

ADDENDUM NUMBER TWO

FOR THE

ZONE 41 MINGUS PUMP STATION, TANK AND PIPELINE

DATE OF ADDENDUM: April 15, 2024

TO ALL BIDDERS BIDDING ON THE ABOVE PROJECT:

The following addendum shall be made part of the Project Specifications and Contract Documents. All other provisions of the Contract Documents remain unchanged. The Bidder shall acknowledge receipt of this Addendum on page 13 of the Bid Proposal form, in addition to signing below and returning this form with the bid package. The contents of this Addendum shall be given full consideration in the preparation of the Bid.

On Page 5 DELIVERY OF SUBMITTALS change:

Sealed bids will be received **before 2:00 PM on Thursday, April 25, 2024**, at the **City Clerk's Office, 201 N. Montezuma Street, Suite 302, Prescott, Arizona 86301**, at which time all submittals will be publicly opened.

Also on Page 5 change:

The outside of the submittal envelope shall indicate the name and address of the Respondent; shall be addressed to the City Clerk, City of Prescott, at the above address; and shall be clearly marked:

Notice of Inviting Bids:

Zone 41 Mingus Pump Station, Tank and Pipeline
DUE BEFORE 2:00 PM ON APRIL 25, 2024

Also on Page 5 Requests for Information change:

Requests for information must be received **by 5:00 PM on Tuesday, April 16, 2024**. Responses or addenda will be issued **no later than 12:00 PM on Monday, April 22, 2024**.

On Page 16 Proposed Staging Locations change:

Bid Date: April 25, 2024

Changes to the Project Plans

1. **Remove and Replace:** Plan Sheet No. 60, Drawing E-401, Pump Station Enlarged Plan with revised plan sheet (attached).
2. **Remove and Replace:** Plan Sheet No. 70, Drawing E-602, Pump Station Load Summary and Schedules with revised plan sheet (attached).
3. **Remove and Replace:** Plan Sheet No. 71, Drawing E-603, Pump Station Control Single Line Diagram with revised plan sheet (attached).
4. **Remove and Replace:** Sheet No. 82, Drawing I-604, Surge Tank Process and Instrumentation Diagram with revised sheet (attached).

Changes to the Project Specifications

1. **Addition:** Specification section 26 42 00 Cathodic Protection Systems with Sacrificial Anodes for Steel Tanks shall be ADDED and made part of the Project Specifications and Contract Documents (attached).
2. **Remove and Replace:** Specification Section 43 42 21 Bladder-Type Hydropneumatic Tanks with revised specification section (attached).

Requests for Information (RFI)

Question: Please clarify the intent of Zone 41 Bid Item 95, Electrical Service Fee.

Response: The line item is an allowance that encumbers funds and provides a means to reimburse the contractor should the power utility, APS, charge an unanticipated service fee. Reimbursement will be made at the actual cost. This is a non-biddable item.

Question: Please consider the following equipment for the Mingus pumps and the jockey pump”

Response:

- a. Grundfos CR vertical multi-stage for the jockey pump. While building the new tank and the jockey pump maintaining pressure, it'll be mostly be operating in condition C & D.
- b. Paco VL single stage pumps for the Mingus pumps. 99.9% of the life of these pumps will be operating in condition A. They'll occasionally turn on to maintain pressure while the new tank is being built.
 - i. The vertical two-stage Grundfos CR for the jockey pump and vertical in-line single-stage Paco VL for the Mingus pumps appear to meet the operating conditions required for the Zone 41 pump station and can be transmitted for detailed review and consideration as an approved equal during the submittal process.

Question: May Blacoh Industries be added to the Approved Pressure Vessel list?

Response: This request is too vague and lacking in detail.

Question: Specification Section 26 32 13.13, 1.02, F, 1 b calls for an “8-hour factory test”. Previous City projects took exception and provided an 8-hour on-site test @ 1.0 PF (resistive load bank) in leu of the 4-hour field test. Would that be acceptable on this project? We comply to the other requirements, specifically the 25-mile distance.

Response: Yes, the 8-hour on-site/field test is acceptable for this Zone 41 Pump Station, Tank and Pipeline project.

Question: In reference to spec section 43 42 21 Bladder-Type Hydropneumatic Tanks, Charlotte Tank has requested an alternative approach to accessories and operational instrumentation.

Response: Refer to the revised plans listed in the ‘Changes to Project Plans’ section.

Question: The industry standard differential pressure transmitter for surge tank level indication is the Rosemount 3051L. This unit as well as those manufactured by other companies has one 4-20mA output which when calibrated properly will indicate an empty tank at 4mA and a full tank at 20mA. Our recommendation is that this signal should be run directly to the SCADA PLC and an alarm set within the PLC at 16.8mA corresponding to 80% full. It is unlikely the tank will ever be this full unless there has been a loss of air pre-charge in which case the alarm will notify plant personnel to inspect the tank before all the protection has been lost. If an actual operating pressure signal is desired, the specifications should require a pressure indicating transmitter (PIT) be installed. Typically, this instrument is located on the pump station discharge header and will provide an equivalent reading.

Response: No exceptions as Specification Section 40 73 00 specifies a Rosemount for pressure (this is differential pressure) and a pressure indicating transmitter, PIT-3160, is to be provided per Contract Drawing I-602 by others.

Question: At the pre-bid meeting there was talk about having a site walk organized for bidders - Do we have a date for that yet?

Response: An addendum has been posted on the City website whereon the date and time were posted.

Two site visits were conducted. Potential bidders are reminded that anything discussed or not discussed at these site visits does not change the requirements of the bid documents. Any changes shall be per addendum.

Question: On the Water Production Project, IPS Project and the Zone 56/7 project the split face block (shown on drawings) was not used and smooth face Yavapai “boot brown” CMU was used for the pump houses. Is the intent to use the split face CMU on this project or the lower cost smooth face?

Response: Smooth face Yavapai “boot brown” CMU is acceptable.

Question: The soffits are shown as Hardieboard, which is different than recent City pump station projects, where the soffits have been done in metal. If they are Hardboard, do they need to be painted?

Response: The soffits are to be done as a powder coated metal.

Question: The Sequencing Plan Pages are unreadable. Is there a clear copy available?

Response: Attached are clearer pdf's.

Question: We noticed the wage decision included with addendum 1 is from 2012 and does not include Vavapai County. We will need better information on wages to bid with. We could also use a few more days to put this bid together, we are not getting much from vendors.

Response: Upon further review of the Addendum 1 attachment that was the Water Infrastructure Finance Authority of Arizona (WIFA) Contract Packet, the wage determination that was attached was just part of the packet that was pulled from the WIFA website that they require to be included in bid documents. We can provide bidders with the most current wage determination as listed on the DOL website as part of the next Addendum, but this can potentially change weekly and the Prime and subcontractors should also monitor weekly the DOL website as well as the City of Prescott bid addendum(s) to ensure they are utilizing the current wage determination. The current wage determination will become part of the executed contract.

The bid opening date has been extended.

- END -

City of Prescott Public Works Department

04/15/24

Gwen Rowitsch, Public Works Director

Date

Randy Perham, Public Works Deputy Director for Gwen Rowitsch

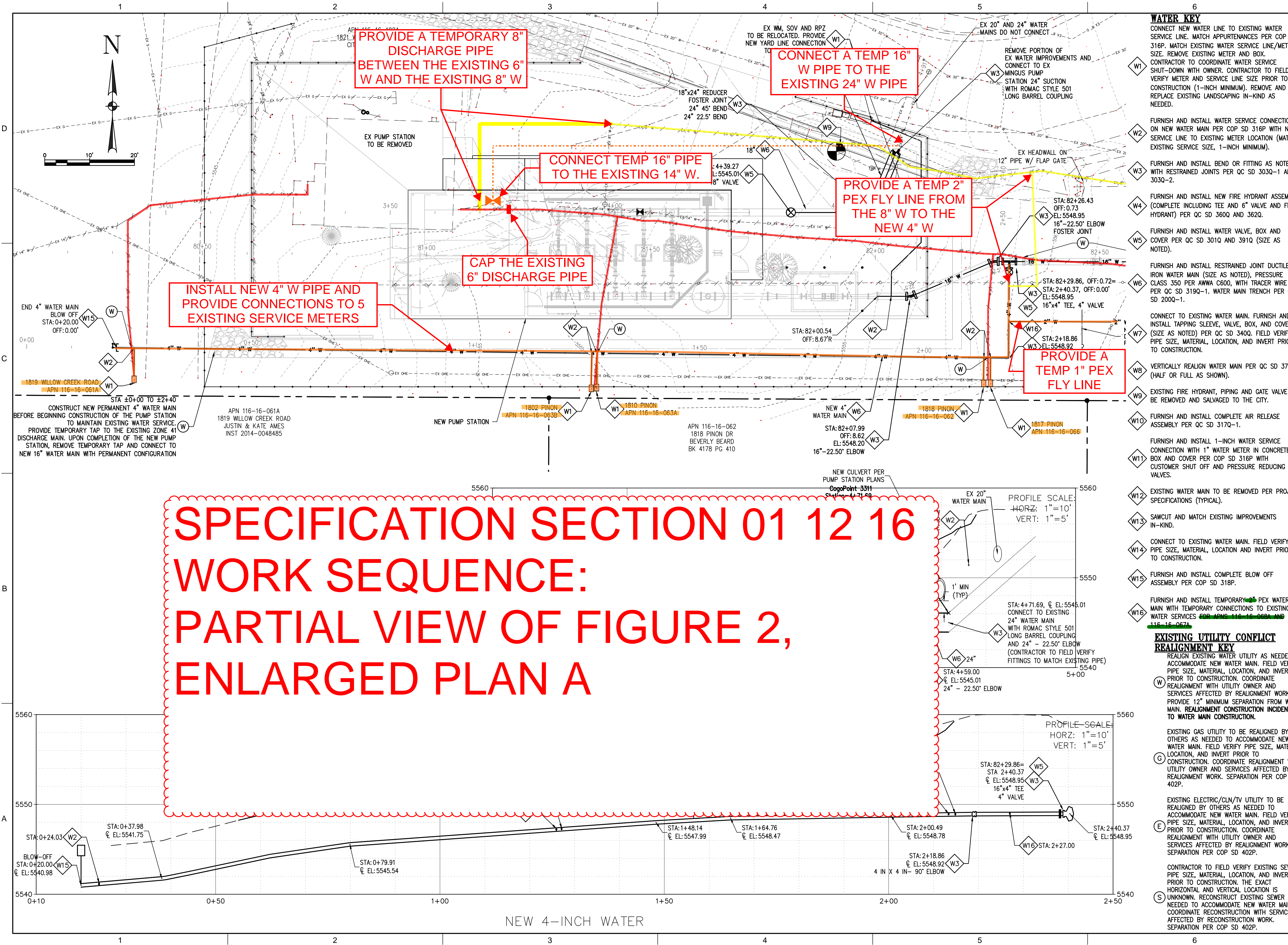
Acknowledgement: (must be signed and turned in with the bid documents)

Company Name

Signature of Company Official

Date

Path: X:\PROJECTS\2018\18081_ZONE 41 FILENAME: 18-081 DOUGLAS WATER PP.DWG PLOT DATE: 6/29/2022 10:31 AM CAD USER: USER



SPECIFICATION SECTION 01 12 16
WORK SEQUENCE:
PARTIAL VIEW OF FIGURE 2,
ENLARGED PLAN A

- WATER KEY**
CONNECT NEW WATER LINE TO EXISTING WATER SERVICE LINE. MATCH APPURTENANCES PER COP SD 316P. MATCH EXISTING WATER SERVICE LINE/METER SIZE. REMOVE EXISTING METER AND BOX. CONTRACTOR TO COORDINATE WATER SERVICE SHUT-DOWN WITH OWNER. CONTRACTOR TO FIELD VERIFY METER AND SERVICE LINE SIZE PRIOR TO CONSTRUCTION (1-INCH MINIMUM). REMOVE AND REPLACE EXISTING LANDSCAPING IN-KIND AS NEEDED.
- FURNISH AND INSTALL WATER SERVICE CONNECTION ON NEW WATER MAIN PER COP SD 316P WITH NEW SERVICE LINE TO EXISTING METER LOCATION (MATCH EXISTING SERVICE SIZE, 1-INCH MINIMUM).
- FURNISH AND INSTALL BEND OR FITTING AS NOTED WITH RESTRAINED JOINTS PER QC SD 303Q-1 AND 303Q-2.
- FURNISH AND INSTALL NEW FIRE HYDRANT ASSEMBLY (COMPLETE INCLUDING TEE AND 6" VALVE AND FIRE HYDRANT) PER QC SD 360Q AND 362Q.
- FURNISH AND INSTALL WATER VALVE, BOX AND COVER PER QC SD 301Q AND 391Q (SIZE AS NOTED).
- FURNISH AND INSTALL RESTRAINED JOINT DUCTILE IRON WATER MAIN (SIZE AS NOTED), PRESSURE CLASS 350 PER AWWA C600, WITH TRACER WIRE PER QC SD 319Q-1. WATER MAIN TRENCH PER QC SD 200Q-1.
- CONNECT TO EXISTING WATER MAIN. FURNISH AND INSTALL TAPPING SLEEVE, VALVE, BOX, AND COVER (SIZE AS NOTED) PER QC SD 340Q. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION.
- VERTICALLY REALIGN WATER MAIN PER QC SD 370Q (HALF OR FULL AS SHOWN).
- EXISTING FIRE HYDRANT, PIPING AND GATE VALVE TO BE REMOVED AND SALVAGED TO THE CITY.
- FURNISH AND INSTALL COMPLETE AIR RELEASE ASSEMBLY PER QC SD 317Q-1.
- FURNISH AND INSTALL 1-INCH WATER SERVICE CONNECTION WITH 1" WATER METER IN CONCRETE BOX AND COVER PER COP SD 316P WITH CUSTOMER SHUT OFF AND PRESSURE REDUCING VALVES.
- EXISTING WATER MAIN TO BE REMOVED PER PROJECT SPECIFICATIONS (TYPICAL).
- SAWCUT AND MATCH EXISTING IMPROVEMENTS IN-KIND.
- CONNECT TO EXISTING WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION AND INVERT PRIOR TO CONSTRUCTION.
- FURNISH AND INSTALL COMPLETE BLOW OFF ASSEMBLY PER COP SD 318P.
- FURNISH AND INSTALL TEMPORARY PEX WATER MAIN WITH TEMPORARY CONNECTIONS TO EXISTING WATER SERVICES (COP APNS 116-16-061A AND 116-16-067A).
- EXISTING UTILITY CONFLICT REALIGNMENT KEY**
REALIGN EXISTING WATER UTILITY AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. PROVIDE 12" MINIMUM SEPARATION FROM WATER MAIN. REALIGNMENT CONSTRUCTION INCIDENTAL TO WATER MAIN CONSTRUCTION.
- EXISTING GAS UTILITY TO BE REALIGNED BY OTHERS AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.
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- UNKNOWN. RECONSTRUCT EXISTING SEWER AS NEEDED TO ACCOMMODATE NEW WATER MAIN. COORDINATE RECONSTRUCTION WITH SERVICES AFFECTED BY RECONSTRUCTION WORK. SEPARATION PER COP SD 402P.

Brown AND Caldwell

FOR CONSTRUCTION

22880 GARY R. KELLEY
Professional Engineer
Arizona, U.S.A.

CITY OF PRESCOTT ARIZONA

ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS		
REV	DATE	DESCRIPTION

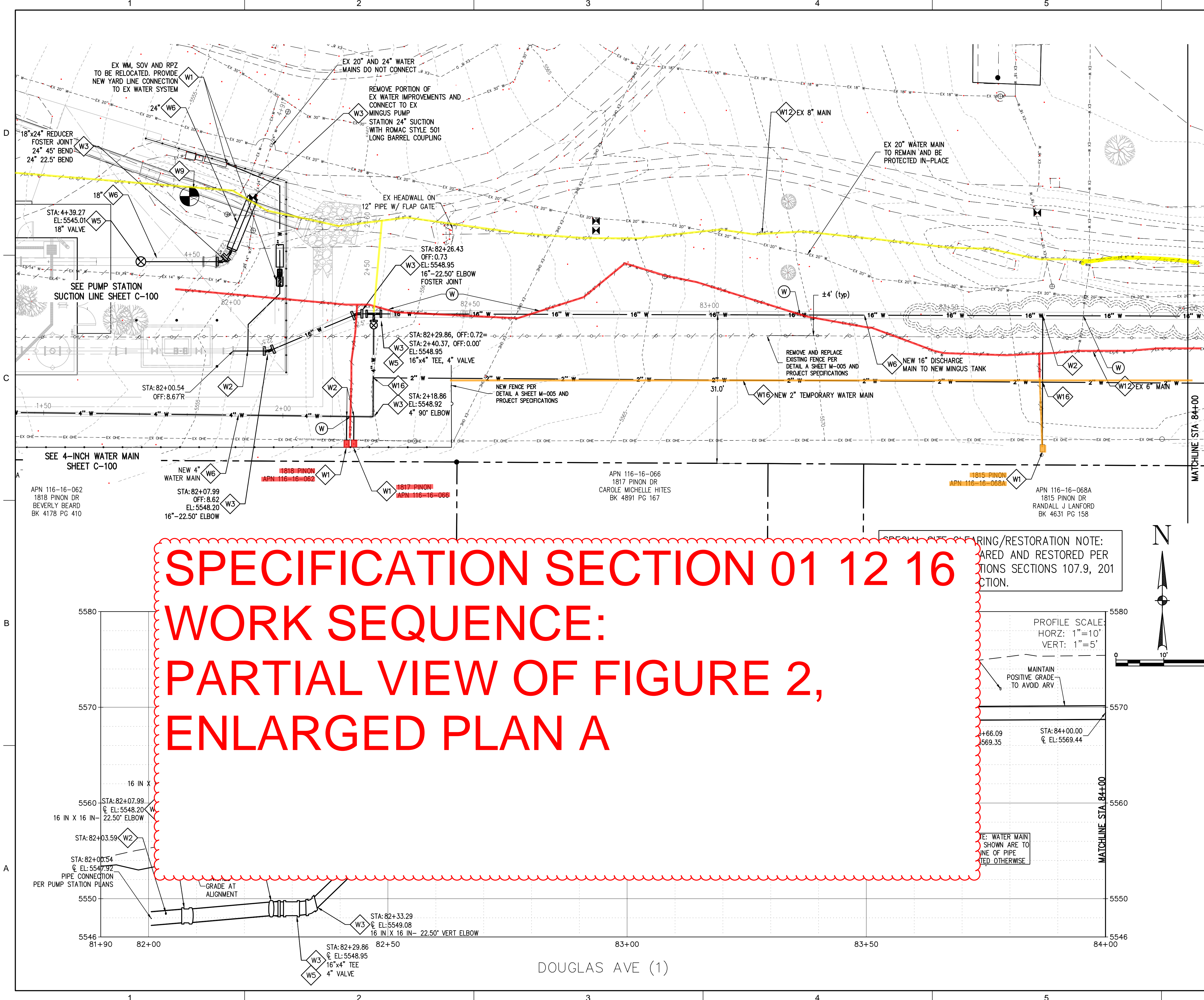
DESIGNED: BWT
DRAWN: BWT
CHECKED: GRK
APPROVED:

KWE PROJECT NUMBER 18-081
BC PROJECT NUMBER 152624
CLIENT PROJECT NUMBER CIP #17-009

PLAN - PROFILE WATER MAIN PUMP STATION SUCTION PIPE & NEW 4-INCH WATER

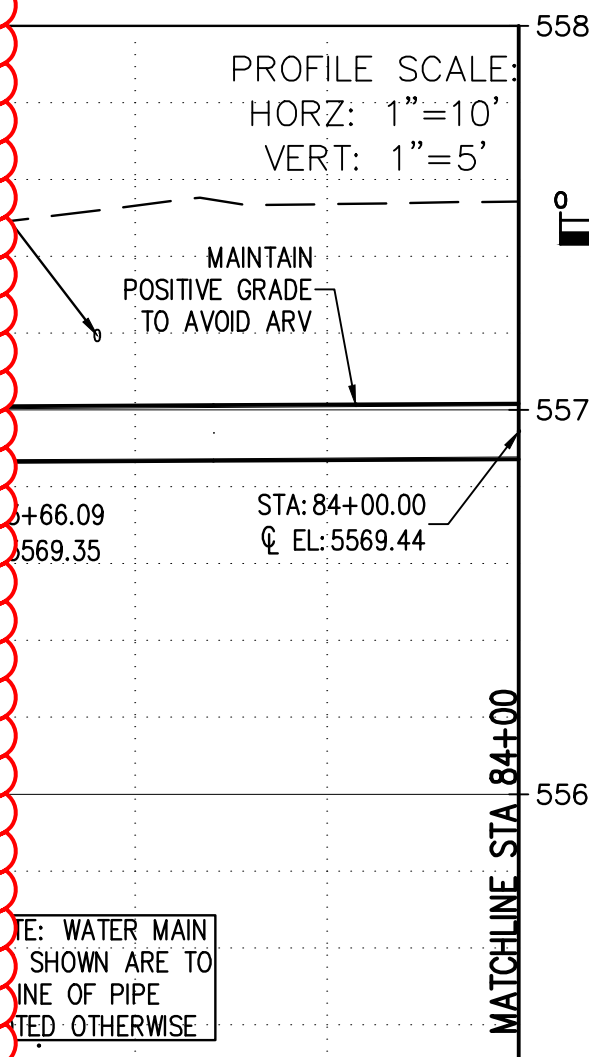
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C-100
SHEET NUMBER 15 OF 84

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SPECIFICATION SECTION 01 12 16
 WORK SEQUENCE:
 PARTIAL VIEW OF FIGURE 2,
 ENLARGED PLAN A

REPAIR/RESTORATION NOTE:
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 CTION.



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FOR CONSTRUCTION



ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS

REV	DATE	DESCRIPTION

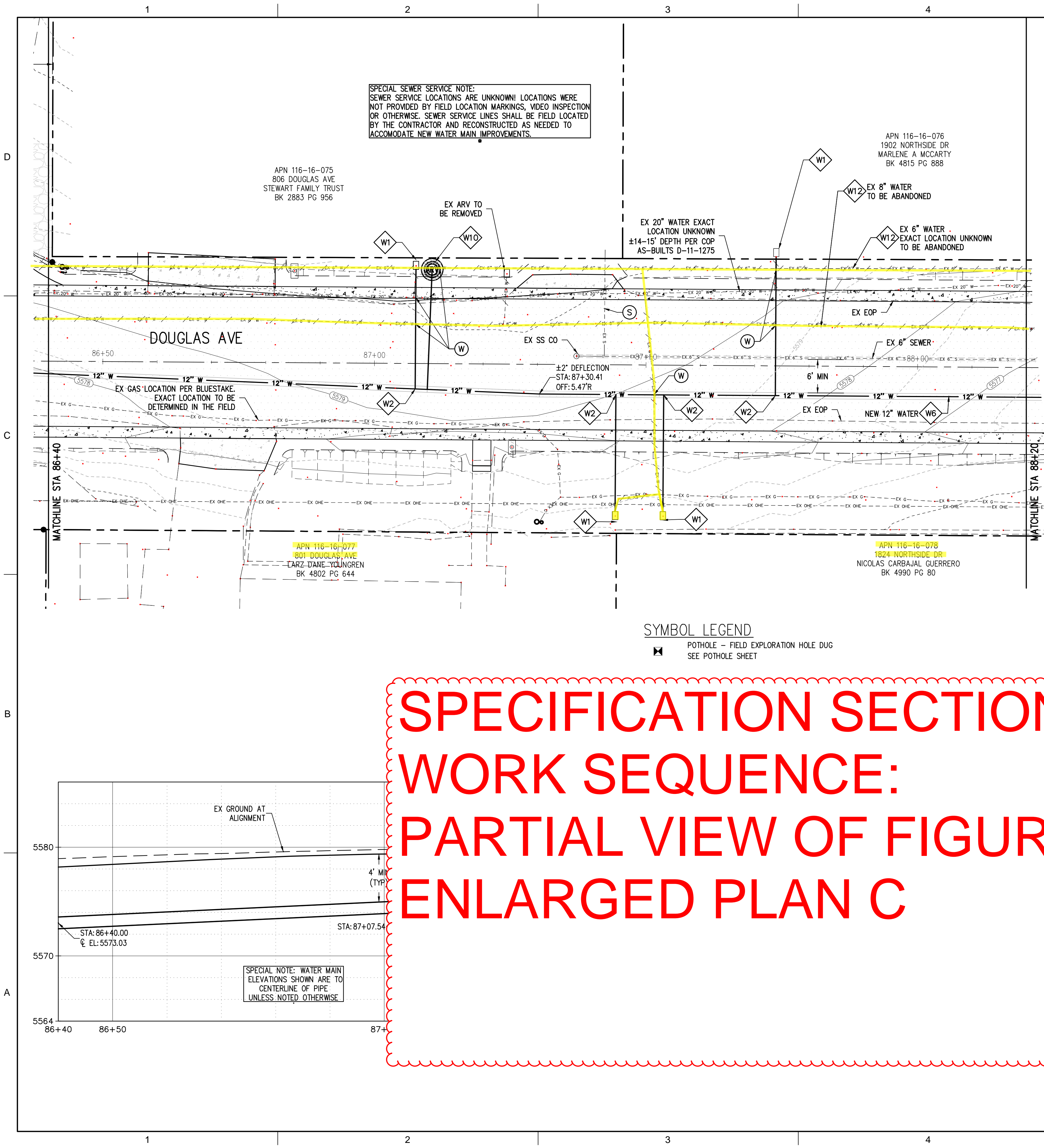
DESIGNED: BWT
 DRAWN: BWT
 CHECKED: GRK
 APPROVED:

KWE PROJECT NUMBER 18-081
 BC PROJECT NUMBER 152624
 CLIENT PROJECT NUMBER CIP #17-009

PLAN - PROFILE WATER MAIN DOUGLAS AVE BEGIN - STA 84+00

DRAWING NUMBER
C-101
 SHEET NUMBER
 16 OF 84

Path: X:\PROJECTS\2018\16081_ZONE 41 FILENAME: 16-081 DOUGLAS WATER PP.DWG PLOT DATE: 6/29/2022 10:33 AM CAD USER: USER



**SPECIFICATION SECTION 01 12 16
 WORK SEQUENCE:
 PARTIAL VIEW OF FIGURE 4,
 ENLARGED PLAN C**

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Brown AND Caldwell

FOR CONSTRUCTION

Registered Professional Engineer
 22880
 GARY R. KELLEY
 State of Arizona
 License No. 11752
 ARIZONA, U.S.A.

CITY OF PRESCOTT ARIZONA

ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS		
REV	DATE	DESCRIPTION

DESIGNED: BWT
 DRAWN: BWT
 CHECKED: GRK

CHECKED:
 APPROVED:

KWE PROJECT NUMBER 18-081
 BC PROJECT NUMBER 152624
 CLIENT PROJECT NUMBER CIP #17-009

PLAN - PROFILE WATER MAIN DOUGLAS AVE STA 86+40 - 88+20

DRAWING NUMBER
C-103
 SHEET NUMBER
 18 OF 84

SPECIAL SEWER SERVICE NOTE:
SEWER SERVICE LOCATIONS ARE UNKNOWN! LOCATIONS WERE NOT PROVIDED BY FIELD LOCATION MARKINGS, VIDEO INSPECTION OR OTHERWISE. SEWER SERVICE LINES SHALL BE FIELD LOCATED BY THE CONTRACTOR AND RECONSTRUCTED AS NEEDED TO ACCOMMODATE NEW WATER MAIN IMPROVEMENTS.

APN 116-16-076
1902 NORTHSIDE DR
MARLENE A MCCARTY
BK 4815 PG 888

EX FH TO BE PROTECTED IN-PLACE

EX 6" TS&V PER POT HOLE TO BE REMOVED

EX 6" MAIN (W12)

EX 8" MAIN (W12)

EX EOP

NEW 12" MAIN (W6)

12" W

EX SS MH

REPLACE PORTION OF EX SEWER PER QC SD 4050

STA: 88+56.21
EL: 5567.90

12"x8" TEE
2-12" VALVES (E, W)
1-8" VALVE (N)

APN 116-16-078
1824 NORTHSIDE DR
NICOLAS CARBAJAL GUERRERO
BK 4990 PG 80

APN 116-16-001
740 DOUGLAS AVE
INST 2019-0028278

CONNECT TO EX 6" WATER MAIN WITH COORDINATED SHUT-DOWN
STA: ±88+56.21
EL: ±5574.90
8"x6"x6" TEE
6" VALVE (E)

REMOVE EX WATER MAIN AND APPURTENANCES

EX 8" TS&V PER POT HOLE TO BE REMOVED

EX 6" MAIN TO REMAIN

EX 8" MAIN TO REMAIN

EX VALVE AND CAP PER POT HOLE TO BE REMOVED

EX 6" MAIN TO REMAIN

EX 8" MAIN TO REMAIN

SEE PROFILE THIS SHEET

DOUGLAS AVE

89+00

89+25

APN 116-16-099A
INST 2015-0048024

APPROXIMATE 20" MAIN LOCATION. UNABLE TO BE POT HOLED OR BLUESTAKED. DEPTH IS ±13' PER COP AS-BUILT D-11-1275. TO BE PROTECTED IN PLACE. NO NEW CONNECTIONS.

NORTHSIDE DR

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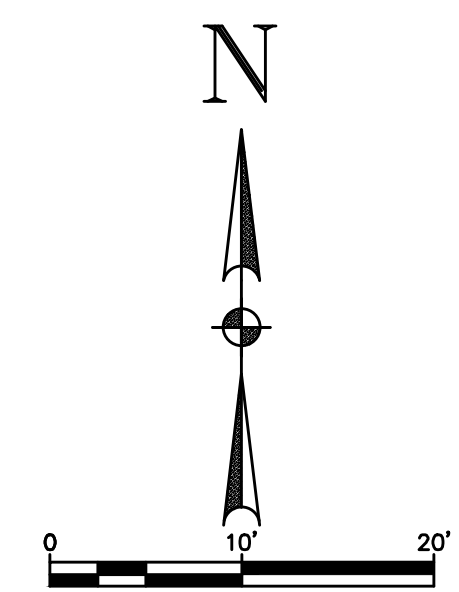
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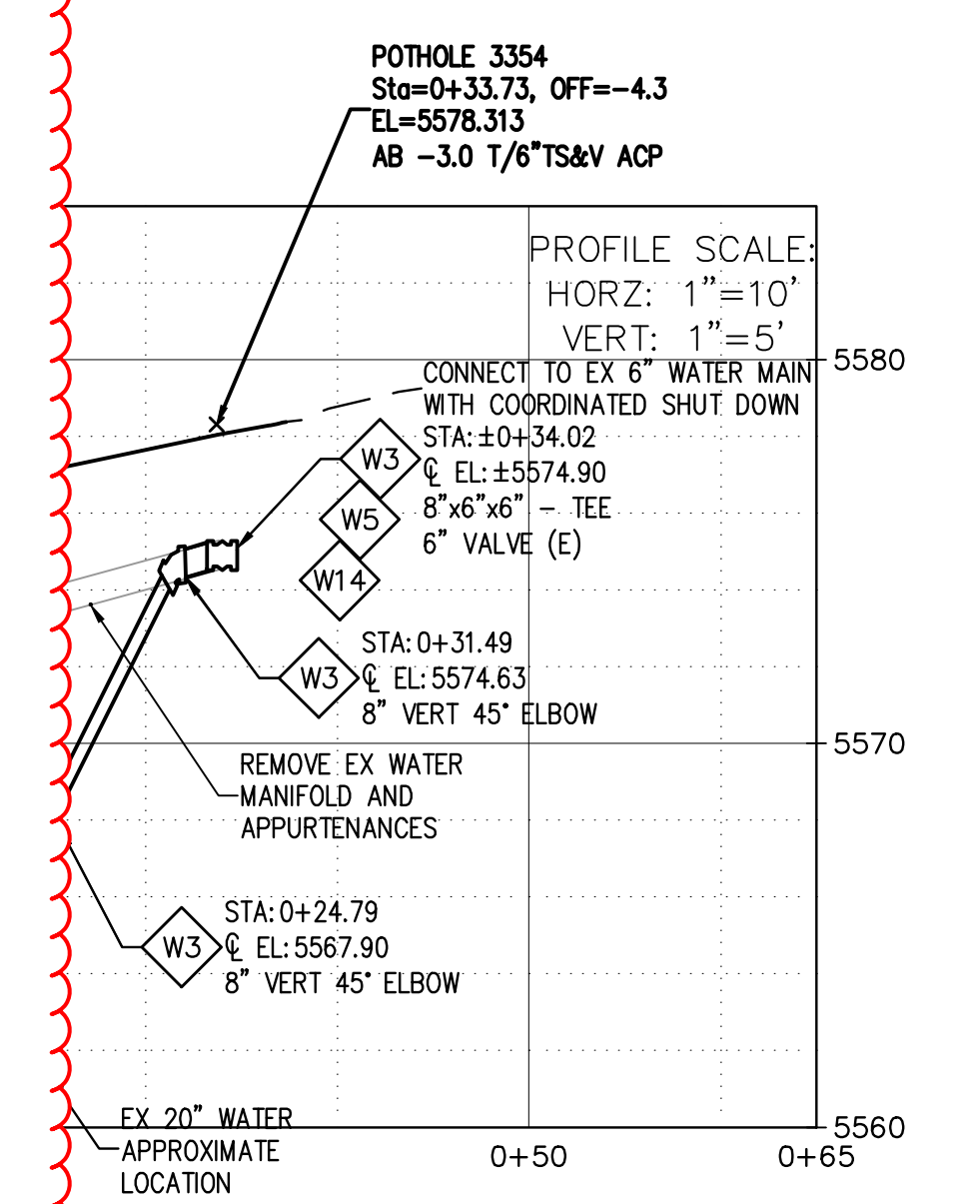
W3
W5
W14



SYMBOL LEGEND

POTHOLE - FIELD EXPLORATION HOLE DUG
SEE POT HOLE SHEET

**SPECIFICATION SECTION 01 12 16
WORK SEQUENCE:
PARTIAL VIEW OF FIGURE 4,
ENLARGED PLAN C**



CONNECT TO EX WATER

WATER KEY

CONNECT NEW WATER LINE TO EXISTING WATER SERVICE LINE. MATCH APPURTENANCES PER COP SD 316P. MATCH EXISTING WATER SERVICE LINE/METER SIZE. REMOVE EXISTING METER AND BOX. CONTRACTOR TO COORDINATE WATER SERVICE SHUT-DOWN WITH OWNER. CONTRACTOR TO FIELD VERIFY METER AND SERVICE LINE SIZE PRIOR TO CONSTRUCTION (1-INCH MINIMUM). REMOVE AND REPLACE EXISTING LANDSCAPING IN-KIND AS NEEDED.

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FURNISH AND INSTALL RESTRAINED JOINT DUCTILE IRON WATER MAIN (SIZE AS NOTED), PRESSURE CLASS 350 PER AWWA C600, WITH TRACER WIRE PER QC SD 319Q-1. WATER MAIN TRENCH PER QC SD 200Q-1.

CONNECT TO EXISTING WATER MAIN. FURNISH AND INSTALL TAPPING SLEEVE, VALVE, BOX, AND COVER (SIZE AS NOTED) PER QC SD 340Q. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION.

VERTICALLY REALIGN WATER MAIN PER QC SD 370Q (HALF OR FULL AS SHOWN).

EXISTING FIRE HYDRANT, PIPING AND GATE VALVE TO BE REMOVED AND SALVAGED TO THE CITY.

FURNISH AND INSTALL COMPLETE AIR RELEASE ASSEMBLY PER QC SD 317Q-1.

FURNISH AND INSTALL 1-INCH WATER SERVICE CONNECTION WITH 1" WATER METER IN CONCRETE BOX AND COVER PER COP SD 316P WITH CUSTOMER SHUT OFF AND PRESSURE REDUCING VALVES.

EXISTING WATER MAIN TO BE REMOVED PER PROJECT SPECIFICATIONS (TYPICAL).

SAWCUT AND MATCH EXISTING IMPROVEMENTS IN-KIND.

CONNECT TO EXISTING WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION AND INVERT PRIOR TO CONSTRUCTION.

FURNISH AND INSTALL COMPLETE BLOW OFF ASSEMBLY PER COP SD 318P.

FURNISH AND INSTALL TEMPORARY 2" PEX WATER MAIN WITH TEMPORARY CONNECTIONS TO EXISTING WATER SERVICES FOR APNS 116-16-068A AND 116-16-067A.

EXISTING UTILITY CONFLICT REALIGNMENT KEY

REALIGN EXISTING WATER UTILITY AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. PROVIDE 12" MINIMUM SEPARATION FROM WATER MAIN. REALIGNMENT CONSTRUCTION INCIDENTAL TO WATER MAIN CONSTRUCTION.

EXISTING GAS UTILITY TO BE REALIGNED BY OTHERS AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.

EXISTING ELECTRIC/CLN/TV UTILITY TO BE REALIGNED BY OTHERS AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.

CONTRACTOR TO FIELD VERIFY EXISTING SEWER PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. THE EXACT HORIZONTAL AND VERTICAL LOCATION IS UNKNOWN. RECONSTRUCT EXISTING SEWER AS NEEDED TO ACCOMMODATE NEW WATER MAIN. COORDINATE RECONSTRUCTION WITH SERVICES AFFECTED BY RECONSTRUCTION WORK. SEPARATION PER COP SD 402P.



FOR CONSTRUCTION



ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: BWT

DRAWN: BWT

CHECKED: GRK

APPROVED:

KWE PROJECT NUMBER 18-081

BC PROJECT NUMBER 152624

CLIENT PROJECT NUMBER CIP #17-009

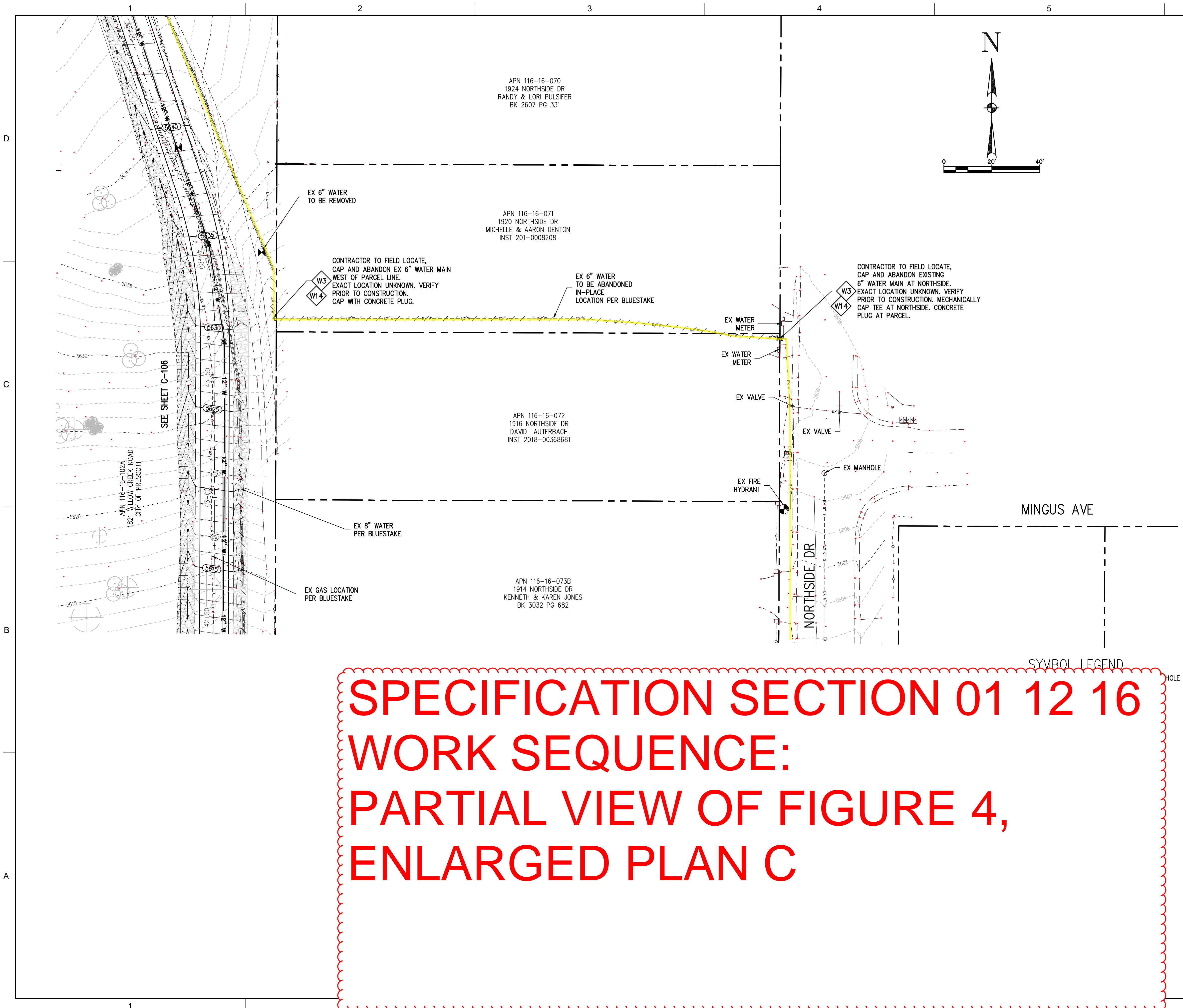
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DRAWING NUMBER

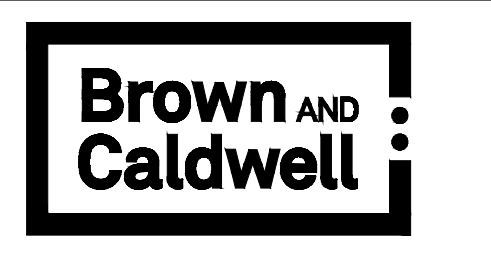
C-104

SHEET NUMBER 19 OF 84

Path: X:\PROJECTS\2018\16081\ZONE 41 FILENAME: 16-081 DOUGLAS WATER PP.DWG PLOT DATE: 6/29/2022 10:34 AM CAD USER: USER



- WATER KEY**
- W1 CONNECT NEW WATER LINE TO EXISTING WATER SERVICE LINE. MATCH APPURTENANCES PER COP SD 316P. MATCH EXISTING WATER SERVICE LINE/METER SIZE. REMOVE EXISTING METER AND BOX. CONTRACTOR TO COORDINATE WATER SERVICE SHUT-DOWN WITH OWNER. CONTRACTOR TO FIELD VERIFY METER AND SERVICE LINE SIZE PRIOR TO CONSTRUCTION (1-INCH MINIMUM). REMOVE AND REPLACE EXISTING LANDSCAPING IN-KIND AS NEEDED.
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 - W8 VERTICALLY REALIGN WATER MAIN PER QC SD 370Q (HALF OR FULL AS SHOWN).
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 - W10 FURNISH AND INSTALL COMPLETE AIR RELEASE ASSEMBLY PER QC SD 317Q-1.
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 - W12 EXISTING WATER MAIN TO BE REMOVED PER PROJECT SPECIFICATIONS (TYPICAL).
 - W13 SAWCUT AND MATCH EXISTING IMPROVEMENTS IN-KIND.
 - W14 CONNECT TO EXISTING WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION AND INVERT PRIOR TO CONSTRUCTION.
 - W15 FURNISH AND INSTALL COMPLETE BLOW OFF ASSEMBLY PER COP SD 318P.
 - W16 FURNISH AND INSTALL TEMPORARY 2" PEX WATER MAIN WITH TEMPORARY CONNECTIONS TO EXISTING WATER SERVICES FOR APNS 116-16-068A AND 116-16-067A.
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 - (G) EXISTING GAS UTILITY TO BE REALIGNED BY OTHERS AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.
 - (E) EXISTING ELECTRIC/CLM/TV UTILITY TO BE REALIGNED BY OTHERS AS NEEDED TO ACCOMMODATE NEW WATER MAIN. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.
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FOR CONSTRUCTION



ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS		
REV	DATE	DESCRIPTION

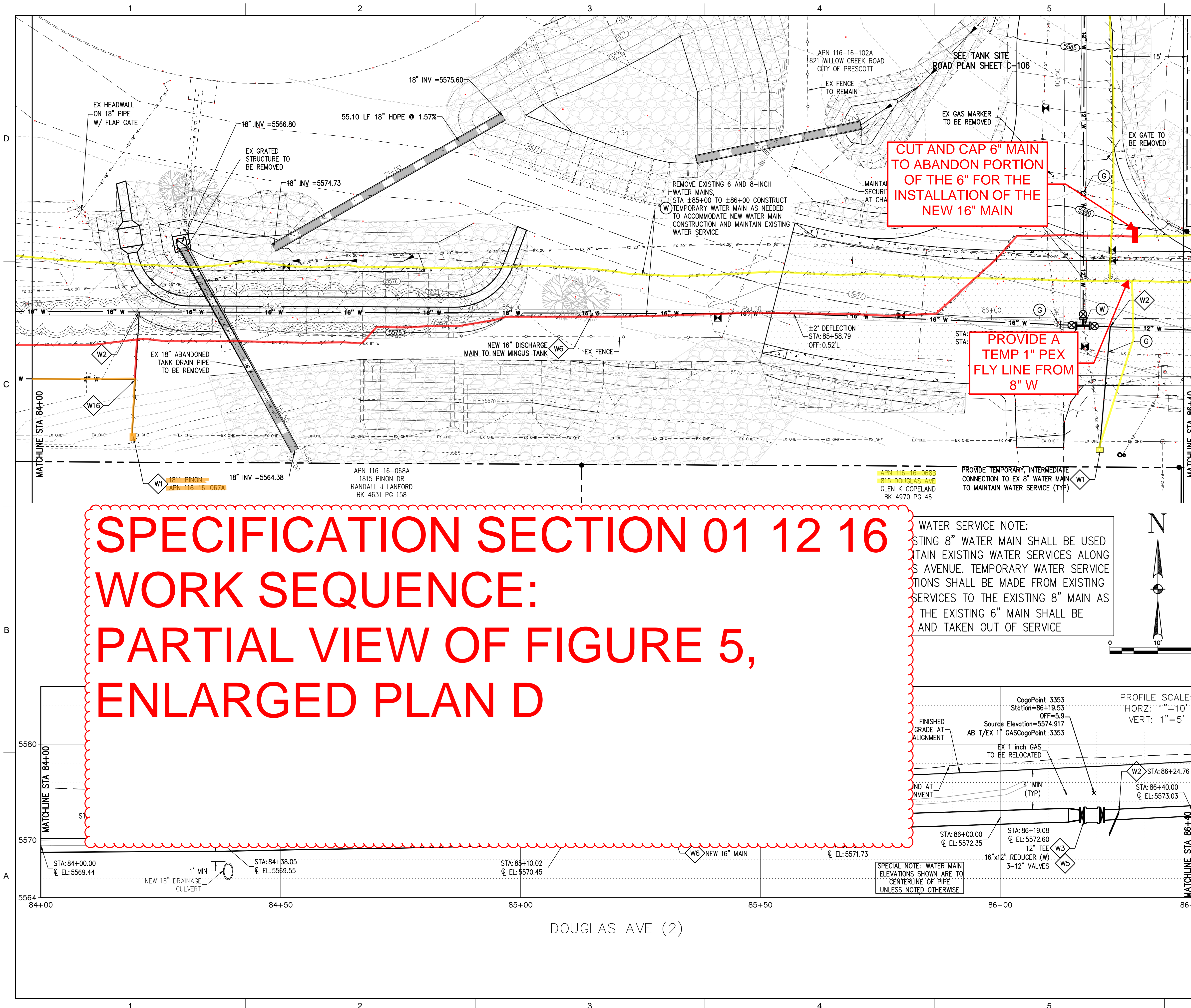
DESIGNED: BWT
DRAWN: BWT
CHECKED: GRK
APPROVED:
KWE PROJECT NUMBER 18-081
BC PROJECT NUMBER 152624
CLIENT PROJECT NUMBER CIP #17-009

WATER MAIN PLAN
MINGUS AVE
WATER MAIN
ABANDONMENT

DRAWING NUMBER
C-105
SHEET NUMBER
20 OF 84

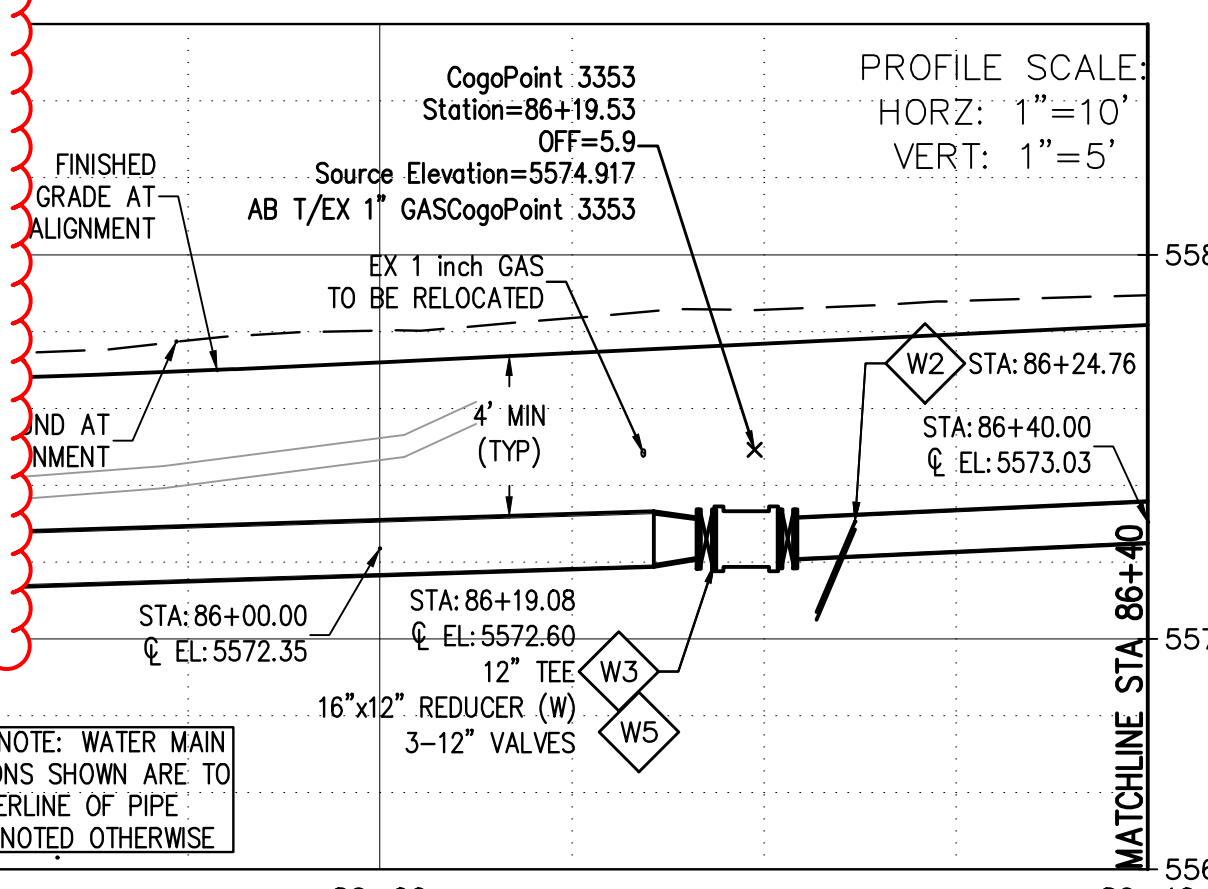
**SPECIFICATION SECTION 01 12 16
WORK SEQUENCE:
PARTIAL VIEW OF FIGURE 4,
ENLARGED PLAN C**

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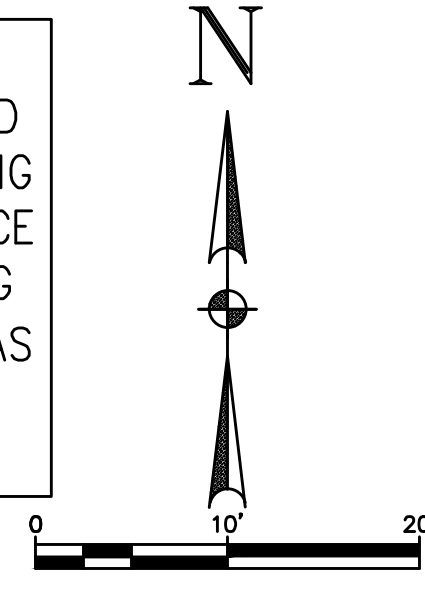


**SPECIFICATION SECTION 01 12 16
WORK SEQUENCE:
PARTIAL VIEW OF FIGURE 5,
ENLARGED PLAN D**

WATER SERVICE NOTE:
EXISTING 8" WATER MAIN SHALL BE USED TO MAINTAIN EXISTING WATER SERVICES ALONG DOUGLAS AVENUE. TEMPORARY WATER SERVICE CONNECTIONS SHALL BE MADE FROM EXISTING 8" SERVICES TO THE EXISTING 8" MAIN AS THE EXISTING 6" MAIN SHALL BE TAKEN OUT OF SERVICE



- WATER KEY**
- W1 CONNECT NEW WATER LINE TO EXISTING WATER SERVICE LINE. MATCH APPURTENANCES PER COP SD 316P. MATCH EXISTING WATER SERVICE LINE/METER SIZE. REMOVE EXISTING METER AND BOX. CONTRACTOR TO COORDINATE WATER SERVICE SHUT-DOWN WITH OWNER. CONTRACTOR TO FIELD VERIFY METER AND SERVICE LINE SIZE PRIOR TO CONSTRUCTION (1-INCH MINIMUM). REMOVE AND REPLACE EXISTING LANDSCAPING IN-KIND AS NEEDED.
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FOR CONSTRUCTION



ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS

REV	DATE	DESCRIPTION

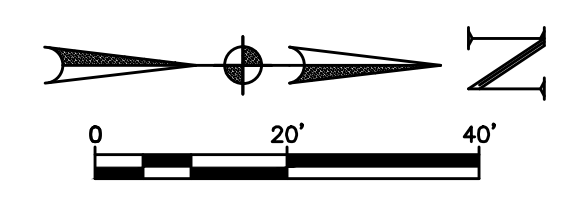
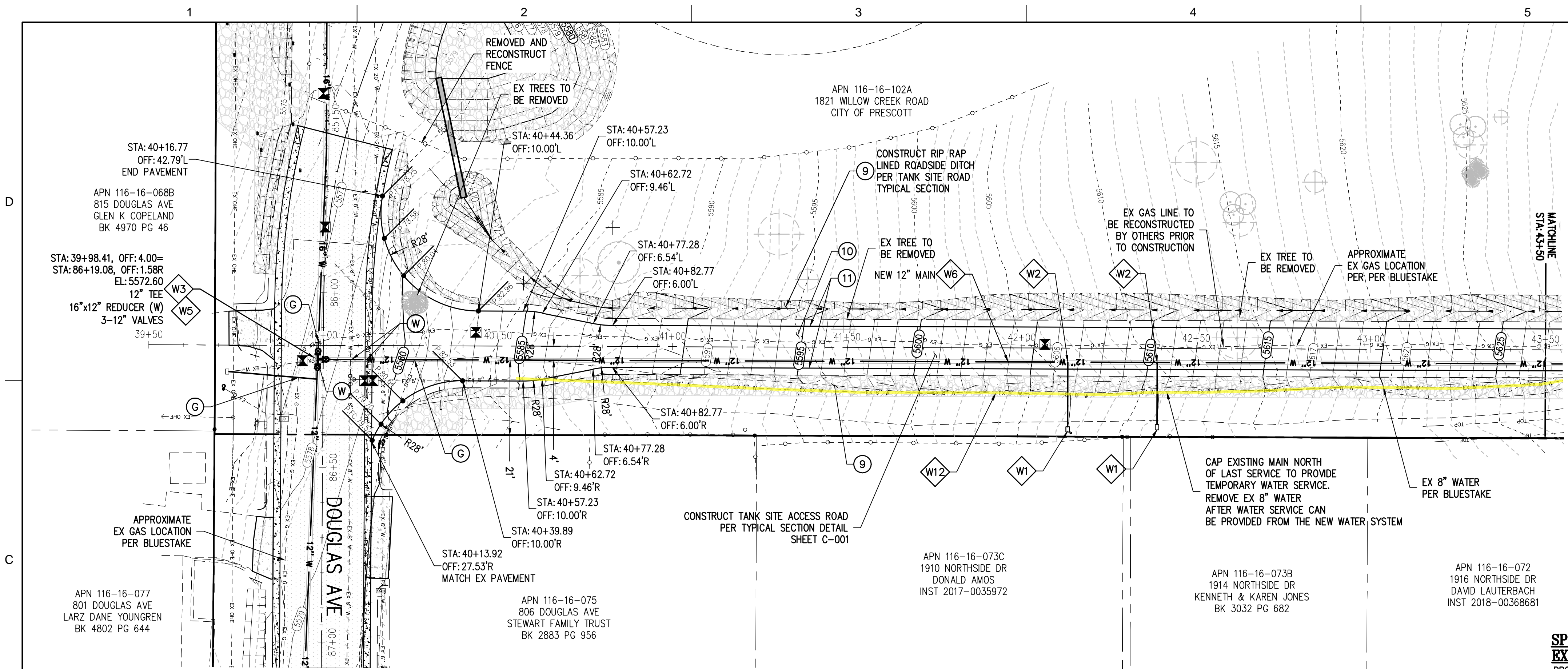
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DRAWN: BWT
CHECKED: GRK
APPROVED:

KWE PROJECT NUMBER 18-081
BC PROJECT NUMBER 152624
CLIENT PROJECT NUMBER CIP #17-009

PLAN - PROFILE WATER MAIN DOUGLAS AVE STA 84+00 - 86+40

DRAWING NUMBER
C-102
SHEET NUMBER
17 OF 84

Path: X:\PROJECTS\2018\16081_ZONE 41 FILENAME: 16-081 TANK SITE WATER PP.DWG PLOT DATE: 6/29/2022 10:36 AM CAD USER: USER



SPECIAL NOTE: TANK SITE ROAD EXISTING GAS MAIN
 PROJECT POTHOLE INFORMATION INDICATES THAT THE EXISTING GAS LINE IN THE EXISTING TANK SITE ROADWAY IS 1' OR LESS DEEP. THE EXISTING GAS LINE IS TO BE RECONSTRUCTED BY OTHERS AS NEEDED TO ACCOMMODATE NEW TANK SITE ROADWAY IMPROVEMENTS. FIELD VERIFY PIPE SIZE, MATERIAL, LOCATION, AND INVERT PRIOR TO CONSTRUCTION. COORDINATE REALIGNMENT WITH UTILITY OWNER AND SERVICES AFFECTED BY REALIGNMENT WORK. SEPARATION PER COP SD 402P.

SYMBOL LEGEND
 [Symbol] POTHOLE - FIELD EXPLORATION HOLE DUG
 [Symbol] SEE POTHOLE SHEET

ADDING AND PAVING KEY

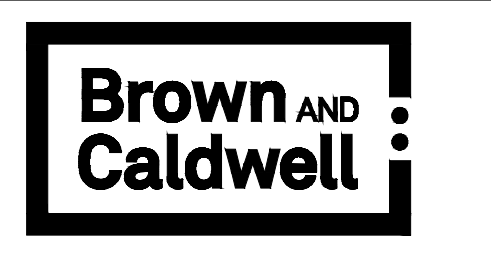
- [Symbol] FURNISH AND INSTALL RIP RAP $d_{60}=6"$, 12" KNESS ON FILTER FABRIC PER MAG SPECIFICATIONS SECTIONS 703 AND 796.
- [Symbol] CONSTRUCT TANK SITE ACCESS ROAD PER TANK SITE DETAIL SHEET C-001.
- [Symbol] CONSTRUCT THICKENED EDGE OF ASPHALT PER COP SD 201Q.

WATER KEY

- [Symbol] CONNECT NEW WATER LINE TO EXISTING WATER SERVICE LINE. MATCH APPURTENANCES PER COP SD 316P. MATCH EXISTING WATER SERVICE LINE/METER SIZE. REMOVE EXISTING METER AND BOX. CONTRACTOR TO COORDINATE WATER SERVICE SHUT-DOWN WITH OWNER. CONTRACTOR TO FIELD VERIFY METER AND SERVICE LINE SIZE PRIOR TO CONSTRUCTION (1-INCH MINIMUM). REMOVE AND REPLACE EXISTING LANDSCAPING IN-KIND AS NEEDED.
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- [Symbol] SAWCUT, REMOVE AND REPLACE EXISTING IMPROVEMENTS IN-KIND.
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FOR CONSTRUCTION



ZONE 41 PUMP STATION, TANK AND WATER MAIN

REVISIONS

REV	DATE	DESCRIPTION

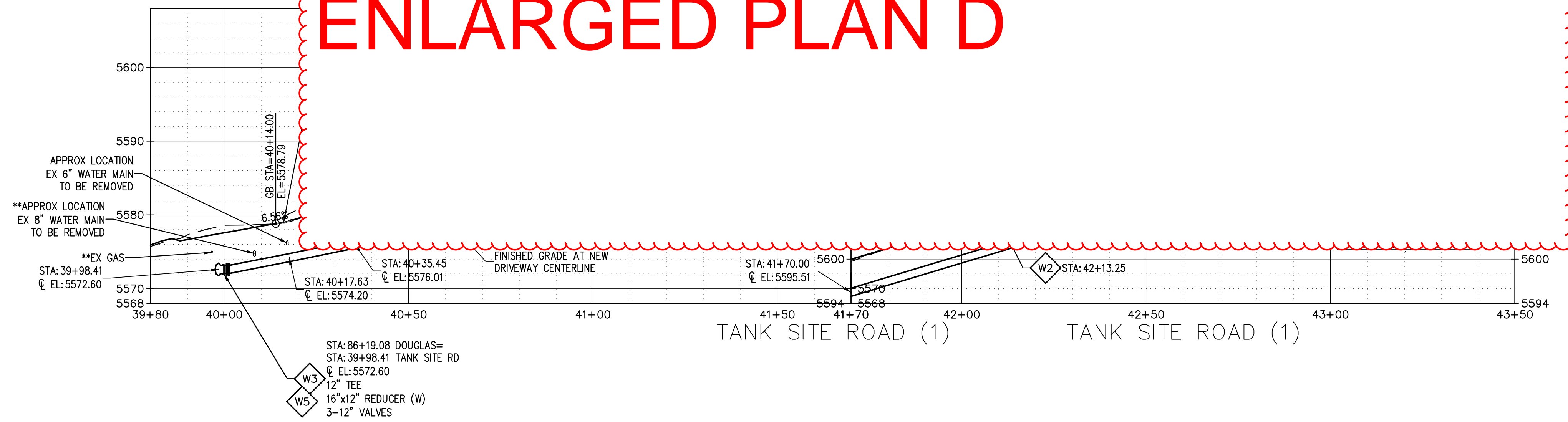
DESIGNED: BWT
 DRAWN: BWT
 CHECKED: GRK
 APPROVED:
 KWE PROJECT NUMBER 18-081
 BC PROJECT NUMBER 152624
 CLIENT PROJECT NUMBER CIP #17-009

PLAN - PROFILE TANK SITE ROAD AND WATER MAIN BEGIN - STA 43+50

DRAWING NUMBER
C-106
 SHEET NUMBER
 21 OF 84

**SPECIFICATION SECTION 01 12 16
 WORK SEQUENCE:
 PARTIAL VIEW OF FIGURE 5,
 ENLARGED PLAN D**

**SPECIAL POTHOLE NO. 1
 EXISTING UTILITY LOCATION INFORMATION SHOWN
 POTHOLE EXPLORATION/SURVEY.



SECTION 26 42 00

CATHODIC PROTECTION SYSTEM WITH SACRIFICIAL ANODES FOR STEEL TANKS

PART 1 GENERAL

1.01 DESCRIPTION

A. Scope:

1. This section specifies a sacrificial anode cathodic protection system for steel tanks to provide corrosion control for the potable water steel tank specified in Section 33 16 13.13. The work includes designing, furnishing, installing, testing and commissioning the cathodic protection system to provide the specified corrosion control. The Contractor shall coordinate with the tank manufacturer and provide detailed design services, materials, equipment, labor, and supervision to furnish a system as described in this section.

B. Type:

1. Each sacrificial anode cathodic protection system shall consist of the following components:
 - a. Anodes.
 - b. Test Station.
 - c. Reference Electrodes.
 - d. Wiring.

C. Equipment List:

Item	Equipment No.
Interior Cathodic Protection System	CPS-001

D. Operating Conditions:

1. The cathodic protection system(s) s will be installed outdoors. Refer below for environmental conditions.

E. Performance Requirements:

1. The Corrosion Engineer shall design the system to provide effective corrosion mitigation in accordance with criteria for protection herein and per American Water Works Association (AWWA) D106.
2. Each sacrificial anode cathodic protection system shall be designed for continuous duty under the following performance requirements:

Item	CPS-001
Setpoint electronegative potential ^(a)	-850 mV to -1050 mV
Design protected area, ft ²	5% (b) (c)
Number of reference electrodes	5
Minimum reference electrode life, years	20
Minimum anode life, years	20
Water resistivity, ohm-cm	To be provided by the Owner

- a. Between wall and a saturated copper/copper sulfate reference electrode. Cathodic protection system shall maintain the setpoint potential on all specified protected surfaces.
- b. Refer to tank plans and specifications to calculate the required area to be protected. Specified percentages are bare steel. This should be used with the design current density in designing the cathodic protection system.
- c. Use the overflow pipe invert elevation, when shown, to estimate the tank's interior area to be protected. Include all surfaces that come in contact with the water and electrically connected to the tank including pipes, support columns and wet risers, if any.

F. Environmental Conditions:

- 1. Ambient conditions are specified in Section 01 11 80.

1.02 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 documents are included as references under this section as if referenced directly. In the event of 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 Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids). 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. 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
API RP 651	Cathodic Protection for Above Ground Petroleum Storage Tanks
AWWA D106	Sacrificial Anode Cathodic Protection Systems for the Interior Submerged Surfaces of Steel Water Storage Tanks
NSF 61	Drinking Water System Components – Health Effects

B. Shipment, Protection, and Storage:

- 1. Equipment shipment, protection, and storage shall conform to the requirements specified in Section 01 66 00.

C. Manufacturer's Experience:

- 1. Equipment furnished under this section shall be of a design and manufacture that has been successfully used in similar applications. The manufacturer shall have furnished equipment for a minimum of five similar applications that have been in successful operation for at least 5 years. A list of these installations complete with

installation description, contact names, addresses, and telephone numbers shall be submitted.

1.03 SUBMITTALS

- A. The following submittals shall be provided in accordance with Section 01 33 00:
- B. Shop Drawings:
 - 1. A copy of this Specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked (✓) to indicate Specification compliance or marked to indicate requested deviations from Specification requirements. A check mark shall denote full compliance with a paragraph as a whole. If deviations from the Specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the Specifications. Failure to include a copy of the marked-up Specification sections, along with justification(s) for any requested deviations to the Specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
 - 2. Design report that contains all calculations and assumptions, including protected surface area, design current density and current distribution.
 - 3. Manufacturer's specifications verifying the equipment performance. Components and materials in contact with potable water shall meet National Sanitation Foundation (NSF) 61 requirements.
 - 4. Manufacturer's experience and list of successful installations complete with installation description, contact names, addresses, and telephone numbers.
 - 5. Installation details of all provided components, including dimensioned and location information of anodes, wiring, test stations, reference cells, and other components. Submittal drawing shall be prepared and sealed by a National Association of Corrosion Engineers (NACE) certificated cathodic protection engineer.
 - 6. Manufacturer's catalog data and shop drawings confirming dimensions, weight, anode composition and configuration, wiring materials, reference electrode composition and configuration, and installation details.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. The cathodic protection system shall be designed by a Corrosion Engineer who is an individual accredited by the NACE as being a Senior Corrosion Technologist or a Corrosion Specialist with experience in cathodic protection for steel storage tanks.

2.02 MATERIALS

- A. Materials of components shall be as follows:

Component	Material
Sacrificial Anodes	Magnesium or zinc alloys based on compatibility with water chemistry and design life. Cast or extruded on a full-length galvanized steel core. Magnesium: Type AZ63B, AZ31B or MIC per ASTM B843 Zinc alloy: Type II per ASTM B418.
Permanent reference electrode	Copper/copper sulfate per AWWA D106
Cable and wiring unless otherwise noted	Conductors: stranded copper insulated to prevent moisture and contact with tank
Anode cable	#14 AWG HMW/PE
Reference electrode wires	#16 copper with RHW insulation

1. Materials specified are considered the minimum acceptable. The Contractor may propose alternative materials. However, alternative materials must provide at least the same qualities as those specified for the purpose. Lesser quality wire insulation such as XHHW or THWN is not acceptable.

2.03 EQUIPMENT

A. Anodes:

1. Anodes shall be wires or segmented cylindrical strings of the specified material.
2. Anodes cables shall be continuous without any splices.

B. Reference Electrode:

1. Reference electrode shall have minimal maintenance and suitable for continuous immersion utilizing 99.9% pure copper in a saturated solution of copper sulfate crystals in distilled water. The reference electrodes shall have a potential drift of less than 10 mV.
2. Reference electrode cables shall be continuous, without any splices. Cables shall be of sufficient length so that any cable can be connected to the junction box/test station.
3. For on-grade tanks, interior reference electrodes shall be located such that the electronegative potential at the center of the floor and along the walls can be monitored. Tank wall shall be monitored at the low water or at 4-feet above the floor, whichever is higher, and at 4-feet below the high-water level. Low-water and high-water level wall reference electrodes shall be installed in alternate arrangement and equally spaced.
4. Locate reference electrodes at center and edge of tank interior. Minimum number of reference electrodes: Five

C. Conduits:

1. House all exposed cables and wires in rigid, polyvinyl chloride (PVC) coated, thick wall, hot-dipped conduits and fittings. House underground cables and wires in Schedule 80 PVC conduit.

D. Flange Isolation Kits:

1. Provide flange isolation kits consisting of one full-face sealing gasket and one full-length insulating sleeve with two steel washers and two insulating washers for each bolt.
2. Insulating gaskets shall be full-faced, LineBacker Type "E", 1/8-inch thick, National Electrical Manufacturers Association (NEMA) G-10 retainer containing a precision tapered groove to accommodate the controlled compression of a Teflon or Viton quad-ring sealing element. Sealing element placement shall accommodate either flat, raised-face or RTJ flanges. The quad-ring seal shall be pressure-energized. The G-10 retainer shall have a 550 volts/mil dielectric strength and a minimum 50,000-psi compressive strength. The full-faced flange isolating gasket shall be 1/8-inch less in inside diameter (ID) than the ID of the flange in which it is installed.
3. Insulating sleeves shall be full-length NEMA G-10 sleeve (extending half-way into both steel washers) for each flange bolt. Sleeves shall be a 1/32-inch thick tube, with a 400 volts/mil dielectric strength and water absorption of 0.10% or less.
4. Isolation washer shall be 1/8-inch-thick, NEMA G-10 with compressive strength of 50,000 psi, dielectric strength of 550 volts/mil, and water absorption 0.10% or less. Steel washers shall be 1/8-inch thick. The ID of all washers shall fit over the isolating sleeve, and the steel and isolating washers shall have the same ID and outside diameter (OD).
5. Flange isolation kits shall be made by Pipeline Seal and Insulator, Inc., or equal.

2.04 PRODUCT DATA

- A. The following product data shall be provided in accordance with Section 01 33 00:
 1. Manufacturer's Installation Certification Section 43 05 11-Form A.
 2. Manufacturer's Instruction Certification Section 43 05 11-Form B.
 3. Applicable operation and maintenance (O&M) information as specified in Section 01 78 23, including:
 - a. Final reviewed shop drawing submittal.
 - b. Equipment warranty.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Installation shall be per AWWA D106.
- B. The cathodic protection system shall be installed by personnel trained and qualified in the installation of such systems in accordance with the following requirements:
 1. Fittings on the water tank shall be installed by the tank manufacturer.
 2. Materials and equipment shall be inspected by NACE-certified personnel, CP-2 or higher, prior to installation, and defective component shall be replaced. Replace any damaged cables and wiring. Cable and wire field-splicing shall not be permitted.
 3. Cables and wires shall be installed to prevent damage from abrasion.
 4. All electrical connections within the tank shall be sealed to prevent water migration.

3.02 FIELD TESTING

- A. Provide cathodic protection system start-up services which includes testing and adjusting the system for optimum performance of the cathodic protection system. Coordinate field testing with the Construction Manager.
- B. Include the start-up measurements in the O&M Manual. The following shall be measured and documented:
 - 1. Anode weight and/or length.
 - 2. Tank water level.
 - 3. Tank to water potential, IR drop free for all anodes.
 - 4. Date of measurements.
 - 5. Cathodic protection firm contact information.
- C. The final test and adjustment of the systems shall be conducted approximately 12 months after the start-up service has been performed. Repairs needed during the final test and adjustment to the system shall be included at no additional cost. The final tests and adjustments shall be documented, similar to the documentation done during start-up testing. Final test and adjustment documentation shall be provided to the Construction Manager.

3.03 SERVICE AGREEMENT

- A. Include a service agreement from the protection system Supplier in the O&M Manual for the cathodic protection system that includes the annual service rate and a description at the scope of work proposed. The agreement for annual inspection and potential testing shall include as a minimum:
 - 1. Annual inspection visit. Inspect exposed (not in a conduit) anode and reference electrode cables and wires for wear, fraying and insulation damage. Inspect all cable connections for arcing, corrosion and wear.
 - 2. Verify individual reference electrode's electromotive force is within industry standards using a portable calibrated copper-copper sulfate reference electrode.
 - 3. Document tank-to-water potential measurements and locations after verifying reference electrode as stated in the preceding paragraph. For any reference electrode that is not to standard, measurements shall be conducted with a portable high-impedance voltmeter and a portable calibrated copper-copper sulfate electrode. Measurements shall be performed at the same locations during each site visit. All instruments and materials in contact with potable water shall meet NSF 61 requirements. Document total anode current output annually.
 - 4. Adjust system for optimum corrosion in accordance with criteria specified in this section.
 - 5. Data recorded shall provide sufficient information to evaluate the performance of the system relating to criteria for protection. Data documentation shall follow the same format used during start-up testing.
 - 6. In the event additional work is required, submit a report with recommendations for optimizing corrosion mitigation control.

END OF SECTION

SECTION 43 42 21

BLADDER-TYPE HYDROPNEUMATIC TANKS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Scope: This Section specifies American Society of Mechanical Engineers (ASME) pre-pressurized bladder-type hydropneumatic tanks for use with potable water systems. This includes complete bladder-type hydropneumatic tank, air pressure recharging system piping, pressure-indicating transmitter, differential pressure transmitter, air volume monitoring system and indication panel, and necessary appurtenances to provide a complete and operable installation. The system shall include a means of automatically indicating bladder charge pressure and air leakage volume without disrupting operation.
- B. Type: Hydropneumatic tank shall be of the vertical, welded-steel type, cylindrical in shape, with a replaceable internal butyl rubber diaphragm. The fluid inlet to the tank shall include a bladder retaining mechanism for retaining the bladder in the tank in the event of over-expansion. Construction shall be per ASME Code Section VIII.
- C. Equipment List:

Description	Equipment No.
Potable Water Hydropneumatic Tank	T3181
Hydropneumatic Tank Level Gage	LI3181
Hydropneumatic Tank Level Transmitter	PDIT3181
Hydropneumatic Tank Pressure Gage	PI3181

1.02 QUALITY ASSURANCE

- A. General: Hydropneumatic tanks shall be designed for surge control service in a municipal potable water pumping system with cyclic operation. Clean, potable water will be used in the hydropneumatic tank.
 - 1. Tanks shall be fabricated and assembled in strict compliance with the design drawings and specifications. The tanks shall not be shipped prior to approval by the Engineer.
 - 2. The hydropneumatic tanks shall be furnished by a manufacturer who is fully experienced, reputable and qualified in the design and manufacture of the equipment and has completed a minimum of six operating surge control systems of similar size or larger within the last 5 years.
 - 3. Submit description of the manufacturer's design and equipment fabrication ability and a list of completed installations that are similar to this project in size and service for Engineer's review.

B. Design Requirements:

1. Operating Conditions:

- a. Hydropneumatic tanks provided under this section shall be suitable for the following operating conditions:

Item	Requirement
Total Tank Volume, minimum, gallons	2,000
Tank Size, approximate	
Diameter, inches	84
Height ¹ , inches	142
System Operating Pressure Range, psig (pounds per square inch gauge)	60 – 90
Maximum Allowable Design Pressure, psig	150
System Connection Size, minimum, inches	12

¹ Tank height is from top of surge tank to floor; this includes surge tank supports extending below main tank vessel.

2. The design shall satisfy all Building Code, Mechanical Code, and Seismic Requirements.
3. The design shall allow for the most severe combination of conditions, which may include any or all of the following:
- a. Internal or external pressure.
- b. Specifically:
- 1) Shell overturning due to seismic:
 - a) Critical buckling.
 - b) Design factor on tension side.
 - 2) Anchoring, due to overturning or internal pressure:
 - a) Lug design.
 - b) Analysis of attachment to shell.
 - c) Effect on shell knuckle.
 - d) Maximum pullout forces and moments reported for the foundation design.
 - 3) Internal pressure or vacuum:
 - a) Main shells, hoop and axial.
 - b) Cutout reinforcements at nozzles.
 - c) Effect on any discontinuities or special components.
 - 4) Thermal:
 - a) Differential expansion at temperature extremes.
 - b) Thermal gradient through tank wall.
4. Factory Testing:
- 1) Results of all tests shall be provided as Product Data.

5. Unit Responsibility: This manufacturer is the unit responsibility manufacturer and has unit responsibility, as specified in Section 43 05 11-1.02, for the equipment assembly specified in this Section, and all other equipment assembly components specified elsewhere but referenced in this Section. A completed, signed, and notarized Certificate of Unit Responsibility (Form 43 05 11-C, Section 01 99 90) shall be provided.

1.03 ENVIRONMENTAL CONDITIONS

The equipment to be provided under this Section shall be suitable for continuous service and installation indoors. Water will be potable. Temperatures indoors are expected to range between 45 °F and 90 °F. Water temperatures are expected to range between 50 °F and 75 °F. The pH for this water will range between 6 and 8.

1.04 SUBMITTALS

- A. Submittals shall be provided as specified in Section 01 33 00.
- B. Action Submittals –Shop Drawings:
 1. A copy of this Specification Section, with addendum updates included, and all referenced and applicable Sections, with addendum updates included, with each paragraph check-marked (✓) to indicate Specification compliance or marked to indicate requested deviations from Specification requirements. Check-marks shall denote full compliance with a paragraph as a whole. If deviations from the Specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the Specifications. Failure to include a copy of the marked-up Specification Sections, along with justification(s) for any requested deviations to the Specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
 2. A copy of the Contract Document Control Diagrams and Process and Instrumentation Diagram I-604 relating to the submitted equipment, with addendum updates that apply to the equipment in this Section, marked to show specific changes necessary for the equipment proposed in the submittal. If no changes are required, the Drawing or Drawings shall be marked "No Changes Required." Failure to include copies of the relevant Drawings with the submittal shall be cause for rejection of the entire submittal with no further review.
 3. Marked applicable Contract Document Mechanical and Electrical Drawings, including sections and details showing sensor installation locations and details. Failure to include copies of the relevant Drawings with the submittal shall be cause for rejection of the entire submittal with no further review.
 4. Certificate of Unit Responsibility attesting that the Contractor has assigned, and that the manufacturer accepts, unit responsibility in accordance with the requirements of this Section and Section 43 05 11-1.02. No other submittal material will be reviewed until the certificate has been received and found to be in conformance with these requirements.
 5. Manufacturer's data, including tank capacity, weight, materials of construction and rated design pressure to show conformance with this section.

6. Detailed fabrication drawings, system assembly and installation drawings.
 7. Complete design calculations signed by a registered mechanical or structural engineer that the tanks have been designed to meet all design criteria given in these specifications.
 8. Weights of all components and anchor bolt designs.
 9. Provide all submittals required by Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.
 10. Marked product literature for differential pressure transmitter, level gauge, and other components.
 11. Calibration range for analog signals to be provided for use by the programmable logic controller (PLC) programmer.
 12. Manufacturer's warranty in accordance with paragraph 1.05.
 13. Control panel drawings:
 - a. Exterior and interior panel layout.
 - b. Nameplate engraving schedule.
 - c. Schematic diagram.
 - d. Loop diagrams for signal connections to the PLC.
- C. Closeout Submittals – Operating and Maintenance (O&M):
1. Provide per Section 01 78 23.
 2. Include the following in each O&M manual:
 - a. Final reviewed submittals, including revised As-Built Drawings.
 - b. Manufacturer's O&M instructions, edited for this Project.
 - c. Written record of level transmitter configuration settings.
 - d. Include list of spare parts and tools provided.

1.05 WARRANTY

The surge control system shall carry a warranty of one year from completion of component test, and final acceptance by the City.

1.06 REFERENCES

This section contains references to the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids). 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. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued or replaced.

- A. American Society of Mechanical Engineers (ASME) Code for Unfired Pressure Vessels, Section VIII, Division 1, Latest Revision
- B. Local Plumbing Codes
- C. International Building Code (IBC)
- D. National Electrical Code (NEC)
- E. ASME B16.5, Pipe flanges and Flanged Fittings
- F. ASME CSD-1, Controls and Safety Devices for Automatically Fired Boilers
- G. ASME B31.1, Power Piping
- H. ASTM A36/A36M, Carbon Structural Steel
- I. ASTM A53/A53M, Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- J. ASTM A181/A181M, Carbon Steel Forgings, for General-Purpose Piping
- K. NSF/ANSI 61, Drinking Water System Components

PART 2 PRODUCTS

2.01 GENERAL

The vertical bladder-type surge tank shall be provided with the manufacturer's services at the jobsite at no additional cost to the Owner. One full 8-hour day of service from manufacturer's representative shall be provided per tank to approve the tank installation and advise the Contractor during startup, testing, and final adjustment of each tank. The manufacturer's representative shall include as part of this 8-hour day instruction to the Owner's personnel in the O&M of the tank system.

2.02 ACCEPTABLE PRODUCTS

- A. Candidate equipment manufacturers include:
 - 1. Pulsco
 - 2. Young Engineering
 - 3. Charlatte
 - 4. Approved equal

2.03 MATERIALS

- A. Minimum design pressure shall be as stated in this Section of the Specifications. Perform hydrostatic testing in shop. Test pressure shall be a minimum of 130% of the design pressure of the tank.
- B. The bladder material and tank interior coating shall be National Sanitation Foundation (NSF-61) approved for potable water.
- C. Complete anchor-bolt assembly (studs, nuts, washers, etc.) to be provided by installing

contractor.

- D. Provide a 1/2-inch threaded connection at the top of the tank to contain a gas-charging valve and 0 to 150 psig pressure gauge.
- E. Tank shell will be constructed of deep-drawn, carbon steel, double-welded domes and side shells with double-welded seams.
- F. Tank shall be equipped with a food-grade, heavy-duty, butyl rubber bladder. Bladders made of polyvinyl chloride (PVC) or polyester will not be allowed. The bladder shall have dimensions equal to and conforming to the inner shape of the surge vessel.
- G. The manway shall be removable with permanently mounted davit to allow inspection and maintenance of the bladder. Manway size shall be 24-inch diameter.

2.04 EQUIPMENT

- A. Design and Fabrication Requirements:
 - 1. Equipment delivered under this section shall meet the requirements of Section VIII of the ASME Boiler Code. Minimum ASME pressure rating shall be 150 psig.
 - 2. Each ASME constructed tank shall bear an ASME inspector's stamp, complete with design pressure, date and place of manufacture.
- B. Hydropneumatic Tank:
 - 1. All painting and coating shall be completed at the factory. Field-painting and coating will not be accepted. The tank interior shall be painted with two coats of an NSF-61 epoxy coating each with a uniform layer thickness of 5 to 6 mils, for a total of 10 to 12 mils dry film thickness. The tank exterior shall be painted with an anti-corrosion polyurethane and shall have a uniform layer with a minimum thickness of 10 mils.
 - 2. The hydropneumatic tank shall be provided with integral factory-welded ASME fabricated steel pedestal supports for vertical mounting on the concrete equipment pads. The tank shall be fitted with the following accessories:
 - a. Top- and side-mounted lifting rings.
 - b. Air-charging valve.

2.05 VESSEL MONITORING

- A. A 2-inch, side-mounted, flanged connection shall be provided on the vessel outlet for tank drain with a 2-inch flanged stainless steel ball valve for isolation of the tank drain, Apollo standard port or equal. Ball valve provided with bolt kits and blind flange.
- B. Provide tank pressure gage and isolation valve, in compliance with Section 40 73 00-4.02.

C. Spare Parts:

1. One spare bladder.
2. One manway gasket.

PART 3 EXECUTION

3.01 INSTALLATION

The hydropneumatic tank and accessories shall be installed, filled and pressurized in strict accordance with the tank manufacturer's written instructions. Initial tank pressurization shall be completed by the Contractor with a Contractor-supplied air compressor.

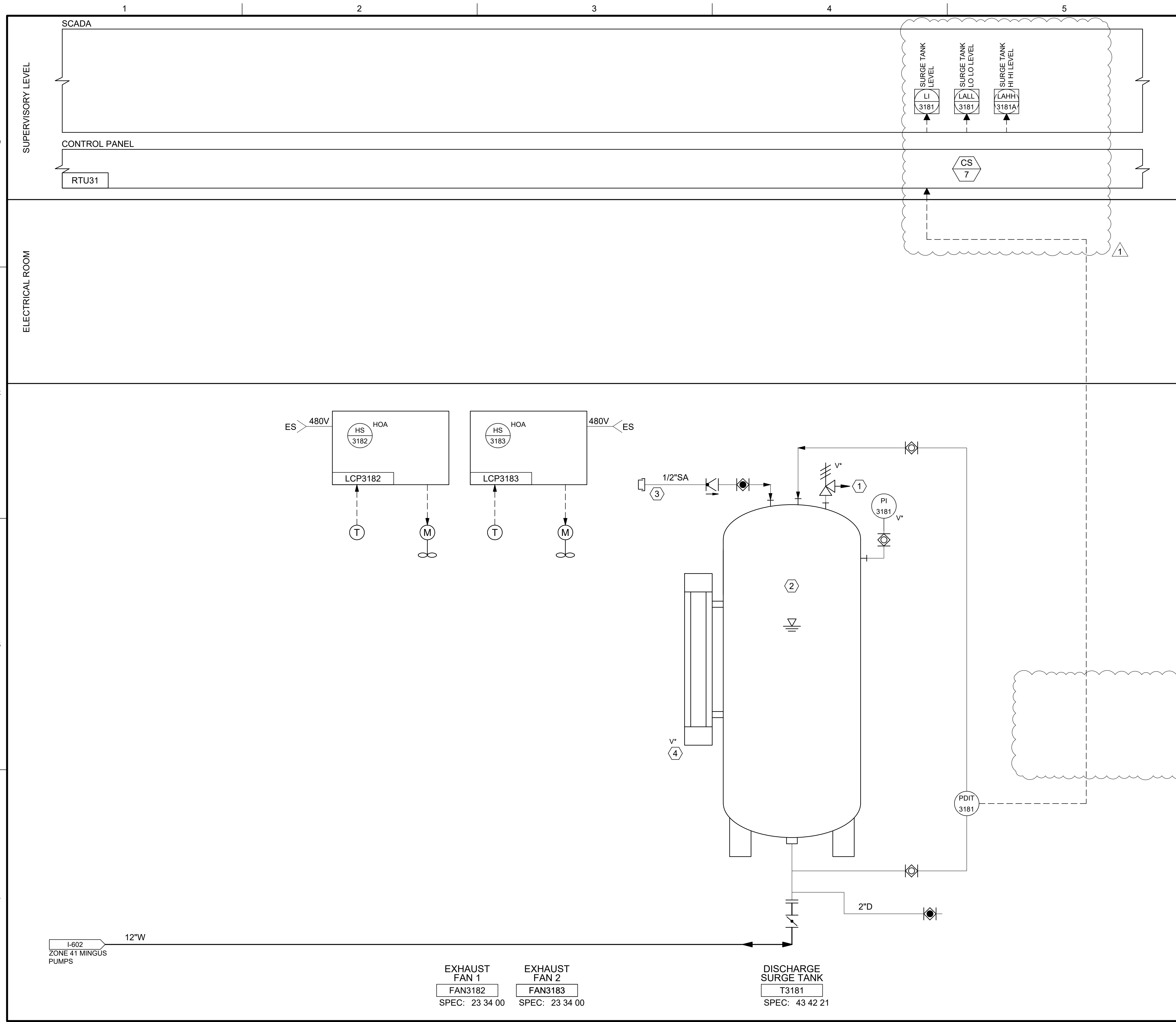
3.02 TESTING

- A. The hydropneumatic tanks shall be completely tested to ensure compliance with operating requirements described in paragraph 1.02-B. Field-testing shall be in accordance with the testing procedures specified in Section 01 45 20. The tank and potable water pump control system, including pressure-relief and pressure-regulating valves and switches, shall be tested as a unit by the Contractor. The Contractor shall make all necessary adjustments to system setpoints to achieve the specified operating requirements.
- B. The manufacturer's representative, Construction Manager, Owner, and the Contractor shall all be present during the on-site tests.
- C. During testing, manufacturer's representative shall take field measurements using a properly selected data-acquisition system capable of measurements at least ten (10) times per second. Measurements shall include pressure magnitude prior to, during, and after each shutdown with locations of testing at the pump station as a minimum, with optional locations at the two major pipeline high points.

END OF SECTION

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Path: P:\PRESCOTT, CITY OF\152624 - ZONE 41 PS TANK AND WATERLINE\DRAWINGS\W2-SHEET\SI-INSTRUMENTATION\152624 - ZONE 41 PS V16\PID.DWG FILENAME: 152624-I-604.DWG PLOT DATE: 4/11/2024 4:33 PM CAD USER: CHRISTOPHER RESOP



KEY NOTES

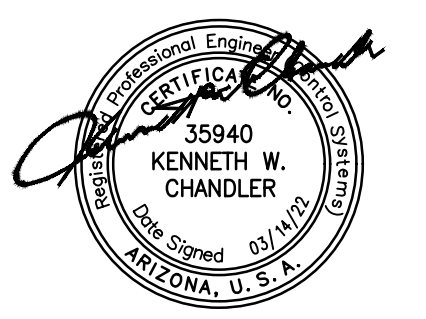
- ① MANUFACTURER SAFETY VALVE, MANUFACTURER SET
- ② HYDROPNEUMATIC TANK VENDOR PACKAGE, SPECIFICATION: 43 42 21
- ③ CONNECTION FOR AIR COMPRESSOR
- ④ MAGNETICALLY COUPLED LEVEL GAUGE

CONTROL STRATEGIES

- CS 7 PROCESS ALARMS, MANUAL RESET FROM SCADA REQUIRED



FOR CONSTRUCTION



ZONE 41 MINGUS PUMP STATION, TANK AND PIPELINE

REVISIONS		
REV	DATE	DESCRIPTION
①	4/18/24	ADDENDUM 1

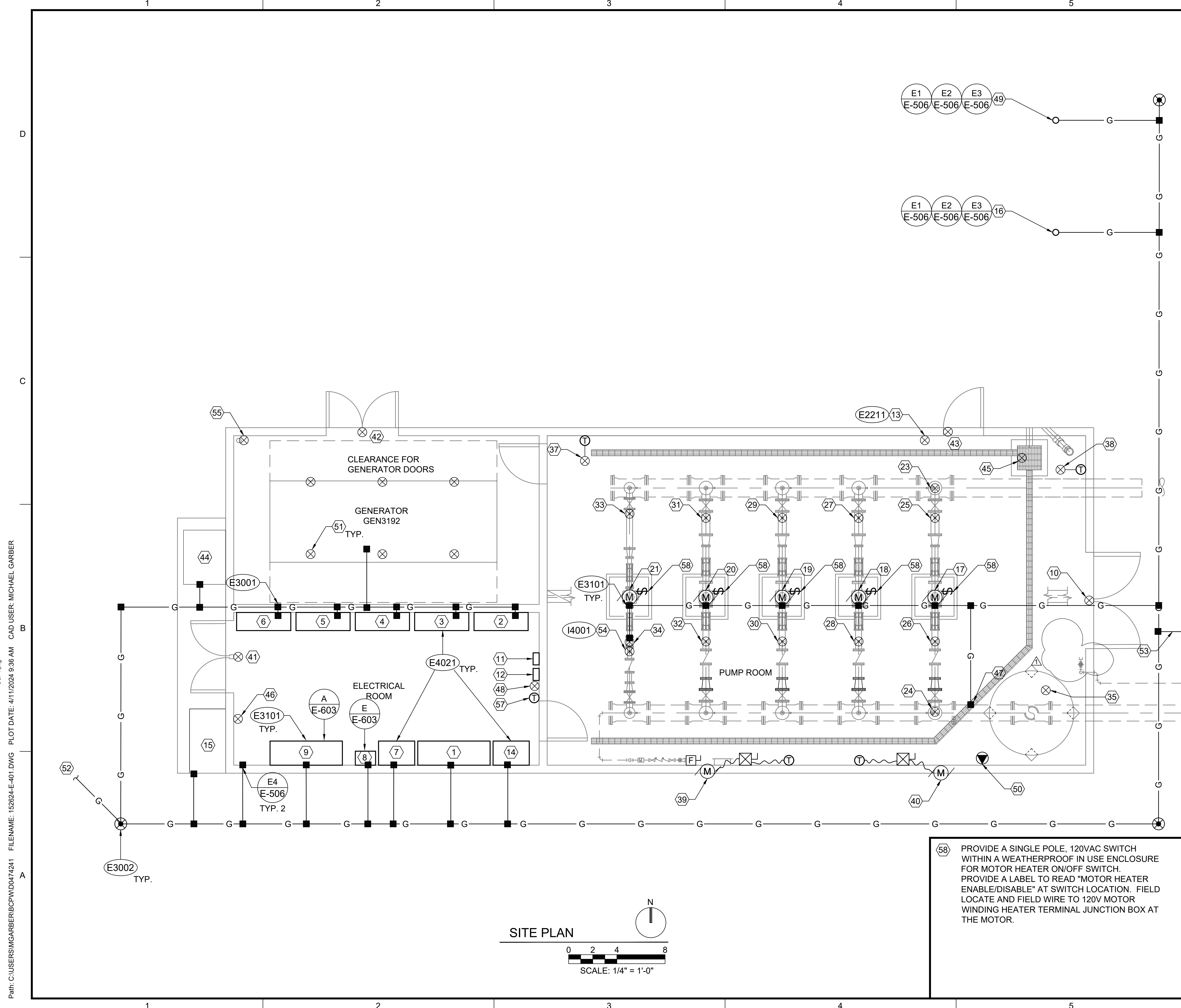
DESIGNED: FRF
 DRAWN: CJR
 CHECKED: KWC
 CHECKED: HWP
 APPROVED: TCM

FILENAME: 152624-I-604.DWG
 BC PROJECT NUMBER: 152624
 CLIENT PROJECT NUMBER: 2018-219

INSTRUMENTATION

SURGE TANK - PROCESS AND INSTRUMENTATION DIAGRAM

DRAWING NUMBER: **I-604**
 SHEET NUMBER: 82 OF 84



GENERAL NOTES

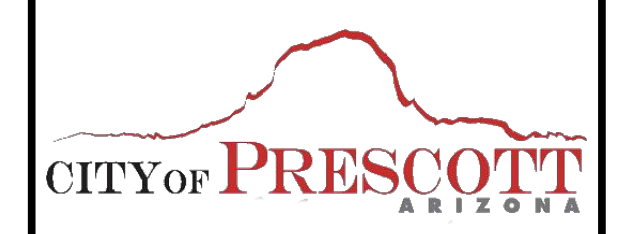
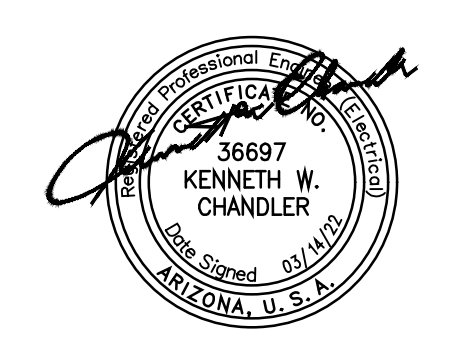
1. PROVIDE OPERATING PUMP STATION PRIOR TO EXISTING PUMP STATION DEMOLITION. PROVIDE TEMPORARY STANDBY POWER UNTIL STANDBY GENERATOR IS OPERATIONAL.
2. CIRCUITS: DRAWINGS E-601, E-602, AND E-603.
3. DEMOLITION DRAWING D-100.
4. PROVIDE BUILDING LIGHTNING PROTECTION SYSTEM PER SPEC. 26 41 13.
5. SUBMIT CONDUIT LAYOUT PER SPEC. 26 05 00.
6. WORK SEQUENCE: SPEC. 01 12 16 AND 26 05 00.
7. COORDINATE HVAC WITH DRAWING MH-100.

KEY NOTES

- | | |
|---|---|
| 1 SWBD3193 | 37 UH-1 |
| 2 VFD3110 | 38 UH-2 |
| 3 VFD3120 | 39 EF-1, LCP3182 |
| 4 VFD3130 | 40 EF-2, LCP3183 |
| 5 VFD3140 | 41 ZSC3194A |
| 6 VFD3150 | 42 ZSC3194B |
| 7 TFR3193 | 43 ZSC3194C |
| 8 POWER PANEL PNL3193 | 44 HP-1 AC |
| 9 RTU31 | 45 LSH3101 |
| 10 ZSC3194D | 46 MD-1 |
| 11 FIT3150 | 47 BOND TO PIPING |
| 12 FIT3160 | |
| 13 SECURITY KEYPAD KPD3194 | |
| 14 ATS3191, ZSC3191B | |
| 15 SERVICE ENTRANCE SECTION SES3190, ZSC3190 | |
| 16 PLC RADIO ANTENNA, POLE TO MASTER SITE | 48 LIGHTING CONTACTOR |
| 17 PUMP 1 P3110 | 49 MINGUS TANK RTU RADIO ANTENNA, POLE |
| 18 PUMP 2 P3120 | 50 AIR COMPRESSOR AC-1 RECEPTACLE |
| 19 PUMP 3 P3130 | 51 ZSC3192A THROUGH F |
| 20 PUMP 4 P3140 | 52 CONTINUE GROUND TO GENERATOR CONNECTION PANEL. SEE SHEET E-101 FOR LOCATION. TERMINATE IN SLAB PER DETAIL E2111. |
| 21 JOCKEY PUMP P3150 | 53 CONTINUE GROUND TO FLOW METER FE3160 VAULT. GROUND FLOW METER PER DETAIL I4001. |
| 22 NOT USED | 54 FLOW METER FE3150 |
| 23 PIT3100 | 55 LSH3195 |
| 24 PIT3160 | 56 NOT USED |
| 25 PSL3110 | 57 TH3194A |
| 26 PSH3111 | |
| 27 PSL3120 | |
| 28 PSH3121 | |
| 29 PSL3130 | |
| 30 PSH3131 | |
| 31 PSL3140 | |
| 32 PSH3141 | |
| 33 PSL3150 | |
| 34 PSH3151 | |
| 35 PDIT3181 | |
| 36 AHU-1 ON ROOF PER MH-100, PROVIDE NEMA 4 FUSIBLE DISCONNECT AND WP GFCI RECEPTACLE | |

Brown AND Caldwell
 2 N CENTRAL AVE
 SUITE 1600
 PHOENIX, AZ 85004

FOR CONSTRUCTION



ZONE 41 MINGUS PUMP STATION, TANK AND PIPELINE

REVISIONS		
REV	DATE	DESCRIPTION
1	4/16/24	ADDENDUM 1

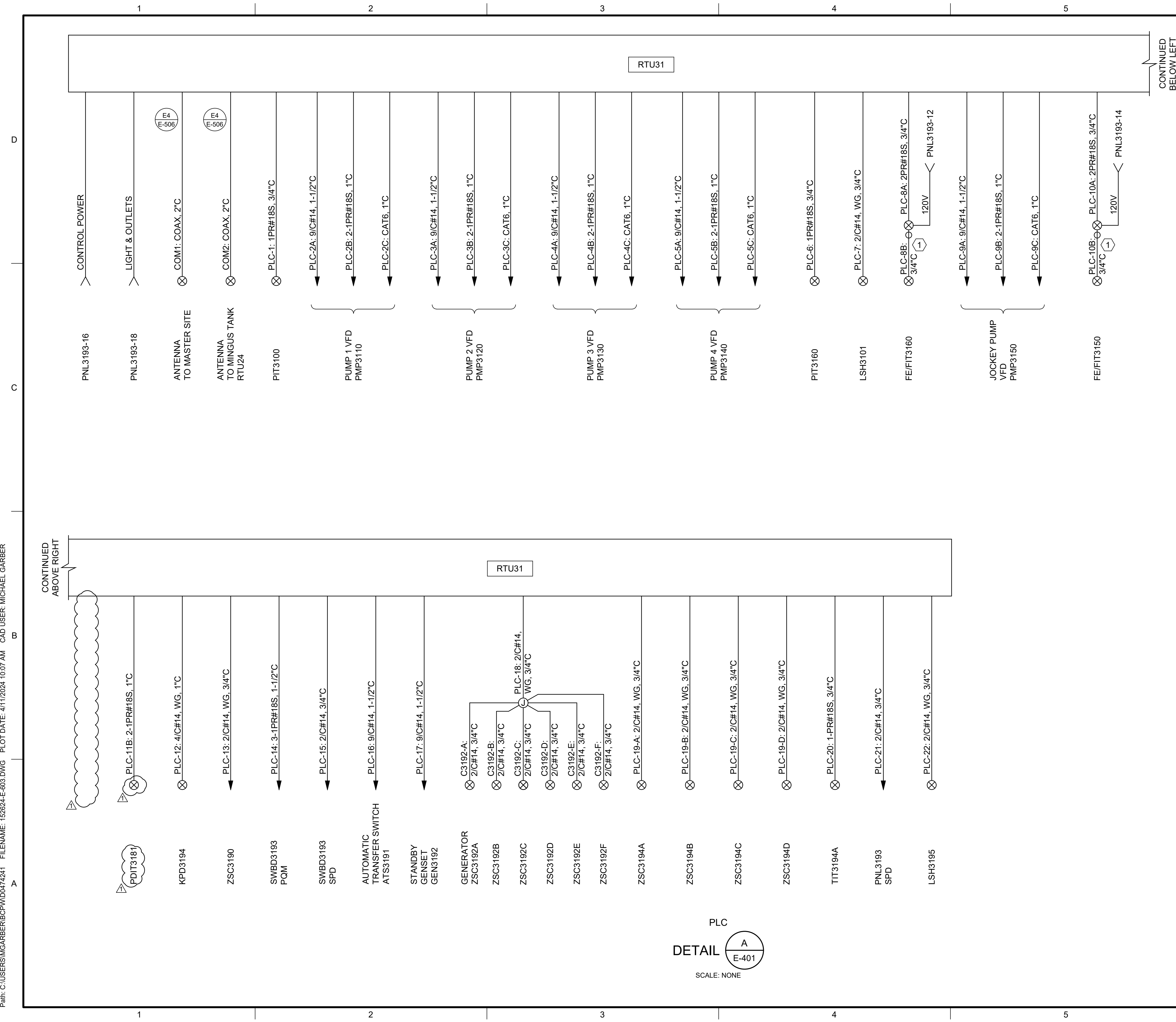
DESIGNED: FRF
 DRAWN: CJR
 CHECKED: KWC
 CHECKED: HWP
 APPROVED: TCM

FILENAME: 152624-E-401.DWG
 BC PROJECT NUMBER: 152624
 CLIENT PROJECT NUMBER: 17-009

ELECTRICAL PUMP STATION ENLARGED PLAN

DRAWING NUMBER
E-401
 SHEET NUMBER
 60 OF 84

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PLC
DETAIL
A
E-401
SCALE: NONE

GENERAL NOTES

1. CIRCUIT IDENTIFICATIONS AND ABBREVIATIONS DRAWING E-001.
2. CONTROL CABLES: MULTI-CONDUCTOR PER SPECIFICATION 26 05 19.
3. SHIELDED CABLE TERMINATIONS PER I0501.
4. PROVIDE AND COORDINATE RTU AND RADIOS PER CITY OF PRESCOTT SCADA PROJECT GUIDELINES.

KEY NOTES

① MANUFACTURER CABLE, 3/4" C

Brown AND Caldwell
2 N CENTRAL AVE
SUITE 1600
PHOENIX, AZ 85004

FOR CONSTRUCTION



ZONE 41 MINGUS PUMP STATION, TANK AND PIPELINE

REVISIONS		
REV	DATE	DESCRIPTION
1	4/16/24	ADDENDUM 1

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: FRF
DRAWN: CJR
CHECKED: KWC
CHECKED: HWP
APPROVED: TCM

FILENAME: 152624-E-603.DWG
BC PROJECT NUMBER: 152624
CLIENT PROJECT NUMBER: 17-009

ELECTRICAL
PUMP STATION CONTROL SINGLE LINE DIAGRAM

DRAWING NUMBER
E-603
SHEET NUMBER
71 OF 84

"General Decision Number: AZ20240007 03/22/2024

Superseded General Decision Number: AZ20230007

State: Arizona

Construction Type: Heavy Dams

Counties: Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Navajo, Santa Cruz and Yavapai Counties in Arizona.

DAM CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number Publication Date
0 01/05/2024

1	01/12/2024
2	01/19/2024
3	03/22/2024

BOIL0627-003 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 36.07	30.59

BRAZ0003-005 07/01/2021

	Rates	Fringes
BRICKLAYER.....	\$ 31.68	8.90

ZONE PAY:

(Radius miles from the intersection of Central Ave. and Washington St., Phoenix, AZ)

- Zone A: 0-60 miles- Base Rate
- Zone B: 61-75 miles- Base Rate plus \$2.00 per hour
- Zone C: 75-100 miles- Base Rate plus \$3.00 per hour
- Zone D: 101-200 miles- Base Rate plus \$3.50 per hour
- Zone E: Over 200 miles- Base Rate plus \$6.50 per hour

BRAZ0003-013 07/01/2023

COCHISE and SANTA CRUZ COUNTIES; and the area of GRAHAM and GREENLEE COUNTIES located East and South of the San Francisco River to the Gila River

	Rates	Fringes
BRICKLAYER.....	\$ 32.74	9.52

ZONE PAY:

(Radius miles from the intersection of Central Ave. and Washington St., Phoenix, AZ)

- Zone A: 0-60 miles- Base Rate
- Zone B: 61-75 miles- Base Rate plus \$2.00 per hour
- Zone C: 75-100 miles- Base Rate plus \$3.00 per hour
- Zone D: 101-200 miles- Base Rate plus \$3.50 per hour
- Zone E: Over 200 miles- Base Rate plus \$6.50 per hour

CARP0408-004 07/01/2019

	Rates	Fringes
CARPENTER (Including Form Work).....	\$ 28.08	12.74
PILEDRIVERMAN.....	\$ 27.38	12.44

CARP1914-001 09/01/2019

	Rates	Fringes
MILLWRIGHT.....	\$ 40.61	17.53

ZONE DEFINITIONS FOR MILLWRIGHTS: Mileage shall be calculated from the construction site to the City Hall in Phoenix or Tucson, or to the workmen's residence, whichever is less:

- Zone 1: 0-30 miles
- Zone 2: 31-49 miles
- Zone 3: 50 miles and over

CARP1914-002 09/01/2003

	Rates	Fringes
DIVER (Standby)		
Zone 1.....	\$ 22.98	8.93
Zone 2.....	\$ 25.37	8.93
Zone 3.....	\$ 28.49	8.93
DIVER (Wet)		
Zone 1.....	\$ 43.79	8.93
Zone 2.....	\$ 45.17	8.93
Zone 3.....	\$ 48.29	8.93

ZONE DEFINITIONS:
Mileage shall be calculated from the construction site to the City Hall in Phoenix or Tucson, or to the workmen's residence, whichever is less:

- Zone 1: 0-30 miles
- Zone 2: 31-49 miles
- Zone 3: 50 miles and over

ELEC0518-001 08/01/2023

APACHE COUNTY [South of Highway 66]; All of GILA COUNTY; NAVAJO COUNTY [South and East of boundary beginning at a point where Clear Creek crosses the Coconino-Navajo County line, extending Northeasterly along Clear Creek and Northeasterly to Cottonwood Wash, along Cottonwood Wash North easterly to where it intersects the Navajo Indian Reservation, then East along the Navajo Indian Reservation Boundary line to a point where it intersects the Navajo-Apache County Line]; and PINAL COUNTY [North of the line, ""First Standard Parallel South"" and East of the line, ""Second Guide Meridian East""]

	Rates	Fringes
ELECTRICIAN.....	\$ 32.50	9.50+13.25%

ELEC0570-004 06/01/2023

COCHISE, GRAHAM, LA PAZ, AND SANTA CRUZ COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 31.00	18%+6.00

ZONE DEFINITIONS-

- Zone A: the area within a thirty-nine (39) mile radius from a basing point at the Tucson Town Hall.
- Zone B: 40 to 74 mile radius from the town hall in Tucson- an additional \$ 3.50 per hour

Zone C: 75 mile radius from the town hall in Tucson to the outer limits of the geographic jurisdiction- an additional \$ 7.50 per hour

ELEC0611-005 01/01/2024

APACHE COUNTY [Area North of Highway 66]

	Rates	Fringes
Electrician/Wireman		
Zone 1.....	\$ 38.30	12.98
ZONE 1: 0 to 10 miles from Gallup, NM		
ZONE 2: 10 to 30 miles from Gallup - Add 9%		
ZONE 3: 30 to 40 miles from Gallup - Add 15%		
ZONE 4: Over 40 miles from Gallup - Add 26%		

ELEC0640-003 01/01/2021

COCONINO and YAVAPAI COUNTIES; and the following portions of Counties: NAVAJO COUNTY (North and West of a boundary beginning at a point where Clear Creek crosses the Coconino-Navajo County line, Northeasterly along Clear Creek and Northeasterly to Cottonwood Wash, along Cottonwood Wash Northeasterly to where it intersects the Navajo Indian Reservation then Easterly along the Navajo Indian Reservation Boundary line to a point where it intersects the Navajo-Apache County line); PINAL COUNTY (area lying North and West of the boundary line beginning at a point where Papago Indian Reservation Road No. 15 crosses the Pima-Pinal County line, then extending in a Northeasterly direction on Papago Indian Reservation Road No.15 to the intersection with Highway FAS-267, extending North on Highway FAS-267 to the intersection with the Florence Canal, North and East on the Florence Canal to the intersection of the line ""Second Guide Meridian East"" then North to the Pinal-Maricopa County lines)

	Rates	Fringes
ELECTRICIAN.....	\$ 30.30	12.36

ENGI0428-002 06/01/2020

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1.....	\$ 27.04	11.72
Group 2.....	\$ 30.31	11.72
Group 3.....	\$ 31.39	11.72
Group 4.....	\$ 32.42	11.72

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: A-frame boom truck, winch truck, air compressor, Beltcrete, boring bridge and texture, concrete mixer (skip type), conductor, brakeman, handler, conveyor, cross timing and pipe float, curing machine, dinky (under 20 tons), elevator hoist (Husky and similar), firemen (all), forklift and Ross carrier, generator (all), highline cableway signalman, hydrographic mulcher, hydrographic seeder, joint inserter, jumbo finishing machine, Kolman belt loader,

machine conveyor, multiple power concrete saw, oiler, pavement breaker, power grizzly, power sweeper, pressure grout machine, pump, roller (except as otherwise classified), self-propelled chip spreading machine, skiploader (3 cu. yd. and less), slurry seal machine (Moto paver driver), small self-propelled compactor (with blade)-backfill, ditch operation, straw blower, tractor (D-5 and under), tripper, tugger, welding machine, wheel-type tractor (Ford, Ferguson type with attachments, Bee Gee etc.)

GROUP 2: Aggregate plant (including crushing, screening and sand plants, etc.), asphalt plant mixer, asphalt laydown machine, backhoe (rubber tired or track, less than 1 cu. yd. MRC), Bee Gee operator boring machine, concrete batch plant (all types and sizes), concrete mechanical tamping, spreading or finishing machine (including Clary, Johnson or similar types), concrete mixer (paving type and mobile mixers), concrete pump, crane (crawler and pneumatic less than 15 ton capacity MRC), drilling machine (including water wells), elevating grader (all types and sizes except as otherwise classified), field equipment serviceman, paver and similar type equipment, motor grader (any type power blade-rough), oiler driver, operating engineer rigger, pneumatic tired scraper (all sizes and types), power jumbo form setter, road oil mixing machine, roller (on all types asphalt pavement), screed, self-propelled compactor (with blade, 815, 825 or equivalent-grade operation), skip loader (all types with a rated capacity over 3 but less than 6 cu. yd.), slip form (power driven lifting device for concrete forms), soil cement road mixing machine (single pass type), heater and planer, tractor (dozer, pusher-all), traveling pipe-wrapping machine, trenching machine, tugger (two or more)

GROUP 3: Asphalt or concrete planing, rotomill and milling machine, auto grade machine (CMI and similar equipment), boring machine (including mole, badger and similar type), concrete pump (truck mounted with boom), crane (crawler and pneumatic over 15 tons but less than 100 tons capacity MRC), crawler type tractor with boom attachment and slope bar, derrick, Gradall, heavy duty mechanic/welder, helicopter hoist operator or pilot, highline cableway, mass excavator (150 Bucyrus, Erie and similar type), mechanical hoist (two or more drums), motor grader (any type power blade-finish), mucking machine, overhead crane, Grade Checker, piledriver engineer (portable, stationary or skid rig), power driven ditch lining or ditch trimming machine, remote control earth moving machine, skip loader (all types with rated capacity 6 cu. yd. but less than 10 cu. yd.), slip form paving machine (including Gunnert, Zimmerman and similar types), tower crane or similar type, universal equipment operator (backhoe, clamshell, dragline, shovel etc., up to 10 cu. yd.); Operating Engineers Electrician including Tower Erector, Lineman & Cable Splicer (load side of main disconnect).

GROUP 4: Crane operator (pneumatic or crawler-100 tons hoisting capacity and over, MRC rating), skip loader (all types with rated capacity of 10 cu. yd. or more), universal equipment operator (backhoe, clamshell, dragline, shovel, etc., 10 cu. yd. and over)

Multiple-Unit Earth Equipment (Holland Loader etc.), Tractor operator, Pneumatic-Tired or Track type, Two Units-\$0.50

per hour over base rate; and \$1.00 per hour for each additional unit

All Operators, Oilers, and Motor Crane Drivers on equipment with Booms, except concrete pumping truck booms, including Jibs, shall receive \$0.01 per hour per foot over 80 ft in addition to regular rate of pay

Premium pay for performing hazardous waste removal \$0.50 per hour over base rate.

IRON0075-001 10/01/2023

	Rates	Fringes
IRONWORKER.....	\$ 32.00	18.91

- Zone 1: 0 to 50 miles from City Hall in Phoenix or Tucson
- Zone 2: 050 to 100 miles - Add \$4.00
- Zone 3: 100 to 150 miles - Add \$5.00
- Zone 4: 150 miles & over - Add \$6.50

PAIN0086-004 04/01/2014

	Rates	Fringes
PAINTER.....	\$ 22.42	4.85

* PLAS0394-005 01/01/2024

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 28.78	9.17

PLUM0469-006 07/01/2019

	Rates	Fringes
PLUMBER/PIPEFITTER		
Apache, Coconino,Gila,		
Greenlee, La Paz, Navajo,		
and Yavapai.....	\$ 44.00	17.15
Cochise and Santa Cruz.....	\$ 38.65	17.15

TEAM0104-002 07/01/2023

	Rates	Fringes
TRUCK DRIVER		
Group 2.....	\$ 26.00	1.60+a
Group 3.....	\$ 26.48	1.60+a
Group 4.....	\$ 27.73	1.60+a
Group 5.....	\$ 26.85	1.60+a
Group 6.....	\$ 28.52	1.60+a
A. Health & Welfare	\$1,261.06 per month.	

FOOTNOTE:
a. Health & Welfare \$1261.06 per month.

TRUCK DRIVER CLASSIFICATIONS:

- GROUP 2: 2 or 3 axle Dump , Water Truck under 2500 gal.
- GROUP 3: 4 axle Dump, Water Truck Drive- (2500 gal but less

- than 4000 gal)
- GROUP 4: 5 axle Dump, Water Truck 4000 gal and over
- GROUP 5: 6-axle Dump
- GROUP 6: 7-axle Dump, 8-axle Dump

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the

Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"