - 1. Required water testing shall be performed by an independent laboratory certified by the State of Florida FDEP to perform testing on ground water.
 - 2. If initial testing proves that the produced water does not meet the requirements for disposal under the generic permit other methods of disposal may be considered as approved by the Engineer.
 - 3. All costs associated with permitting, testing of water and proper disposal of water from the earthwork operation shall be the sole responsibility of the Contractor. See Section 01 41 26.

3.3 SHEETING, SHORING, AND BRACING

- A. The sides of all excavations shall be sufficiently sheeted, shored, and braced as necessary to prevent slides, cave-ins, settlement or movement of the banks, to maintain the excavation clear of all obstructions, and to provide safe working conditions. Wood or steel sheeting of approved design and type shall be used in wet, saturated or flowing ground. All sheeting, shoring, and bracing shall have sufficient strength and rigidity to withstand the pressure exerted and to maintain shape and position under all circumstances.
- B. The responsibility for correctly assessing the need for sheeting and analyzing the stresses induced shall be the total responsibility of the Contractor. Since the Engineer does not dictate or determine the Contractor's sequence or limits of excavation, the Engineer assumes no responsibility for sheeting and shoring. The Contractor must employ or otherwise provide for adequate professional structural and geotechnical engineering supervision to assess the need for sheeting and shoring and design same.
- C. Excavations adjacent to existing or proposed buildings and structures, or in paved streets or alleys shall be sheeted, shored, and braced adequately to prevent undermining beneath or subsequent settlement of such structures or pavements. Underpinning of adjacent structures shall be done when necessary to maintain structures in safe condition. Any damage to structures or pavements occurring through settlements, water or earth pressures, slides, caves, or other causes, due to failure or lack of sheeting or bracing, or due to improper bracing, or occurring through negligence or fault of the Contractor in any other manner shall be repaired by the Contractor at his own expense.

- D. Sheeting, shoring, or bracing materials shall not be left in place unless otherwise specified or shown on the Drawings or ordered by the Engineer in writing. Such materials shall be removed in such manner that no danger or damage will occur to new or existing structures or property, public or private, and so that cave-ins or slides will not take place. Trench sheeting shall be left in place until backfill has been brought to a level 12 inches above the top of the pipe.
- E. All holes and voids left in the work by the removal of sheeting, shoring, or bracing shall be filled and thoroughly compacted.

3.4 EXCAVATION

A. General:

- 1. Excavation shall include the removal of all material from an area necessary for the construction of the pipeline or manholes. Excavations shall provide adequate working space and clearances for the work to be performed therein.
- 2. Where quicksand, soft clay, spongy, swampy or other materials unsuitable for subgrade or foundation purposes are encountered below the excavation limits, they shall be removed and disposed of to the level of suitable material. Areas so excavated shall be backfilled with compacted layers of ASTM C-136, #67 crushed rock or other approved material conforming to the requirements specified herein for backfill to the lines and grades shown on the Drawings.
- 3. Barriers shall be placed at each end of all excavations and at such places as may be necessary along excavations to warn all pedestrian and vehicular traffic of such excavations. Lights shall also be placed along excavations from sunset each day to sunrise of the next day until the excavations are backfilled. All excavations shall be barricaded in such a manner as to prevent persons from falling or walking into any excavation.

B. Borrow Material:

- 1. Wherever the backfill of excavated areas or the placement of embankments or other fills requires specified material not available at the site or material in excess of suitable material available from the authorized excavations, such materials shall be obtained from other sources. This may require the opening of borrow pits at points not immediately accessible from the work. In such cases the Contractor shall make suitable arrangements with the property owner and shall pay all costs incidental to the borrow material including royalties, if any, for the use of the material. Before a borrow pit is opened, the quality and suitability of the material to be obtained therefrom shall be approved by the Engineer.

C. Trench Excavation:

- 1. Trench excavation shall consist of the removal of materials necessary for the construction of force mains, water, sewer, and other pipelines and all appurtenant facilities including manholes called for on the Drawings.
- 2. Excavation for pipelines shall be made in open cut unless shown otherwise on the Drawings. Trenches shall be cut true to the lines and grades shown on the Drawings or established by the Engineer on the ground. The banks of trenches shall be cut in vertical, parallel planes equidistant from the pipe centerline. From an elevation 12 inches above the top of the pipe to the bottom of the trench, the horizontal distance between vertical planes for different sizes of pipe shall not exceed those shown on the Drawings. When sheeting is used, the width of the trench shall be considered as the distance between the

inside faces of the sheeting. The bottom of the trench shall be cut carefully to the required grade of the pipe except where bedding materials or cradles are shown, in which case the excavation shall extend to the bottom of the bedding or cradles as shown on the Drawings. Minimum pipe cover shall be as shown on the Drawings or specified in these Contract Documents.

3. The use of a motor-powered trenching machine will be permitted but full responsibility for the preservation, replacement, and/or repair of damage to any existing utility services and private property shall rest with the Contractor.
4. Bell holes for bell and spigot pipe and/or mechanical joint pipe shall be excavated at proper intervals so the barrel of the pipe will rest for its entire length upon the bottom of the trench. Bell holes shall be large enough to permit proper installation of all joints in the pipe. Bell holes shall not be excavated more than 10 joints ahead of pipe laying. No part of any bell or coupling shall be in contact with the trench bottom, trench walls, or granular embedment when the pipe is jointed.
5. Pipe trenches shall not be excavated more than 200 feet in advance of pipe laying and all work shall be performed to cause the least possible inconvenience to the public.
6. Unless otherwise specified herein or shown on the Drawings wherever pipe trenches are excavated below the elevation shown on the Drawings, the Contractor, at his own expense, shall fill the void thus made to the proper grade with compacted layers of ASTM C-136, #67 crushed rock or sand conforming to the requirements specified herein for backfill.
7. In all cases where materials are deposited along open trenches they shall be placed so that no damage will result to the work and/or adjacent property in case of rain or other surface wash.

3.5 BACKFILLING

A. General:

1. Unless otherwise specified herein, earth backfill shall be compacted to not less than 95% of the maximum density at optimum water content as determined by AASHTO T-99, Method A (Standard Proctor). Crushed stone shall be compacted or consolidated to not less than 83% of the solid volume density as determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
2. Material that is too dry for adequate compaction shall receive a prior admix of sufficient water to secure optimum moisture content. Material having excessive water content shall not be placed at any time.
3. Unless otherwise specified herein backfill material required to be compacted shall be placed in horizontal layers not to exceed 6 inches in thickness (before compaction) and compacted in place by ramming, tamping, or rolling. Compaction shall be accomplished by power driven tools and machinery wherever possible. Compaction and consolidation of sand and crushed rock backfill shall be accomplished using vibrating equipment in a manner acceptable to the Engineer.

B. Backfilling Trenches:

1. The backfilling of sewer, water, and other pipeline trenches shall be started immediately after the construction of same has been inspected and approved by the Engineer. Backfill shall be placed in the trench under and on each side of the pipe in 6-inch layers for the full width of the trench and thoroughly and uniformly compacted by ramming and/or tamping to a minimum of 95% of the maximum density as described below. Sufficient select earth backfill shall be placed under and over the pipe and compacted to provide a

cover of not less than 12 inches over the top of the pipe. Mechanical compactors or tampers shall not be used within 12 inches of pipe. Compaction in this area shall be accomplished by hand methods. Sand or specified crushed stone select foundation material shall be substituted for select earth backfill when the pipe is bituminous coated steel pipe or wrapped steel pipe or when crushed stone select foundation material is required. Backfilling using common earth backfill material shall proceed simultaneously on both sides of the pipe to prevent lateral displacement. Caution shall be used during backfill operations for PVC or other flexible thermoplastic pipe to prevent pipe deformation. PVC or other flexible thermoplastic pipe shall not be subjected to roller or wheel loads until a minimum of 36 inches of backfill has been placed over the top of the pipe and hydrohammer shall NOT be used until a minimum depth of 48 inches backfill has been placed over the top of the pipe.

2. In streets, alleys, across sidewalks and driveways, and at any other places subject to vehicular traffic or other superimposed loads, backfill shall be placed as described above, except for the top 6 or 8 inches (as indicated on the Drawings or in the Bid Form) of backfill, which shall be compacted sand/clay or crushed stone temporary surfacing as described in Section 32 20 10. All earth backfill shall be compacted to not less than 100% of the maximum density at optimum moisture content as determined by AASHTO T-99, Method A (Standard Proctor) instead of the 95% specified above. Where specified or shown on the Drawings, compacted crushed rock shall be substituted for common earth backfill for the entire depth of the trench. Crushed stone backfill shall be compacted to 83% of the solid volume density determined as specified above. When crushed rock backfill is required it shall be placed in lifts of 48 inches maximum and compacted by use of a hydro-hammer or approved vibratory compactor.
3. In all other areas not affected by superimposed loads, common earth backfill may be placed as described in B.1 above and compacted to not less than 95% of the maximum density at optimum moisture as determined by AASHTO T-99, Method A (Standard Proctor).
4. All backfilling shall be performed in such a manner that the pipe or structure over or against which it is being placed will not be disturbed or injured. Any pipe or structure injured, damaged, or moved from its proper line or grade during backfilling operations shall be removed and repaired to the satisfaction of the Engineer and then re-backfilled.

3.6 TEST REPORTS

- A. All testing, including necessary retests, will be paid for by Contractor. The Contractor shall furnish two (2) copies of all test reports within 24 hours to the Engineer's representative on the site. Tests shall be taken as follows:
 1. In areas subject to superimposed loads: One proctor density test and one field density test at approximately 500 foot intervals at the points and depths selected by the Engineer plus one field density test at each manhole.
 2. In areas not subject to superimposed loads: One proctor density test and one field density test at approximately 1,000 foot intervals at the points and depths selected by the Engineer.

3.7 DISPOSAL OF WASTE AND UNSUITABLE MATERIALS

- A. All materials removed by excavation, which are suitable for the purpose, shall be used to the extent possible for backfilling pipe trenches or for such other purposes as may be shown on the

Drawings. All materials not used for such purposes shall be considered as waste materials and the disposal thereof shall be made by the Contractor in a manner and at locations consistent with rules and regulations.

- B. With approval of the Engineer waste materials may be spread on site in uniform layers and neatly leveled and shaped. Spoil banks shall be provided with sufficient and adequate openings to permit surface drainage of adjacent lands.
- C. Unsuitable materials, consisting of wood, vegetable matter, debris, soft or spongy clay, peat, and other objectionable material so designated by the Engineer shall be removed from the work site and disposed of by the Contractor in a manner and at a location consistent with rules and regulations.

3.8 FINAL GRADING

- A. After other earthwork operations have been completed, the sites of all structures, and embankments shall be graded to reinstate the original condition. Grading operations shall be so conducted that materials shall not be removed or loosened beyond the required limits. The finished surfaces shall be left in smooth and uniform planes such as are normally obtainable from the use of hand tools. If the Contractor is able to obtain the required degree of evenness by means of mechanical equipment he will not be required to use hand labor methods. Slopes and ditches shall be neatly trimmed and finished to slopes shown on the Drawings unless otherwise approved by the Engineer.
- B. Unless otherwise specified or shown on the Drawings, all finished ground surfaces shall be graded and dressed to present a surface varying not more than plus or minus 0.10 foot as regards to local humps or depressions and shall be acceptable to the Engineer.

3.9 MAINTENANCE OF SEWER TRENCHES

- A. Immediately after backfill and compaction of the excavated main and lateral trenches, the Contractor shall dress the trenches flush with the existing pavement and begin maintenance of same. The Contractor shall provide backfill material for the trenches when settlement or washing of the trenches occur. The maintenance period shall cover a minimum of the time period from initial pavement removal until the final inspection of the project unless otherwise directed by the Engineer. At no time during the maintenance period shall the trenches show a settlement of 2 inches without additional backfill being placed on the trenches. Maintenance is to be performed daily or as needed to maintain in good condition in the opinion of the Engineer and Owner.

3.10 SETTLEMENT WARRANTY

- A. The Contractor shall be responsible for all settlement of backfill, fills, and embankments which may occur within two (2) years after final acceptance of the work by the Owner.
- B. The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after receipt of written notice from the Engineer or Owner.

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END OF SECTION 31 00 01

SECTION 31 11 00 - CLEARING AND GRUBBING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work under this section shall consist of clearing, grubbing, removing and disposing of all vegetation and debris, except such objects as are designated to remain, within the limits of the property. This work shall also include the preservation from injury or defacement of all vegetation and objects designated to remain.

1.2 RELATED SECTIONS

- A. Section 31 00 00: Earthwork or Section 31 00 01 Earthwork for Utilities

PART 2 - PRODUCTS

2.1 HERBICIDE

- A. Herbicides shall be those approved by the USDA for proposed use. Proposed herbicides shall be recommended by the County Extension Agent.

PART 3 - EXECUTION

3.1 CLEARING

- A. Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared.
- B. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.
- C. Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing.
- D. Trees designated to be left standing within the cleared areas will be trimmed of dead branches 1.5 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut to the bole of the tree or main branches. Cuts more than 1.5 inches in diameter shall be painted with an approved tree-wound paint. Apply herbicide in accordance with the manufacturer's label to the top surface of the stumps designated not to be removed.

- E. The area shall be cleared of all surface objects and trees, all stumps, roots and other objectionable obstructions not designated to be retained, resting on, or protruding through the surface of the original ground.

3.2 GRUBBING

- A. Grubbing consists of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.
- B. Remove material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas for buildings, and areas to be paved.

3.3 DISPOSAL

- A. All debris generated by the clearing and grubbing operations shall be disposed in a proper manner in accordance with all local, state and federal laws, rules, and regulations.

END OF SECTION 31 11 00

SECTION 32 20 10 - REPLACEMENT PAVING, DRIVEWAYS, AND SIDEWALKS

PART 1 - GENERAL

1.1 RELATED WORK ELSEWHERE

- A. Section 31 00 01 – Earthwork for Utilities

1.2 SCOPE

- A. The work to be performed under this section shall consist of replacing existing sidewalks and pavement in paved streets and driveways where such sidewalks and pavement have been removed for constructing pipelines, manholes, and all other appurtenances and structures.

1.3 SUBMITTALS

- A. Submit product data on prime and tack, asphaltic concrete materials, paint materials and pavement markers.
- B. Submit mix designs on each type of asphaltic concrete.
- C. Submit in accordance with Section 01 33 00.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement: Conform to the requirements of Section 346-2 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
- B. Bituminous Prime and Tack: Conform to the requirements of Section 300-2 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
- C. Asphaltic Concrete Materials: Conform to the requirements Section 334 and 337 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
- D. Traffic Line Stripe, Traffic Control Markings, and Pavement Markers: Conform to the requirements of Sections 706 and 710 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
- E. Crushed Stone for Temporary Surfacing/Base: Crushed stone size 67 conforming to Section 901 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.

2.2 CRUSHED STONE SELECT FOUNDATION MATERIAL

- A. Crushed stone size 67 conforming to Section 901 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.

PART 3 - EXECUTION

3.1 TYPES OF PAVEMENTS

- A. All existing pavement in streets or driveways which is removed, destroyed, or damaged by construction shall be replaced with the same type of pavement (portland cement pavement, bituminous concrete pavement or gravel) as that which existed before construction work was started unless shown otherwise on the Drawings. Materials, equipment, and construction methods used for paving work shall conform to the State Department of Transportation specifications applicable to the particular type required for replacement, repair, or new pavements.
- B. Portland cement concrete pavement shall be replaced with concrete in accordance with paragraph 2.1.A of these Specifications. The surface finish of the concrete pavement replaced shall conform to that of the existing pavement. The surface of the replaced concrete base course shall be left rough. The slab shall be of depth equivalent to the existing concrete pavement or base course, but in no case less than 6 inches thick. Expansion joints removed shall be replaced. Concrete pavements or concrete base courses shall be reinforced and shall conform to details shown on the Drawings and applicable specification, Portland Cement Concrete Pavement, Section 350 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
- C. Asphaltic concrete pavement shall be replaced with Type SP-9.5 (coarse), Level A asphaltic concrete conforming to Section 334 of the Florida DOT Standard Specifications for Road and Bridge Construction, 2019 Edition, unless indicated otherwise.
- D. Gravel Pavement: Where pipelines and appurtenances are constructed in or across unpaved, chert, or crushed stone surfaced streets, roadways or driveways, or when a temporary crushed stone surface is called for in a paved street, the surface removed or damaged shall be repaired or replaced with a minimum of 6 inches of crushed stone in accordance with the section of these specification titled "EARTHWORK".

3.2 REMOVAL AND REPLACEMENT OF ASPHALT PAVEMENT (PATCHING)

- A. Where pipelines and appurtenances are constructed in existing paved streets, the pavements shall be removed and replaced in accordance with the following procedure:
1. The existing street pavement or surface shall be neatly and squarely cut and removed along the line of the work for the width required for the trench or structure.
 2. Immediately following sewer installation, trench backfill shall be compacted for the full depth of the trench as specified in the section of these specifications titled "EARTHWORK".
 3. Trench backfill along paved streets and driveways shall include 9-1/2 inches of sand-clay or 7-1/2 inches of No. 67 Crushed Stone as a temporary surfacing of the trenches. This

- temporary surface shall be installed level with the existing asphalt surface and shall be maintained dust-free by the Contractor until compaction tests are performed and the replacement pavement is placed.
4. If the street is to be resurfaced following patching, the asphalt surface shall be replaced within 5 days after backfill is placed. If not, the asphalt surface shall be replaced within 30 days after backfill is placed.
 5. When temporary sand-clay or crushed stone surface is considered by the Engineer to be sufficient to be used as base, the surface shall be graded smooth and to the proper elevation. If adjacent undisturbed paving remains, the proper elevation is that which will make the final surfacing level with the adjacent surfacing that was undisturbed. If the entire street is to be resurfaced later, the proper elevation is such that the new paving will be at the same elevation as that removed. Then compaction tests shall be performed. One (1) proctor density and one (1) field density test shall be performed at approximately 500 foot intervals at points selected by the Engineer plus one (1) field density test at each manhole. Minimum requirement for compaction shall be 98% of the maximum density at the optimum moisture as determined by AASHTO T-180, Method A (Modified Proctor) for sand-clay, and for crushed stone shall be 83% of the solid volume density determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
 6. If the temporary sand-clay or crushed rock surface is to be replaced, it shall be removed and new sand-clay or crushed stone base shall be placed and tested as described above. Crushed stone base shall be placed and allowed to sit for three (3) days before concrete base and/or pavement surface courses are applied.
 7. A prime coat consisting of a single application of bituminous material shall be applied to the prepared base. No prime coat shall be applied until the preparation of the old surface has been approved by the Engineer. Before applying prime, the surface shall be swept clean and all loose and foreign matter removed. Method of material application for prime shall conform to the requirements as set forth in Section 300 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition.
 8. Following the application of prime, a surface course shall be applied. This item shall consist of a bituminous plant mix wearing surface applied in accordance with Section 330 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2019 Edition and accepted according to Section 334-5 of said specifications. The plant mix surface shall be placed at a minimum rate of 165 lbs/s.y. unless shown otherwise on the drawings.
 9. If the street is to be subsequently resurfaced, the replaced asphalt shall be allowed to sit subject to weather and traffic until it has completely settled before the resurfacing takes place.
 10. Wherever sewer lines are constructed across state highways, the Contractor shall comply with all requirements and provisions of the Standard Method of the State Department of Transportation for opening trenches through highways and replacing pavements as shown on the Drawings and specified herein. All such work shall be subject to inspection and approval by the State Department of Transportation.
 11. Contractor shall remove all surplus excavation materials and debris and overspray of prime or tack from the street surfaces and rights-of-way and shall restore street, roadway, or sidewalk surfacing to its original condition. This work shall be done immediately following placement of asphalt and shall be considered as cleanup and no separate payment will be made for this item.

3.3 REMOVAL AND REPLACEMENT OF GRAVEL PAVING

- A. Where pipelines and appurtenances are constructed in existing gravel drives, the gravel shall be removed and replaced in accordance with the following procedure:
1. The existing gravel will be removed along the line of the work for the width required for the trench or structure.
 2. Immediately following pipeline installation, trench backfill shall be compacted for the full depth of the trench as specified in the section of these specifications titled "EARTHWORK".
 3. Trench backfill shall include 6 inches of No. 57 Crusher Run Stone installed level with the undisturbed surface.
 4. The gravel surface shall be replaced within 5 days after backfill is placed.
 5. The compaction tests shall be performed. One (1) density test shall be performed at each driveway. Minimum requirement for compaction shall 83% of the solid volume density determined from the bulk specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.

3.4 SIDEWALK AND DRIVEWAY REPLACEMENT

- A. Construction:
1. All concrete sidewalks and driveways shall be built and/or replaced with concrete material as specified herein.
 2. Asphalt sidewalks and driveways shall be replaced with asphalt material as specified herein.
 3. Shell or gravel driveways shall be replaced with a minimum of 8" of #57 crushed stone which shall be shaped and compacted to the template of the remaining driveway.
 4. Preformed joints for use in concrete sidewalks and driveways shall be ½-inch thick conforming to the latest edition of AASHTO Standard Specifications, M59, for preformed bituminous fiber joints.
 5. Concrete forms shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength when in place to hold the concrete true to line and grade within springing or distortion.
- B. When a section of sidewalk and driveway is removed, the existing sidewalk or driveway shall be cut to a neat line perpendicular to both the centerline and the surface of the slab. Concrete shall be cut along the nearest existing contraction joints unless such joints do not exist in which case the cut shall be made at minimum distances shown on the Drawings.
- C. Existing sidewalks or driveways that have been cut and removed for construction purposes shall be replaced with sidewalks or driveways of the same width and surface as the portion removed. Concrete sidewalks shall have a minimum uniform thickness of 4 inches. Asphalt sidewalks or driveways shall have a minimum placement of 150 pounds per square yard. The new work shall be neatly jointed to the old so that the surface of the new work shall form an even unbroken plane with the old sidewalk.
- D. Subgrade:
1. The subgrade for concrete sidewalks or driveways shall be formed by excavating to a depth equal to the thickness of the concrete plus 2 inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding, or unstable material shall be

removed and backfilled with satisfactory material. Two (2) inches of porous crushed stone shall be placed under all sidewalks and shall be compacted thoroughly, and finished to a smooth unyielding surface at proper line, grade, and cross section.

2. The subgrade for asphalt sidewalks or driveways shall be formed by excavating to a depth equal to the thickness of the asphalt plus 6 inches and to a width of the asphalt plus 12 inches.
 - E. Base for asphalt sidewalks or driveways shall be 6 inches thick sand/clay and shall be 12 inches wider than the asphalt surface. Base shall be compacted to a minimum of 95% of the maximum laboratory density at optimum water content as determined by AASHTO T-99, Method A (Standard Proctor).
 - F. A prime coat shall be sprayed uniformly over the compacted base at a rate of 0.15 gallons per square yard.
 - G. A minimum of 150 pounds per square yard of asphalt shall be placed and compacted the entire width of the sidewalk or driveway. Asphalt shall be compacted to 95% of the maximum laboratory density. A core shall be cut every 100 linear feet at locations selected by the Engineer and used to determine the average thickness of the asphalt. The thickness of no core shall be less than ¼-inch less than the average thickness of all cores.
 - H. Expansion joints shall be required to replace any existing expansion joints that are removed with the sidewalk or driveway or in new construction every 30 feet. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within ½-inch of the top of finished concrete surface.
 - I. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured.
- 3.5 TRAFFIC LINE STRIPE, TRAFFIC CONTROL MARKINGS, AND PAVEMENT MARKERS
- A. This item shall consist of preparing finished pavement for and applying reflectorized traffic paint (Class I, Type A) in accordance with the plans and these specifications. Construction methods and materials shall conform with Section 710 of the Florida DOT Standard Specification for Road and Bridge Construction, 2019 Edition. The Contractor may close sections of the street to traffic while applying and allowing the paint to dry with the written permission of the Engineer, and coordination with the Owner. Reflective markers shall comply with Section 706 of the above specifications.
 - B. Traffic materials shall be applied only to surfaces that have sufficiently cured to permit good adhesion of materials. Paving shall be cured a minimum of 14 days prior to striping or placement of markers.

NOTE: Unless indicated otherwise on the drawings, new Traffic Line Stripe, Traffic Control Markings and Pavement Markers shall be same as existing (Prior to construction).

3.6 MAINTENANCE

- A. The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the project. Maintenance shall include dragging, reshaping, wetting, and rerolling as are necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and repair of damaged or unsatisfactory surfaces to the satisfaction of the Engineer. Maintenance shall also include sprinkling as may be necessary to abate dust.

END OF SECTION 32 20 10

SECTION 32 92 20 - SEEDING AND SODDING

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this Section consists of furnishing all labor, equipment, and material required to place topsoil, seed or sod, commercial fertilizer, agricultural limestone, and mulch material, including seedbed preparation, harrowing, compacting, and other placement operations on graded earthen areas as described herein and/or shown on the Drawings. In general, seeding operations shall be conducted on all newly graded earthen areas not covered by structures, pavement, or sidewalks; all cleared or grubbed areas which are to remain as finish grade surfaces. Areas disturbed by borrow activities shall also be seeded according to these Specifications. Sodding shall be performed where specifically called for on the drawings.
- B. The work shall include temporary seeding operations to stabilize earthen surfaces during construction or inclement weather and minimize stream siltation and erosion. Temporary seeding shall be performed at the times and locations necessary to minimize siltation.

1.2 QUALITY ASSURANCE

- A. Prior to seeding operations, the Contractor shall furnish to the Engineer labels or certified laboratory reports from an accredited commercial seed laboratory or a state seed laboratory showing the analysis and germination of the seed to be furnished. Acceptance of the seed test reports shall not relieve the Contractor of any responsibility or liability for furnishing seed meeting the requirements of this Section.
- B. Prior to topsoil operations, the Contractor shall obtain representative samples of the topsoil and furnish soil test certificates including textural, pH, organic content analyses and recommendations for liming and fertilizing from the State University Agricultural Extension Services or other certified testing laboratory.
 - 1. SPECIAL NOTE TO CONTRACTOR: The requirements and procedures of this section are intended as a guide. If the Contractor can demonstrate the ability to establish a satisfactory coverage of healthy grass of the type specified for meadow and embankments, he will not be required to conform to the exact requirements of this section of the specifications.
- C. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
 - 1. Experience: Three years experience in turf installation.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 00.
- B. Product Data: For each product specified showing compliance with specifications.

- C. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- D. Product Certificates: For each product specified.
- E. Qualification Data: For landscape installer.
- F. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required maintenance periods.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Species, rate of seeding, fertilization, and other requirements shall meet the minimum requirements of Sections 981, 982 and 983 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition unless otherwise dictated by the plans.

2.2 TOPSOIL

- A. The Contractor shall place a minimum of 4 inches of topsoil over all graded earthen areas and over any other areas to be seeded. Sources of topsoil shall be approved by the Engineer prior to disturbance. No additional compensation will be allowed for spreading of topsoil.
- B. Topsoil shall be a friable loam containing a large amount of humus and shall be original surface soil of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, pebbles larger than ½-inch in diameter, lime, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips, or other undesirable material harmful or unnecessary to plant growth. Topsoil shall be reasonably free from perennial weeds and perennial weed seeds, and shall not contain objectionable plant material, toxic amounts of either acid or alkaline elements or vegetable debris undesirable or harmful to plant life.
- C. Topsoil shall be natural topsoil without admixture of subsoil material, and shall be classifiable as loam, silt loam, clay loam, sandy loam, or a combination thereof. The pH shall range from 5.5 to 7.0. Topsoil shall contain not less than 5% or more than 20%, by weight, of organic matter as determined by loss on ignition of oven-dried samples to 65°C.

2.3 SEED

- A. Seed shall be delivered in new bags or bags that are sound and labeled in accordance with the U. S. Department of Agriculture Federal Seed Act.
- B. All seed shall be from the last crop available at time of purchase and shall not be moldy, wet, or otherwise damaged in transit or storage.

- C. Seed shall bear the growers analysis testing to 98% for purity and 90% for germination. At the discretion of the Engineer samples of seed may be taken for check against the grower's analysis.
- D. Species, rate of seeding, fertilization, and other requirements are shown in the Seeding Requirements Table.

2.4 SOD

- A. All grass sod shall be replaced with the same type as is removed. If type cannot be determined, sod type shall be centipede.
- B. All grass shall be native to the locality of the Work.
- C. All sod shall be procured from areas where the soil is fertile and contains a high percentage topsoil and where the grass is well rooted and full grown.
- D. Mechanical devices, such a sod cutters, may be used for cutting the sod into strips, blocks or rolls at least 12 inches wide with depth of $\frac{3}{4}$ -inch of soil removed with the turf.
- E. Sections of sod shall be cut away below the root line and shall be removed in such a manner that no tearing or breaking will occur. Approved mechanical methods will be permitted. All broken or dried sod shall be rejected.
- F. The sod shall, in general, be transplanted within three (3) days from the time it is harvested. Temporary storage shall be in a cool, moist, shady location with the grass side up.
- G. In no event shall more than 10 days elapse between the cutting and planting of the sod.

2.5 FERTILIZER AND LIMING MATERIALS

- A. Fertilizer and liming materials shall comply with applicable state, local, and federal laws concerned with their production and use.
- B. Commercial fertilizer shall be a ready mixed material and shall be equivalent to the grade or grades specified in the Seeding Requirements Table. Container bags shall have the name and address of the manufacturer, the brand name, net weight, and chemical composition.
- C. Agricultural limestone shall be a pulverized limestone having a calcium carbonate content of not less than 85% by weight. Agricultural limestone shall be crushed so that at least 85% of the material will pass a No. 10 mesh screen and 50 percent will pass a No. 40 mesh screen.

2.6 MULCH MATERIAL

- A. All mulch materials shall be air dried and reasonably free of noxious weeds and weed seeds or other materials detrimental to plant growth.
- B. Mulch shall be composed of wood cellulose fiber, straw, or stalks, as specified herein. Mulch shall be suitable for spreading with standard mulch blowing equipment.

- C. Wood-cellulose fiber mulch shall be as manufactured by Weyerhaeuser Company, Conway Corporation, or equal.
- D. Straw mulch shall be partially decomposed stalks of wheat, rye, oats, or other approved grain crops.
- E. Stalks shall be the partially decomposed, shredded residue of corn, cane, sorghum, or other approved standing field crops.

2.7 MULCH BINDER

- A. Mulch on slopes with 3 to 1 ratio or steeper shall be held in place by the use of an approved mulch binder. The mulch binder shall be non-toxic to plant life and shall be acceptable to the Engineer.
- B. Emulsified asphalt binder shall be Grade SS-1, ASTM D 977. Cut-back asphalt binder shall be Grade RC 70 or RC 250.

2.8 INOCULANTS FOR LEGUMES

- A. All leguminous seed shall be inoculated prior to seeding with a standard culture of nitrogen-fixing bacteria that is adapted to the particular seed involved.

2.9 WATER

- A. Water shall be clean, clear water free from any objectionable or harmful chemical qualities or organisms and shall be furnished by the Contractor.

PART 3 - EXECUTION

3.1 SECURING AND PLACING TOPSOIL

- A. Topsoil shall be secured from areas from which topsoil has not been previously removed, either by erosion or mechanical methods. Topsoil shall not be removed to a depth in excess of the depth approved by the Engineer.
- B. The area or areas from which topsoil is secured shall possess such uniformity of soil depth, color, texture, drainage, and other characteristics as to offer assurance that, when removed the product will be homogeneous in nature and will conform to the requirements of these Specifications.
- C. All areas from which topsoil is to be secured, shall be cleaned of all sticks, boards, stones, lime, cement, ashes, cinders, slag, concrete, bitumen, or its residue, and any other refuse which will hinder or prevent growth.

- D. In securing topsoil from a designated pit, or elsewhere, should strata or seams of material occur which do not come under the requirements for topsoil, such material shall be removed from the topsoil, or if required by the Engineer, the pit shall be abandoned.
- E. Before placing or depositing topsoil upon any areas, all improvement within the area shall be completed, unless otherwise approved by the Engineer.
- F. The areas in which topsoil is to be placed or incorporated shall be prepared before securing topsoil for use.

3.2 SEEDBED PREPARATION

- A. Before fertilizing and seeding, the topsoil surfaces shall be trimmed and worked to true line free from unsightly variation, bumps, ridges and depressions, and all detrimental material, roots, and stones larger than 3 inches in any dimension shall be removed from the soil.
- B. No earlier than 24 hours before the seed is to be sown, the soil surface to be seeded shall be thoroughly cultivated to a depth of not less than 2 inches with a weighted disc, tiller, pulvimixer, or other equipment, until the surface is smooth and in a condition acceptable to the Engineer.
- C. If the prepared surface becomes eroded as a result of rain or for any other reason, or becomes crusted before the seed is sown, the surface shall again be placed in a condition suitable for seeding.
- D. Ground preparation operations shall be performed only when the ground is in a tillable and workable condition, as determined by the Engineer.

3.3 FERTILIZATION AND LIMING

- A. Following seedbed preparation, fertilizer shall be applied to all areas to be seeded so as to achieve the application rates shown in the Seeding Requirements Table.
- B. Fertilizer shall be spread evenly over the seedbed and shall be lightly harrowed, raked, or otherwise incorporated into the soil for a depth of ½-inch.
- C. Fertilizer need not be incorporated in the soil as specified when mixed with seed in water and applied with power sprayer equipment. The seed shall not remain in water containing fertilizer for more than 30 minutes when a hydraulic seeder is used.
- D. Agricultural limestone shall be thoroughly mixed into the soil according to the rates in the Seeding Requirements Table. The specified rate of application of limestone may be reduced by the Engineer if pH tests indicate this to be desirable. It is the responsibility of the Contractor to obtain such tests and submit the results to the Engineer for adjustment in rates.
- E. It is the responsibility of the Contractor to make one application of maintenance fertilizer according to the recommendations listed in the Seeding Requirements Table.

3.4 SEEDING

- A. Seed of the specified group shall be sown as soon as preparation of the seedbed has been completed. No seed shall be sown during high winds, nor until the surface is suitable for working and is in a proper condition. Seeding mixture and rates shall be as shown in the Seeding Requirements table unless otherwise approved by the Engineer. Seed mixtures may be sown together provided they are kept in a thoroughly mixed condition during the seeding operation.
- B. Seeds shall be uniformly sown by any approved mechanical method to suit the slope and size of the areas to be seeded, preferably with a broadcast type seeder, windmill hand seeder, or approved mechanical power drawn seed drills. Hydro-seeding and hydro-mulching may be used on steep embankments, provided full coverage is obtained. Care shall be taken to adjust the seeder for seedings at the proper rate before seeding operations are started and to maintain their adjustment during seeding. Seed in hoppers shall be agitated to prevent segregation of the various seeds in a seeding mixture.
- C. Immediately after sowing, the seeds shall be covered and compacted to a depth of $\frac{1}{8}$ to $\frac{3}{8}$ -inch by a cultipacker or suitable roller.
- D. Leguminous seeds shall be inoculated prior to seeding with an approved and compatible nitrogen-fixing inoculant in accordance with the manufacturer's mixing instructions.

3.5 SODDING

- A. All areas indicated on the drawings shall be solid sodded.
- B. The sod shall be placed with the edges in close contact. Acceptable loamy topsoil may be used to fill the joints.
- C. The entire areas shall then be packed into place.

3.6 MULCHING

- A. All seeded areas shall be uniformly mulched in a continuous blanket immediately after seeding. The mulch shall be applied so as to permit some sunlight to penetrate and the air to circulate and at the same time shade the ground, reduce erosion, and conserve soil moisture. Approximately 25% of the ground shall be visible through the mulch blanket.
- B. One of the following mulches shall be spread evenly over the seeded areas at the following application rates:
 - 1. Wood Cellulose Fiber - 1,400 lbs/acre
 - 2. Straw - 4,000 lbs/acre
 - 3. Stalks - 4,000 lbs/acre
 - 4. These rates may be adjusted at the discretion of the Engineer at no additional cost to the Owner, depending on the texture and condition of the mulch material and the characteristics of the seeded area.

- C. Mulch shall be lightly disked into the soil using straight disks and shall be compacted using a cultipacker.
- D. Mulch on slopes with 3 to 1 ratio or steeper shall be held in place by the use of an approved mulch binder. Binder shall be thoroughly mixed and applied with the mulch. Emulsified asphalt or cutback asphalt shall be applied at the approximate rate of 5 gallons per 1,000 square feet as required to hold the mulch in place.
- E. The Contractor shall cover structures, poles, fence, and appurtenances if the mulch binder is applied in such a way that it would come in contact with or discolor the structures.
- F. Mulch and binder shall be applied by suitable blowing equipment at closely controlled application rates in a manner acceptable to the Engineer.

3.7 WATERING

- A. Contractor shall be responsible for maintaining the proper moisture content of the soil to insure adequate plant growth until a satisfactory stand is obtained. Watering shall be performed to maintain adequate water content in the soil until the project is accepted by the Owner.
- B. Watering shall be accomplished by hoses, tank truck, or sprinklers in such a way to prevent erosion, excessive runoff, and overwatered spots.

3.8 MAINTENANCE

- A. Upon completion of seeding operations, the Contractor shall clear the area of all equipment, debris, and excess material and the premises shall be left in a neat and orderly condition.
- B. The Contractor shall maintain all established areas without additional payment until final acceptance of the work by the Owner, and any regrading, refertilizing, reliming, reseeding, or remulching shall be done at his own expense. The work shall be repeated on defective areas until a satisfactory uniform stand is accomplished. Damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, compacting, and repeating the seeding work at his expense.

<u>SEEDING REQUIREMENTS TABLE</u>					
		<u>Rates per Acre</u>			
<u>Sowing Season</u>	<u>Species</u>	<u>Seed</u>	<u>Fertilizer</u>	<u>Limestone</u>	<u>Maintenance*</u>
3/1 to 10/1	Unhulled Bermuda	10 lbs.	1,300 lbs. 13-13-13	4,000 lbs.	650 lbs. 13-13-13
	Argentine or Pensacola Bahia Brown Top Millet	30 lb. 20 lb.			
10/1 to 3/1	Unhulled Bermuda	15 lbs.			
	Argentine or Pensacola Bahia Brown Top Millet	30 lbs. 20 lbs.			

*Maintenance fertilizer shall be applied in early spring following initial establishment of cover.

END OF SECTION 32 92 20

SECTION 33 05 13.02 - PRECAST CONCRETE MANHOLES FOR ARV'S

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, equipment, and materials required to install precast concrete manholes as described herein and/or shown on the Drawings.

1.2 DESIGN CRITERIA

- A. Manholes shall be constructed of specified materials to the sizes, shapes, and dimensions and at the locations shown on the Drawings or as otherwise directed by the Engineer. The height or depth of the manhole will vary with the location, but unless shown otherwise on the Drawings shall be such that the top of the manhole frame will be at the finished grade or up to 6" above the ground surface and the invert will be at the designed elevations.

1.3 QUALITY ASSURANCE

- A. Prior to delivery all basic materials specified herein shall be tested and inspected by an approved independent commercial testing laboratory or, if approved by the Engineer, certified copies of test reports prepared by the manufacturer's testing laboratory will be acceptable. All materials which fail to conform to these specifications shall be rejected.
- B. After delivery to the site, any materials which have been damaged in transit or are otherwise unsuitable for use in the work shall be rejected and removed from the site.

1.4 SUBMITTALS

- A. Complete shop drawings and engineering data on precast manhole sections and lids shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.5 GUARANTEE

- A. Provide a guarantee against defective materials and workmanship in accordance with the requirements of the section entitled "Guarantees and Warranties" of these Specifications.

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE MANHOLES

- A. Precast concrete manholes shall consist of precast reinforced concrete sections, a flat slab top section with an integrated aluminum access door, and a base section conforming with the typical manhole details as shown on the Drawings.
- B. Precast manhole sections shall be manufactured, tested, and marked in accordance with the latest provisions of ASTM C 478.
- C. The minimum compressive strength of the concrete for all sections shall be 4,000 psi. Special corrosion resistant concrete utilizing Type II Portland Cement (ASTM Standard) with Class "F" fly ash must be used. The latest version of ASTM C 618 classification must be followed for chemical requirements, physical properties, and for all other technical and non-technical specifications. Verification of fly ash characteristics must be done according to the latest edition of ASTM C 311. Contractor to verify that supplier of fly ash has a quality control program in conformance with ASTM C 618. The Contractor shall provide certification to the Engineer indicating that all precast manhole sections meet the Corrosion Resistant Cement requirements.
- D. The maximum allowable absorption of the concrete shall not exceed 8% of the dry weight.
- E. The circumferential reinforcement in the riser sections, top sections, and base wall sections shall consist of one line of steel and shall be not less than 0.12 square inches per lineal foot.
- F. The ends of each reinforced concrete manhole riser section and the bottom end of the manhole top section all be so formed that when the manhole risers and the top are assembled, they will make a continuous and uniform manhole.
- G. Precast reinforced concrete manhole sections shall conform to ASTM Specification C-478. All joints for precast sections shall be tongue and groove and shall be approved by the Engineer.
- H. Each section of the precast manhole shall have not more than two (2) holes for the purpose of handling and laying. These holes shall be tapered and shall be plugged with mortar after installation.

2.2 ALUMINUM ACCESS DOORS

- A. Aluminum access doors shall be double leaf 48" x 54" aluminum access hatch. Door leafs shall be minimum 1/4" aluminum pattern plate reinforced with an H-20 load rating. Cover shall be equipped with a flush lifting handle and 316 stainless steel hold-open arm with a vinyl grip that automatically locks the cover in the 90-degree open position. Frame shall be extruded aluminum with an integral seat and continuous anchor flange on all four sides. Hinges shall be 316 stainless steel hinges with 316 stainless steel tamper resistant bolts/locknuts. Latch shall be 316 stainless steel slam latch with plug and removable key wrench. Cover and frame shall be mill finish aluminum. Hardware shall be 316 stainless steel. USF Fabrication Model AHD or approved equal.

PART 3 - EXECUTION

3.1 CONSTRUCTION OF PRECAST CONCRETE MANHOLES

- A. After placing manhole base, inverts shall be constructed using Class B concrete in accordance with details on contract drawings and inverts shall have the same cross section as the invert of the sewers which they connect. The manhole invert shall be carefully formed to the required size and grade by gradual and even changes in sections. Changes in direction of flow through the sewer shall be made to a true curve with as large a radius as the size of the manhole will permit.
- B. After the base section has been set, and inverts formed, the precast manhole sections shall be placed thereon, care being exercised to form the incoming and outgoing sewer pipes into the wall of the manhole at the required elevations.
- C. Masonry work shall be allowed to set for a period of not less than 24 hours. Outside forms, if any, then shall be removed and the manhole backfilled and compacted. All loose or waste material shall be removed from the interior of the manhole. The manhole top and lid shall be placed and the surface in the vicinity of the work cleaned off and left in a neat and orderly condition.
- D. After backfilling has been completed, the excavated area, if located in a street, alley or sidewalk, shall be provided with a temporary surface.

3.2 FIELD INSPECTION

- A. After completion, all manholes will be inspected. The Contractor shall make, at his own expense, all necessary changes, modifications, and/or adjustments required to assure satisfactory operation.

END OF SECTION 33 05 13.02

SECTION 33 05 23.12 - FUSIBLE POLYVINYLCHLORIDE PIPE FOR INSTALLATION BY HORIZONTAL DIRECTIONAL DRILL (HDD)

1.1 GENERAL DESCRIPTION

A. Scope

1. This section specifies fusible polyvinylchloride pipe, including standards for dimensionality, testing, quality, acceptable fusion practice, safe handling, storage and installation of the pipe by horizontal directional drilling, directional boring, or guided boring.

B. Requirements

1. Contractor shall provide fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification for installation by horizontal directional drilling.
2. Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.

C. Pipe Description

1. Pipe Supplier shall furnish fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification.
2. Pipe shall conform to the following dimensionality and general characteristics table:

Pipe Description	Nominal Diameter (in.)	DR	Color	Pressure Class (psi)	Required Inner Diameter (in.)
12" DR18 Fusible C-900® PVC	12"	18	Blue (Water) Green (Sewer)	235	11.65

1.2 QUALITY ASSURANCE

A. References:

1. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those other standards are included as references under this section as if referenced directly. In the event of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
3. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether

the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI/AWWA C110/A21.10	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C111/A21.11	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
ANSI/AWWA C153/A21.53	AWWA Standard for Ductile-Iron Compact Fittings for Water Service
AWWA C605	Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Standard for Disinfecting Water Mains
AWWA C900	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. (100mm Through 300mm), for Water Distribution
AWWA C905	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 in. through 48 in. (350mm Through 1200mm), for Water Distribution and Transmission
AWWA M23	AWWA Manual of Supply Practices PVC Pipe—Design and Installation, Second Edition
ASTM C923	Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2152	Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F679	Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
ASTM F1417	Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
UNI-B-6	Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
UNI-PUB-08	Tapping Guide for PVC Pressure Pipe
NSF-14	Plastics Piping System Components and Related Materials
NSF-61	Drinking Water System Components--Health Effects
PPI TR-2	PVC Range Composition Listing of Qualified Ingredients

B. Manufacturer Requirements

1. All piping shall be made from PVC compound conforming to cell classification 12454 per ASTM D1784.

C. Fusion Technician Requirements

1. Fusion Technician shall be fully qualified by the pipe supplier to install fusible polyvinylchloride pipe of the type(s) and size(s) being used. Qualification shall be current as of the actual date of fusion performance on the project.
- D. Specified Pipe Suppliers
1. Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900®, Fusible C-905®, and FPVC®, for Underground Solutions, Inc., Poway, CA, (858) 679-9551. Fusion process shall be as patented by Underground Solutions, Inc., Poway, CA, Patent No. 6,982,051. Owner and engineer are aware of no other supplier of fusible polyvinylchloride pipe that is an equal to this specified pipe supplier and products.
- E. Warranty
1. The pipe shall be warranted for one year per the pipe supplier's standard terms.
 2. In addition to the standard pipe warranty, the fusion services shall be warranted for one year per the fusion service provider's standard terms.
- F. Pre-Construction Submittals
1. The following PRODUCT DATA is required from the pipe supplier and/or fusion provider:
 - a. Pipe Size
 - b. Dimensionality
 - c. Pressure Class per applicable standard
 - d. Color
 - e. Recommended Minimum Bending Radius
 - f. Recommended Maximum Safe Pull Force
 - g. Fusion technician qualification indicating conformance with this specification
 2. The following WORK PLAN AND INFORMATION is required from the contractor and/or horizontal directional drilling Contractor. This WORK PLAN AND INFORMATION shall also be supplied to the pipe supplier, should it be requested:
 - a. Work plan shall include for each HDD installation any excavation locations and dimensions, interfering utilities, bore dimensions and locations including bend radii used, and traffic control schematics.
 - b. A project safety and contingency plan which shall include but shall not be limited to drilling fluid containment and cleanup procedures, equipment and plan for compromised utility installations including electrical and power lines, water, wastewater and any other subsurface utility in the area.
 - c. An HDD schedule identifying daily work hours and working dates for each installation.
- G. Post-Construction Submittals
1. The following AS-RECORDED DATA is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:
 - a. Approved datalogger device reports
 - b. Fusion joint documentation containing the following information:
 - 1) Pipe Size and Thickness
 - 2) Machine Size
 - 3) Fusion Technician Identification
 - 4) Job Identification
 - 5) Fusion Joint Number
 - 6) Fusion, Heating, and Drag Pressure Settings

- 7) Heat Plate Temperature
 - 8) Time Stamp
 - 9) Heating and Cool Down Time of Fusion
 - 10) Ambient Temperature
- c. As-recorded Information
- 1) The as-recorded plan and profile will reflect the actual installed alignment, and reflect the horizontal offset from the baseline and depth of cover.
 - 2) All fittings, valves, or other appurtenances will also be referenced and shown.
 - 3) A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.

PART 2 - PRODUCTS

2.1 FUSIBLE POLYVINYLCHLORIDE PRESSURE PIPE FOR POTABLE WATER

- A. Fusible polyvinylchloride pipe shall conform to AWWA C900, AWWA C905, ASTM D2241 or ASTM D1785 for standard dimensions, as applicable. Testing shall be in accordance with the referenced AWWA standards for all pipe types.
- B. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
- C. Fusible polyvinylchloride pipe shall be manufactured in a standard 40' nominal length, or custom lengths as specified.
- D. Fusible polyvinylchloride pipe shall be blue in color for potable water use.
- E. Pipe shall be marked as follows:
 1. Nominal pipe size
 2. PVC
 3. Dimension Ratio, Standard Dimension Ratio, or Schedule
 4. AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable
 5. NSF-61 mark verifying suitability for potable water service
 6. Extrusion production-record code
 7. Trademark or trade name
 8. Cell Classification 12454 and/or PVC material code 1120 may also be included
- F. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

2.2 FUSION JOINTS

- A. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed as described in this specification.

2.3 CONNECTIONS AND FITTINGS FOR PRESSURE APPLICATIONS

- A. Connections shall be defined in conjunction with the coupling of project piping, as well as the tie-ins to other piping systems.
- B. Ductile Iron Mechanical And Flanged Fittings
 1. Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard ductile iron fittings conforming to AWWA/ANSI C110/A21.10, or AWWA/ANSI C153/A21.53 and AWWA/ANSI C111/A21.11.
 2. Connections to fusible polyvinylchloride pipe may be made using a restrained or non-restrained retainer gland product for PVC pipe, as well as for MJ or flanged fittings.
 3. Bends, tees and other ductile iron fittings shall be restrained with the use of thrust blocking or other means as indicated in the construction documents.
 4. Ductile iron fittings and glands must be installed per the manufacturer's guidelines.
- C. PVC Gasketed, Push-On Fittings
- D. Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard PVC pressure fittings conforming to AWWA C900 or AWWA C905.
 1. Acceptable fittings for use joining fusible polyvinylchloride pipe other sections of fusible polyvinylchloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings and fittings, including bends, tees, and couplings as shown in the drawings.
 2. Bends, tees and other PVC fittings shall be restrained with the use of thrust blocking or other restraint products as indicated in the construction documents.
 3. PVC gasketed, push-on fittings and mechanical restraints, if used, must be installed per the manufacturer's guidelines.
- E. Fusible Polyvinyl Chloride Sweeps Or Bends
 1. Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined using the sweep or bend.
 2. Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation. There shall be no gasketed connections utilized with a fusible polyvinyl chloride sweep.
 3. Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.
- F. Sleeve-Type Couplings
 1. Sleeve-type mechanical couplings shall be manufactured for use with PVC pressure pipe, and may be restrained or unrestrained as indicated in the construction documents.
 2. Sleeve-type couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

G. Expansion and Flexible Couplings

1. Expansion-type mechanical couplings shall be manufactured for use with PVC pipe, and may be restrained or unrestrained as required for the installation.
2. Expansion-type mechanical couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

H. Connection Hardware

1. Bolts and nuts for buried service shall be made of non-corrosive, high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21.11, regardless of any other protective coating.

2.4 DRILLING SYSTEM EQUIPMENT

A. General

1. The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

B. Drilling Rig

1. The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull drill pipe while delivering a pressurized fluid mixture to a drill head. The machine shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project.
2. The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.
3. The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

C. Drill Head

1. The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.
2. The system must be able to control the depth and direction of the drilling operation.
3. Drill head shall contain all necessary cutters and fluid jets for the operation, and shall be of the appropriate design for the ground medium being drilled.

D. Drilling Fluid System

1. Drilling Fluid (Drilling Mud)
 - a. Drilling fluid shall be composed of clean water and the appropriate additive(s) for the fluid to be used. Water shall be from a clean source and shall meet the mixing requirements of the mixture manufacturer(s).
 - b. The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods. No hazardous additives may be used.
 - c. Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).

- d. Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.
- e. No additional chemicals or polymer surfactants shall be allowed to be added to the drilling fluid unless they have been submitted per this specification.
2. Mixing System
 - a. A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.
 - b. The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.
 - c. The mixing system shall continually agitate the drilling fluid during drilling operations.
3. Drilling Fluid Delivery and Recovery System
 - a. The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.
 - b. The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.
 - c. Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.
 - d. A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be reused in the drilling system.
4. Drilling Control System
 - a. Calibration of the electronic detection and control system shall be verified prior to the start of the bore.
 - b. The drilling head shall be remotely steer-able by means of an electronic or magnetic detection system. The drilling head location shall be monitored in three dimensions:
 - 1) Offset from the baseline,
 - 2) Distance along the baseline, and
 - 3) Depth of cover.
 - c. Point of rotation of the head shall also be monitored.
 - d. For gravity application and on-grade drilling, sonde/beacon or approved equipment applicable for grade increments of 1/10th of one percent shall be used.

2.5 PIPE PULL HEADS

- A. Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.
- B. Pipe pull heads shall be specifically designed for use with fusible polyvinylchloride pipe, and shall be as recommended by the pipe supplier.

2.6 PIPE ROLLERS

- A. Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe during handling and pullback operations.
- B. A sufficient quantity of rollers and spacing, per the pipe supplier's guidelines shall be used to assure adequate support and excessive sagging of the product pipe.

PART 3 - EXECUTION

3.1 DELIVERY AND OFF-LOADING

- A. All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the owner or engineer.
- B. Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify owner or engineer immediately if more than immaterial damage is found. Each pipe shipment should be checked for quantity and proper pipe size, color, and type.
- C. Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.
- D. Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
- E. During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
- F. If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

3.2 HANDLING AND STORAGE

- A. Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the owner or engineer.
- B. Any scratch or gouge greater than 10% of the wall thickness will be considered significant and will be rejected.
- C. Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.

- D. Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.
- E. If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.
- F. Pipe shall be stored and stacked per the pipe supplier's guidelines.

3.3 FUSION PROCESS

A. General

- 1. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.
- 2. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.
- 3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.
- 4. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following elements:
 - a. HEAT PLATE - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.
 - b. CARRIAGE – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.
 - c. GENERAL MACHINE - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.
 - d. DATA LOGGING DEVICE – An approved datalogging device with the current version of the pipe supplier's recommended and compatible software shall be used. Datalogging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.
- 5. Other equipment specifically required for the fusion process shall include the following:
 - a. Pipe rollers shall be used for support of pipe to either side of the machine
 - b. A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and /or windy weather, per the pipe supplier's recommendations.
 - c. An infrared (IR) pyrometer for checking pipe and heat plate temperatures.
 - d. Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.
 - e. Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

B. Joint Recording

1. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the butt-fusion of fusible polyvinyl chloride pipe. The software shall register and/or record the parameters required by the pipe supplier and these specifications. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

3.4 DRILLING OPERATIONS

A. General

1. Bore path and alignment are as indicated in the contract documents. The path of the bore may be modified based on field and equipment conditions. Entry and exit locations and control-point elevations shall be maintained as indicated in the contract documents.
2. Bend radii shown in the contract documents are minimum allowable radii and shall not be reduced.

B. Location And Protection Of Underground Utilities

1. Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.
2. Utility location and notification services shall be contacted by the Contractor prior to the start of construction.
3. All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator's responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.

C. Site Location Preparation

1. Work site as indicated on drawings shall be graded or filled to provide a level working area. No alterations beyond what is required for operations are to be made.
2. Contractor shall confine all activities to designated work areas.

D. Drilling Layout And Tolerances

1. The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.
2. Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads and measures drilling fluid discharge rate and pressure.
3. Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

E. Pilot Hole Bore

1. Pilot hole shall be drilled along bore path. In the event that the pilot bore does deviate from the bore path, it may require contractor to pull-back and re-drill from the location along bore path before the deviation.
2. The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.

F. Reaming

1. After successfully completing the pilot hole, the bore hole shall be reamed to a diameter which meets the requirements of the pipe being installed. The following table is offered as an estimated guide:

Nominal Pipe Diameter	Bore Hole Diameter
< 8 inches	Pipe Dia. + 4 inches
8 inches to 24 inches	Pipe Dia. X 1.5
> 24 inches	Pipe Dia. + 12 inches

2. Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.
3. In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

3.5 PIPE PULL-BACK AND INSERTION

- A. Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.
- B. Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.
- C. The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.
 1. The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.
 2. The fusible polyvinylchloride pipe may be continuously or partially supported on rollers or other Owner and Engineer approved friction decreasing implement during joining and insertion, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.
 3. A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.
- D. Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

- E. Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole.
- F. The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor at no additional cost to the Owner.

3.6 INSTALLATION CLEANUP

- A. Following the installation, the project site shall be returned to a condition equal to or better than the pre-construction condition of the site. All excavations will be backfilled and compacted per the construction documents and jurisdictional standards. All pavement and hardscape shall be repaired per applicable jurisdictional standards, excess materials shall be removed from the site, and disturbed areas shall be re-landscaped. All drilling fluid shall be properly disposed of per these specifications and all applicable jurisdictional laws.
- B. Contractor shall verify that all utilities, structures, and surface features in the project area are sound.

3.7 PREPARATION PRIOR TO MAKING CONNECTIONS INTO EXISTING PIPING SYSTEMS

- A. Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the contractor shall:
 - 1. Field verify location, size, piping material, and piping system of the existing pipe.
 - 2. Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.
 - 3. Have installed all temporary pumps and/or pipes in accordance with established connection plans.
- B. Unless otherwise approved, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

3.8 PIPE SYSTEM CONNECTIONS

- A. Pipe connections shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines. Pipe connections to structures shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines.
- B. If possible, pipe installed via HDD shall be filled with water prior to making any connections to the existing system or other portions of the project.

3.9 TAPPING FOR POTABLE WATER APPLICATIONS

- A. Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or

sleeves. NO DIRECT TAPPING WILL BE PERMITTED. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Pub-8.

- B. All connections requiring a larger diameter than that recommended by the pipe supplier, shall be made with a pipe connection as specified and indicated on the drawings.
- C. Equipment used for tapping shall be made specifically for tapping PVC pipe:
 - 1. Tapping bits shall be slotted “shell” style cutters, specifically made for PVC pipe. ‘Hole saws’ made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.
 - 2. Manually operated or power operated drilling machines may be used.
- D. Taps may be performed while the pipeline is filled with water and under pressure (‘wet’ tap,) or when the pipeline is not filled with water and not under pressure (‘dry’ tap).

3.10 TESTING

- A. Testing shall comply with all applicable jurisdictional building codes, statutes, standards, regulations, and laws.
- B. Hydrostatic Testing and Leakage Testing for Pressure Piping
 - 1. Hydrostatic and leakage testing for piping systems that contain mechanical jointing as well as fused PVC jointing shall comply with AWWA C605.
 - 2. Unless agreed to or otherwise designated by the owner or engineer, for a simultaneous hydrostatic and leakage test following installation, a pressure equal to 150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation shall be applied. The duration of the pressure test shall be for two (2) hours. **The minimum hydrostatic test pressure for any segment of the completed water mains shall be 150 psi.**
 - 3. If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.
 - 4. In preparation for pressure testing the following parameters must be followed:
 - a. All air must be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by ‘flushing’ the pipeline in accordance with the parameters and procedures as described in AWWA C605.
 - b. The pipeline must be fully restrained prior to pressurization. This includes complete installation of all mechanical restraints per the restraint manufacturer’s guidelines, whether permanent or temporary to the final installation. This also includes the installation and curing of any and all required thrust blocking. All appurtenances included in the pressure test, including valves, blow-offs, and air-relief valves shall be checked for proper installation and restraint prior to beginning the test.
 - c. Temporary pipeline alignments that are being tested, such as those that are partially installed in their permanent location shall be configured to minimize the amount of potentially trapped air in the pipeline.
 - d. Provide calibrated pressure gauges, pressure chart recorder, pipes, pumps, meters, and other equipment necessary to perform the hydrostatic pressure test. All equipment and appurtenances necessary for pressure testing, including but not

limited to a test cap with 2" nipple and stainless-steel ball valves, shall be provided by the Contractor.

- C. Disinfection of the Pipeline for Potable Water Piping
 - 1. After installation, the pipeline, having passed all required testing, shall be disinfected prior to being put into service. Unless otherwise directed by the owner or engineer, the pipeline will be disinfected per AWWA C651.

- D. Partial Testing
 - 1. Segments of the pipe may be tested separately in accordance with standard testing procedure, as approved by the owner and engineer. Testing of each HDD installation prior to connection to the system or other piping is required

END OF SECTION 33 05 23.12

SECTION 33 05 23.13 - UTILITY HORIZONTAL DIRECTIONAL DRILLING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Furnish all labor, materials, equipment, and consumables as necessary to install a pressure pipeline via horizontal directional drilling.

1.2 DESIGN/PERFORMANCE REQUIREMENTS

- A. Provide design engineering for the work as described in paragraph 1.1 and as described herein and on the contract drawings, including, but not limited to, the following elements:
 - 1. Bore hole diameter and length
 - 2. Pipeline size and material
 - 3. Drilling procedures
 - 4. Pipeline pulling operations
 - 5. Method of drilling fluid disposal
 - 6. Area required for drilling operations
 - 7. Drilling fluids and disposal management plan
 - 8. Plans and profile drawings of the proposed horizontal and vertical alignment of the pipeline run, including points of entry and exit.
 - 9. The contractor's submitted design shall be signed and sealed by a Professional Engineer whose specialty includes design of horizontal drilling operations.
- B. The contractor shall be responsible for conducting the job in accordance with all applicable federal, state and local permits, codes and statutes.

1.3 SUBMITTALS

- A. Submit six (6) copies to the Engineer for approval.
- B. Shop Drawings: Complete layout and details for fabrication and installation of pipeline; including design data and calculations. Submittal shall include, but not limited to, elements listed in paragraph 1.2 A.
- C. Task Schedule: Detailed schedule of tasks for each stage or operation involved in the work of this section. Include as a minimum the following major tasks:
 - 1. Preparatory earthwork operations
 - 2. Drilling rig mobilization and set-up
 - 3. Pipe delivery and on-site pipe joining operations
 - 4. Pilot hole drilling and reaming operations
 - 5. Pipeline hydrostatic testing
 - 6. Pipeline pulling operations
 - 7. Drilling fluid disposal
 - 8. Restoration and demobilization

9. Task schedule shall conform to contract schedule as outlined in the General Provisions.
- D. As-Built Drawings: Plan and profile drawing of the installed pipeline, within 30 days of completing the pipeline installation.
- E. Product Data: Manufacturer's descriptive product data and current material specifications, including installation specifications.
 1. Pipeline specifications including size and composition.
- F. Disposal Management Plan: The plan shall describe the contractor's plans for disposal of the drilling fluid and the names, addresses and telephone numbers of any and all subcontractors who will be performing any portion of the disposal activities. At a minimum the plan shall include:
 1. Disposal method
 2. Disposal hauler(s)
 3. Disposal location
 4. Estimated quantity to be disposed
 5. Type of vehicle hauling drilling fluid
 6. Verification of disposal equipment registration with appropriate state agencies if applicable.
 7. Copy of disposal permit or written statement from permitting agency stating that permit is not required.
- G. Pipe Connection Procedures: The contractor shall submit pipe connection procedures to the Engineer prior to connecting any pipe. For plastic pipe (HDPE) the contractor shall submit written approval, of his procedures, by the pipe manufacturers' representatives. For steel pipe, the contractor shall submit welder's certifications, welding procedure and proposed joint design sealed by Professional Engineer whose specialty includes design of large welded piping. For ductile iron pipe, the Contractor shall submit proposed joint design and connection description.

1.4 PERMITS

- A. Army Corps of Engineers has advised that the pipeline installation is covered under a nationwide general permit.
- B. The contractor shall obtain all necessary permits for the transportation and disposal of the drilling fluids. Copies of the disposal permits shall be kept on-site during drilling operations.

1.5 QUALITY ASSURANCE

- A. The contractor shall provide evidence of at least 3 years experience in horizontal directional drilling and pipe pulling of the type required by this project as evidenced by at least 5 jobs of equal or greater diameter and length and shall maintain on-site at least one supervisor who has at least 5 years of experience on projects of this type.

1.6 MATERIAL DELIVERY, STORAGE, AND HANDLING

- A. In the case of each type of material, the contractor shall transport, handle, and store such products in a manner as recommended by the respective product manufacturer.
- B. Provide the proper off-ground storage of pipe products as required by the pipe manufacturers.
- C. The contractor shall be responsible for securing all project materials and shall bear the cost of replacing any materials which may become misplaced or stolen.

PART 2 - PRODUCTS

2.1 DRILLING MATERIALS

- A. The drilling materials used by the contractor to aid in the directional drilling operations shall be of the contractor's choosing, but they shall supply with all federal and local requirements as applicable to this project.
- B. Water required for drilling operations shall be provided by the contractor. Fresh water shall be used for all drilling operations.
- C. Drilling fluid additives shall be of the contractor's choosing.

2.2 PIPE

- A. The pipeline shall be either High Density Polyethylene (HDPE), steel or ductile iron of the diameter as called for on the plans. Thickness shall be as required for installation stresses and overburden pressures.
 - 1. HDPE pipe shall conform to ASTM F714. Polyethylene resin compound shall conform to ASTM D1248, Type III, Category 5, Class C, Grade P34, and shall have a long term hydrostatic strength of 1600 psi per ASTM D2837.
 - 2. Steel pipe shall conform to ASTM A53, A106, or A524 for seamless pipe and shall be epoxy coated interior and exterior in accordance with the specification requirements for steel sewer pipe.
 - 3. Ductile iron pipe shall conform to ANSI A21.50 and ANSI A21.51, using 60,000 psi tensile strength, 42,000 psi yield strength and 10 percent minimum elongation.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Perform the necessary general earthwork operations as required for the directional drilling and pipe pulling operations. Prior to commencement of excavation and drilling operations locate all above ground and underground utilities.

3.2 SITE ACCESS

- A. The contractor shall be responsible for constructing all means of temporary access to the designated work sites and shall be liable for all damages caused as a result of the work.

3.3 PIPELINE JOINTS

- A. Perform all pipeline joints in accordance with approved procedures.
- B. HDPE Piping: Thermal butt-fusion conforming to ASTM D2657. The HDPE pipe manufacturer shall inspect, and approve in writing, all butt-fusion joints.
- C. Steel Piping: Joints shall be butt welded with backing rings. Weld shall conform to ANSI B-31.1. Welder shall be certified per ASME-17. Pipe shall be shipped from the fabricator with ends prepared for welding. Field cuts shall be portable lathes. Field burning is prohibited. All welds shall be visually examined and shall meet acceptance standards in ANSI B-31.
- D. Ductile Iron Piping: Joints shall be Tri-flex.

3.4 ENTRY POINT LOCATION

- A. The location of the pit excavation, equipment set-up and entry point shall be determined by the contractor.

3.5 EXIT POINT LOCATION

- A. The exit point shall be determined by the contractor.

3.6 DRILLING OPERATIONS

- A. The contractor shall at all times during drilling operations maintain instrumentation in operation which will accurately locate the pilot hole and which will accurately measure the drilling fluid flow discharge rate and pressure.
- B. The contractor shall take the necessary precautions to insure that the drilling fluid pressure in the drill hole does not exceed that which can be contained by the overburden soil to prevent any discharge or leakage into the channel or onto adjacent banks.
- C. The pilot hole shall be drilled along the path indicated on the contractor's submittal drawing under Section 1.2 A.8.
- D. The contractor shall inspect for buckled/crimped pipe after pull-back into the drill hole and inspection records shall be provided to the owner. The contractor shall be liable for retrieving or sealing any pipe that becomes lodged in the drill hole. If it becomes necessary to drill an alternate hole, the contractor shall redrill the hole and furnish all additional materials required to complete the job as indicated on the plans and specifications at no additional cost to the owner.

- E. Provide metal fluid tanks on the north and south sides of the channel, sufficient in size to contain all drilling fluids resulting from the drilling operation. Insure that all fluids are contained within the metal tanks or the drill hole prior to the removal from the site. In the event of a drilling fluid discharge, the contractor shall notify Owner and perform immediate clean up.
- F. Promptly remove from the job and properly dispose of all drilling fluids and associated cuttings (sand, rock, dirt) in accordance to the approved disposal management plan after completion of drilling and pipe pull-back operations.
- G. Provide the Engineer with a copy of the Bill of Lading/Trip Ticket for each truckload of disposed fluid and submit to the Engineer the lab sample results if lab samples are required by the disposal permit.

3.7 PIPE PULLING OPERATIONS

- A. The pulling head shall be designed by the contractor to withstand the continuous tensile pull stresses with intermittent sudden occasional surges. The contractor shall be responsible for determining the pulling loads.
- B. Provide sufficient pipe launching and guiding supports to prevent pipe damage during the pulling in operation.
- C. The pipe manufacturer's representative shall inspect and approve, in writing, the contractor's pipe pulling method.
- D. Should the pipe become damaged, the damaged pipe section(s) shall be removed and replaced by the contractor, at no additional cost to the owner.

END OF SECTION 33 05 23.13

SECTION 33 05 23.16 - UTILITY PIPE JACKING AND BORING

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, materials, service, and equipment required to properly complete sewer and/or force main pipeline construction under federal, state highways, county roads and city streets and railroads as described herein and/or as shown on the Drawings. All work to be performed shall meet the Utility Manual of the respective Highway Department in effect at the time of the construction and be in accordance with the American Railway Engineering Association (AREA), Specifications Part 5 (Pipelines) and the railroad affected.

1.2 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete engineering data and product information shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.3 STORAGE AND DELIVERY

- A. All materials shall be stored and protected with strict conformance to the manufacturer's recommendations and as approved by the Engineer.

1.4 INSURANCE

- A. Certificates of public liability and property damage insurance showing the Railway as the certificate holder shall be furnished by the Contractor at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel casing pipe shall be straight seam welded steel pipe conforming to ASTM A 139 Grade B of the latest standard specifications. Minimum yield strength shall be 35,000 psi. Minimum pipe wall thickness shall be as follows:

<u>Casing Outside Diameter (in.)</u>	<u>Highway (in.)</u>	<u>Railroad (in.)</u>
8	0.172	0.188
12	0.188	0.250
16	0.250	0.281
18	0.250	0.312
20	0.250	0.344
24	0.250	0.375
30	0.375	0.469
36	0.375	0.532
42	0.375	0.657
48	0.500	0.688
54	0.500	0.781
60	0.625	0.844
66	0.625	0.938
72	0.750	1.000

PART 3 - EXECUTION

3.1 GENERAL

- A. Any solidification of embankments, boring headings, or tunnel headings or sides shall be the Contractor's responsibility and shall be done at his own expense.
- B. Bored installations shall have a bored-hole diameter essentially the same as the outside diameter of the casing pipe to be installed. Smooth wall new steel pipe meeting the required material standards shall be installed with suitable equipment providing a mechanically augered bore followed immediately by the casing pipe, without the use of water at any time during the work.
- C. The casing pipe shall be jacked into the boring as soon as possible after the boring is made. Lengths of casing pipe as long as practical shall be used. Joints between sections shall be completely welded around the complete circumference of the pipe as recommended for joining the particular type of pipe. Casing pipe installed shall be guided by a jacking frame and rails to maintain line and grade. Not more than 6 inches of excavation ahead of the casing pipe will be allowed during installation.
- D. Once the jacking procedure has begun, it should be continued without stopping until completed subject to weather and conditions beyond the control of the Contractor. Voids outside the jacked casing shall be filled with pumped cement grout, applied at a pressure of not less than 40 psi where an annular space between the casing and earth is established.
- E. Any replacement of carrier pipe in an existing casing shall be considered a new installation, subject to the applicable requirements of these Specifications.
- F. Care shall be taken to ensure that casing pipe installed by boring and jacking will be at the proper alignment and grade.

- G. The Contractor shall maintain and operate pumps, well points, and drainage system equipment to keep work dewatered at all times.
- H. Adequate sheeting, shoring, and bracing for embankments, operating pits, and other appurtenances shall be placed and maintained to ensure that work proceeds safely and expeditiously. Upon completion of the required work, the sheeting, shoring, and bracing shall be left in place, cut off, or removed, as designated by the Engineer.
- I. Trench excavation; all classes and types of excavation; the removal of rock, muck, debris; the excavation of all working pits; and backfill requirements of the section entitled "Earthwork" are included under this section.
- J. Carrier pipe installed in casing shall be as specified in the detailed plans or as required in the bid proposal.
- K. After the casing pipe is installed, the carrier pipe shall be installed exercising care at all times to protect the interior of the casing pipe and to maintain tight, full-seated joints in the carrier pipe. The carrier pipe shall be installed at the proper line and grade without any sags or high spots.
- L. The carrier pipe shall be held concentric within the casing pipe by the use of stainless steel or polypropylene casing spacers (CCS Series by Cascade Waterworks Mfg., Pipeline Seal and Insulators (PSI) or approved equal). The spacing of such casing spacers longitudinally in the casing pipe shall be in accordance with the manufacturer's recommendation and in no case greater than 10 feet and within 2 feet of each end. Casing pipe shall be sealed at the ends with an approved flexible boot to prevent flowing water and debris from entering the annular space between the casing and the carrier pipe.

3.2 HIGHWAY AND RAILWAY CROSSINGS

- A. Contractor shall be held responsible and accountable for the coordinating and scheduling of all construction work within the right-of-ways.
- B. Work along or across the right-of-way shall be under the supervision of the Engineer, state highway department engineer and the railroad engineer.
- C. All pipelines installed under paved roads and paved crossroads within the right-of-ways of the state highway department and railroads shall be encased. This includes, but is not limited to, all water and sewer service lines.
- D. All lines shall have a minimum cover of 48 inches unless otherwise shown on the Drawings, but in no case shall the minimum cover be less than that required by the regulations of the agency involved.
- E. Unless otherwise shown, encasement shall extend 5 feet beyond the embankment or back of side ditch. On curbed portions of conventional highways the casing pipe shall extend past the back of the curb or sidewalk.
- F. All installations shall be done to leave free flows in drainage ditches, pipes, culverts, or other surface drainage facilities of the highway, street, or its connections.

- G. Where sodding is disturbed, such areas shall be replaced by mulch sodding on slopes 5% or less. All slopes over 5% shall be replaced with block sodding.
- H. All surplus materials shall be removed from the right-of-way and the excavation finished flush with surrounding ground.
- I. Grout backfill shall be used for unused holes or abandoned pipes.
- J. Boring, jacking, or driving of carrier or casing pipes under existing highways shall be accomplished without jetting, sluicing, or wetboring.
- K. No excavated material or equipment shall be placed on the pavement or shoulders of the highway without the express approval of the state highway department engineer.
- L. In no instance will the Contractor be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight. Construction materials to be installed which are placed on the right-of-way in advance of construction shall be placed in such a manner as not to interfere with the safe operation of the highway.
- M. For railway crossings, lines shall be prominently marked at right-of-way lines (on both sides of track for crossings) by durable, weatherproof signs located over the centerline of the pipe. The Owner must maintain all signs on the Railroad's right-of way as long as the occupational agreement is in effect. Signs shall show the following:
 - 1. Name and address of Owner
 - 2. Contents of pipe
 - 3. Pressure in pipe
 - 4. Pipe depth below grade at point of a sign
 - 5. Emergency telephone number in event of pipe rupture
- N. If during installation an obstruction is encountered which prevents installation of the pipe in accordance with this specification, the pipe shall be abandoned in place and immediately filled with grout. A new installation procedure and revised plans must be submitted and approved before work can resume.

3.3 RAILROAD CROSSING REQUIREMENTS

- A. All operations shall be conducted so as not to interfere with, interrupt, or endanger the operation of trains nor damage, destroy, or endanger the integrity of Railroad facilities. All work on or near Railroad property shall be conducted in accordance with Railroad safety rules and regulations. The contractor shall secure and comply with the Railroad safety rules and shall give written acknowledgment to the Railroad that they have been received, read, and understood by the contractor and his employees. Operations will be subject to Railroad inspection at any and all times.
- B. At all times when the work is being progressed, a field supervisor for the work with no less than twelve (12) months experience in the operation of the equipment being used shall be present. If boring equipment or similar machines are being used, the machine operator also shall have no less than twelve (12) months experience in the operation of the equipment being used.

- C. Whenever equipment or personnel are working closer than fifteen (15) feet from the centerline of an adjacent track, that track shall be considered as being obstructed. Insofar as possible, all operations shall be conducted no less than this distance.
- D. Operations closer than fifteen (15) feet from the centerline of a track shall be conducted only with the permission of, and as directed by, a duly qualified Railroad employee present at the site of the work.
- E. Crossings of tracks at grade by equipment and personnel is prohibited except by prior arrangement with, and as directed by, the Chief Engineer.
- F. All Railroad costs associated with the pipe installation (inspection, flagging, track work, etc.) shall be reimbursed to the Railroad by the Owner of the facility. Reimbursement by the Contractor is not acceptable.

END OF SECTION 33 05 23.16

SECTION 33 05 50 - POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, equipment, and materials required to install and test polyvinyl chloride (PVC) pressure pipe, including valves, unions, fittings, couplings, adaptors, and accessories, as shown on the Drawings and/or specified herein.
- B. The Contractor's attention is called to the fact that all PVC piping and accessories are not necessarily shown completely on the Drawings which are more or less schematic. However, the Contractor shall furnish and install all piping indicated or required for proper operation of the equipment or services requiring such piping.
- C. Contractor's work includes collecting samples and having samples checked and approved for bacteriological analysis by the State Board of Health for water lines.

1.2 RELATED WORK ELSEWHERE

- A. Section 31 00 01 – Earthwork for Utility Lines
- B. Section 33 05 51 - Ductile Iron Piping and Ductile Iron and Cast Iron Fittings

1.3 QUALITY ASSURANCE

- A. The Contractor, at the Engineer's request, shall furnish a certificate from the manufacturer of the pipe and fittings that the manufacturer is fully competent and capable of manufacturing PVC pipe and fittings of uniform texture and strength that will fully comply with these specifications and have so manufactured this class of pipe in sufficient quantities to be certain that it will meet all normal field conditions of usage. The manufacturer must have adequate equipment and quality control facilities to be sure that each extrusion of pipe is uniform in texture, dimensions, and strength.
- B. All pipe shall be tested and inspected at the place of manufacture for all requirements of the latest ASTM and Commercial Standard tests and certified copies of the test reports covering each shipment shall be submitted to the Engineer prior to laying.
- C. Each length of pipe and each fitting shall have the following data clearly marked on each piece:
 - 1. Nominal size
 - 2. Type and grade of material and ASTM or AWWA standard
 - 3. SDR, DR, class, or schedule rating
 - 4. Manufacturer
 - 5. National Sanitation Foundation's seal of approval (for all potable water pipe)

1.4 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete shop drawings and engineering data shall be submitted to the Engineer in accordance with the requirements of the section entitled "Shop Drawings, Product Data and Samples" of these Specifications.

1.5 STORAGE AND PROTECTION

- A. All pipe and fitting shall be stored under cover.
- B. All pipe and accessories shall be stored aboveground and fully supported so as not to bend or deflect excessively under its own weight. Height of stacked pipe shall not exceed 4 feet. Bundled pipe shall not be stacked more than two (2) bundles high.
- C. Kinked, flattened, buckled, broken, or otherwise defective pipe and fittings shall not be used and shall be removed from the site.
- D. Pipe shall be handled using nylon slings. Wire rope slings or chains shall not be used.

1.6 COLOR

- A. Pipe used to convey potable water shall be blue or shall be color coded or marked in accordance with 62.555.320(21)(b)3 F.A.C. Pipe used to convey wastewater shall be any color other than white, blue or purple and shall preferably be green.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

- A. The pipe and fittings shall be homogenous throughout and be free from visible cracks, holes, foreign inclusions, or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density, and other physical properties.
- B. The manufacturer shall provide waterstops, acceptable to the Engineer, which shall be applied to the outside of plastic pipe when the pipe is to be enclosed in any structure where concrete or mortar is used which will prevent leakage along the outer wall of the barrel of the pipe.
- C. No single piece of pipe shall be laid on any project covered by this specification unless it is found to be generally straight. Such pipe shall have a maximum ordinate as measured from the concave side of the pipe not to exceed 1/16-inch per foot of length. If the deviation from straightness exceeds this requirement, then the particular piece of pipe shall be rejected for use until it can comply with this provision.
- D. Wyes, tees, bends, and adapters and any other fittings 3" and larger required or directed by the Engineer shall be constructed of ductile iron as directed in section entitled "Ductile Iron Piping and Ductile Iron and Cast Iron Fittings" of these Specifications. Engineering data from such fittings showing cross-sectional views with dimensions shall be provided and such data and

fitting shall be approved by the Engineer prior to their use. The materials used in the manufacturer of fittings shall conform with the requirements for the pipe with which they shall be used and any variation of such requirements shall be subject to the approval of the Engineer. Fittings shall have wall thicknesses equal to or greater than that of the pipe to which they are joined.

2.2 PIPE

- A. PVC pipe shown on the Drawings to be buried underground and used to convey water or wastewater shall be supplied by a major manufacturer approved by the Engineer and shall have push-on joints unless otherwise noted on the Drawings. All pipe material shall be Grade 1, Type I, polyvinyl chloride (PVC) in accordance with ASTM D 1784, Class 12454-B. All pipe material for water lines shall be National Sanitation Foundation approved for use with potable water. Pipe in sizes 1 ½ inches through 3 inches shall be SDR 21 with 200 psi pressure rating in accordance with ASTM D 2241 or DR 14, Class 200 in accordance with AWWA C900. Pipe in sizes 4 inches through 12 inches for water lines shall be either SDR 21 with 200 psi pressure rating in accordance with ASTM D 2241, DR 14, Class 200 in accordance with AWWA C900 or DR 21 or DR 25 with 200 psi pressure rating in accordance with AWWA C905, depending on which is called for on the Drawings. Pipe in sizes 4 inches through 12 inches for wastewater shall be AWWA C900 DR-18. Maximum lengths of pipe shall not exceed 20 feet.

2.3 FITTINGS

- A. Fittings in PVC piping system for pipe smaller than 3 inches conveying water or wastewater may be PVC where the required fittings are available and with the approval of the Engineer. Such fittings shall be supplied by the same company that manufactured the pipe and shall comply with the requirements of ASTM D 2467 for Moulded, Schedule 80, socket welded fittings.
- B. Fittings for pipe 3 inches or larger or unavailable in PVC, shall be cast iron or ductile iron as specified in section entitled “Ductile Iron Pipe and Ductile Iron and Cast Iron Fittings” of these Specifications. Engineering data for fitting showing cross-sectional views with dimensions shall be provided and such data and fittings shall be approved by the Engineer prior to their use. Connections between cast iron or ductile iron fittings and PVC pipe shall be made by use of special adaptors similar to Mueller Transition Gland A-399 by Mueller Company, Transition Gasket F6340 by Clow Corporation or a similar transition which has been approved by the Engineer. The joint shall be mechanical joint for ductile iron or cast iron as described in section entitled “Ductile Iron Piping and Ductile Iron and Cast Iron Fittings” of these Specifications.

2.4 JOINTS (PUSH-ON)

- A. The joints shall be designed so that the pipe and fittings may be connected on the job without the use of solvent cement or any special equipment. The push-on joint shall be single rubber gasket joint designed to be assembled by the positioning of a continuous, molded, rubber ring gasket in an annular recess in the pipe or fitting entering pipe into the socket thereby compressing the gasket radially to the pipe to form a positive seal. The gasket and the annular recess shall be so designed and shaped that the gasket is locked in place against displacement as the joint is assembled. Details of the joint design and assembly shall be in accordance with the

joint manufacturer’s standard practice. The joints shall be designed so as to provide for the thermal expansion or contraction experienced with a total temperature change of at least 75F in each joint per length of pipe. The joint shall comply with ASTM D 3139. Gasket shall comply with ASTM F 477.

- B. Lubricant furnished for lubricating joints shall be nontoxic, shall not support the growth of bacteria, shall have no deteriorating effects on the gasket or pipe material, and shall not impart color, taste, or odor to water. The lubricant containers shall be labeled with the manufacturer’s name.
- C. Gaskets shall meet all applicable requirements of ANSI A21.11. Gasket dimensions shall be in accordance with the manufacturer’s standard design dimensions and tolerances. The gasket shall be of such size and shape as to provide adequate compressive force against the spigot and socket after assembly to effect a positive seal under all combinations of joint and gasket tolerances. The trade name or trademark, size, mold number, gasket manufacturer’s mark and year of manufacture shall be molded in the rubber on the back of the gaskets.
- D. Gaskets shall be vulcanized natural or vulcanized synthetic rubber. No reclaimed rubber shall be used. When two (2) hardnesses of rubber are included in a gasket, the soft and hard portions shall be integrally molded and joined in a strong vulcanized bond. They shall be free of porous areas, foreign material, and visible defects. The required properties of the gasket rubber and the required method of test are given in the following table:

<u>Property</u>	<u>ASTM Test Method</u>	<u>Main Body of Gasket</u>	<u>Harder Portion (if used)</u>
Hardness, Durometer “A”	D676 at 76±	45-70	78-90
Minimum Ultimate Tensile (psi)	D412	2000	1200
Minimum Ultimate Elongation (%)	D412	300	125
Minimum Aging (%)*	D572***	60	60

*Of original length

**Of original values of tensile and ultimate elongation.

***Oxygen pressure method: After 96 hours at 70±1°C at 300+10 psi.

- E. The gasket manufacturer shall set up such quality control procedures as will insure the gasket’s meeting the requirements of this standard. He shall furnish a monthly report of representative quality control test results to the pipe manufacturer.
- F. A sample push-on fitting shall be submitted to the Engineer for examination and approval prior to delivery of any pipe.

2.5 DETECTOR WIRE

- A. No detector wire or tape is required

PART 3 - EXECUTION

3.1 LAYING PIPE

- A. All provisions with respect to trenching, backfilling, bedding, and pipe laying shall conform to the applicable requirements of the sections entitled "Earthwork" and "Ductile Iron Piping and Ductile Iron and Cast Iron Fittings" of these Specifications.
- B. All provisions with respect to connections and existing utilities shall comply with the applicable requirements of the section entitled "Ductile Iron Piping and Ductile Iron and Cast Iron Fittings" of these Specifications.
- C. When a joint consists of a PVC flange and a metal flange, the metal flange shall be flat faced and furnished with a full face resilient gasket.
- D. Valves shall be installed with the flow arrow in the proper direction.
- E. Service line taps into PVC pipe shall be made using tapping saddle constructed for use on PVC pipe. The saddle shall be constructed of bronze or brass, shall have all stainless steel bolts or screws, and have a resilient rubber gasket to provide a positive, watertight seal.
- F. PVC pipe laid underground shall have a minimum of 48 inches of cover in traffic areas and 30 inches of cover in non-traffic areas.

3.2 SEPARATION AND PROTECTION

- A. All existing sewers, water lines, gas lines, underground conduits, telephone lines, sidewalks, curbs, gutters, pavements, electric lines, or other utilities or structures in the vicinity of the work shall be carefully protected by the Contractor from damage at all times. Where it is necessary for the proper accomplishment of the work to repair, remove and/or replace any such utility, the work shall be done under the provisions set forth in the "General Conditions." No separate payment shall be made for removing and replacing and/or repairing damaged existing sewers; water, gas, electric, telephone lines or conduits; or other utilities, culverts, drains, or conduits of similar existing services or structures. Similar repair and replacement of sidewalks, curbs, gutters, and pavements are provided elsewhere in these Specifications.
- B. Sewers and force mains shall be laid to provide at least 6 feet of horizontal separation from any existing or proposed water main or to provide at least 3 feet of horizontal separation from any existing or proposed reclaimed water main. Reclaimed water mains shall be laid to provide at least 3 feet of horizontal separation from any proposed or existing water main or sewer line. If conditions prevent the above separation, the sewer may be constructed closer to a water main or reclaimed water main if it is laid in a separate trench and if the elevation of the invert of the water main is at least 18 inches above the top of the sewer, force main or reclaimed water main.
- C. When sewers cross under water or reclaimed water mains, the top of the sewer shall be at least 18 inches below the bottom of the water or reclaimed water main. If conditions prevent the above separation with joints staggered, one full length of ductile iron water or reclaimed water main shall be centered over the sewer so that both joints will be at least 6 feet from the sewer.

- D. When it is impossible to obtain proper horizontal and vertical separation as stipulated above, both water main and sewer shall be constructed of mechanical-joint cast iron pipe and shall be pressure tested to assure water tightness.
- E. When sewer lines cross under culverts where the sewer and the culvert are less than 18 inches apart, the sewer line shall be encased in concrete or shall be constructed of ductile iron if shown on the drawings.

3.3 THRUST RESTRAINT

- A. All piping, valves, and hydrants shall be securely anchored and restrained against movement at the specified test pressure in accordance with Section entitled "DUCTILE IRON PIPE AND DUCTILE IRON AND CAST IRON FITTINGS" of these specifications.
- B. Bell Restraints for PVC pipe shall be Restraint Device for PVC Pipe Bell Joints, Ford Model 1390 to match existing.

3.4 FIELD TESTING

- A. After all piping has been placed and backfilled between the joints, each run of newly laid pipe, or any valved section thereof, shall be tested by the Contractor in the presence of the Engineer, and tests shall be continued until all leaks have been made tight to the satisfaction of the Engineer.
- B. All piping shall be subject to hydrostatic gauge pressure equal to the rated pressure class of the pipe being tested and the leakage determined. No pipe installation shall be accepted until the leakage is less than 10 U.S. gallons per 24 hours per mile of pipe per inch nominal pipe diameter. All visible leaks are to be repaired regardless of quantity. Where the joints and fittings are exposed, the duration of the test shall be a minimum of 2 consecutive hours or until all joints and fittings are inspected for leakage, whichever is greater. The duration for backfilled or partially backfilled pipelines, where the joints and fittings are not exposed, shall be at least 6 consecutive hours.
- C. The Contractor shall take all precautions necessary to protect any equipment that might be damaged by the pressures used in the tests. Delicate equipment shall be valved off, removed, or otherwise protected.
- D. All piping shall be securely anchored and restrained against movement prior to application of test pressures. Prior to the pressure test, pipe laid in trenches shall be partially backfilled adequately to secure the pipe during the test. All joints, fittings, and valves will be left exposed. All exposed pipe, fittings, valves, and joints shall be carefully examined during the pressure test.
- E. Before applying the specified test pressure, all air shall be expelled from the pipe. If hydrants, blow-offs, or air release valves are not available at the high places, the Contractor shall make the necessary taps at points of highest elevation before the test is made and insert plugs after the test has been completed.

- F. Any excessive leakage revealed during the test shall be corrected at the Contractor's expense. If the defective portion cannot be located, the Contractor, at his expense, shall remove and reconstruct as much of the original work as necessary to obtain a facility meeting the specified leakage limits.
- G. After all tests on any section have been completed to the satisfaction of the Engineer, the Contractor shall carefully clean, blow out, and drain the line of all water to prevent the freezing of the same. The Contractor shall also demonstrate to the satisfaction of the Engineer that any and all lines are free from obstructions and foreign material.
- H. The Contractor shall bear the complete cost of the tests, including set-up, labor, temporary piping, blocking, gauges, bulkheads, water, air, soap solutions, and any other materials required to conduct the tests.

3.5 DISINFECTION

- A. After installation and testing, all potable water piping shall be disinfected in accordance with the requirements of AWWA C651.

3.6 CHLORINATION OF COMPLETED WATER LINE

- A. Before placing into service all new water distribution systems, or extensions to existing systems, or any valved section of such extension or any replacement in the existing water distribution system shall be chlorinated.
- B. Any of the following methods of procedure shall be followed, subject to the approval of the Engineer.
 - 1. Liquid Chlorine gas-water mixture
 - 2. Direct Chlorine feed
 - 3. Calcium Hypochlorite and water mixture
- C. Preliminary Flushing: Prior to chlorination, all dirt and foreign matter shall be removed by a thorough flushing through the hydrants, or by other approved means. Each valved section of newly laid pipe shall be flushed independently. This shall be done after the pressure test is completed. All water mains shall be flushed at a velocity greater than or equal to 3.0 feet per second.
- D. Liquid Chlorine: A chlorine gas-water mixture shall be applied by means of a solution- fed chlorinating device, or if approved by the Engineer, the gas shall be fed directly from a chlorine cylinder equipped with a proper device for regulating the rate of flow and effective diffusion of gas within the pipe. (Chlorination with the gas-water mixture is preferred to direct feed).
- E. Point of Application: The preferable point of application of the chlorination agent shall be at the beginning of the pipe line extension, or any valved section of it, and through a corporation stop inserted in the horizontal axis of the newly laid pipe. The water injector for delivering the gas-water mixture into the pipe shall be supplied from a tap on the pressure side of the gate valve controlling the flow into the pipe line extension. In a new system, application may be at the pumping station, or the elevated tank, or the standpipe, or reservoir if available. If a supply of water is not available, the Contractor shall haul the water by tank or other approved means. All

water used for testing of chlorinating shall be approved by the Engineer. No additional payment will be made to the Contractor for hauling water.

- F. Rate of Application: Water from the existing distribution system or other source of supply shall be controlled to flow very slowly into the newly laid pipe line during the application of chlorine. The rate of chlorine gas-water mixture flow shall be in such proportions to the rate of water entering the pipe that the chlorine dose applied to the water entering the newly laid pipe shall exceed 50 PPM.
- G. Back Pressure Prevented: Back pressure, causing a reversal of flow in the pipe being treated, shall be prevented.
- H. Retention Period: Treated water shall be retained in the pipe long enough to destroy all non-spore-forming bacterial. This period shall be at least 24 hours and preferably longer as may be directed. After the chlorine treated water has been retained for the required time, the chlorine residual at pipe extremities and at other representative points shall be at least 25 PPM.
- I. Chlorination Valves and Hydrants: In the process of chlorinating newly laid water pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.
- J. Final Flushing and Test: Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe line at its extremities until the replacement water throughout its length shall, upon test, both chemically and bacteriologically, be proved to have zero coliform growth and approved by the Public Health Authority having jurisdiction. Certified test reports of chemical and bacteriological analysis shall be provided to the Engineer and proper authorities of the Owner.
- K. Repetition of Procedure: Should the initial treatment, in the opinion of the Engineer, prove ineffective, the chlorination procedure shall be repeated until confirmed test show that water sampled from the newly laid pipe conforms to the requirements of CHLORINATION OF COMPLETED PIPE LINE, (I).
- L. Alternate Chlorination:
 - 1. Calcium Hypochlorite: On approval of the Engineer, a mixture of calcium hypochlorite ("HTH", "Perchloron", and "Mexochlor") of known chlorine content and water may be substituted as an alternative for liquid chlorine.
 - 2. Proportions of Calcium Hypochlorite and Water Mixtures: A 5% of powder to 95% of water by weight.
 - 3. Application: This calcium hypochlorite and water mixture, first made into a paste and then thinned to a slurry, shall be injected or pumped into the newly laid pipe under conditions heretofore specified for liquid chlorine application, after preliminary flushing.
 - 4. Approval: Provisions for final flushing, testing, and approval under this alternative shall be the same as those described above.
- M. Procedure When Cutting into Existing Pipe Lines: Unless the Engineer shall direct otherwise, cuts made in existing pipe lines for the insertion of valves, fittings, repairs, or for any other purpose shall be chlorinated by shaking a quantity of the powder, predetermined by the Engineer, into the pipe on each side of the cut-in. After slowly filling the section and reversing the flow, the chlorinated water shall be retained for several hours, then flushed until no odor of

chlorine can be detected in the waste water, or preferable until a check shall have been made for residual chlorine as provided for herein.

- N. Resumption of Service: After satisfactory chlorination by any of these alternative procedures, the consumers may be served from the newly laid pipe line or the services may be resumed on existing pipe lines upon obtaining approval from State Health Department.

3.7 DECHLORINATION

- A. Prior to discharging chlorinated water from the disinfected water line, all water shall be dechlorinated so that the total chlorine residual is less than 0.1 mg/l.

END OF SECTION 33 05 50

SECTION 33 05 51 - DUCTILE IRON PIPING & DUCTILE IRON & CAST IRON FITTINGS

PART 1 - GENERAL

1.1 SCOPE

- A. The work covered by this section includes furnishing all labor, equipment, and materials required to furnish, install, and test ductile iron piping, including all fittings, wall pipe and sleeves, couplings, toppings, anchor blocks, and accessories, as specified herein and/or shown on the Drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 33 05 50 - Polyvinyl Chloride Pressure Pipe

1.3 QUALITY ASSURANCE

- A. The Contractor shall submit to the Engineer written evidence that the pipe furnished under this specification is in conformance with the material and mechanical requirements specified herein. Certified copies of independent laboratory test results or mill test results from the pipe supplier may be considered evidence of compliance provided such tests are performed in accordance with the appropriate ASTM or AWWA testing standards by experienced, competent personnel. In case of doubt as to the accuracy or adequacy of mill tests, the Engineer may require that the Contractor furnish test reports from an independent testing laboratory on samples of pipe materials.
- B. Each ductile iron pipe length and fitting and cast iron fitting shall be clearly marked with the pressure rating, metal thickness class, heat mark, net weight (excluding lining or coating) and name of manufacturer. In addition, each item of piping shall be marked with an identifying mark corresponding to the appropriate mark on the shop drawings for that particular item of piping.

1.4 SHOP DRAWINGS AND ENGINEERING DATA

- A. Complete shop drawings and engineering data on all piping and accessories shall be submitted to the Engineer in accordance with the requirements of the section entitled "Submittals" of these Specifications.

1.5 STORAGE AND PROTECTION

- A. All pipe and fitting shall be stored under cover.

- B. All pipe and accessories shall be stored aboveground and fully supported so as not to bend or deflect excessively under its own weight. Height of stacked pipe shall not exceed 4 feet. Bundled pipe shall not be stacked more than two (2) bundles high.
- C. Kinked, flattened, buckled, broken, or otherwise defective pipe and fittings shall not be used and shall be removed from the site.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All pipe shall be manufactured in the United States. All pipe and fittings shall be either new or refurbished by the original manufacturer who shall certify them equivalent to new.
- B. No broken, cracked, deformed, misshapened, imperfectly coated, or otherwise damaged or defective pipe or fittings shall be used. All such material shall be removed from the site of the work.
- C. Unless otherwise shown on the Drawings or directed by the Engineer, the minimum pipe wall thickness and thickness class of pipe shall be as follows:

Pipe Size (in.)	Metal Wall	
	Pressure Class	Thickness (in.)
4	350	0.25
6	350	0.25
8	350	0.25
10	350	0.26
12	350	0.28
16	250	0.30
18	250	0.31
20	250	0.33
24	200	0.33
30	150	0.34

2.2 DUCTILE IRON PIPE

- A. Ductile iron pipe shall be designed in accordance with ANSI A21.50, Thickness Design of Ductile Iron Pipe, using 60,000 psi tensile strength, 42,000 psi yield strength, and 10 percent elongation.
- B. Ductile iron pipe shall be manufactured in accordance with ANSI A21.51, Ductile Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids, and shall be made of ductile iron having a minimum tensile strength of 60,000 psi, a minimum yield strength of 42,000 psi and 10 percent minimum elongation.

2.3 CAST IRON AND DUCTILE IRON FITTINGS

- A. All fittings 2 inch through 48 inch shall conform in every respect to ANSI A21.10 or A21.53 or AWWA C153 or C110.
- B. Unless otherwise shown on the Drawings, directed or specified, all fittings shall be for pressure rating of 250 psi.
- C. In general, fittings shall be any ANSI pattern. Long radius elbows shall be used where shown on the drawings. Special fittings and cast iron and ductile iron wall pipes and sleeves shall conform to the dimensions and details shown on the Drawings.

2.4 JOINTS FOR DUCTILE IRON PIPE AND FITTINGS AND CAST IRON FITTINGS

- A. General
 - 1. Joints for ductile iron pipe and fittings and cast iron fittings shall be mechanical joints, flanged joints, or push-on joints, as shown on the Drawings or specified herein.
 - 2. Unless otherwise shown on the Drawings, specified or directed, all ductile iron pipe laid underground shall be joined using mechanical joints or push-on type joints.
- B. Mechanical Joints
 - 1. Mechanical joints shall consist of a bolt joint of the stuffing box type as detailed in ANSI A21.10 and described in ANSI A21.11.
 - 2. Mechanical joints shall be thoroughly bolted in accordance with the manufacturer's recommendations with Tee Head Bolts and bolts of high strength, heat treated cast iron containing 0.50 copper or high strength low-alloy steel having a minimum yield point strength of 40,000 pounds per square inch and an ultimate tensile strength of 70,000 pounds per square inch.
 - 3. Gaskets and bolts and nuts shall conform to ANSI A21.11. Gaskets shall be of neoprene or rubber of such quality that they will not be damaged by the liquid or gases with which they will come into contact.
 - 4. Glands shall be of high strength cast iron.
- C. Flanged Joints
 - 1. Flanged joints shall conform to ANSI B 16.1, Class 125, and in accordance with Table 10.23 of ANSI A21.10.
 - 2. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolts and nuts shall conform in dimensions to the American Standard heavy series. Nuts shall be hexagonal, cold pressed. Bolts and nuts shall be cadmium plated, cold pressed, steel machine bolts, conforming to ASTM A 307, Grade B. Cadmium plating shall be by an approved process and shall be between 0.003- to 0.0005-inch thick. After each joint has been made, all bolts, heads, and nuts shall be coated with two coats of heavy asphaltum or other approved coating.
 - 3. Gaskets of "Cranite," red rubber, asbestos composition, or other approved quality shall be used in all flanged joints. Gaskets shall conform to the requirements of ANSI B16.21.
 - 4. Flanged ductile iron pipe approximately 12 inches or less in length shall have flanges cast solidly to the pipe barrel. Flanges on ductile iron pipe longer than 12 inches may be of the screw type. Pipe threads shall be of such length that the flanges screwed home, the end of the pipe shall project beyond the face line of the flange. Flange and pipe shall then be machined to give a flush finish to the pipe and the flange and surface shall be

normal to the axis of the pipe. Ductile iron flanges shall be of such design that the flange neck completely covers the threaded portion of the pipe to protect same against corrosion. Flange faces on cast iron fittings shall be coated with white lead immediately after they have been faced and drilled. All pipe with screw type flanges shall be assembled, faced, and drilled at the point of manufacture, unless otherwise approved by the Engineer.

5. Where tap or stud bolts are required, flanges shall be drilled and tapped accordingly.

D. Push-On Joints

1. Push-on joints shall conform to ANSI 21.10 and ANSI 21.11 or AWWA C110 and AWWA C111. Push-On fittings shall conform to ANSI 21.10 or ANSI 21.53 or AWWA C110 or AWWA C153. Details of the joint design shall be in accordance with the manufacturer's standard practice such as "Fastite," "Bell-Tite," or "Tyton" joints.
2. Gaskets shall be in accordance with ANSI A21.11 and shall be of such quality that they will not be damaged by the liquid or gases with which they will come into contact.

2.5 COATING AND LINING

A. Lining for Wastewater: Interior of pipe and fittings to be lined with factory applied ceramic epoxy (Ceramapure PL 90, Perma-Shield PL Series 431, Permax-CTF, or approved equal), 40 mils thickness.

1. All internal surfaces of ductile iron pipe and fittings shall be delivered to the application facility without asphalt or any other protective lining on the interior surface. All oils, small deposits of asphalt paint, grease, and soluble deposits shall be removed in accordance with NAPF 500-03-01 Solvent Cleaning prior to abrasive blasting.
2. Pipe: Uniformly rotary-abrasive blast using angular abrasive to a NAPF 500-03-04: Internal Pipe Surface condition, full removal of annealing oxide layer. When viewed through magnification, the interior surfaces shall be free of all visible dirt, dust, annealing oxide, rust, mold coating, and other foreign matter. Any area where rust appears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 3.0 mils (reference NACE RP0287 or ASTM D 4417, Method C).
3. Fittings: Uniformly abrasive blast using angular abrasive to a NAPF 500-03-05: Fitting Blast Clean #1 condition, no staining. When viewed without magnification, the interior surfaces shall be free of all visible dirt, dust, annealing oxide, rust, mold coating, and other foreign matter. Any area where rust appears before application shall be reblasted. The surface shall contain a minimum angular anchor profile of 3.0 mils (reference RP0287 or ASTM D 4417, Method C).
4. All surfaces must be clean, dry, and free of oil, grease, and other contaminants.
5. Contractor shall have available on-site enough field touch-up and coating repair kits to coat pipes that are cut or otherwise damaged. Coating using field repair kits shall be installed per manufacturer's written instructions.
6. The interior lining of all pipe and fittings shall be tested for pinholes with a non-destructive, 2500 volt test. Any defects shall be repaired prior to shipment.

B. Lining for Water: Interior of pipe and fittings to receive a cement mortar lining of standard thickness in accordance with ANSI A21.4.

C. Coating: Coat exterior of pipe and fittings to be buried with an asphaltic material approximately 1 mil thick in accordance with AWWA C151/ANSI A21.51, AWWA C110/ANSIA 21.10, and AWWA C153/ANSI A 21.53. Coat exterior of all exposed ductile iron pipe and fittings with a primer as specified in paragraph 3.6.

- D. Color Identification: Pipe shall have four (4) each, 2-inch wide stripes painted at 90-degree angles around the pipe exterior. Color of stripes shall be blue for water and green for sewer.

2.6 PIPE COUPLINGS

- A. Pipe couplings shall be installed where shown on the Drawings, required for installation, or directed by the Engineer.

2.7 WALL PIPE AND WALL SLEEVES

- A. Contractor shall furnish and install cast iron wall pipe or wall sleeves where ductile iron piping connects with or passes through concrete walls or floors and in locations where small piping and electric wiring and conduits connect with or pass through concrete walls or floors.
- B. Where wall pipes or sleeves are to be installed flush with the wall or slab, the flange or bell shall be tapped for studs. Where the flange or bell will project beyond the wall, the projection shall be sufficient to allow for installation of connecting bolts.

PART 3 - EXECUTION

3.1 LAYING

- A. Proper and suitable tools and appliances for safe and convenient handling and laying of pipe and fittings shall be used. Great care shall be taken to prevent the pipe coating from being damaged, particularly cement linings on the inside of the pipes and fittings. Any damage shall be remedied as directed by the Engineer.
- B. All pipe and fittings shall be carefully examined by the Contractor for defects just before laying and no pipe or fitting shall be laid which is defective. If any defective pipe or fitting is discovered after having been laid, it shall be removed and replaced in a satisfactory manner with a sound pipe or fitting by the Contractor at his own expense.
- C. All pipes and fittings shall be thoroughly cleaned before they are laid and shall be kept clean until they are used in the completed work. Open ends of pipe shall be kept plugged with a bulkhead during construction.
- D. Pipe laid in trenches shall be laid true to line and grade on a firm and even bearing for its full length at depths and grades as shown on the Drawings. Adequate precautions shall be taken to prevent floatation of pipelines prior to backfilling. Installation of ductile iron pipe in underground pressure piping systems shall conform to the requirements of AWWA C600. Excavation of trenches and backfilling around pipes shall conform to the requirements of the section entitled "Earthwork" of these Specifications.
- E. All bends, tees, branches, crosses, plugs, caps, fire hydrants, and reducers in pressure piping systems shall be adequately restrained against thrust. Underground pressure piping containing unharnessed push-on or mechanical joints or expansion joints shall be restrained by thrust blocks. Thrust blocks shall consist of concrete having a minimum 28-day compressive strength

of 2,500 psi and shall be of the size and shape as shown on the Drawings. The Contractor may use forms or earth walls to mold the thrust blocks. When earth walls are used, they shall be cut true to shape and all excess earth removed. The work shall be conducted so that no loose earth will become mixed with the concrete. At the end of 24 hours, damp earth may be placed over the concrete to retain moisture.

- F. Wall pipe and wall sleeves shall be accurately located and securely fastened in place before concrete is poured. All wall pipe and wall sleeves shall have wall collars properly located to be in the center of the wall where the respective pipes are to be installed.
- G. Wall pipe and wall sleeves shall be installed when the wall or slab is constructed. Blocking out or breaking of the wall for later insertion shall not be permitted.
- H. Cutting or weakening of structural members to facilitate pipe installation shall not be permitted. All piping shall be installed in place without springing or forcing.
- I. Sufficient couplings and flanged joints shall be provided to facilitate equipment installation and removal.
- J. Exposed ductile iron piping shall be supported as shown on the Drawings and specified in the section entitled "Pipe Supports and Hanger" of these Specifications.

3.2 CUTTING

- A. Whenever pipe requires cutting to fit the lines, the work shall be done in such manner as to leave a smooth end at right angles to the axis of the pipe. When a piece of pipe is cut to fit into the line, no payment will be made for the portion cut off and not used.
- B. Whenever existing pipe requires cutting to install new fittings, the work shall be done in such manner as to leave a smooth end at right angles to the axis of the pipe and special care shall be exercised to guard against breaking or splitting the existing piping.
- C. All cutting of ductile iron pipe shall be done with a cutting saw. All burrs shall be removed from the inside and outside edges of all cut pipe.

3.3 JOINING

- A. Mechanical Joints
 1. The successful operation of the mechanical joint specified requires that the spigot be centrally located in the bell and that adequate anchorage shall be provided where abrupt changes in direction and dead ends occur.
 2. The surfaces with which the rubber gasket comes in contact shall be brushed thoroughly with a wire brush just prior to assembly to remove all loose rust or foreign material which may be present and to provide clean surfaces which shall be brushed with a liberal amount of soapy water or other approved lubricant just prior to slipping the gasket over the spigot end and into the bell. Lubricant shall be brushed over the gasket prior to installation to remove loose dirt and lubricate the gasket as it is forced into its retaining space.

3. Joint bolts shall be tightened by the use of approved wrenches and to a tension recommended by the pipe manufacturer. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side and last, the remaining bolts. This cycle shall be repeated until all bolts are within the range of acceptable torques. If effective sealing is not attained at the maximum torque indicated above, the joint shall be disassembled and reassembled after thorough cleaning. Overstressing of bolts to compensate for poor installation shall not be permitted.
4. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

B. Flanged Joints

1. All flanges shall be true and perpendicular to the axis of the pipe. Flanges shall be cleaned of all burrs, deformations, or other imperfections before joining. Flanged joints shall be installed so as to ensure uniform gasket compression. All bolting shall be pulled up to the specified torque by crossover sequence. Where screwed flanges are used, the finished pipe edge shall not extend beyond the face of the flange, and the flange neck shall completely cover the threaded portion of the pipe.
2. Connections to equipment shall be made in such a way that no strain is placed on the equipment flanges. Connecting flanges must be in proper position and alignment and no external force may be used to bring them together properly.
3. After installation, bolts and nuts in buried or submerged piping shall be given two (2) heavy coats of a bituminous paint.

C. Push-On Joints

1. The inside of the bell and the outside of the pipe from the plain end to the guide stripe must be wiped clean immediately before assembling the pipe joint. Then the rubber gasket shall be inserted into a groove or shaped recess in the bell. Both the bell and spigot ends to be jointed shall be wiped again to ensure they are thoroughly clean. A liberal coating of special lubricant furnished by the pipe manufacturer shall be applied to the outside of the pipe from the plain end to the yellow guide stripe and to the inside of the gasket. The plain end shall be centered in the bell and the spigot pushed home. Wherever possible the pipe shall be socketed by hand; however, jacking may be required to push the spigot in place on the larger sizes of pipe. The completed joint shall be permanently sealed and watertight.
2. Whenever the pipe is cut in the field, the cut end shall be conditioned so it can be used in making up a joint by filing or grinding the cut end to remove burrs or sharp edges that might damage the gasket.

D. Permissible Deflection of Joints

1. Deflection of ductile iron pipe at joints for long radius curves or for avoiding obstacles shall be permitted only upon approval of the Engineer.
2. Where deflection of joints is permitted, such deflection shall be made in accordance with and shall not exceed limits provided in Section 9b.5 and Section 9c.4 as applicable, of the AWWA C600.

E. Joints of Dissimilar Metals

1. When a flanged joint consists of a ductile iron flange mated to a steel or alloy flange, the steel flanges shall be flat faced and furnished with full-faced gaskets, insulating bushings, and stainless steel bolts.

3.4 THRUST RESTRAINT

- A. General: Plugs, caps, tees bends deflecting $1\frac{1}{4}\%$ or more, and fire hydrants shall be provided with thrust blocking and/or retainer glands or metal tie rods as directed. Valves shall be security anchored or provided with thrust blocking to prevent movement.
- B. Concrete Thrust Blocks: Concrete having a minimum 28 day strength of 2,500 psi shall be placed between the fitting and undisturbed ground. The thrust and bearing sides of the blocks shall be poured directly against the fitting and undisturbed earth. The sides of the blocking not subject to thrust may be poured against form. Blocking shall be placed so that the fitting will be accessible for repair. The minimum area of bearing shall be as shown however actual area of bearing shall be increased to provide sufficient bearing area when low strength soils are encountered.
- C. Retainer Gland: Retainer glands shall be used on ductile iron pipe only and be designed and manufactured in accordance with DIPRA-01. The gland shall be rated for 350 psig by Underwriters Laboratories. Restraining shall be accomplished by wedge acting lugs tightened by bolts with break-away heads to provide uniform pressure.
- D. Metal Tie Rods: Tie rod joints shall consist of threaded tie rods connected to joints with eye bolts or lugs or lugged fittings. All rods, eyebolts, couplings and nuts shall be $\frac{3}{4}$ -inch high strength ASTM A242-81 (CorTen) corrosion resistant steel. The minimum number of rods used on 4 inch and 6 inch joints shall be two (2), three (3) rods for 8 inch pipe, four (4) for 10 inch pipe and six (6) rods for 12 inch pipes.
- E. Megalug Joint Restraint: Mechanical joint restraint shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Gland body, wedges, and wedge actuating components shall be manufactured of ductile iron conforming to ASTM A536-84. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices.
 1. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum of safety factor of 2:1 and shall be EBAA Iron, Inc. MEGALUG 2000PV for PVC and 1100 for DIP, or equal.
 2. Bell Restrains for ductile iron pipe shall be Split Joint Restraint with Split Back Up Ring for Ductile Iron Pipe, Ford Model 1490 to match existing.

3.5 FIELD TESTING

- A. After all piping has been placed and backfilled between the joints, each run of newly laid pipe, or any valved section thereof, shall be tested by the Contractor in the presence of the Engineer,

and tests shall be continued until all leaks have been made tight to the satisfaction of the Engineer.

- B. Inspection and testing of ductile iron pipe and all fittings used for pressure applications shall be carried out in accordance with procedures established in Section 33 05 50 of these specifications.
- C. Inspection and testing of ductile iron pipe and all fittings used for gravity sewer shall be carried out in accordance with procedures established in Section 33 31 13.01 or 33 31 13.03 of these Specifications.

3.6 FIELD PAINTING

- A. After installation and testing, all exposed piping shall be field primed and painted in accordance with the requirements of the section entitled "General Materials Stipulations" of these Specifications.

END OF SECTION 33 05 51

SECTION 33 12 13 - WATER SERVICE CONNECTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work covered by this specification shall consist of furnishing and installing service connections in the water mains and connecting to existing service lines.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All products shall meet the requirements of the Reduction of Lead in Drinking Water Act.

2.2 SERVICE TUBING

- A. Polyethylene Service Tubing: Polyethylene service tubing shall be manufactured from high density materials meeting ASTM D-1248 with a minimum density value of 0.957 as determined by ASTM D-1505. Tubing SDR shall be 9 for CTS tubing size based on ASTM D-2737. Tubing shall also meet AWWA-C901 for polyethylene tubing and fittings. Pipe shall meet brittleness temperature of < -180F in accordance with ASTM D-746 and long term strength of 800 psi at 140F in accordance with ASTM D 2837.
- B. The pipe shall be permanently imprinted with manufacturer's brand name, pipe size, commercial standard notation, identification of the National Sanitation Foundation approval, recommended working pressure and production code.
- C. Pipe dimensions and tolerance shall correspond with copper tubing sizes.
- D. All tubing used on potable water mains shall be solid blue in color.

2.3 SERVICE VALVES AND ACCESSORIES

- A. All corporation stops, curb stops, backflow preventers and tapping saddles shall be constructed of AWWA Brass (ASTM B62 (85-5-5-5)).
- B. Corporation Stops: Corporation stops shall be of AWWA brass construction designed for insertion in cast iron, ductile iron, steel, or PVC water mains under pressure. Threads shall conform with AWWA C-800 Specification in the size indicated in the plans or 3/4-inch if not so indicated. Corporation stops shall be ball type and rated for 200 psi working pressure. Corporation stops shall be Ford F1000 Series to match existing.
 - 1. The outlet end shall be a conductive compression joint for copper or non-metallic service tubing. (Provide rigid metal liner for non-metallic tubing.)

- C. Curb Stops:
 - 1. Ball Type: Ball type curb stops shall be AWWA Brass constructed designed for 300 psig maximum working pressure and conforming with ANSI/AWWA C 800. The ball shall be Teflon coated brass or TTFE coated with nitrile (BUNA N) rubber seals providing leak tight sealing in either direction. The stem shall be a blow out proof design and provide precision alignment in both open and closed position. Stems shall have double "O" ring seals. The stem connection shall be fabricated so that over torquing the stem will not damage the remainder of the valve assembly. The stem shall be lockable. The ball type curb stop shall be a Ford B41-777-WG-NL (Compression x IP) to match existing.
- D. Service Saddles: Service saddles shall be specifically sized for the O.D. of the pipe on which it is installed and be rated at a minimum of 250 psig. The body shall be equipped with a Buna-N rubber "O" ring gasket to produce a water tight seal against the main. The saddle body shall be constructed of AWWA Brass ASTM B62 with stainless steel or silicon bronze accessories. Service saddles for PVC pipe shall be double strap or double wide strap design. Saddles shall be Ford Model FC202 to match existing.
- E. Meter Boxes: The water meter boxes shall be concrete with cast iron lid cover, or cast iron body with cast iron lid, or plastic body with plastic lid. The lid of the meter box shall be marked "Water Meter". The meter box shall be of standard size sufficient to house the meter and allow operation of the curb stop. An oversized or additional meter box shall be installed to house accessories including gate valves, pressure reducing valves, and backflow preventers. Unions or insulated unions shall be installed as necessary for removal of accessories and or to prevent electrolysis of dissimilar materials. Meter boxes shall be the water suppliers general standard if applicable.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Existing service lines shall be kept in service during construction of new water main. After new line has been installed, tested, and accepted, all service lines shall be connected to the new water main.
- B. Laying of service connection lines shall be in accordance with specifications covering pipe laying as detailed in Section 33 05 50 or 33 05 51 of these specifications.

3.2 INTERRUPTION OF WATER SERVICE

- A. No valve or other control on the existing system shall be operated for any purposes by the Contractor without approval of the Engineer, and all consumers affected by such operation shall be notified by the Contractor 24 hours before the operation and advised of the probable time when the service will be restored. In all cases all interrupted services will be restored before the end of the working day.

3.3 HOUSE SERVICES

- A. After the distribution mains have been laid, tested, and chlorinated as specified, all house services shall be installed. All corporation stops and service lines that are not connected to other pipes and meters shall have the ends plugged in an approved manner to prevent water and dirt from entering the fitting or pipe.
- B. The Contractor shall jet the service lines under all paved areas where possible.
- C. Services shall include corporation and curb stop(s) for each service installed, including tapping to the main and necessary saddles therefore.
- D. Service backflow preventers, meters, pressure reducing valves, and meter boxes shall be furnished and installed when and as indicated in the plans and specifications.

END OF SECTION 33 12 13

SECTION 33 12 19 - FIRE HYDRANTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section contains general information required to furnish and install fire and flushing hydrants and related components.

1.2 SUBMITTALS

- A. Submit product data sheets showing materials, operating characteristics, construction, and dimensions on all proposed hydrants and associated components in accordance with Section 01 33 00.

PART 2 - PRODUCTS

2.1 FIRE HYDRANTS

- A. All hydrants shall be dry barrel type manufactured in accordance with the current edition of AWWA Standard C-502 and be traffic design with minimum pressure ratings of 175 psig working and 350 psig hydrostatic. The hydrant main valve shall be compression type that closes with the line water pressure. Unless specifically directed, all hydrants shall be 3-way, 5 1/4 inch valve with two (2) 2 1/2 inch hose nozzles and one 4 1/2 inch pumper nozzle. Hose threads shall be National Standard Threads. Hydrant shoes shall be 6 inch mechanical joint with or without restrainer ears as indicated. All hydrants shall receive one primary coat and two finishing coats of paint meeting Fed. Spec. TT-P-362 Type II Class A of the color directed.
- B. Fire hydrants shall be county standard as applicable and meet engineer's approval.
- C. Fire hydrant barrels and shoe shall be constructed of cast iron or ductile iron with a minimum inside barrel diameter of 6 inches. The shoe, lower barrel and upper barrel shall be assembled by bolted flanged connections. All working parts shall be bronze including operating nut, valve seat, and set retainer.
- D. The seat retainer shall be securely held in place by flanges. A minimum of two (2) or more drains shall be utilized to drain to barrel. Hydrants shall be equipped with automatic self-lubricating system and reservoir that will lubricate the stem threads and bearing surfaces each time the hydrant is operated. The thread bearing surfaces and sleeve shall be enclosed in protective chambers sealed with O-rings or other suitable sealing system. Lubricant refill shall be accomplished without disassembly of the hydrant.
- E. Fire hydrants shall be Mueller Super Centurion, American B-84B or equal meeting these specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. All hydrants shall be installed with adequate crushed stone for drainage. All hydrants shall be restrained with adequately sized thrust blocks. Unless otherwise directed, all hydrants shall be additionally restrained by two non-corrosive metal tie rods extending to the main line tee.
- B. Hydrants shall be located and oriented as shown on the plans.
- C. The Contractor shall perform all work as required by the manufacturer's installation instructions unless otherwise directed by the Engineer.
- D. All hydrants shall be installed in such a manner that will provide a neat and workmanlike job.

3.2 SETTING HYDRANTS

- A. General Locations: Hydrants shall be located in a manner to provide complete accessibility, and such manner that the possibility damage from vehicles or injury to pedestrians will be minimized.
- B. Position of Nozzles: All hydrants shall stand plumb, and shall conform to the established grade, with nozzles at least 12 inches above the ground and parallel to or at right angles to the curb with the pumper nozzle facing the curb except that hydrants have two (2) hose nozzles 90° apart shall be set with each nozzle facing the curb at the angle of 45°.
- C. Connection to Main: Each hydrant shall be connected to main pipe with a 6-inch ductile iron branch.
- D. Drainage at Hydrant: A drainage pit 2 feet in diameter and 2 feet deep shall be excavated below each hydrant and filled compactly with coarse gravel or broken stone mixed with coarse sand, under and around the bowl of the hydrant and to a level 6 inches above the waste opening. No hydrant drainage pit shall be connected to a sewer.
- E. Anchorage for Hydrant: The bowl of each hydrant shall be well braced against undisturbed soil at the end of the trench with concrete blocking and it shall be tied to the water main with metal tie rods. In no case shall the waste opening be obstructed from free drainage.
- F. Cleaning: Hydrants shall be thoroughly cleaned of dirt or foreign matter before setting.

END OF SECTION 33 12 19

SECTION 40 05 51 - VALVES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section contains general information required to furnish and install valves and related components.
- B. Related Work Specified Elsewhere:
 - 1. Section 33 05 51 - Ductile Iron Piping & Ductile Iron & Cast Iron Fittings

1.2 SUBMITTALS

- A. Submit product data sheets showing materials, operating characteristics, construction, and dimensions on all proposed valves and associated components in accordance with Section 01 33 00.

1.3 QUALITY ASSURANCE

- A. The supplier of all valves and accessories furnished under this section shall be responsible for all coordination between valves and actuators and other accessories to provide properly operating valves.

PART 2 - PRODUCTS

2.1 GATE VALVES

- A. Resilient Seat: Resilient seat gate valves shall be single solid wedge disc type with the disc fully encapsulated with a resilient rubber seat. The stem nut shall be integrally cast and the stem shall ride on an antifriction washer. The inside of the valve shall be fusion bonded epoxy coated complying with AWWA C550 and applied prior to assembly. The valve shall be certified to provide zero leakage at 200 psi. Valve shall meet AWWA Specification C-509 or C-515.
 - 1. Unless otherwise specified or shown on the drawings, valves shall have mechanical joint bell connections.
 - 2. Valves shall be Muller or AFC 2500 series to match existing.
- B. Tapping Valves and Tees: Tapping valves shall meet the requirements of AWWA C-509 or C-515 gate valves indicated above and be designed for making taps to existing mains under pressure. Valves, tees, and boring equipment used shall be mutually compatible. Tapping tees unless otherwise indicated shall be constructed of cast or ductile iron with non-corrosive accessories.
 - 1. All stainless steel fabricated tees may be used when indicated or directed by the engineer. All nuts and bolts shall be noncorrosive and be compatible with fitting materials.
 - 2. Valves shall be Muller or AFC 2500 series to match existing.

2.2 VALVE BOXES

- A. Cast iron valve boxes shall be provided on all buried valves and shall consist of a base covering the operating nut and valve head, an adjustable vertical shaft at least 5-1/4 inches in diameter and a top section extending to a point even with the finished ground surface, provided with a cast iron cover placed concentrically over the operating nut.

2.3 PLUG VALVES

- A. Valves shall be 100% port, non-lubricated, eccentric type with resilient faced plugs, and ends as shown on the drawings or specified. Bodies shall be ASTM A126 Class B cast iron with raised seats. Seats shall have a welded-in overlay of not less than 90% pure nickel on all surfaces containing the plug face. Resilient plug facings shall be of neoprene. Valves through 20" shall have stainless steel permanently lubricated upper and lower plug stem bushings. Valves 24" and larger shall have permanently lubricated stainless steel upper and lower plug stem sleeves and bronze bushings. Stem bushings with "O" rings are not acceptable on any size. Packing on all valves shall be adjustable. Packing on lever operated valves shall be the low-friction type. All exposed nuts, bolts, springs, and washers shall be zinc plated. Valves shall be designed for 150 lbs. working pressure and shall be Val-matic, Pratt, Milliken, DeZurik or approved equal.
- B. All manually operated valves, 6-inch and smaller shall be equipped with lever actuators unless shown otherwise. All manually operated valves 8 inch and larger shall be equipped with gear actuators and hand-wheels. All gearing shall be enclosed suitable for running in oil with seals provided on all shafts to prevent entry of dirt and water into the actuator. Construction of actuator housings shall be semi-steel. All exposed nuts, bolts, and washers shall be zinc-plated.

2.4 SEWAGE AIR/VACUUM VALVES

- A. Sewage air and vacuum valves shall be stainless steel automatic air release and vacuum valves with short body rated for 0 to 150 PSI and shall be automatic and infinitely variable valve rated for wastewater applications. Valve body shall be 316 stainless steel and valve seat shall have an air cushion and not come in contact with wastewater. Valves shall be H-TEC Model 989 Stainless Steel to match existing.

2.5 TAPPING SADDLES FOR AIR RELEASE VALVES

- A. Saddles shall be specifically sized for the O.D. of the pipe on which it is to be installed and shall be rated at a minimum of 250 psig. The body shall be equipped with a Buna-N rubber "O" ring gasket to produce a watertight seal. The saddle body shall be constructed of AWWA brass ASTM B62 with stainless steel accessories and straps. Saddles for PVC pipe shall be double-strap or double wide-strap design. Tapping Saddle shall be Ford Model FC202 to match existing.

2.6 CORPORATION STOP FOR AIR RELEASE VALVES

- A. Corporation stops shall be solid one piece tee-head and stem, Dual EPDM O-rings in the stem, Molded EPDM rubber seat with reinforcing ring, EPDM O-ring, fluorocarbon-coated brass ball

with a working pressure of 300 PSI. Corporation stops shall be Ford Ballcorp Model FB1700-7-NL to match existing.

2.7 BALL VALVES FOR AIR RELEASE VALVES (2")

- A. Ball valves for ARV assembly shall have all stainless steel body and tailpiece, with stainless steel stem, ball, handle nut, handle, lock washer and packing nut. Seat shall be Glass Filled PTFE with PTFE thrust washer, packing nut and body seal. Valves shall be similar to Hannond Valve Series 8400.

PART 3 - EXECUTION

3.1 INSTALLATION OF VALVES

- A. Valves shall be located and oriented as shown on the plans.
- B. The Contractor shall perform all work as required by the manufacturer's installation instructions unless otherwise directed by the Engineer.
- C. All shafts, columns, and equipment shall be installed in such a manner that will provide a neat and workmanlike job.
- D. All valves shall be properly supported.
- E. All valves shall be thoroughly cleaned prior to installation.

3.2 SETTING VALVES, VALVE BOXES, FITTINGS, AND BLOW OFFS

- A. Examination of Material: Prior to installation, valves shall be inspected for direction of opening, freedom of operation, tightness of pressure-containing bolting, cleanliness of valve ports and surfaces, handling damage and cracks.
- B. General: Gate valves shall be set and jointed to new pipe in the manner specified for cleaning, laying, and jointing pipe.
- C. Valve Boxes: Cast iron valve boxes shall be firmly supported and maintained centered and plumb over the wrench nut of the gate valve, with box cover flush with the surface of the finished pavement or at such other level as may be directed. Unless otherwise directed, valve boxes set in unpaved areas shall be equipped with a 2 foot by 2 foot by 6 inch poured in place concrete slab reinforced with 6 x 6 x w1.4/w1.4 wwm. The top of slab shall be flush with finished grade and base shall be placed on a well-compacted subgrade.
- D. Back Siphonage to be Prevented: Drainage branches or blow offs shall not be connected to any sewer or submerged in any stream or be installed in any other manner that will permit back siphonage into the distribution system.

END OF SECTION 40 05 51

Appendix B

Technical Drawings as prepared by Poly, Inc. bearing the title, Highway 90 East Water and Sewer Main Extensions, dated January 2020, 51 pages.

ENGINEERING PLANS
FOR

HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSIONS

***OKALOOSA COUNTY WATER & SEWER SYSTEM
OKALOOSA COUNTY, FLORIDA
THE BOARD OF COUNTY COMMISSIONERS***

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CHARLES K. WINDES, JR

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JD PEACOCK II

COUNTY ADMINISTRATOR

JOHN HOFSTAD

OKALOOSA COUNTY
WATER AND SEWER

JEFF LITRELL, DIRECTOR

MARK WISE, P.E., DEPUTY DIRECTOR



ITB WS 26-20

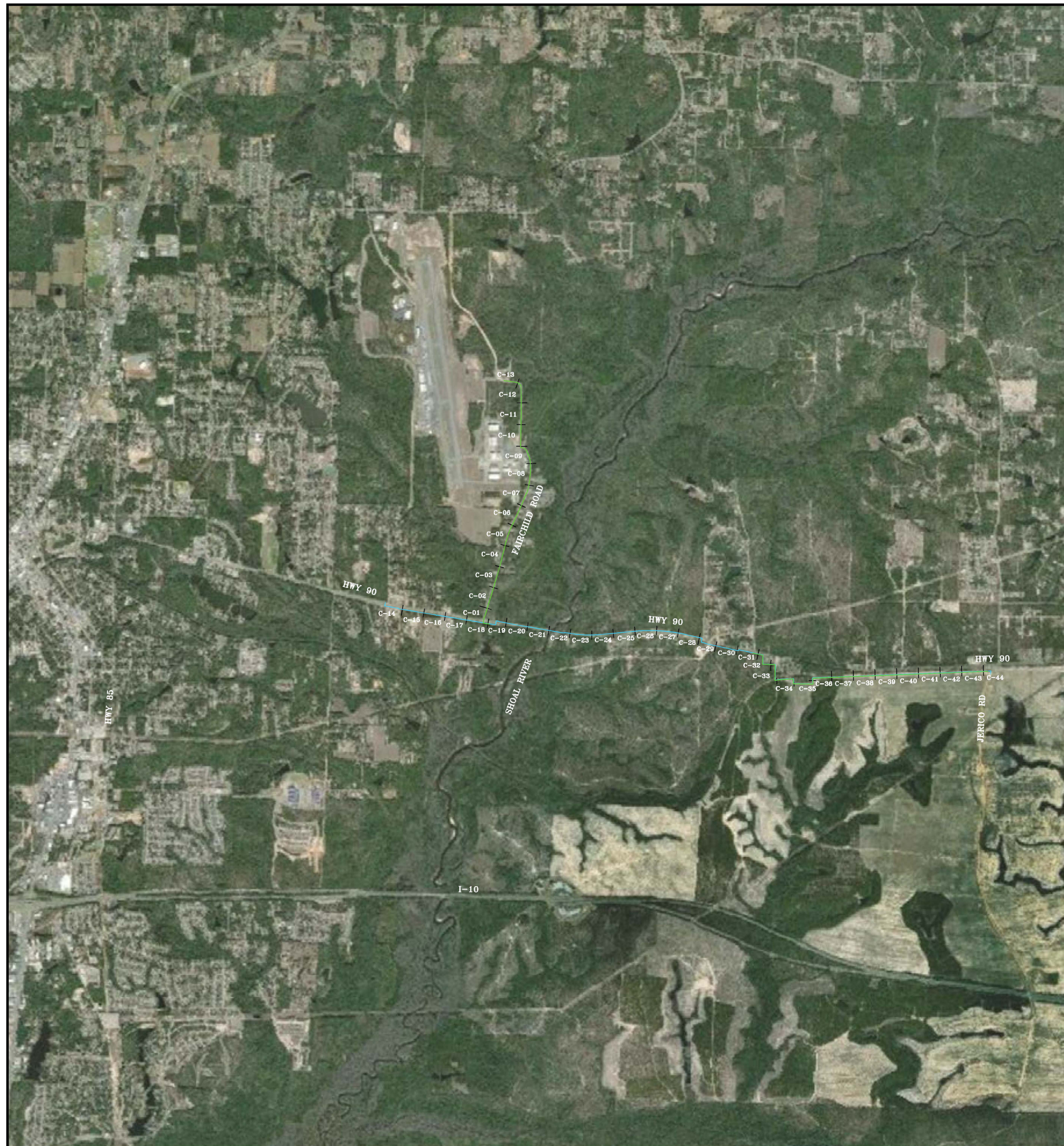
JANUARY 2020
POLY Job No. 41-470



POLY, INC.
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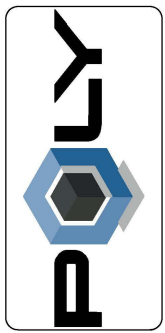


Poly, Inc. - H:\MASTER PROJECT FOLDER\41 Okaloosa\41-470 HWY 90 W&S\WP01-GENERAL\IG-02 VIC-INDEX.dwg [Layout1] Last Printed: January 24, 2020 - 09:38am By: MEvans



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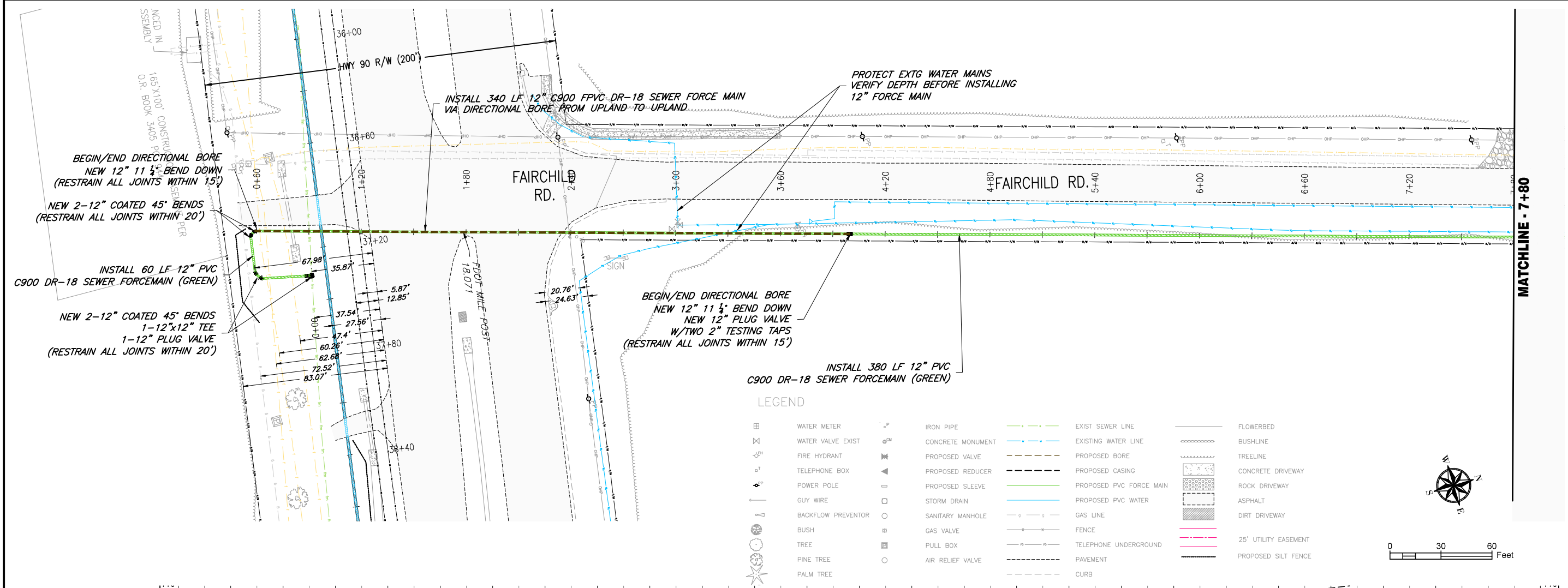
Rev	Description

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ENGINEER: CA78E	CA78E	101118	
SURVEY: CA2018-LS227	LS2012		

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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER	
VICINITY MAP AND INDEX	

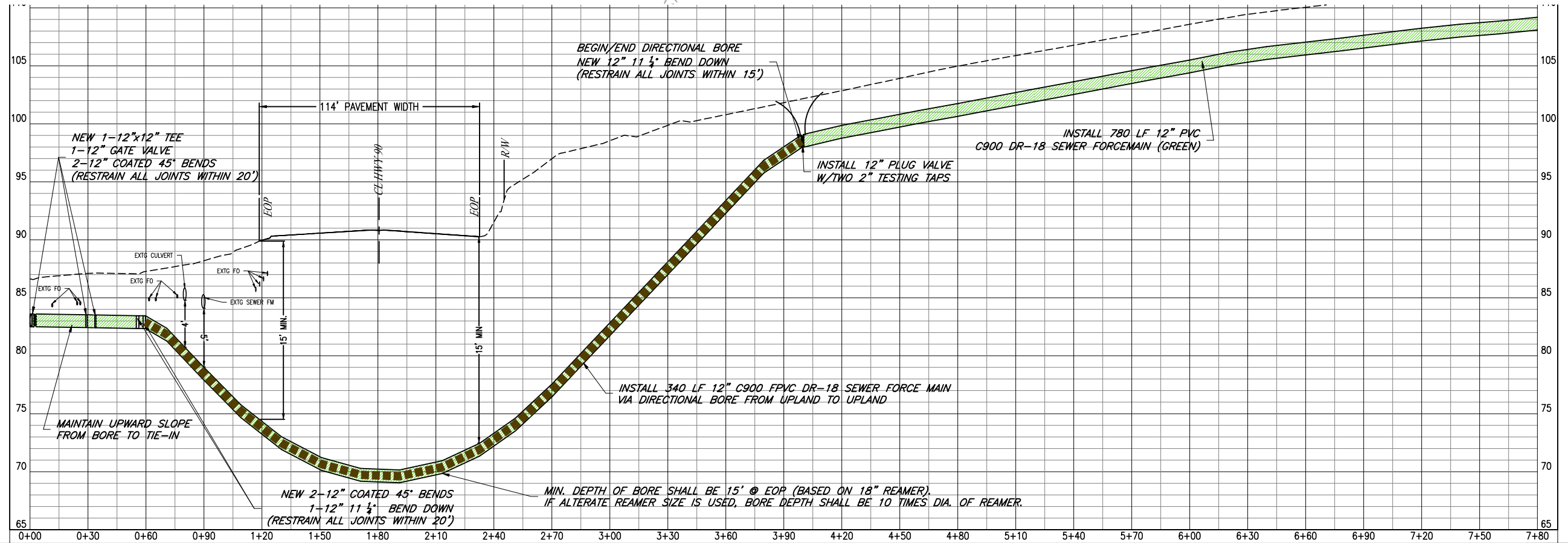
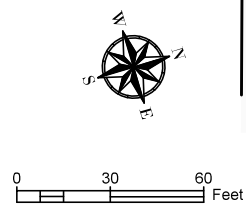
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PROJECT No. 41-470

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LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



NO.	DATE	DESCRIPTION

DATE: JULY 2019	REGISTRATION No.: 59311
DRAWN BY: DMF	REGISTERED: MICHAEL C. EVANS, P.E.
DESIGNED BY: MCE	ARCHITECT: POLY, INC.
ENGINEER: MICHAEL C. EVANS, P.E.	PROF. No.: CA20194-S-18732
ARCHITECT: POLY, INC.	PROF. No.: CA20194-S-18732
REGISTERED: MICHAEL C. EVANS, P.E.	PROF. No.: CA20194-S-18732

POLY, INC.
 1928 Headland Avenue
 Dothan, AL 36503
 334-794-4700

102 Summit Lane
 Tallahassee, FL 32379
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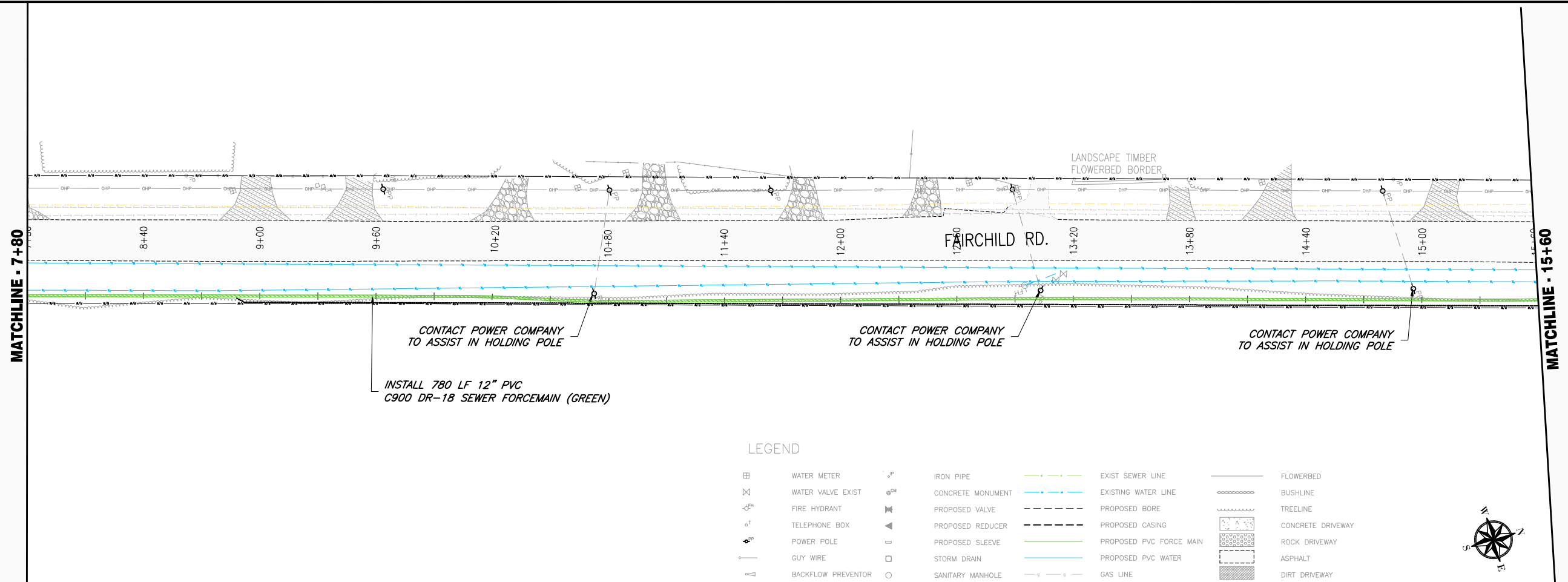
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WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

HWY 90 EAST

SHEET No.
C-01
 PROJECT No.
 41-470



CONTACT POWER COMPANY
TO ASSIST IN HOLDING POLE

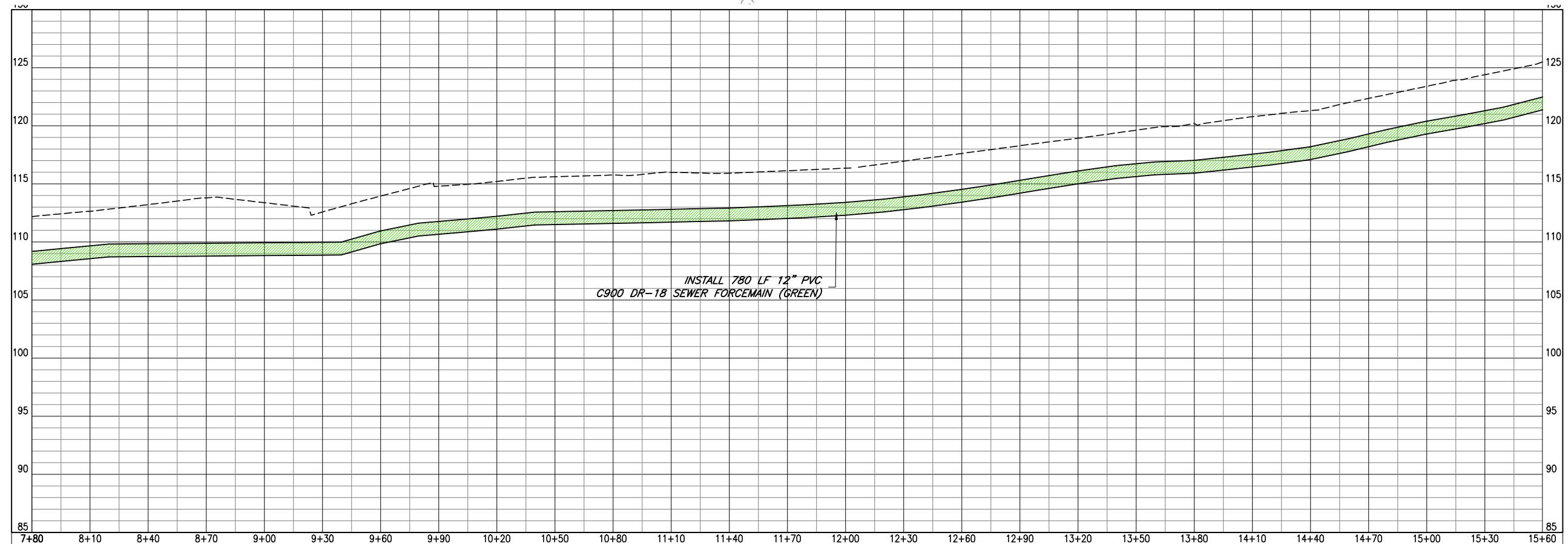
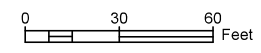
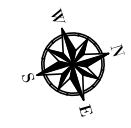
INSTALL 780 LF 12" PVC
C900 DR-18 SEWER FORCEMAIN (GREEN)

CONTACT POWER COMPANY
TO ASSIST IN HOLDING POLE

CONTACT POWER COMPANY
TO ASSIST IN HOLDING POLE

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



INSTALL 780 LF 12" PVC
C900 DR-18 SEWER FORCEMAIN (GREEN)



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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA-0460
 Surveyor: CA-0764-S
 Engineer: CA-0118
 Professional Seal: CA-0118

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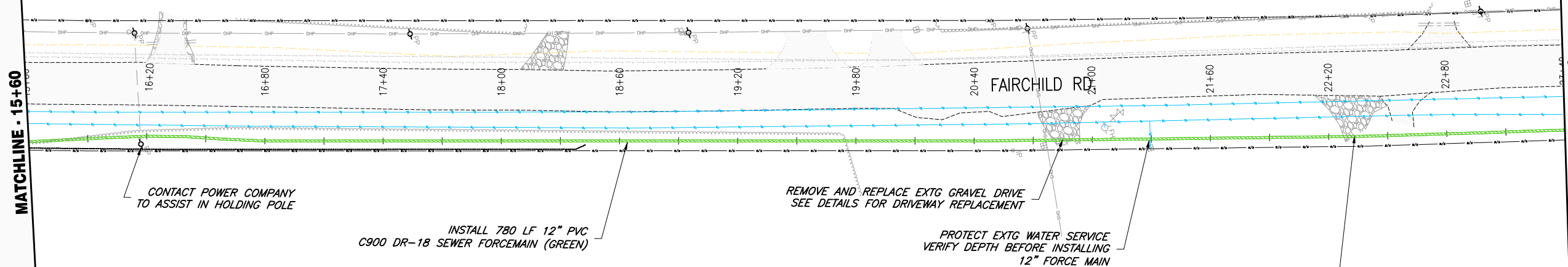
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 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-02

PROJECT No.
 41-470

MATCHLINE - 15+60

MATCHLINE - 23+40



CONTACT POWER COMPANY TO ASSIST IN HOLDING POLE

INSTALL 780 LF 12" PVC C900 DR-18 SEWER FORCEMAIN (GREEN)

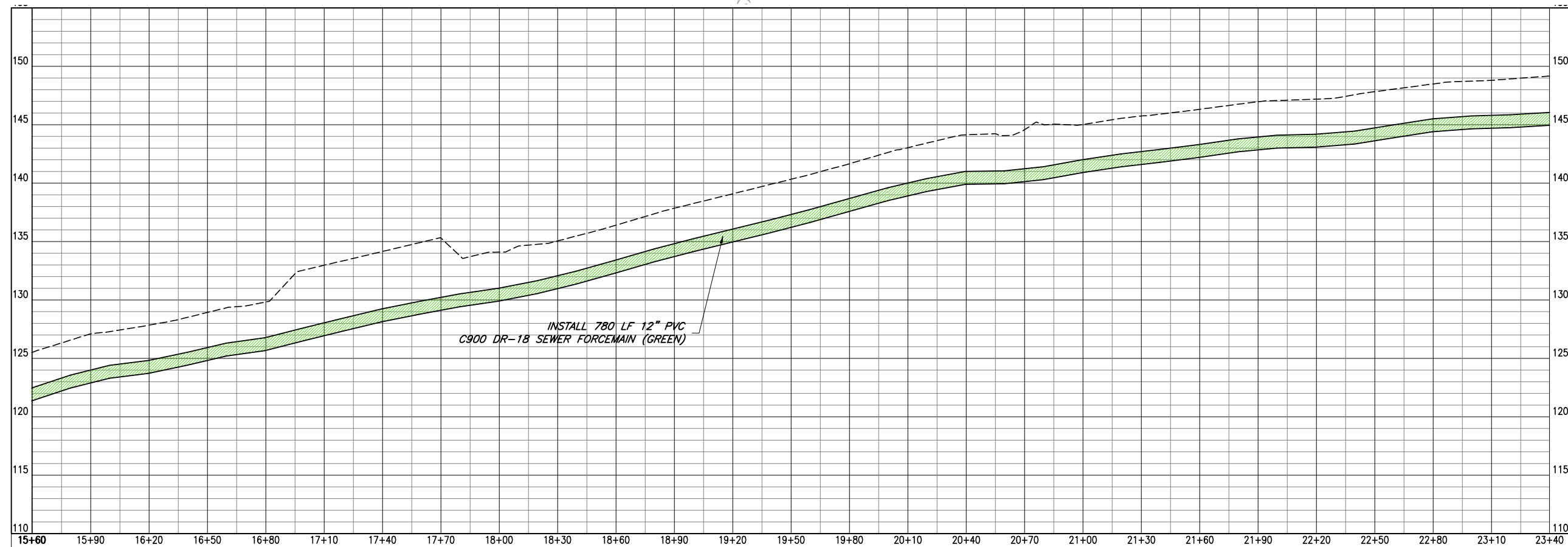
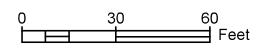
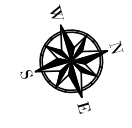
REMOVE AND REPLACE EXTG GRAVEL DRIVE SEE DETAILS FOR DRIVEWAY REPLACEMENT

PROTECT EXTG WATER SERVICE VERIFY DEPTH BEFORE INSTALLING 12" FORCE MAIN

REMOVE AND REPLACE EXTG GRAVEL DRIVE SEE DETAILS FOR DRIVEWAY REPLACEMENT

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



INSTALL 780 LF 12" PVC C900 DR-18 SEWER FORCEMAIN (GREEN)



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DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
DATE: JULY 2019
REGISTRATION No.: 59311
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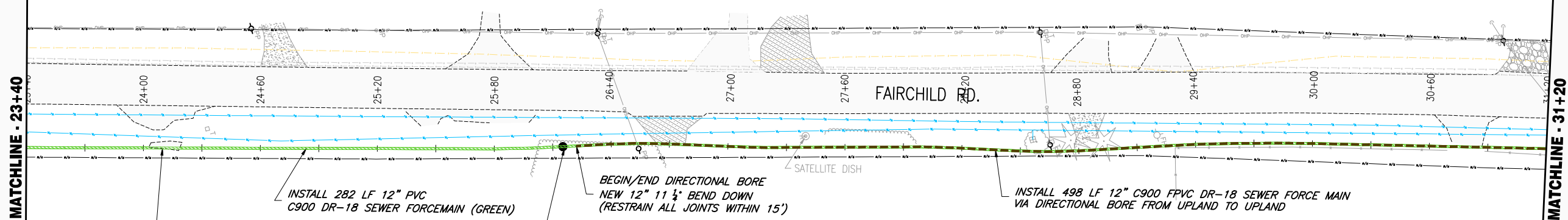
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PROJECT No.
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REMOVE AND REPLACE EXTG ASPHALT DRIVE
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INSTALL 282 LF 12" PVC
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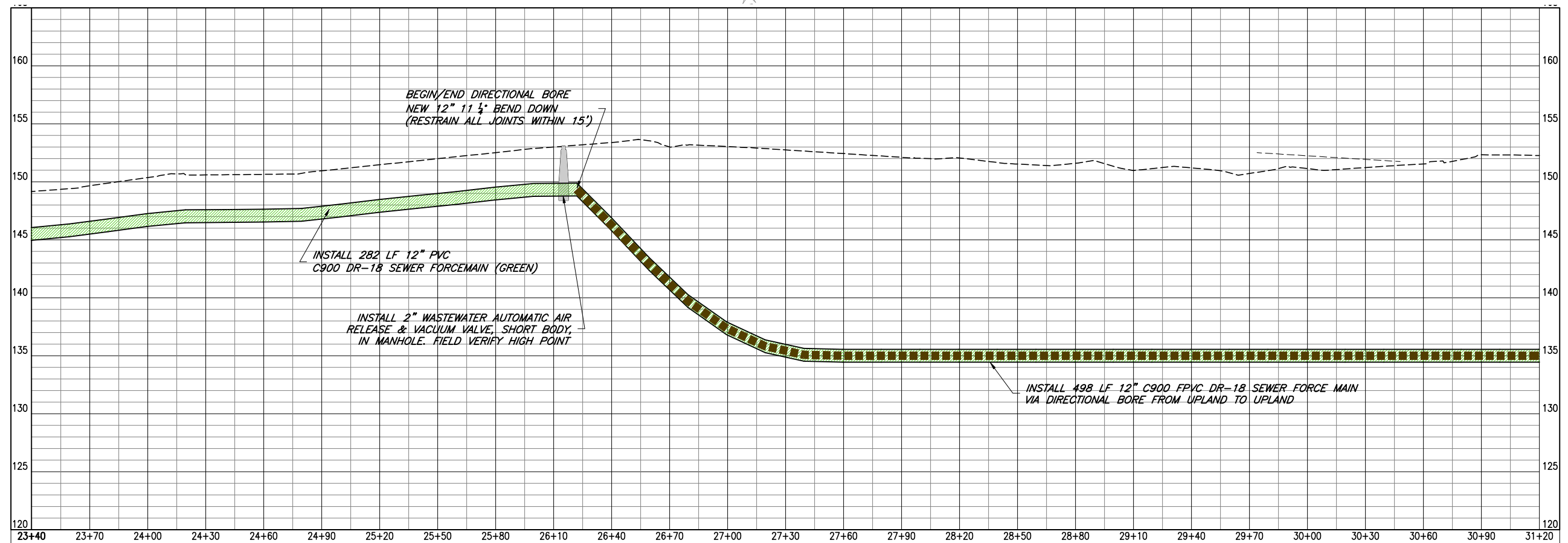
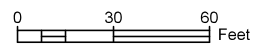
BEGIN/END DIRECTIONAL BORE
NEW 12" 11 1/4" BEND DOWN
(RESTRAIN ALL JOINTS WITHIN 15')

SATELLITE DISH

INSTALL 498 LF 12" C900 FPVC DR-18 SEWER FORCE MAIN
VIA DIRECTIONAL BORE FROM UPLAND TO UPLAND

LEGEND

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	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	PINE TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PALM TREE		AIR RELIEF VALVE		PAVEMENT		
			CURB				



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DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
1926 Headland Avenue
Dothan, AL 36503
334-734-4700

DRAWN BY: DWF

DATE: JULY 2019

REGISTRATION No.: 59311

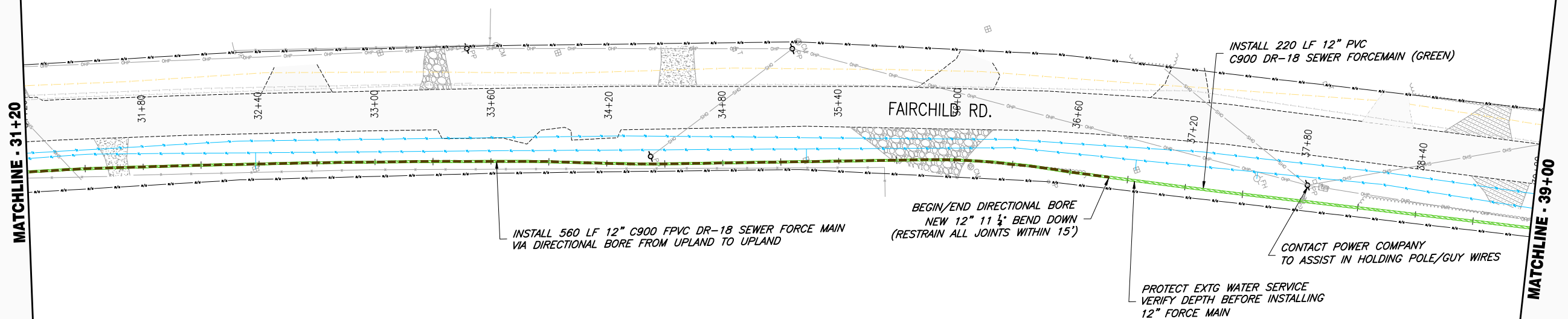
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WY. O.A. No.: 101118
MT. O.A. No.: 101118
ND. O.A. No.: 101118
SD. O.A. No.: 101118
NEB. O.A. No.: 101118
IA. O.A. No.: 101118
MO. O.A. No.: 101118
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KS. O.A. No.: 101118
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KS. O.A. No.: 101118
CO. O.A. No.: 101118

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HWY 90 EAST
WATER AND SEWER WORK EXTENSIONS
OKALOOSA COUNTY WATER AND SEWER

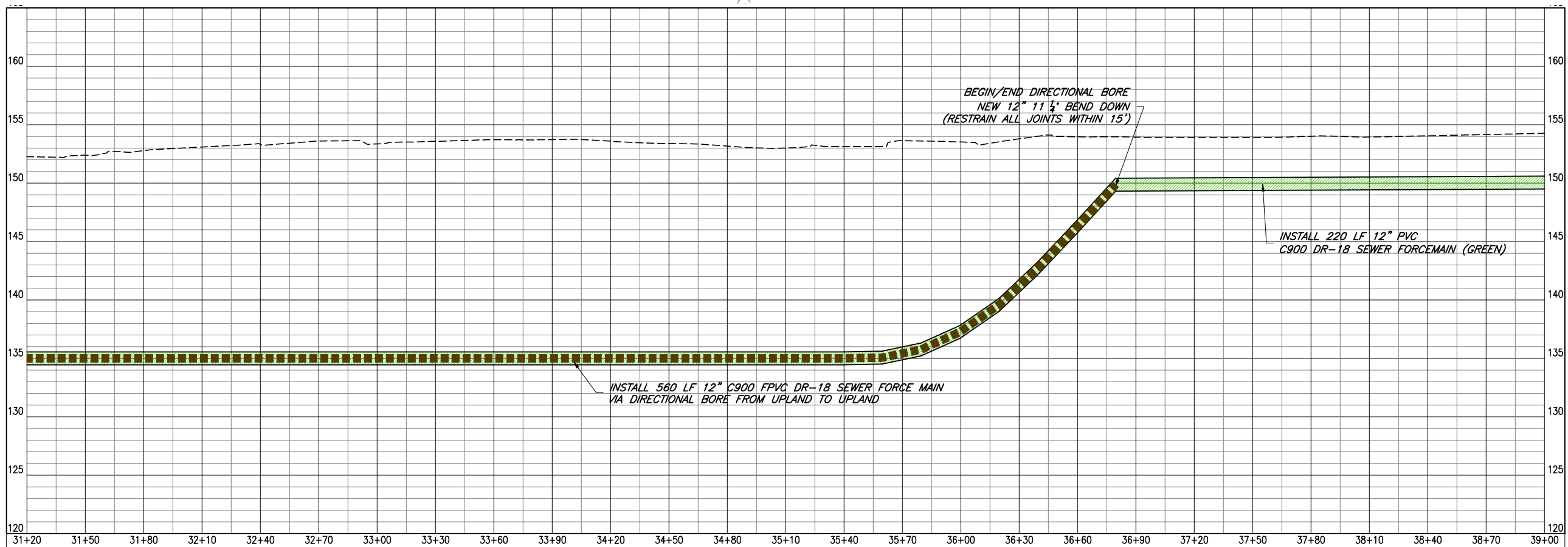
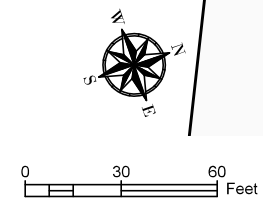
SHEET No.:
C-04

PROJECT No.:
41-470



LEGEND

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	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



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102 Sunset Lane
 Tallahassee, FL 32379
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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA0400
 Engineer: CA0918
 Surveyor: CA0704-S

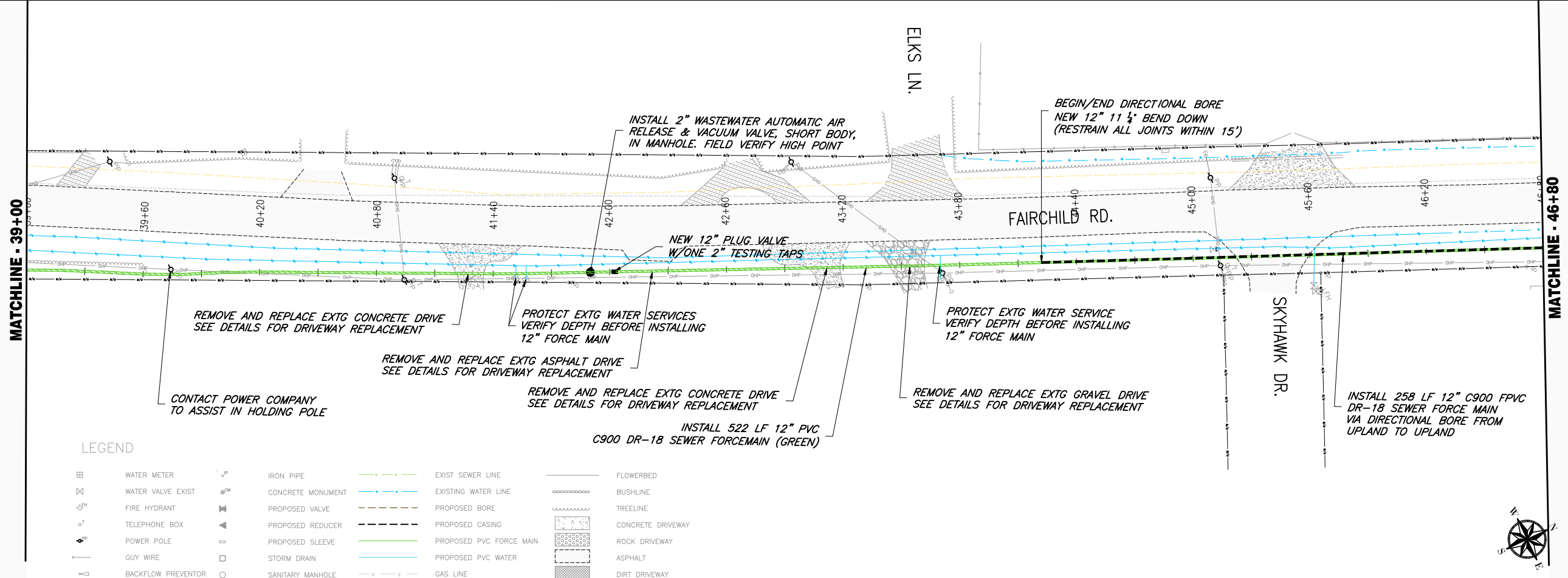
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 CA0918
 LA02032

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HWY 90 EAST
 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

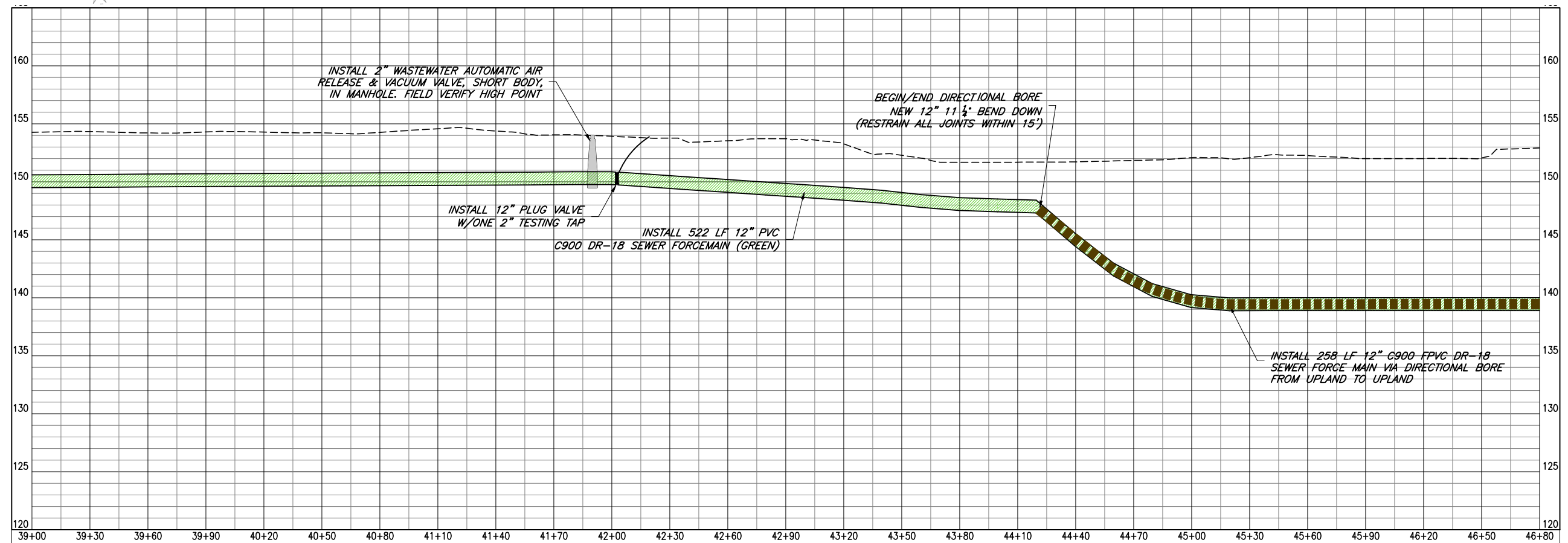
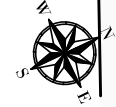
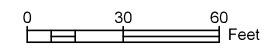
SHEET No.
C-05

PROJECT No.
 41-470



LEGEND

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	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



NO.	REVISION	DATE

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 1926 Headland Avenue
 Dothan, AL 36803
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 904-608-1100

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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT/SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA20460
 Engineer: CA2786
 Surveyor: CA20784-S

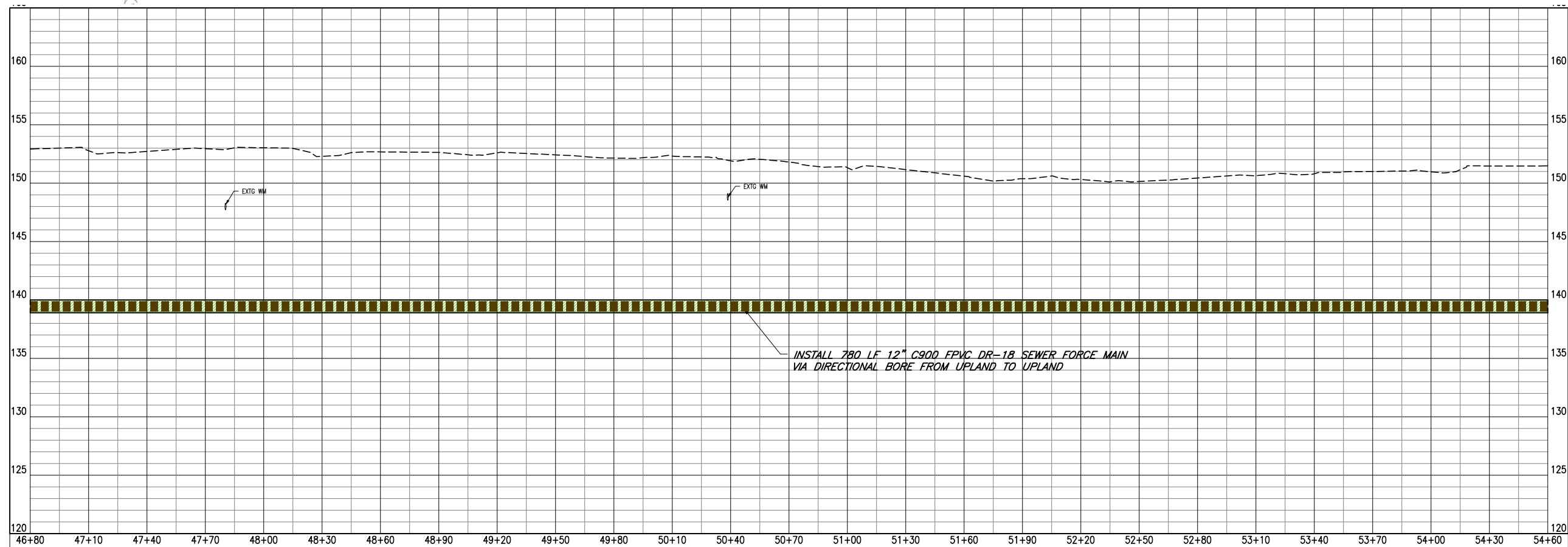
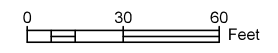
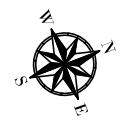
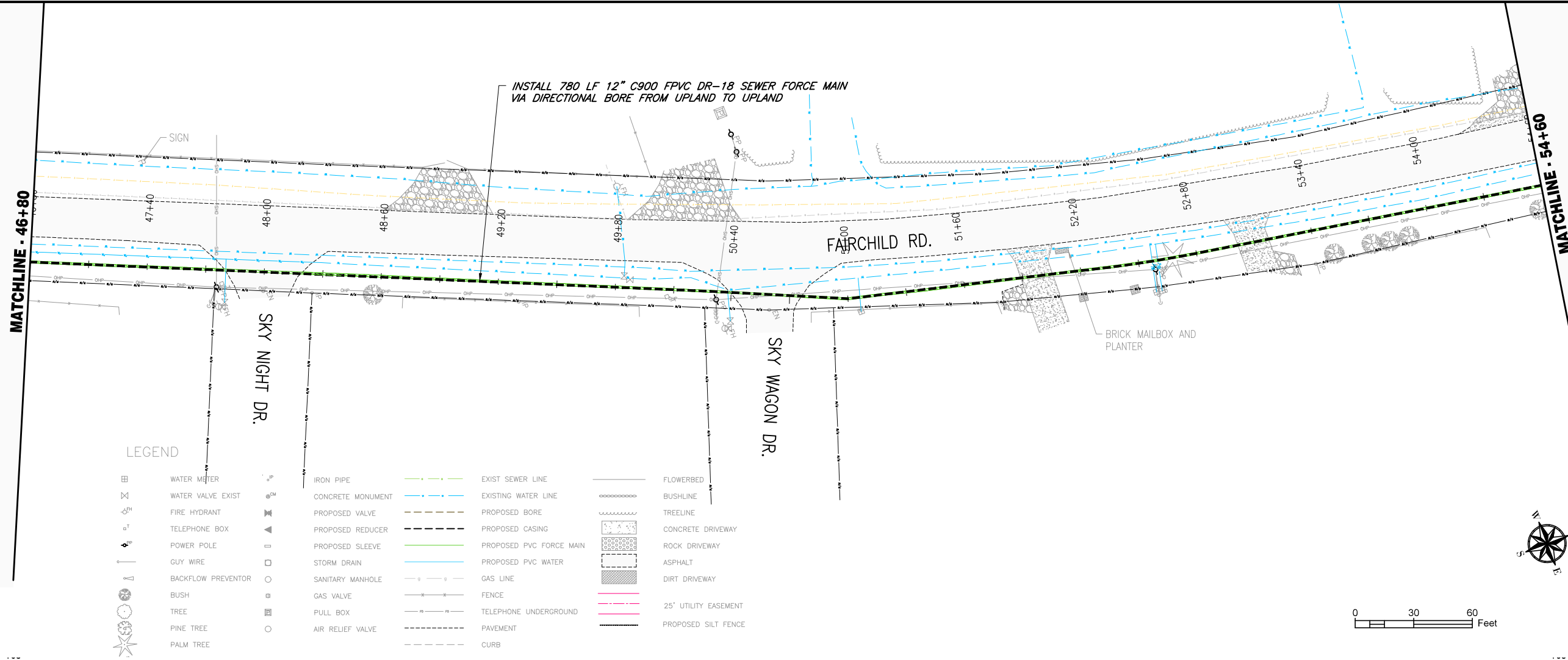
FL. O.A. No. 001118
 CA-20185
 CA-2198
 CA-20784-S

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HWY 90 EAST
 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-06

PROJECT No.
 41-470



Revision	Description

DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
ARCHITECT: POLY, INC.
SURVEYOR: MICHAEL C. EVANS, P.E.

DATE: JULY 2019
REGISTRATION No.: 59311

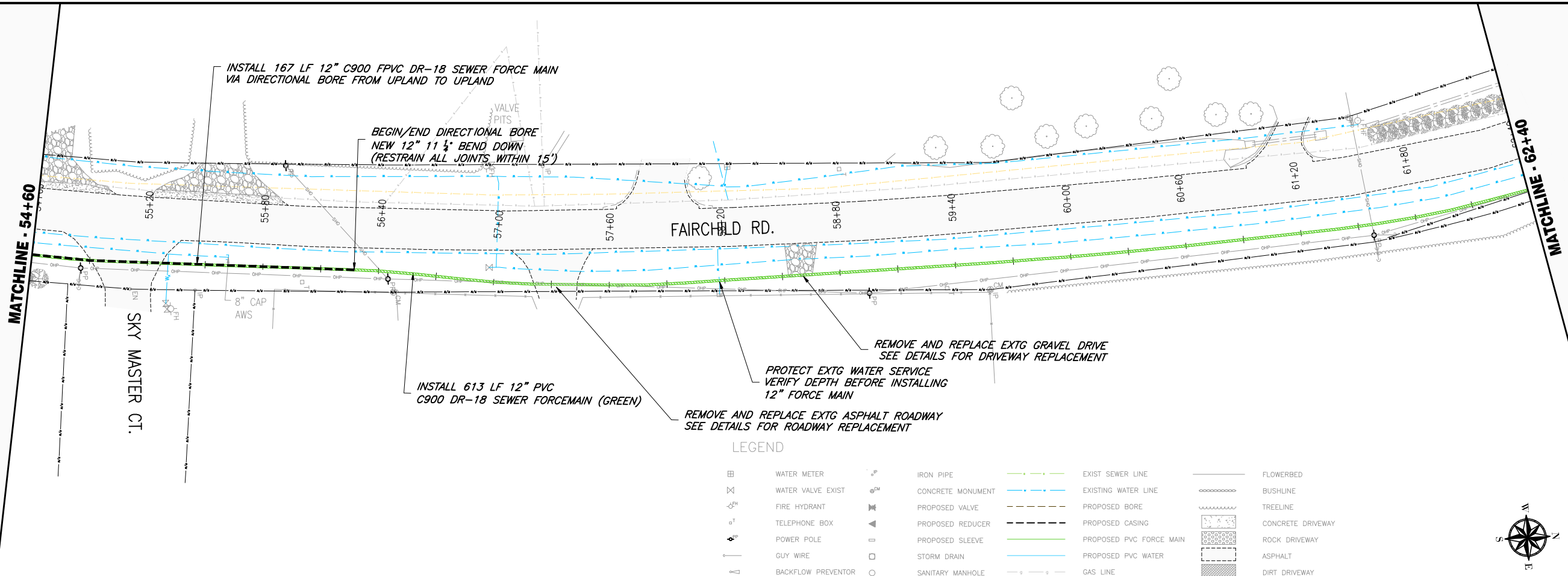
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HWY 90 EAST
 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-07
PROJECT No.
 41-470

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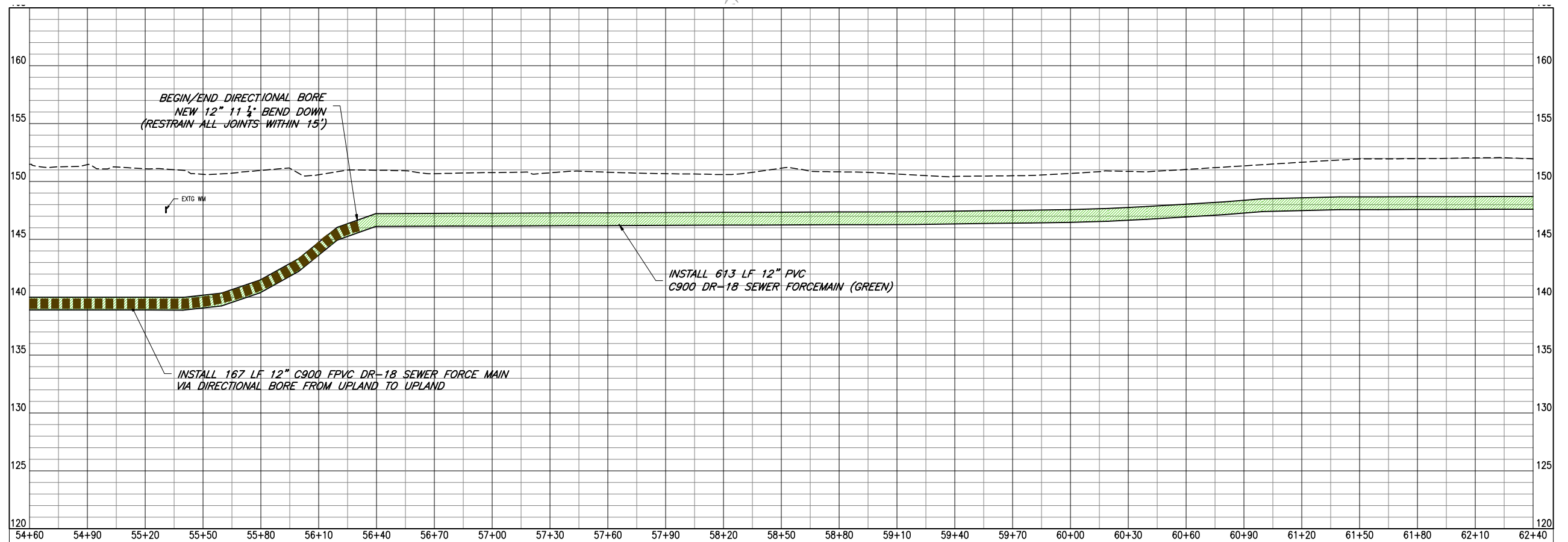
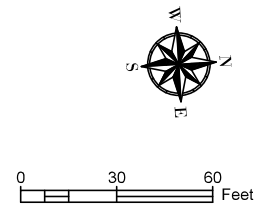
REMOVE AND REPLACE EXTG ASPHALT ROADWAY
SEE DETAILS FOR ROADWAY REPLACEMENT

REMOVE AND REPLACE EXTG GRAVEL DRIVE
SEE DETAILS FOR DRIVEWAY REPLACEMENT

PROTECT EXTG WATER SERVICE
VERIFY DEPTH BEFORE INSTALLING
12" FORCE MAIN

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

FL. O.A. No. AA2001851 (011118)
 ARCHITECT: CA20460
 ENGINEER: CA2746E (CA21918) (011118)
 SURVEY: CA20744-S (L2732) (L262032)

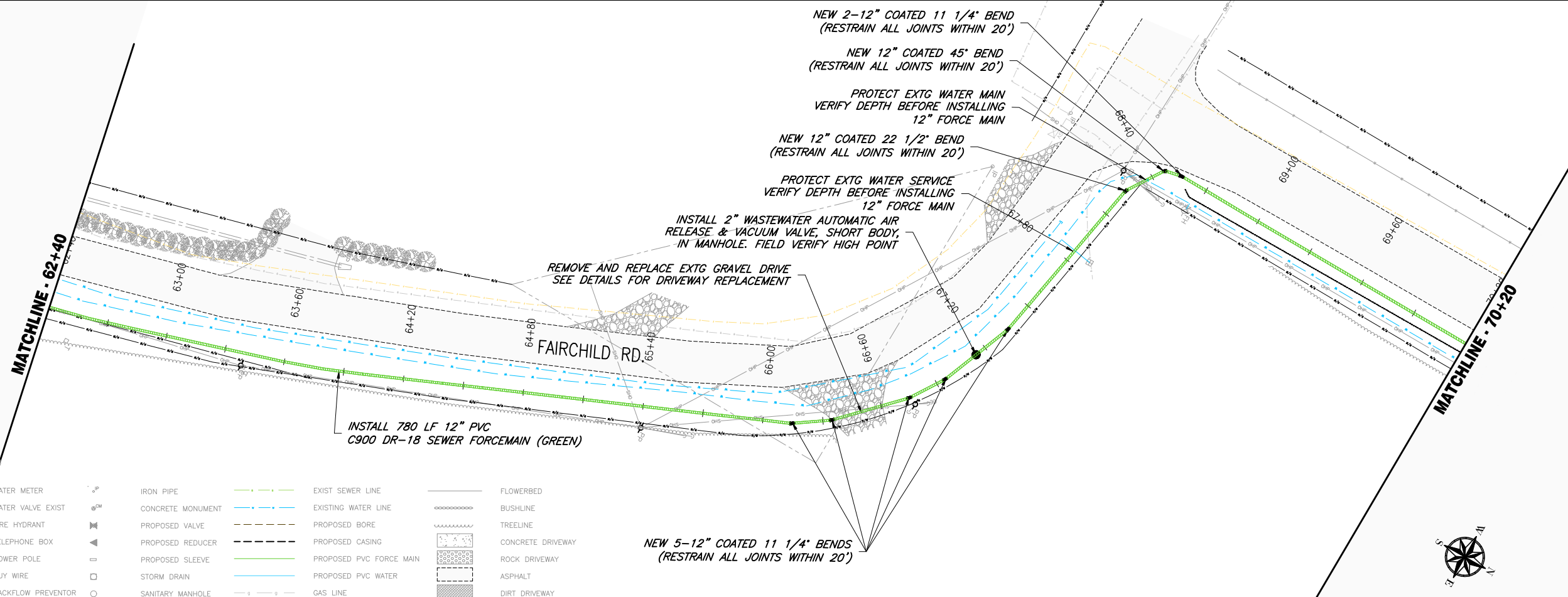
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HWY 90 EAST
 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-08

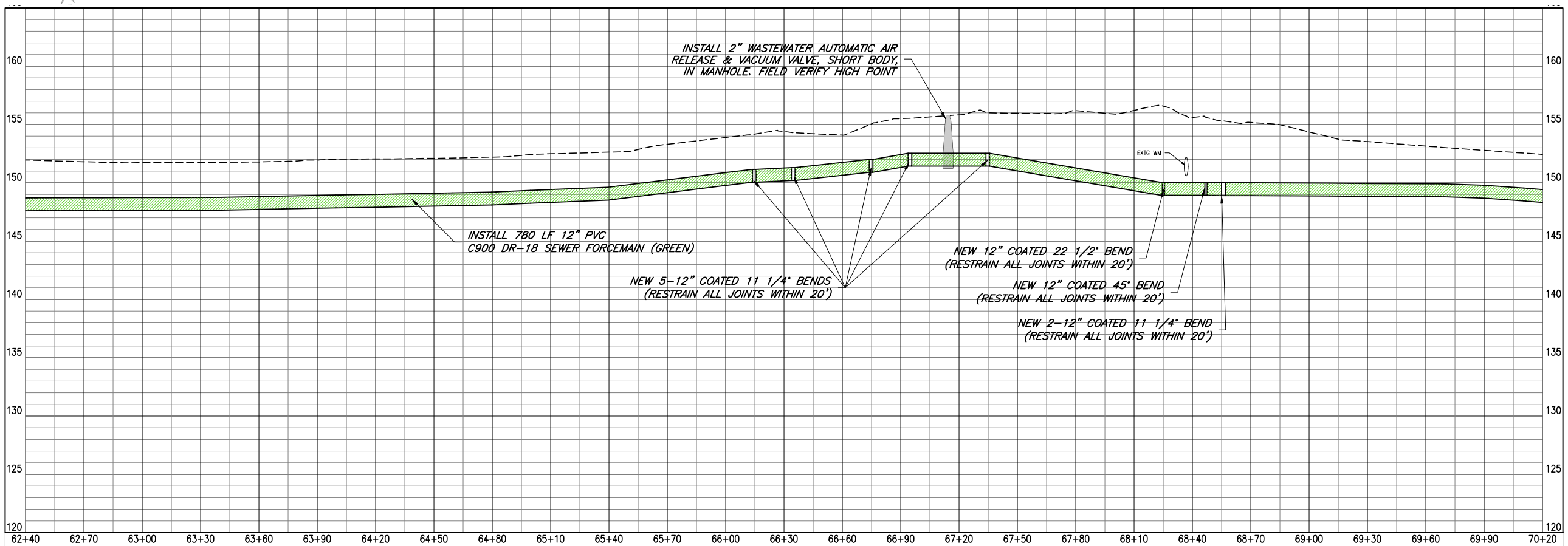
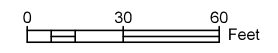
PROJECT No.
 41-470

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LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

DATE	JULY 2019
DESIGNED BY	MCE
DRAWN BY	DWF
REGISTRATION No.	59311
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ARCHITECT	CA-0460
ENGINEER	CA-794E
SURVEY	CA-0704-S-18732
FL.	0A
CA-001051	001118
CA-0198	001118
CA-0704-S-18732	LS20132

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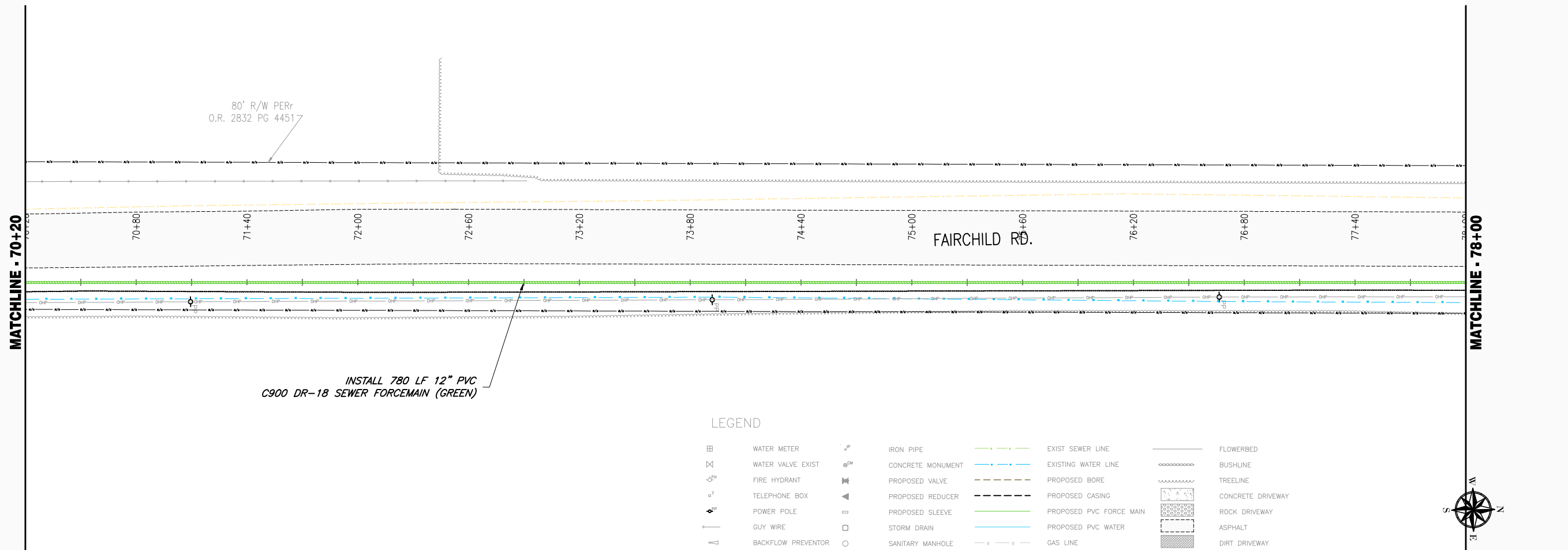
2135 University Blvd., Ste. A
 Tallahassee, AL 36401
 252-752-4037

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HWY 90 EAST
 WATER AND SEWER EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-09

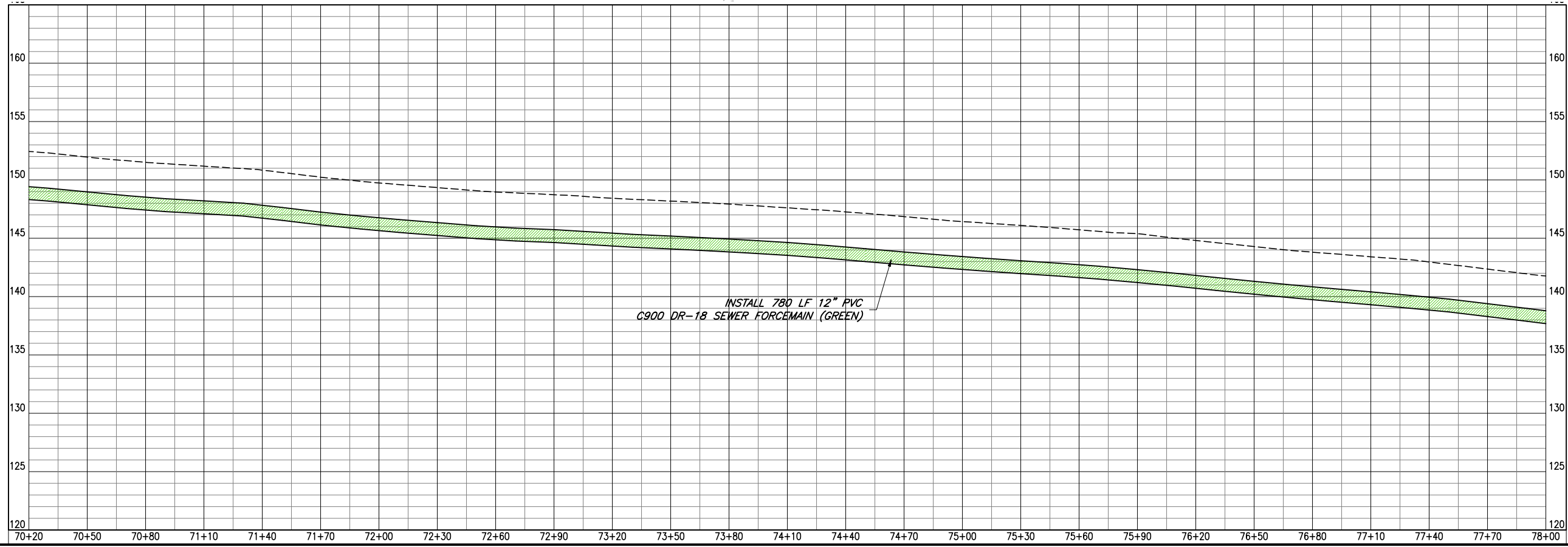
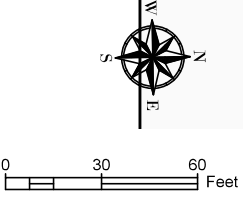
PROJECT No.
 41-470



INSTALL 780 LF 12" PVC C900 DR-18 SEWER FORCEMAIN (GREEN)

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



INSTALL 780 LF 12" PVC C900 DR-18 SEWER FORCEMAIN (GREEN)



Revision	Description

DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
DATE: JULY 2019
REGISTRATION No.: 59311
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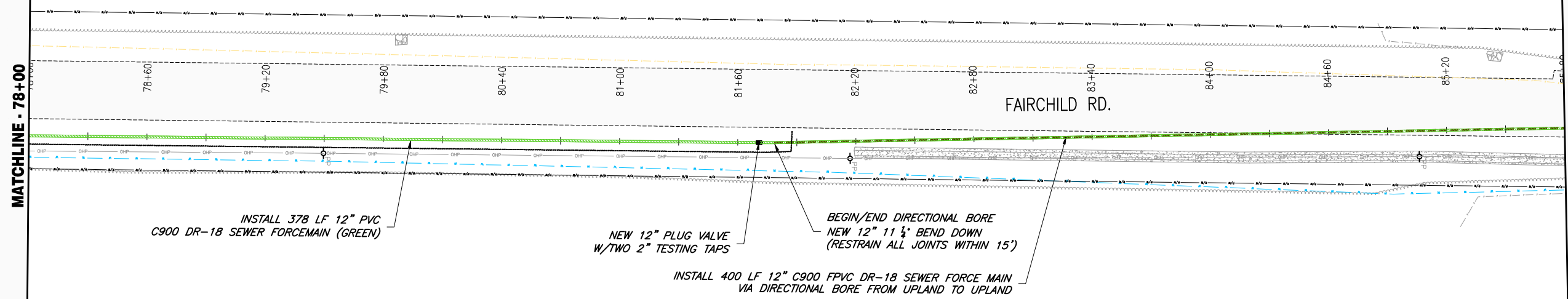
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SHEET No.
C-10
PROJECT No.
 41-470

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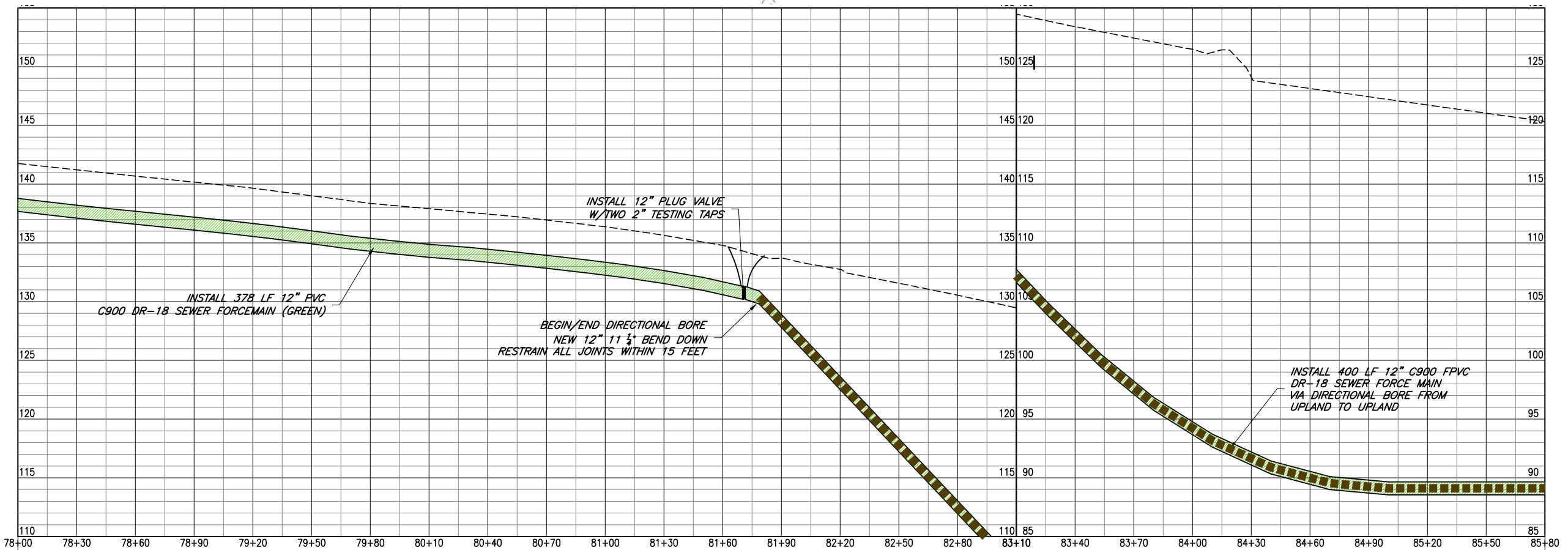
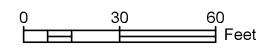
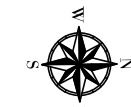
MATCHLINE - 78+00

MATCHLINE - 85+80



LEGEND

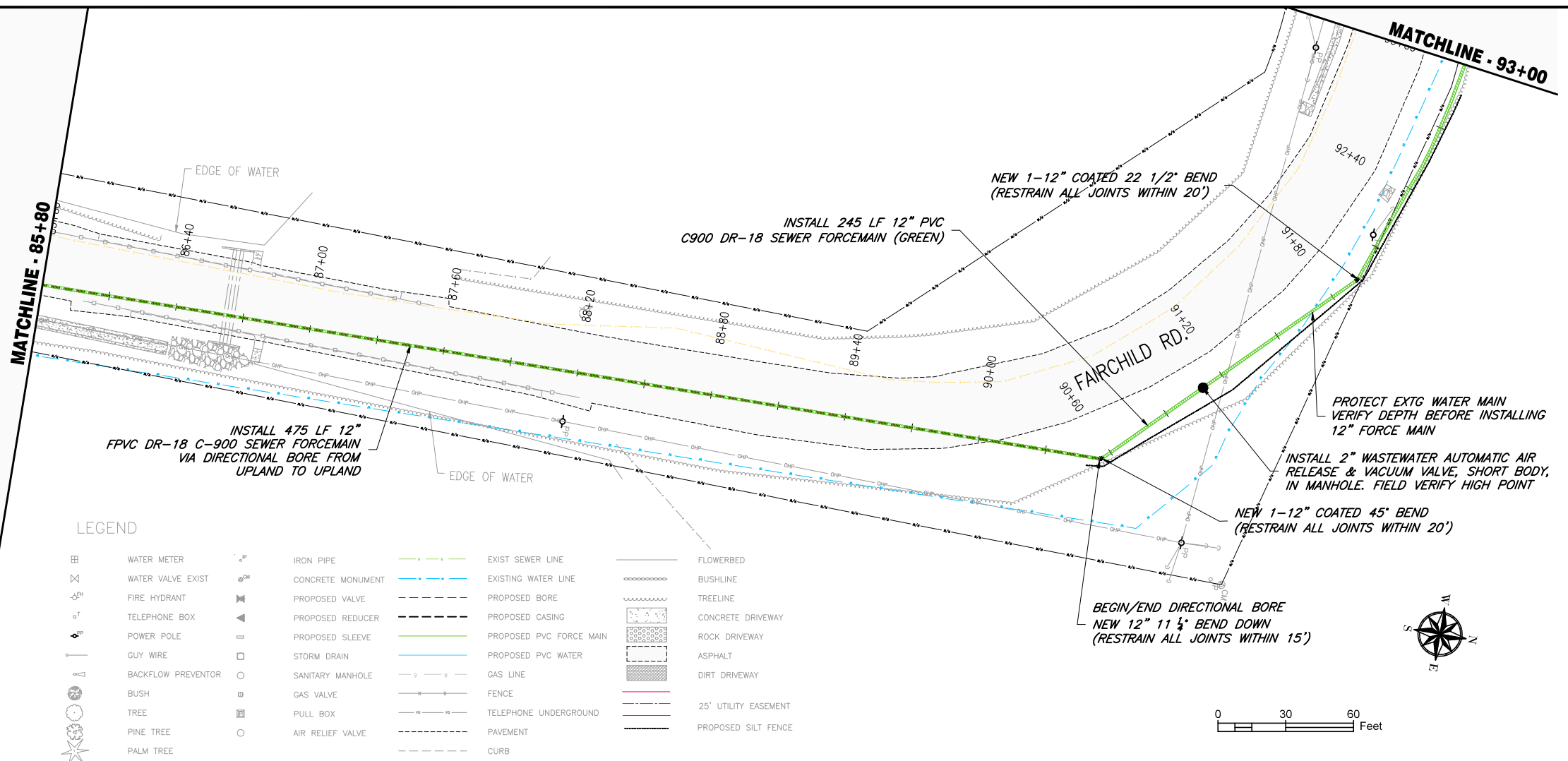
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	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



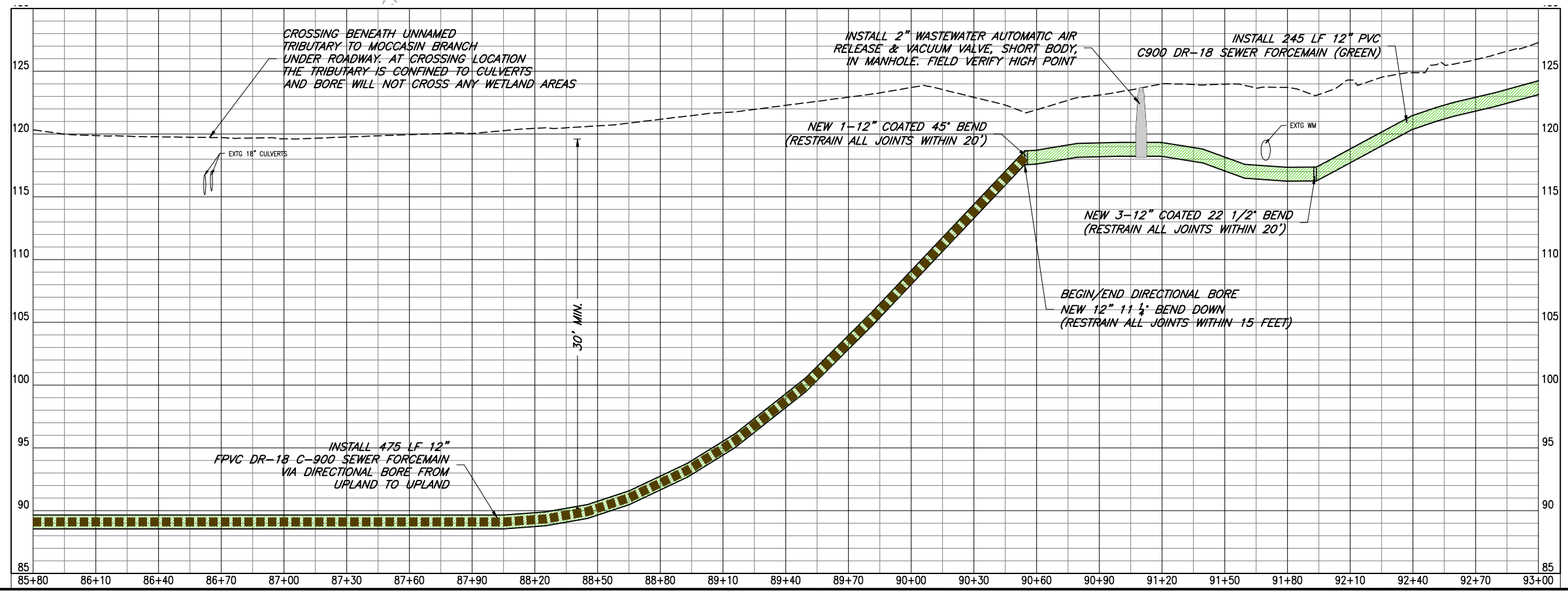
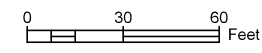
Revision	Description

DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
ARCHITECT: POLY, INC.
DATE: JULY 2019
REGISTRATION No.: 59311
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HWY 90 EAST
 WATER AND SEWER WORK EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER



LEGEND			
	WATER METER		IRON PIPE
	WATER VALVE EXIST		CONCRETE MONUMENT
	FIRE HYDRANT		PROPOSED VALVE
	TELEPHONE BOX		PROPOSED REDUCER
	POWER POLE		PROPOSED SLEEVE
	GUY WIRE		STORM DRAIN
	BACKFLOW PREVENTOR		SANITARY MANHOLE
	BUSH		GAS VALVE
	TREE		PULL BOX
	PINE TREE		AIR RELIEF VALVE
	PALM TREE		EXIST SEWER LINE
			EXISTING WATER LINE
			PROPOSED BORE
			PROPOSED CASING
			PROPOSED PVC FORCE MAIN
			PROPOSED PVC WATER
			GAS LINE
			FENCE
			TELEPHONE UNDERGROUND
			PAVEMENT
			CURB
			FLOWERBED
			BUSHLINE
			TREELINE
			CONCRETE DRIVEWAY
			ROCK DRIVEWAY
			ASPHALT
			DIRT DRIVEWAY
			25' UTILITY EASEMENT
			PROPOSED SILT FENCE



DATE	DESCRIPTION

DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
DATE: JULY 2019
REGISTRATION No.: 59311
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MATCHLINE - 93+00

INSTALL 425 LF 12" PVC C900 DR-18 SEWER FORCEMAIN (GREEN)

NEW 2-12" COATED 45° BENDS (RESTRAIN ALL JOINTS WITHIN 20')

REMOVE AND REPLACE EXTG ASPHALT DRIVE SEE DETAILS FOR DRIVEWAY REPLACEMENT

REMOVE EXISTING CAP AND TIE TO EXISTING 12" GATE VALVE, ONE 2" TESTING TAP

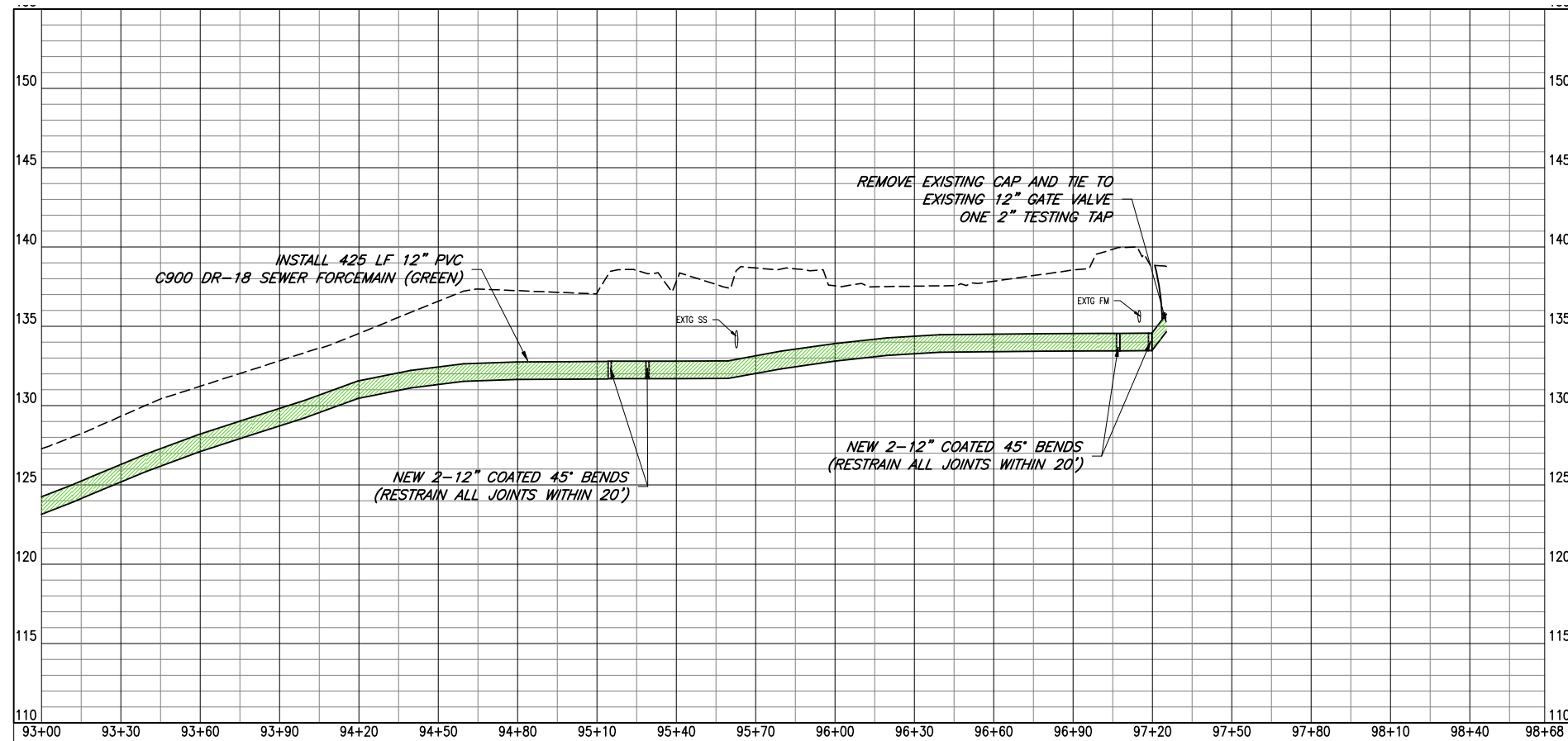
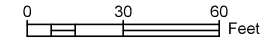
PROTECT EXTG FORCE MAIN VERIFY DEPTH BEFORE INSTALLING 12" FORCE MAIN

PROTECT EXTG SEWER MAIN VERIFY DEPTH BEFORE INSTALLING 12" FORCE MAIN

FAIRCHILD RD.

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				

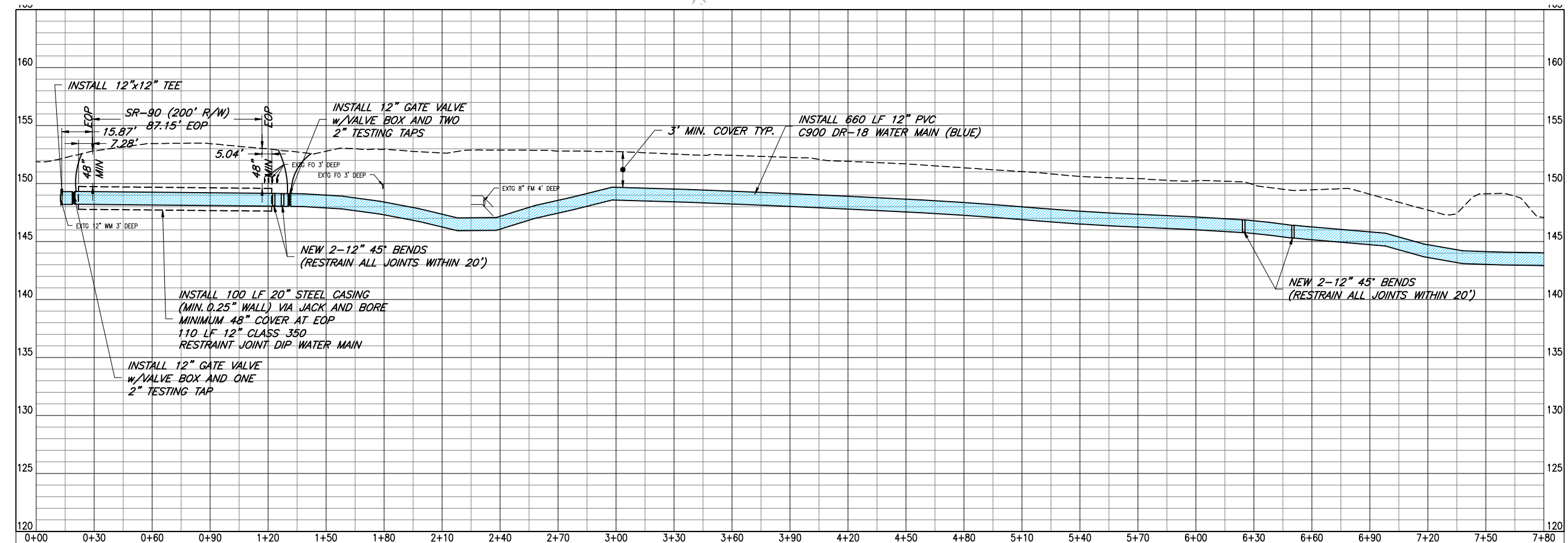
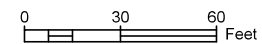
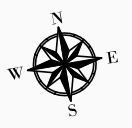
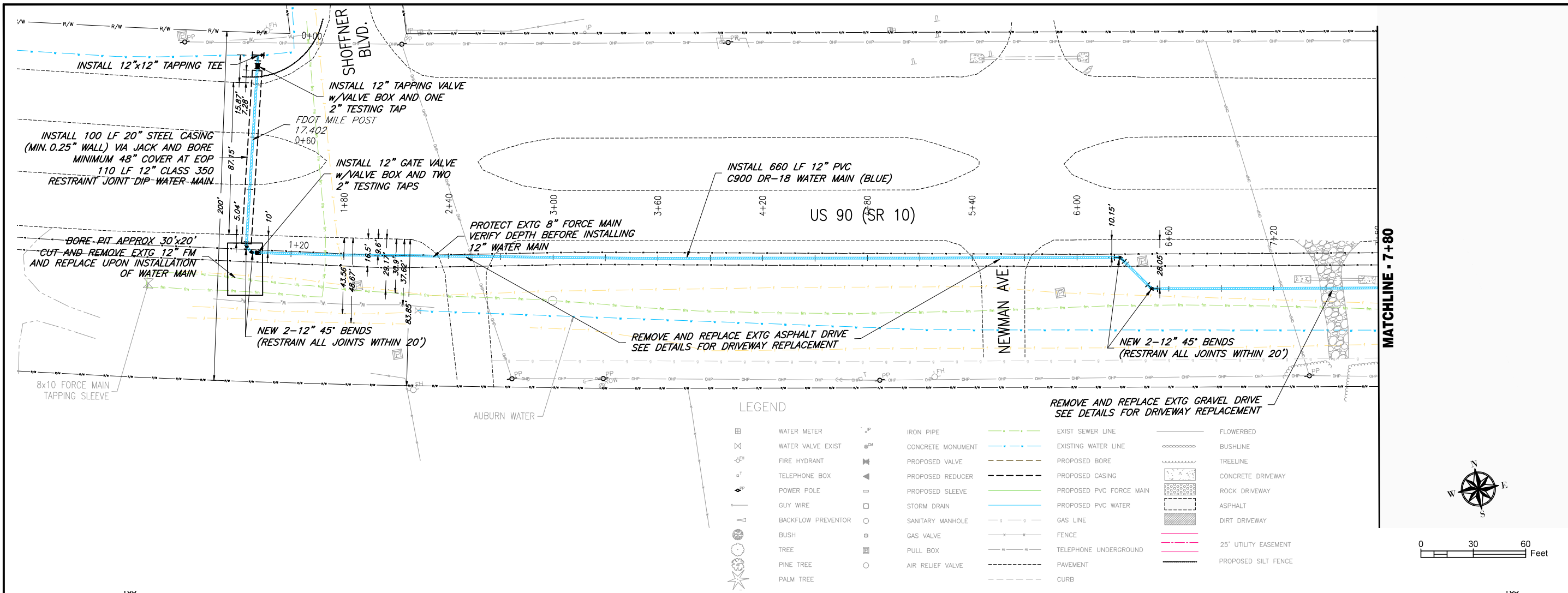


Revision	Description

DATE	JULY 2019
DRAWN BY	DWF
DESIGNED BY	MCE
REGISTRATION No.	59311
ENG ARCHT / SURVEYOR OF RECORD	MICHAEL C. EVANS, P.E.
Cent. of Auth. No.	AL. CA-201851 (01118)
ARCHITECT	CA-0460
ENGINEER	CA-745E
SURVEY	CA-2018-51 (01118)
FL.	CA-1918
GA.	001118
LA.	001118
MS.	001118
NC.	001118
ND.	001118
OH.	001118
OK.	001118
OR.	001118
SC.	001118
TX.	001118
VA.	001118
WI.	001118
WV.	001118
WY.	001118
Other States	001118
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

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NO.	REVISION	DATE

DESIGNED BY: DWF
DATE: JULY 2019
REGISTRATION No.: 59311
ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
ARCHITECT: POLY, INC.
ENGINEER: MICHAEL C. EVANS, P.E.
SURVEY: POLY, INC.

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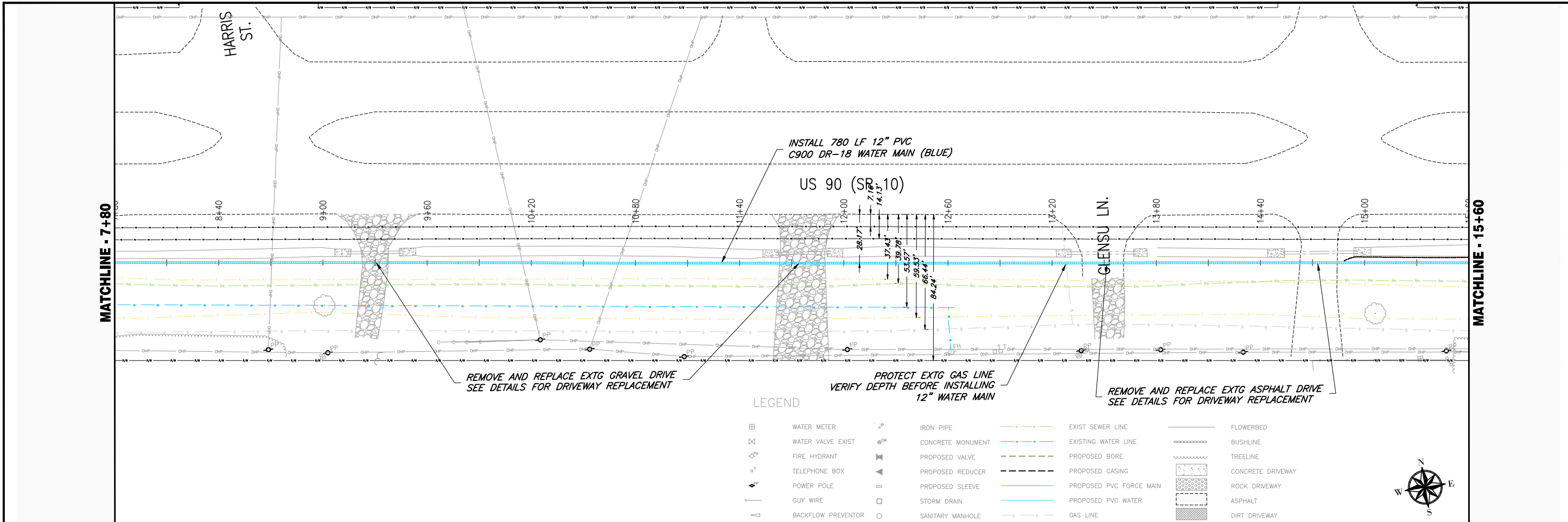
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HWY 90 EAST WATER AND SEWER MAIN EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

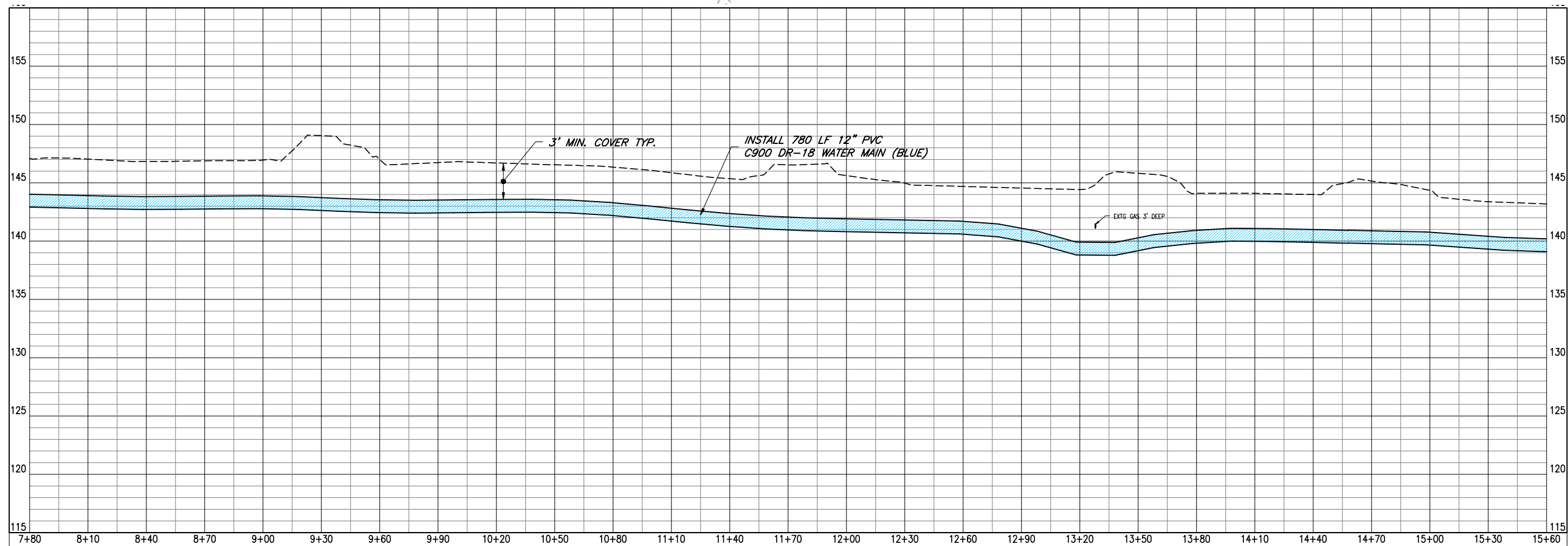
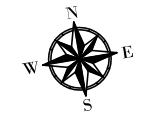
SHEET No. C-14
PROJECT No. 41-470

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LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

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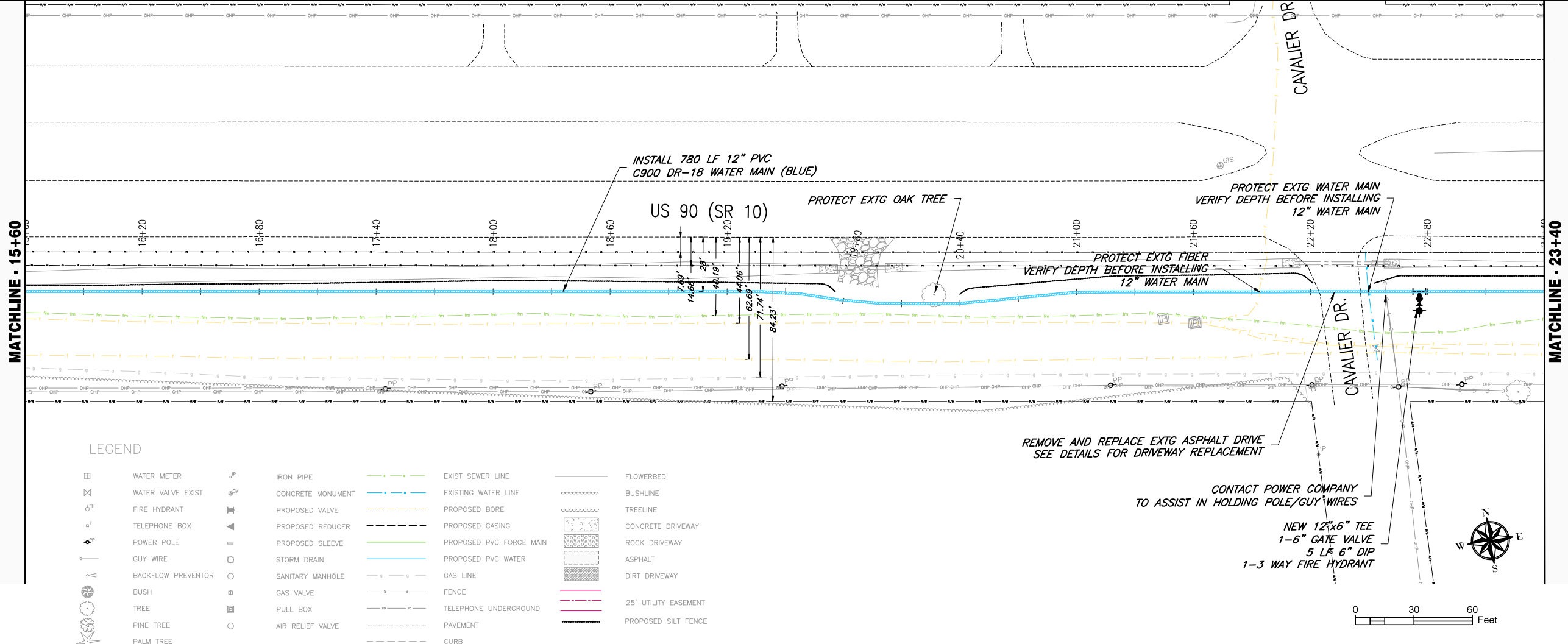
DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: Michael C. Evans, P.E.
 CA-000185 | 001118
 Engineer: Michael C. Evans, P.E.
 CA-7946 | 001118
 Surveyor: Michael C. Evans, P.E.
 CA-0794-S | 087327 | 1820032

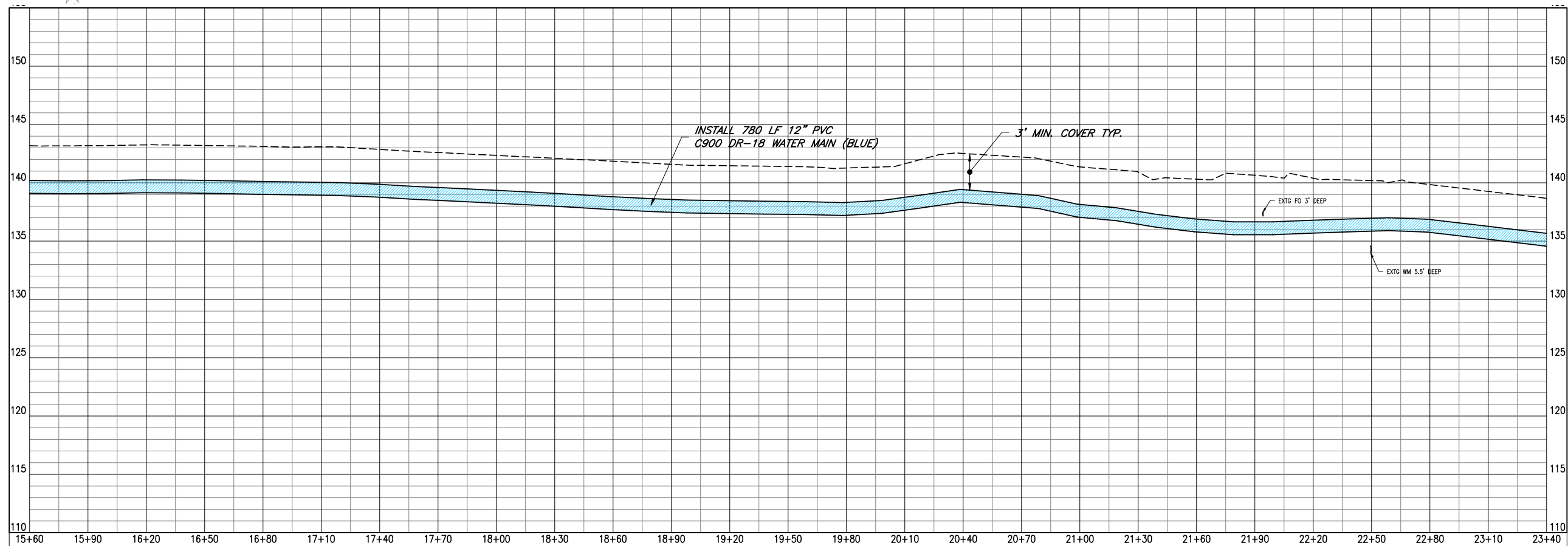
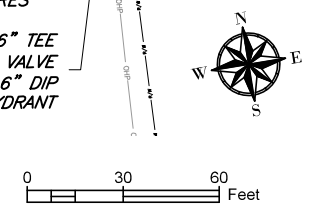
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HWY 90 EAST WATER AND SEWER MAIN EXTENSIONS OKALOOSA COUNTY WATER AND SEWER



LEGEND

WATER METER	IRON PIPE	EXIST SEWER LINE	FLOWERBED
WATER VALVE EXIST	CONCRETE MONUMENT	EXISTING WATER LINE	BUSHLINE
FIRE HYDRANT	PROPOSED VALVE	PROPOSED BORE	TREELINE
TELEPHONE BOX	PROPOSED REDUCER	PROPOSED CASING	CONCRETE DRIVEWAY
POWER POLE	PROPOSED SLEEVE	PROPOSED PVC FORCE MAIN	ROCK DRIVEWAY
GUY WIRE	STORM DRAIN	PROPOSED PVC WATER	ASPHALT
BACKFLOW PREVENTOR	SANITARY MANHOLE	GAS LINE	DIRT DRIVEWAY
BUSH	GAS VALVE	FENCE	25' UTILITY EASEMENT
TREE	PULL BOX	TELEPHONE UNDERGROUND	PROPOSED SILT FENCE
PINE TREE	AIR RELIEF VALVE	PAVEMENT	
PALM TREE	CURB		



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36803
 334-793-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-465-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DNF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: Michael C. Evans, P.E.
 CA-7446 (CA-7446)
 Survey: CA-7034-S (LS-20132)

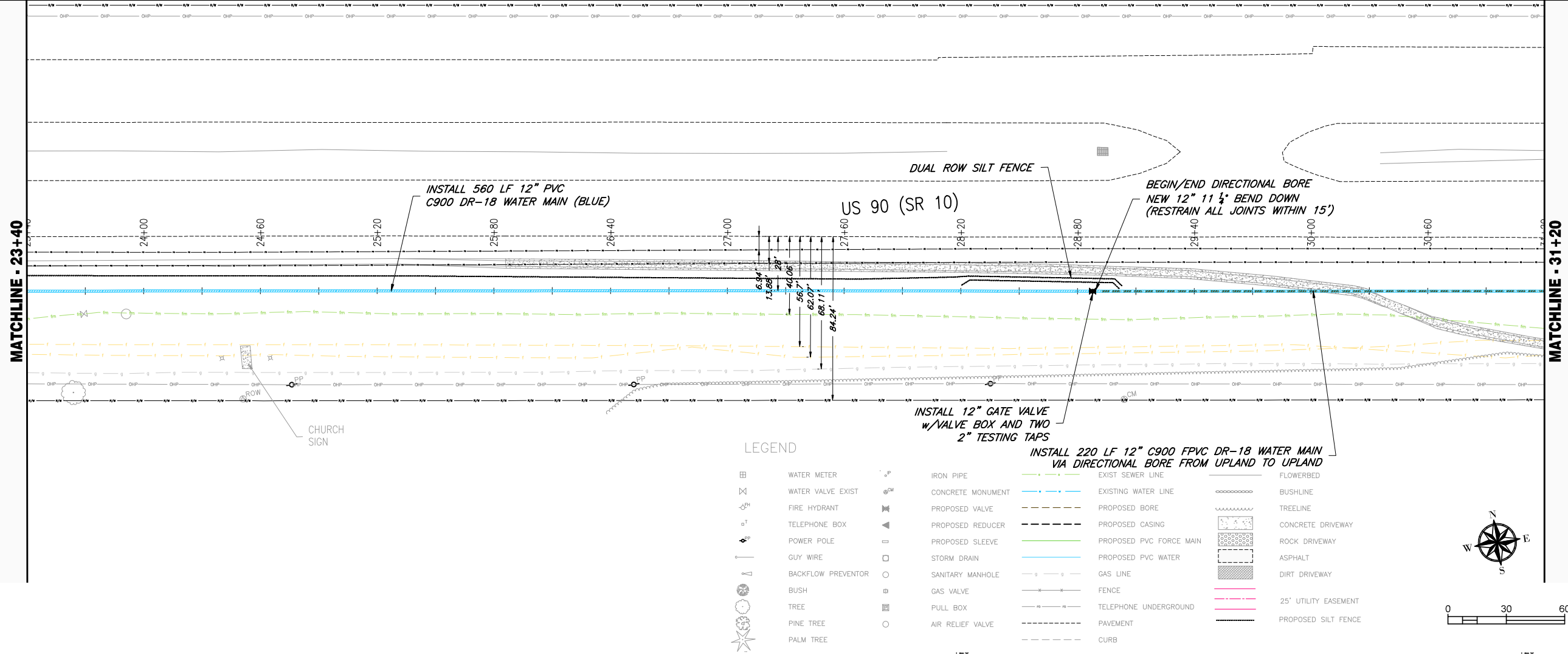
FL: AL-200157 (011118)
 CA-918 (011118)
 LS-20132

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HWY 90 EAST WATER AND SEWER MAIN EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

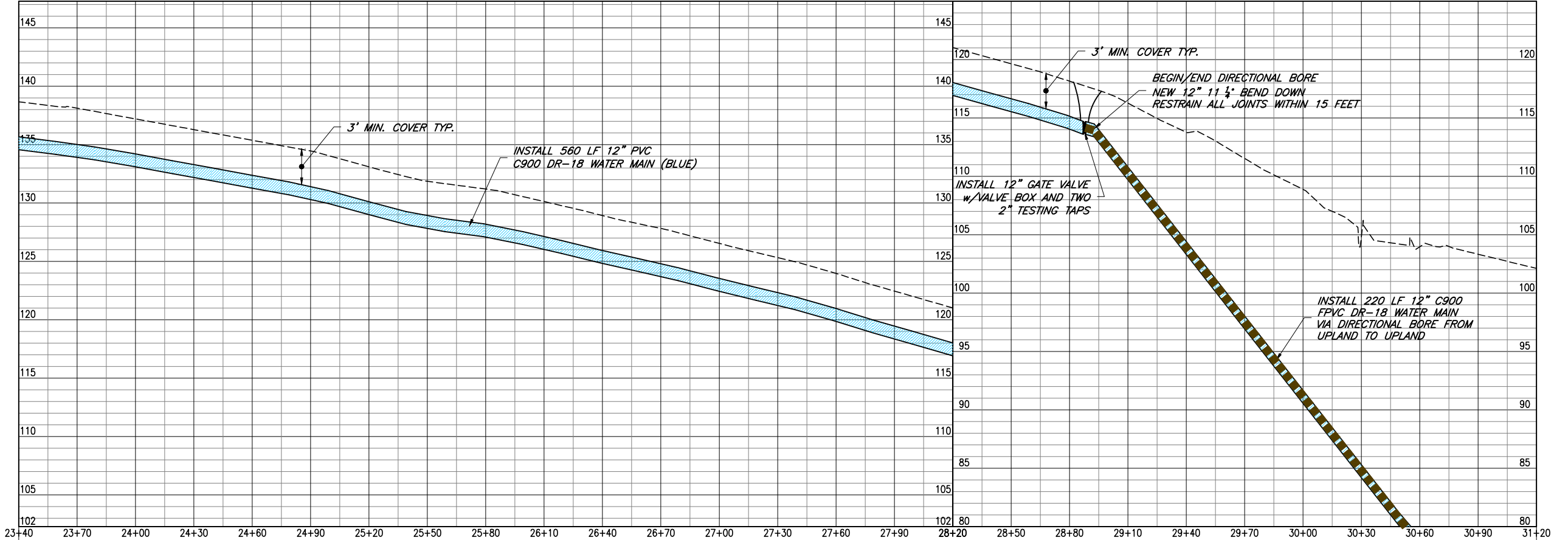
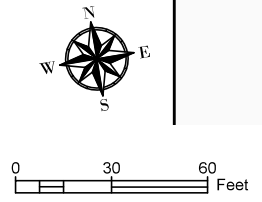
SHEET No. **C-16**
 PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 900+00.dwg [WMI along Hwy 9023+40.00] Last Printed: January 03, 2020 - 03:21pm By: ME:ians



LEGEND

	WATER METER		IRON PIPE		PROPOSED VALVE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED REDUCER		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED SLEEVE		PROPOSED PVC CASING		CONCRETE DRIVEWAY
	POWER POLE		STORM DRAIN		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		SANITARY MANHOLE		PROPOSED GAS LINE		ASPHALT
	BACKFLOW PREVENTOR		GAS VALVE		FENCE		DIRT DRIVEWAY
	BUSH		PULL BOX		TELEPHONE UNDERGROUND		25' UTILITY EASEMENT
	TREE		AIR RELIEF VALVE		PAVEMENT		PROPOSED SILT FENCE
	PINE TREE		CURB				
	PALM TREE						



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36803
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: Michael C. Evans, P.E.
 No. 001118
 State: AL
 License: CA-2018-001118

Surveyor: Michael C. Evans, P.E.
 No. 001118
 State: AL
 License: SA-2018-001118

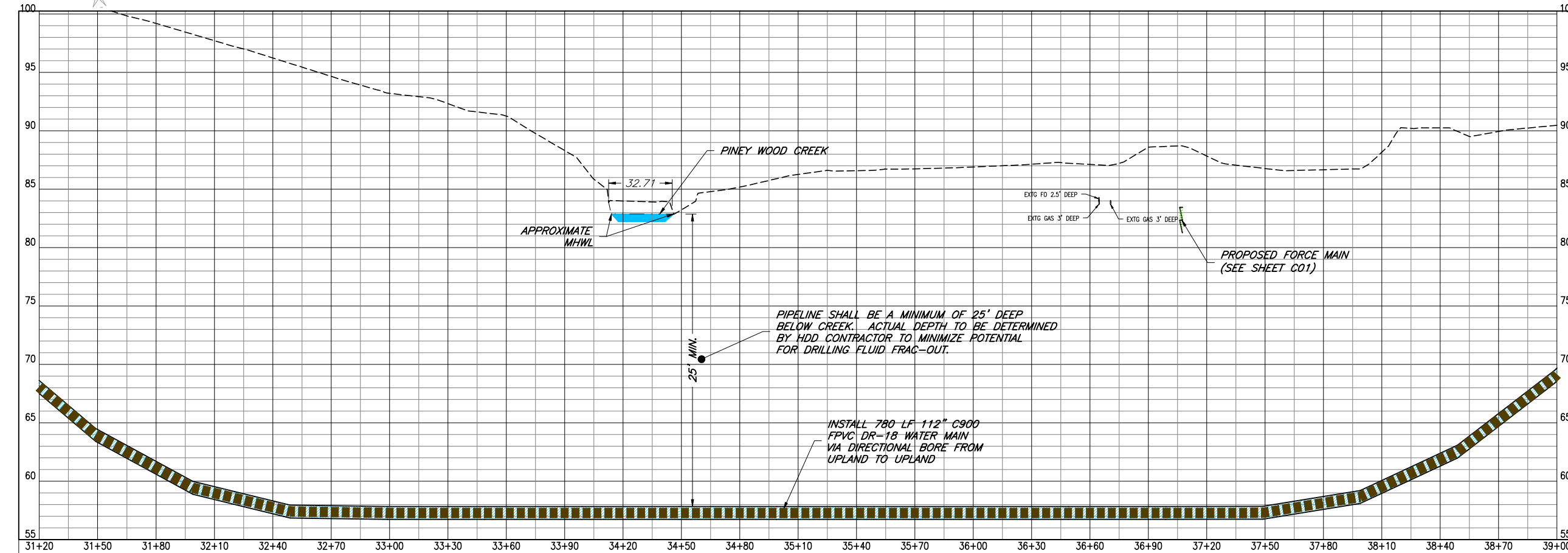
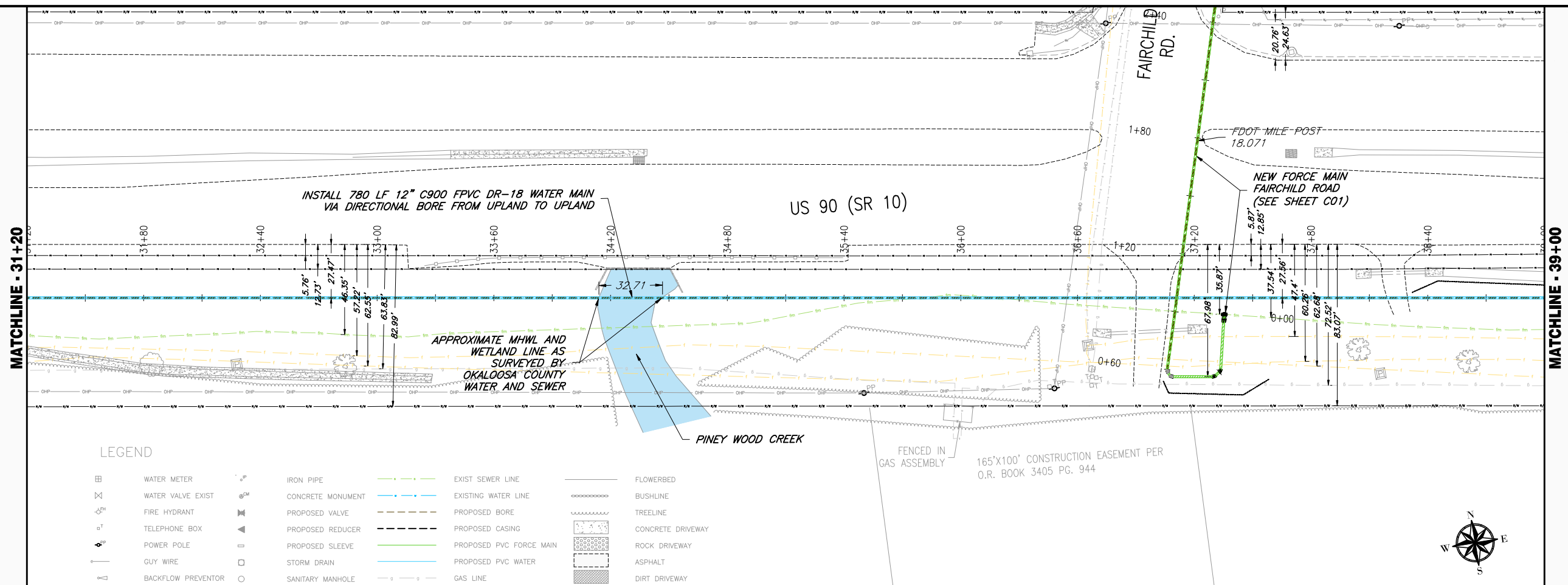
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-17**

PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&S\WP103-CIVIL\WMM along Hwy 900+00.dwg [WMM along Hwy 9031+20.00] Last Printed: January 03, 2020 - 03:24pm By: ME:ians



Revision	Description

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 1935 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Cent. of Auth. No. AL
 ARCHITECT CA-0460 AL-0201851 011118
 ENGINEER CA-794E CA-918 011118
 SURVEY CA-0794-S 18732 LS20132

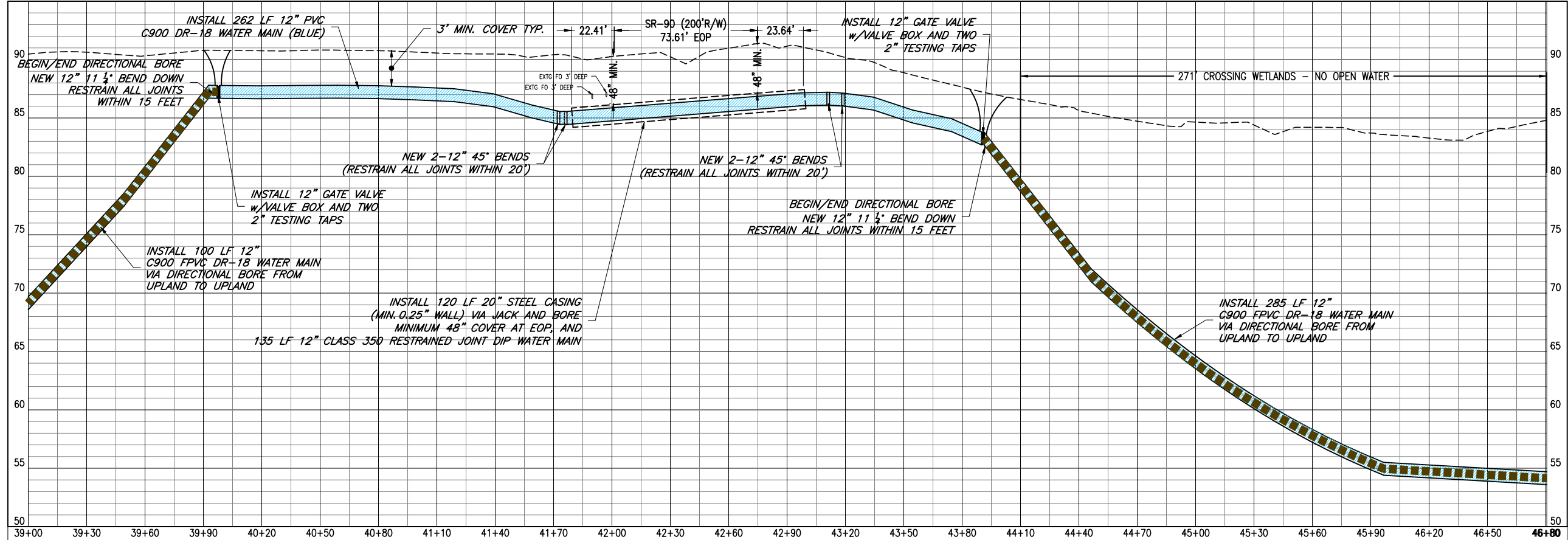
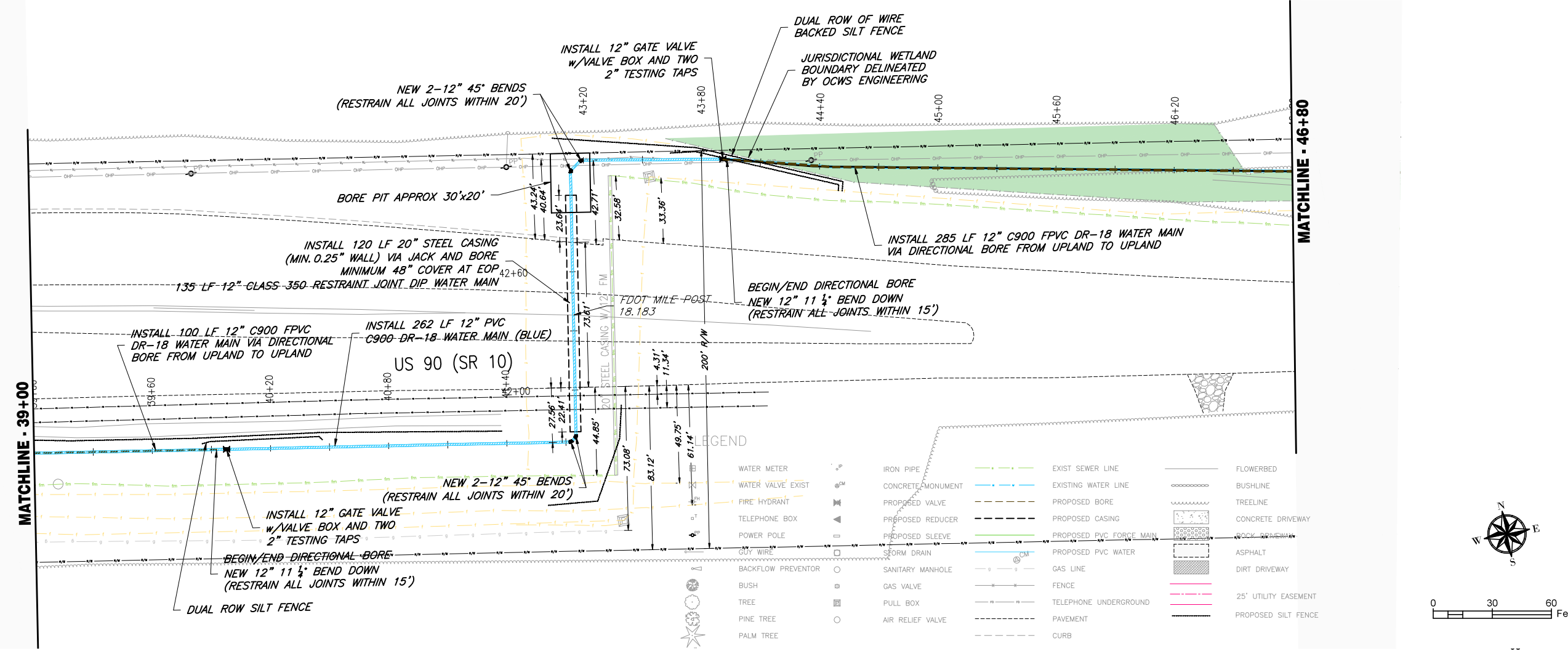
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-18**

PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&S\WP\03-CIVIL\WM along Hwy 9039+00.00.dwg [WM along Hwy 9039+00.00] Last Printed: January 03, 2020 - 03:26pm By: MEvans



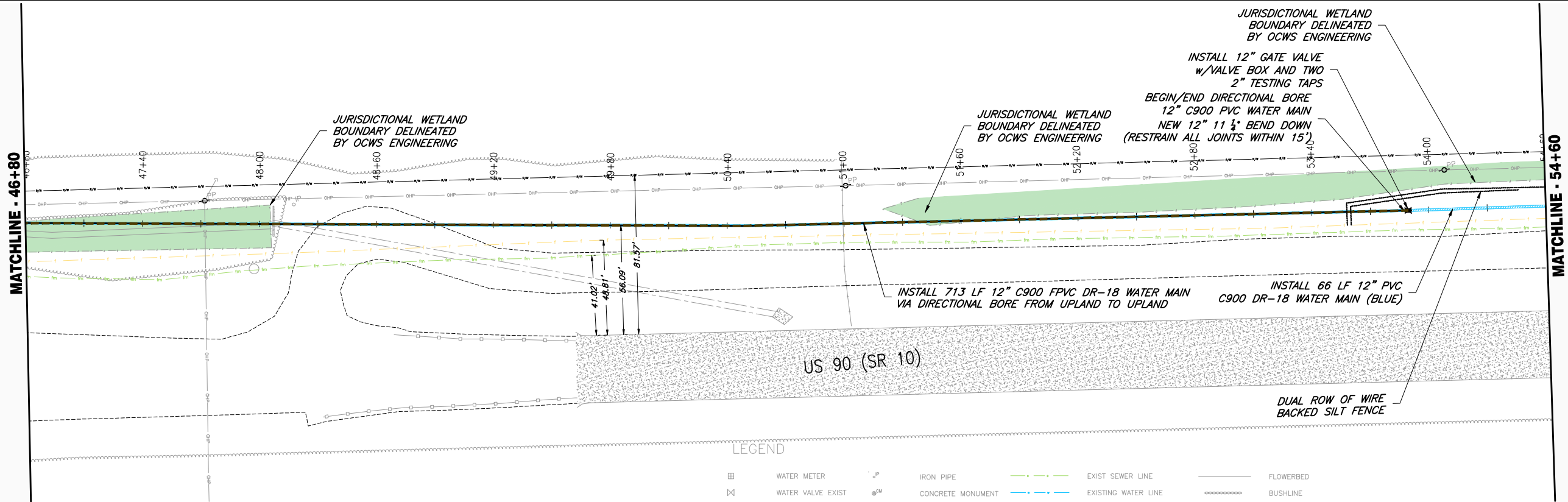
Revision	Description

DATE: JULY 2019
 DRAWN BY: DWF
 DESIGNED BY: MCE
 ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 Cent. of Auth. No. AL-00001551 (011118)
 ARCHITECT: CA-0460
 ENGINEER: CA-7918 (011118)
 SURVEY: CA-0704-S (18727)
 REGISTRATION No. 59311
 O.A. FL
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 Dothan, AL 36503
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 Tallahassee, FL 32379
 904-668-1100
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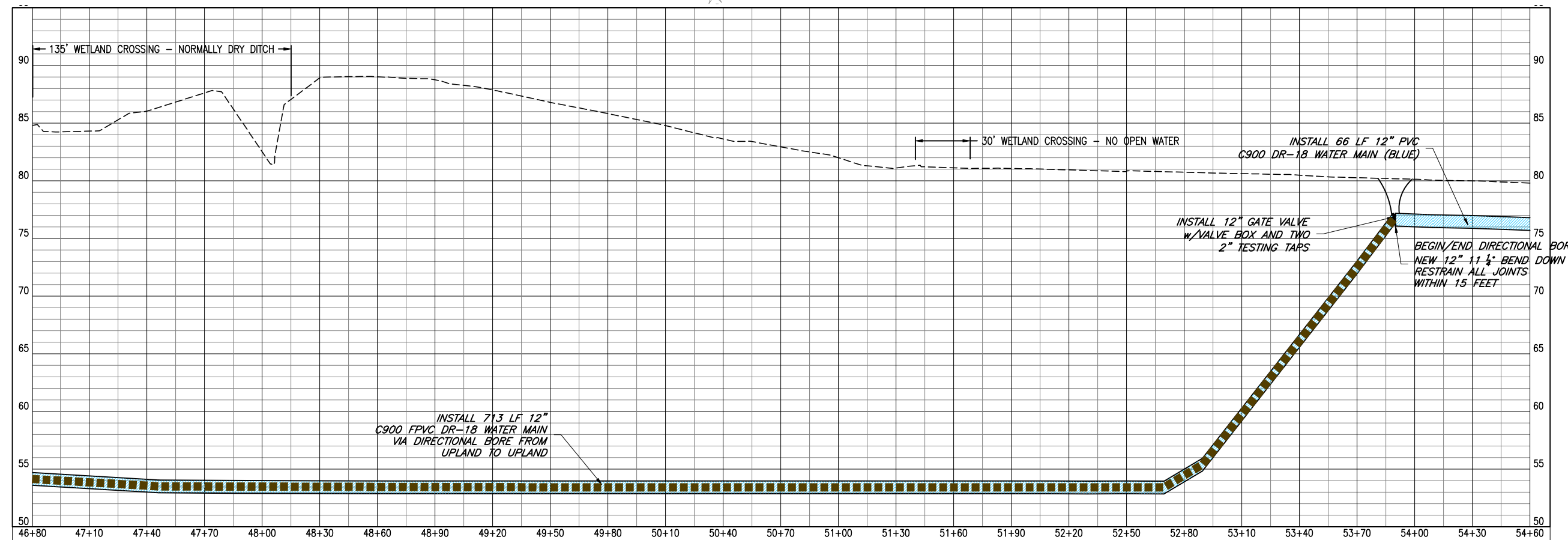
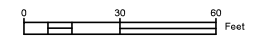
HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER
 SHEET No. **C-19**
 PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&S\WP103-CIVIL\WMI along Hwy 90\46+80.dwg [WMI along Hwy 90\46+80.dwg] Last Printed: January 03, 2020 - 03:29pm By: ME/ians



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

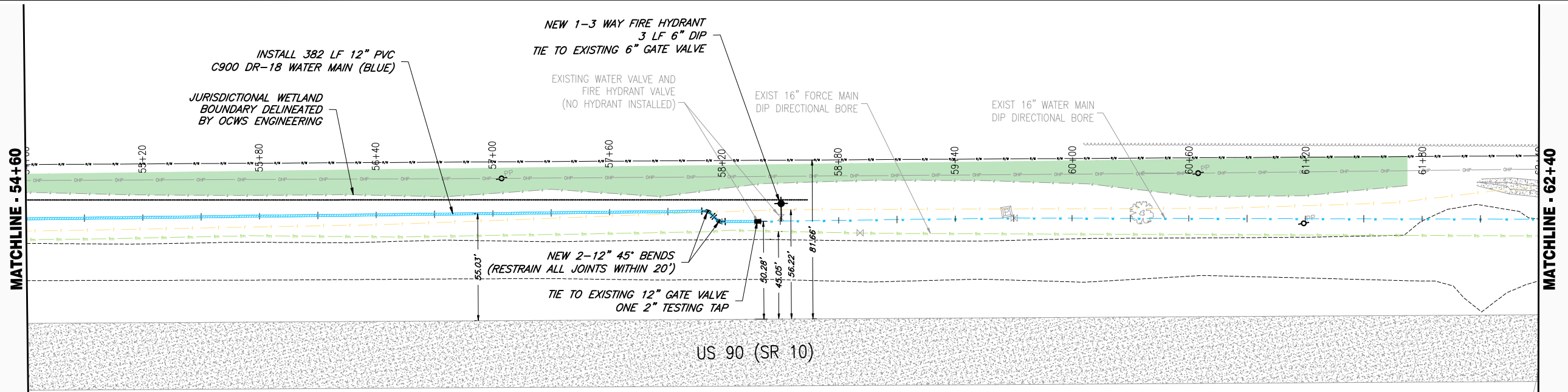
DATE	JULY 2019
DRAWN BY	DWF
DESIGNED BY	MCE
REGISTRATION No.	59311
ARCHITECT	CA746
ENGINEER	CA746
SURVEY	CA704-S
FLORIDA REG. NO.	001118
ALABAMA REG. NO.	001118
LOUISIANA REG. NO.	LS20032

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
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 102 Sunset Lane
 Tallahassee, AL 36401
 904-668-1100
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HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

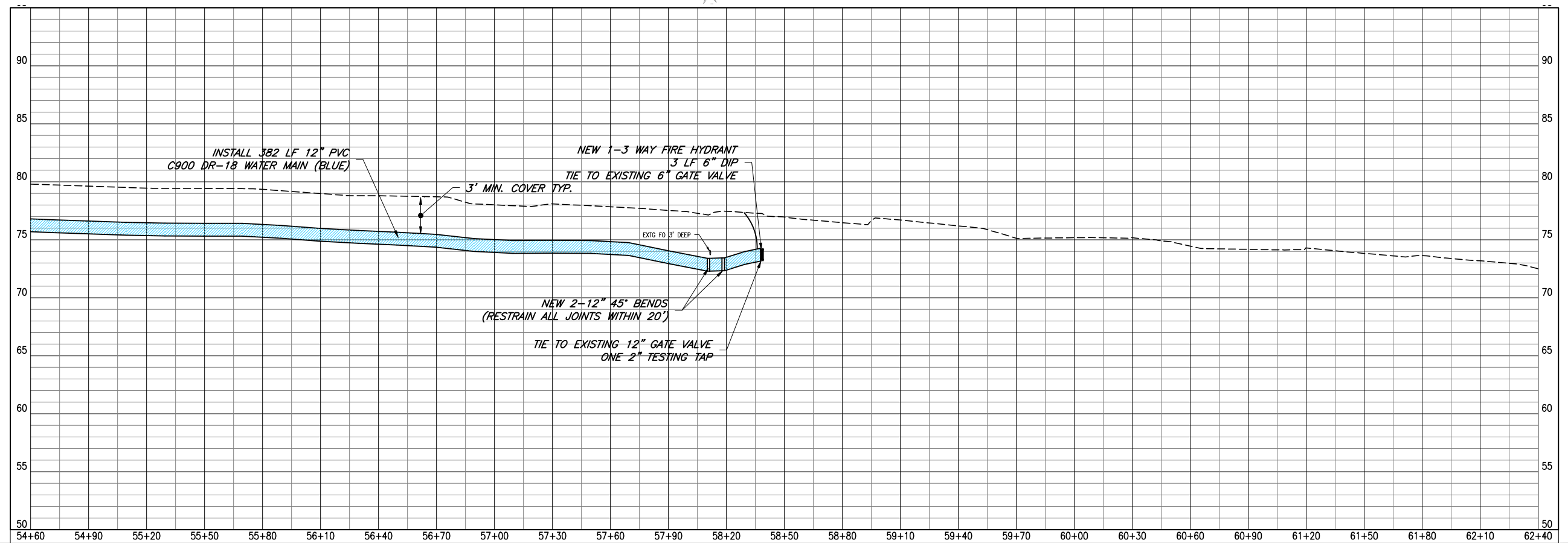
SHEET No.
C-20
 PROJECT No.
 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER\41 Okaloosa\4-470 HWY 90 W&S\WP103-CIVIL\WM along Hwy 9039+00.00.dwg [WM along Hwy 9054+60.00] Last Printed: January 03, 2020 - 03:31pm By: ME/ians



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREENLINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				

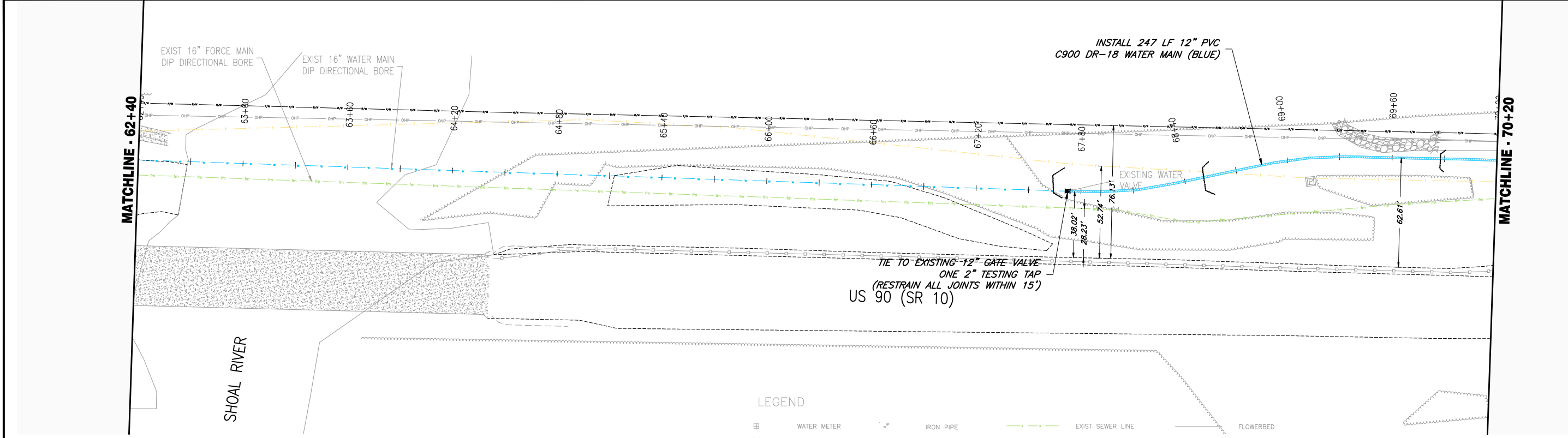


NO.	DATE	DESCRIPTION

DATE: JULY 2019
 DRAWN BY: DMF
 DESIGNED BY: MCE
 ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 Cent. of Auth. No. AL-0001851 (01118)
 ARCHITECT: CA-0460
 ENGINEER: CA-734E
 SURVEY: CA-0784-S (18732) LSF0232
 REGISTRATION No. 59311
 FL. CA. 0A.
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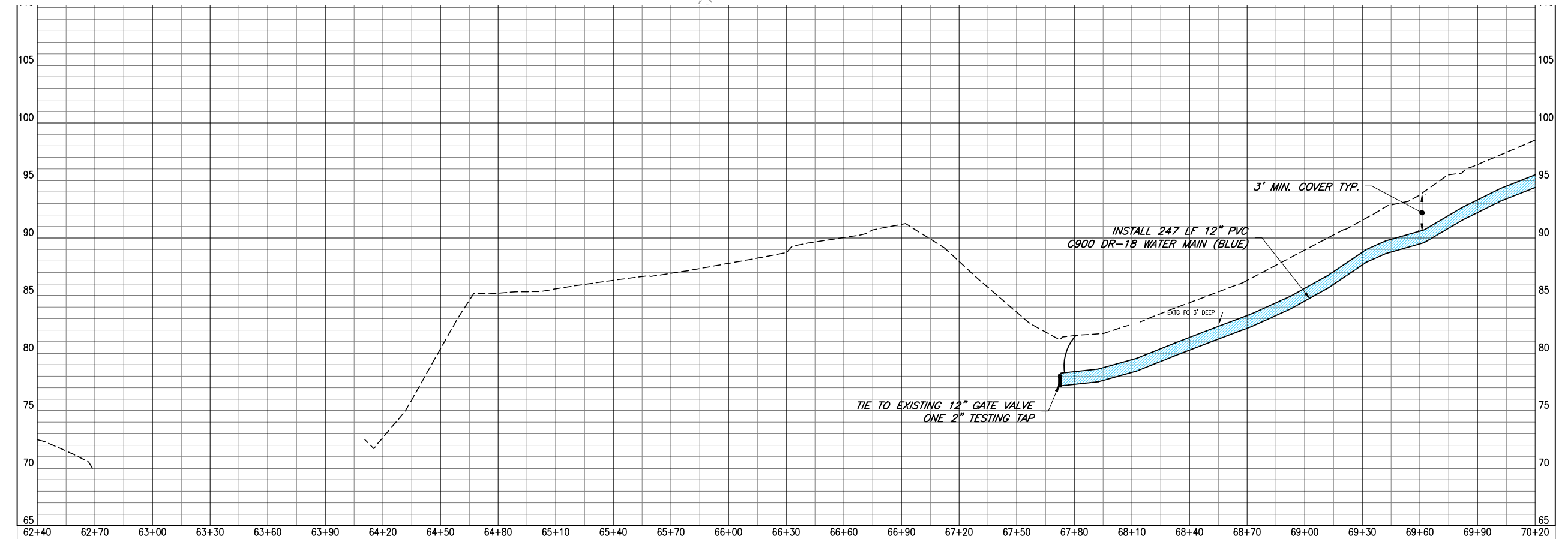
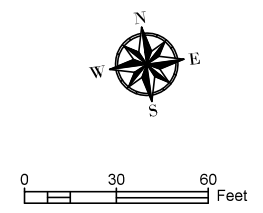
HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER
 POLY, INC.
 1926 Headland Avenue
 Dothan, AL 36833
 334-734-4700
 102 Sunset Lane
 Tallahassee, FL 32379
 850-409-1100
 202-752-4037
 WWW.POLY-INC.COM

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&S\WIP\03-CIVIL\WMI along Hwy 9039+00.00.dwg [WMI along Hwy 9062+40.00] Last Printed: January 03, 2020 - 03:34pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

POLY, INC.
 1955 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

FL. O.A.
 ARCHITECT CA-0460 AL-0201851 001118
 ENGINEER CA-7346 CA-918 001118
 SURVEY CA-0784-S 187327 LS-20132

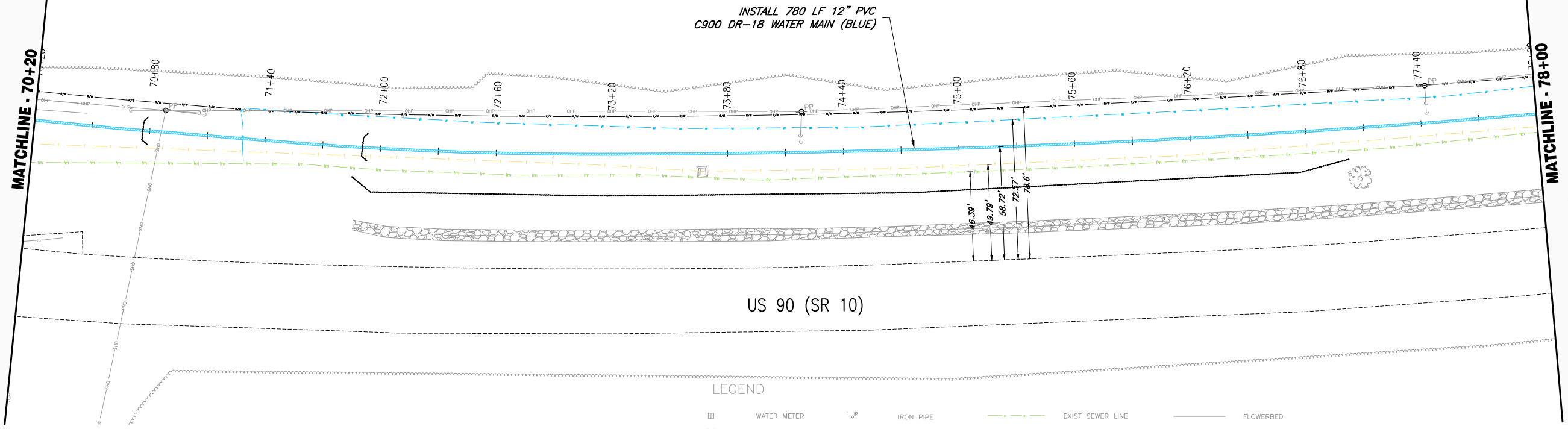
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HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-22

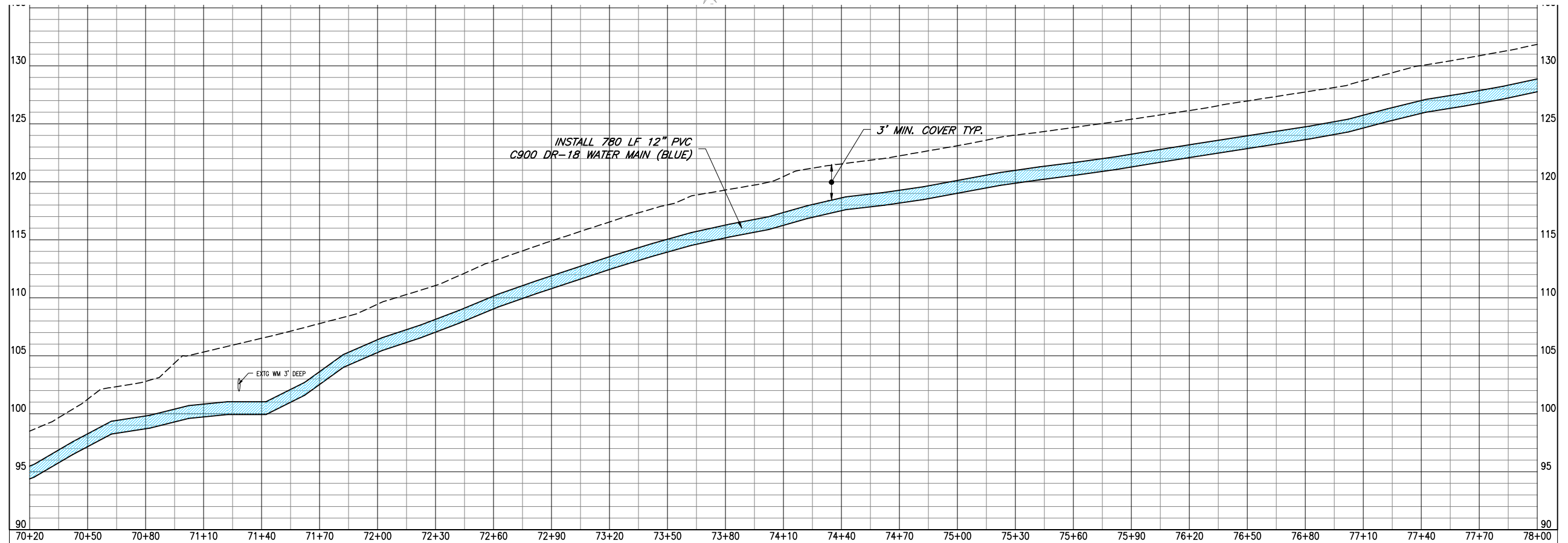
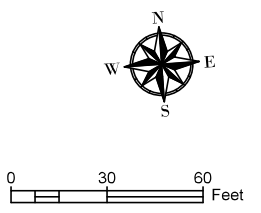
PROJECT No.
 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWMP\03-CIVIL\WMI along Hwy 9039+00.00.dwg [WMI along Hwy 9070+20.00] Last Printed: January 03, 2020 - 03:36pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description	Date

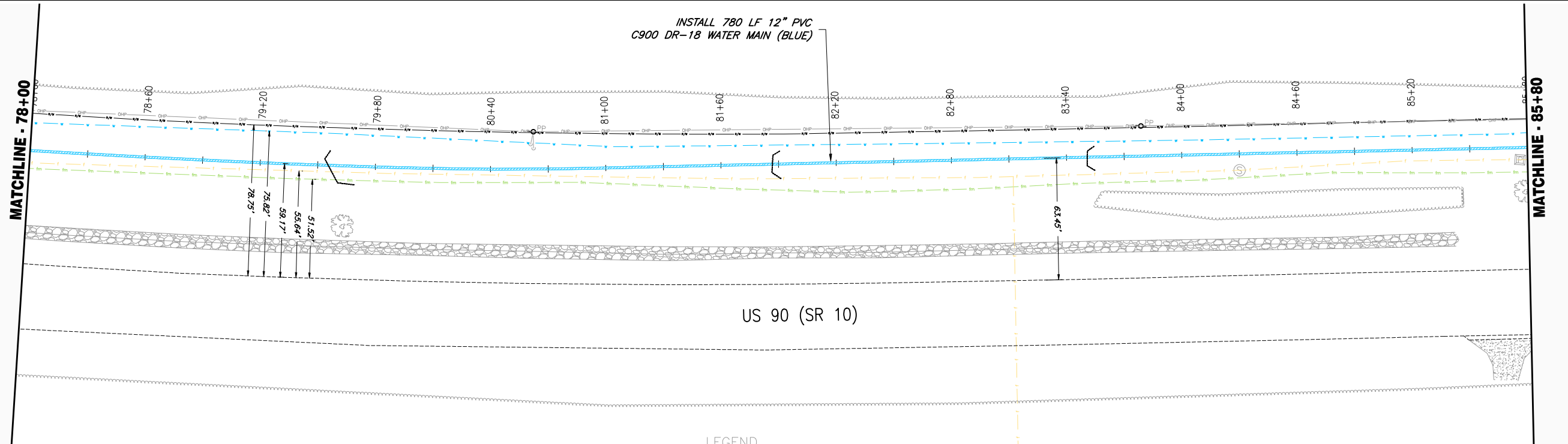
DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311
 State of Florida
 License No. CA-20185 | CA-20185 | 011118
 License No. CA-20185 | CA-20185 | 011118
 License No. CA-20185 | CA-20185 | 011118
 License No. CA-20185 | CA-20185 | 011118

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 334-734-4700
 102 Sunset Lane
 Tallahassee, FL 32379
 904-668-1100
 WWW.POLY-INC.COM

HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

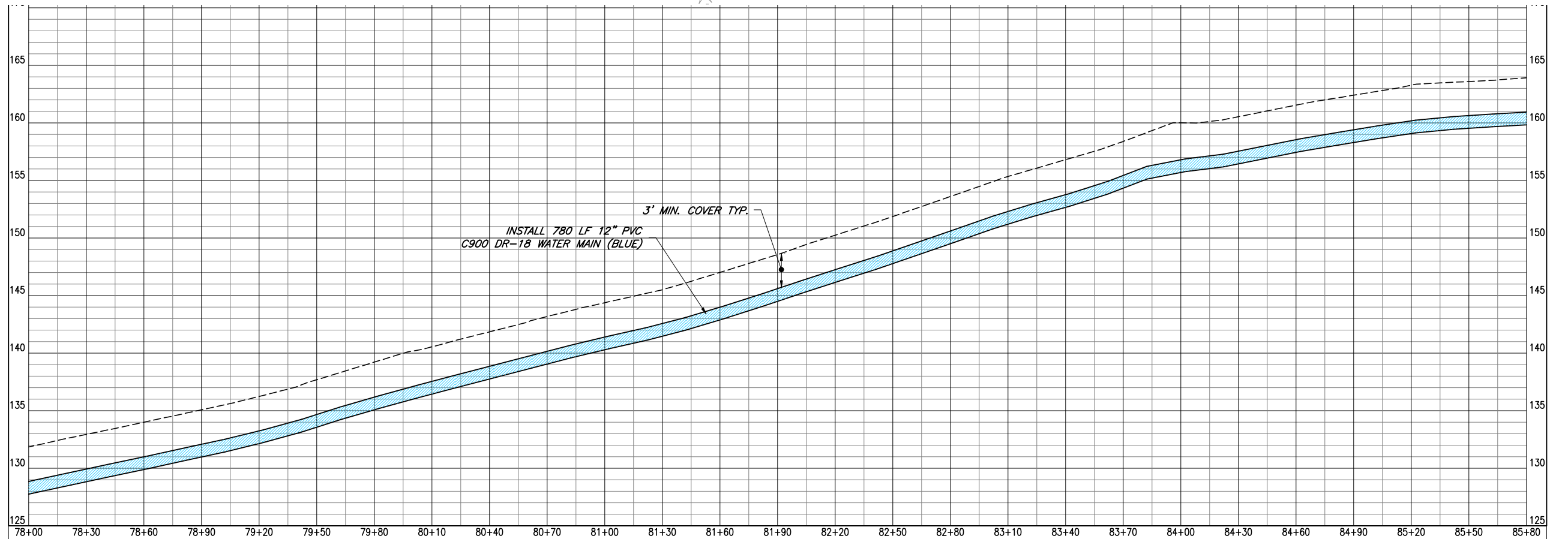
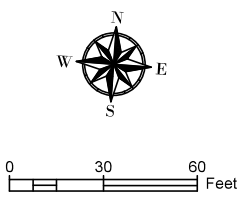
SHEET No.
C-23
 PROJECT No.
 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 9078+00.00.dwg [WMI along Hwy 9078+00.00] Last Printed: January 03, 2020 - 03:41pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

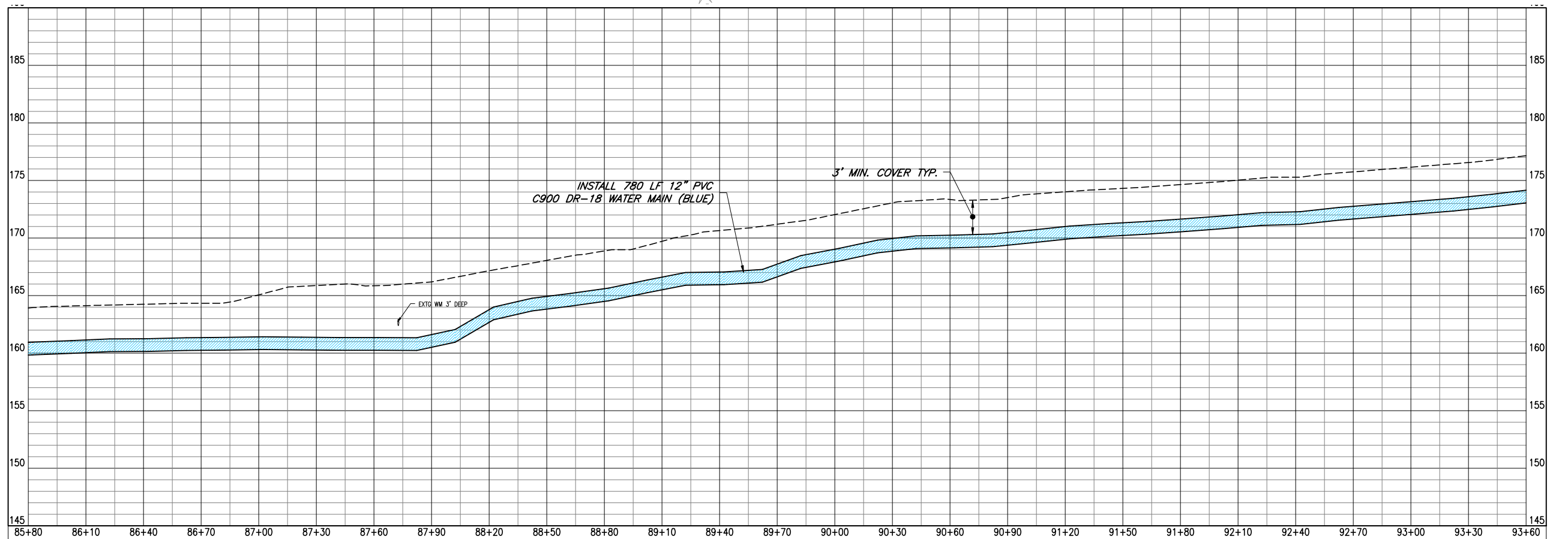
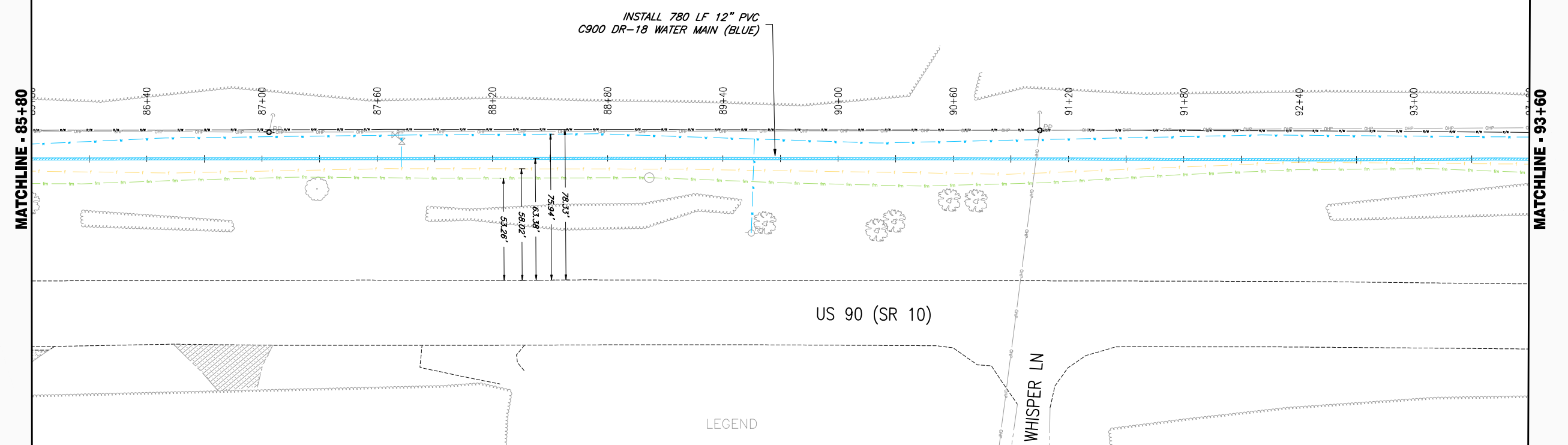
FL. O.A. No. A-2001851 (01118)
 ARCHITECT CA-0460
 ENGINEER CA-734E
 SURVEY CA-0784-S (87327) (LSP0032)

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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-24**

PROJECT No. 41-470



Revision	Description

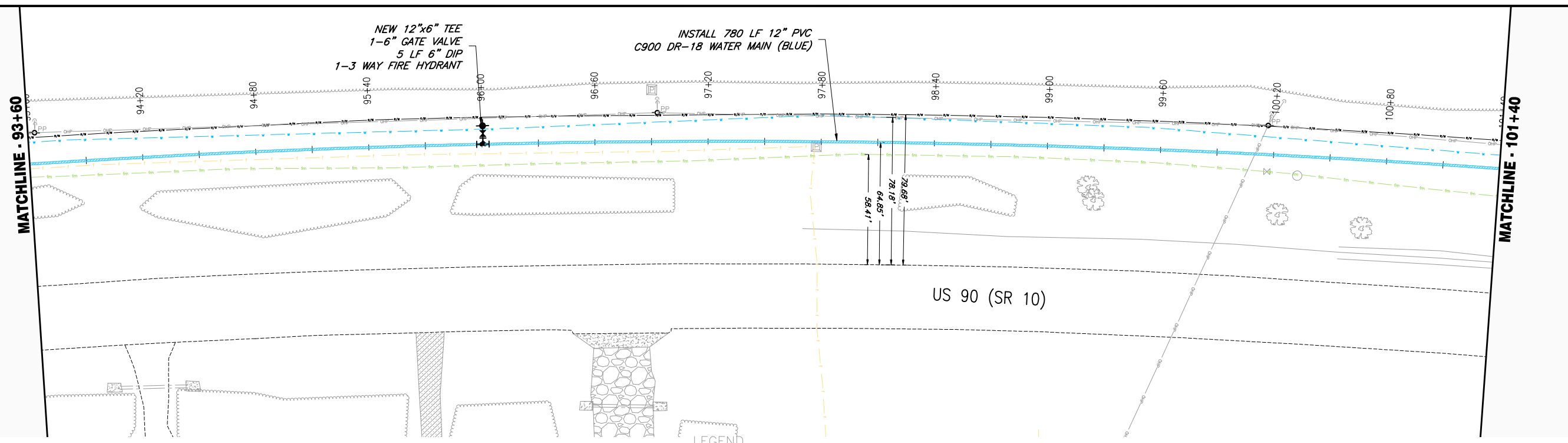
DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
 1935 Headland Avenue
 Dothan, AL 36803
 334-734-4700
WWW.POLY-INC.COM

DRAWN BY: DWF
DATE: JULY 2019
REGISTRATION No.: 59311

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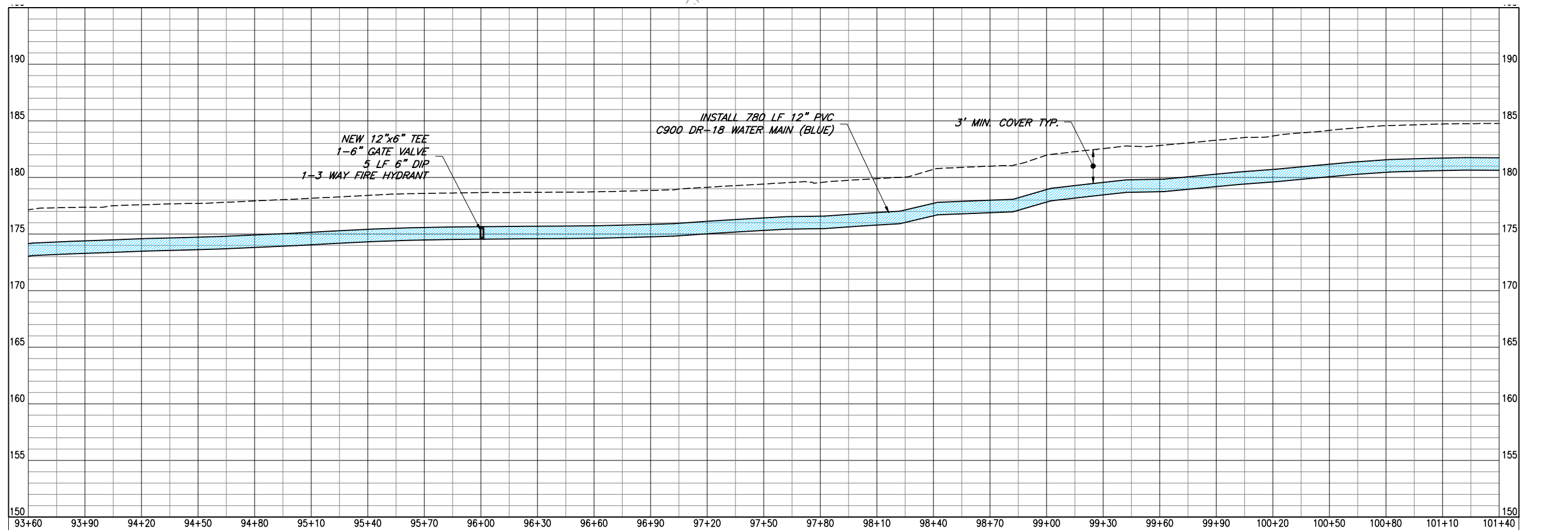
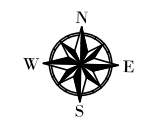
HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWMP\03-CIVIL\WMI along Hwy 9078+00.00.dwg [WMI along Hwy 9083+60.00] Last Printed: January 03, 2020 - 03:46pm By: MEvans



LEGEND

- | | | | | | | | |
|--|--------------------|--|-------------------|--|-------------------------|--|----------------------|
| | WATER METER | | IRON PIPE | | EXIST SEWER LINE | | FLOWERBED |
| | WATER VALVE EXIST | | CONCRETE MONUMENT | | EXISTING WATER LINE | | BUSHLINE |
| | FIRE HYDRANT | | PROPOSED VALVE | | PROPOSED BORE | | TREELINE |
| | TELEPHONE BOX | | PROPOSED REDUCER | | PROPOSED CASING | | CONCRETE DRIVEWAY |
| | POWER POLE | | PROPOSED SLEEVE | | PROPOSED PVC FORCE MAIN | | ROCK DRIVEWAY |
| | GUY WIRE | | STORM DRAIN | | PROPOSED PVC WATER | | ASPHALT |
| | BACKFLOW PREVENTOR | | SANITARY MANHOLE | | GAS LINE | | DIRT DRIVEWAY |
| | BUSH | | GAS VALVE | | FENCE | | 25' UTILITY EASEMENT |
| | TREE | | PULL BOX | | TELEPHONE UNDERGROUND | | PROPOSED SILT FENCE |
| | PINE TREE | | AIR RELIEF VALVE | | PAVEMENT | | |
| | PALM TREE | | CURB | | | | |



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

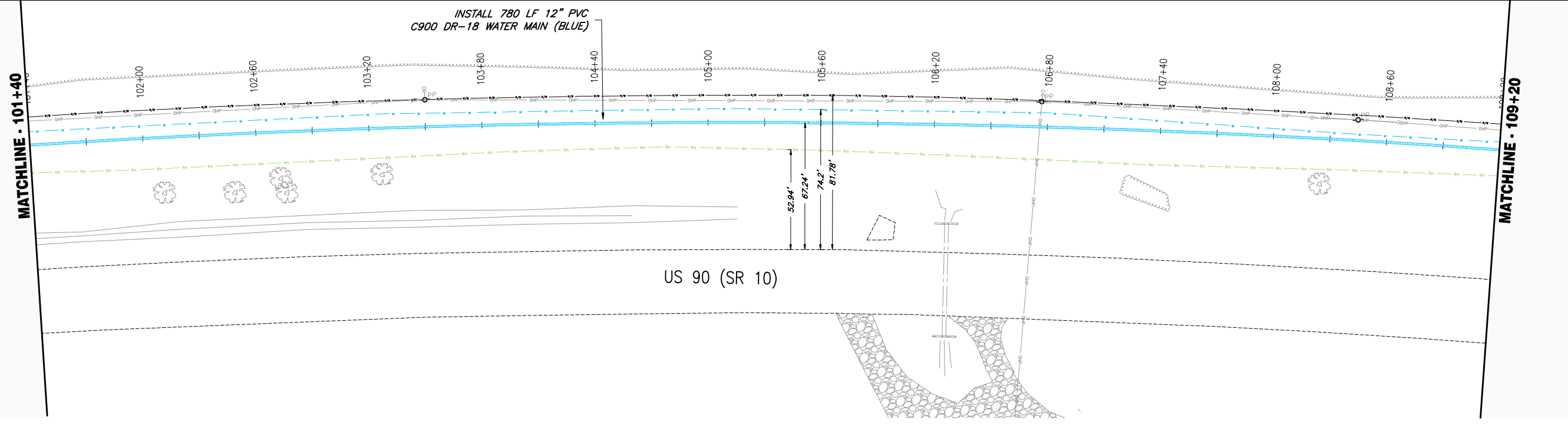
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 ENGINEER CA-7346
 SURVEY CA-0784-S (47327) (LSP0132)

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HWY 90 EAST WATER AND SEWER MAIN EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-26**

PROJECT No. 41-470

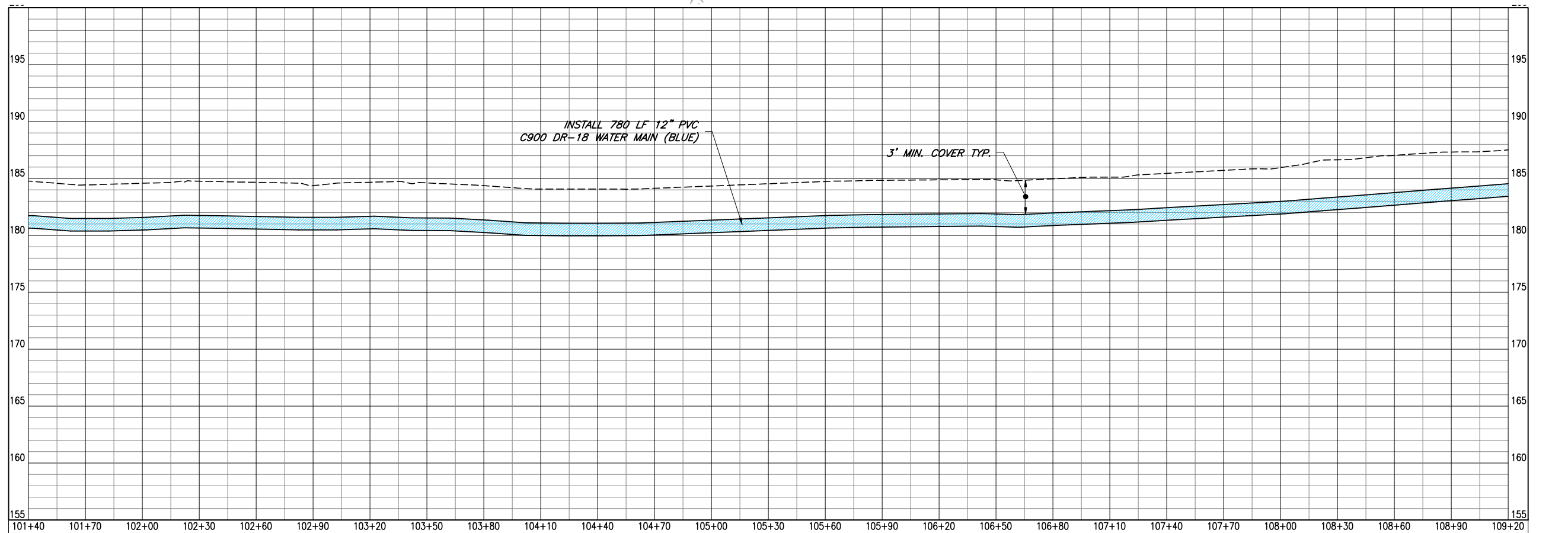
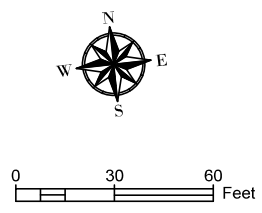


INSTALL 780 LF 12" PVC
C900 DR-18 WATER MAIN (BLUE)

US 90 (SR 10)

LEGEND

- | | | | | | | | |
|--|--------------------|--|-------------------|--|-------------------------|--|----------------------|
| | WATER METER | | IRON PIPE | | EXIST SEWER LINE | | FLOWERBED |
| | WATER VALVE EXIST | | CONCRETE MONUMENT | | EXISTING WATER LINE | | BUSHLINE |
| | FIRE HYDRANT | | PROPOSED VALVE | | PROPOSED BORE | | TREELINE |
| | TELEPHONE BOX | | PROPOSED REDUCER | | PROPOSED CASING | | CONCRETE DRIVEWAY |
| | POWER POLE | | PROPOSED SLEEVE | | PROPOSED PVC FORCE MAIN | | ROCK DRIVEWAY |
| | GUY WIRE | | STORM DRAIN | | PROPOSED PVC WATER | | ASPHALT |
| | BACKFLOW PREVENTOR | | SANITARY MANHOLE | | GAS LINE | | DIRT DRIVEWAY |
| | BUSH | | GAS VALVE | | FENCE | | 25' UTILITY EASEMENT |
| | TREE | | PULL BOX | | TELEPHONE UNDERGROUND | | PROPOSED SILT FENCE |
| | PINE TREE | | AIR RELIEF VALVE | | PAVEMENT | | |
| | PALM TREE | | CURB | | | | |



INSTALL 780 LF 12" PVC
C900 DR-18 WATER MAIN (BLUE)

3' MIN. COVER TYP.



Revision	Description

DESIGNED BY: MCE
ENGINEER: MICHAEL C. EVANS, P.E.
DATE: JULY 2019
REGISTRATION No.: 59311
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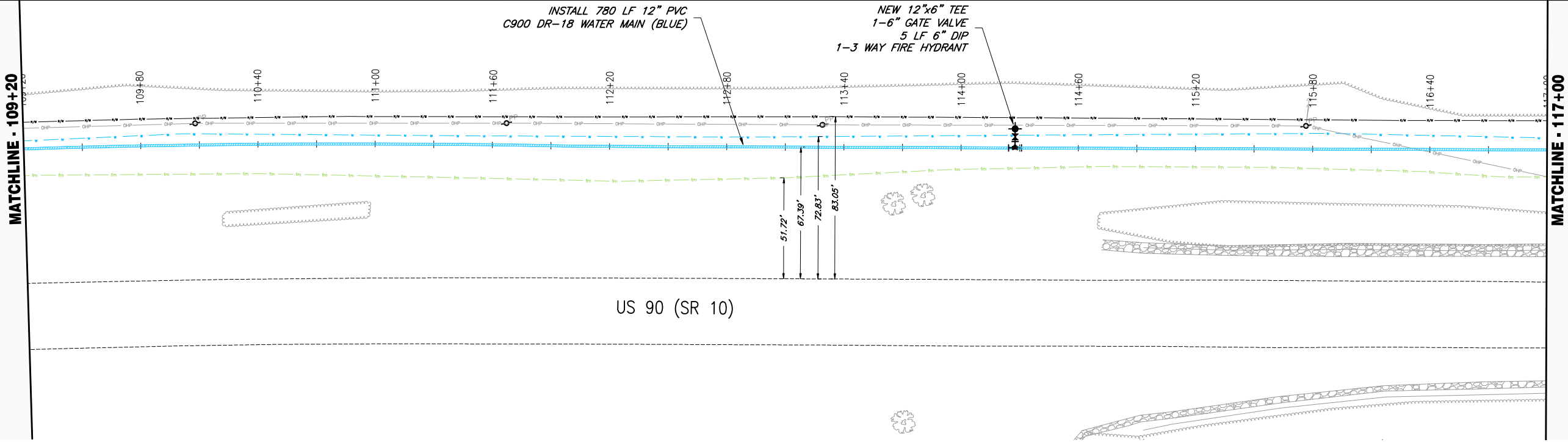
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POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36833
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-469-1100

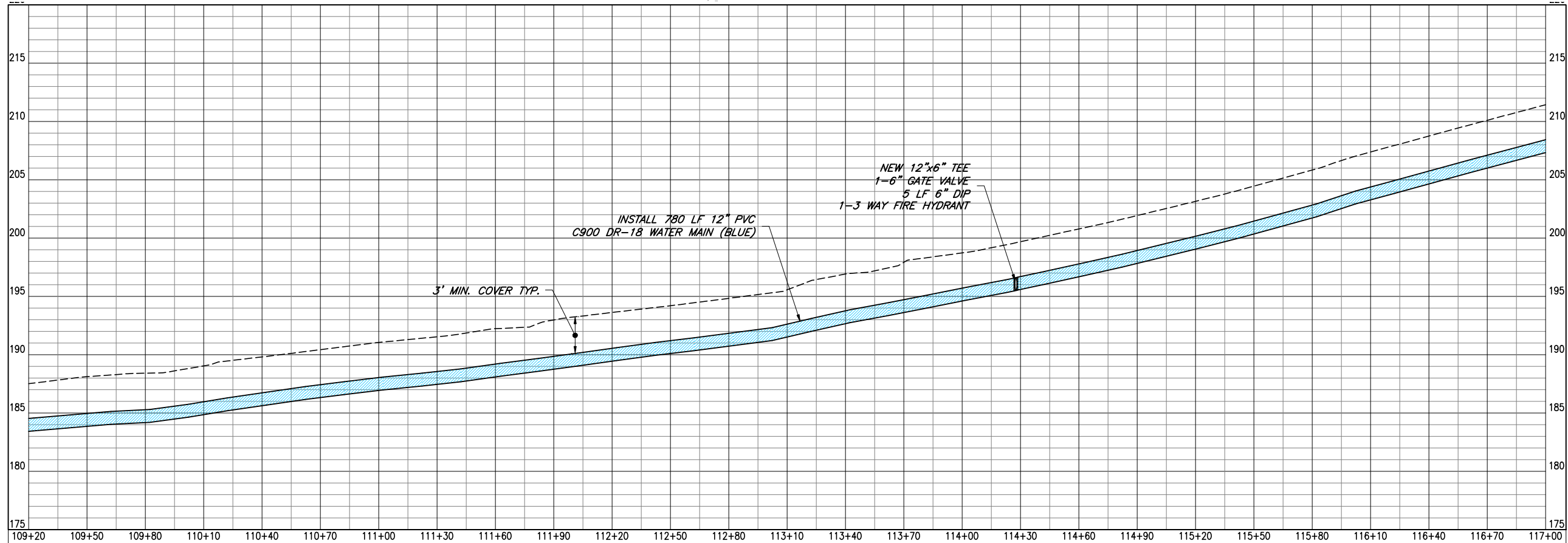
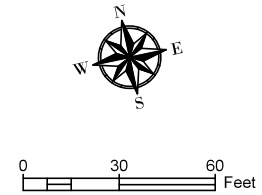
2135 University Blvd, Ste. A
 Tallahassee, AL 32301
 252-732-4037

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&S\WP103-CIVIL\WMI along Hwy 9078+00.00.dwg [WMI along Hwy 90109+20.00] Last Printed: January 03, 2020 - 03:51pm By: MEvans



LEGEND

- | | | | | | | | |
|--|--------------------|--|-------------------|--|-------------------------|--|----------------------|
| | WATER METER | | IRON PIPE | | EXIST SEWER LINE | | FLOWERBED |
| | WATER VALVE EXIST | | CONCRETE MONUMENT | | EXISTING WATER LINE | | BUSHLINE |
| | FIRE HYDRANT | | PROPOSED VALVE | | PROPOSED BORE | | TREELINE |
| | TELEPHONE BOX | | PROPOSED REDUCER | | PROPOSED CASING | | CONCRETE DRIVEWAY |
| | POWER POLE | | PROPOSED SLEEVE | | PROPOSED PVC FORCE MAIN | | ROCK DRIVEWAY |
| | GUY WIRE | | STORM DRAIN | | PROPOSED PVC WATER | | ASPHALT |
| | BACKFLOW PREVENTOR | | SANITARY MANHOLE | | GAS LINE | | DIRT DRIVEWAY |
| | BUSH | | GAS VALVE | | FENCE | | 25' UTILITY EASEMENT |
| | TREE | | PULL BOX | | TELEPHONE UNDERGROUND | | PROPOSED SILT FENCE |
| | PINE TREE | | AIR RELIEF VALVE | | PAVEMENT | | |
| | PALM TREE | | CURB | | | | |



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

FL. O.A. No. A-2001851 (01118)
 AL. ARCHT/ECT No. CA-0460
 GA. ENGINEER No. CA-744E
 SURVEY No. CA-0784-S (18732)

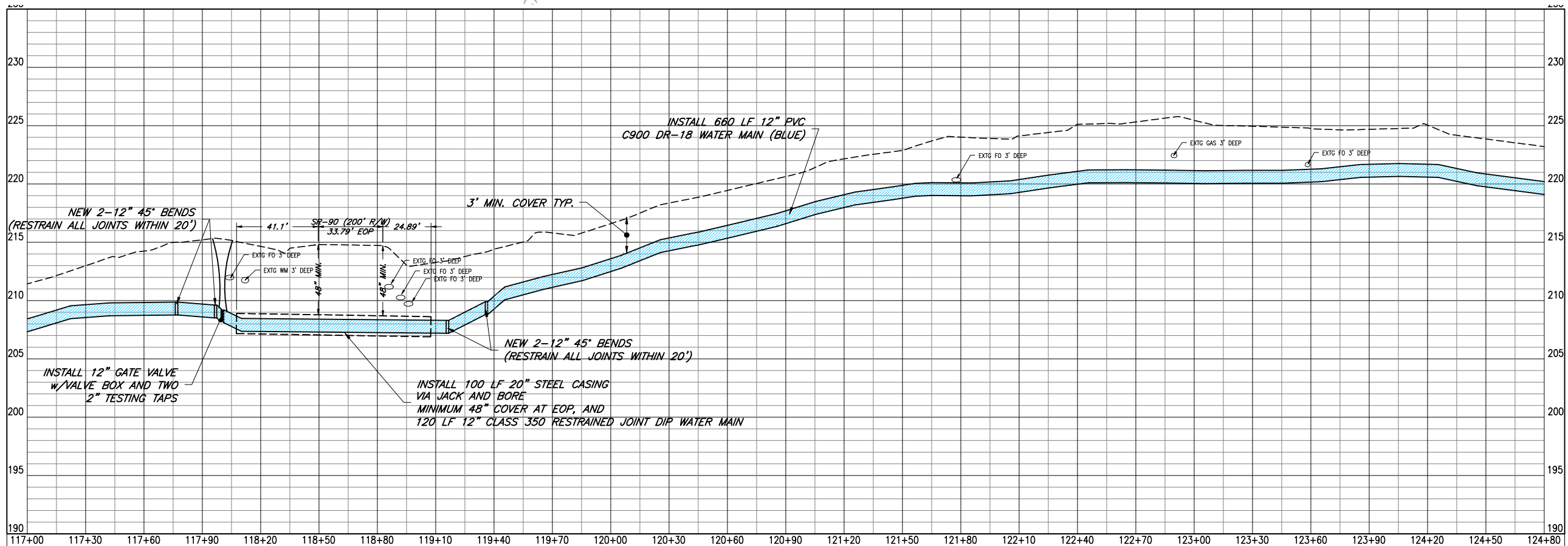
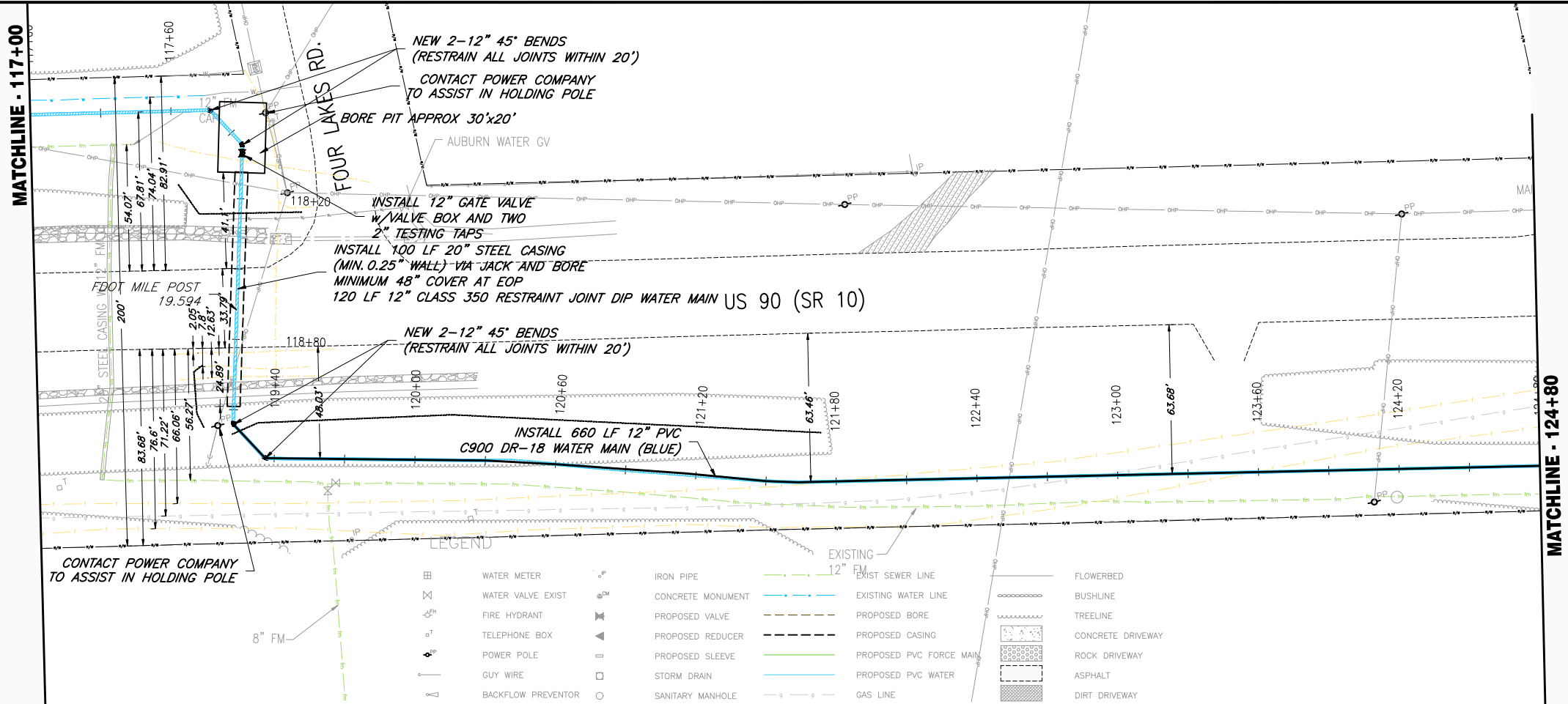
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HWY 90 EAST WATER AND SEWER WORK OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-28**

PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 90117+00.dwg [WMI along Hwy 90117+00.dwg] Last Printed: January 03, 2020 - 03:56pm By: ME/cians



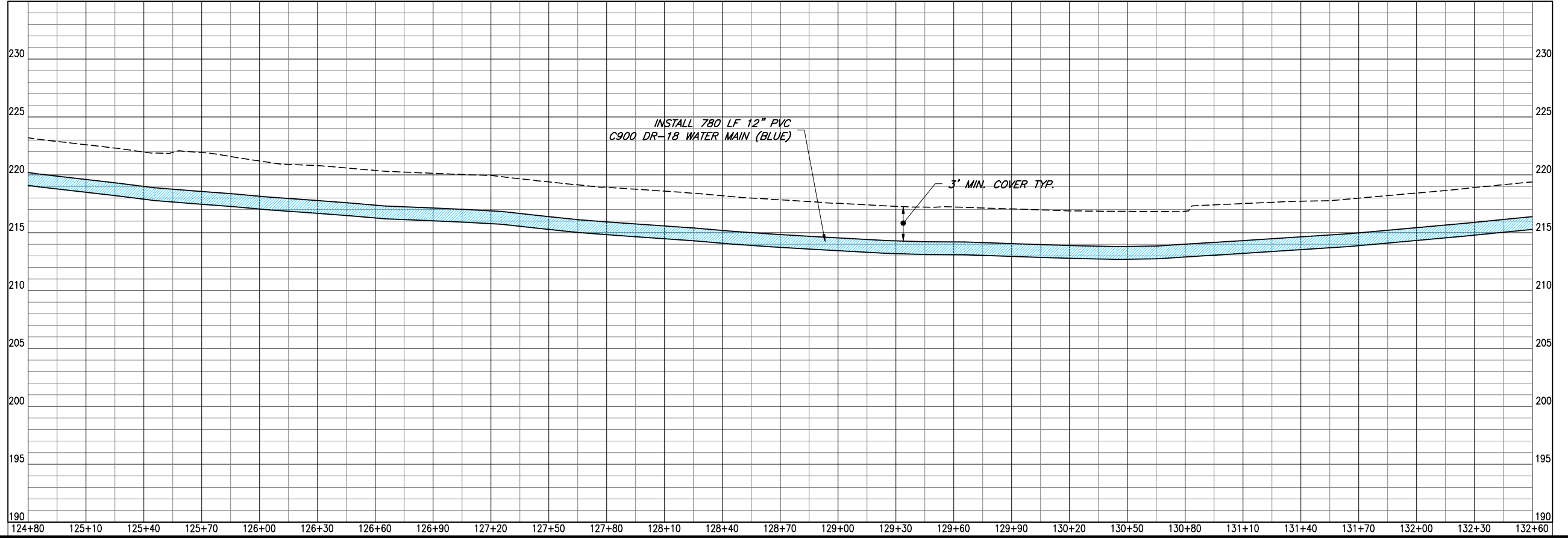
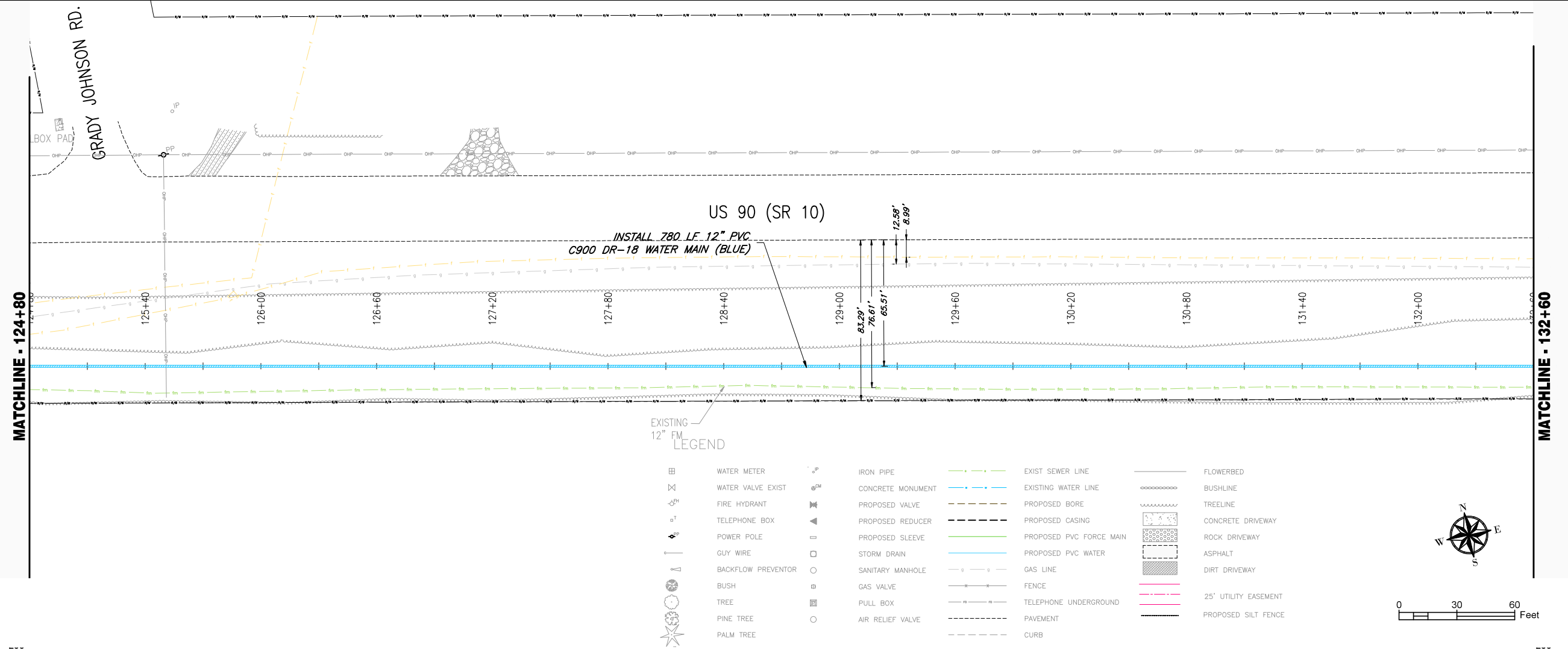
Revision	Description

DATE:	JULY 2019
DRAWN BY:	DWF
DESIGNED BY:	MCE
REGISTRATION No.:	59311
ARCHITECT:	ARCHITECT
ENGINEER:	ENGINEER
SURVEY:	SURVEY

POLY, INC.
 1936 Headland Avenue
 Dothan, AL 36503
 334-734-4700
 102 Sunset Lane
 Tallahassee, FL 32379
 850-469-1100
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HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-29
 PROJECT No.
 41-470



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA7446
 Engineer: CA7446
 Surveyor: CA7014-S-187327

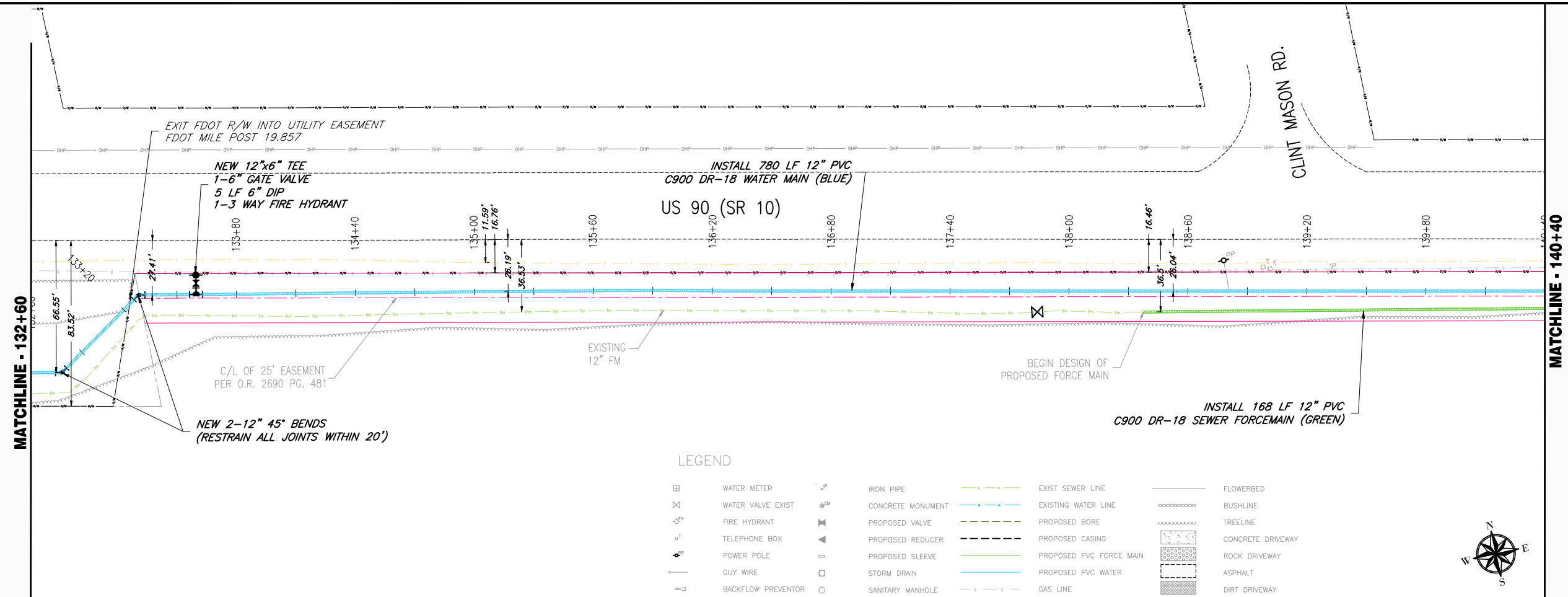
FL: CA2001851
 AL: CA2001851
 GA: 001118
 LA: 001118
 MS: 001118
 NC: 001118
 SC: 001118
 TX: 001118

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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

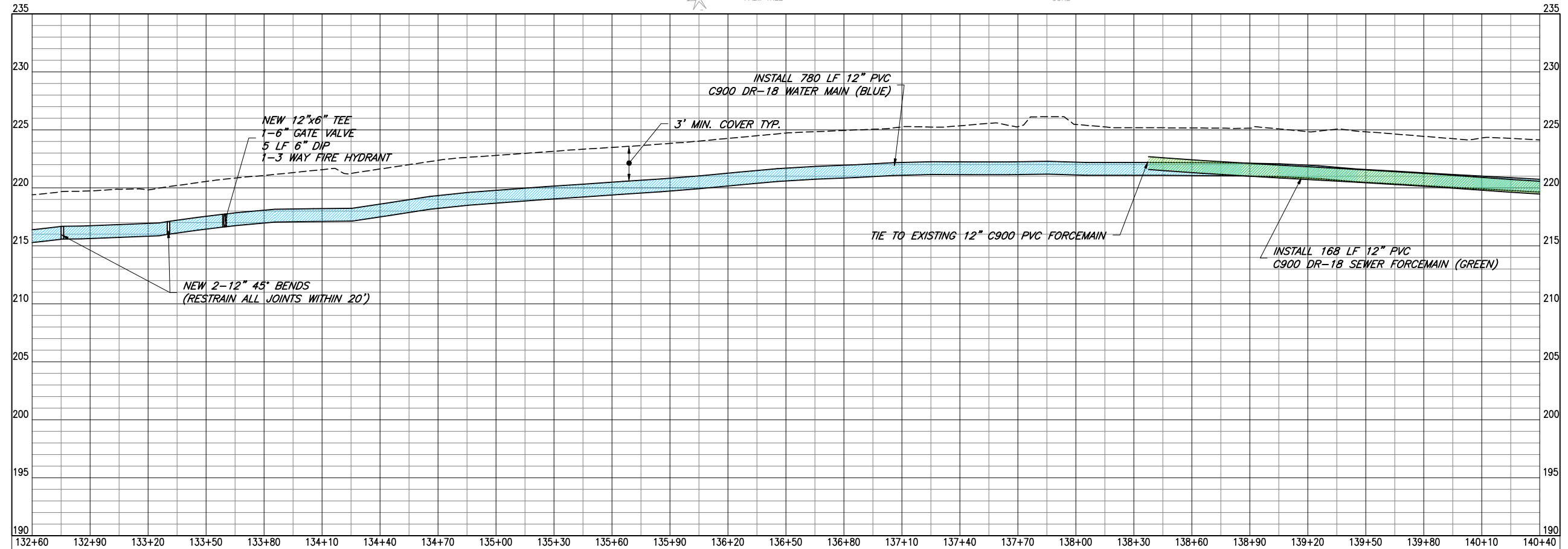
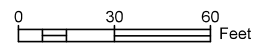
SHEET No. **C-30**

PROJECT No. 41-470



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREENLINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED PAVEMENT
	PINE TREE		AIR RELIEF VALVE		CURB		PROPOSED SILTY FENCE
	PALM TREE						



Revision	Description

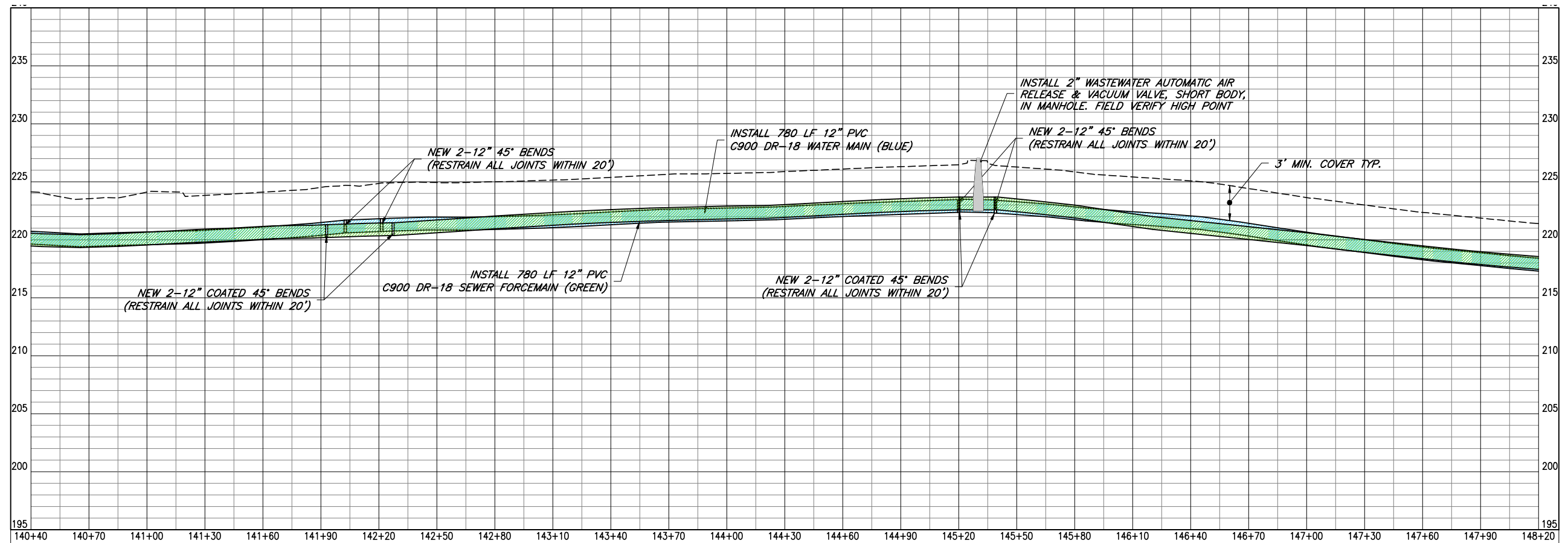
DESIGNED BY: MCE
DRAWN BY: DNF
DATE: JULY 2019
REGISTRATION No.: 59311
ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
Cent. of Auth. No.: FL
ARCHITECT: CA20460 / AL2001851 / 011116
ENGINEER: CA2746E / CA21918 / 011116
SURVEY: CA20194-S / LA27327 / LA20132
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 HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER
SHEET No. C-31
PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&SWMP\03-CIVIL\WMI along Hwy 90117+00.00.dwg [WMI along Hwy 90140+40.00] Last Printed: January 03, 2020 - 04:04pm By: MEvans

LEGEND

	WATER METER		IRON PIPE		EAST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

DATE: JULY 2019	REGISTRATION No. 59311
DRAWN BY: DWF	DESIGNED BY: MIC
ENGINEER: MICHAEL C. EVANS, P.E.	ARCHITECT: MICHAEL C. EVANS, P.E.
FL. CA-200185 001118	CA-7046 001118
CA-7046 001118	CA-7046 001118
CA-7046 001118	CA-7046 001118
CA-7046 001118	CA-7046 001118

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102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

2135 University Blvd, Ste. A
 Tallahassee, AL 36401
 252-752-4037

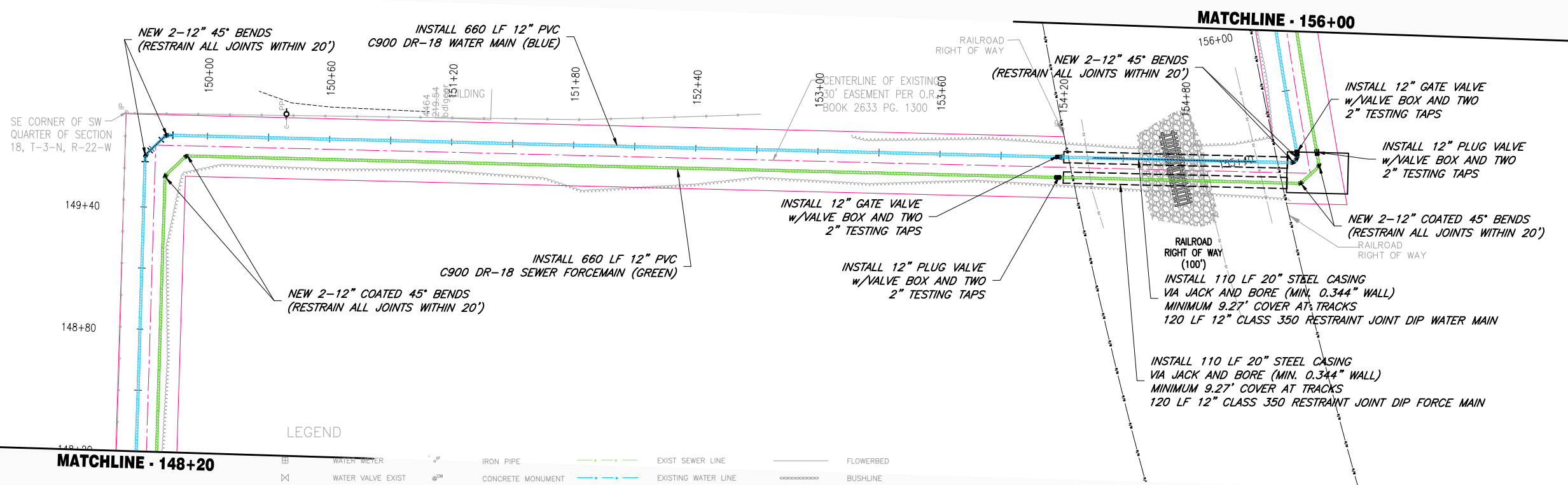
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-32**

PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER\41 Okaloosa\4-470 HWY 90 W\SWP\03-CIVIL\WMI along Hwy 90117+00.dwg [WMI along Hwy 90117+00.dwg] January 03, 2020 - 04:06pm By: ME\evans

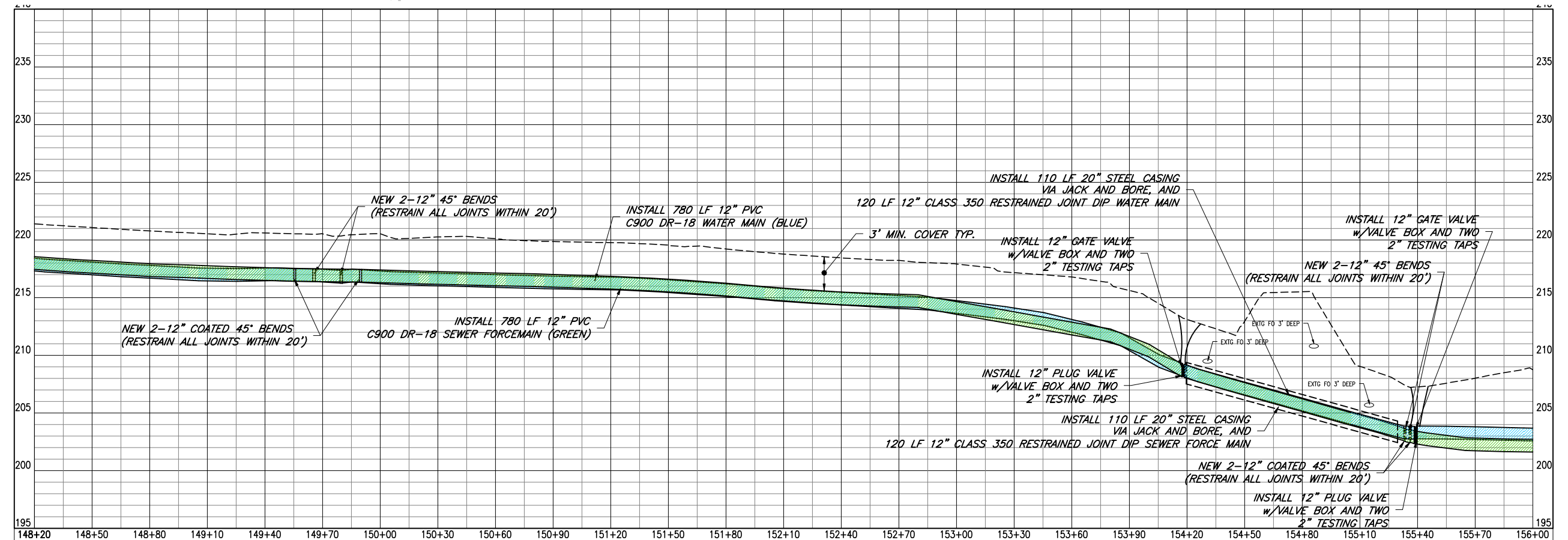
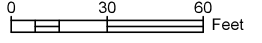


MATCHLINE - 148+20

MATCHLINE - 156+00

LEGEND

WATER METER	IRON PIPE	EXIST SEWER LINE	FLOWERBED
WATER VALVE EXIST	CONCRETE MONUMENT	EXISTING WATER LINE	BUSHLINE
FIRE HYDRANT	PROPOSED VALVE	PROPOSED BORE	TREELINE
TELEPHONE BOX	PROPOSED REDUCER	PROPOSED CASING	CONCRETE DRIVEWAY
POWER POLE	PROPOSED SLEEVE	PROPOSED PVC FORCE MAIN	ROCK DRIVEWAY
GUY WIRE	STORM DRAIN	PROPOSED PVC WATER	ASPHALT
BACKFLOW PREVENTOR	SANITARY MANHOLE	GAS LINE	DIRT DRIVEWAY
BUSH	GAS VALVE	FENCE	25' UTILITY EASEMENT
TREE	PULL BOX	TELEPHONE UNDERGROUND	PROPOSED SILT FENCE
PINE TREE	AIR RELIEF VALVE	PAVEMENT	
PALM TREE	CURB		



DATE	JULY 2019
DESIGNED BY	DWF
DRAWN BY	DWF
REGISTRATION No.	59311
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DESIGNED BY: ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 ARCHITECT: POLY, INC.
 ENGINEER: POLY, INC.
 SURVEY: POLY, INC.

DATE: JULY 2019
 REGISTRATION No.: 59311
 STATE: AL
 LICENSE No.: 001116
 LICENSE No.: 001116
 LICENSE No.: 001116

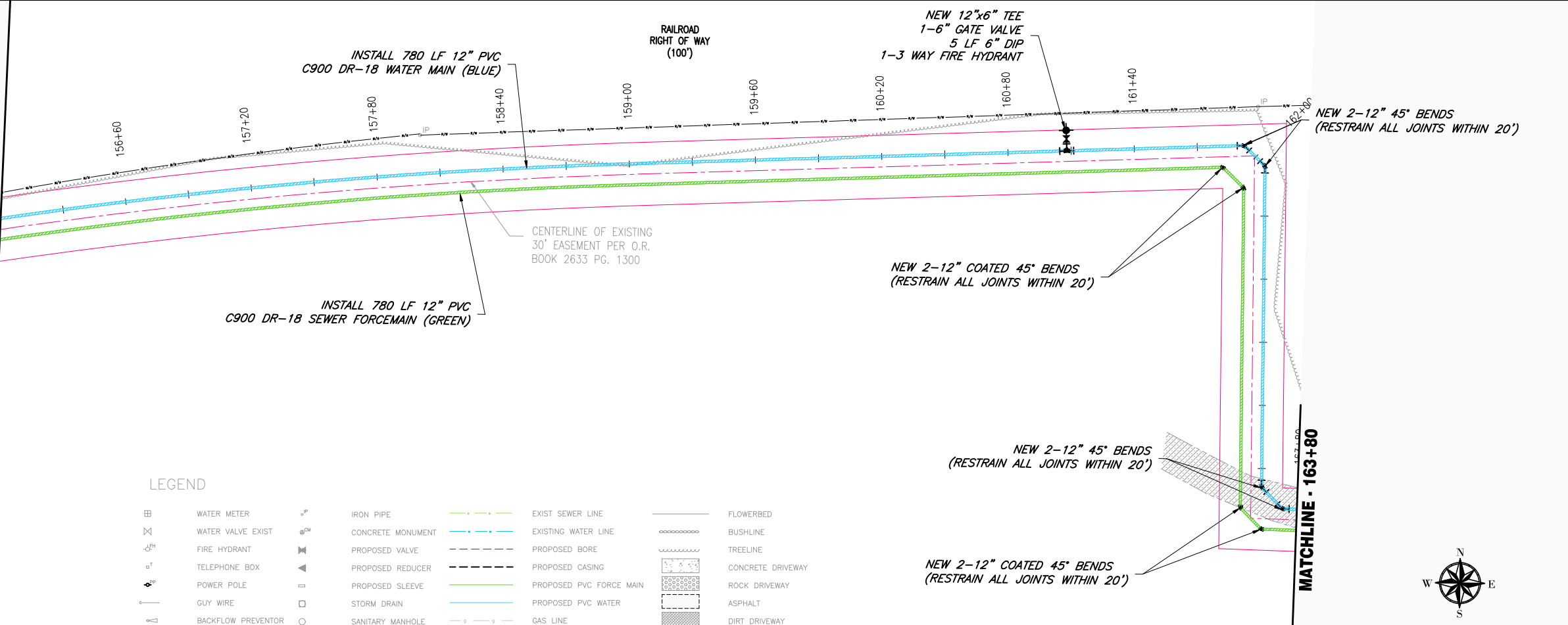
HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-33
 PROJECT No.
 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&S\WP\03-CIVIL\WMI along Hwy 90156+00.dwg [WMI along Hwy 90156+00.dwg] Last Printed: January 03, 2020 - 04:09pm By: ME/ians

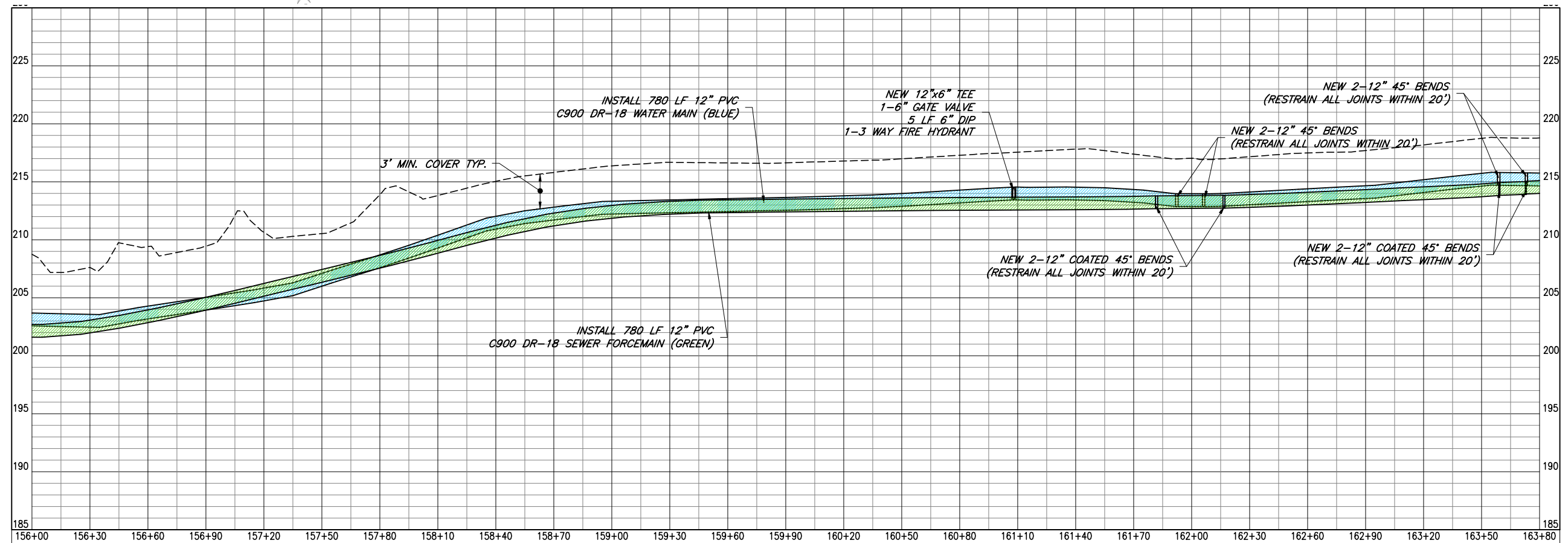
MATCHLINE - 156+00

MATCHLINE - 163+80



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36803
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: DWF
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: Michael C. Evans, P.E.
 CA-20185 | 001118
 Engineer: Michael C. Evans, P.E.
 CA-784E | CA-918 | 001118
 Surveyor: Michael C. Evans, P.E.
 CA-20184-S | 18737 | 187032

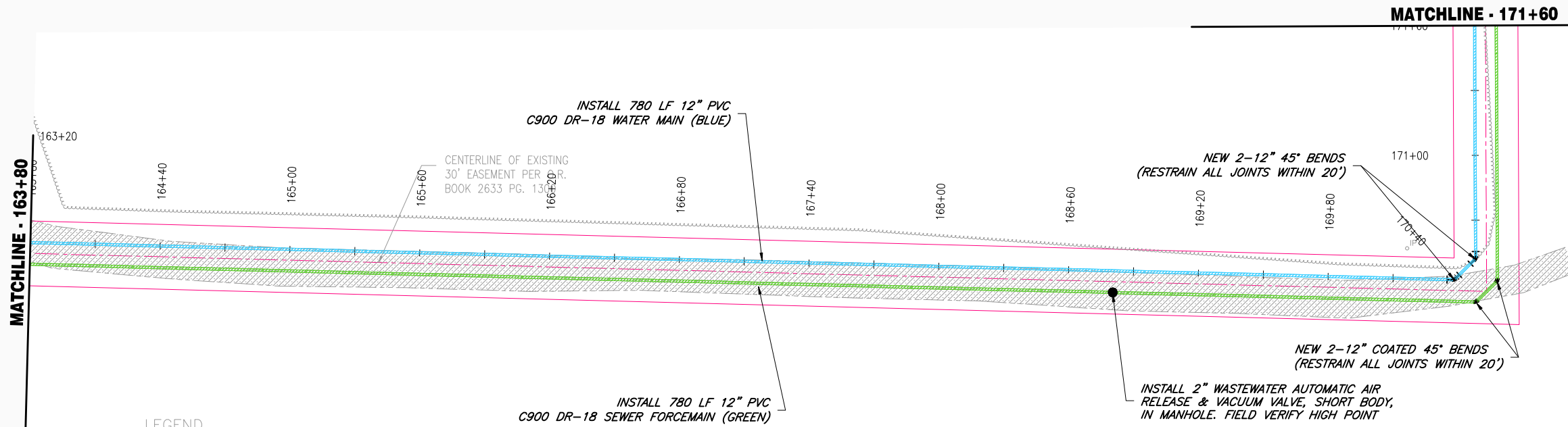
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-34**

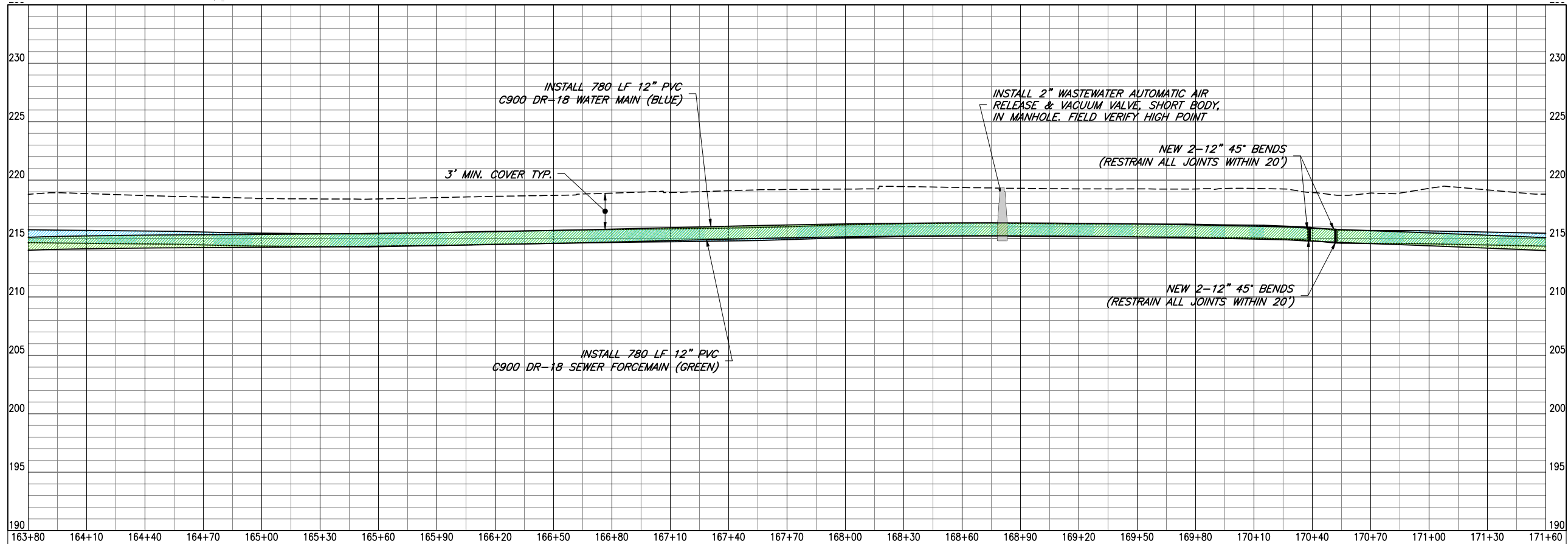
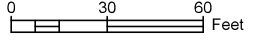
PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 90156+00.dwg [WMI along Hwy 90156+00.dwg] Last Printed: January 03, 2020 - 04:12pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36803
 334-734-4700

102 Sunset Lane
 Tallahassee, FL 32379
 850-468-1100

WWW.POLY-INC.COM

DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: Michael C. Evans, P.E.
 CA-794E CA-794E CA-794E CA-794E
 Engineer: Michael C. Evans, P.E.
 FL: 001118 FL: 001118 FL: 001118 FL: 001118
 Surveyor: Michael C. Evans, P.E.
 CA-794S CA-794S CA-794S CA-794S

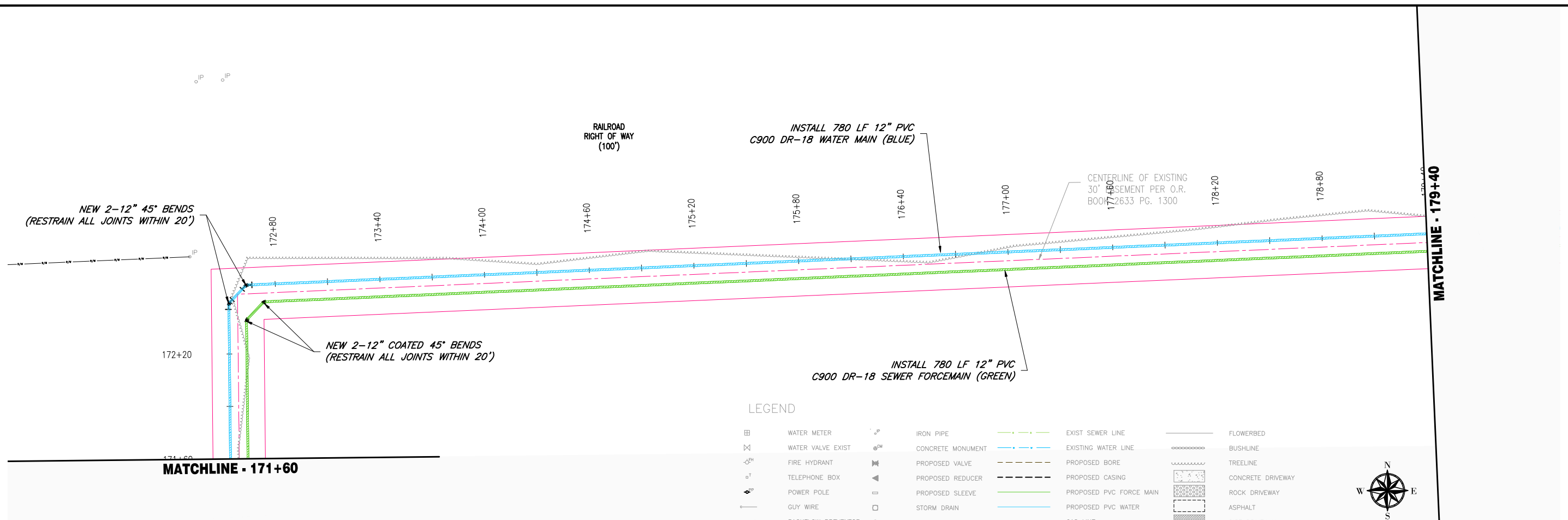
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-35**

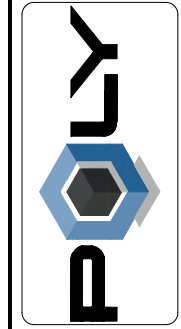
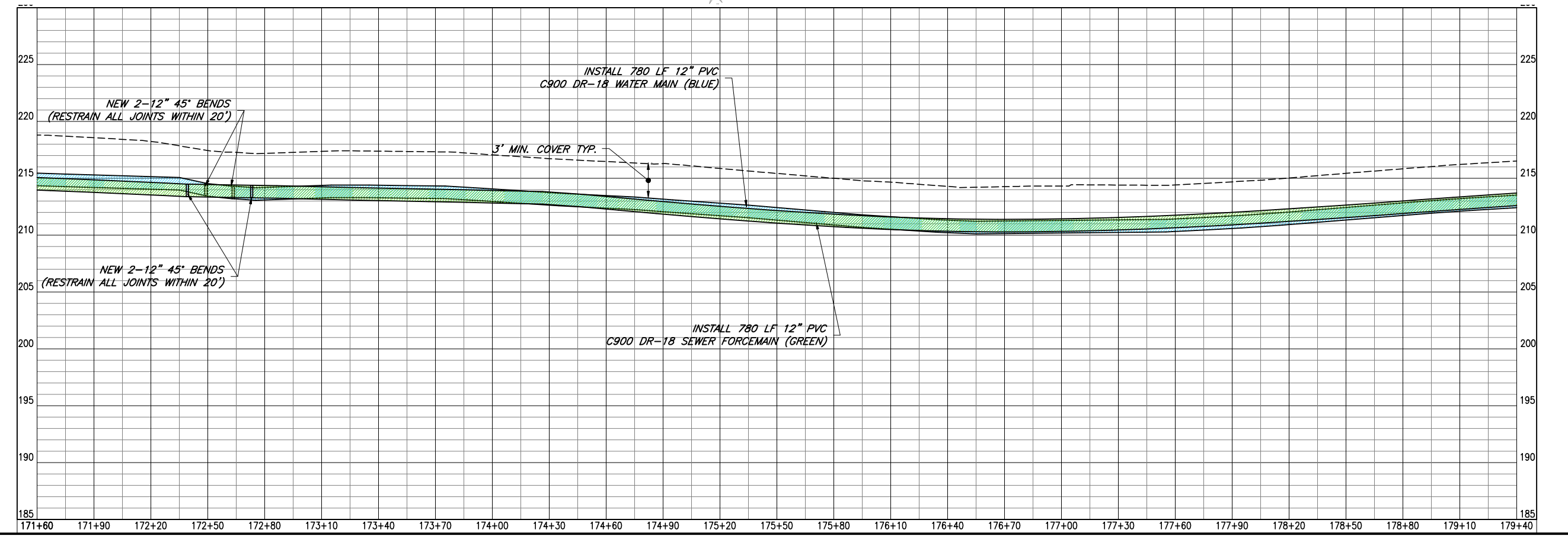
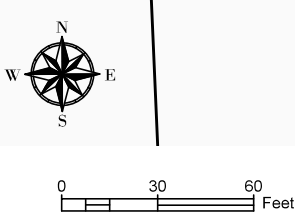
PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 90156+00.dwg [WMI along Hwy 90171+60.00] Last Printed: January 03, 2020 - 04:15pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

DESIGNED BY: MCE
DRAWN BY: DWF
DATE: JULY 2019
REGISTRATION No.: 59311
REGISTRATION No.: 59311
ARCHITECT: CA746
ENGINEER: CA746
REGISTERED PROFESSIONAL: MICHAEL C. EVANS, P.E.
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HWY 90 EAST
 WATER AND SEWER WORK
 OKALOOSA COUNTY WATER AND SEWER

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&SWMP\03-CIVIL\WMI along Hwy 90156+00.dwg [WMI along Hwy 90179+40.00] Last Printed: January 03, 2020 - 04:17pm By: MEvans

MATCHLINE - 179+40

MATCHLINE - 187+20

NEW 12"x6" TEE
1-6" GATE VALVE
5 LF 6" DIP
1-3 WAY FIRE HYDRANT

RAILROAD
RIGHT OF WAY
(100')

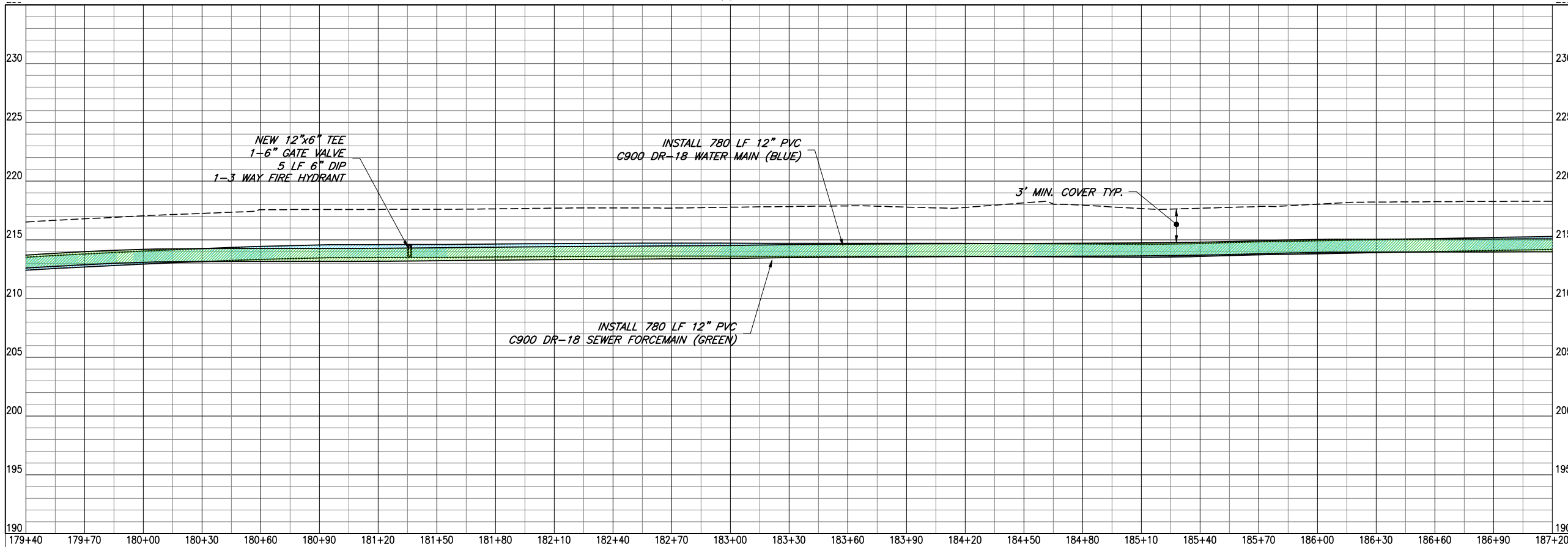
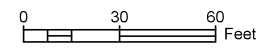
INSTALL 780 LF 12" PVC
C900 DR-18 WATER MAIN (BLUE)

CENTERLINE OF EXISTING
30' EASEMENT PER O.R.
BOOK 2633 PG. 1300

INSTALL 780 LF 12" PVC
C900 DR-18 SEWER FORCEMAIN (GREEN)

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREE LINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description	Date

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850-668-1100

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DESIGNED BY: MCE
DRAWN BY: DWF
DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
REGISTRATION No. 59311

FL. O.A. No. A-2001851 (01118)
AL. No. CA-746
GA. No. CA-746
NC. No. CA-746
SC. No. CA-746
TN. No. CA-746
VA. No. CA-746

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HWY 90 EAST
WATER AND SEWER
EXTENSIONS
OKALOOSA COUNTY WATER AND SEWER

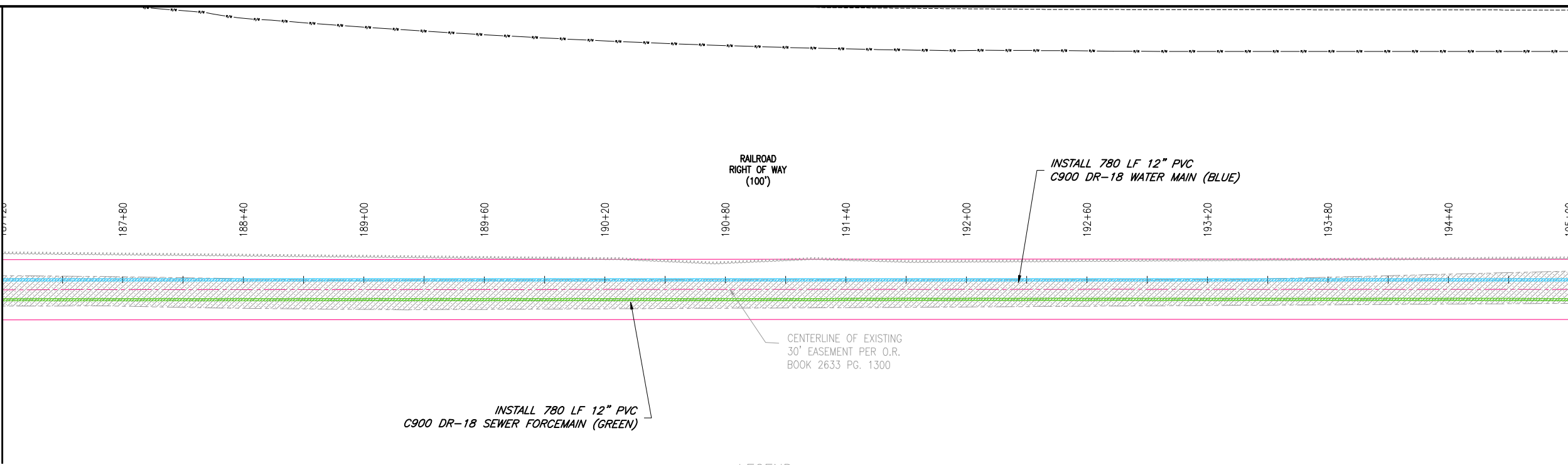
SHEET No.
C-37

PROJECT No.
41-470

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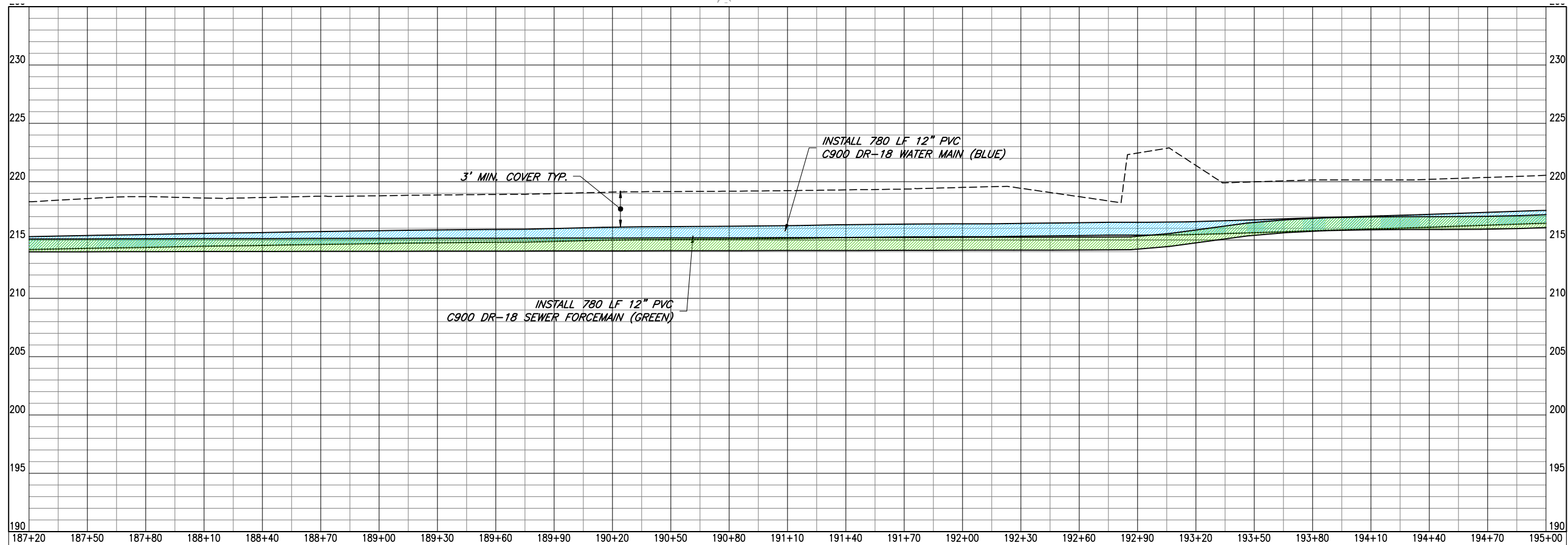
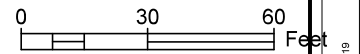
MATCHLINE - 187+20

MATCHLINE - 195+00



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25\') UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description	Date

DESIGNED BY: MCE	DRAWN BY: DNF	DATE: JULY 2019
ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.	REGISTRATION No.: 59311	FL. O.A.: A-2001851 001118
Cent. of Auth. No.: ARCHITECT CA-20460 ENGINEER CA-7946	AL. REGISTRATION No.: CA-918 CA-918	LA. REGISTRATION No.: LS-20032 LS-20032
1935 Headland Avenue Dothan, AL 36520 334-734-4700 102 Sunset Lane Tallahassee, FL 32379 850-469-1100 WWW.POLY-INC.COM		

HWY 90 EAST
 WATER AND SEWER
 EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER

SHEET No.
C-38

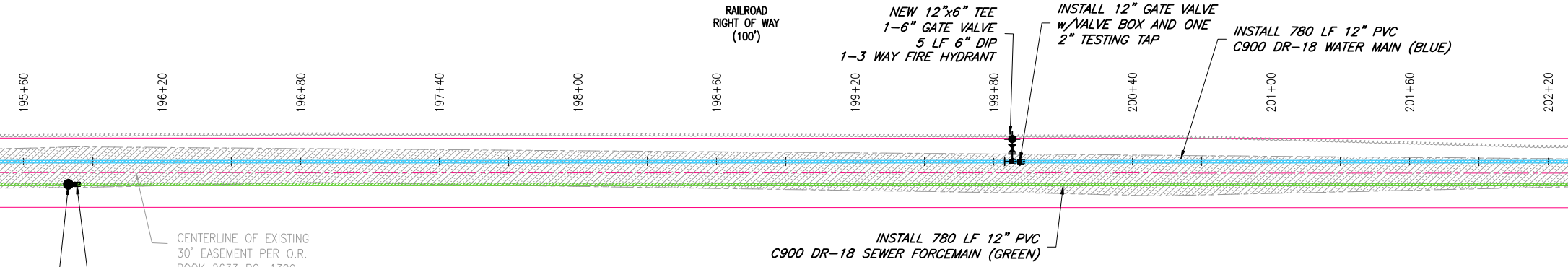
PROJECT No.
 41-470

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US 90 (SR 10)

MATCHLINE - 195+00

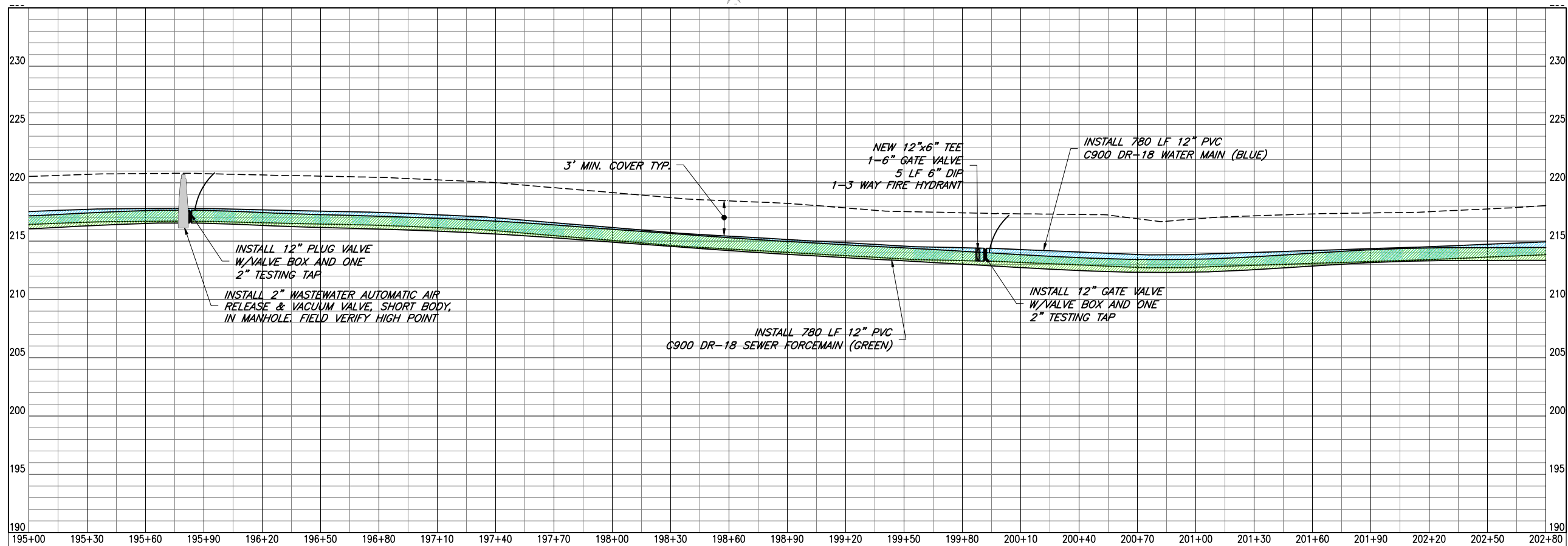
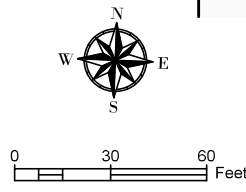
MATCHLINE - 202+80



CENTERLINE OF EXISTING 30' EASEMENT PER O.R. BOOK 2633 PG. 1300
INSTALL 12" PLUG VALVE W/VALVE BOX AND ONE 2" TESTING TAP
INSTALL 2" WASTEWATER AUTOMATIC AIR RELEASE & VACUUM VALVE, SHORT BODY, IN MANHOLE. FIELD VERIFY HIGH POINT

LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

DATE: JULY 2019
 DRAWN BY: DWF
 DESIGNED BY: MCE
 ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 Cent. of Auth. No. CA-2018-101118
 ARCHITECT CA-2018-101118
 ENGINEER CA-2018-101118
 SURVEY CA-2018-101118

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Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 90195+00.00.dwg [WMI along Hwy 90202+80.00] Last Printed: January 03, 2020 - 04:26pm By: MEvans

US 90 (SR 10)

MATCHLINE - 202+80

MATCHLINE - 210+60

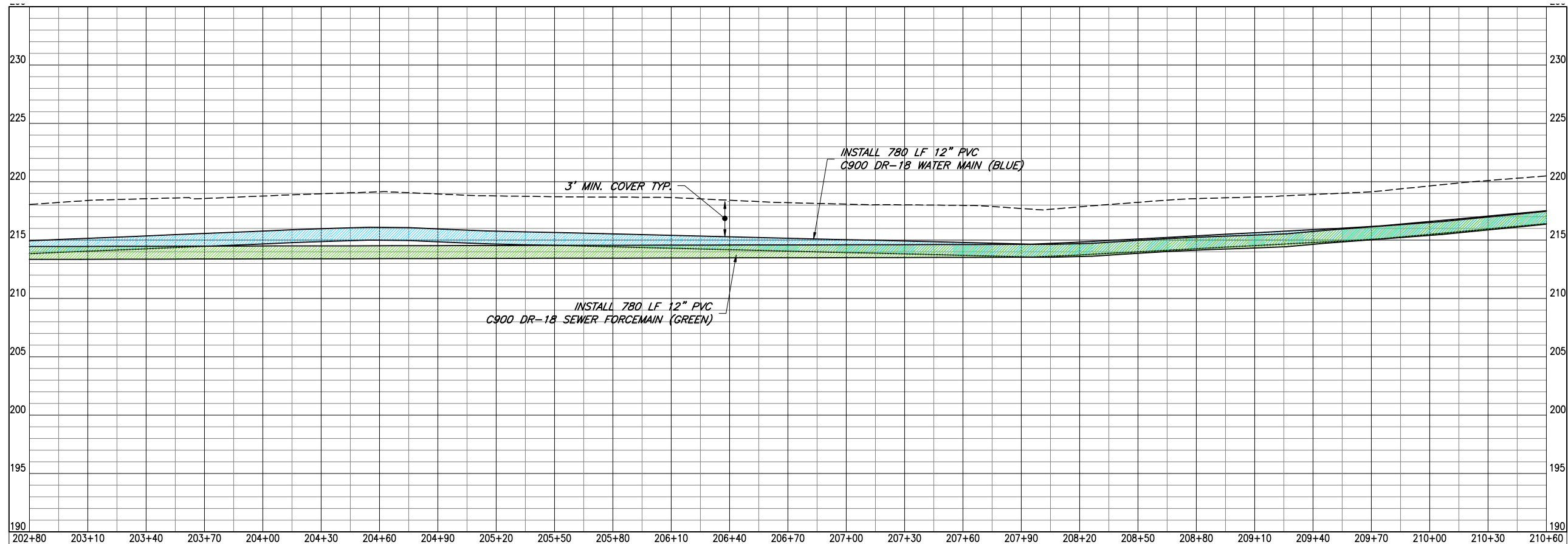
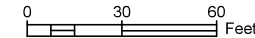
LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				

INSTALL 780 LF 12" PVC
C900 DR-18 SEWER FORCEMAIN (GREEN)

INSTALL 780 LF 12" PVC
C900 DR-18 WATER MAIN (BLUE)

CENTERLINE OF EXISTING
30' EASEMENT PER O.R.
BOOK 2633 PG. 1300



Revision	Description

DESIGNED BY:	MCE	DRAWN BY:	DWF	DATE:	JULY 2019
ENGINEER:	MICHAEL C. EVANS, P.E.	REGISTERED SURVEYOR OF RECORD:	MICHAEL C. EVANS, P.E.	REGISTRATION No.:	59311
ARCHITECT:	CA7046	FL. O.A.:	FL. O.A.:	CA2001851	001118
ENGINEER:	CA7046	CA7046	CA7046	CA7046	001118
SURVEY:	CA7046-S	LS7327	LS70032	LS70032	LS70032

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HWY 90 EAST
WATER AND SEWER
EXTENSIONS
OKALOOSA COUNTY WATER AND SEWER

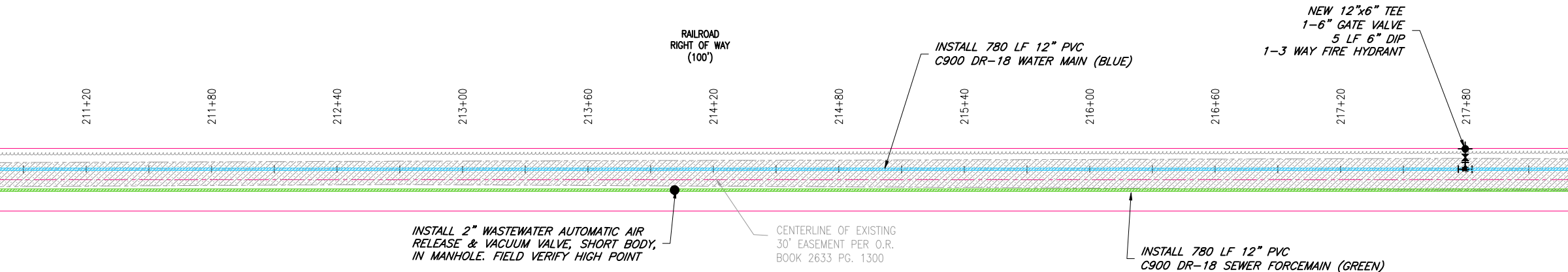
SHEET No.
C-40
PROJECT No.
41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&S\W&P\03-CIVIL\WMI along Hwy 90195+00.dwg [WMI along Hwy 90210+60.00] Last Printed: January 03, 2020 - 04:29pm By: ME/cians

US 90 (SR 10)

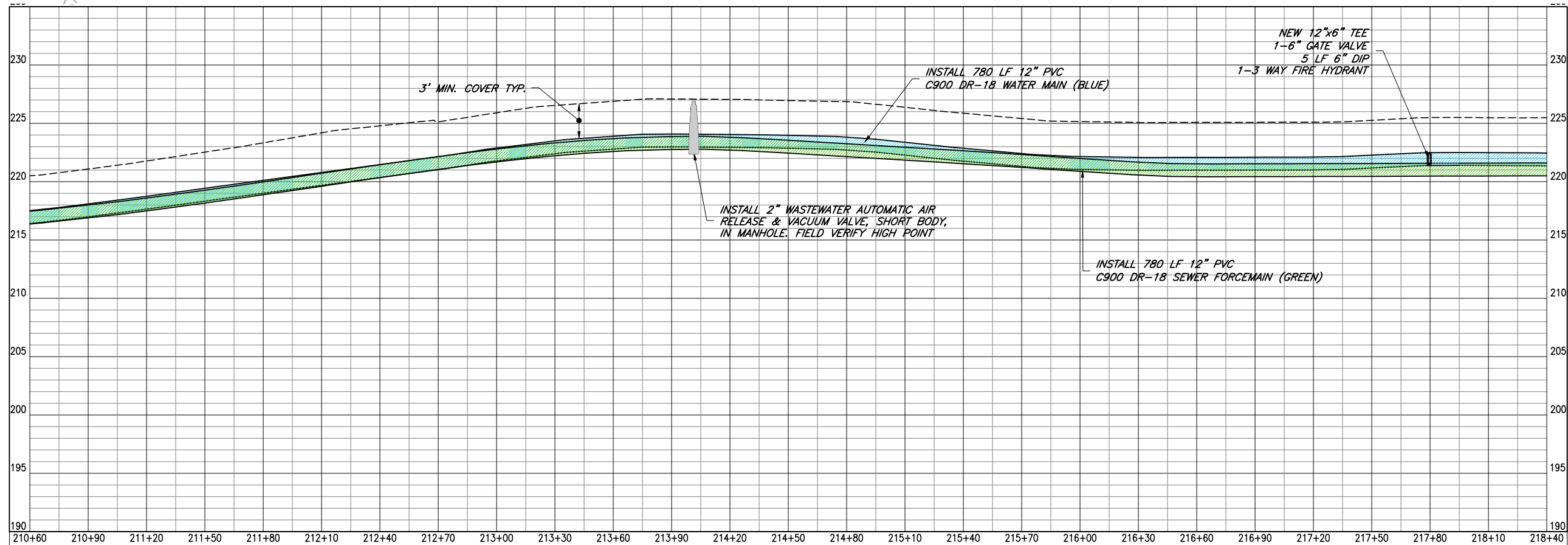
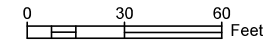
MATCHLINE - 210+60

MATCHLINE - 218+40



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



NO.	REVISION	DATE	DESCRIPTION

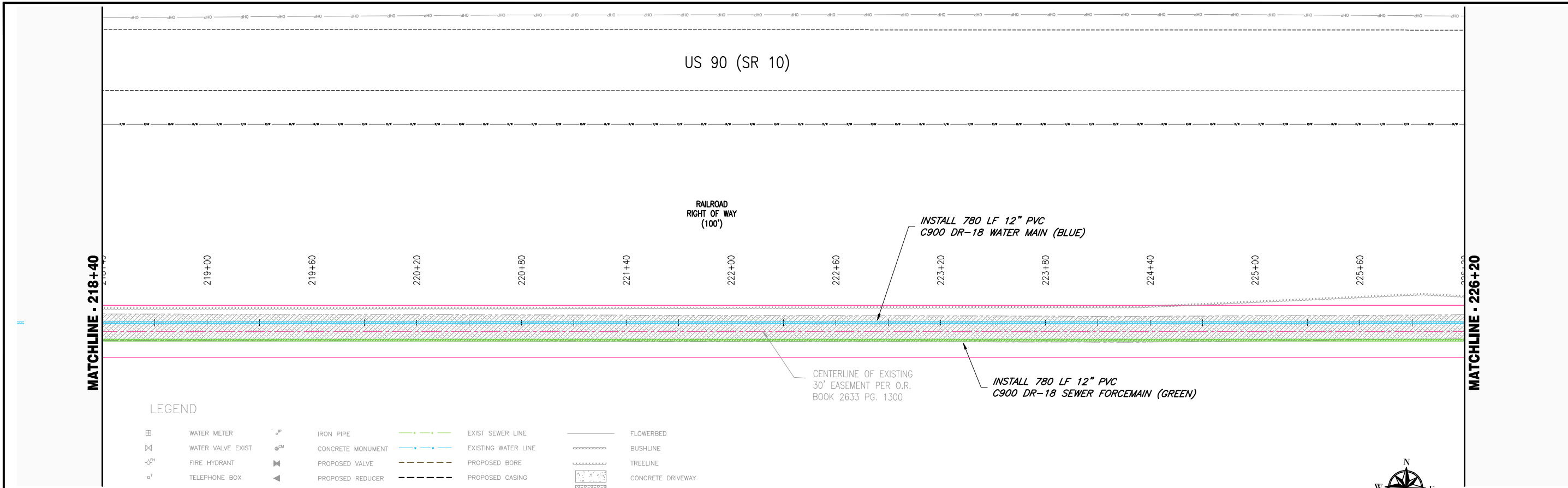
DATE	JULY 2019
DRAWN BY	DWF
DESIGNED BY	MCE
REGISTRATION No.	59311
REG. STATE	FL
PROJECT No.	41-470
DATE	01/03/20
PROJECT No.	41-470
DATE	01/03/20
PROJECT No.	41-470

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 Tallahassee, FL 32379
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HWY 90 EAST
 WATER AND SEWER
 OKALOOSA COUNTY WATER AND SEWER

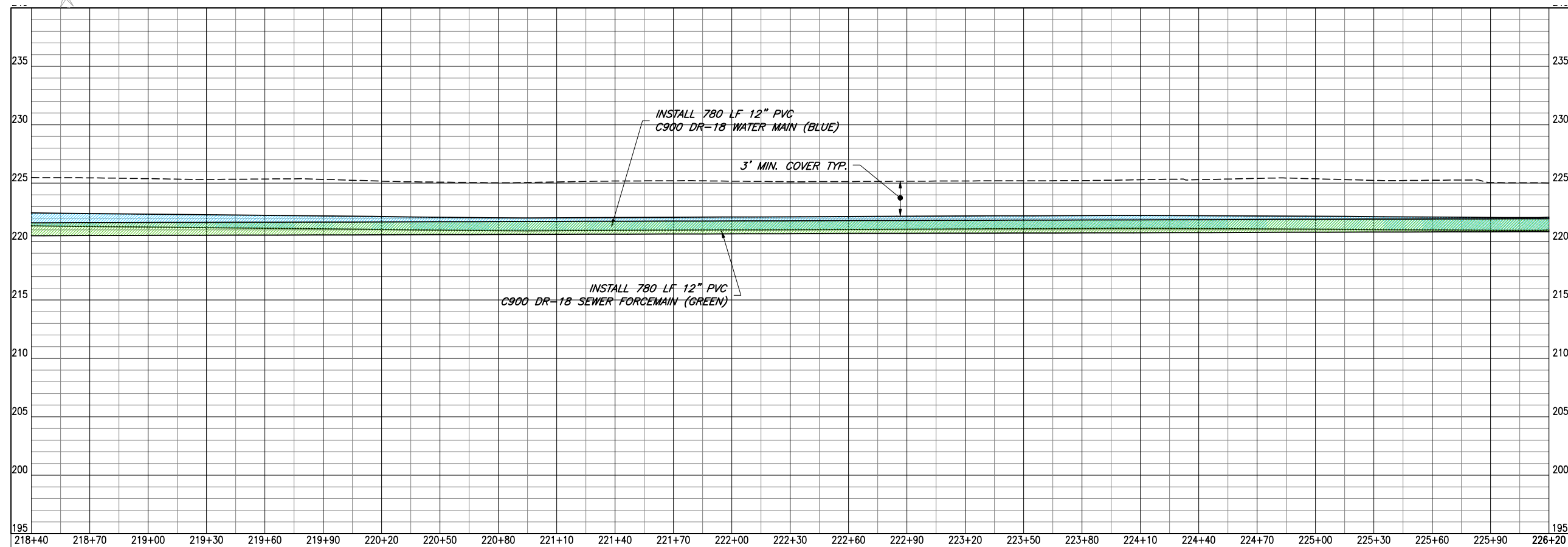
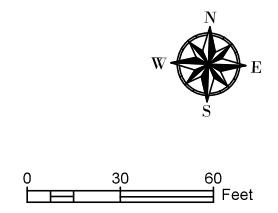
SHEET No.
C-41
 PROJECT No.
 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWP\03-CIVIL\WMI along Hwy 90195+00.00.dwg [WMI along Hwy 90218+40.00] Last Printed: January 03, 2020 - 04:31 pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description

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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA-0460
 Engineer: CA-794E
 Surveyor: CA-0794-S-187327

FL: A-2001857
 CA-01118
 CA-01118

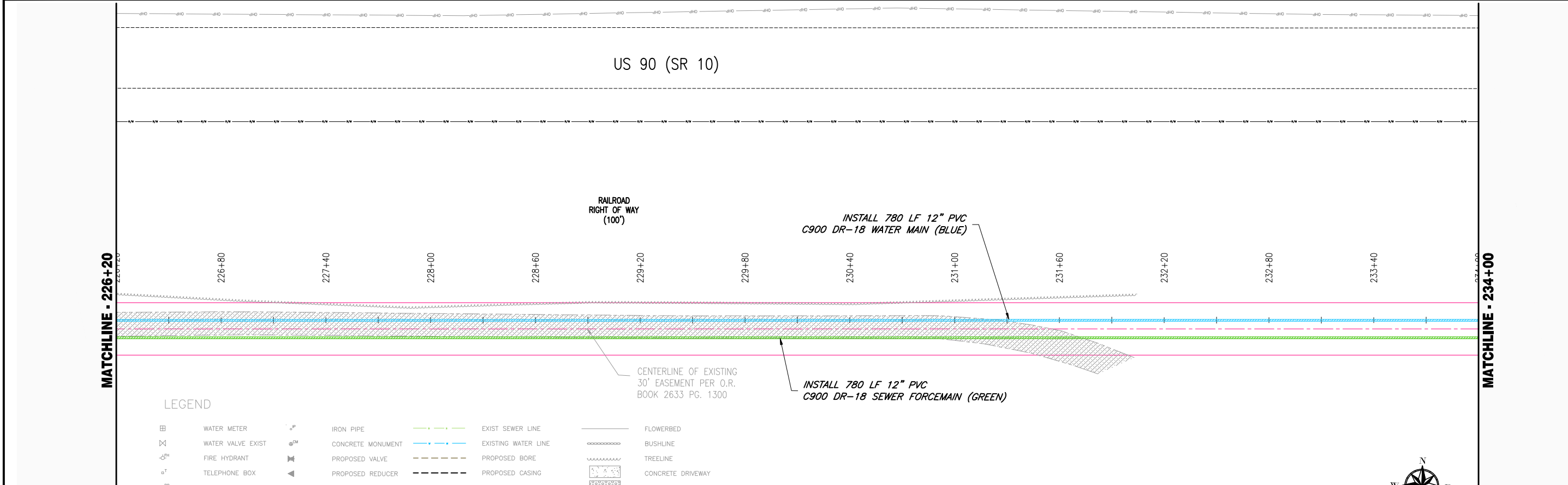
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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

SHEET No. **C-42**

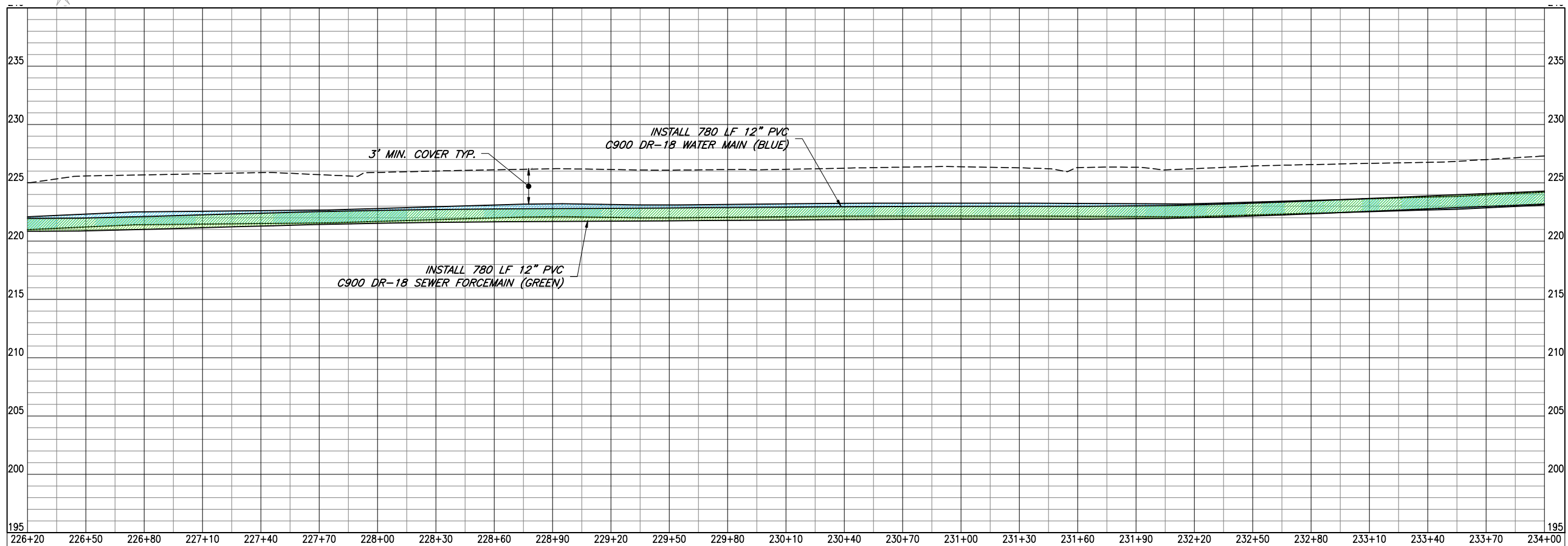
PROJECT No. 41-470

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\4-470 HWY 90 W&SWMP\03-CIVIL\WMI along Hwy 90195+00.00.dwg [WMI along Hwy 90226+20.03] Last Printed: January 03, 2020 - 04:34pm By: MEvans



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	BUSH		GAS VALVE		FENCE		25' UTILITY EASEMENT
	TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PINE TREE		AIR RELIEF VALVE		PAVEMENT		
	PALM TREE		CURB				



Revision	Description	Date

POLY, INC.
 1935 Headland Avenue
 Dothan, AL 36503
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 Tallahassee, FL 32379
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DESIGNED BY: MCE
 DRAWN BY: DWF
 DATE: JULY 2019

ENG ARCHT / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.
 REGISTRATION No. 59311

Architect: CA-0460
 Engineer: CA-794E
 Surveyor: CA-0794-S-187327

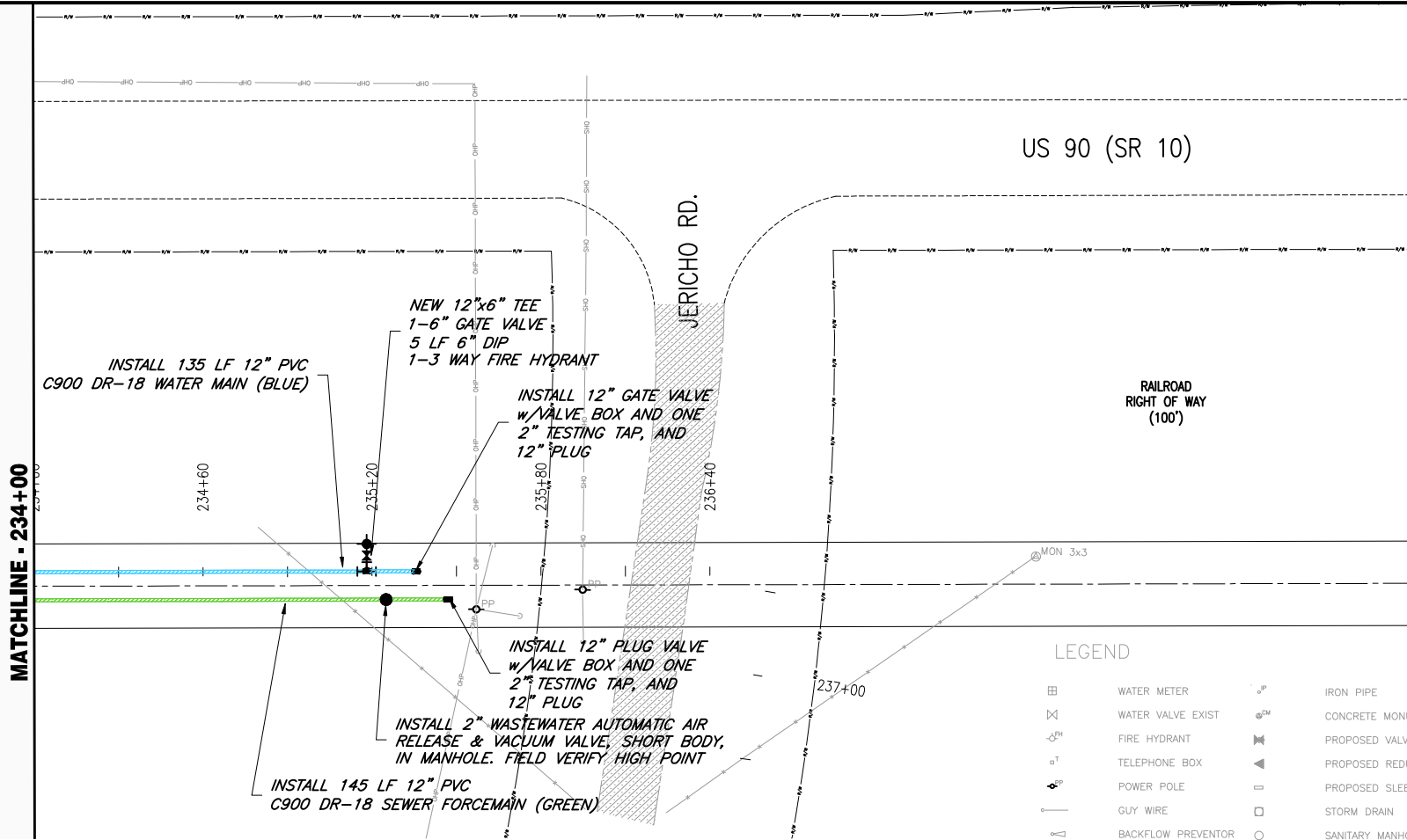
FL: CA-001851
 GA: CA-001118
 AL: CA-0118

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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

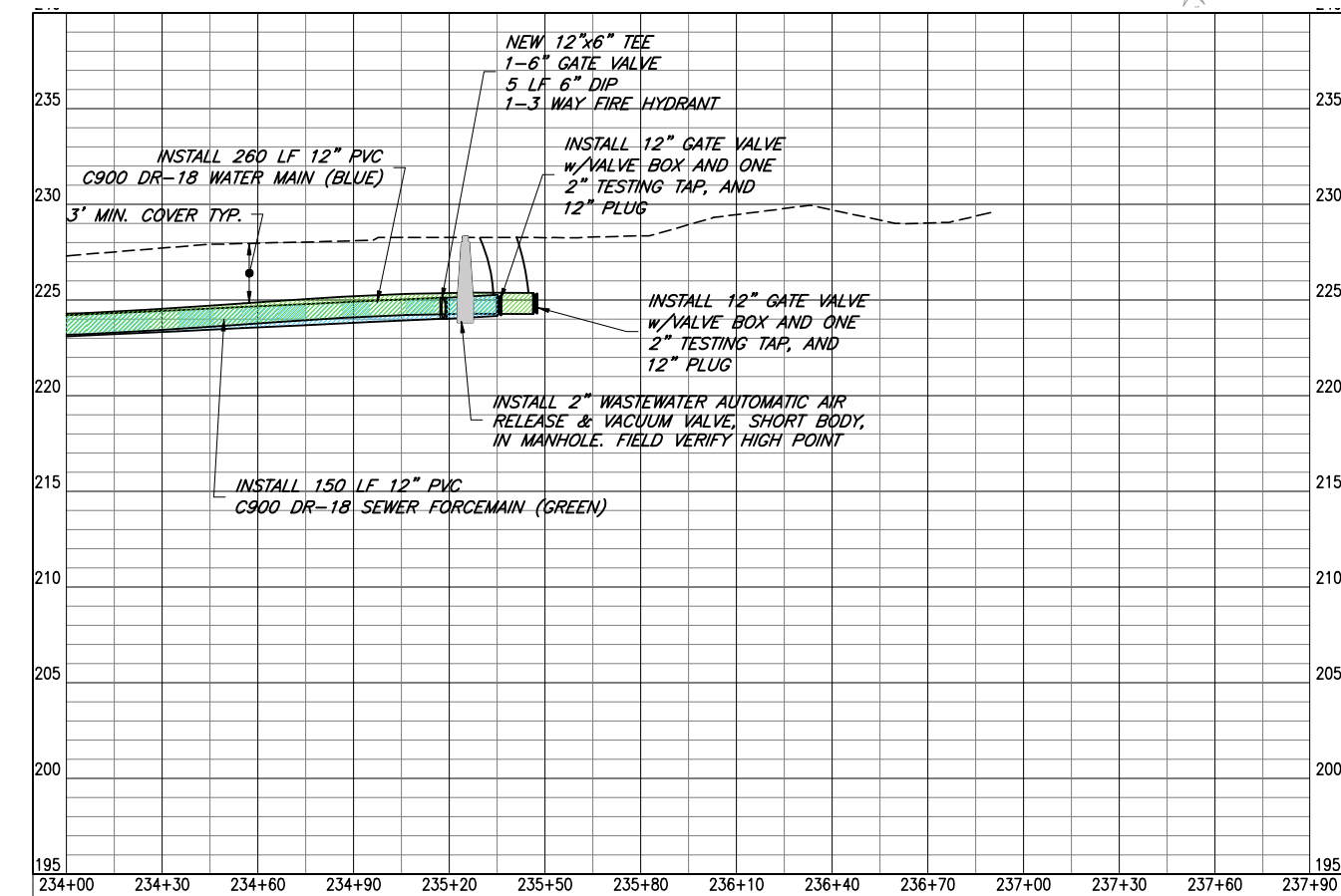
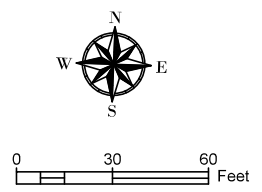
SHEET No. **C-43**

PROJECT No. 41-470



LEGEND

	WATER METER		IRON PIPE		EXIST SEWER LINE		FLOWERBED
	WATER VALVE EXIST		CONCRETE MONUMENT		EXISTING WATER LINE		BUSHLINE
	FIRE HYDRANT		PROPOSED VALVE		PROPOSED BORE		TREELINE
	TELEPHONE BOX		PROPOSED REDUCER		PROPOSED CASING		CONCRETE DRIVEWAY
	POWER POLE		PROPOSED SLEEVE		PROPOSED PVC FORCE MAIN		ROCK DRIVEWAY
	GUY WIRE		STORM DRAIN		PROPOSED PVC WATER		ASPHALT
	BACKFLOW PREVENTOR		SANITARY MANHOLE		GAS LINE		DIRT DRIVEWAY
	TREE		GAS VALVE		FENCE		25' UTILITY EASEMENT
	PINE TREE		PULL BOX		TELEPHONE UNDERGROUND		PROPOSED SILT FENCE
	PALM TREE		AIR RELIEF VALVE		PAVEMENT		
			CURB				

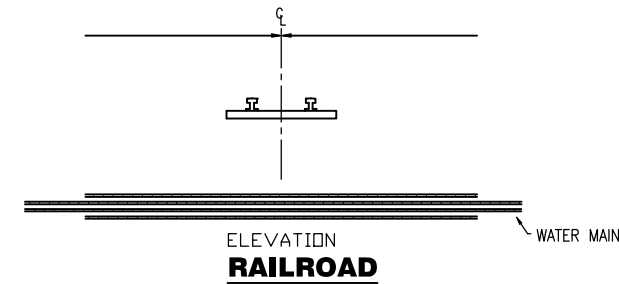
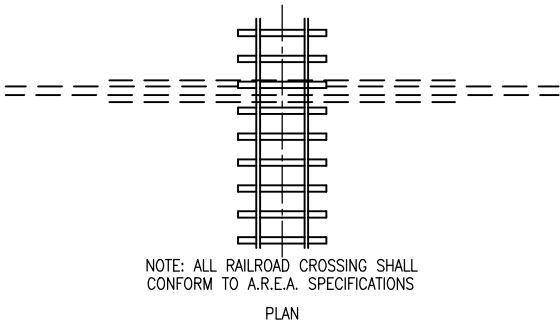
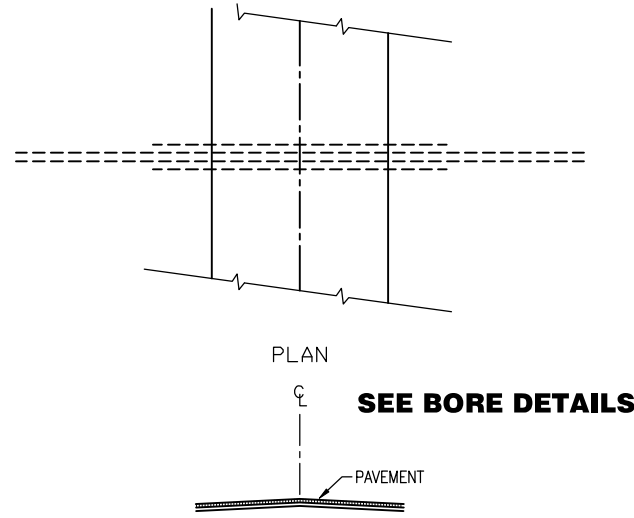


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ARCHITECT: POLY, INC.	ENGINEER: MICHAEL C. EVANS, P.E.	FL. No. 142001857 (01/11)	

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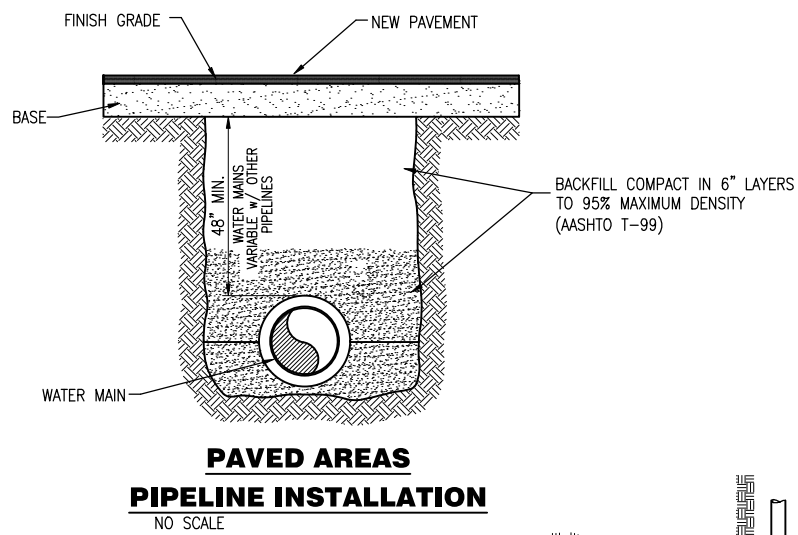
SHEET No.
C-44
 PROJECT No.
 41-470



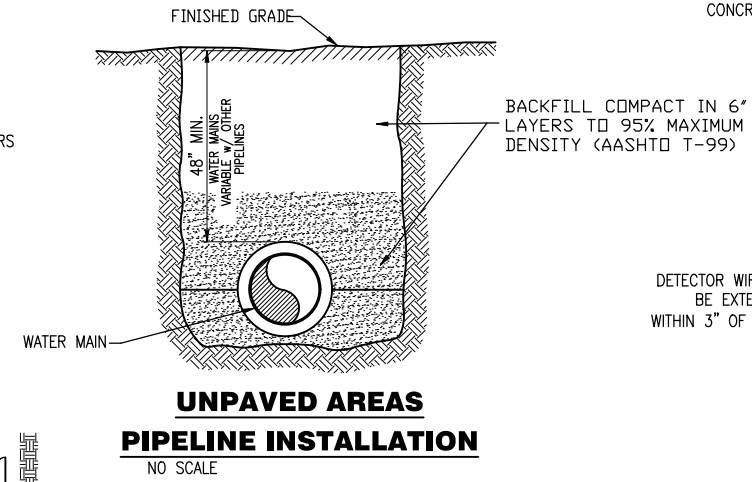
SEE BORE DETAILS

PIPE SIZE	CASING SIZE	REQ'D.

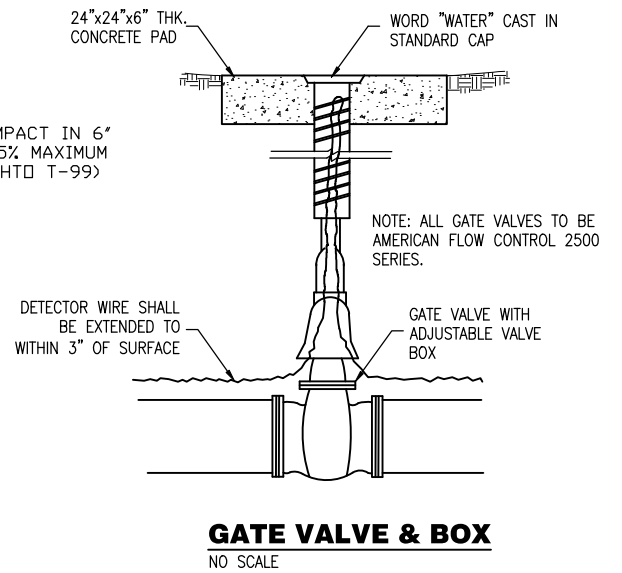
TYPICAL CROSSING



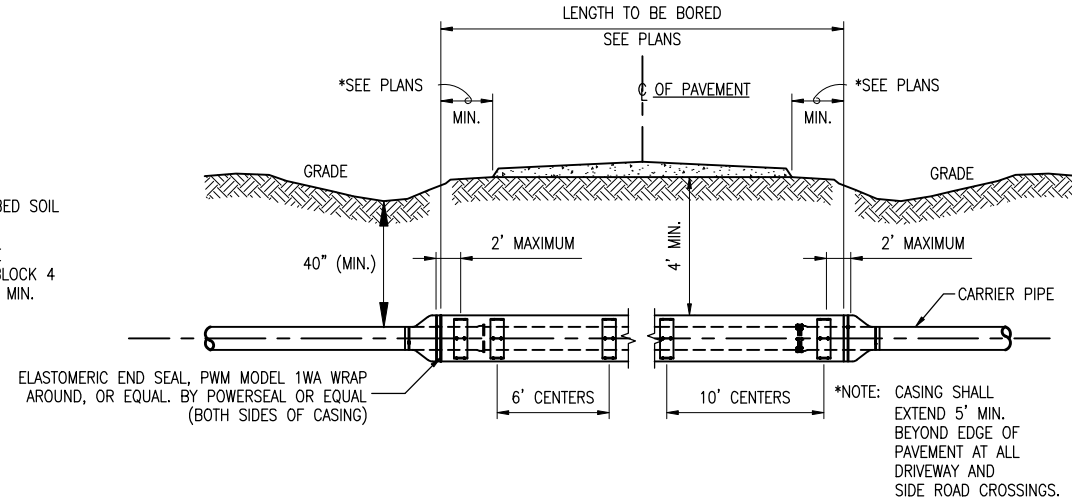
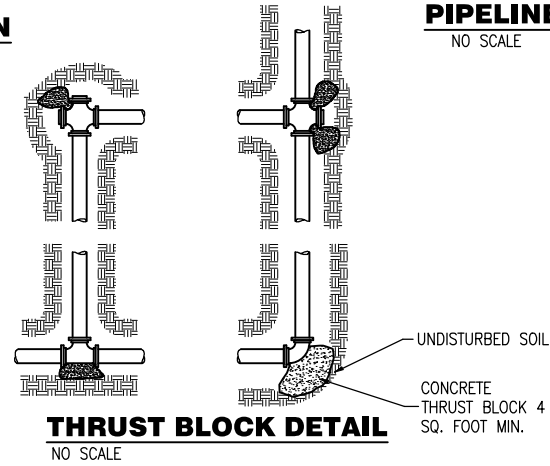
**PAVED AREAS
PIPELINE INSTALLATION**



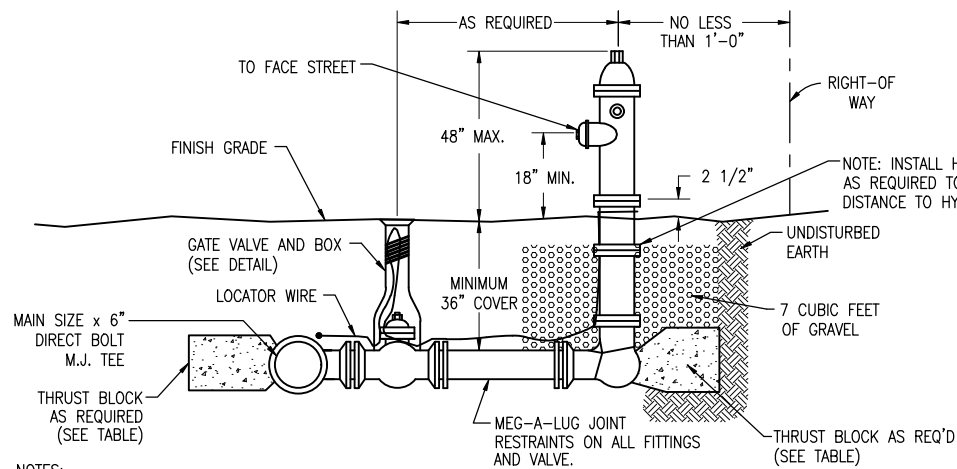
**UNPAVED AREAS
PIPELINE INSTALLATION**



GATE VALVE & BOX



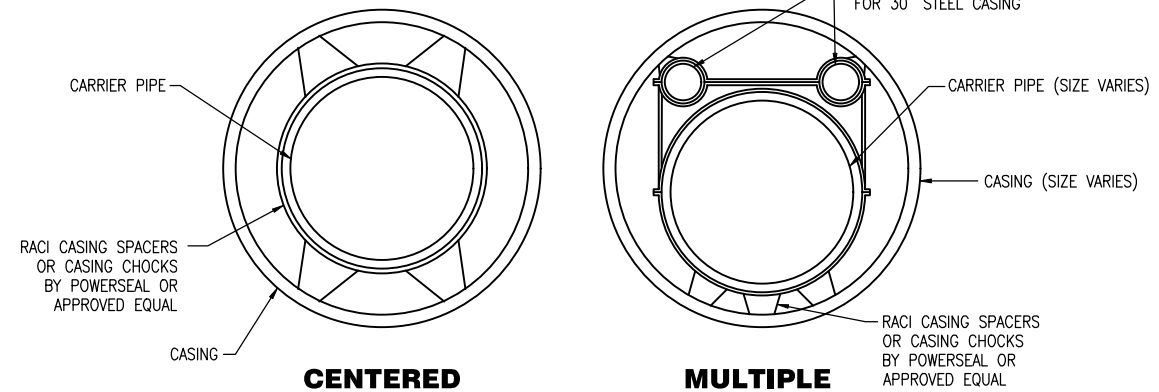
TYPICAL JACKING & BORING DETAIL



FIRE HYDRANT ASSEMBLY DETAIL

- NOTES:**
1. ALL FIRE HYDRANTS SHALL FACE THE STREET AND BE LOCATED WITHIN 5 FEET OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN OR DIRECTED ON LOT LINES.
 2. ALL FIRE HYDRANTS SHALL HAVE MAIN SIZE BY 6" DIRECT BOLT M.J. TEES AND ALL HYDRANT LEADS SHALL BE DUCTILE IRON CEMENT LINED CLASS 350 PIPE WITH MEG-A-LUG JOINT RESTRAINTS.
 3. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ADAPTERS, GLANDS AND OTHER FITTINGS REQUIRED TO PROPERLY INSTALL THE FIRE HYDRANT. A FIRE HYDRANT EXTENSION PIECE OF THE SAME BRAND AS THE FIRE HYDRANT SHALL BE USED TO ADJUST HYDRANT TO PROPER GRADE. HYDRANTS TO BE TRUE AND PLUMB. EARTH BUILT-UP AROUND HYDRANT TO ADJUST GRADE IS NOT ACCEPTABLE. HYDRANT EXTENSIONS (IF REQUIRED) SHALL BE INCLUDED IN PRICE FOR HYDRANT ASSEMBLY.
 4. CONCRETE THRUST BLOCKS SHALL NOT OBSTRUCT HYDRANT DRAIN HOLES. THRUST BLOCKS SHALL CONSIST OF 2500 PSI CONCRETE POURED AGAINST UNDISTURBED EARTH.
 5. INSTALL A LOCATOR WIRE, 12 GAUGE COATED SOLID COPPER WIRE, FROM WATER MAIN AND CONNECT TO THE FIRE HYDRANT AND VALVE BOX AS SHOWN.

Not to scale



CENTERED

MULTIPLE

CASING SPACERS

NO SCALE



Revision	Description

POLY, INC.
 1956 Headland Avenue
 Dothan, AL 36503
 334-734-4700
 102 Sunset Lane
 Tallahassee, FL 32379
 904-666-1100
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DESIGNED BY: DNF
 DRAWN BY: MCE
 CHECKED BY: MICHAEL C. EVANS, P.E.
 REGISTRAR: REGISTRATION No. 58311

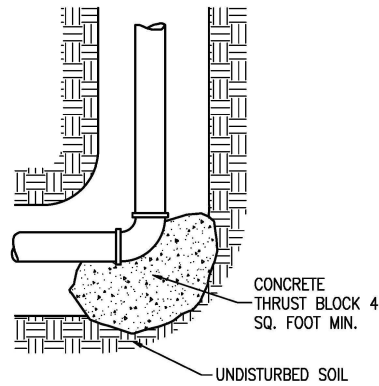
DATE: JULY 2019

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HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER

MISC WATER MAIN DETAILS

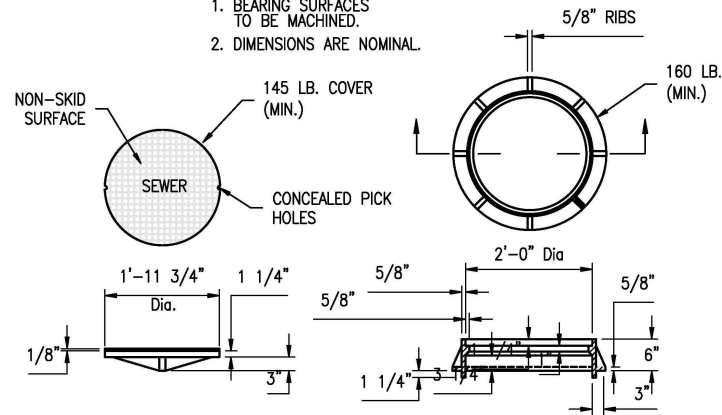
SHEET No. **C-45**
 PROJECT No. 41-470



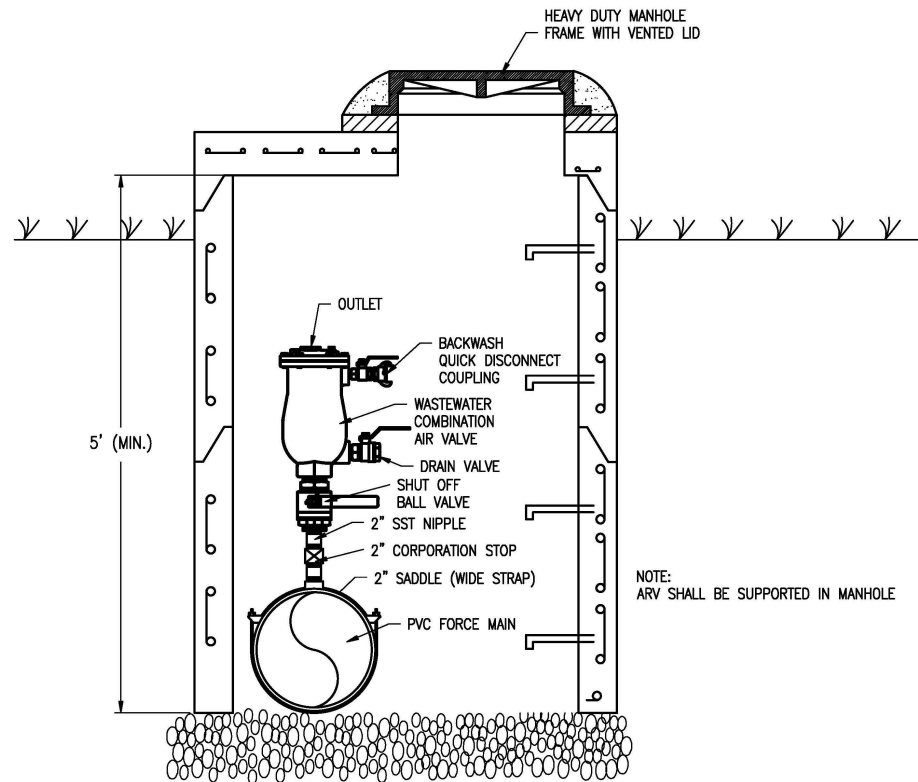
THRUST BLOCK DETAIL

NOTES:

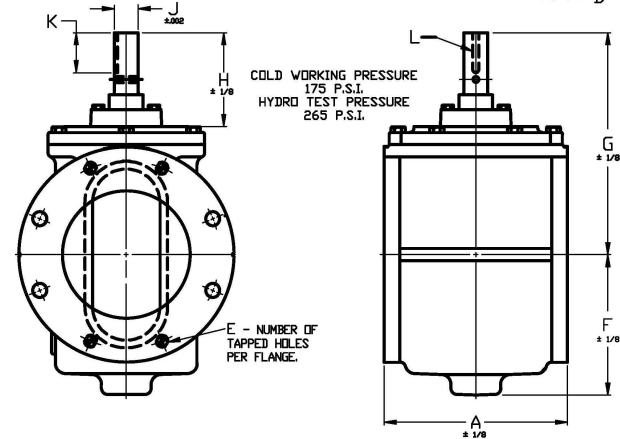
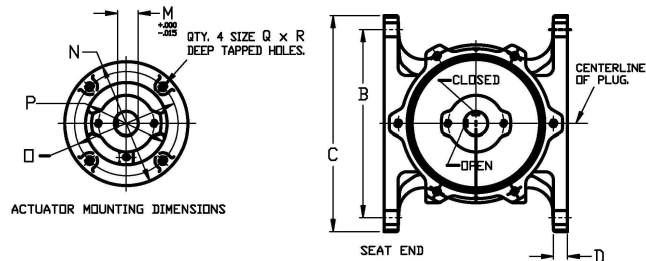
- 1. BEARING SURFACES TO BE MACHINED.
- 2. DIMENSIONS ARE NOMINAL.



MANHOLE FRAME AND COVER



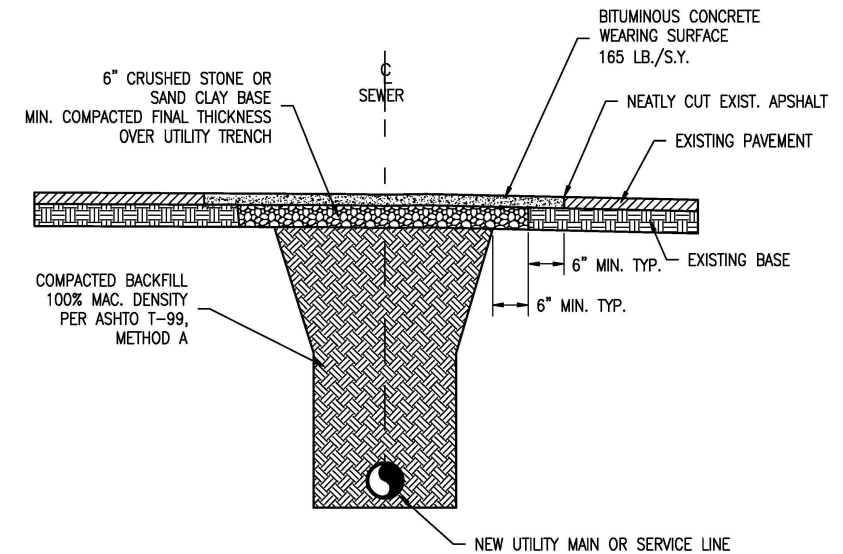
1' OR 2" COMBINATION SEWER AIR RELEASE AND VACUUM VALVE AND PRE-CAST 48" DOGHOUSE MANHOLE OVER FORCE MAIN



FLANGE DIMENSIONS, INCHES

VALVE SIZE	A	B	C	D	E	E	F	G	H	J	K	L	M	N	O	P	Q	R	BOLT SIZE	NO. OF BOLTS
12																			3/4	8

PLUG VALVE & BOX



TYPICAL PAVING REPLACEMENT SECTION (REMOVE/REPLACE)

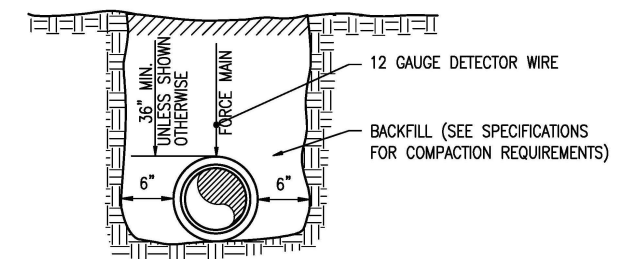
NO SCALE

LOCATION OF PUBLIC WATER SYSTEM 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
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum
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
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.



UNPAVED AREAS

Poly, Inc. - H:\MASTER PROJECT FOLDER(41) Okaloosa\41-470 HWY 90 W&S\WP101-GENERAL\Details.dwg [FORCE MAIN - EROSION CONTROL DETAILS] Last Printed: October 09, 2019 - 08:52am By: WJFullford



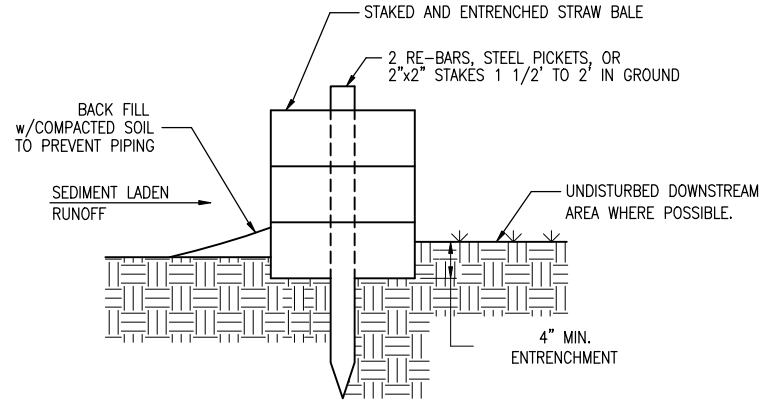
DATE	DESCRIPTION

DESIGNED BY: DNF
 DRAWN BY: DNF
 CHECKED BY: MICHAEL C. EVANS, P.E.
 DATE: JULY 2019
 REGISTRATION NO.: 59311
 THESE DRAWINGS ARE THE PROPERTY OF POLY, INC. AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN AGREEMENT OF POLY, INC.

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 Dothan, AL 36023
 334-793-4700
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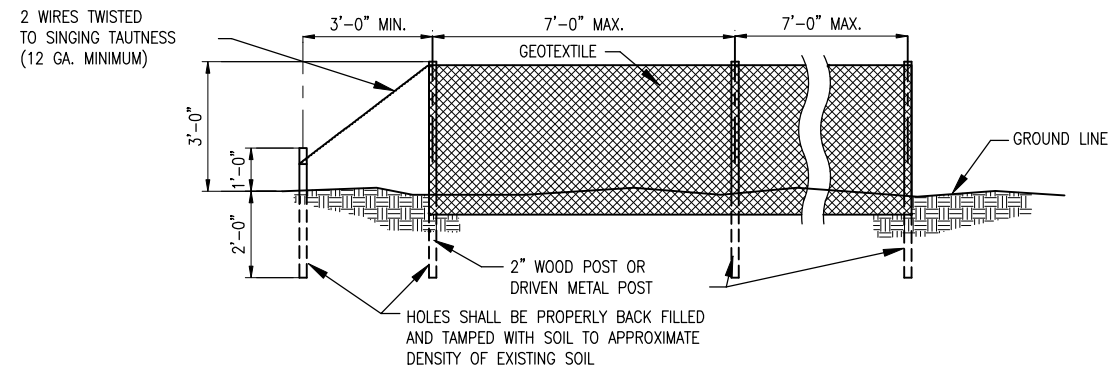
HWY 90 EAST
 WATER AND SEWER MAIN EXTENSIONS
 OKALOOSA COUNTY WATER AND SEWER
 MISC FORCE MAIN DETAILS

SHEET No.
C-46
 PROJECT No.
 41-470



NOTES:
BALES WILL BE PLACED IN A SINGLE ROW, LENGTHWISE,
ON THE CONTOUR.

TYPICAL INSTALLATION OF STRAW BALES



SILT FENCE DETAIL

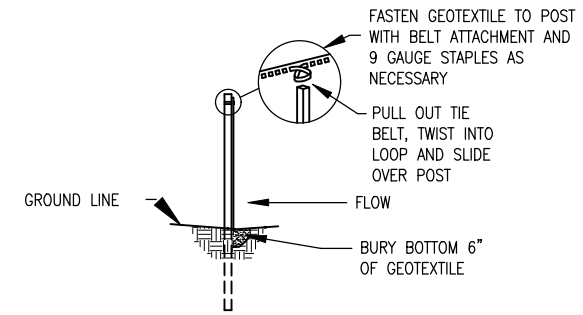
NOT TO SCALE

GENERAL NOTES:

1. GEOTEXTILE FABRIC SHALL BE A MIN. OF 36" IN WIDTH AND SHALL BE ADEQUATELY FASTENED TO THE WIRE.

MAINTENANCE

- 1.) THE CONTRACTOR SHALL MAINTAIN THE SILT FENCE UNTIL THE PROJECT IS VEGETATED OR ACCEPTED.
- 2.) FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT IT REDUCES THE EFFECTIVENESS OF THE FABRIC.



SECTION

NOT TO SCALE



Revision	Description

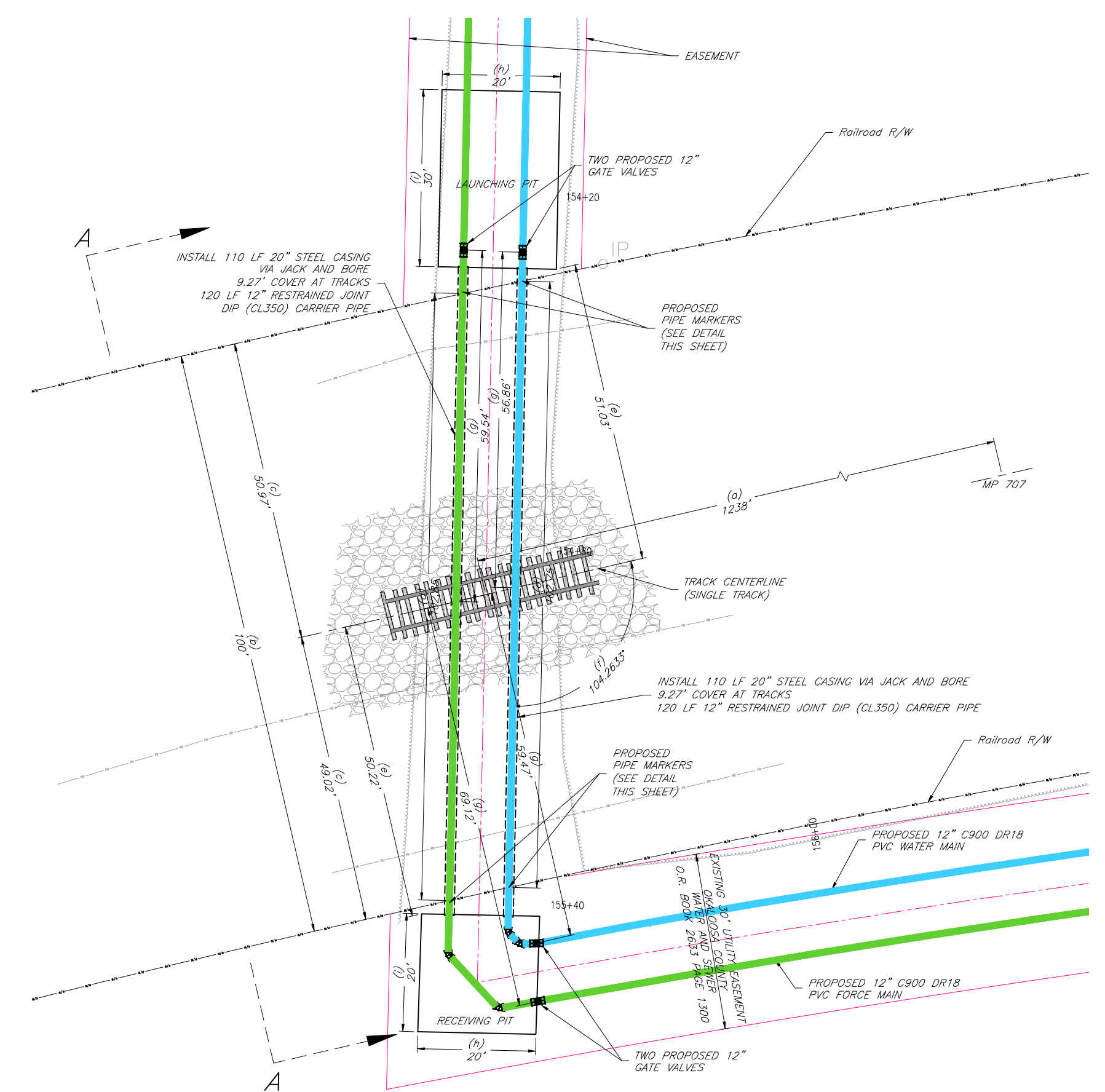
DESIGNED BY: MCE	DRAWN BY: DNF	DATE: JULY 2019
ENG / ARCH / SURVEYOR OF RECORD: MICHAEL C. EVANS, P.E.	REGISTRATION No. 58311	
Cent. of Auth. No.	FL.	GA.
ARCHITECT: CA-0480	AL.	LA.
ENGINEER: CA-754E	CA-818	001118
SURVEY: CA-0184-S	LS727	LSF0132

POLY, INC.
1956 Headland Avenue
Dothan, AL 36833
334-794-4700
102 Sunset Lane
Shalimar, FL 32579
850-665-1100
Tuscaloosa, AL 35401
205-752-4037
WWW.POLY-INC.COM

HWY 90 EAST
WATER AND SEWER
OKALOOSA COUNTY WATER AND SEWER
MISC EROSION CONTROL DETAILS

SHEET No.
C-47
PROJECT No.
41-470

Poly, Inc. - C:\Users\mevans\AppData\Local\Temp\AcPublish_11460\RAILROAD PERMIT.dwg [PLN] Last Printed: January 24, 2020 - 09:31am By: MEVANS



LEGEND	
LETTER	DESCRIPTION
(a)	Distance from crossing to nearest actual milepost (1,214 feet from MP 707), OR : Distance from crossing to centerline of nearest public road intersection (include DOT Crossing #)
(b)	Width of Railroad R/R
(c)	Distance from centerline of track to R/W
(d)	Total length of pipe on Railroad R/W [See Railroad Pipeline Spec. page 13, C), i), (f)]
(e)	Distance from centerline of nearest track to face of pits or poles at a 90 degree angle to the track(s)
(f)	Angle of crossing [See Railroad Pipeline Spec. page 5, B) ii]
(g)	IF CONTENTS UNDER PRESSURE: Distance of shut-off valves from centerline of nearest track (min. 2,000' from nearest track on each side of R/W) [See Railroad Pipeline Spec. page 20, I), i)]
(h)	Width of Launching/Receiving Pit
(i)	Length of Launching/Receiving Pit

NOTES:

- ONCE STARTED, THE BORING OPERATION SHALL PROGRESS ON A 24-HOUR BASIS WITHOUT STOPPAGE (EXCEPT FOR ADDING LENGTHS OF PIPE) UNTIL THE LEADING EDGE OF THE PIPE HAS REACHED THE RECEIVING PIT.
- THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.
- THE AUGER AND CUTTING HEAD ARRANGEMENT SHALL BE REMOVABLE FROM WITHIN THE PIPE IN THE EVENT AN OBSTRUCTION IS ENCOUNTERED.
- THE OVER-CUT BY THE CUTTING HEAD SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE PIPE BY MORE THAN 1/4 INCH. IF VOIDS SHOULD DEVELOP OR IF THE BORED HOLE DIAMETER IS GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE (PLUS COATING) BY MORE THAN APPROXIMATELY 1 INCH, GROUTING (SEE THE CONSTRUCTION REQUIREMENTS-GROUTING SECTION) OR OTHER METHODS APPROVED BY RAILROAD, SHALL BE EMPLOYED TO FILL SUCH VOIDS.
- THE FACE OF THE CUTTING HEAD SHALL BE ARRANGED TO PROVIDE A REASONABLE OBSTRUCTION TO THE FREE FLOW OF SOFT OR POOR MATERIAL.
- ANY METHOD THAT EMPLOYS SIMULTANEOUS BORING AND JACKING THAT DOES NOT HAVE ABOVE APPROVED ARRANGEMENT WILL NOT BE PERMITTED.
- ALL CASING PIPE ENDS MUST BE SEALED IN ACCORDANCE WITH RAILROAD PIPELINE SPECS.
- REFER TO RAILROAD ENGINEERING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INFORMATION AND GUIDANCE.

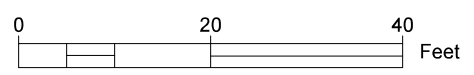
PROPOSED PIPE MARKERS:

EACH PIPELINE SHALL BE PROMINENTLY MARKED AT RIGHT-OF-WAY LINES (ON BOTH SIDES OF TRACK) BY DURABLE, WEATHERPROOF SIGNS LOCATED OVER THE CENTERLINE OF THE PIPE. EACH SIGN SHALL SHOW THE FOLLOWING:

- NAME AND ADDRESS OF OWNER
- CONTENTS OF PIPE
- PRESSURE IN PIPE
- PIPE DEPTH BELOW GRADE AT POINT OF A SIGN
- EMERGENCY TELEPHONE NUMBER IN EVENT OF PIPE RUPTURE

CAUTION BURIED WATER MAIN
(100 PSI)
DEPTH: _____
BEFORE EXCAVATING CALL 411
OKALOOSA COUNTY WATER AND SEWER SYSTEM

CAUTION BURIED SEWER MAIN
(100 PSI)
DEPTH: _____
BEFORE EXCAVATING CALL 411
OKALOOSA COUNTY WATER AND SEWER SYSTEM



Location Crestview, Okaloosa County, Florida	
Latitude:	N 30°:44':56.89"
Longitude:	W 86°:29':1.58"
Drawing No.:	Railroad-01 Sheet: 1 of 2
Drawing Date:	05/01/2019 Last Revised: 09/30/2019
Drawing Scale:	1 Inches = 20 Feet

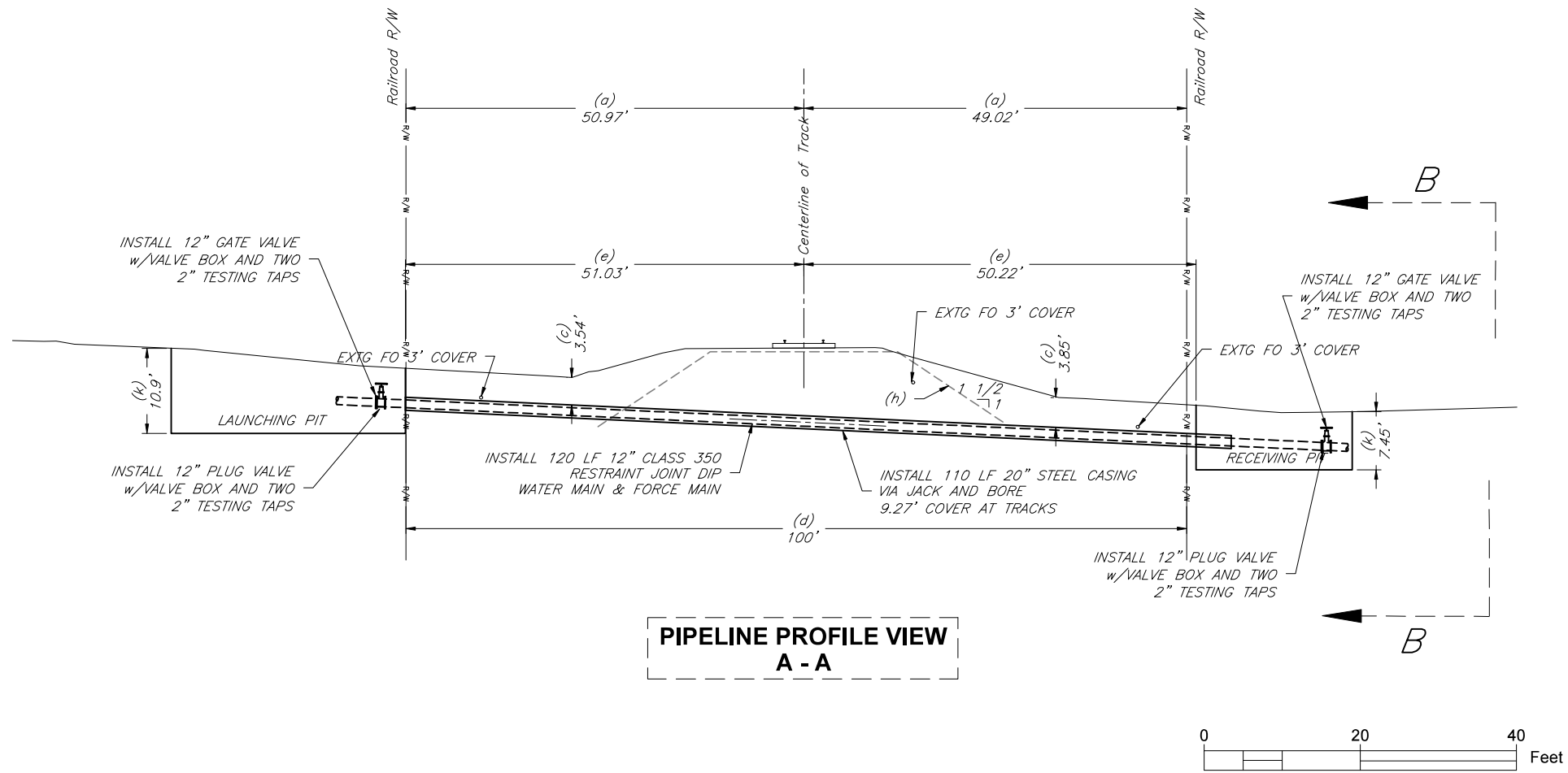


DATE	DESCRIPTION

DESIGNED BY: MCE	DRAWN BY: DNF	DATE: JULY 2019
ENGINEER: MICHAEL C. EVANS, P.E.	REGISTRAR: MICHAEL C. EVANS, P.E.	REGISTRATION NO.: 59311
PROJECT NO.: CA-2019-01	SCALE: AS SHOWN	PROJECT NAME: RAILROAD PERMIT

POLY, INC.
1956 Headland Avenue
Dothan, AL 36503
334-754-4700
102 Sunset Lane
Shalimar, FL 32579
850-665-1100
WWW.POLY-INC.COM

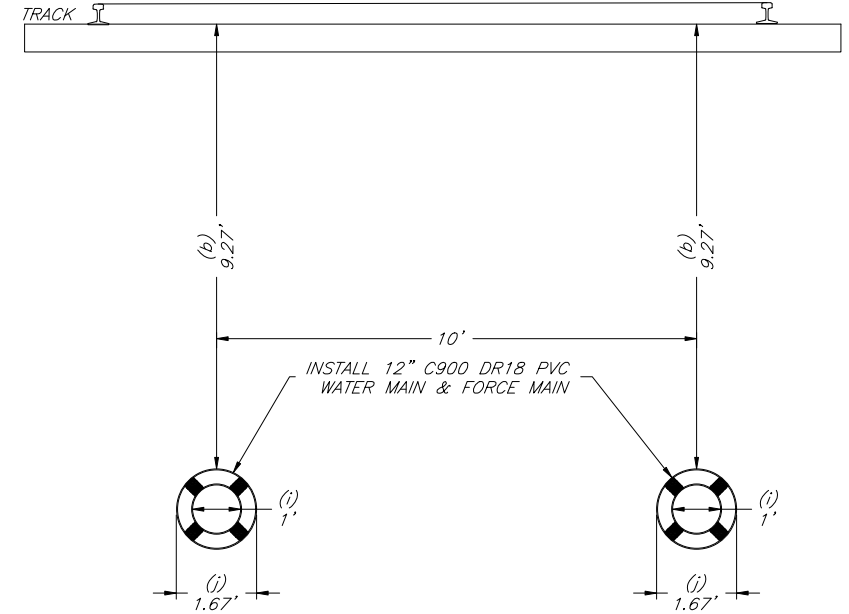
HWY 90 EAST WATER AND SEWER EXTENSIONS OKALOOSA COUNTY WATER AND SEWER	RAILROAD PERMIT
SHEET No. Railroad-01	
PROJECT No. 41-470	



PIPELINE PROFILE VIEW A - A

- NOTES:
- ONCE STARTED, THE BORING OPERATION SHALL PROGRESS ON A 24-HOUR BASIS WITHOUT STOPPAGE (EXCEPT FOR ADDING LENGTHS OF PIPE) UNTIL THE LEADING EDGE OF THE PIPE HAS REACHED THE RECEIVING PIT.
 - THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.
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 - THE FACE OF THE CUTTING HEAD SHALL BE ARRANGED TO PROVIDE A REASONABLE OBSTRUCTION TO THE FREE FLOW OF SOFT OR POOR MATERIAL.
 - ANY METHOD THAT EMPLOYS SIMULTANEOUS BORING AND JACKING THAT DOES NOT HAVE ABOVE APPROVED ARRANGEMENT WILL NOT BE PERMITTED.
 - ALL CASING PIPE ENDS MUST BE SEALED IN ACCORDANCE WITH RAILROAD PIPELINE SPECS.
 - REFER TO RAILROAD ENGINEERING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INFORMATION AND GUIDANCE.

CROSS SECTION VIEW B - B



LEGEND	
LETTER	DESCRIPTION
(a)	Distance from centerline of track to Railroad R/W
(b)	Distance from base-of-rail to top-of-casing [See Railroad Pipeline Spec. page 6, C)]
(c)	Distance from base-of-ditch to top-of-casing [See Railroad Pipeline Spec. page 6, C)]
(d)	Total length of pipe on Railroad R/W [See Railroad Pipeline Spec. page 13, C), i), (f)]
(e)	Distance from centerline of nearest track to face of pits at a 90 degree angle to the track(s)
(f)	Distance from top-of-vent pipe to ground surface (4' minimum required) [See Railroad Pipeline Spec. page 20, F)]
(g)	Distance from centerline of track to vent pipe at a 90 degree angle to the track(s) [See Railroad Pipeline Spec. page 20, F)]
(h)	Theoretical Embankment Line: Starts 12' from centerline of track and extends away from track at a slope of 1.5' over and 1' down [See Railroad Pipeline Spec. page 14, C), i), (f), B.P. #6]
(i)	Carrier pipe diameter
(j)	Casing pipe diameter
(k)	Depth of Launching/Receiving Pit

Railroad Pipeline Spec. Reference		PIPELINE CONTENT DETAILS	
		Commodity Description:	POTABLE WATER & SANITARY SEWER
		Maximum Operating Pressure:	100 psi
		Is Commodity Flammable:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		CARRIER/CASING PIPE DETAILS	
		Carrier Pipe	Casing Pipe
	Page 13, C); & 17, D)	Pipe Material: DUCTILE IRON PIPE	STEEL
	Page 13, C); & 17, D)	Material Specifications & Grade: ANSI A21.51/AEEAC151, CLASS 350	ASTM A139, GRADE B
	Page 13, C); & 17, D)	Specified Minimum Yield Strength: 42,000 PSI	35,000 PSI
	Page 14, ii), (d)	Nominal Size Outside Diameter (Inches): 13.20	20
	Page 13, C); & 17, D)	Wall Thickness (Inches): 0.28	0.344
	Page 13, C); & 17, D)	Type of Seam: N/A	STRAIGHT SEAM
	Page 13, C); & 17, D)	Type of Joints: RESTRAINT	WELD
	Page 16, v)	Tunnel Liner Plates Required: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		Cathodic Protection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Type: _____
		Protective Coating: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Type: _____
		Temp. Track Support of Rip-Rap Req: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Must Describe & Show on Dwg.

Location	Crestview, Okaloosa County, Florida
Latitude:	N 30°:44':56.89"
Longitude:	W 86°:29':1.58"
Drawing No.:	Railroad-02 Sheet: 2 of 2
Drawing Date:	05/01/2019 Last Revised: 09/30/2019
Drawing Scale:	V 1 Inches = 20 Feet
Drawing Scale:	H 1 Inches = 20 Feet



DATE	DESCRIPTION

DESIGNED BY:	MCE	DATE:	JULY 2019
DRAWN BY:	DWF	REGISTRATION No.:	59311
ENGINEER:	MICHAEL C. EVANS, P.E.	These drawings are:	copyrighted and the property of Poly, Inc. All rights reserved. No part of these drawings may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Poly, Inc.
ARCHITECT:	CAC400	FL:	001118
SURVEY:	CAC204	CA-918	001118
	CAC019-3	LSF032	LSF032

POLY, INC. 1956 Headland Avenue Dothan, AL 36803 334-794-4700 102 Sunset Lane Tallahassee, FL 32309 850-468-1100 WWW.POLY-INC.COM	RAILROAD PERMIT SHEET No. Railroad-02 PROJECT No. 41-470
--------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------



ADDENDUM NO. 1

TO: ALL BIDDERS

PROJECT: ITB WS 26-20
HIGHWAY 90 EAST WATER AND SEWER MAIN EXTENSIONS

OWNER: OKALOOSA COUNTY

DATE: March 11, 2020

A Mandatory Pre-Bid Meeting was held on March 4, 2020. Pursuant to issues discussed and questions arising from that meeting, the following items are hereby incorporated into the project contract documents and specifications. **Note, any deletions from original documents will be stricken through and any additions or replacements of deletions shall be italicized in this addendum:**

ITEM NO. 1 – Page 00002, Notice to Respondents

Emphasized the following information:

- Bid Time/Date: 3:00 PM (LOCAL TIME), March 25, 2020
- Bid Place: Okaloosa County Courthouse, Room #282
101 E. James Lee Blvd., Crestview, FL
Note
Not a Next Day Delivery Service Location
- Note – **Security at Entry Point – Allow time for security clearance if hand delivering**

ITEM NO. 2 – Section 00100, Instructions to Bidders

Emphasized the following information:

- Article 3 – Qualifications - BIDDER must have completed a minimum of five similar projects within the past five years. A similar project is defined

as the successful installation and testing of 12" or larger water and/or sewer pressure pipelines, with a total length of piping per project of at least 5,000 linear feet.

- Article 7 – Questions - All questions are to be submitted to Purchasing in writing prior by 3:00 PM Central Time on March 10, 2020 and shall be submitted on the Pre-Bid Question Form (Section 00150-1)
- Article 13 Preparation of Bid (00100-5) - Original + 2 copies of the bid form. All originals signed in **blue ink**.
- Article 15 (00100-7) - Submittal of Bid - Again, **not a next day delivery**
- Article 22 (00100-9) - Conflict of Interest – Certification Form is included with Bid Package
- Article 31 (00100-10 & 11) – CONE OF SILENCE - Certification Form is included with Bid Package
- BID DOCUMENTS – Must submit **all** listed documents or may be deemed non-responsive. Any questions? Please direct to Purchasing...

ITEM NO. 3 – Section 00410, Bid Form With Attachments

Emphasized the following information:

- Bid Schedule (00410-3 thru 5)
- Time of Completion – Timing is **CRITICAL** on this project and work **MUST** be substantially complete within **150 calendar days** after the date when the Contract Times commences to run. Final completion within **210 calendar days**.
- **MAKE CERTAIN TO ACCOUNT FOR EXTRA CREWS, EQUIPMENT, ETC. TO ENSURE THIS PROJECT IS COMPLETED ON SCHEDULE.**

ITEM NO. 4 – Section 00520, Agreement

Emphasized the following information:

- Liquidated Damages – Amount per calendar day based on table on page 00520-2.
- Retainage – will be 5% of Work completed
- Public Records – Contractor required to maintain public records in accordance with Chapter 119 of the Florida Statutes.

ITEM NO. 5 – Section 00800, Supplementary Conditions

Emphasized the following information:

- Insurance Requirements – See pages 00800-3 & 4 for Workers Compensation, General Liability, Automobile Liability, and Pollution Insurance requirements. Insurance shall be maintained for two (2) years after the final payment.

- **ALSO, SEE EXHIBIT “C”** at the end of this section for specific insurance requirements for Railroad Crossing. **For railroad crossing, the CONTRACTOR is responsible for “During Installation Period” Insurance only.** The Post-installation insurance shown is the responsibility of the OWNER. These insurance requirements pertain only to the jack-and-bore portion of the project within the Railroad Right-of-Way.

ITEM NO. 6 – Section 01010, Summary of Work

Emphasized the following information:

- Summary Review – Installation of approximately 22,479 LF of 12" water main and approximately 19,399 L.F. of 12" sewer force main. Both lines require segments of open trench, directional bore, and jack and bore installation.

ITEM NO. 7 – Section 01700, Contract Closeout

Emphasized the following information:

- Closeout submittals – A detailed list of closeout submittal requirements is listed in 1.05, A, 1-7.

ITEM NO. 8 – Section 00950, Special Conditions

Emphasized the following information:

- Hydrant Meter - For any construction water utilized via an Okaloosa County-owned water line/hydrant meter, the Contractor shall set up an account with OCWS' Customer Service office and provide contact information. The account shall be set up in the Contractor's name with a deposit and service fee paid by the Contractor. The deposit will be refunded when the account terminates if the meter has not been damaged or lost. OCWS will be responsible for setting the hydrant meter, along with the monthly reading. If the hydrant meter needs to be relocated, the Contractor to coordinate this with OCWS Maintenance. **Water usage will not be charged to the Contractor, provided that the above conditions are met.**

ITEM NO. 9 – Section 01 22 00, Measurement and Payment

Emphasized the following information:

- This specification intends that payment will be made for those items listed in the Bid Schedule only. All items of work not specifically listed in the Bid

Schedule shall be considered incidental to the construction, and the cost of all such work and material shall be included in the prices bid for the various items listed.

ITEM NO. 10 – Section 01 41 26.02, FDEP Stormwater Permit for Construction

Emphasized the following information:

- The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) and filing a Notice of Intent (NOI) and Notice of Termination (NOT) with the FDEP NPDES Stormwater Notices Center.

ITEM NO. 11 – Section 01 78 39, As-Built Documentation

Emphasized the following information:

- Provide the Record As-Built information in both Electronic and Hardcopy mediums. The electronic medium format shall be .TXT files in the PNEZD format.
- The coordinate system shall be Florida North (US Survey Feet) and the Datum shall be NAD83.
- Coordinates shall be captured through traditional survey or RTK GPS (survey or GIS mapping grade) with +/- 0.05' horizontal accuracy and +/- 0.05' for vertical accuracy. **GPS locations captured with a recreational GPS receiver will not be acceptable.**
- Files shall be submitted to the Owner's Project Manager for approval on a WEEKLY basis. Files may be submitted via email or on a CD or USB drive.
- **The following are the minimum items requiring location collection. All fittings, valves, valve nuts, transitions between pipe types/materials, ends of bores, ends of casings, sleeves, taps, air release valves, hydrants, connection points to existing lines, restraint locations, and the crown of every bell along pipelines.**

ITEM NO. 12 – Section 33 05 13, Precast Concrete Manholes for ARV's

Emphasized the following information:

- NOTE – ARV Manholes are required to have aluminum access doors as specified in Item 2.2. Revised detail sheets depicting aluminum access door and 60" flat top manhole are included with this addendum.

ITEM NO. 13 – Section 33 05 23.16, Utility Pipe Jacking and Boring

Emphasized the following information:

- Casing thickness requirement varies between highway crossings and railroad crossing.
- Special requirements for pipeline markings on the railroad crossings. Durable weatherproof signs required to be located over the centerline of each pipe. See Item 3.2.M on page 33 05 23.46-4 and plans for information required on markers.
 - For railroad crossing jack and bore
 - At all times when the work is being progressed, a field supervisor for the work with no less than twelve (12) months experience in the operation of the equipment being used shall be present. If boring equipment or similar machines are being used, the machine operator also shall have no less than twelve (12) months experience in the operation of the equipment being used.
 - Crossing of tracks at grade by equipment and personnel is prohibited except by prior arrangement with, and as directed by, the Chief Engineer.
 - The Owner of the facility shall reimburse the Railroad for all flagging and inspection costs associated with the pipe installation. Reimbursement by the Contractor is not acceptable.
 - **The permit for the railroad crossing has been approved contingent upon a few items including the Contractor providing acceptable insurance policies to the Railroad. This will take some time to finalize after award so plan on making railroad crossings toward the end of the project to allow time for permitting.**

ITEM NO. 14 - Section 33 05 50, Polyvinyl Chloride (PVC) Pressure Pipe

Emphasized the following information:

- No detector wire or tape is required
- The contractor is responsible for all testing, disinfection, chlorination, flushing and bacteriological testing.

ITEM NO. 15 - Section 33 05 51, Ductile Iron Piping & Ductile Iron & Cast Iron Fittings

Emphasized the following information:

- Lining for Wastewater: Interior of pipe and fittings to be lined with factory-applied ceramic epoxy (Cermapure PL 90, Perma-Shield PL Series 431, PermoX-CTF, or approved equal), 40 mils thickness.
- Lining for Water: Interior of pipe and fittings to receive a cement mortar lining of standard thickness in accordance with ANSI A21.4.

ITEM NO. 16 - Section 33 12 13, Water Service Connections

Emphasized the following information:

- Taps are required on the lines for testing/flushing/etc. – These taps shall conform to the requirements in section 33 12 13. Pay particular attention to corporation stops, curb stops, and service saddles as they have specific required models to match existing Owner standards and repair parts.

ITEM NO. 17 - Section 0 05 51, Valves

Emphasized the following information:

- Gate valves are to be utilized on water main.
- Plug valves are to be utilized on sewer force main.
- Sewage air and vacuum valves shall be H-TEC Model 989 Stainless Steel to match existing Owner standards and repair parts. Pay attention to specific tapping saddle and valve requirements for ARV assemblies.

ITEM NO. 18 – DESIGN DRAWINGS

- Sheet C-01 – Construction easement available on the south side of Hwy 90 for drill rig setup and possible material storage.
- Sheet C-13 – Coordinate tie-in at the plant with the Owner.
- Sheets C-21 & C-22 – Tying into existing 12” water main bore under Shoal River.
- Sheet C-31 – Tying into existing 12” sewer force main near Clint Mason Road.
- Sheet C-46 – The ARV manhole detail shows a heavy-duty manhole frame and lid. Revised details sheets are included at the end of this addendum depicting the previously mentioned aluminum hatch as required in Section 33 05 13, Item 2.2.

- Sheets Railroad-01 and Railroad-02 – No above ground work allowed inside railroad right-of-way. Carefully adhere to all dimensions, material, notes and other requirements on these sheets.

ITEM NO. 19 – REVISED SPECIFICATIONS

- Section 00410 – Bid Form with Attachments, Page 00410-3, Item 3 description is hereby revised to read as follows:
 - 12" DR18 (C900) Fusible PVC ~~Water~~ **Sewer Force** Main Installed via Horizontal Directional Drilling, Complete In Place For
- Section 00410 – Bid Form with Attachments, Page 00410-3, Item 4 description is hereby revised to read as follows:
 - 12" DR18 (C900) Fusible PVC ~~Sewer Force~~ **Water** Main Installed via Horizontal Directional Drilling, Complete In Place For
- Section 33 05 13.02 - Precast Concrete Manholes for ARV's, Item 2.2.A on page 33 05 13.02 – 2 is hereby revised as follows:
 - Aluminum access doors shall be double leaf 48" x ~~54"~~ **48"** aluminum access hatch. Door leafs shall be minimum ¼" aluminum pattern plate reinforced with an H-20 load rating. Cover shall be equipped with a flush lifting handle and 316 stainless steel hold-open arm with a vinyl grip that automatically locks the cover in the 90-degree open position. Frame shall be extruded aluminum with an integral seat and continuous anchor flange on all four sides. Hinges shall be 316 stainless steel hinges with 316 stainless steel tamper-resistant bolts/locknuts. Latch shall be 316 stainless steel slam latch with plug and removable key wrench. Cover and frame shall be mill finish aluminum. Hardware shall be 316 stainless steel. USF Fabrication Model AHD or approved equal.

ITEM NO. 20 – REVISED DRAWING SHEETS

- Please find enclosed a revised Index Sheet (G-01) and revised detail sheets C-45 & C-46. Revised sheets C-45 & C-46 shall hereby replace sheets C-45, C-46 & C-47 in their entirety.
 - The revised sheets consolidate the details sheets, remove references to detector wire in the details, and clarify ARV manhole and hatch requirements.

ITEM NO. 21 – QUESTIONS FROM PRE BID MEETING

- Question: What is the budget for the project?
 - Answer: Around \$3,000,000
- Question: Who will pay for flagman?
 - Answer: Okaloosa County will pay for railroad flagman

- Question: Will there be a charge for water used to fill and flush lines?
 - Answer: No, as long as the Contractor uses Okaloosa County hydrants and is in compliance with the requirements for the hydrant meter outlined in the specifications. Note that there are other water providers in the area. Using water from any provider other than Okaloosa County could result in charges for water.

- Question: What are we trying to accomplish with this project within the timeline?
 - Answer: The short timeline is a result of grant requirements and land purchase requirements.

- Question: Would the Engineer or Owner be available to collect GPS as-built data for the Contractor.
 - Answer: The Owner and Engineer will have some inspectors onsite but not continuously. Since every joint of pipe will need to be RTK GPS'd, the Contractor will need to provide someone to collect the data at all times during pipeline and accessory installation.

- Question: The specs call for a 48"x54" hatch for ARVs. Would a 48"x48" hatch be acceptable?
 - Answer: Yes, the detail sheets and specs are updated with this addendum and include a 48"x48" hatch.

- Question: Will an addendum be issued with all questions?
 - Answer: Yes, further questions will be replied to via addendum after the question period has passed.

- Question: If another vendor wins the bid, will the County work with the vendor if they have issues during the construction process?
 - Answer: Yes, once the contract is awarded, everything will go back to normal. OCWS will work with the Contractor to resolve any issues in a typical manner.

- Question: How fast will the award of the contract happen?
 - Answer: We hope to have the contract awarded no later than the 1st board meeting in May.

- Question: Does the county already have the money for the project?
 - Answer: Yes, we have secured grant funds from Triumph Gulf Coast, Inc. and have County funds available.

ITEM NO. 22– RFI from Vendor

- Question: Since the County is bidding the project and are tax exempt, can the contractor become an agent of the county and be tax exempt also?
This will allow the contractor to not be at an unfair advantage.
 - Answer: All bidders, including any County department bidder, must include the sales taxes within their proposal. The County reserves the right and may, at its discretion, elect at time of award to exercise the right to direct purchase materials for this project pursuant to Section 24 and Appendix 2 of the Okaloosa County Purchasing Manual.


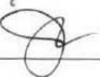


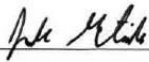
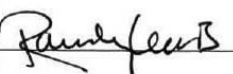
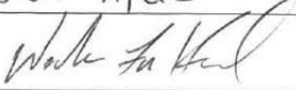
ITEM NO. 23 – PRE BID MEETING SIGN-IN SHEET

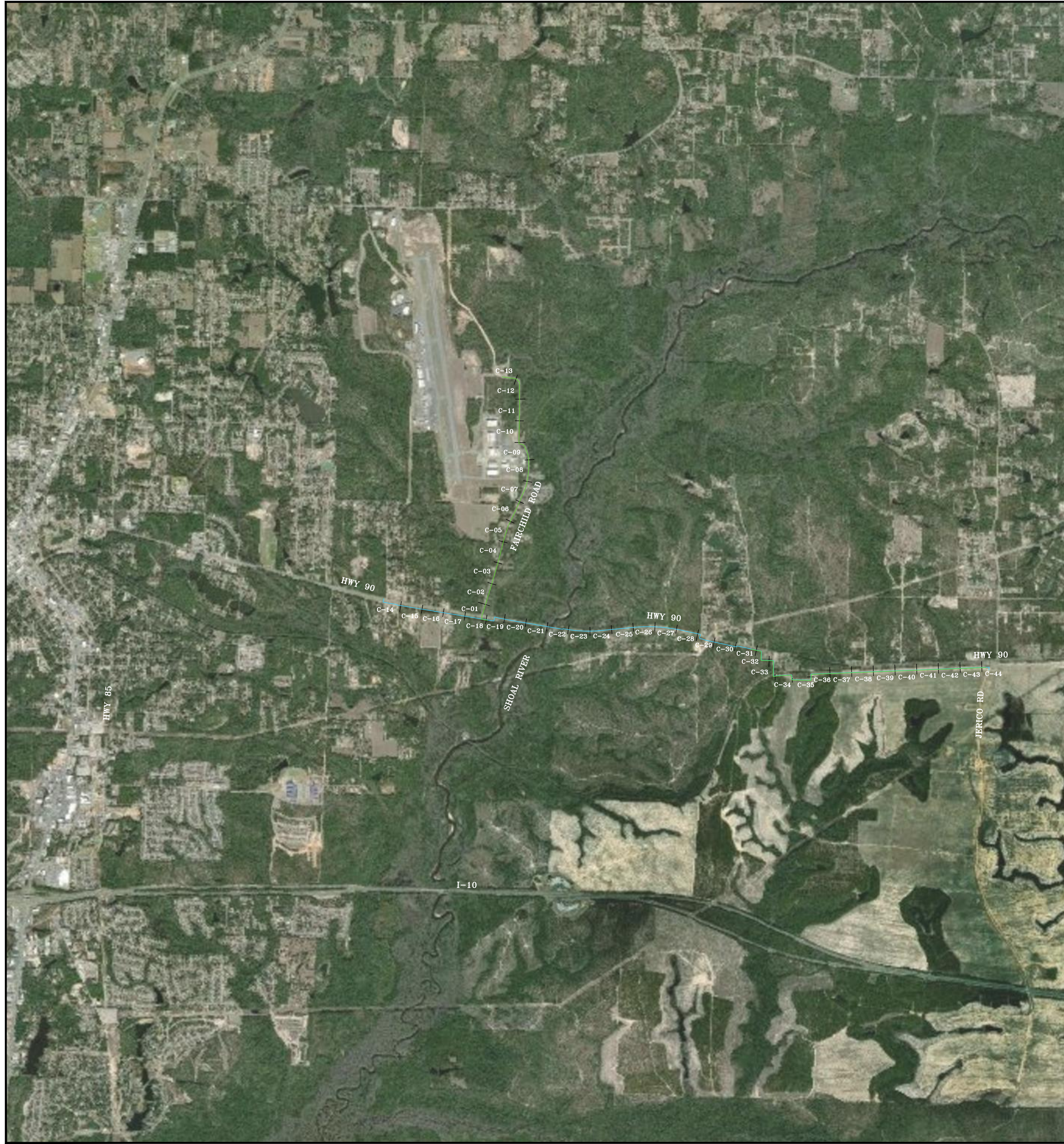
- Pre-bid meeting sign-in sheet is included on the following page:

RECEIPT OF THIS ADDENDUM SHALL BE ACKNOWLEDGED BY WRITING THIS ADDENDUM NO. AND DATE IN THE SPACE PROVIDED ON PAGE 00410-9 OF THE BID PROPOSAL.


Michael C. Evans, P.E. – Poly, Inc.

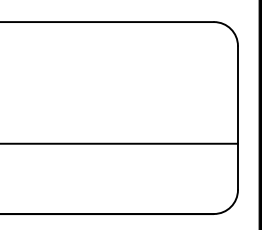
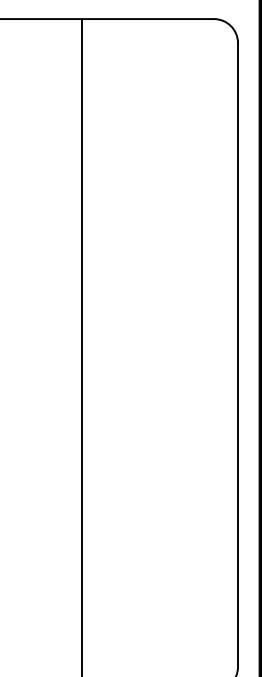
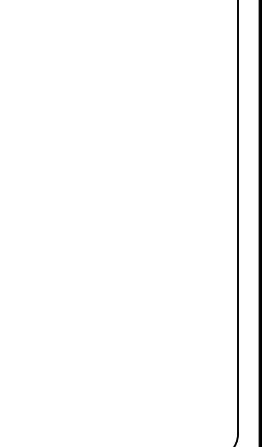
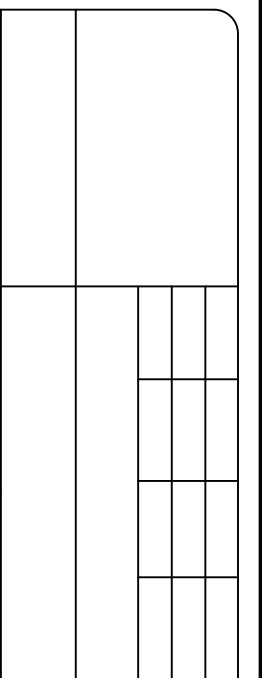
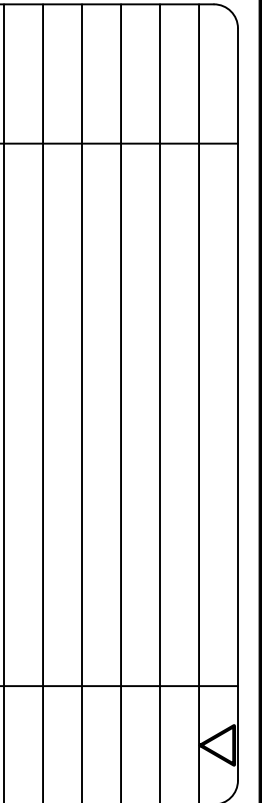
SIGN IN SHEET
Highway 90 East Water & Sewer Main Extensions
ITB WS 26-20
Pre-Bid Meeting
March 4, 2020 @ 10:00 AM CST

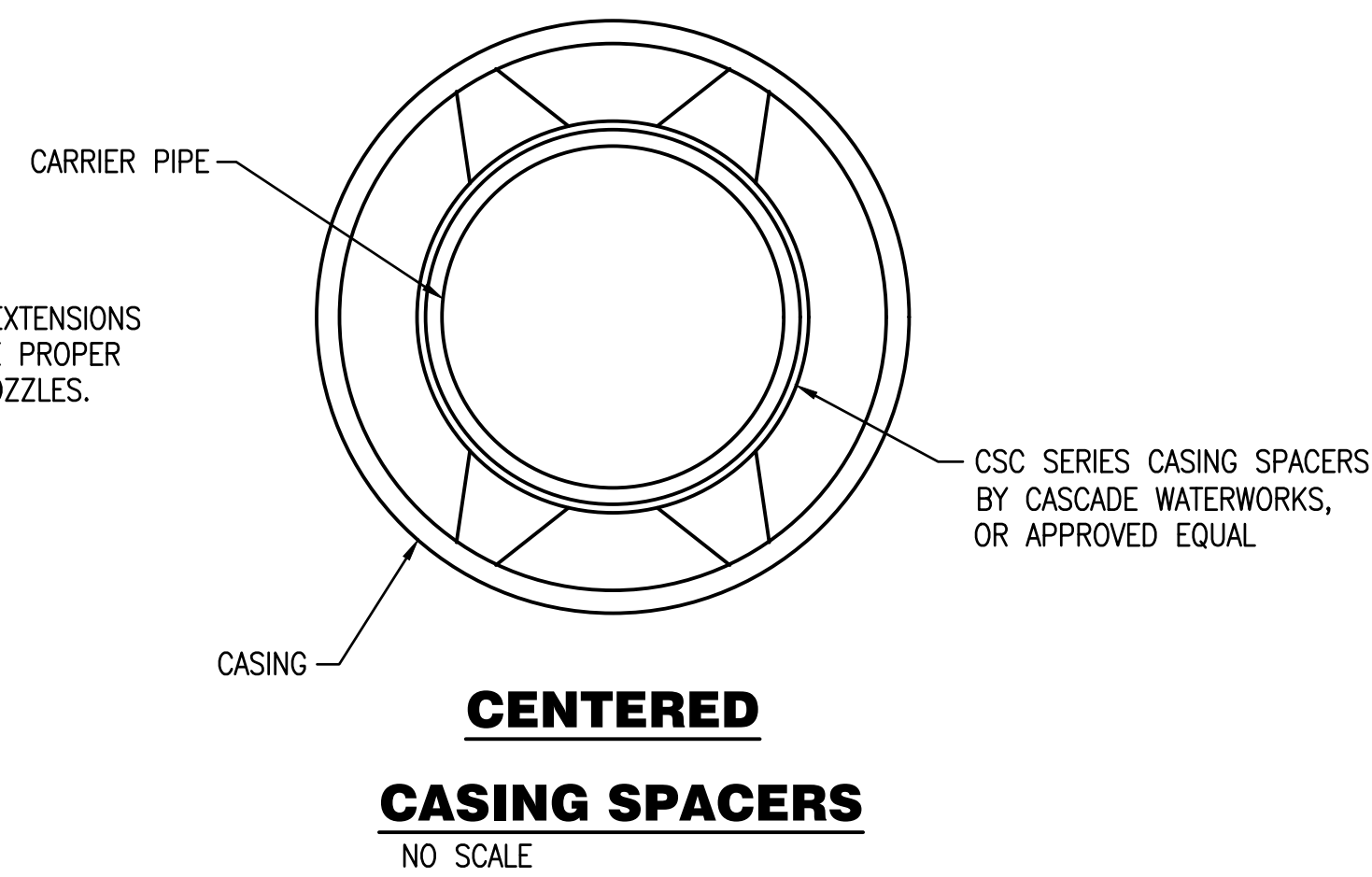
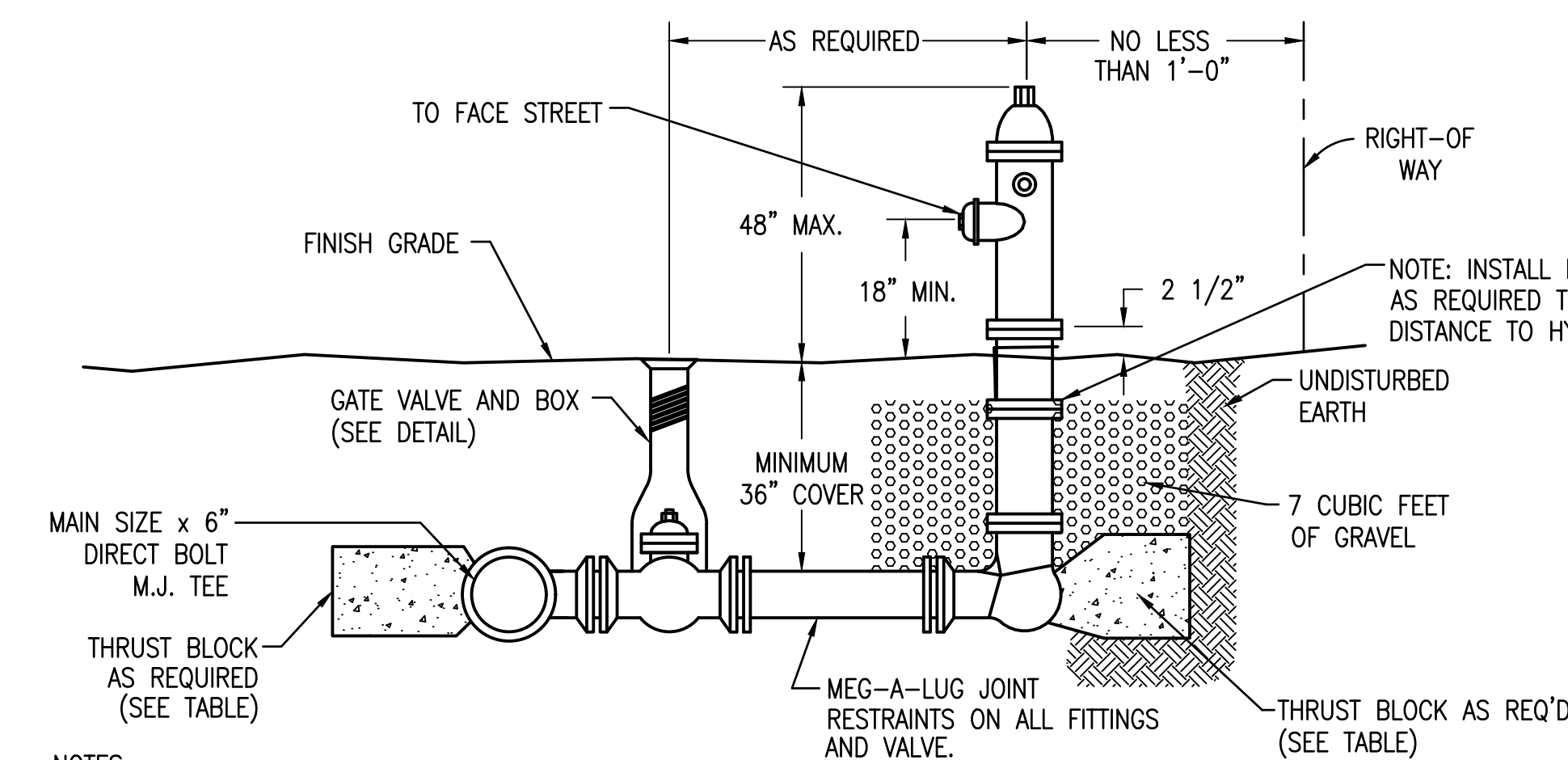
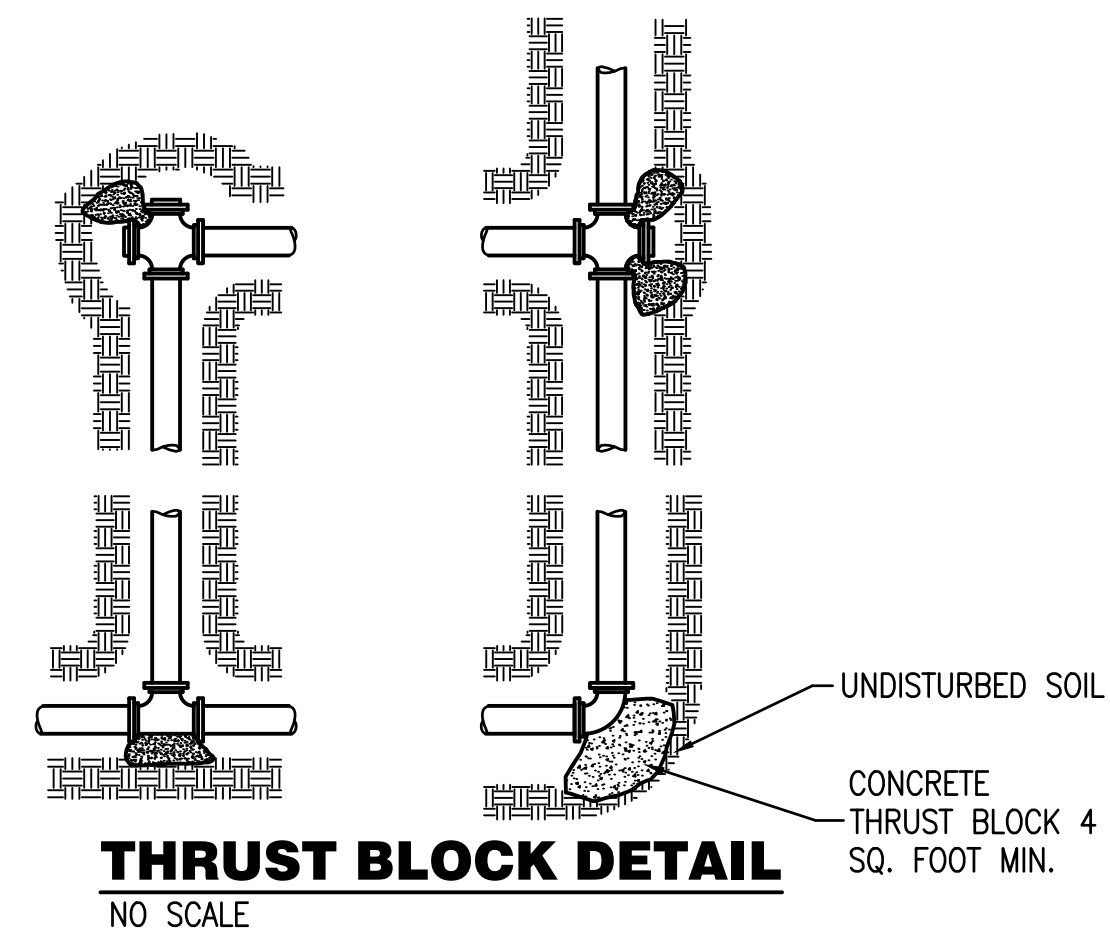
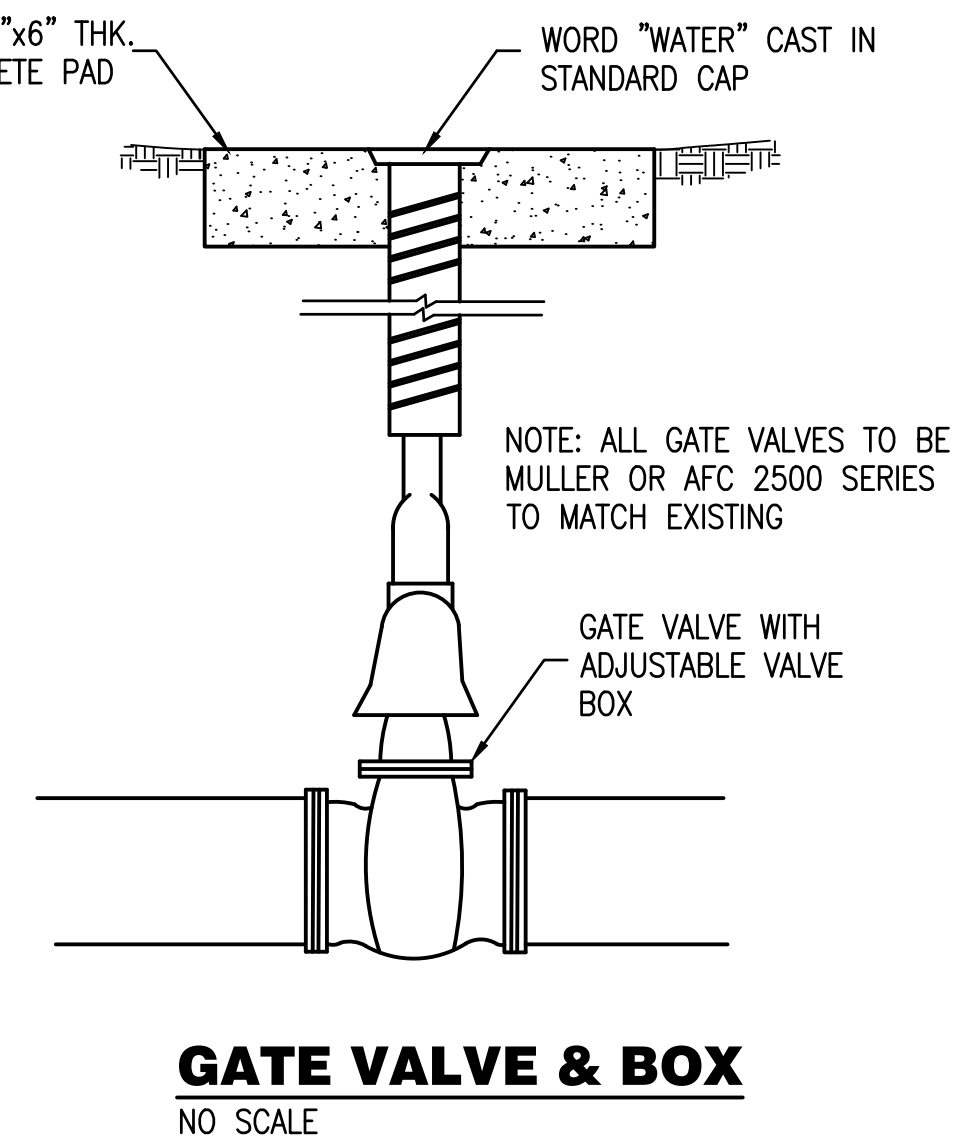
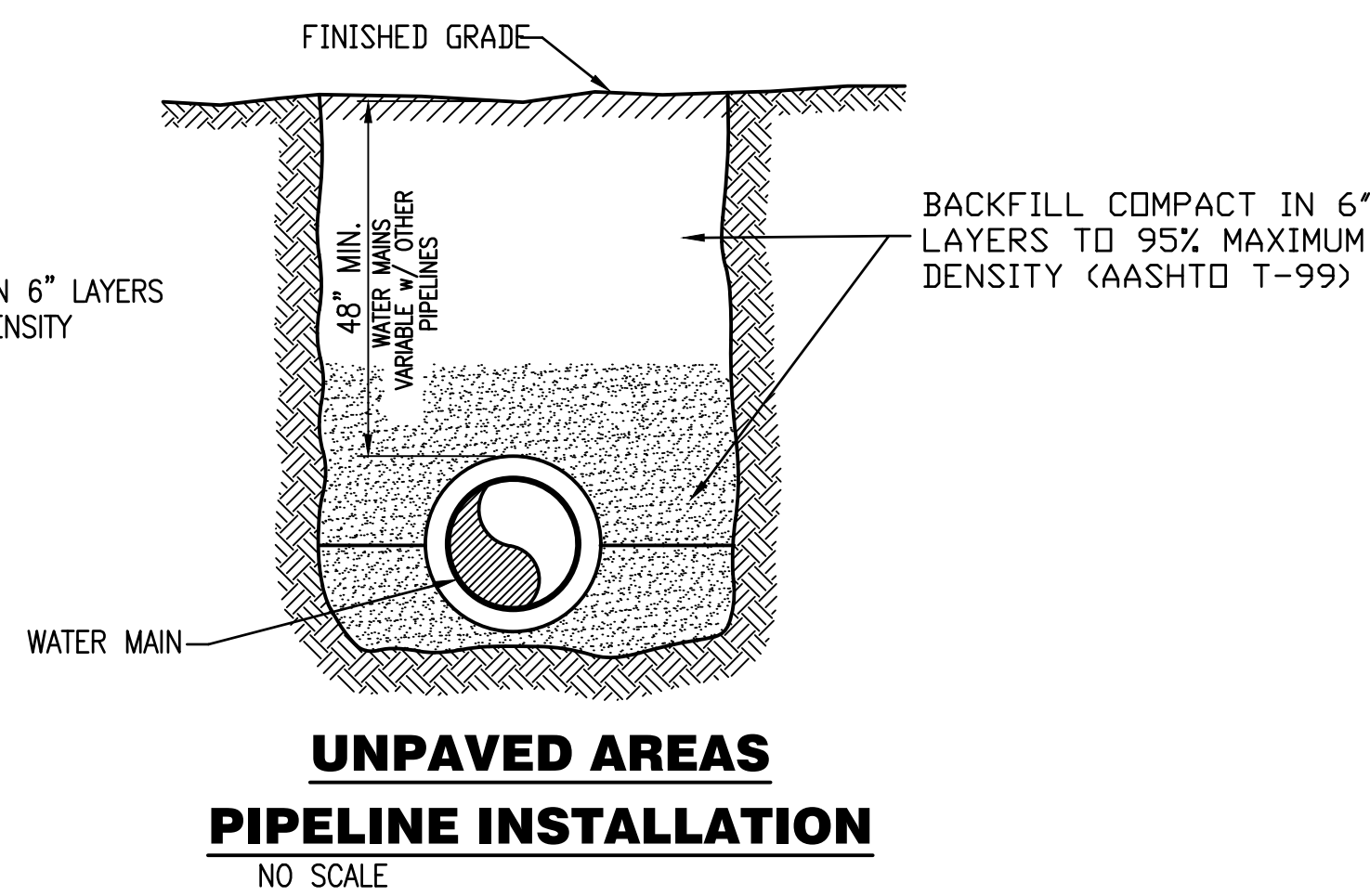
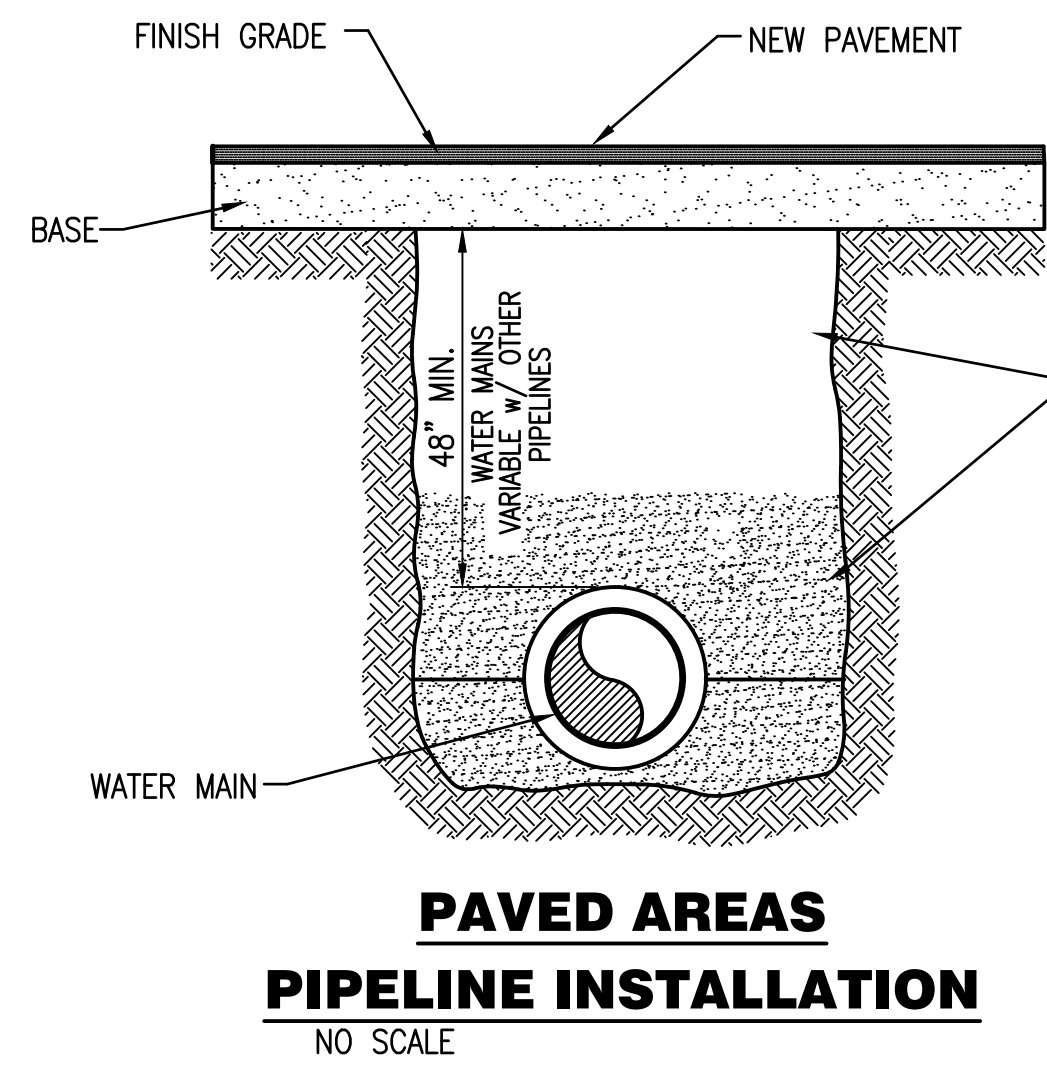
COMPANY/DEPARTMENT	SIGNATURE	TELEPHONE #	EMAIL ADDRESS (PLEASE PRINT NEATLY)
Okaloosa Co. Water & Sewer		850-978-3813	jschewster@myokaloosa.com
OCWS	 Jon Kanak	850-826-0748	jkanak@myokaloosa.com
OCWS		850-978-0013	H. Goodwin@myokaloosa.com
Underground Solutions		229-378-0315	candrews@aejibn.com
Underground Solutions	Mich Dross	904 362 3260	mdross@aejibn.com
Landk Contracting Co	CHRIS KRAKOWSKI	334-714-9379	landkcontracting@aol.com
Hemphill Construction Company	Jack Gratwick 	601-818-0564	jgratwick@hemphillconstruction.com
Randy Lewis/Triumph GC		850 524 2398	randylewis@aia@gmail.com
Okaloosa County PWR	Delita Mason	850-9089-5960	dmason@myokaloosa.com
Okaloosa County PWR	Jeff Hyde	850-689-5900	jhyde@myokaloosa.com
Poly Inc		334 726 7192	wfulford@poly-inc.com
Poly, Inc	Michael C Evans	850-609-1100	mevans@poly-inc.com



INDEX

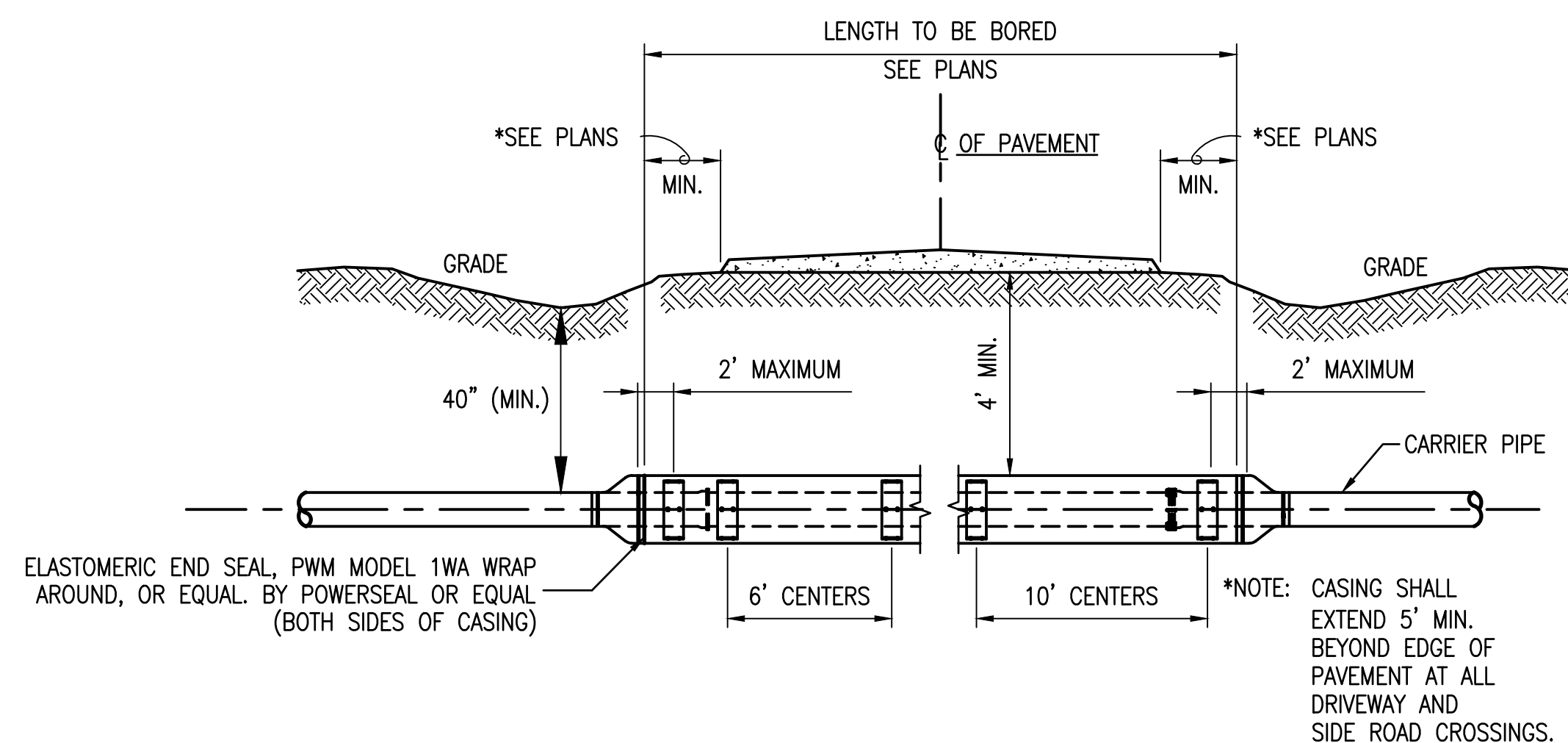
FAIRCHILD ROAD FORCE MAIN	0+00 - 7+80	C-01
FAIRCHILD ROAD FORCE MAIN	7+80 - 15+60	C-02
FAIRCHILD ROAD FORCE MAIN	15+60 - 23+40	C-03
FAIRCHILD ROAD FORCE MAIN	23+40 - 31+20	C-04
FAIRCHILD ROAD FORCE MAIN	31+20 - 39+00	C-05
FAIRCHILD ROAD FORCE MAIN	39+00 - 46+80	C-06
FAIRCHILD ROAD FORCE MAIN	46+80 - 54+60	C-07
FAIRCHILD ROAD FORCE MAIN	54+60 - 62+40	C-08
FAIRCHILD ROAD FORCE MAIN	62+40 - 70+20	C-09
FAIRCHILD ROAD FORCE MAIN	70+20 - 78+00	C-10
FAIRCHILD ROAD FORCE MAIN	78+00 - 85+80	C-11
FAIRCHILD ROAD FORCE MAIN	85+80 - 93+60	C-12
FAIRCHILD ROAD FORCE MAIN	93+60 - 98+66	C-13
HWY 90 EAST WATER MAIN	0+00 - 7+80	C-14
HWY 90 EAST WATER MAIN	7+80 - 15+60	C-15
HWY 90 EAST WATER MAIN	15+60 - 23+40	C-16
HWY 90 EAST WATER MAIN	23+40 - 31+20	C-17
HWY 90 EAST WATER MAIN	31+20 - 39+00	C-18
HWY 90 EAST WATER MAIN	39+00 - 46+80	C-19
HWY 90 EAST WATER MAIN	46+80 - 54+60	C-20
HWY 90 EAST WATER MAIN	54+60 - 62+40	C-21
HWY 90 EAST WATER MAIN	62+40 - 70+20	C-22
HWY 90 EAST WATER MAIN	70+20 - 78+00	C-23
HWY 90 EAST WATER MAIN	78+00 - 85+80	C-24
HWY 90 EAST WATER MAIN	85+80 - 93+60	C-25
HWY 90 EAST WATER MAIN	93+60 - 101+40	C-26
HWY 90 EAST WATER MAIN	101+40 - 109+20	C-27
HWY 90 EAST WATER MAIN	109+20 - 117+00	C-28
HWY 90 EAST WATER MAIN	117+00 - 124+80	C-29
HWY 90 EAST WATER MAIN	124+80 - 132+60	C-30
HWY 90 EAST WATER/FORCE MAIN	132+60 - 140+40	C-31
HWY 90 EAST WATER/FORCE MAIN	140+40 - 148+20	C-32
HWY 90 EAST WATER/FORCE MAIN	148+20 - 156+09	C-33
HWY 90 EAST WATER/FORCE MAIN	156+09 - 163+90	C-34
HWY 90 EAST WATER/FORCE MAIN	163+90 - 171+70	C-35
HWY 90 EAST WATER/FORCE MAIN	171+70 - 179+50	C-36
HWY 90 EAST WATER/FORCE MAIN	179+50 - 187+30	C-37
HWY 90 EAST WATER/FORCE MAIN	187+30 - 195+10	C-38
HWY 90 EAST WATER/FORCE MAIN	195+10 - 202+90	C-39
HWY 90 EAST WATER/FORCE MAIN	202+90 - 210+70	C-40
HWY 90 EAST WATER/FORCE MAIN	210+70 - 218+50	C-41
HWY 90 EAST WATER/FORCE MAIN	218+50 - 226+30	C-42
HWY 90 EAST WATER/FORCE MAIN	226+30 - 234+10	C-43
HWY 90 EAST WATER/FORCE MAIN	234+10 - 236+40	C-44
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MISC FORCE MAIN & EROSION CONTROL DETAILS		C-46
EROSION CONTROL DETAILS		C-47
RAILROAD PERMIT DRAWING - PLAN VIEW		R-01
RAILROAD PERMIT DRAWING - PROFILE/SECTION		R-02





- NOTES:**
- ALL FIRE HYDRANTS SHALL FACE THE STREET AND BE LOCATED WITHIN 5 FEET OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN OR DIRECTED ON LOT LINES.
 - ALL FIRE HYDRANTS SHALL HAVE MAIN SIZE BY 6" DIRECT BOLT M.J. TEES AND ALL HYDRANT LEADS SHALL BE DUCTILE IRON CEMENT LINED CLASS 350 PIPE WITH MEG-A-LUG JOINT RESTRAINTS.
 - THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ADAPTERS, GLANDS AND OTHER FITTINGS REQUIRED TO PROPERLY INSTALL THE FIRE HYDRANT. A FIRE HYDRANT EXTENSION PIECE OF THE SAME BRAND AS THE FIRE HYDRANT SHALL BE USED TO ADJUST HYDRANT TO PROPER GRADE. HYDRANTS TO BE TRUE AND PLUMB. EARTH BUILT-UP AROUND HYDRANT TO ADJUST GRADE IS NOT ACCEPTABLE. HYDRANT EXTENSIONS (IF REQUIRED) SHALL BE INCLUDED IN PRICE FOR HYDRANT ASSEMBLY.
 - CONCRETE THRUST BLOCKS SHALL NOT OBSTRUCT HYDRANT DRAIN HOLES. THRUST BLOCKS SHALL CONSIST OF 2500 PSI CONCRETE POURED AGAINST UNDISTURBED EARTH.
 - INSTALL A LOCATOR WIRE, 12 GAUGE COATED SOLID COPPER WIRE, FROM WATER MAIN AND CONNECT TO THE FIRE HYDRANT AND VALVE BOX AS SHOWN.

FIRE HYDRANT ASSEMBLY DETAIL
Not to scale



TYPICAL JACKING & BORING DETAIL
NOT TO SCALE

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

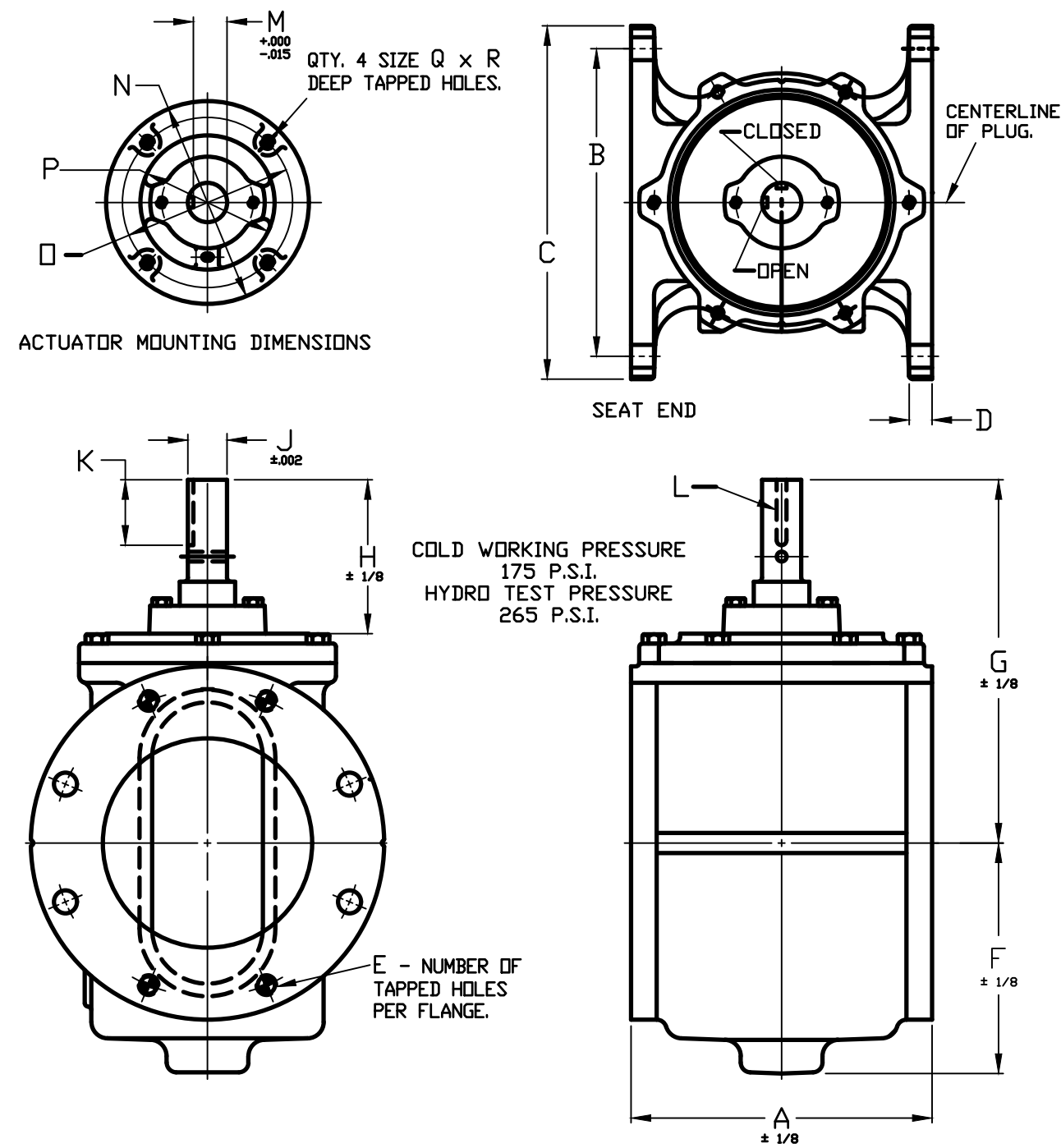
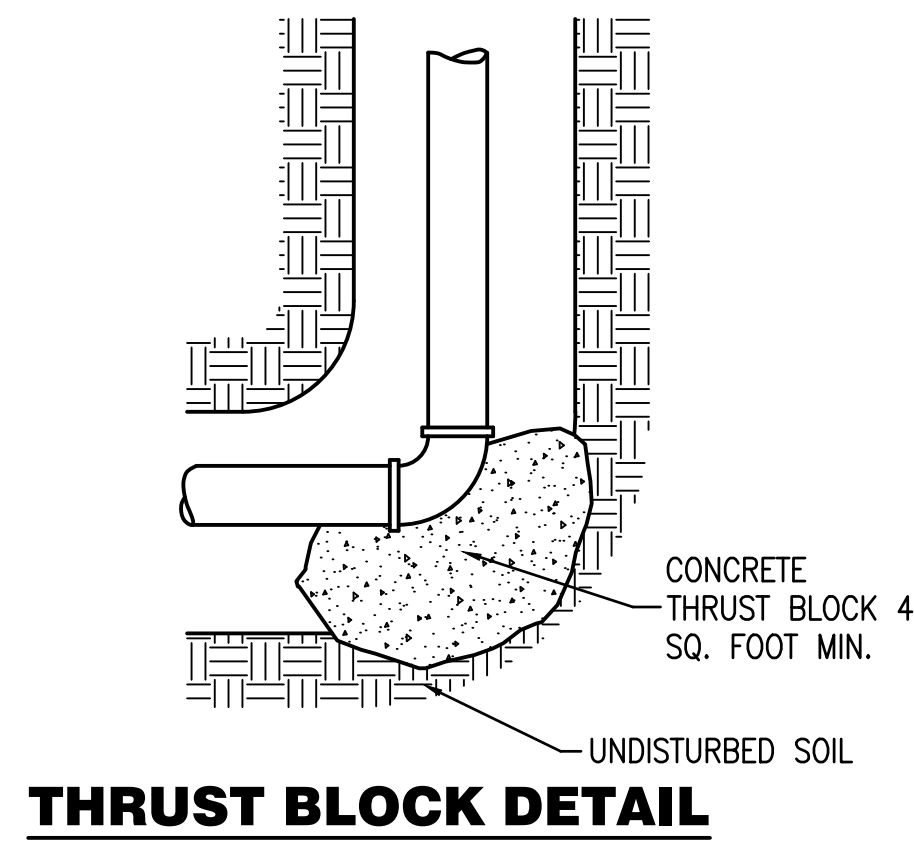
Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 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.

SEPARATION REQUIREMENTS
NOT TO SCALE

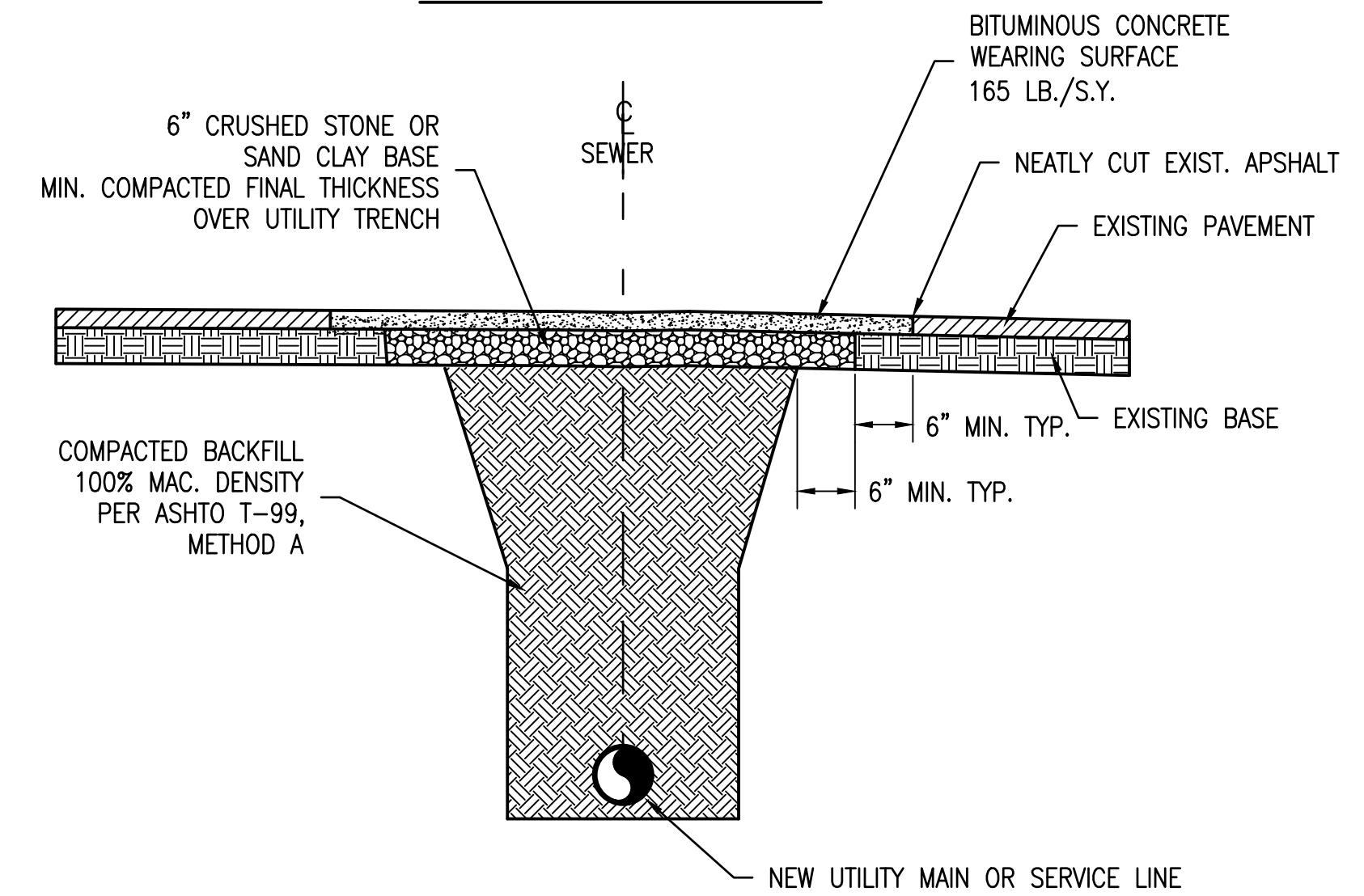
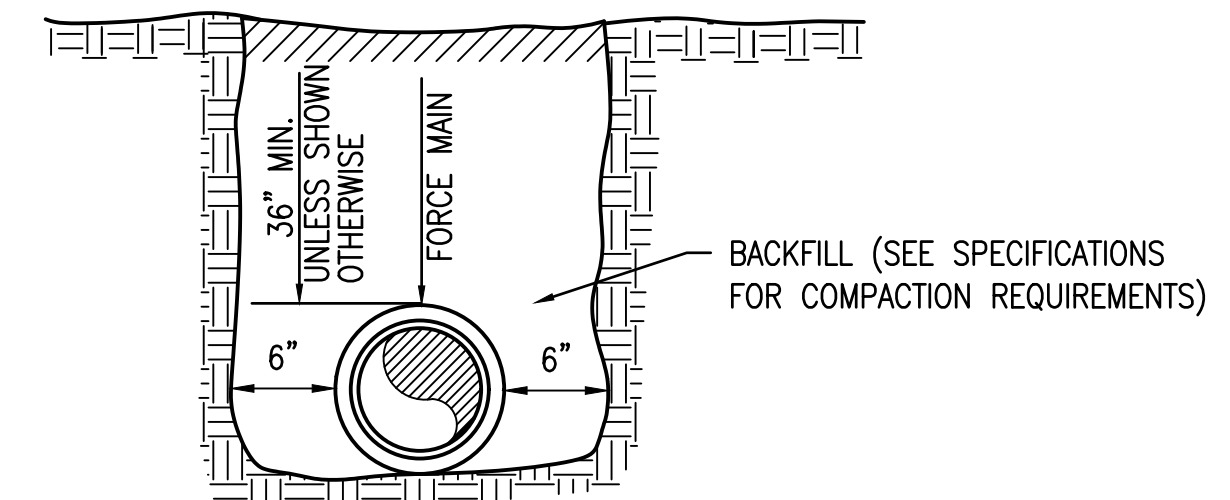




FLANGE DIMENSIONS, INCHES

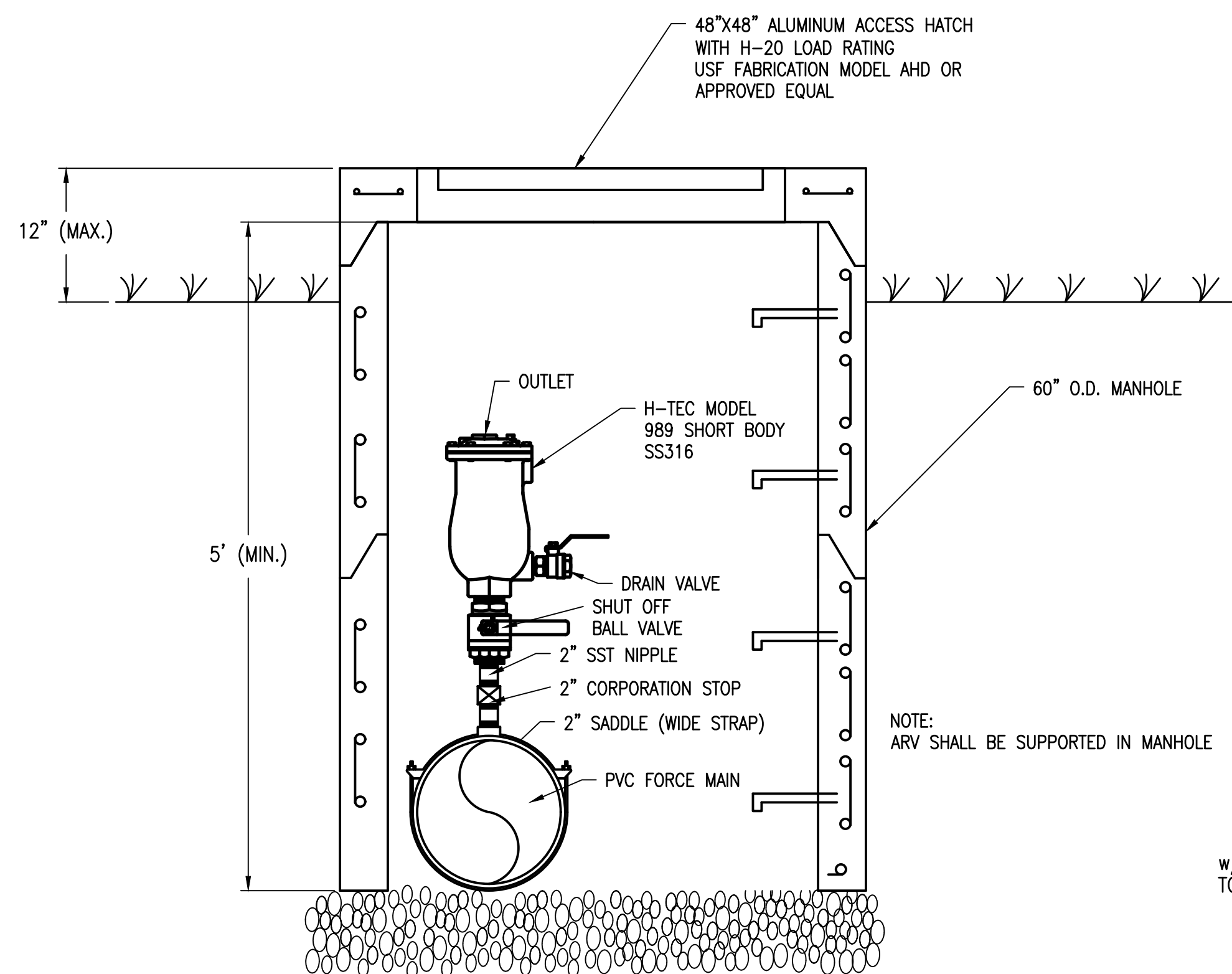
VALVE SIZE	A	B	C	D	E QTY.	E TAP DEEP	F	G	H	J	K	L	M	N	O	P	Q	R	BOLT SIZE	NO. OF BOLTS
12																			3/4	8

PLUG VALVE & BOX

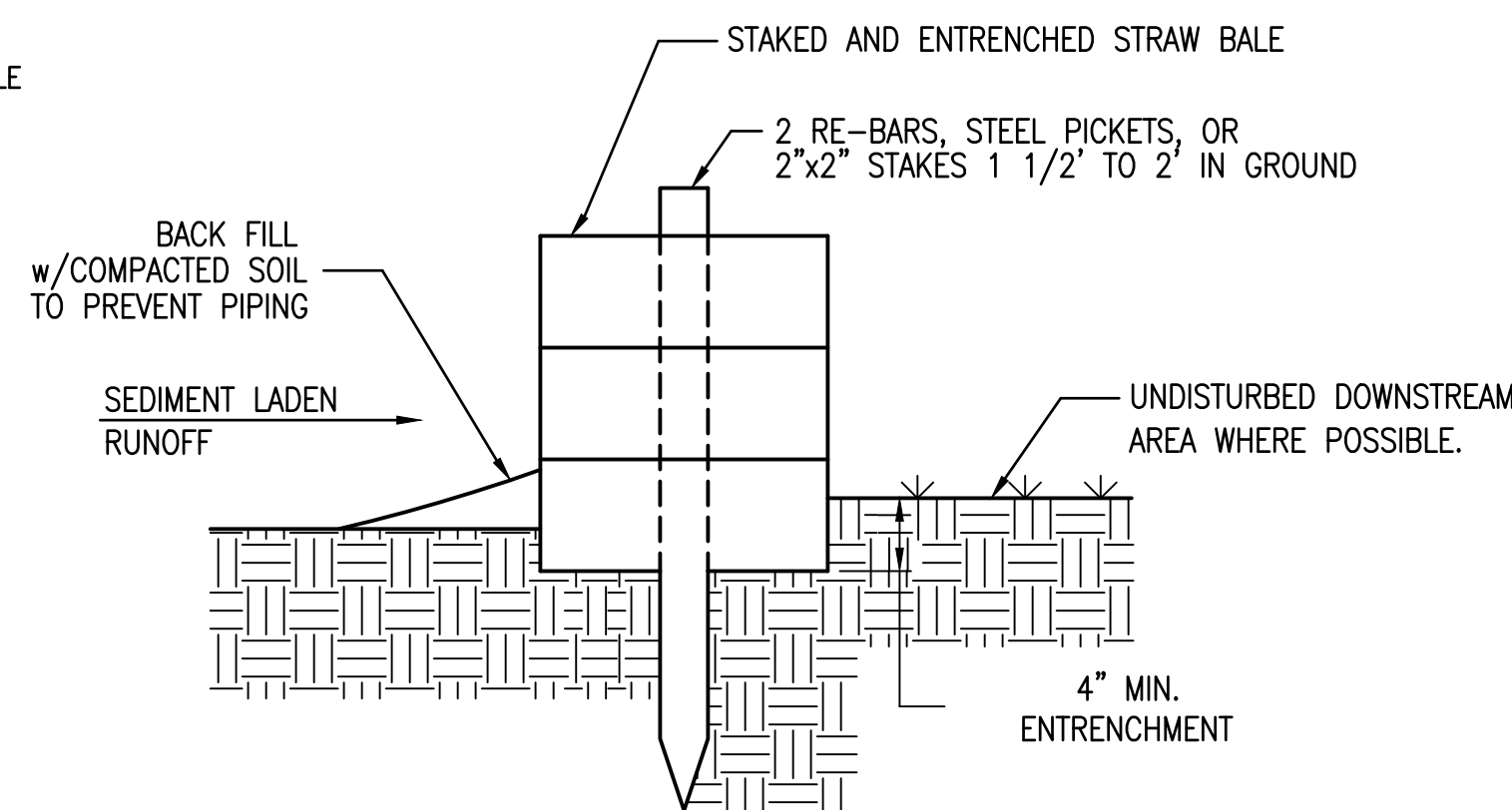


TYPICAL PAVING REPLACEMENT SECTION (REMOVE/REPLACE)

NO SCALE

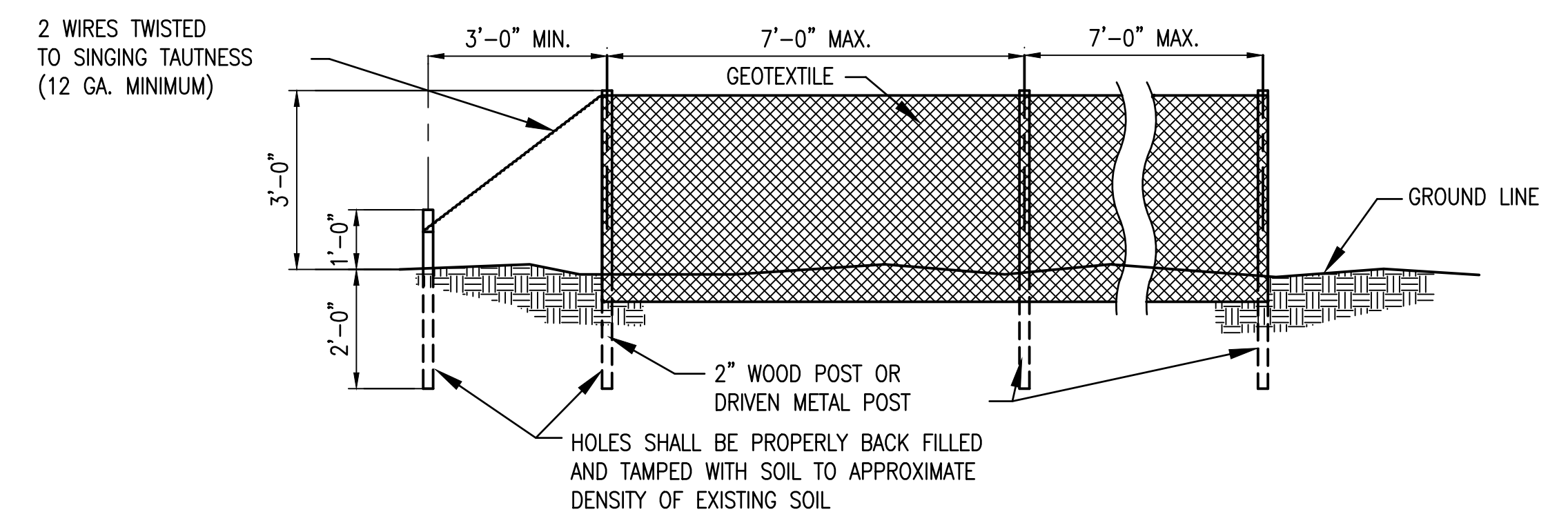


2" SEWAGE AUTOMATIC AIR RELEASE AND VACUUM VALVE IN PRE-CAST 60" DOGHOUSE FLAT TOP MANHOLE OVER FORCE MAIN



NOTES:
BALES WILL BE PLACED IN A SINGLE ROW, LENGTHWISE, ON THE CONTOUR.

TYPICAL INSTALLATION OF STRAW BALES

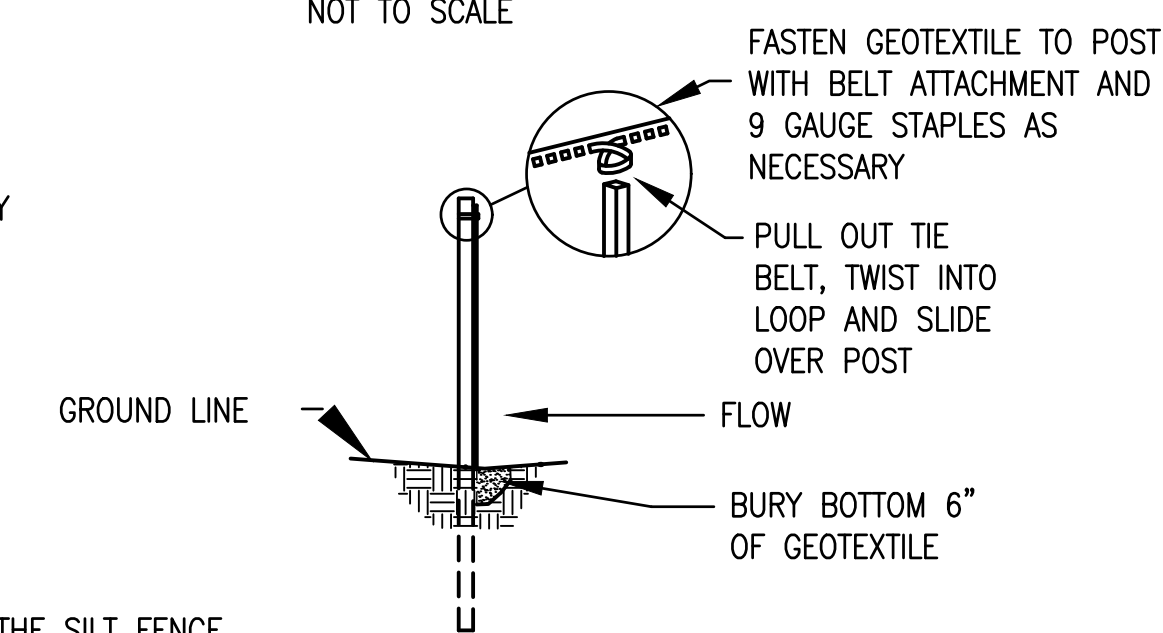


GENERAL NOTES:

1. GEOTEXTILE FABRIC SHALL BE A MIN. OF 36" IN WIDTH AND SHALL BE ADEQUATELY FASTENED TO THE WIRE.

MAINTENANCE

1. THE CONTRACTOR SHALL MAINTAIN THE SILT FENCE UNTIL THE PROJECT IS VEGETATED OR ACCEPTED.
2. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT IT REDUCES THE EFFECTIVENESS OF THE FABRIC.



SECTION

NOT TO SCALE

