



**Bountiful City**  
**Planning Commission Agenda**  
**Tuesday, February 06, 2024**  
**6:30 p.m.**

**NOTICE IS HEREBY GIVEN** that Bountiful City Planning Commission will hold a meeting in the Council Chambers, Bountiful City Hall, 795 South Main, Bountiful, Utah, 84010, at the time and on the date given above. The public is invited to attend. Persons who are disabled as defined by the Americans with Disabilities Act may request an accommodation by contacting the Bountiful City Planning Office at 801-298-6190. Notification at least 24 hours prior to the meeting would be appreciated.

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1. Welcome and Roll Call
2. Consideration to Approve the meeting minutes from January 16, 2024
  - Review
  - Action
3. Conditional Use Permit for a Tattoo Parlor at 1455 South 500 West  
*Assistant Planner Hadlock*
  - Application withdrawn
4. Conditional Use Permit for a Silo Addition for Weber Basin Water Conservancy District at 38 North Davis Boulevard  
*Senior Planner Corbridge*
  - Review
  - Public Hearing
  - Action
5. Preliminary/Final Architectural and Site Plan Review for a Silo Addition for Weber Basin Water Conservancy District at 38 North Davis Boulevard  
*Senior Planner Corbridge*
  - Review
  - Forward a recommendation to the City Council
6. Open and Public Meeting Act Training
  - City Attorney Jeppsen

7. Planning Director's report, update, and miscellaneous items
8. Adjourn

1 **Draft minutes of the**  
2 **BOUNTIFUL CITY PLANNING COMMISSION**  
3 **Tuesday, January 16, 2024 – 6:30 p.m.**  
4

5 Official notice of the Planning Commission Meeting was given by posting an agenda at City  
6 Hall, and on the Bountiful City Website and the Utah Public Notice Website.  
7

8 **City Council Chambers**  
9 795 South Main Street, Bountiful, Utah 84010  
10

11 Present: Planning Commission Chair Lynn Jacobs, James Clark, Sean Monson,  
12 Krissy Gillmore, Beverly Ward, and Richard  
13 Higginson  
14 Planning Director Francisco Astorga  
15 Senior Planner Amber Corbridge  
16 City Engineer Lloyd Cheney  
17 City Attorney Bradley Jeppson  
18 Recording Secretary Sam Harris  
19  
20 Excused: Planning Commission Alan Bott  
21

22 **1. Welcome**  
23

24 Chair Jacobs called the meeting to order at 6:30 p.m. and welcomed everyone, including newly  
25 appointed member Richard Higginson (City Council) and newly hired City Attorney Brad  
26 Jeppson.  
27

28 **2. Planning Commission meeting minutes from December 5, 2023**  
29

30 Commissioner Gilmore motioned to approve the minutes from December 5, 2023, and  
31 Commissioner Clark seconded the motion. The motion was approved with Commissioners  
32 Jacobs, Clark, Monson, Gillmore, Ward, and Higginson voting “aye.”  
33

34 **3. Planning Commission meeting minutes from December 19, 2023**  
35

36 Commissioner Gilmore motioned to approve the minutes from December 19, 2023, and  
37 Commissioner Ward seconded the motion. The motion was approved with Commissioners  
38 Jacobs, Clark, Monson, Gillmore, Ward, and Higginson voting “aye.”  
39

40 **4. Variance Request to construct an 8’ tall precast concrete wall and gate for Dominion**  
41 **Energy’s Station at 172 East 1500 South (Parcel #030420052)**  
42

43 Senior Planner Corbridge presented the item as outlined in the packet where she specifically  
44 addressed the five (5) criteria needed for a variance.  
45

1 The Commission reviewed the known history of the site, and discussed and reviewed the  
2 proposal. Caroline King, a Dominion Energy representative, provided comments regarding their  
3 proposal.

4  
5 Chair Jacobs opened the public hearing.

6  
7 Sheri Morgan, residing at 190 East 1500 South, voiced noise concerns, proposed tying the  
8 variance to noise mitigation, suggested acoustical analysis, identified flaws in the proposed east  
9 wall, recommended insulation around the gas pipe, requested a decision delay for analysis, and  
10 noted an improvement due to restricted operation times with ongoing decibel measurements in  
11 the neighborhood.

12  
13 Greg Seegmiller (consulting City Engineer for Woods Cross, residing at 5902 South 4150 West)  
14 expressed concerns regarding the weight of the concrete wall potentially impacting a water line  
15 owned by Woods Cross City, and suggested working with Dominion Energy to consider  
16 relocating or adjusting the weight of the wall to avoid issues.

17  
18 Rich Reader at 120 East 1500 South raised concerns about the proposed wall's limited noise-  
19 buffering effectiveness, stressed the necessity for acoustical analysis, expressed worry that  
20 approving an 8-foot wall might not adequately address noise issues, highlighted his recorded  
21 noise levels, and questioned Dominion's plans, seeking clarity on the sufficiency of noise  
22 reduction measures.

23  
24 Trent Hodgson at 91 East 1600 South voiced concerns regarding the noise affecting his family,  
25 emphasized the urgency to address the issue to avoid a police report, and described the noise as  
26 resembling a high-pitched gas release or a loud, shrill grinding noise akin to a concrete saw used  
27 in highway projects.

28  
29 Chair Jacobs closed the public hearing at 7:04 p.m.

30  
31 The Commission allowed Dominion Energy to address the Commission and the public as various  
32 comments were made regarding the origin of the noise, commitment to addressing the issue,  
33 noise compliance efforts, purpose of the eight-foot (8') wall, etc. Comments were made by Tori,  
34 Dominion Energy's safety manager, John, Dominion Energy's engineer, and another Dominion  
35 Energy employee.

36  
37 City Attorney Jeppson cautioned the Commission against adding conditions unrelated to the  
38 specific variance, emphasizing the limitations imposed by statutes, and advising against  
39 requesting actions not directly linked to the variance.

40  
41 Commissioner Higginson expressed a wish to have the authority to require additional measures  
42 beyond the higher wall, but considering the case, staff endorsement, and neighborhood support,  
43 leaned towards approving the variance.

1 Chair Jacobs empathized with the disrupted neighborhood, contemplated the dilemma of  
2 approving or denying the variance, expressed reservations about potential noise issues with both  
3 six-foot and eight-foot walls, and cited concerns about sound engineering complexities and  
4 amplification effects.

5  
6 The Commission mentioned a former conditional use permit approved at this site. Planning  
7 Director Astorga clarified that it was a variance for a different location for a different utility  
8 company.

9  
10 The Commission discussed the concern brought by the Woods Cross engineer. City Engineer  
11 Cheney indicated he was familiar with the concern and indicated that additional line accuracy  
12 was needed. The Commission expressed empathy for the neighborhood and indicated that  
13 addressing the sound issue is beyond the authority of the current body. The Commission also  
14 discussed the demolition of the former structure onsite.

15  
16 Commissioner Monson motioned to approve the variance request by Dominion Energy for  
17 property parcel number 03-042-0052 with the following Conditions of Approval:

- 18  
19 A. There shall be consultation and plan to be studied/approved for mitigation of the weight  
20 on Woods Cross City waterline.  
21 B. Comply with Staff’s recommendations:  
22 1. Meet staff review comments.  
23 2. Apply for and obtain necessary building permits.  
24

25 Commissioner Higginson seconded the motion. The motion was approved with Commissioners  
26 Jacobs, Clark, Monson, Gillmore, Ward, and Higginson voting “aye.”  
27

## 28 **5. Eagle Ridge Drive Dedication Plat**

29  
30 City Engineer Cheney presented the item and addressed general questions asked by the  
31 Commission. Commissioner Higginson motioned to forward a positive recommendation to the  
32 City Council as presented by Staff and Commissioner Clark seconded the motion. The motion  
33 was approved with Commissioners Jacobs, Clark, Monson, Gillmore, Ward, and Higginson  
34 voting “aye.”  
35

## 36 **6. Planning Director’s Report/Update**

37  
38 Planning Director Astorga welcomed Council member Richard Higginson to the Commission,  
39 relayed changes to the in-written approvals, and provided an update regarding the status of the  
40 General Plan update.

## 41 **7. Adjourn**

42  
43  
44 Chair Jacobs adjourned the meeting at 7:14 p.m.



# Planning Commission Staff Report



**Subject:** Conditional Use Permit for a Tattoo Parlor  
at 1455 South 500 West Suite F  
**Author:** Jonah David Hadlock, Assistant City Planner  
**Date:** February 6, 2024

## **Background**

On December 14, 2023, the applicants, Matt and Cassidy Morrison, submitted a Conditional Use Permit (CUP) application for a proposed tattoo parlor located at 1455 South 500 West Suite F. The property is in the Heavy Commercial Zone (C-H) which allows for tattoo parlors as a conditional use. On January 29, 2024, the applicant withdrew their submitted application.

## **Attachments**

1. E-mail from applicant withdrawing the application

## Jonah Hadlock

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**From:** Cassidy Morrison <clarkcassidy75@gmail.com>  
**Sent:** Monday, January 29, 2024 9:20 AM  
**To:** Jonah Hadlock  
**Subject:** Morrison conditional use

Hi this is Cassidy Morrison just letting you know to be taken off the agenda because we are no longer signing on that space. Thank you.

**CAUTION:** This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

# Planning Commission Staff Report



**Subject:** Conditional Use Permit and Final Architectural and Site Plan for a Silo Addition for Weber Basin Water Conservancy District  
**Address:** 38 North Davis Boulevard  
**Author:** Amber Corbridge, Senior Planner  
**Department:** Planning  
**Date:** February 6, 2024

## Background

The applicant, Jesse Moreno, with Weber Basin Water Conservancy District is requesting both 1) Conditional Use Permit (CUP) and 2) Preliminary/Final Architectural Site Plan Approval to build a new silo for their water treatment plant located at 38 North Davis Boulevard. The property is zoned R-3 (Single-Family Residential) where this proposed addition for a private utility facility is listed as a conditional use. The applicant states this proposal to build a new silo addition (approximately 13' diameter and 35' tall) with ancillary pump/compressor enclosure (approximately 10' tall and 160 square ft.) will upgrade and improve the existing site infrastructure. This upgrade also includes demolition of the existing Powdered Activated Carbon (PAC) storage feed system building and feed equipment, piping modifications to the raw water and return wash water line upstream of the influent, and paving/grading improvements to the site (see attached plan set for full details of the demolition plan and site improvements). Also, see Figure A-C, generally showing the proposed site changes.

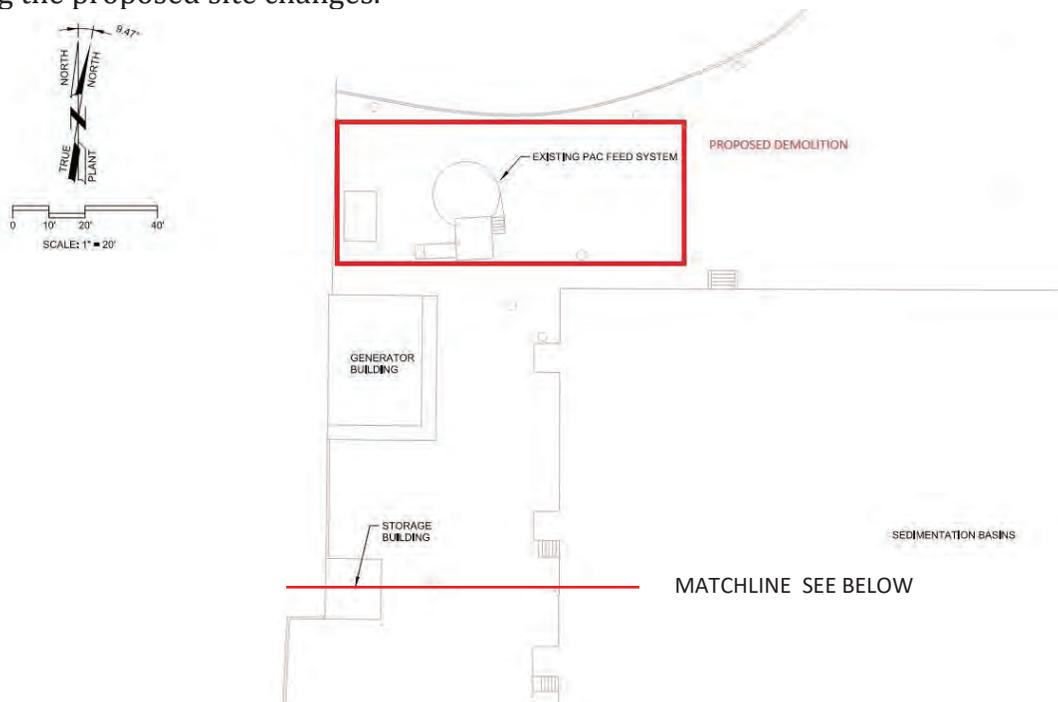


Figure A: Bountiful Weber Basin Water Conservancy District at 38 N Davis Blvd., Proposed Site Plan 2024

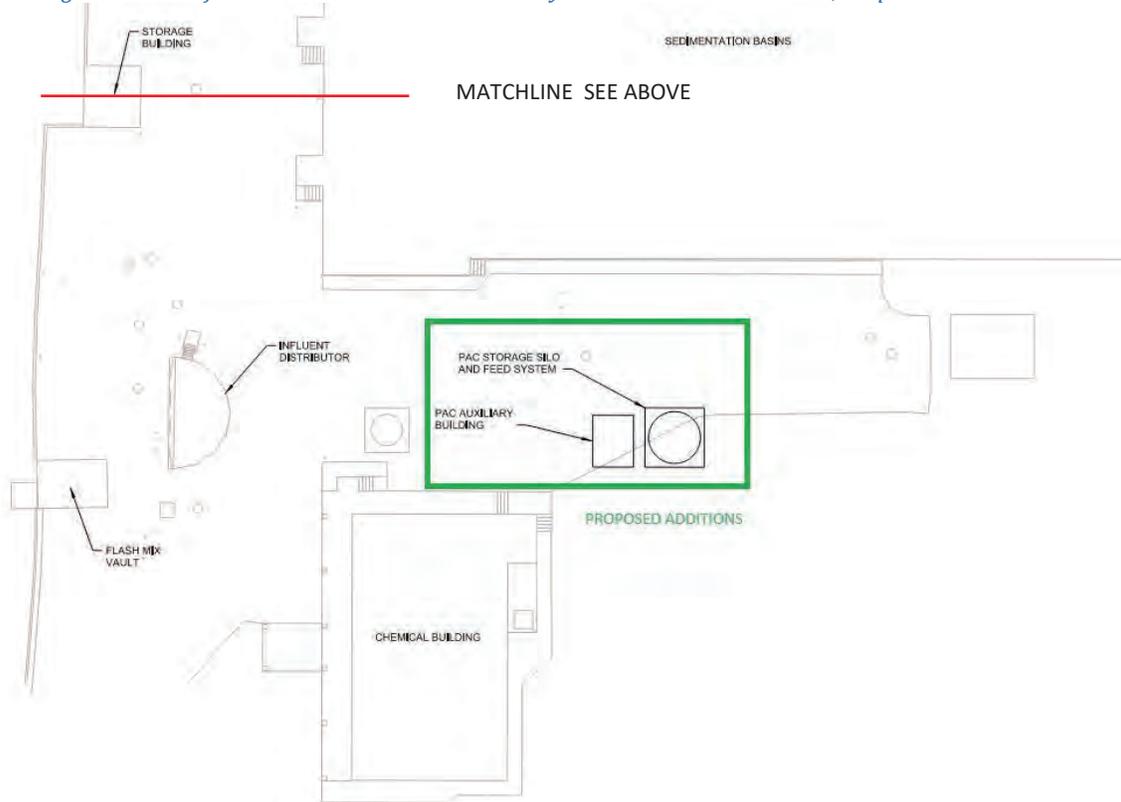


Figure B: Bountiful Weber Basin Water Conservancy District at 38 N Davis Blvd., Site Plan with Changes 2024



Figure C: Bountiful Weber Basin Water Conservancy District at 38 N Davis Blvd., Nemap Aerial View Aug 2023, Existing Site Conditions

## **Analysis**

### ***Conditional Use Standards***

*The Planning Commission shall consider how the proposed addition 1) relates to the surrounding uses, 2) impacts the existing surrounding developments, and 3) appropriate buffering of uses and buildings, proper parking and traffic circulation, and the use of building materials and landscaping, which are in harmony with the area (see Code 14-2-506.C).*

The proposed addition would fit in with the surroundings, as there is an already established water treatment facility on the site. The new silo and treatment equipment would serve Bountiful, West Bountiful and North Salt Lake by providing culinary water. The silo structure will be the same design, color, and materials as the silo structure at the Layton Weber Basin Water Conservancy District, as shown below in Image 1. The silo structure would fit in as much as physically possible with neutral colors and simple design. The proposed new location would also sit back further away from the street behind an existing chemical building and would not be visible from the street, as shown in Image 2 below. The small structure proposed to sit adjacent to the silo, to house the supporting system, would also be behind the existing chemical building. Staff recommends the exterior building color match the existing structures on site, being neutral and visually blend in as much as possible.



*Image 1: [Layton](#) Weber Basin Water Conservancy District, Google Street View August 2023, Existing Silo*



*Image 2: [Bountiful Weber Basin Water Conservancy District at 38 N Davis Blvd.](#), Google Street View 2022*

The applicant stated for the conditional use, to mitigate any potential conflicts with surrounding properties, work to be performed will be during reasonable business hours (8 AM to 5 PM). The potential visual negative impacts associated with the proposed additions would be mitigated with exterior building colors and placement, and no additional site lighting is proposed with the changes. According to Weber Basin Water Conservancy District, the silo will have minimal noise disruption to the neighborhood, as the equipment being used is stored inside the structure.

Occasionally, the silo will be serviced with a Powdered Activated Carbon (PAC), which removes odors and odd tastes found in the water, usually around springtime. This chemical is transferred from a delivery truck to the silo equipment, which makes a blowing type sound. This would happen during regular business hours, which mitigates the noise mitigation associated with the use.

### ***Architectural and Site Plan Review***

*The Planning Commission shall determine if the proposed architectural and site development plans submitted are consistent with the purpose and objectives of the Code (14-2-301). The purpose of the architectural and site plan review and approval process is:*

- 1. To determine compliance with the Land Use Code*
- 2. To promote the orderly and safe development of land in the City*
- 3. To implement the policies and goals established in the Bountiful City General Plan*
- 4. To promote the orderly layout of buildings, landscaping, walkways, lighting, and other site improvements.*

The architectural and site plans have been reviewed by staff, where setbacks, height, landscaping, screening, parking, loading, lighting, and all other applicable standards are reviewed for compliance. The plans for the proposed silo and ancillary equipment meet department review comments. Staff recommends as a condition of approval; the applicant obtain necessary building permits for demolition and construction to accommodate the proposed changes.

### **Department Review**

This staff report was written by the Senior Planner and was reviewed by the City Engineer, City Attorney, and Planning Director.

### **Significant Impacts**

There are minimal impacts of this proposed development on the property and surrounding uses, as it is an upgrade of the existing land use. The existing infrastructure, such as water, sewer, culinary water, and transportation are in place to support this development.

### **Recommendation**

Conditional Use Permit: Staff recommends that the Planning Commission hold a public hearing and approve the Conditional Use Permit (CUP) for a new silo addition at 38 North Davis Boulevard, subject to Preliminary/Final Architectural and Site Plan approval by the City Council and complying with all department staff review comments.

Preliminary/Final Architectural and Site Plan: Staff recommends that the Planning Commission review the Preliminary/Final Architectural and Site Plan application for a new silo addition and site changes, and forward a positive recommendation to the City Council to approve, subject to:

1. Meeting all department staff review comments.
2. Obtain necessary building permits.

*Note: Final approval and building permits will be granted when all conditions are met and satisfied.*

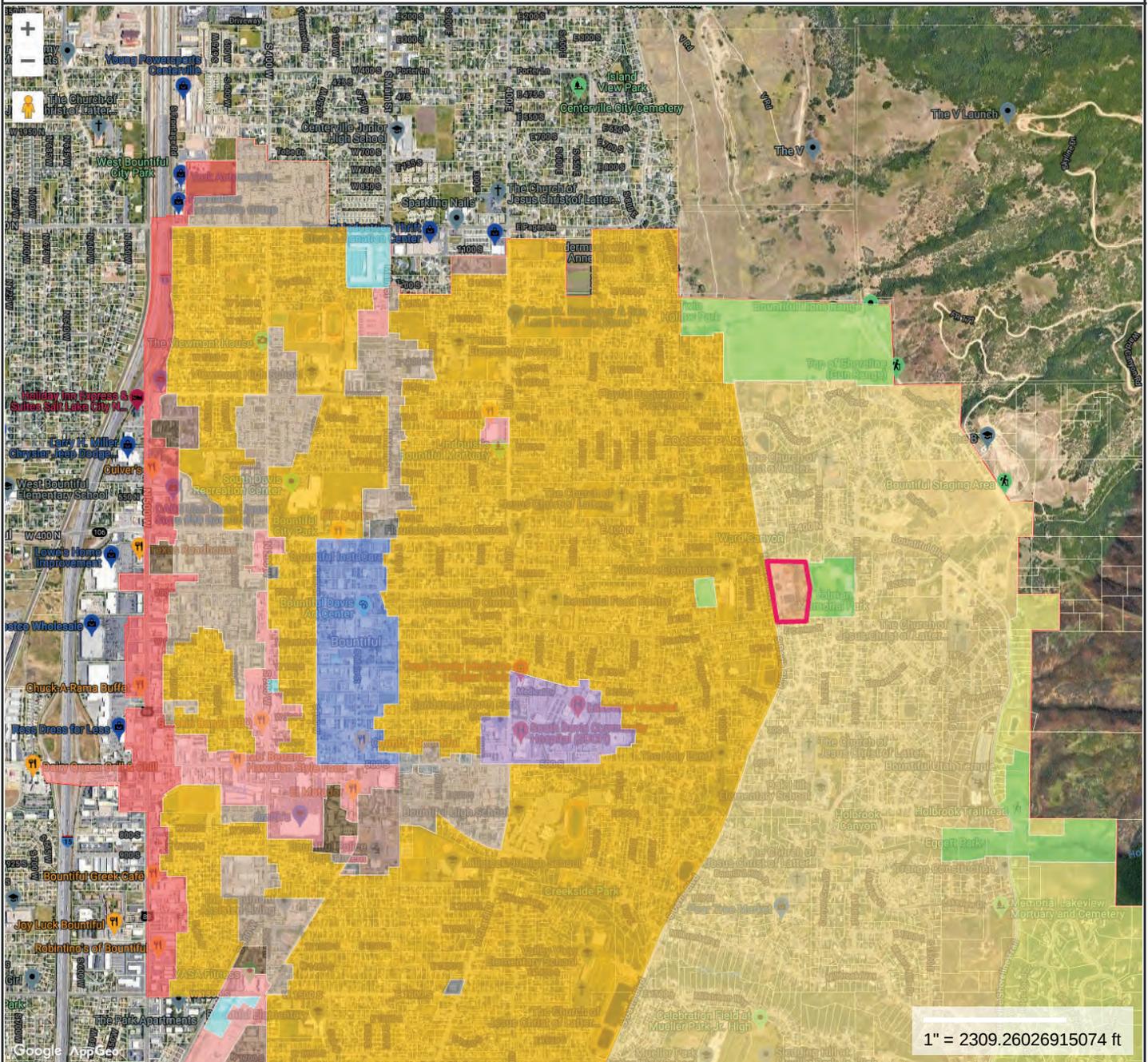
### **Attachments**

1. Statement of Intent
2. Vicinity Map
3. Design Plan Set
4. Boundary Survey
5. Updated Plans

Statement of Intent:

Weber Basin Water Conservancy District (WBWCD/District) owns and operates a water treatment plant located at 38 N Davis Blvd, Bountiful, Utah 84010. To better serve the residents of Bountiful City and provide the highest quality culinary water, the District routinely upgrades its existing infrastructure to better and more improved infrastructure. The District intends on replacing its existing powder activated carbon (PAC) feed building which is used to store dry carbon powder to be mixed and fed manually into our PAC generator building to be used as a treatment process for receiving influent water with a PAC silo which will store and automatically feed PAC into our treatment process. This upgrade includes demolition of the existing PAC storage feed system building and feed equipment, piping modifications to the raw water and return wash water line upstream of the influent distributor, and paving and grading improvements to the site.

# Vicinity Map - 38 N Davis Boulevard for a New Silo at the Weber Basin Water Conservancy District



**MAP FOR REFERENCE ONLY  
NOT A LEGAL DOCUMENT**

Bountiful, Utah makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

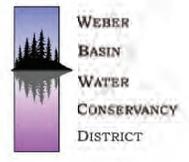
Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

# Map Theme Legends

## Zoning

- OS
- C-N
- C-H
- C-G
- DN
- H
- MXD
- PO
- PO-N
- R-F
- R-1
- R-3
- R-4
- RM-7
- RM-13
- RM-19
- RM-25

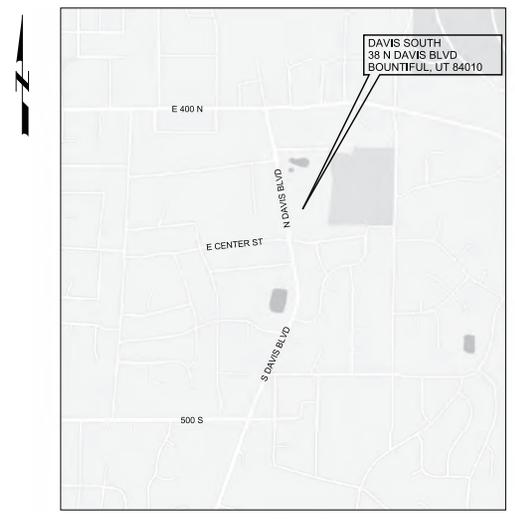
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User: rrp/PW  
Model: Layout1 - ColorTable: gtabcolor.ctb  
Design/Script: Carolla\_Site\_Plan\_0905.dwg  
PlotScale: 1:1  
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# WEBER BASIN WATER CONSERVANCY DISTRICT

## DAVIS SOUTH WATER TREATMENT PLANT PAC FEED PROJECT

FINAL BID SET  
FEBRUARY 2022  
VOLUME 2 OF 2



JOB NO.	201237
DRAWING NO.	G01
SHEET NO.	1 OF 46

Plot Date: 22-FEB-2023 11:09:55 AM  
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BW BUTT WELD B&SP BELL AND SPIGOT BF BARBED FITTING CF COMPRESSION FITTING CI CAST IRON CISP CAST IRON SOIL PIPE CL CLASS, FOLLOWED BY DESIGNATION CM CEMENT MORTAR CTP COAL TAR PITCH DIP DUCTILE IRON PIPE DWV DRAIN, WASTE AND VENT FL FLANGE FRP FIBERGLASS PIPE GA GAUGE, PRECEDED BY THE DESIGNATION GE GROOVED END PIPE GSP GALVANIZED STEEL PIPE MJ MECHANICAL JOINT MDPE MEDIUM PRESSURE POLYETHENE NPS NOMINAL PIPE SIZE, FOLLOWED BY THE NUMBER N INCHES PE POLYETHYLENE PVC POLYVINYL CHLORIDE R&B&SP RESTRAINED BELL AND SPIGOT RMJ RESTRAINED MECHANICAL JOINT SCH SCHEDULE, FOLLOWED BY THE DESIGNATION SCRD SCREWED-ON/THREADED SST STAINLESS STEEL SW SOLVENT WELD WLD WELD																																																																																																																																																																																																																																									
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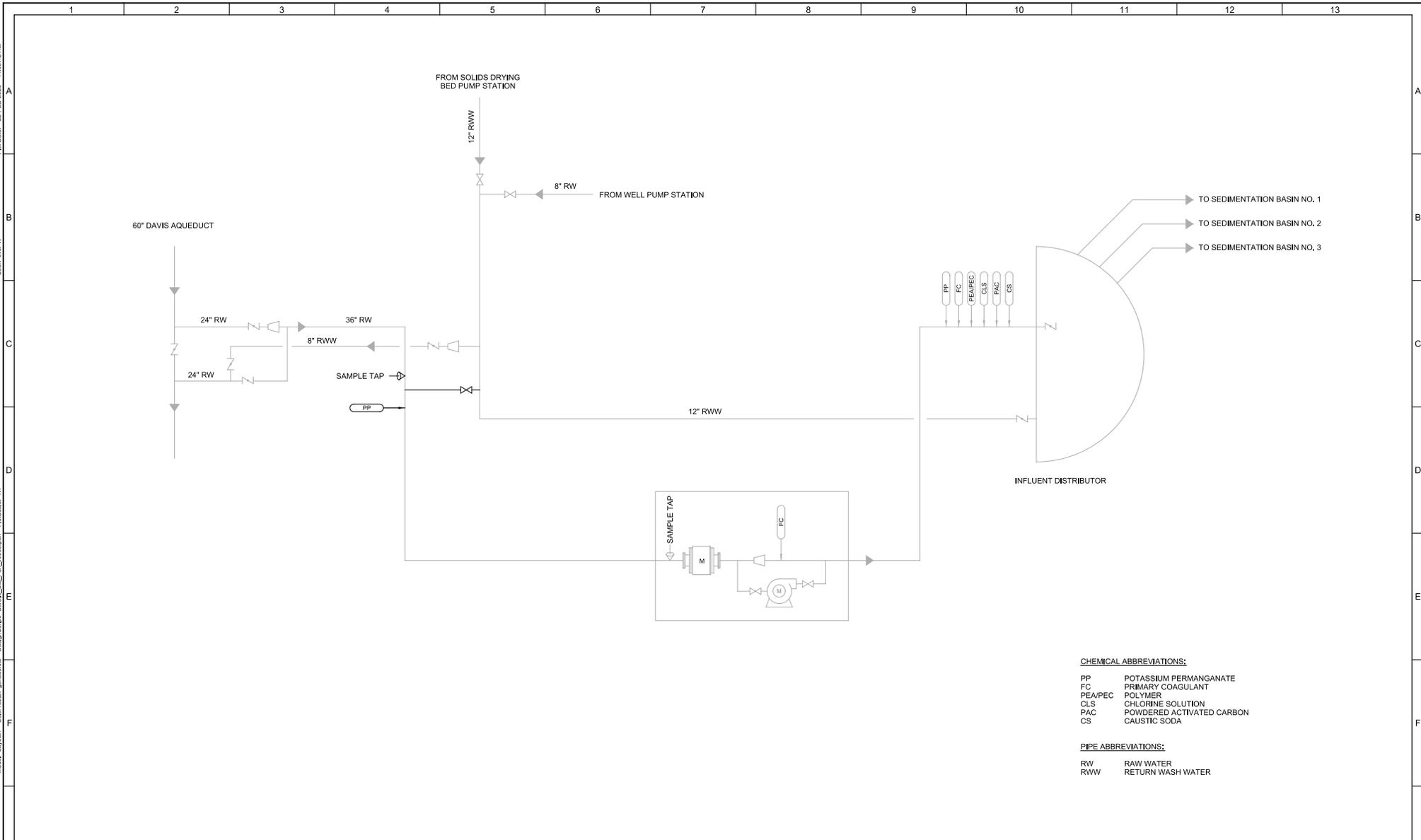


**WEBER BASIN CONSERVANCY DISTRICT**  
**DAVIS SOUTH WTP PAC FEED PROJECT**  
 GENERAL  
**DRAWING INDEX, DESIGN CRITERIA AND PIPE SCHEDULE**

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 201237 DRAWING NO. <b>G02</b> SHEET NO. 2 OF 46
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**CHEMICAL ABBREVIATIONS:**

PP POTASSIUM PERMANGANATE  
 FC PRIMARY COAGULANT  
 PEA/PEC POLYMER  
 CLS CHLORINE SOLUTION  
 PAC POWDERED ACTIVATED CARBON  
 CS CAUSTIC SODA

**PIPE ABBREVIATIONS:**

RW RAW WATER  
 RWW RETURN WASH WATER

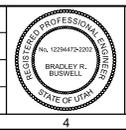
REV	DATE	BY	DESCRIPTION

DESIGNED  
BRB

DRAWN  
MM

CHECKED  
CRKJ

DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 GENERAL  
 RAW WATER PROCESS FLOW DIAGRAM

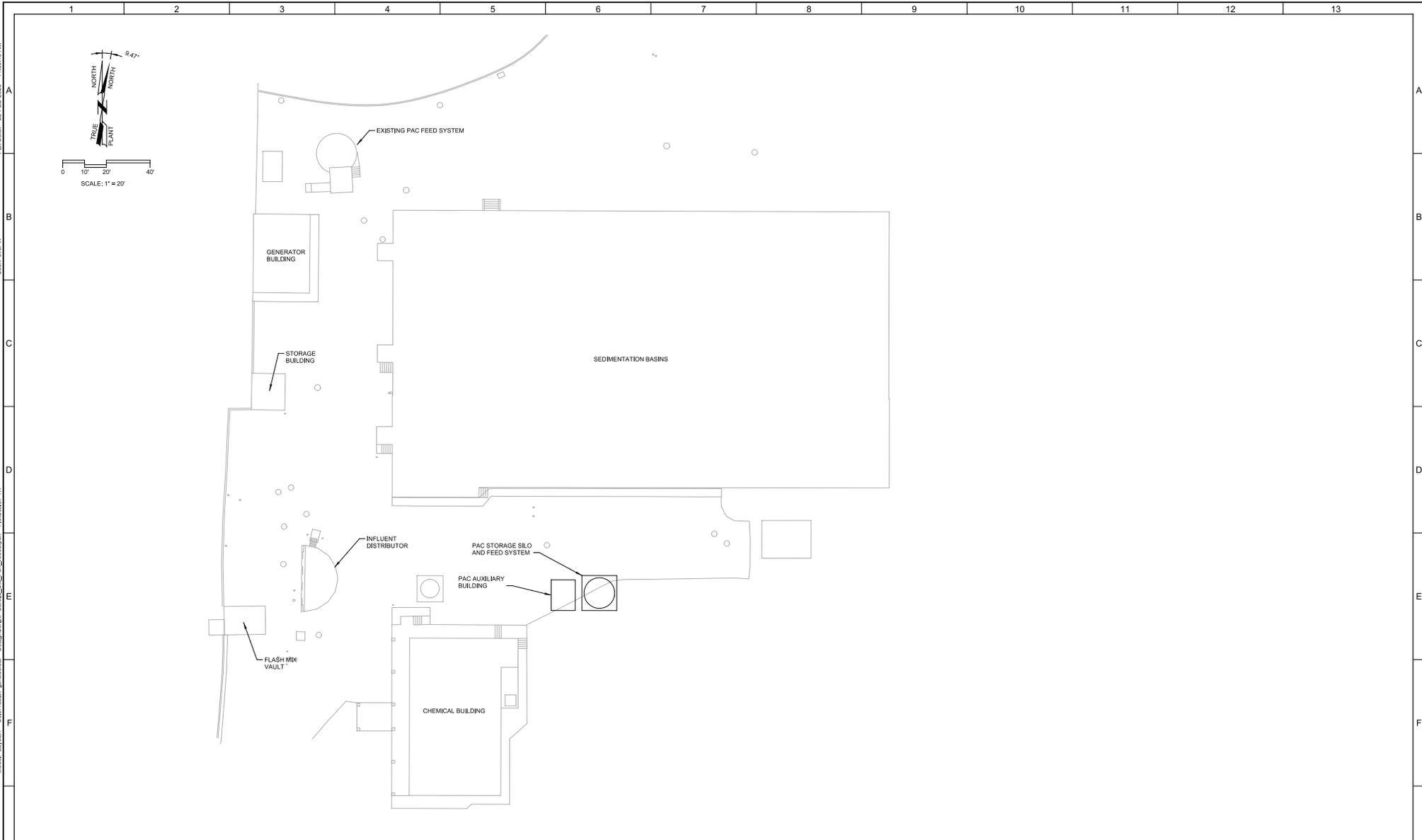
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. G05
	SHEET NO. 5 OF 46

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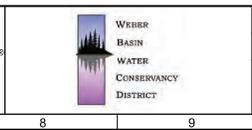
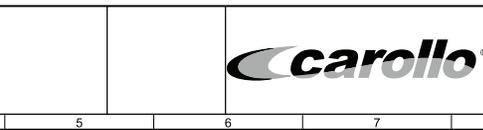
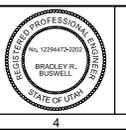
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LAST SAVED BY: rmoonts



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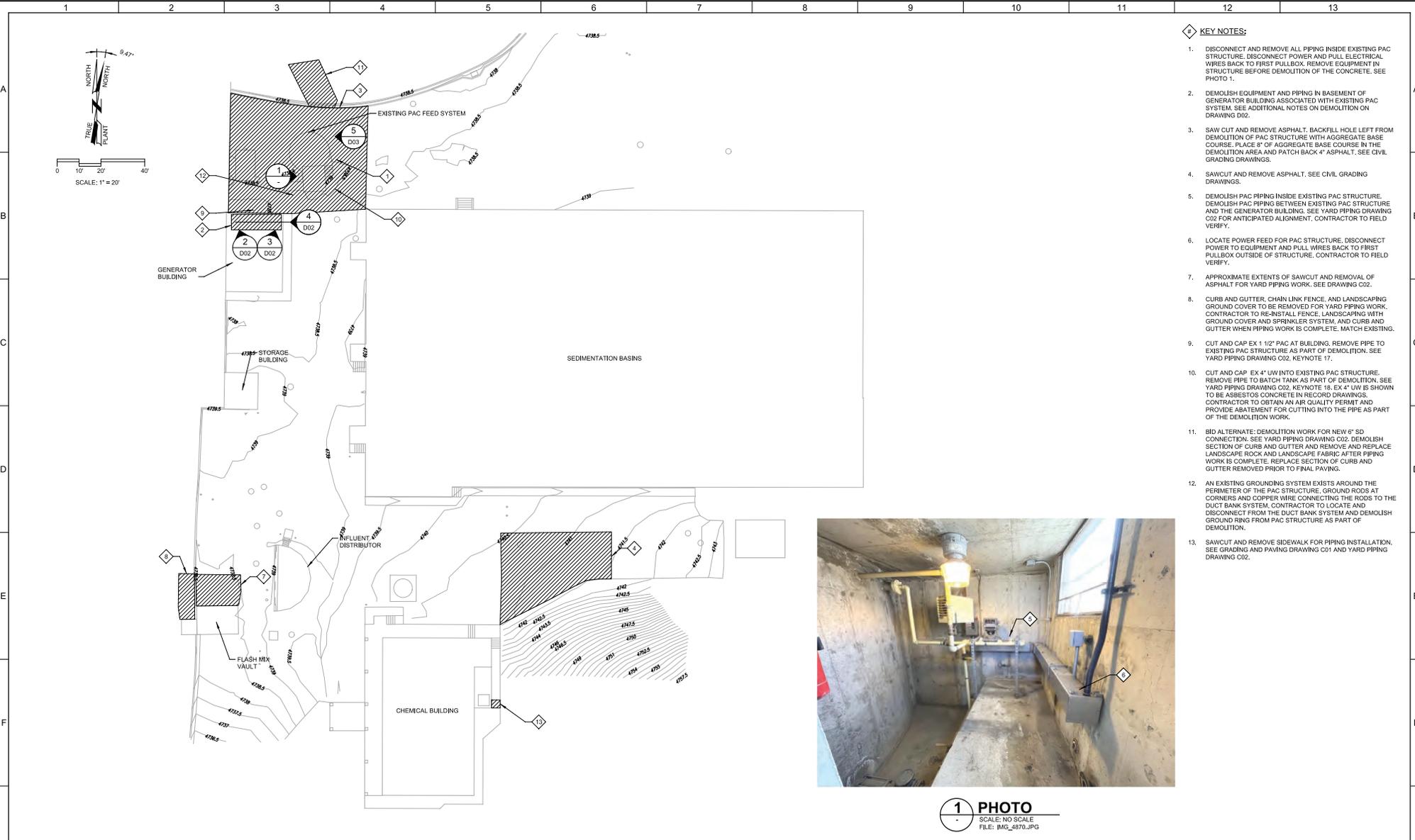
DESIGNED  
BRB  
DRAWN  
MM  
CHECKED  
CRKJ  
DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
GENERAL  
OVERALL SITE PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING	JOB NO. 201237
0 1"	DRAWING NO. G06
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	SHEET NO. 6 OF 46

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 LAST SAVED BY: rmo/mh



- KEY NOTES:**
- DISCONNECT AND REMOVE ALL PIPING INSIDE EXISTING PAC STRUCTURE. DISCONNECT POWER AND PULL ELECTRICAL WIRES BACK TO FIRST PULLBOX. REMOVE EQUIPMENT IN STRUCTURE BEFORE DEMOLITION OF THE CONCRETE. SEE PHOTO 1.
  - DEMOLISH EQUIPMENT AND PIPING IN BASEMENT OF GENERATOR BUILDING ASSOCIATED WITH EXISTING PAC SYSTEM. SEE ADDITIONAL NOTES ON DEMOLITION ON DRAWING D02.
  - SAW CUT AND REMOVE ASPHALT. BACKFILL HOLE LEFT FROM DEMOLITION OF PAC STRUCTURE WITH AGGREGATE BASE COURSE. PLACE 8" OF AGGREGATE BASE COURSE IN THE DEMOLITION AREA AND PATCH BACK 4" ASPHALT. SEE CIVIL GRADING DRAWINGS.
  - SAWCUT AND REMOVE ASPHALT. SEE CIVIL GRADING DRAWINGS.
  - DEMOLISH PAC PIPING INSIDE EXISTING PAC STRUCTURE. DEMOLISH PAC PIPING BETWEEN EXISTING PAC STRUCTURE AND THE GENERATOR BUILDING. SEE YARD PIPING DRAWING C02 FOR ANTICIPATED ALIGNMENT. CONTRACTOR TO FIELD VERIFY.
  - LOCATE POWER FEED FOR PAC STRUCTURE. DISCONNECT POWER TO EQUIPMENT AND PULL WIRES BACK TO FIRST PULLBOX OUTSIDE OF STRUCTURE. CONTRACTOR TO FIELD VERIFY.
  - APPROXIMATE EXTENTS OF SAWCUT AND REMOVAL OF ASPHALT FOR YARD PIPING WORK. SEE DRAWING C02.
  - CURB AND GUTTER, CHAIN LINK FENCE, AND LANDSCAPING GROUND COVER TO BE REMOVED FOR YARD PIPING WORK. CONTRACTOR TO RE-INSTALL FENCE, LANDSCAPING WITH GROUND COVER AND SPRINKLER SYSTEM, AND CURB AND GUTTER WHEN PIPING WORK IS COMPLETE. MATCH EXISTING.
  - CUT AND CAP EX 1 1/2" PAC AT BUILDING. REMOVE PIPE TO EXISTING PAC STRUCTURE AS PART OF DEMOLITION. SEE YARD PIPING DRAWING C02, KEYNOTE 17.
  - CUT AND CAP EX 4" UW INTO EXISTING PAC STRUCTURE. REMOVE PIPE TO BATCH TANK AS PART OF DEMOLITION. SEE YARD PIPING DRAWING C02, KEYNOTE 18. EX 4" UW IS SHOWN TO BE ASBESTOS CONCRETE IN RECORD DRAWINGS. CONTRACTOR TO OBTAIN AN AIR QUALITY PERMIT AND PROVIDE ABATEMENT FOR CUTTING INTO THE PIPE AS PART OF THE DEMOLITION WORK.
  - BID ALTERNATE: DEMOLITION WORK FOR NEW 6" SD CONNECTION. SEE YARD PIPING DRAWING C02. DEMOLISH SECTION OF CURB AND GUTTER AND REMOVE AND REPLACE LANDSCAPE ROCK AND LANDSCAPE FABRIC AFTER PIPING WORK IS COMPLETE. REPLACE SECTION OF CURB AND GUTTER REMOVED PRIOR TO FINAL PAVING.
  - AN EXISTING GROUNDING SYSTEM EXISTS AROUND THE PERIMETER OF THE PAC STRUCTURE. GROUND RODS AT CORNERS AND COPPER WIRE CONNECTING THE RODS TO THE DUCT BANK SYSTEM. CONTRACTOR TO LOCATE AND DISCONNECT FROM THE DUCT BANK SYSTEM AND DEMOLISH GROUND RING FROM PAC STRUCTURE AS PART OF DEMOLITION.
  - SAWCUT AND REMOVE SIDEWALK FOR PAVING INSTALLATION. SEE GRADING AND PAVING DRAWING C01 AND YARD PIPING DRAWING C02.



**1 PHOTO**  
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REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED: JCB  
 DRAWN: MM  
 CHECKED: CRKJ  
 DATE: FEBRUARY 2023

WEBER  
 BASIN  
 WATER  
 CONSERVANCY  
 DISTRICT

**WEBER BASIN CONSERVANCY DISTRICT**  
**DAVIS SOUTH WTP PAC FEED PROJECT**  
 DEMOLITION  
**SITE PLAN**

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON SCALES ACCORDINGLY	JOB NO. 201237 DRAWING NO. <b>D01</b> SHEET NO. 7 OF 46
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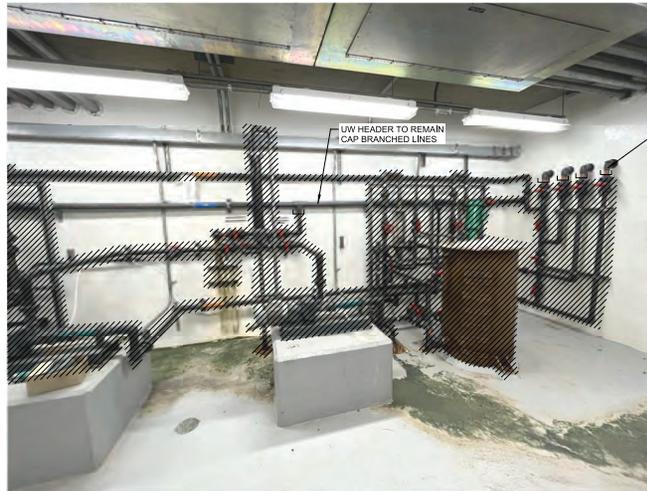
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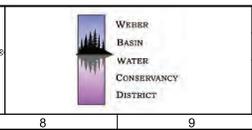
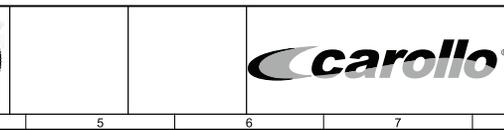
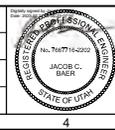


**4 PHOTO**  
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- GENERAL NOTES:**
1. REMOVE ALL PIPING, TANKS, PUMPS AND APPURTENANCES ASSOCIATED WITH THE EXISTING PAC SYSTEM, CAP PIPES AT EXTERIOR WALL. SEE CIVIL AND DEMO DRAWINGS. DISCONNECT WATER FROM UW HEADER AND CAP CONNECTIONS. LEAVE THE UW HEADER IN PLACE.
  2. DISCONNECT ELECTRICAL CONNECTIONS AT JUNCTION BOXES AND ABANDON WIRES IN WIREWAY, WIREWAY TO REMAIN IN PLACE.

REV	DATE	BY	DESCRIPTION

DESIGNED  
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CHECKED  
CRKJ  
DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
DEMOLITION  
PHOTOS

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. D02
	SHEET NO. 8 OF 46

Plot Date: 22-FEB-2023 11:04:38 AM

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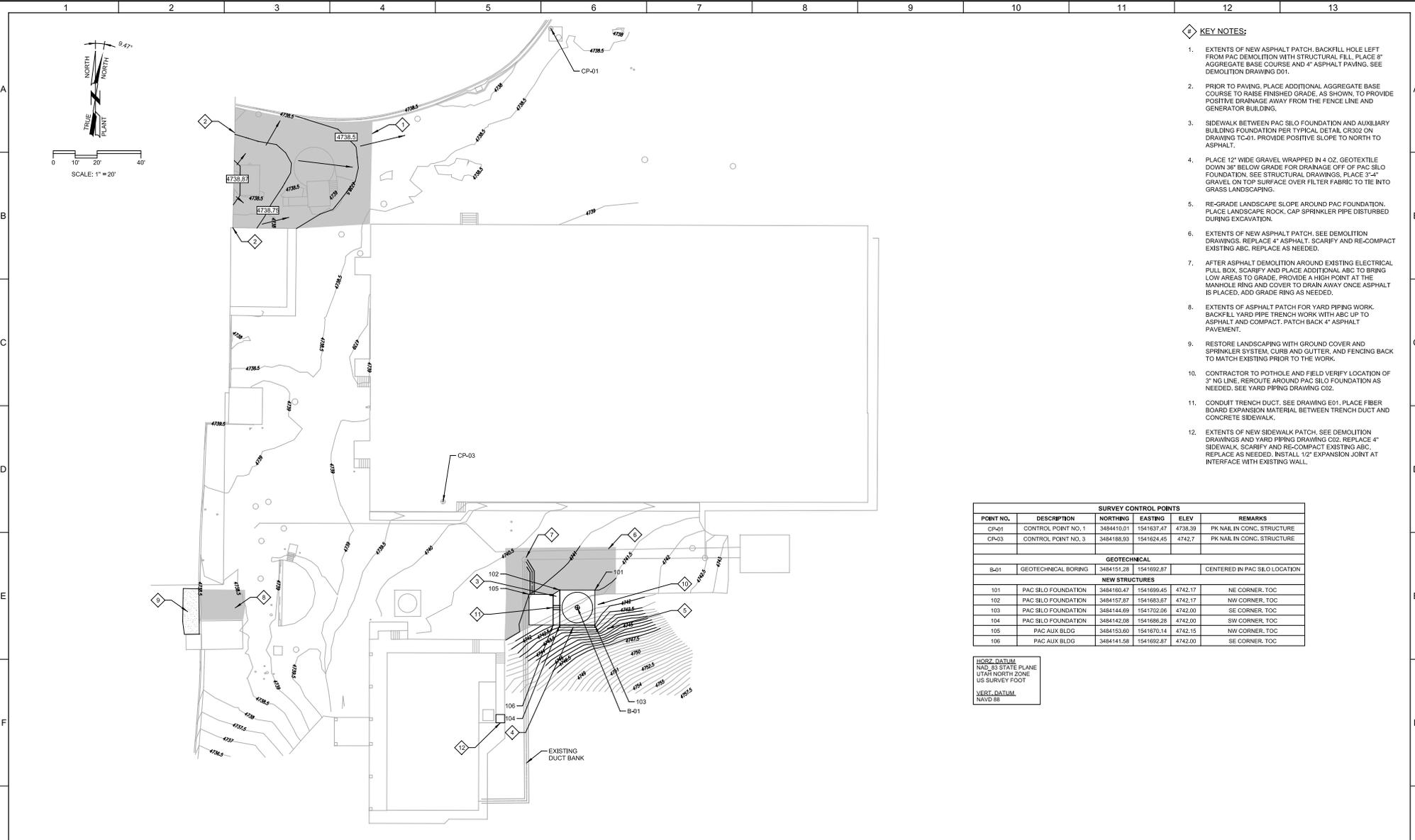
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D	<p><b>5 PHOTO</b> SCALE: NO SCALE FILE: D03_PHOTO 5</p> <p><b>GENERAL NOTES:</b></p> <ol style="list-style-type: none"> <li>CONTRACTOR SHALL DEMOLISH EXISTING PAC STRUCTURE INCLUDING THE CMU STORAGE BUILDING, CONCRETE STAIRS, BASEMENT LEVEL, AND CARBON TANK. CONTRACTOR SHALL DEMOLISH MECHANICAL MINING EQUIPMENT, ELECTRICAL AND MECHANICAL IN THE BASEMENT OF EXISTING PAC STRUCTURE. ALL PIPING WITHIN THE STRUCTURE, AND SOME YARD PIPING. SEE YARD PIPING PLANS.</li> <li>EXISTING STRUCTURE RECORD DRAWINGS ARE SHOWN FOR REFERENCE. CONTRACTOR TO FIELD VERIFY.</li> </ol> <p><b>KEY NOTES:</b></p> <ol style="list-style-type: none"> <li>CONTRACTOR TO TEST THE BLOCK FILL IN THE CMU OVER THE PAC BUILDING FOR HAZARDOUS MATERIALS, INCLUDING ASBESTOS. IF FOUND, OBTAIN AN AIR QUALITY PERMIT FROM THE STATE AND PROVIDE ABATEMENT AS PART OF THE DEMOLITION.</li> <li>DEMOLISH 8" STEEL DRAIN PIPE UP TO EXISTING FLANGE. CONTRACTOR SHALL INSTALL BLIND FLANGE OR OTHERWISE CAP 8" DRAIN PIPE AT OR BEFORE THE EXISTING FLANGE. THE EXISTING 8" ASBESTOS CEMENT PIPE SHALL BE PROTECTED IN PLACE AND SHALL REMAIN IN SERVICE.</li> </ol>											D																																																												
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G	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> </tr> <tr> <td style="text-align: center;">DESIGNED JCB</td> <td rowspan="3" style="text-align: center;"> </td> <td style="text-align: center;">DRAWN MM</td> <td colspan="10" style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> <b>WEBER BASIN CONSERVANCY DISTRICT</b>  <b>DAVIS SOUTH WTP PAC FEED PROJECT</b>  <b>DEMOLITION</b>  <b>DETAILS</b> </td> <td style="text-align: center;"> <b>VERIFY SCALES</b>          BAR IS ONE INCH ON ORIGINAL DRAWING           IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY       </td> <td style="text-align: center;">         JOB NO. 201237          DRAWING NO. <b>D03</b>          SHEET NO. 9 OF 46       </td> </tr> <tr> <td style="text-align: center;">CHECKED KMP</td> <td style="text-align: center;">DATE FEBRUARY 2023</td> <td colspan="10"></td> <td style="text-align: center;">         PROJECT NO. 201237-100000    FILE NAME: 20123700D03.dgn       </td> <td style="text-align: center;">         Bountiful City          Amended Planning Commission Packet          February 06, 2024       </td> <td style="text-align: center;">         Page 23 of 70       </td> </tr> <tr> <td style="text-align: center;">REV</td> <td style="text-align: center;">DATE</td> <td style="text-align: center;">BY</td> <td style="text-align: center;">DESCRIPTION</td> <td colspan="9"></td> <td colspan="2"></td> </tr> </table>																								DESIGNED JCB		DRAWN MM												<b>WEBER BASIN CONSERVANCY DISTRICT</b> <b>DAVIS SOUTH WTP PAC FEED PROJECT</b> <b>DEMOLITION</b> <b>DETAILS</b>	<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	JOB NO. 201237 DRAWING NO. <b>D03</b> SHEET NO. 9 OF 46	CHECKED KMP	DATE FEBRUARY 2023											PROJECT NO. 201237-100000    FILE NAME: 20123700D03.dgn	Bountiful City Amended Planning Commission Packet February 06, 2024	Page 23 of 70	REV	DATE	BY	DESCRIPTION												G
DESIGNED JCB													DRAWN MM												<b>WEBER BASIN CONSERVANCY DISTRICT</b> <b>DAVIS SOUTH WTP PAC FEED PROJECT</b> <b>DEMOLITION</b> <b>DETAILS</b>		<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	JOB NO. 201237 DRAWING NO. <b>D03</b> SHEET NO. 9 OF 46																																												
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LAST SAVED BY: rmoore



- KEY NOTES:**
- EXTENTS OF NEW ASPHALT PATCH, BACKFILL HOLE LEFT FROM PAC DEMOLITION WITH STRUCTURAL FILL, PLACE 8" AGGREGATE BASE COURSE AND 4" ASPHALT PAVING. SEE DEMOLITION DRAWING D01.
  - PRIOR TO PAVING, PLACE ADDITIONAL AGGREGATE BASE COURSE TO RAISE FINISHED GRADE AS SHOWN, TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE FENCE LINE AND GENERATOR BUILDING.
  - SIDEWALK BETWEEN PAC SILO FOUNDATION AND AUXILIARY BUILDING FOUNDATION PER TYPICAL DETAIL CR302 ON DRAWING TC-01. PROVIDE POSITIVE SLOPE TO NORTH TO ASPHALT.
  - PLACE 12" WIDE GRAVEL WRAPPED IN 4 OZ. GEOTEXTILE DOWN 36" BELOW GRADE FOR DRAINAGE OFF OF PAC SILO FOUNDATION. SEE STRUCTURAL DRAWINGS. PLACE 3"-4" GRAVEL ON TOP SURFACE COVER FILTER FABRIC TO TIE INTO GRASS LANDSCAPING.
  - RE-GRADE LANDSCAPE SLOPE AROUND PAC FOUNDATION. PLACE LANDSCAPE ROCK, CAP SPRINKLER PIPE DISTURBED DURING EXCAVATION.
  - EXTENTS OF NEW ASPHALT PATCH. SEE DEMOLITION DRAWINGS. REPLACE 4" ASPHALT, SCARIFY AND RE-COMPACT EXISTING ABC. REPLACE AS NEEDED.
  - AFTER ASPHALT DEMOLITION AROUND EXISTING ELECTRICAL PULL BOX, SCARIFY AND PLACE ADDITIONAL ABC TO BRING LOW AREAS TO GRADE. PROVIDE A HIGH POINT AT THE MANHOLE RING AND COVER TO DRAIN AWAY ONCE ASPHALT IS PLACED. ADD GRADE RING AS NEEDED.
  - EXTENTS OF ASPHALT PATCH FOR YARD PIPING WORK. BACKFILL YARD PIPE TRENCH WORK WITH ABC UP TO ASPHALT AND COMPACT. PATCH BACK 4" ASPHALT PAVEMENT.
  - RESTORE LANDSCAPING WITH GROUND COVER AND SPRINKLER SYSTEM. CURB AND GUTTER, AND FENCING BACK TO MATCH EXISTING PRIOR TO THE WORK.
  - CONTRACTOR TO POT HOLE AND FIELD VERIFY LOCATION OF 3" NG LINE. REROUTE AROUND PAC SILO FOUNDATION AS NEEDED. SEE YARD PIPING DRAWING C02.
  - CONDUIT TRENCH DUCT. SEE DRAWING E01. PLACE FIBER BOARD EXPANSION MATERIAL BETWEEN TRENCH DUCT AND CONCRETE SIDEWALK.
  - EXTENTS OF NEW SIDEWALK PATCH. SEE DEMOLITION DRAWINGS AND YARD PIPING DRAWING C02. REPLACE 4" SIDEWALK, SCARIFY AND RE-COMPACT EXISTING ABC, REPLACE AS NEEDED. INSTALL 1/2" EXPANSION JOINT AT INTERFACE WITH EXISTING WALL.

SURVEY CONTROL POINTS					
POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV	REMARKS
CP-01	CONTROL POINT NO. 1	3484410.01	1541637.47	4738.39	PK NAIL IN CONC. STRUCTURE
CP-03	CONTROL POINT NO. 3	3484188.93	1541624.45	4742.7	PK NAIL IN CONC. STRUCTURE
GEOTECHNICAL					
B-01	GEOTECHNICAL BORING	3484151.28	1541692.87		CENTERED IN PAC SILO LOCATION
NEW STRUCTURES					
101	PAC SILO FOUNDATION	3484160.47	1541699.45	4742.17	NE CORNER, TOC
102	PAC SILO FOUNDATION	3484157.87	1541683.87	4742.17	NW CORNER, TOC
103	PAC SILO FOUNDATION	3484144.69	1541702.06	4742.00	SE CORNER, TOC
104	PAC SILO FOUNDATION	3484142.08	1541686.28	4742.00	SW CORNER, TOC
105	PAC AUX BLDG	3484153.60	1541670.14	4742.15	NW CORNER, TOC
106	PAC AUX BLDG	3484141.58	1541692.87	4742.00	SE CORNER, TOC

**HORIZ. DATUM**  
NAD 83 STATE PLANE  
UTAH NORTH ZONE  
US SURVEY FOOT

**VERT. DATUM**  
NAVD 88

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED  
JCB

DRAWN  
MM

CHECKED  
CRKJ

DATE  
FEBRUARY 2023

WEBER BASIN CONSERVANCY DISTRICT

DAVIS SOUTH WTP PAC FEED PROJECT

CIVIL

GRADING AND PAVING PLAN

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.  
201237

DRAWING NO.  
C01

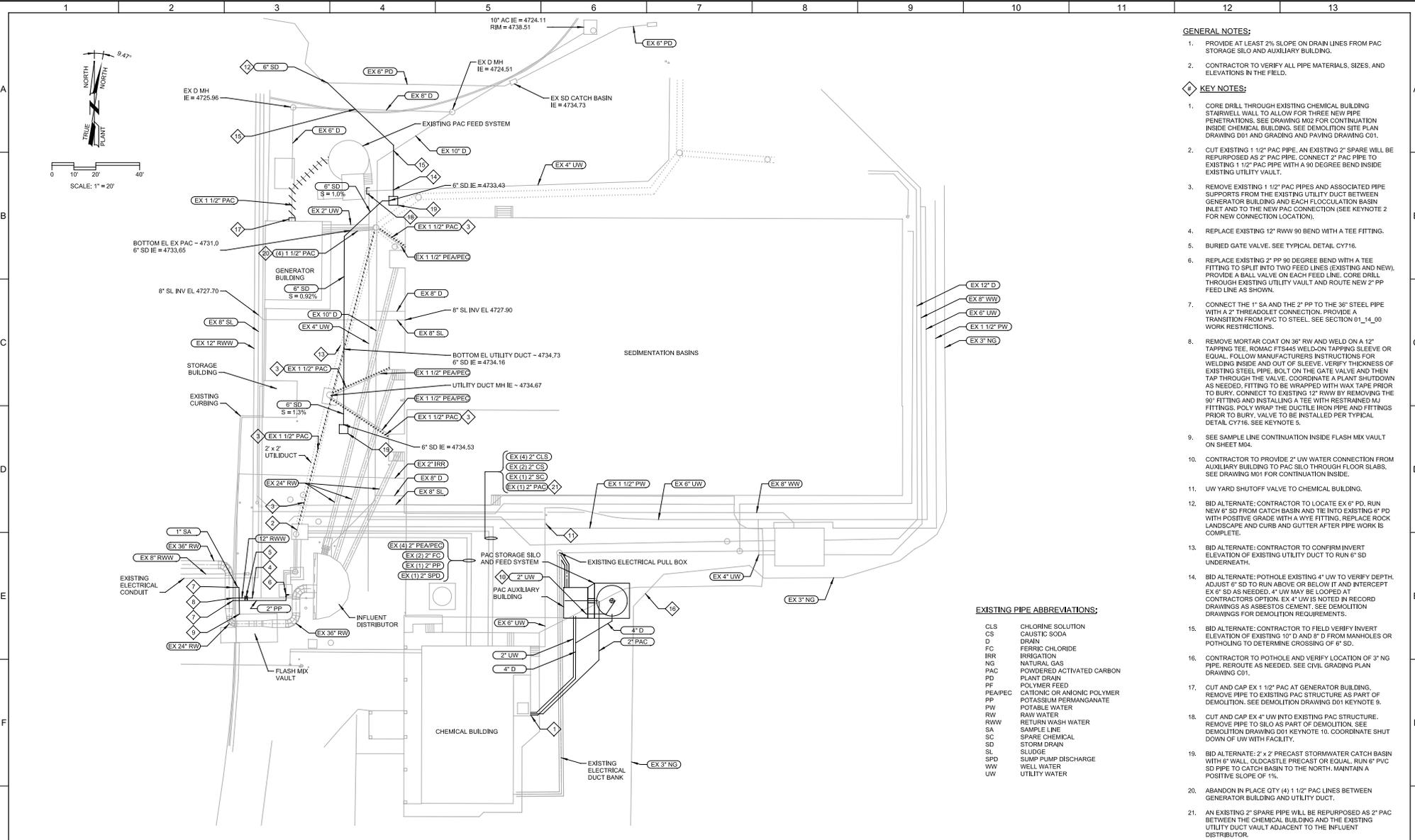
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LAST SAVED BY: rmo/mtb



- GENERAL NOTES:**
1. PROVIDE AT LEAST 2% SLOPE ON DRAIN LINES FROM PAC STORAGE SILO AND AUXILIARY BUILDING.
  2. CONTRACTOR TO VERIFY ALL PIPE MATERIALS, SIZES, AND ELEVATIONS IN THE FIELD.
- KEY NOTES:**
1. CORE DRILL THROUGH EXISTING CHEMICAL BUILDING STAIRWELL WALL TO ALLOW FOR THREE NEW PIPE PENETRATIONS. SEE DRAWING M02 FOR CONTINUATION INSIDE CHEMICAL BUILDING. SEE DEMOLITION SITE PLAN DRAWING D01 AND GRADING AND PAVING DRAWING C01.
  2. CUT EXISTING 1 1/2" PAC PIPE. AN EXISTING 2" SPARE WILL BE REPURPOSED AS 2" PAC PIPE. CONNECT 2" PAC PIPE TO EXISTING 1 1/2" PAC PIPE WITH A 90 DEGREE BEND INSIDE EXISTING UTILITY VAULT.
  3. REMOVE EXISTING 1 1/2" PAC PIPES AND ASSOCIATED PIPE SUPPORTS FROM THE EXISTING UTILITY DUCT BETWEEN GENERATOR BUILDING AND EACH FLOCCULATION BASIN INLET AND TO THE NEW PAC CONNECTION (SEE KEYNOTE 2 FOR NEW CONNECTION LOCATION).
  4. REPLACE EXISTING 12" RWW 90 BEND WITH A TEE FITTING.
  5. BURIED GATE VALVE. SEE TYPICAL DETAIL CY716.
  6. REPLACE EXISTING 2" PP 90 DEGREE BEND WITH A TEE FITTING TO SPLIT INTO TWO FEED LINES (EXISTING AND NEW). PROVIDE A BALL VALVE ON EACH FEED LINE. CORE DRILL THROUGH EXISTING UTILITY VAULT AND ROUTE NEW 2" PP FEED LINE AS SHOWN.
  7. CONNECT THE 1" SA AND THE 2" PP TO THE 36" STEEL PIPE WITH A 2" THREADOLET CONNECTION. PROVIDE A TRANSITION FROM PVC TO STEEL. SEE SECTION 01\_14\_00 WORK RESTRICTIONS.
  8. REMOVE MORTAR COAT ON 36" RW AND WELD ON A 12" TAPPING TEE, ROMAC FTS45 WELD-ON TAPPING SLEEVE OR EQUAL. FOLLOW MANUFACTURERS INSTRUCTIONS FOR WELDING INSIDE AND OUT OF SLEEVE. VERIFY THICKNESS OF EXISTING STEEL PIPE. BOLT ON THE GATE VALVE AND THEN TAP THROUGH THE VALVE. COORDINATE A PLANT SHUTDOWN AS NEEDED. FITTING TO BE WRAPPED WITH WAX TAPE PRIOR TO BURY. CONNECT TO EXISTING 12" RWW BY REMOVING THE 90° FITTING AND INSTALLING A TEE WITH RESTRAINED MJ FITTINGS. POLY WRAP THE UTILITY IRON PIPE AND FITTINGS PRIOR TO BURY. VALVE TO BE INSTALLED PER TYPICAL DETAIL CY716. SEE KEYNOTE 5.
  9. SEE SAMPLE LINE CONTINUATION INSIDE FLASH MIX VAULT ON SHEET M04.
  10. CONTRACTOR TO PROVIDE 2" UW WATER CONNECTION FROM AUXILIARY BUILDING TO PAC SILO THROUGH FLOOR SLABS. SEE DRAWING M01 FOR CONTINUATION INSIDE.
  11. UW YARD SHUTOFF VALVE TO CHEMICAL BUILDING.
  12. BID ALTERNATE: CONTRACTOR TO LOCATE EX 6" PD. RUN NEW 6" SD FROM CATCH BASIN AND TIE INTO EXISTING 6" PD WITH POSITIVE GRADE WITH A WYE FITTING. REPLACE ROCK LANDSCAPE AND CURB AND GUTTER AFTER PIPE WORK IS COMPLETE.
  13. BID ALTERNATE: CONTRACTOR TO CONFIRM INVERT ELEVATION OF EXISTING UTILITY DUCT TO RUN 6" SD UNDERNEATH.
  14. BID ALTERNATE: POTHOLE EXISTING 4" UW TO VERIFY DEPTH. ADJUST 6" SD TO RUN ABOVE OR BELOW IT AND INTERCEPT EX 6" SD AS NEEDED. 4" UW MAY BE LOOPED AT CONTRACTORS OPTION. EX 4" UWS NOTED IN RECORD DRAWINGS AS ASBESTOS CEMENT. SEE DEMOLITION DRAWINGS FOR DEMOLITION REQUIREMENTS.
  15. BID ALTERNATE: CONTRACTOR TO FIELD VERIFY INVERT ELEVATION OF EXISTING 10" D AND 8" D FROM MANHOLES OR POTHOLING TO DETERMINE CROSSING OF 6" SD.
  16. CONTRACTOR TO POTHOLE AND VERIFY LOCATION OF 3" NG PIPE. REROUTE AS NEEDED. SEE CIVIL GRADING PLAN DRAWING C01.
  17. CUT AND CAP EX 1 1/2" PAC AT GENERATOR BUILDING. REMOVE PIPE TO EXISTING PAC STRUCTURE AS PART OF DEMOLITION. SEE DEMOLITION DRAWING D01 KEYNOTE 8.
  18. CUT AND CAP EX 4" UW INTO EXISTING PAC STRUCTURE. REMOVE PIPE TO SILO AS PART OF DEMOLITION. SEE DEMOLITION DRAWING D01 KEYNOTE 10. COORDINATE SHUT DOWN OF UW WITH FACILITY.
  19. BID ALTERNATE: 2" x 2" PRECAST STORMWATER CATCH BASIN WITH 6" WALL, OULDCASTE PRECAST OR EQUAL. RUN 6" PVC SD PIPE TO CATCH BASIN TO THE NORTH. MAINTAIN A POSITIVE SLOPE OF 1%.
  20. ABANDON IN PLACE QTY (4) 1 1/2" PAC LINES BETWEEN GENERATOR BUILDING AND UTILITY DUCT.
  21. AN EXISTING 2" SPARE PIPE WILL BE REPURPOSED AS 2" PAC BETWEEN THE CHEMICAL BUILDING AND THE EXISTING UTILITY DUCT VAULT ADJACENT TO THE INFLUENT DISTRIBUTOR.
- EXISTING PIPE ABBREVIATIONS:**
- |        |                             |
|--------|-----------------------------|
| CLS    | CHLORINE SOLUTION           |
| CS     | CAUSTIC SODA                |
| D      | DRAIN                       |
| FC     | FERRIC CHLORIDE             |
| IRR    | IRRIGATION                  |
| NG     | NATURAL GAS                 |
| PAC    | POWDERED ACTIVATED CARBON   |
| PD     | PLANT DRAIN                 |
| PF     | POLYMER FEED                |
| PEA/PP | CATIONIC OR ANIONIC POLYMER |
| PP     | POTASSIUM PERMANGANATE      |
| PW     | POTABLE WATER               |
| RW     | RAW WATER                   |
| RWW    | RETURN WASH WATER           |
| SA     | SAMPLE LINE                 |
| SC     | SPARE CHEMICAL              |
| SD     | STORM DRAIN                 |
| SL     | SLUDGE                      |
| SPD    | SUMP PUMP DISCHARGE         |
| WW     | WELL WATER                  |
| UW     | UTILITY WATER               |

	DESIGNED JCB				WEBER BASIN CONSERVANCY DISTRICT	VERIFY SCALES	JOB NO. 201237	
	DRAWN MM				CHECKED CRJ	DATE FEBRUARY 2023	DAVIS SOUTH WTP PAC FEED PROJECT	 BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
REV	DATE	BY	DESCRIPTION	YARD PIPING PLAN				SHEET NO. 11 OF 46

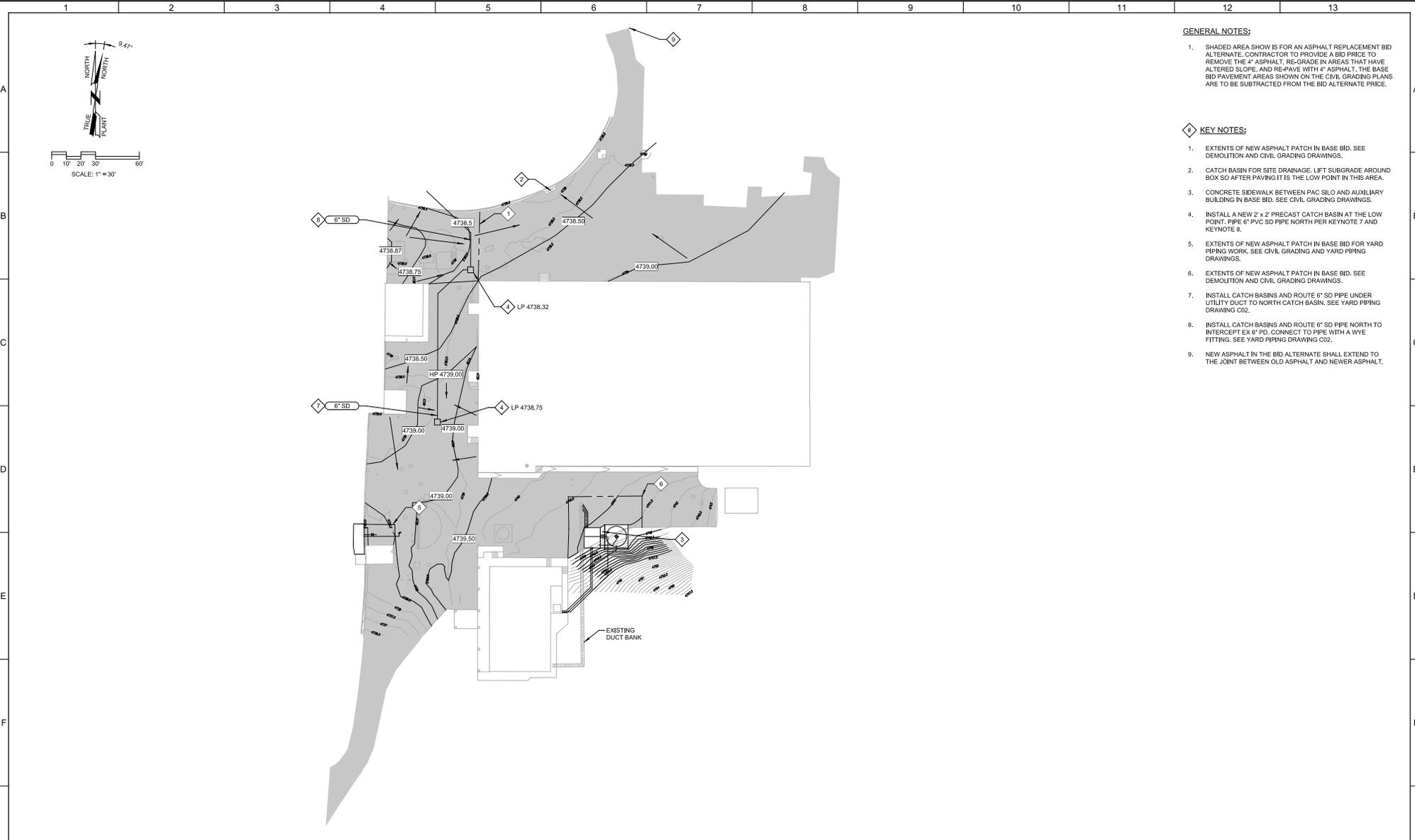
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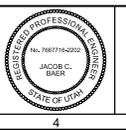
LAST SAVED BY: rmoonts



- GENERAL NOTES:**
1. SHADED AREA SHOW IS FOR AN ASPHALT REPLACEMENT BID ALTERNATE. CONTRACTOR TO PROVIDE A BID PRICE TO REMOVE THE 4" ASPHALT, RE-GRADE IN AREAS THAT HAVE ALTERED SLOPE, AND RESPAVE WITH 4" ASPHALT. THE BASE BID PAVEMENT AREAS SHOWN ON THE CIVIL GRADING PLANS ARE TO BE SUBTRACTED FROM THE BID ALTERNATE PRICE.
- KEY NOTES:**
1. EXTENTS OF NEW ASPHALT PATCH IN BASE BID. SEE DEMOLITION AND CIVIL GRADING DRAWINGS.
  2. CATCH BASIN FOR SITE DRAINAGE. LIFT SUBGRADE AROUND BOX SO AFTER PAVING IT IS THE LOW POINT IN THIS AREA.
  3. CONCRETE SIDEWALK BETWEEN PAC SILO AND AUXILIARY BUILDING IN BASE BID. SEE CIVIL GRADING DRAWINGS.
  4. INSTALL A NEW 2' x 2' PRECAST CATCH BASIN AT THE LOW POINT. PIPE 6" PVC SD PIPE NORTH PER KEYNOTE 7 AND KEYNOTE 8.
  5. EXTENTS OF NEW ASPHALT PATCH IN BASE BID FOR YARD PAVING WORK. SEE CIVIL GRADING AND YARD PAVING DRAWINGS.
  6. EXTENTS OF NEW ASPHALT PATCH IN BASE BID. SEE DEMOLITION AND CIVIL GRADING DRAWINGS.
  7. INSTALL CATCH BASINS AND ROUTE 6" SD PIPE UNDER UTILITY DUCT TO NORTH CATCH BASIN. SEE YARD PAVING DRAWING C02.
  8. INSTALL CATCH BASINS AND ROUTE 6" SD PIPE NORTH TO INTERCEPT EX 6" PD. CONNECT TO PIPE WITH A WYE FITTING. SEE YARD PAVING DRAWINGS C02.
  9. NEW ASPHALT IN THE BID ALTERNATE SHALL EXTEND TO THE JOINT BETWEEN OLD ASPHALT AND NEWER ASPHALT.

REV	DATE	BY	DESCRIPTION

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JCB  
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DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
CIVIL  
ASPHALT REPLACEMENT AND STORMWATER UPGRADES BID ALTERNATE

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. C03
	SHEET NO. 12 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700C03.dwg

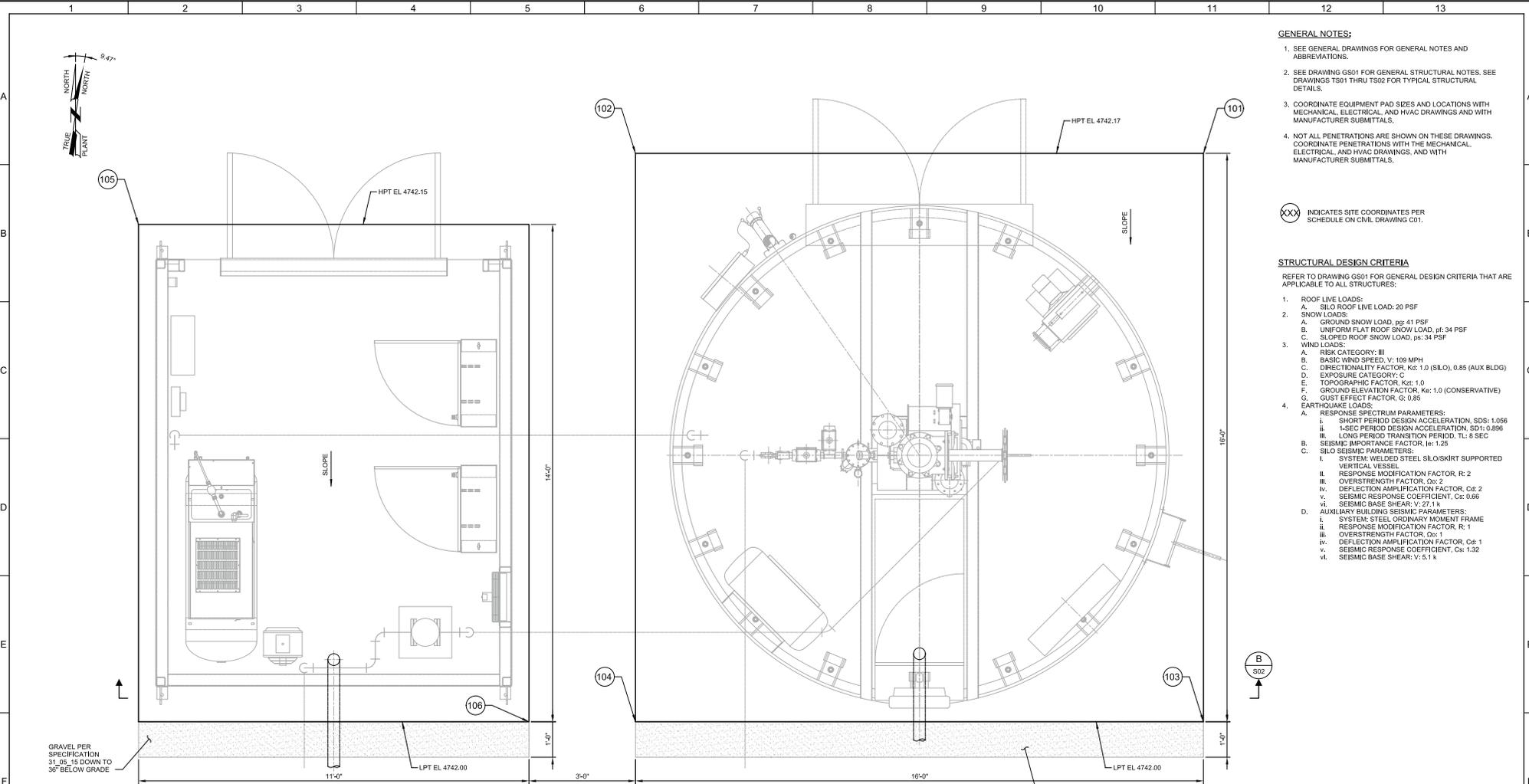


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LAST SAVED BY: rmoore



- GENERAL NOTES:**
- SEE GENERAL DRAWINGS FOR GENERAL NOTES AND ABBREVIATIONS.
  - SEE DRAWING GS01 FOR GENERAL STRUCTURAL NOTES. SEE DRAWINGS TS01 THRU TS02 FOR TYPICAL STRUCTURAL DETAILS.
  - COORDINATE EQUIPMENT PAD SIZES AND LOCATIONS WITH MECHANICAL, ELECTRICAL, AND HVAC DRAWINGS AND WITH MANUFACTURER SUBMITTALS.
  - NOT ALL PENETRATIONS ARE SHOWN ON THESE DRAWINGS. COORDINATE PENETRATIONS WITH THE MECHANICAL, ELECTRICAL, AND HVAC DRAWINGS, AND WITH MANUFACTURER SUBMITTALS.

XXX INDICATES SITE COORDINATES PER SCHEDULE ON CIVIL DRAWING C01.

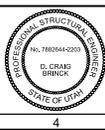
**STRUCTURAL DESIGN CRITERIA**  
REFER TO DRAWING GS01 FOR GENERAL DESIGN CRITERIA THAT ARE APPLICABLE TO ALL STRUCTURES:

- ROOF LIVE LOADS:
  - SILO ROOF LIVE LOAD: 20 PSF
- SNOW LOADS:
  - GROUND SNOW LOAD, ps: 41 PSF
  - UNIFORM FLAT ROOF SNOW LOAD, ps: 34 PSF
  - SLOPED ROOF SNOW LOAD, ps: 34 PSF
- WIND LOADS:
  - RISK CATEGORY: III
  - BASIC WIND SPEED, V: 109 MPH
  - DIRECTIONALITY FACTOR, K<sub>d</sub>: 1.0 (SILO), 0.85 (AUX BLDG)
  - EXPOSURE CATEGORY: C
  - TOPOGRAPHIC FACTOR, K<sub>e</sub>: 1.0
  - GROUND ELEVATION FACTOR, K<sub>g</sub>: 1.0 (CONSERVATIVE)
  - GUST EFFECT FACTOR, G: 0.85
- EARTHQUAKE LOADS:
  - RESPONSE SPECTRUM PARAMETERS:
    - SHORT PERIOD DESIGN ACCELERATION, SDS: 1.05g
    - 1-SEC PERIOD DESIGN ACCELERATION, SD1: 0.89g
    - LONG PERIOD TRANSITION PERIOD, TL: 8 SEC
  - SEISMIC IMPORTANCE FACTOR, I<sub>e</sub>: 1.25
  - SILO SEISMIC PARAMETERS:
    - SYSTEM: WELDED STEEL SILO/SKIRT SUPPORTED VERTICAL VESSEL
    - RESPONSE MODIFICATION FACTOR, R: 2
    - OVERSTRENGTH FACTOR, Ω<sub>o</sub>: 2
    - DEFLECTION AMPLIFICATION FACTOR, C<sub>d</sub>: 2
    - SEISMIC RESPONSE COEFFICIENT, C<sub>s</sub>: 0.66
    - SEISMIC BASE SHEAR, V: 27.1 k
  - AUXILIARY BUILDING SEISMIC PARAMETERS:
    - SYSTEM: STEEL ORDINARY MOMENT FRAME
    - RESPONSE MODIFICATION FACTOR, R: 1
    - OVERSTRENGTH FACTOR, Ω<sub>o</sub>: 1
    - DEFLECTION AMPLIFICATION FACTOR, C<sub>d</sub>: 1
    - SEISMIC RESPONSE COEFFICIENT, C<sub>s</sub>: 1.32
    - SEISMIC BASE SHEAR, V: 5.1 k

**A PLAN**  
SCALE: 3/4" = 1'-0"  
FILE: 201237008101

REV	DATE	BY	DESCRIPTION
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DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
STRUCTURAL  
PAC SILO AND SUPPORT BUILDING  
FOUNDATION PLAN

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1'  
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

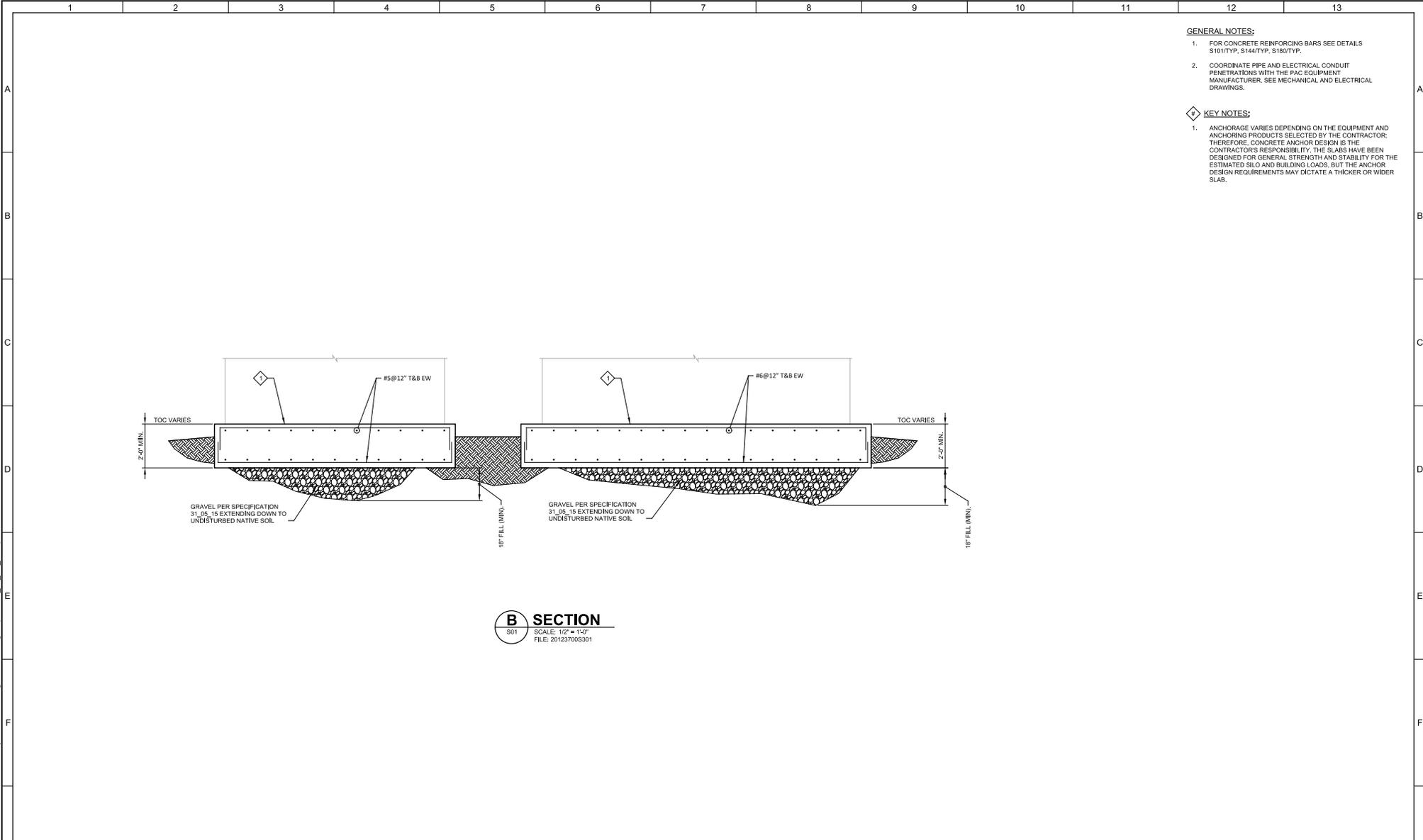
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SHEET NO. 14 OF 46

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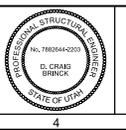


- GENERAL NOTES:**
- FOR CONCRETE REINFORCING BARS SEE DETAILS S101/TYP, S144/TYP, S180/TYP.
  - COORDINATE PIPE AND ELECTRICAL CONDUIT PENETRATIONS WITH THE PAC EQUIPMENT MANUFACTURER. SEE MECHANICAL AND ELECTRICAL DRAWINGS.
- KEY NOTES:**
- ANCHORAGE VARIES DEPENDING ON THE EQUIPMENT AND ANCHORING PRODUCTS SELECTED BY THE CONTRACTOR. THEREFORE, CONCRETE ANCHOR DESIGN IS THE CONTRACTOR'S RESPONSIBILITY. THE SLABS HAVE BEEN DESIGNED FOR GENERAL STRENGTH AND STABILITY FOR THE ESTIMATED SILO AND BUILDING LOADS, BUT THE ANCHOR DESIGN REQUIREMENTS MAY DICTATE A THICKER OR WIDER SLAB.

**B SECTION**  
S01  
SCALE: 1/2" = 1'-0"  
FILE: 20123709S301

REV	DATE	BY	DESCRIPTION

DESIGNED	DCB
DRAWN	MM
CHECKED	FF
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT	DAVIS SOUTH WTP PAC FEED PROJECT
STRUCTURAL	
PAC SILO AND SUPPORT BUILDING FOUNDATION SECTION	

VERIFY SCALES	JOB NO.
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IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	S02
	SHEET NO.
	15 OF 46

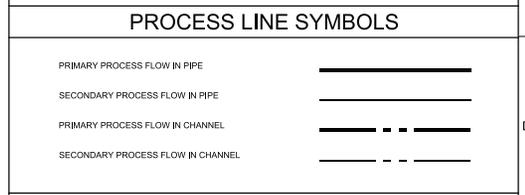
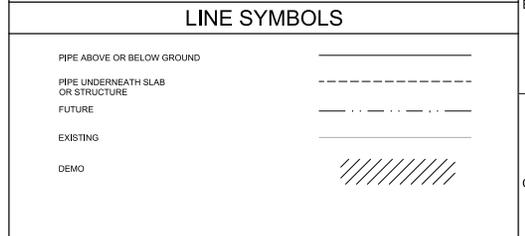
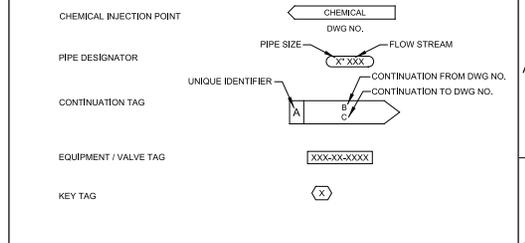
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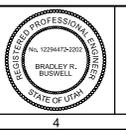
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LAST SAVED BY: mmoore

PIPING SYMBOLS			MECHANICAL SYMBOLS			IDENTIFICATION SYMBOLS				
DOUBLE LINE	SINGLE LINE	DESCRIPTION	DOUBLE LINE	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	<p>CHEMICAL INJECTION POINT</p> <p>PIPE DESIGNATOR</p> <p>CONTINUATION TAG</p> <p>EQUIPMENT / VALVE TAG</p> <p>KEY TAG</p>
		WELDED JOINT			GATE VALVE		AIR OR CHEMICAL DIFFUSER		STRAINER: WYE TYPE WITH BLOWOFF	<p>PIPE SIZE: X"XXX</p> <p>UNIQUE IDENTIFIER: A B C</p> <p>CHEMICAL: CHEMICAL DWG NO.</p> <p>FLOW STREAM</p> <p>CONTINUATION FROM DWG NO.</p> <p>CONTINUATION TO DWG NO.</p>
		GROOVED END JOINT			KNIFE GATE VALVE		QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING		THERMOMETER	
		FLANGED JOINT			BUTTERFLY VALVE		BATCHMETER		VALVE: ANGLE	
		HUB & SPIGOT JOINT (RUBBER GASKET)			CHARACTERIZED BALL CONTROL VALVE		AIR VENT		VALVE: AIR RELIEF	
		PUSH-ON JOINT (RESTRAINED)			BALL VALVE		BASKET STRAINER		VALVE: CONE	
		ADAPTER SIDE GROOVED END ADAPTER FLANGE			GLOBE VALVE		BLOWER		VALVE: FLAPPER CHECK	
		FLANGED COUPLING ADAPTER			3-WAY VALVE		CALIBRATION COLUMN		VALVE: FOUR WAY	
		FLANGED COUPLING ADAPTER WITH THRUST TIES			2-WAY GLOBE TYPE MIXING VALVE		COMPRESSOR/TURBINE		VALVE: HOSE	
		FLEXIBLE COUPLING			4-WAY VALVE		COMPRESSOR/RECIPROCATING		VALVE: PLUG CONCENTRIC	
		FLEXIBLE COUPLING WITH THRUST TIES			DIAPHRAGM VALVE		DIAPHRAGM SEAL		VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR	
		METAL BELLOW'S EXP JOINT			PLUG VALVE		DRAIN		VALVE: TELESCOPING	
		ELASTOMER BELLOW'S EXP JOINT			LUBRICATED PLUG VALVE		EJECTOR OR EDUCTOR		VALVE: THREE WAY AIR OPERATED	
		FLEXIBLE COUPLING ADAPTER			LUBRICATED CONCENTRIC PLUG VALVE		ELECTRIC MOTOR		VALVE: THREE WAY MOTOR OPERATED	
		EXPANSION COMPENSATOR			SWING CHECK VALVE		EQUIPMENT DRAIN		VALVE: THREE WAY SOLENOID OPERATED	
		ELBOW UP			WAFER CHECK VALVE		EXPANSION JOINT FLEXIBLE VIBRATION JOINT		VALVE: VACUUM	
		ELBOW DOWN			PINCH VALVE		FAN: EXHAUST/SUPPLY		BACKPRESSURE REGULATOR SELF-CONTAINED	
		TEE UP			BALL CHECK VALVE		FILTER		BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP	
		TEE DOWN			DUAL CHECK VALVE		FIRE HYDRANT		PRESSURE-REDUCING REGULATOR: SELF-CONTAINED	
		LATERAL UP			SILENT CHECK VALVE		FLAME ARRESTER		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		LATERAL DOWN			MUD VALVE (PLAN VIEW)		FLAME ARRESTER WITH THERMALLY OPERATED VALVE		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		CONCENTRIC REDUCER			NEEDLE VALVE		FLOOR DRAIN		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ECCENTRIC REDUCER (FOT, FOB)			CHECK BACKFLOW PREVENTER		FLOW SWITCH		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		UNION			PIPE MATERIAL CHANGE		GAUGE: PRESSURE		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		CAP			FLOAT VALVE		GAUGE: DIFFERENTIAL PRESSURE		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ANCHOR			3-WAY PLUG VALVE		WEIR		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ELBOW, 90 DEGREE			BALL V-NOTCH VALVE		MIXER		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		CROSS			PUMP DISCHARGE		OIL OR MOISTURE TRAP		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		TEE					PRIMARY LEVEL ELEMENT: BUBBLER		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ELBOW, 45 DEGREE					PRIMARY LEVEL ELEMENT: ELECTRODE		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ELBOW, 22.5 DEGREE					PRIMARY LEVEL ELEMENT: FLOAT SWITCH		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		ELBOW, 11.25 DEGREE					PRIMARY LEVEL ELEMENT: FLUID		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
		LATERAL					PRIMARY LEVEL ELEMENT: INVERTED COLUMN		PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP	
									SLIDE GATE	
									SLUICE GATE	
									STRAINER: WYE TYPE	



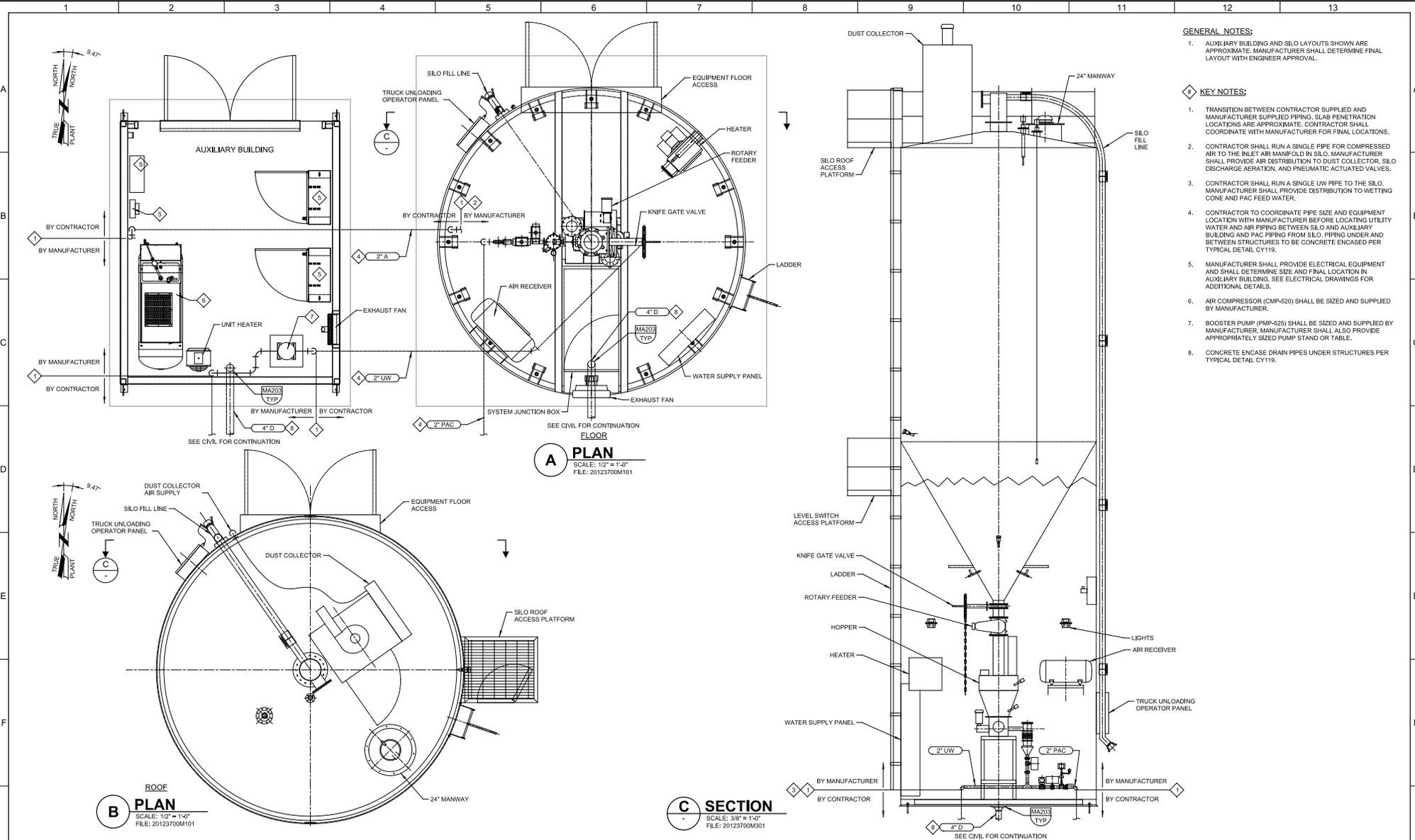
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CHECKED	CRKJ
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 MECHANICAL  
 MECHANICAL LEGEND AND SYMBOLS

VERIFY SCALES	JOB NO. 201237
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. GM01
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	SHEET NO. 16 OF 46

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- GENERAL NOTES:**
- AUXILIARY BUILDING AND SILO LAYOUTS SHOWN ARE APPROXIMATE. MANUFACTURER SHALL DETERMINE FINAL LAYOUT WITH ENGINEER APPROVAL.
- KEY NOTES:**
- TRANSITION BETWEEN CONTRACTOR SUPPLIED AND MANUFACTURER SUPPLIED PIPING, SLAB PENETRATION LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER FOR FINAL LOCATIONS.
  - CONTRACTOR SHALL RUN A SINGLE PIPE FOR COMPRESSED AIR TO THE INLET AIR MANIFOLD IN SILO. MANUFACTURER SHALL PROVIDE AIR DISTRIBUTION TO DUST COLLECTOR, SILO DISCHARGE AERATION, AND PNEUMATIC ACTUATED VALVES.
  - CONTRACTOR SHALL RUN A SINGLE LW PIPE TO THE SILO. MANUFACTURER SHALL PROVIDE DISTRIBUTION TO WETTING CONE AND PAC FEED WATER.
  - CONTRACTOR TO COORDINATE PIPE SIZE AND EQUIPMENT LOCATION WITH MANUFACTURER BEFORE LOCATING UTILITY WATER AND AIR PIPING BETWEEN SILO AND AUXILIARY BUILDING AND PAC PIPING FROM SILO. PIPING UNDER AND BETWEEN STRUCTURES TO BE CONCRETE ENCASED PER TYPICAL DETAIL CY119.
  - MANUFACTURER SHALL PROVIDE ELECTRICAL EQUIPMENT AND SHALL DETERMINE SIZE AND FINAL LOCATION IN AUXILIARY BUILDING. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS.
  - AIR COMPRESSOR (CMP-520) SHALL BE SIZED AND SUPPLIED BY MANUFACTURER.
  - BOOSTER PUMP (PMP-525) SHALL BE SIZED AND SUPPLIED BY MANUFACTURER. MANUFACTURER SHALL ALSO PROVIDE APPROPRIATELY SIZED PUMP STAND OR TABLE.
  - CONCRETE ENCASE DRAIN PIPES UNDER STRUCTURES PER TYPICAL DETAIL CY119.

REV	DATE	BY	DESCRIPTION

DESIGNED  
 BRB  
 DRAWN  
 MM  
 CHECKED  
 CRKJ  
 DATE  
 FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 MECHANICAL  
**PAC FEED SYSTEM  
 PLANS AND SECTION**

**VERIFY SCALES**  
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 DRAWING NO. M01  
 SHEET NO. 17 OF 46

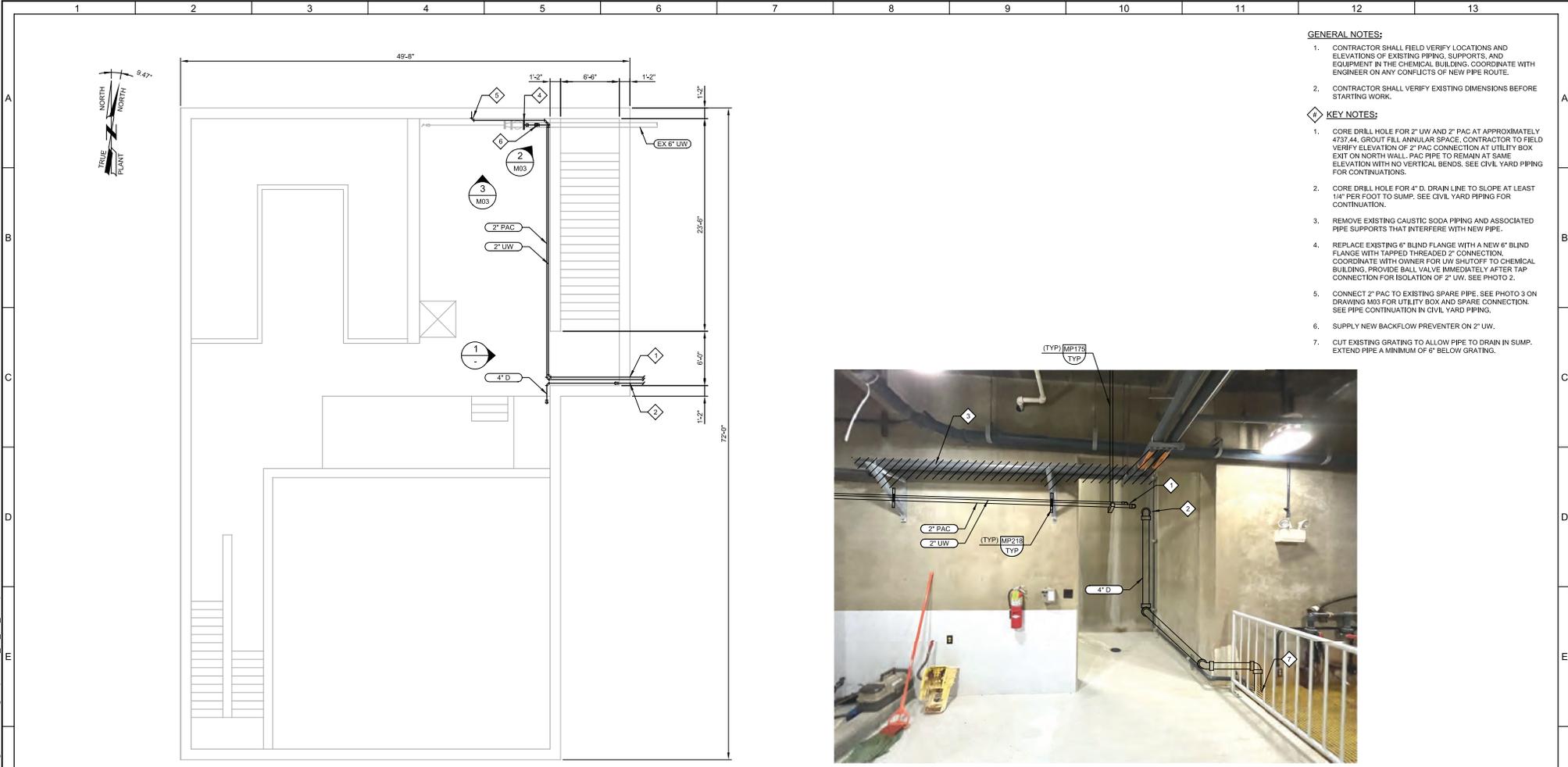
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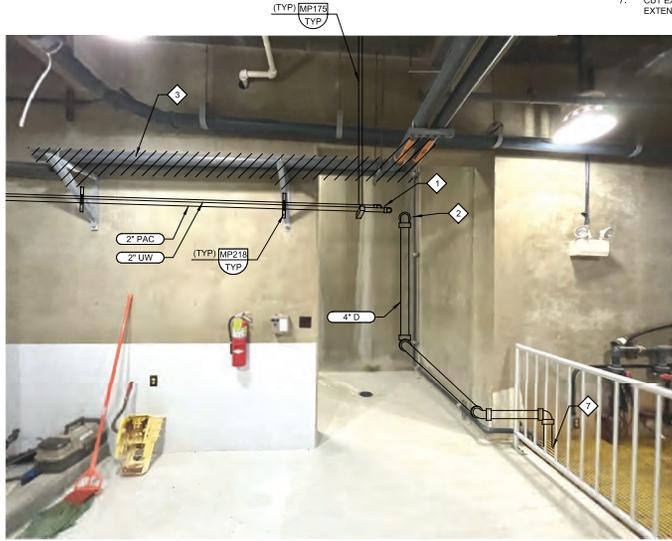
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LAST SAVED BY: rmoonts



- GENERAL NOTES:**
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING PIPING, SUPPORTS, AND EQUIPMENT IN THE CHEMICAL BUILDING. COORDINATE WITH ENGINEER ON ANY CONFLICTS OF NEW PIPE ROUTE.
  - CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS BEFORE STARTING WORK.
- KEY NOTES:**
- CORE DRILL HOLE FOR 2" UW AND 2" PAC AT APPROXIMATELY 4737.44. GROUT FILL ANNULAR SPACE. CONTRACTOR TO FIELD VERIFY ELEVATION OF 2" PAC CONNECTION AT UTILITY BOX. EXIT ON NORTH WALL. PAC PIPE TO REMAIN AT SAME ELEVATION WITH NO VERTICAL BENDS. SEE CIVIL YARD PIPING FOR CONTINUATIONS.
  - CORE DRILL HOLE FOR 4" D. DRAIN LINE TO SLOPE AT LEAST 1/4" PER FOOT TO SUMP. SEE CIVIL YARD PIPING FOR CONTINUATION.
  - REMOVE EXISTING CAUSTIC SODA PIPING AND ASSOCIATED PIPE SUPPORTS THAT INTERFERE WITH NEW PIPE.
  - REPLACE EXISTING 6" BLIND FLANGE WITH A NEW 6" BLIND FLANGE WITH TAPPED THREADED 2" CONNECTION. COORDINATE WITH OWNER FOR UW SHUTOFF TO CHEMICAL BUILDING. PROVIDE BALL VALVE IMMEDIATELY AFTER TAP CONNECTION FOR ISOLATION OF 2" UW. SEE PHOTO 2.
  - CONNECT 2" PAC TO EXISTING SPARE PIPE. SEE PHOTO 3 ON DRAWING M03 FOR UTILITY BOX AND SPARE CONNECTION. SEE PIPE CONTINUATION IN CIVIL YARD PIPING.
  - SUPPLY NEW BACKFLOW PREVENTER ON 2" UW.
  - CUT EXISTING GRATING TO ALLOW PIPE TO DRAIN IN SUMP. EXTEND PIPE A MINIMUM OF 6" BELOW GRATING.

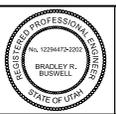


**D PLAN**  
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FILE: 20123700M02110

**1 PHOTO**  
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FILE: 2022-10-24 10:59:00.jpg

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WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
MECHANICAL  
EXISTING CHEMICAL BUILDING  
MODIFICATION PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1' IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	JOB NO. 201237 DRAWING NO. M02 SHEET NO. 18 OF 46
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A

B

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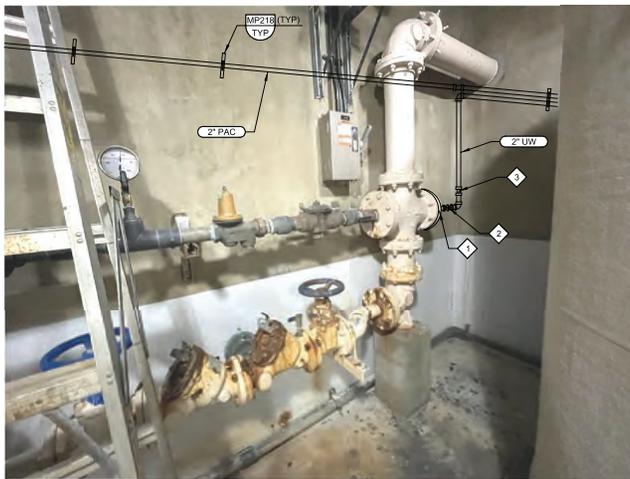
D

E

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- GENERAL NOTES:**
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING PIPING, SUPPORTS, AND EQUIPMENT IN THE CHEMICAL BUILDING. COORDINATE WITH ENGINEER ON ANY CONFLICTS OF NEW PIPE ROUTE.
- KEY NOTES:**
- REPLACE EXISTING 6" BLIND FLANGE WITH A NEW 6" BLIND FLANGE WITH TAPPED THREADED 2" CONNECTION. COORDINATE WITH OWNER FOR UW SHUTOFF TO CHEMICAL BUILDING. PROVIDE BALL VALVE IMMEDIATELY AFTER TAP CONNECTION FOR ISOLATION OF 2" UW.
  - SUPPLY NEW BACKFLOW PREVENTER ON 2" UW.
  - 2" BALL VALVE TO ISOLATE BFP.
  - CONNECT 2" PAC TO EXISTING SPARE STUBBED PIPE.



**2 PHOTO**  
 M02 SCALE: NO SCALE  
 FILE: 2022-10-24 10:56:02.jpg



**3 PHOTO**  
 M02 SCALE: NO SCALE  
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 DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 MECHANICAL  
 EXISTING CHEMICAL BUILDING  
 MODIFICATION DETAILS

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1'  
 IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

JOB NO. 201237  
 DRAWING NO. M03  
 SHEET NO. 19 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700M03.dgn



Plot Date: 22-FEB-2023 2:17:44 PM

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Plot Scale: 1:1

Last Saved By: mmoore

ELECTRICAL PLAN SYMBOLS

### IDENTIFICATION SYMBOLS

**EQUIP #** EQUIPMENT AND INSTRUMENT IDENTIFICATION

**EQUIPMENT/INSTRUMENT LOCATOR**

**LUMINAIRE IDENTIFICATION**  
 a = CIRCUIT DESIGNATION  
 b = DEVICE SWITCHED FROM  
 c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE  
 X = LUMINAIRE TYPE, REFER TO THE LUMINAIRE SCHEDULE

**CONDUIT IDENTIFICATION**  
 XXXX = CONDUIT NUMBER, REFER TO CONDUIT SCHEDULE UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.

INDICATES KEYNOTE X (PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)

DISCONNECT SWITCH  
 A = TYPE, REFER TO DISCONNECT SCHEDULE

CAMERA

### LUMINAIRES

LINEAR FIXTURE

2' X 2' LAY-IN TROFFER

2' X 4' LAY-IN TROFFER

LUMINAIRE POLE MOUNTED

GO-NO-GO PANEL - STROBE AND HORN  
 R = RED LIGHT  
 G = GREEN LIGHT  
 H = HORN

GO-NO-GO PANEL - SOLID

GO-NO-GO PANEL - STROBE

LUMINAIRE, EMERGENCY BATTERY-POWERED

LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED

LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE

LUMINAIRE, SURFACE OR PENDANT MOUNTED

LUMINAIRE, WALL MOUNTED

LUMINAIRE, FLOOD/SPOT

LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED, ARROW POINTS IN DIRECTION OF EGRESS.

### SWITCHES/RECEPTACLES

**S** SINGLE POLE SWITCH  
 a = CIRCUIT DESIGNATION  
 b = DEVICE SWITCHED DESIGNATION  
 c = TYPE

**2** DOUBLE POLE SWITCH  
**3** THREE-WAY SWITCH  
**3P** THREE POSITION SWITCH  
**4** FOUR-WAY SWITCH  
**K** KEY OPERATED SWITCH  
**F** SWITCH AND FUSE/STAT HOLDER  
**P** SWITCH AND PILOT LIGHT  
**T** THERMOSTAT  
**D** DIMMER SWITCH  
**L** LOW VOLTAGE LIGHT SWITCH  
**N** MANUAL MOTOR STARTER  
**N** NETWORKED SINGLE OR MULTIPLE SWITCH LOCATIONS

REFER TO ABBREVIATIONS LEGEND FOR ALL OTHER DESIGNATIONS.

**PE** PHOTOCELL

SWITCH AND SINGLE RECEPTACLE  
 a = CIRCUIT DESIGNATION  
 b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE

QUADRUPLEX RECEPTACLE

IN FLOOR DUPLEX RECEPTACLE

IN FLOOR QUADRUPLEX RECEPTACLE

DUPLEX RECEPTACLE w/SPILT WIRE

DEDICATED RECEPTACLE

SPECIAL PURPOSE RECEPTACLE

WELDING RECEPTACLE  
 a = CIRCUIT DESIGNATION  
 b = DISCONNECT TYPE

TWIST LOCK RECEPTACLE  
 a = AMP RATING

TELEPHONE OUTLET  
 a = CIRCUIT DESIGNATION  
 b = MOUNTING HEIGHT

DATA COMMUNICATIONS OUTLET  
 a = CIRCUIT DESIGNATION  
 b = MOUNTING HEIGHT

### FIRE ALARM

SMOKE DETECTOR  
 I = IONIZATION  
 P = PHOTOELECTRIC  
 d = DUCT DETECTOR

FIRE ALARM CONTROL PANEL

FIRE ALARM PULL STATION

FIRE ALARM HORN/STROBE COMBINATION

FIRE ALARM STROBE

FIRE SPRINKLER  
 F = FLOW SWITCH  
 T = TAMPER SWITCH

### RACEWAY

EXPOSED CONDUIT

BREAK AND CONTINUATION IN CONDUIT RUN

EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES

UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCT BANK

CONDUIT IN SLAB

CONDUIT VERTICAL CHANGE IN DIRECTION

CONDUIT CAP

JUNCTION BOX

CONDUIT SEAL

CONDUIT TEE

DUCT BANK

APPROXIMATE DIMENSIONS SHOWN ON DUCT BANK SECTIONS

### CONDUIT SIZE AND CONDUCTORS

**INDIVIDUAL CONDUCTORS**  
 W/C-(3-X (Ø), 1-Y (N) & 1-Z (G))  
 W/C (WHERE INDICATED); W = CONDUIT TRADE SIZE

3-X (Ø):  
 3 = QUANTITY  
 X = SIZE OF CONDUCTORS  
 (Ø) = DESIGNATES PHASE CONDUCTORS

1-Y (N) (WHERE INDICATED):  
 1 = QUANTITY  
 Y = SIZE OF CONDUCTORS  
 (N) = DESIGNATES NEUTRAL CONDUCTORS

1-Z (G) (WHERE INDICATED):  
 1 = QUANTITY  
 Z = SIZE OF CONDUCTORS  
 (G) = DESIGNATES GROUND CONDUCTORS

U-(3-X (Ø) & 1-X (G))  
 U = NUMBER OF PARALLEL RUNS

**VFD CONDUCTORS**  
 U[(N)-X (Ø) & INTEGRAL (G)](VFD)  
 U = NUMBER OF PARALLEL RUNS  
 N/C = NUMBER OF PHASE CONDUCTORS IN CABLE  
 X = SIZE OF CONDUCTORS  
 VFD = VFD CABLE

**MULTI-CONDUCTOR CABLES**  
 K2/C#16S  
 K (WHERE INDICATED) = NUMBER OF PAIRS  
 2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED, SHIELDED PAIR

K3/C#16S  
 K (WHERE INDICATED) = NUMBER OF TRIPLETS  
 3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS

U[(N)-X (Ø) & INTEGRAL (G)](MC)  
 U = NUMBER OF PARALLEL RUNS  
 MC = MULTI-CONDUCTOR CABLE  
 N/C = NUMBER OF PHASE CONDUCTORS IN THE CABLE  
 X = SIZE OF CONDUCTORS

**FIBER OPTIC CABLES**  
 F/N  
 N = NUMBER OF INDIVIDUAL FIBERS

### GROUNDING

UNDERGROUND GROUND CABLE #40 SDCC UNLESS OTHERWISE NOTED

GROUND ROD

GROUND ROD AND GROUND WELL

### MEDIUM VOLTAGE

CIRCUIT BREAKER, MEDIUM VOLTAGE  
 a = CIRCUIT BREAKER NUMBER  
 b = FRAME SIZE

ANSI RELAY DEVICE  
 a = ANSI DEVICE FUNCTION  
 b = QUANTITY

MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT

MEDIUM VOLTAGE SINGLE FUSE

MEDIUM VOLTAGE DOUBLE FUSE

MEDIUM VOLTAGE LIVE FRONT TERMINATOR

MEDIUM VOLTAGE ELBOW

MEDIUM VOLTAGE TEE

MEDIUM VOLTAGE CONTACTOR

MEDIUM VOLTAGE STARTER

MOV-ELBOW ARRESTER

### LOW VOLTAGE

LOW VOLTAGE CIRCUIT BREAKER  
 a = TYPE  
 b = MOTOR CIRCUIT PROTECTOR  
 TM = THERMAL MAGNETIC  
 SS = SOLID STATE  
 b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)  
 c = NUMBER OF PHASES  
 d = TRIP SETTING (AT = AMP TRIP) (AC = MCP CONTINUOUS RATING)  
 e = DESIGNATION  
 f = INTERRUPTING RATING

LOW VOLTAGE CIRCUIT BREAKER AUXILIARY OPERATOR  
 a = SHUNT TRIP  
 b = GROUND FAULT INTERRUPTER  
 c = SOLENOID KEY RELEASE

DISCONNECT SWITCH  
 A = TYPE, REFER TO DISCONNECT SCHEDULE

FUSED DISCONNECT SWITCH  
 b = TYPE, REFER TO DISCONNECT SCHEDULE  
 c = FUSE RATING

FUSE

COMBINATION STARTER WITH CONTROL, POWER TRANSFORMER  
 a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED  
 b = STARTER TYPE, REFER TO THE SPECIFICATIONS FOR STARTER DEFINITIONS.  
 c = NEMA STARTER SIZE  
 d = OVERLOAD

MOTOR STARTER/DRIVES:  
 a = DEVICE TYPE  
 VFD-6 = 6-PULSE VFD  
 VFD-18 = 18-PULSE VFD  
 VFD-RH = REDUCED HARMONIC VFD (18-PULSE OR ACTIVE FRONT END AS DEFINED IN THE SPECIFICATIONS)  
 RVSS = REDUCED VOLTAGE SOLID STATE STARTER  
 RVAT = REDUCED VOLTAGE AUTO TRANSFORMER  
 a/b = DEVICE WITH BYPASS STARTER, REFER TO THE SPECIFICATIONS

b = INPUT OPTIONS  
 LL = LINE REACTOR  
 PHF = PASSIVE HARMONIC FILTER

c = OUTPUT OPTIONS  
 LR = LOAD REACTOR  
 D/VDI = Dv/dI FILTER  
 SWF = SINE WAVE FILTER

EQUIPMENT ENCLOSURE

### MISCELLANEOUS

MOTOR  
 HP = HORSEPOWER RATING  
 FULL LOAD AMPS AS NOTED

PACKAGED EQUIPMENT  
 LOAD RATING AS INDICATED  
 a = RATED LOAD  
 b = UNIT/HP, KW, KVA AS INDICATED

TRANSFORMER  
 a = DEVICE I.D.  
 b = KVA RATING  
 c = NUMBER OF PHASES  
 d = PRIMARY VOLTAGE  
 e = SECONDARY VOLTAGE  
 fg = CONNECTION TYPE SYMBOL  
 h = IMPEDANCE

GROUNDWYE CONNECTION

DELTA CONNECTION

ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS  
 a = KW/KVA  
 b = VOLTAGE/CONNECTION  
 c = PHASE  
 d = WIRE  
 e = PF

CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK  
 a = QUANTITY  
 b = RATIO

POTENTIAL TRANSFORMER  
 a = QUANTITY  
 b = RATIO  
 c/d = CONNECTION TYPE SYMBOL

SOLID STATE MULTIFUNCTION METER

AMPERE TEST POINT

VOLTAGE TEST POINT

UTILITY METER

LIGHTNING ARRESTER

SURGE PROTECTIVE DEVICE

DRAWOUT CONNECTION

GROUND

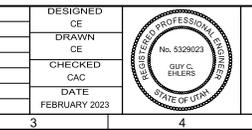
CAPACITOR

BATTERY

KIRK KEY INTERLOCK

LOAD BANK

DESIGNED	CE
DRAWN	CE
CHECKED	CAC
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
**ELECTRICAL LEGEND**

VERIFICATION SCALES	JOB NO. 201237
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. GE01
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	SHEET NO. 21 OF 46

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Design/Sheet: Carullo\_Sst\_Pac\_Fed\_050503.dwg

LAST SAVED BY: rmc003

ABBREVIATIONS					POWER DEVICE FUNCTION NUMBERS								
A	AMP	J	JUNCTION BOX	TACH	TACHOMETER	1	MASTER ELEMENT	83	AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY				
ABS	ABSOLUTE	J	JUNCTION BOX	TB - X	TERMINAL BLOCK - UNIT X	2	TIME-DELAY STARTING OR CLOSING RELAY	84	OPERATING MECHANISM				
AC	ALTERNATING CURRENT	K	KEY INTERLOCK	TC	THERMOCOUPLE / TIME CLOCK / TRAY CABLE	3	CHECKING OR INTERLOCKING RELAY	85	PILOT COMMUNICATIONS, CARRIER OR PILOT-WIRE RELAY				
ACK	ACKNOWLEDGE	KA	KEY LOCK	TD	TEMPERATURE DETECTOR RELAY	4	MASTER CONTROL BREAKER	86	LOCKOUT RELAY				
ACTR	ACTUATOR	KV	KILOVOLT	TE	TOTALLY ENCLOSED	5	STOPPING DEVICE	87	DIFFERENTIAL PROTECTIVE RELAY				
AF	AMP FRAME	KVA	KILOVOLT AMPERE	TEFC	TOTALLY ENCLOSED FAN COOLED	6	STARTING CIRCUIT BREAKER	88	AUXILIARY MOTOR OR MOTOR GENERATOR				
AFC	AUTOMATIC FREQUENCY CONTROL	KVAC	KILOVOLT AMPERE CAPACITY	TENV	TOTALLY ENCLOSED NON-VENTILATED	7	ARREST CIRCUIT BREAKER	89	LINE SWITCH				
AIC	AMP INTERRUPTING CAPACITY	KW	KILOWATT	TERM	TERMINAL	8	CONTROL POWER DISCONNECTING DEVICE	90	REGULATING DEVICE				
AM	AMMETER	KWD	KILOWATT DEMAND	TJB	TERMINAL JUNCTION BOX	9	REVERSING DEVICE	91	VOLTAGE DIRECTIONAL RELAY				
ANN	ANNUNCIATOR	KWH	KILOWATT HOUR	TM	THERMAL MAGNETIC	10	UNIT SEQUENCE SWITCH	92	VOLTAGE AND POWER DIRECTIONAL RELAY				
ANT	ANTENNA	L	LONG-TIME	TP	TWISTED PAIR	11	MULTIFUNCTION DEVICE	93	FIELD-CHANGING CONTACTOR				
APU	AUXILIARY POWER UNIT	LA	LINE-BUS	TSW	TEMPERATURE SWITCH	12	OVER-SPEED DEVICE	94	TRIPPING OR TRIP-FREE RELAY				
ARM	ARMORED CABLE	LG	LINE-GROUND	TSWV	TWO SPEED CONSEQUENT POLE, ONE WINDING	13	SYNCHRONOUS-SPEED DEVICE						
AS	AMMETER SWITCH	LH	LINE-HIGH	TSWV	TWO SPEED SEPARATE WINDING	14	UNDER-SPEED DEVICE						
ASVM	ASYMMETRICAL	LS	LINE-STOP	TSWV	TWO SPEED SEPARATE WINDING	15	SPEED OR FREQUENCY MATCHING DEVICE						
AT	AMP TRIP	LB	LINE-BUS	TSWV	TWO SPEED SEPARATE WINDING	16	DATA COMMUNICATIONS DEVICE						
ATO	AUTOMATIC THROW OVER	LC	LOCAL CONTROL PANEL NO. X	UHF	ULTRA HIGH FREQUENCY	17	SHUNTING OR DISCHARGE SWITCH						
ATP	AMMETER TEST POINT	LCR - X	LOCAL CONTROL PANEL NO. X	UNG	UNGROUNDING	18	ACCELERATING OR DECELERATING DEVICE						
ATS	AUTOMATIC TRANSFER SWITCH	LL	LEAD-LAG LOAD REACTOR	UPS	UNINTERRUPTIBLE POWER SUPPLY	19	STARTING-TO-RUNNING TRANSITION CONTACTOR						
AUTO XFMR	AUTOMATIC TRANSFORMER	LP	LIGHT POLE	UVR	UNDERVOLTAGE RELAY	20	ELECTRICALLY OPERATED VALVE	A	ALARM ONLY				
AUX	AUXILIARY	LP - X	LIGHTING PANEL NO. X	V	VOLT	21	DISTANCE RELAY	B	BUS PROTECTION				
AWG	AMERICAN WIRE GAGE	LTG	LIGHTING	VA	VOLT AMPERE	22	EQUALIZER CIRCUIT BREAKER	G	GROUND FAULT PROTECTION				
B	BELL	LVL	LEVEL	VAR	VARIOMETER	23	TEMPERATURE CONTROL DEVICE		(RELAY CT IN A SYSTEM NEUTRAL CIRCUIT OR GENERATOR PROTECTION)				
BAT	BATTERY	M	MOTOR CONTROLLER NO. X	VCP	VENDOR CONTROL PANEL	24	VOLTS PER HERTZ RELAY	GS	GROUND FAULT PROTECTION				
BFG	BELOW FINISHED GRADE	MA	MILLIAMPERE	VFD	VARIABLE FREQUENCY DRIVE	25	SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE	L	LINE PROTECTION				
BHP	BRAKE HORSEPOWER	MCA	MOTOR CIRCUIT AMPS	VHF	VERY HIGH FREQUENCY	26	APPARATUS THERMAL DEVICE	M	MOTOR PROTECTION				
BKR	BREAKER	MCC - X	MOTOR CIRCUIT CENTER NO. X	VM	VOLTMETER	27	UNDERVOLTAGE RELAY	N	GROUND FAULT PROTECTION				
BRF	BELOW RAISED FLOOR	MCP	MOTOR CIRCUIT PROTECTOR	VP	VAPORPROOF	28	FLAME DETECTOR	N	GROUND FAULT PROTECTION				
C	CONDUIT / CONTINUOUS LOAD	MH	MANHOLE / MOUNTING HEIGHT	VR	VOLTAGE REGULATOR	29	ISOLATING CIRCUIT BREAKER	T	TRANSFORMER PROTECTION				
CB	CIRCUIT BREAKER	MLO	MAN LUGS ONLY	VS	VOLTAGE SWITCH	30	ANNUNCIATOR RELAY	V	VOLTAGE				
CCTV	CLOSED CIRCUIT TELEVISION	MOD	MOTOR OPERATED DAMPER	VT	VOLTAGE TRANSFORMER	31	SEPARATE EXCITATION DEVICE	P	PHASE PROTECTION				
CCW	COUNTER CLOCKWISE	MOV	METAL OXIDE VARISTOR	VTP	VOLTAGE TEST POINT	32	DIRECTIONAL POWER RELAY						
CDT	CIRCUIT	MFR	MOTOR PROTECTION RELAY	W	WATT / WEST	33	POSITION SWITCH						
COAX	COAXIAL CABLE	MISX	MOTOR STARTER NO. X	WT	WATER TIGHT	34	MASTER SEQUENCE DEVICE						
COM	COMMON	MSP	MOTOR STARTING PANEL	WP	WEATHER PROOF	35	BURST-OPERATING OR SLIP-RING SHORT-CIRCUITING DEVICE						
COMM	COMMUNICATION	MTO	MANUAL THROW OVER	XFMR	TRANSFORMER	36	POLARITY DEVICE						
CPT	CONTROL POWER TRANSFORMER	MTR-X	MOTOR NO. X			37	UNDERCURRENT OR UNDERPOWER RELAY						
CR	CONTROLLED RECEPTACLE	MVA	MEGAVOLT AMPERES			38	BEARING PROTECTIVE DEVICE						
CRS	CONTROL SWITCH	MVS	MEDIUM VOLTAGE SWITCH			39	MECHANICAL CONDITION MONITOR						
CT	CURRENT TRANSFORMER	MW	MEGAWATT			40	FIELD RELAY						
CV	CONTROL VALVE	N	NEUTRAL			41	FIELD CIRCUIT BREAKER						
CW	CLOCKWISE / COOL WHITE	NEC	NATIONAL ELECTRICAL CODE			42	RUNNING CIRCUIT BREAKER						
DC	DIRECT CURRENT	NFC	NONMETALLIC FLEXIBLE CONDUIT			43	MANUAL TRANSFER OR SELECTOR DEVICE						
DCS	DISTRIBATED CONTROL SYSTEM	NF	NIGHT LIGHT			44	UNIT SEQUENCE STARTING RELAY						
DCU - X	DISTRIBUTED CONTROL UNIT NO. X	NO	NORMALLY OPEN			45	ABNORMAL ATMOSPHERIC CONDITION MONITOR						
DEMO	DEMOLITION	NP	NAMEPLATE			46	REVERSE-PHASE OR BALANCE CURRENT RELAY						
DISC	DISCONNECT SWITCH	OH	OVERHEAD			47	PHASE-BALANCE OR PHASE-SEQUENCE VOLTAGE RELAY						
DM	DEMAND METER	OL	OVERLOAD RELAY			48	INCOMPLETE SEQUENCE RELAY						
DPDT	DOUBLE POLE DOUBLE THROW	P	POLE			49	MACHINE OR TRANSFORMER THERMAL RELAY						
DPST	DOUBLE POLE SINGLE THROW	PA	PUBLIC ADDRESS			50	INSTANTANEOUS OVERCURRENT RELAY						
DS	DOOR SWITCH	PB	PUSHBUTTON / PULL BOX			51	AC TIME OVERCURRENT RELAY						
EIG	EMERGENCY GENERATOR	PCS	PVC COATED GALVANIZED STEEL CONDUIT			52	AC CIRCUIT BREAKER						
EM	EMERGENCY	PCM	PROCESS CONTROL MODULE			53	FIELD EXCITATION RELAY						
EMT	ELECTRICAL METALLIC TUBING	PE	PHOTOCELL			54	TURNING GEAR ENGAGING DEVICE						
ENCL	ENCLOSURE	PF	POWER FACTOR			55	POWER FACTOR RELAY						
ENG	ENGINE	PFCC	POWER FACTOR CORRECTION CAPACITOR			56	FIELD APPLICATION RELAY						
ENT	ELECTRICAL NON-METALLIC TUBING	PH	PHASE FAILURE RELAY			57	SHORT-CIRCUITING OR GROUNDING DEVICE						
EP	EXPLOSION PROOF	PNL	PANEL			58	RECTIFICATION FAILURE RELAY						
ETM	ELAPSED TIME METER	PPX	POWER PANEL NO. X			59	OVERVOLTAGE RELAY						
F	SUB-FED	PR	PRIMARY			60	VOLTAGE OR CURRENT BALANCE RELAY						
FADP	FIRE ALARM	PT	POTENTIAL TRANSFORMER			61	DENSITY SWITCH OR SENSOR						
FDR	FIRE ALARM CONTROL PANEL	PVC	POLYVINYL CHLORIDE RIGID PLASTIC CONDUIT			62	TIME-DELAY STOPPING OR OPENING RELAY						
FLX	FLEXIBLE CONDUIT	RAC	RIGID ALUMINUM CONDUIT			63	PRESSURE SWITCH						
FO	FIBER OPTIC	RECPT	RECEPTACLE			64	GROUND DETECTOR RELAY						
FR	FIBERGLASS RIGID CONDUIT	REV	REVERSE			65	GOVERNOR						
FREQ	FREQUENCY	RMS	ROOT MEAN SQUARED			66	NOTCHING OR JOGGING DEVICE						
FU	FUSE	RVAT	REDUCED VOLTAGE AUTO TRANSFORMER			67	AC DIRECTIONAL OVERCURRENT RELAY						
FV	SW FUSED SWITCH	RVRN	REDUCED VOLTAGE NON-REVERSING			68	BLOCKING OR OUT OF STEP RELAY						
FWR	FULL VOLTAGE NON-REVERSING	RVSS	REDUCED VOLTAGE SOLID STATE			69	PERMISSIVE CONTROL DEVICE						
FVR	FULL VOLTAGE REVERSING	S	SHIELD / SHORT-TIME SURGE ARRESTER			70	RHEOSTAT						
FW	FORWARD	SC	SHORT CIRCUIT			71	LIQUID LEVEL SWITCH						
G	GROUND / EQUIPMENT GROUND / GROUND FAULT	SDBC	SOFT DRAWN BARE COPPER			72	DC CIRCUIT BREAKER						
GEN	GENERATOR	SFL	SUB FEED LUGS			73	LOAD-RESISTOR CONTACTOR						
GR	GALVANIZED STEEL RIGID CONDUIT	SLT	SEALTIGHT LIQUIDTIGHT FLEXIBLE CONDUIT			74	ALARM RELAY						
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (RECEPTACLE)	SM	SURFACE MOUNTED			75	POSITION CHANGING MECHANISM						
GFI	GROUND FAULT INTERRUPTER (BREAKER)	SP	SINGLE POLE			76	DC OVERCURRENT RELAY						
GFR	GROUND FAULT RELAY	SPD	SURGE PROTECTIVE DEVICE			77	TELEMETERING DEVICE						
H	HOT-LEG	SPOT	SINGLE POLE DOUBLE THROW			78	PHASE-ANGLE MEASURING RELAY						
HF	HIGH FREQUENCY	SPST	SINGLE POLE SINGLE THROW			79	AC RECLOSING RELAY						
HP	HORSEPOWER	SPKR	SPEAKER			80	FLOW SWITCH						
HPS	HIGH PRESSURE SODIUM	SS	SOLID STATE			81	FREQUENCY RELAY						
HR	HOUR	STB	SHORTING TERMINAL BLOCK			82	DC LOAD MEASURING RECLOSING RELAY						
HSTAT	HUMIDISTAT	SW	SWITCH										
HV	HIGH VOLTAGE	SWB	SWITCHBOARD										
HVAC	HEATING/VENTILATION/AIR CONDITIONING	SWGR	SWITCHGEAR										
HZ	HERTZ	SYM	SYMMETRICAL										
I	INSTANTANEOUS / INTERMITTENT LOAD												
IC	INTERRUPTING CAPACITY												
IJB	INSTRUMENT JUNCTION BOX												
IMC	INTERMEDIATE METAL CONDUIT												
INST	INSTANTANEOUS												
INT	INTERLOCK												
INTERCOM	INTERCOMMUNICATION												

**NOTES:**  
 1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
 ELECTRICAL ABBREVIATIONS

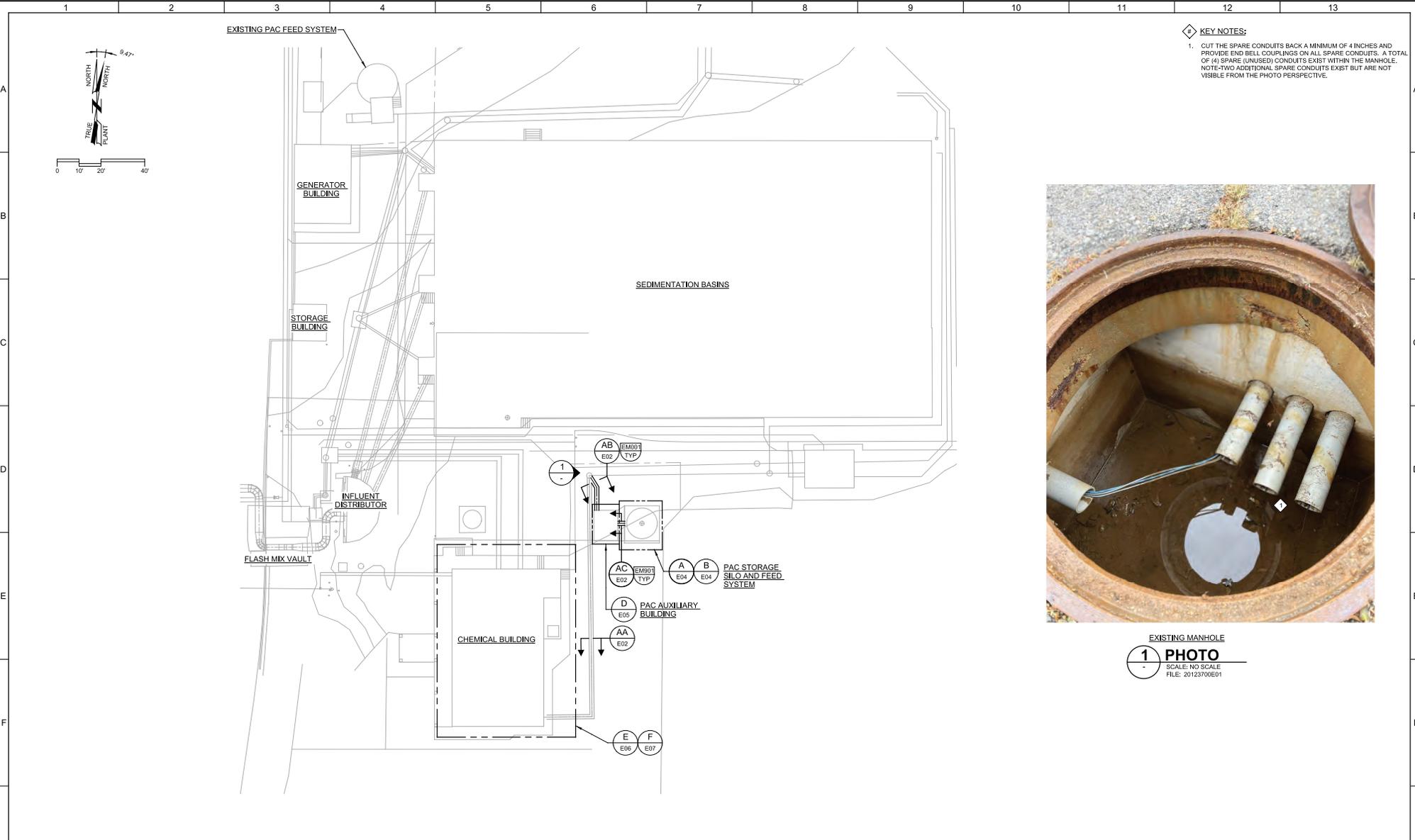
VERIFY SCALES  
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 DRAWING NO. GE02  
 SHEET NO. 22 OF 46

Plot Date: 22-FEB-2023, 21:17:59 PM

User: rtp/PW

Model: Layout - ColorTable: gtdad.ctb; Design/Script: Carollo\_Site\_Plan\_0905.dwg; PlotScale: 1:1

LAST SAVED BY: rmoonts



**KEY NOTES:**

- CUT THE SPARE CONDUITS BACK A MINIMUM OF 4 INCHES AND PROVIDE END BELL COUPLINGS ON ALL SPARE CONDUITS. A TOTAL OF (4) SPARE (UNUSED) CONDUITS EXIST WITHIN THE MANHOLE. NOTE-TWO ADDITIONAL SPARE CONDUITS EXIST BUT ARE NOT VISIBLE FROM THE PHOTO PERSPECTIVE.



**1 PHOTO**  
SCALE: NO SCALE  
FILE: 20123700E01

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED  
GCE  
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MNH  
CHECKED  
CAC  
DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
ELECTRICAL  
OVERALL SITE PLAN

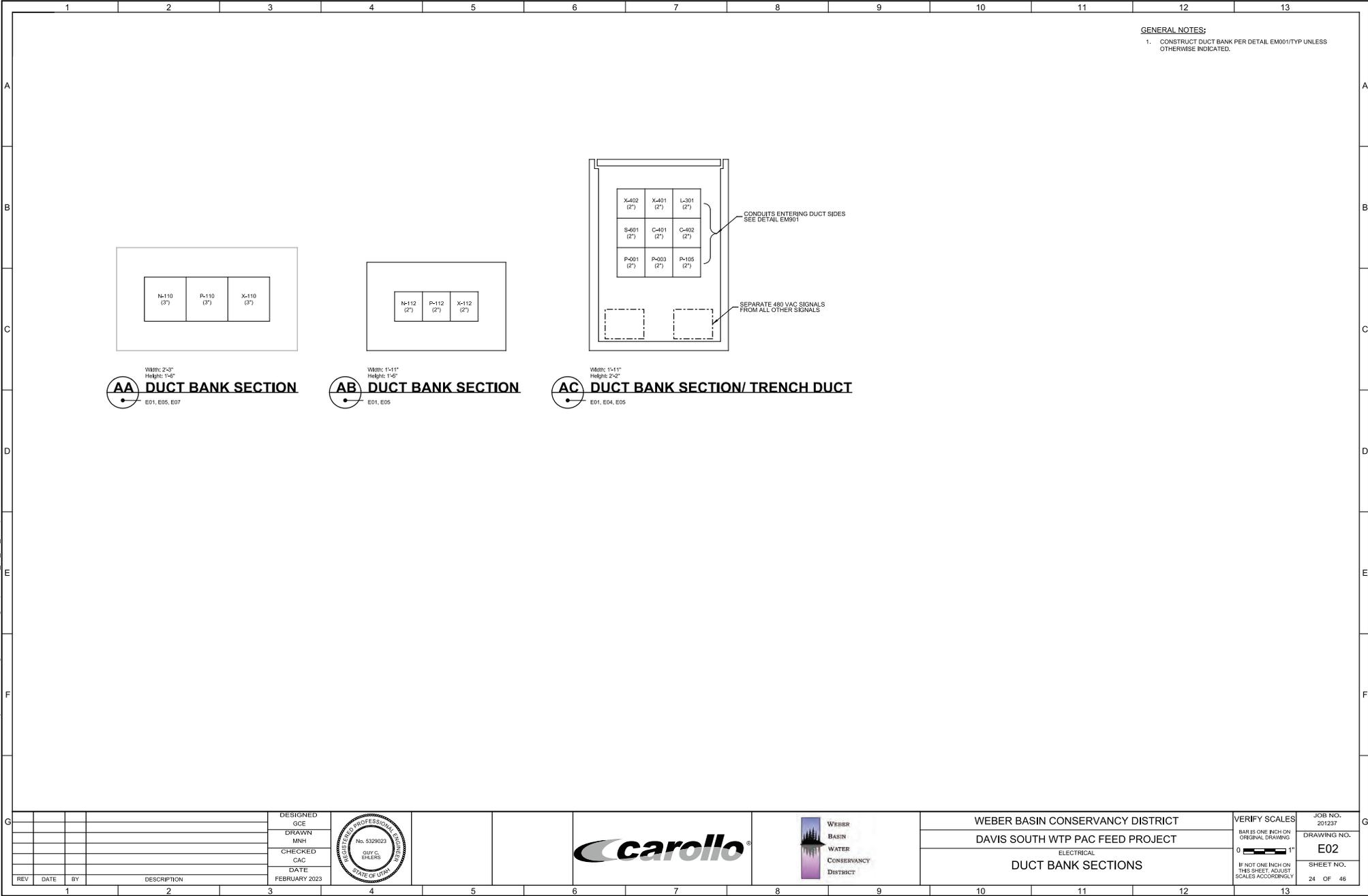
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Plot Date: 22-FEB-2023 2:10:38 PM

User: rrp/PW

Model: Layout - ColorTable.gdb; c:\t\design\script\Carollo\_Sig\_Pac\_Feeds.dwg PlotScale: 1:1

LAST SAVED BY: rmoonts



**GENERAL NOTES:**  
 1. CONSTRUCT DUCT BANK PER DETAIL EM001/TYP UNLESS OTHERWISE INDICATED.

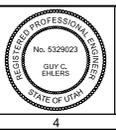
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Height: 1'-6"  
**AA DUCT BANK SECTION**  
 E01, E05, E07

Width: 1'-11"  
Height: 1'-6"  
**AB DUCT BANK SECTION**  
 E01, E05

Width: 1'-11"  
Height: 2'-2"  
**AC DUCT BANK SECTION/ TRENCH DUCT**  
 E01, E04, E05

REV	DATE	BY	DESCRIPTION

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DATE FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
**DUCT BANK SECTIONS**

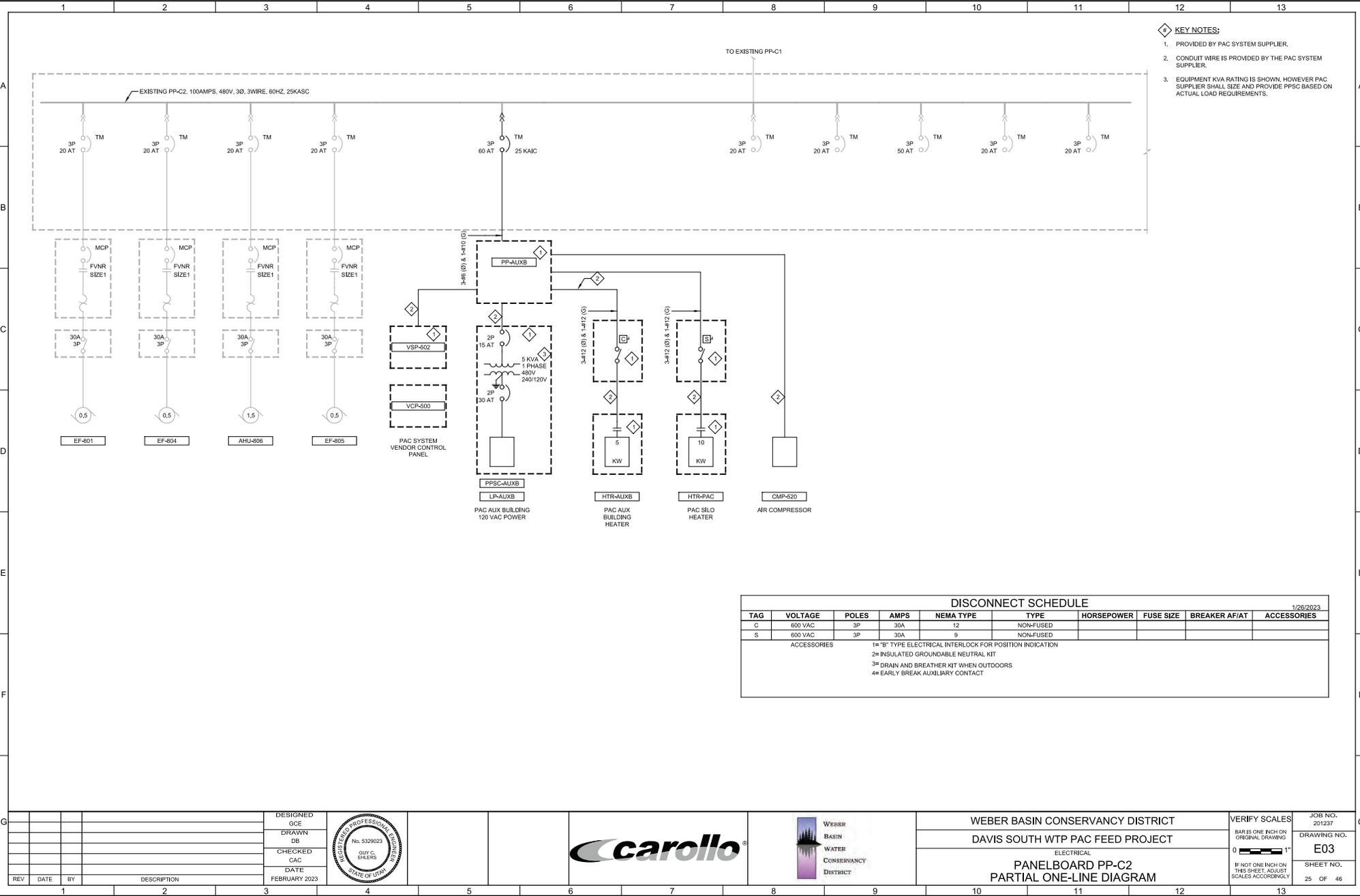
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IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. <b>E02</b>
	SHEET NO. 24 OF 46

Plot Date: 22-FEB-2023 2:17:28 PM

User: rrp/PW

Model: Layout - ColorTable.gdt  
DesignScript: Console\_Site\_Pan\_0905.dgn  
PlotScale: 1:1

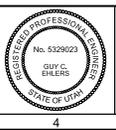
LAST SAVED BY: rrevents



- KEY NOTES:**
- PROVIDED BY PAC SYSTEM SUPPLIER.
  - CONDUIT WIRE IS PROVIDED BY THE PAC SYSTEM SUPPLIER.
  - EQUIPMENT KVA RATING IS SHOWN, HOWEVER PAC SUPPLIER SHALL SIZE AND PROVIDE PPSC BASED ON ACTUAL LOAD REQUIREMENTS.

DISCONNECT SCHEDULE									
TAG	VOLTAGE	POLES	AMPS	NEMA TYPE	TYPE	HORSEPOWER	FUSE SIZE	BREAKER AF/AT	ACCESSORIES
C	600 VAC	3P	30A	12	NON-FUSED				
S	600 VAC	3P	30A	9	NON-FUSED				
ACCESSORIES 1# 1" TYPE ELECTRICAL INTERLOCK FOR POSITION INDICATION 2# INSULATED GROUNDABLE NEUTRAL KIT 3# DRAIN AND BREATHER KIT WHEN OUTDOORS 4# EARLY BREAK AUXILIARY CONTACT									

DESIGNED	GCE
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DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
**PANELBOARD PP-C2**  
 PARTIAL ONE-LINE DIAGRAM

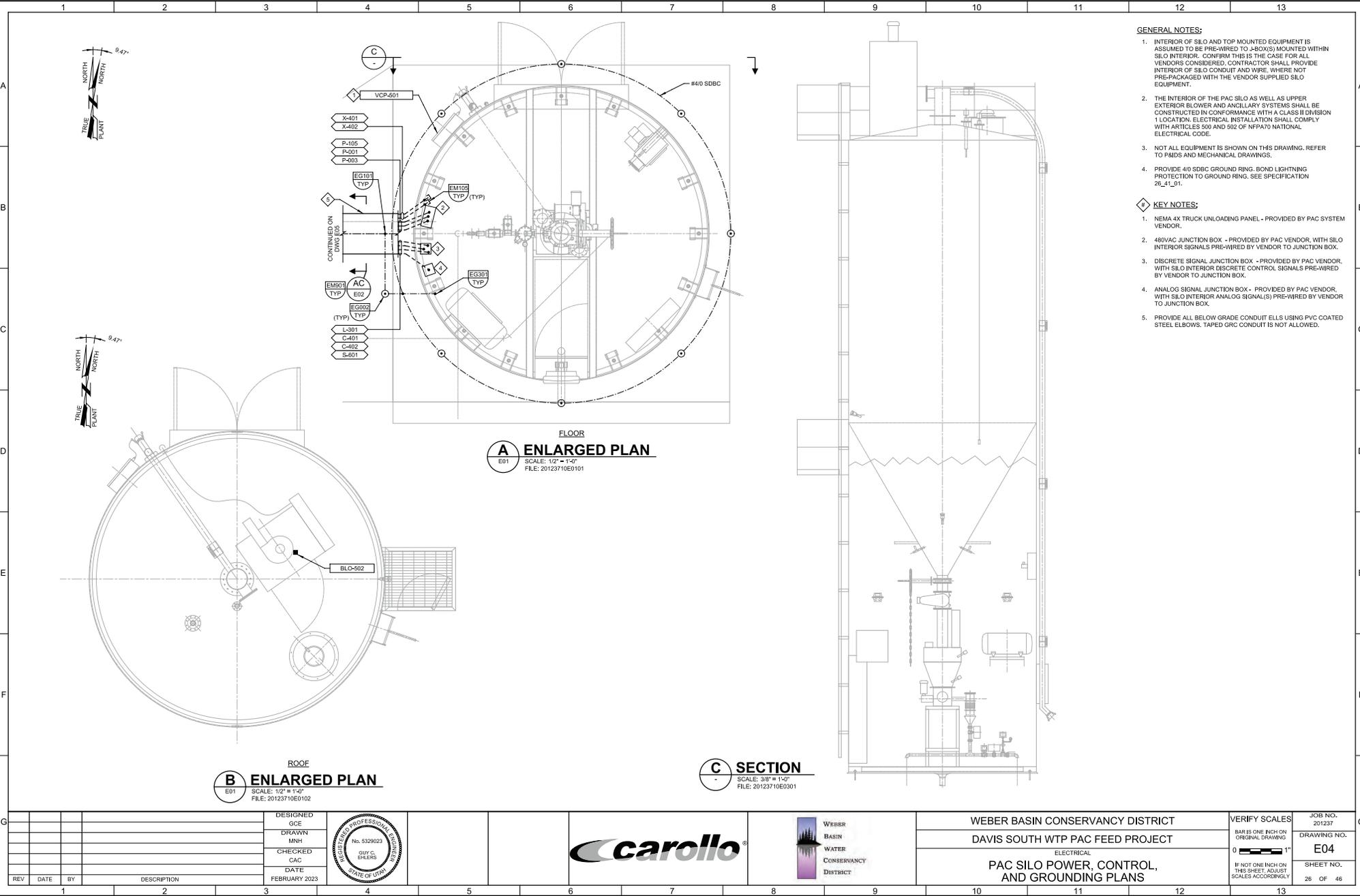
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BAR IS ONE INCH ON ORIGINAL DRAWING	201237
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	E03
	SHEET NO.
	25 OF 46

Plot Date: 22-FEB-2023 2:10:09 PM

User: rrp/PW

Model: Layout - ColorTable.gdb\ac\ Design\Script: Carullo\_Site\_Pac\_Feeds.dwg PlotScale: 1:1

LAST SAVED BY: rmoons



- GENERAL NOTES:**
1. INTERIOR OF SILO AND TOP MOUNTED EQUIPMENT IS ASSUMED TO BE PRE-WIRED TO J-BOX(S) MOUNTED WITHIN SILO INTERIOR. CONFIRM THIS IS THE CASE FOR ALL VENDORS CONSIDERED. CONTRACTOR SHALL PROVIDE INTERIOR OF SILO CONDUIT AND WIRE, WHERE NOT PRE-PACKAGED WITH THE VENDOR SUPPLIED SILO EQUIPMENT.
  2. THE INTERIOR OF THE PAC SILO AS WELL AS UPPER EXTERIOR BLOWER AND ANCILLARY SYSTEMS SHALL BE CONSTRUCTED IN CONFORMANCE WITH A CLASS II DIVISION 1 LOCATION. ELECTRICAL INSTALLATION SHALL COMPLY WITH ARTICLES 500 AND 502 OF NFPA70 NATIONAL ELECTRICAL CODE.
  3. NOT ALL EQUIPMENT IS SHOWN ON THIS DRAWING. REFER TO FBIDS AND MECHANICAL DRAWINGS.
  4. PROVIDE 40 SDBC GROUND RING. BOND LIGHTNING PROTECTION TO GROUND RING. SEE SPECIFICATION 26\_A1.01.

- KEY NOTES:**
1. NEMA 4X TRUCK UNLOADING PANEL - PROVIDED BY PAC SYSTEM VENDOR.
  2. 480VAC JUNCTION BOX - PROVIDED BY PAC VENDOR, WITH SILO INTERIOR SIGNALS PRE-WIRED TO JUNCTION BOX.
  3. DISCRETE SIGNAL JUNCTION BOX - PROVIDED BY PAC VENDOR, WITH SILO INTERIOR DISCRETE CONTROL SIGNALS PRE-WIRED BY VENDOR TO JUNCTION BOX.
  4. ANALOG SIGNAL JUNCTION BOX - PROVIDED BY PAC VENDOR, WITH SILO INTERIOR ANALOG SIGNAL(S) PRE-WIRED BY VENDOR TO JUNCTION BOX.
  5. PROVIDE ALL BELOW GRADE CONDUIT ELLS USING PVC COATED STEEL ELBOWS. TAPED GRC CONDUIT IS NOT ALLOWED.

**A ENLARGED PLAN**  
 E01 SCALE: 1/2" = 1'-0"  
 FILE: 20123710E1101

**B ENLARGED PLAN**  
 E01 SCALE: 1/2" = 1'-0"  
 FILE: 20123710E0102

**C SECTION**  
 SCALE: 3/8" = 1'-0"  
 FILE: 20123710E0301

REV	DATE	BY	DESCRIPTION

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CAC

DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT

DAVIS SOUTH WTP PAC FEED PROJECT

ELECTRICAL

**PAC SILO POWER, CONTROL, AND GROUNDING PLANS**

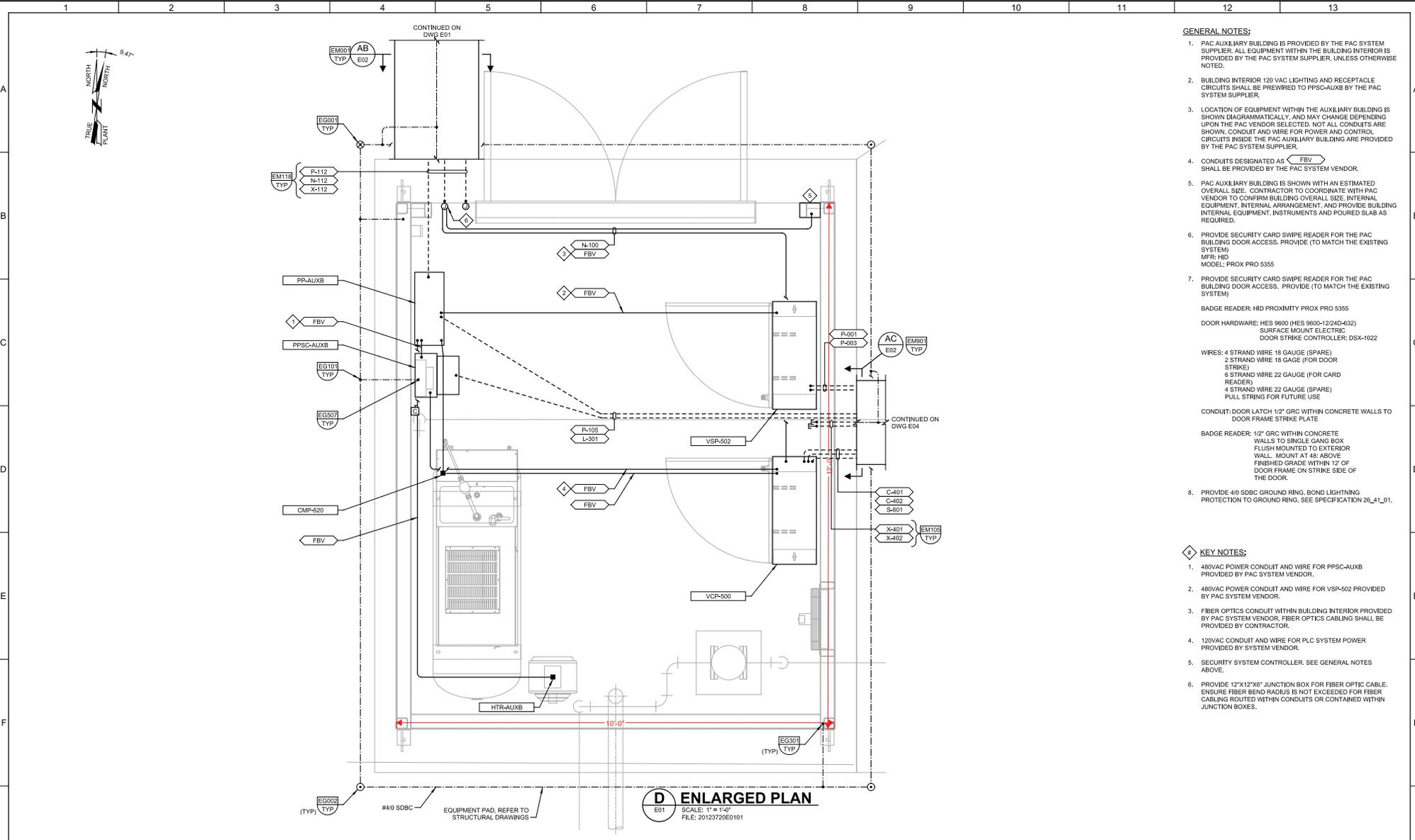
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING	JOB NO. 201237
0 1'	DRAWING NO. E04
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	SHEET NO. 26 OF 46

Plot Date: 22-FEB-2023 2:17:58 PM

User: rrp/PW

Model: Layout - ColorTable.gba:cd: DesignScript: Console\_Site\_Plan\_0905.dgn PlotScale: 1:1

LAST SAVED BY: rmo:mts



- GENERAL NOTES:**
- PAC AUXILIARY BUILDING IS PROVIDED BY THE PAC SYSTEM SUPPLIER. ALL EQUIPMENT WITHIN THE BUILDING INTERIOR IS PROVIDED BY THE PAC SYSTEM SUPPLIER, UNLESS OTHERWISE NOTED.
  - BUILDING INTERIOR 120 VAC LIGHTING AND RECEPTACLE CIRCUITS SHALL BE PREWIRED TO PPSC-AUXB BY THE PAC SYSTEM SUPPLIER.
  - LOCATION OF EQUIPMENT WITHIN THE AUXILIARY BUILDING IS SHOWN DIAGRAMMATICALLY, AND MAY CHANGE DEPENDING UPON THE PAC VENDOR SELECTED. NOT ALL CONDUITS ARE SHOWN. CONDUIT AND WIRE FOR POWER AND CONTROL CIRCUITS INSIDE THE PAC AUXILIARY BUILDING ARE PROVIDED BY THE PAC SYSTEM SUPPLIER.
  - CONDUITS DESIGNATED AS FBV SHALL BE PROVIDED BY THE PAC SYSTEM VENDOR.
  - PAC AUXILIARY BUILDING IS SHOWN WITH AN ESTIMATED OVERALL SIZE. CONTRACTOR TO COORDINATE WITH PAC VENDOR TO CONFIRM BUILDING OVERALL SIZE, INTERNAL EQUIPMENT, INTERNAL ARRANGEMENT, AND PROVIDE BUILDING INTERNAL EQUIPMENT, INSTRUMENTS AND POURED SLAB AS REQUIRED.
  - PROVIDE SECURITY CARD SWIPE READER FOR THE PAC BUILDING DOOR ACCESS. PROVIDE (TO MATCH THE EXISTING SYSTEM)  
MFR: HD  
MODEL: PROX PRO 5355  
BADGE READER: HD PROXIMITY PROX PRO 5355  
DOOR HARDWARE: HES 9600 (HES 9600-12/24D-632)  
SURFACE MOUNT ELECTRIC DOOR STRIKE CONTROLLER: DSX-1022
  - PROVIDE SECURITY CARD SWIPE READER FOR THE PAC BUILDING DOOR ACCESS. PROVIDE (TO MATCH THE EXISTING SYSTEM)  
BADGE READER: HD PROXIMITY PROX PRO 5355  
DOOR HARDWARE: HES 9600 (HES 9600-12/24D-632)  
SURFACE MOUNT ELECTRIC DOOR STRIKE CONTROLLER: DSX-1022
- WIRES: 4 STRAND WIRE 18 GAUGE (SPARE)  
2 STRAND WIRE 18 GAGE (FOR DOOR STRIKE)  
8 STRAND WIRE 22 GAUGE (FOR CARD READER)  
4 STRAND WIRE 22 GAUGE (SPARE)  
PULL STRING FOR FUTURE USE
- CONDUIT: DOOR LATCH 1/2" GRG WITHIN CONCRETE WALLS TO DOOR FRAME STRIKE PLATE
- BADGE READER: 1/2" GRG WITHIN CONCRETE WALLS TO SINGLE GANG BOX FLUSH MOUNTED TO EXTERIOR WALL. MOUNT AT 48" ABOVE FINISHED GRADE WITHIN 1/2" OF DOOR FRAME ON STRIKE SIDE OF THE DOOR.
- PROVIDE 4/0 SDBC GROUND RING, BOND LIGHTNING PROTECTION TO GROUND RING. SEE SPECIFICATION 26L\_41\_01.

- KEY NOTES:**
- 480VAC POWER CONDUIT AND WIRE FOR PPSC-AUXB PROVIDED BY PAC SYSTEM VENDOR.
  - 480VAC POWER CONDUIT AND WIRE FOR VSP-502 PROVIDED BY PAC SYSTEM VENDOR.
  - FIBER OPTICS CONDUIT WITHIN BUILDING INTERIOR PROVIDED BY PAC SYSTEM VENDOR. FIBER OPTICS CABLING SHALL BE PROVIDED BY CONTRACTOR.
  - 120VAC CONDUIT AND WIRE FOR PLC SYSTEM POWER PROVIDED BY SYSTEM VENDOR.
  - SECURITY SYSTEM CONTROLLER. SEE GENERAL NOTES ABOVE.
  - PROVIDE 12"X12"X6" JUNCTION BOX FOR FIBER OPTIC CABLE. ENSURE FIBER BEND RADIUS IS NOT EXCEEDED FOR FIBER CABLING ROUTED WITHIN CONDUITS OR CONTAINED WITHIN JUNCTION BOXES.

**D ENLARGED PLAN**  
 E01 SCALE: 1" = 1'-0"  
 FILE: 20123720E101

DESIGNED GCE  
 DRAWN MNH  
 CHECKED CAC  
 DATE FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
**PAC AUXILIARY BUILDING**  
 POWER, CONTROL, AND GROUNDING PLAN

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1'-0" 1'  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

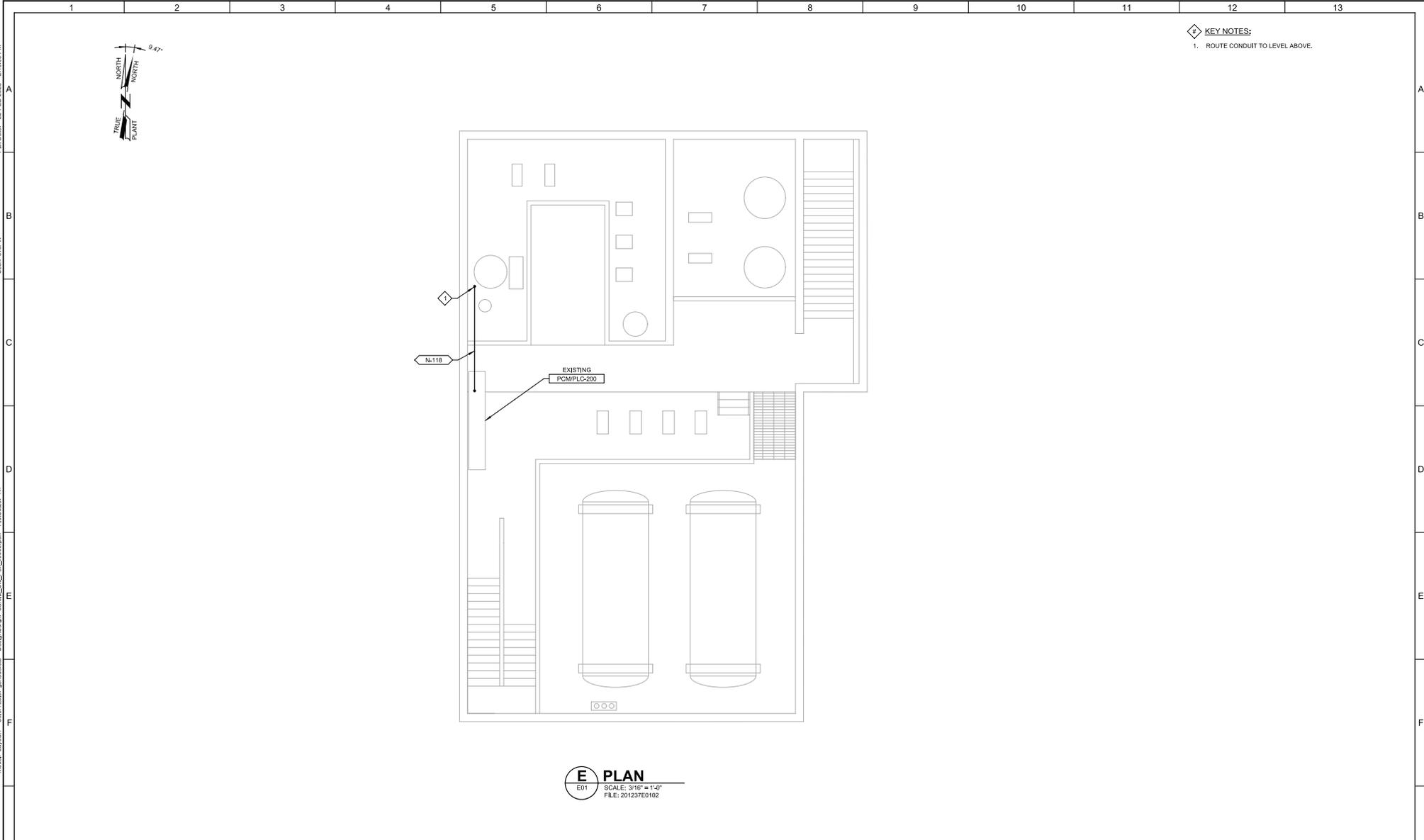
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Plot Date: 22-FEB-2023 2:10:08 PM

User: rrp/PW

Model: Layout - ColorTable.gdtadoc.ctb Design/Script: Carollo\_Site\_Plan\_0905.dgn PlotScale: 1:1

Last Saved By: rmoonts



**E PLAN**  
 E01 SCALE: 3/16" = 1'-0"  
 FILE: 201237E0102

REV	DATE	BY	DESCRIPTION

DESIGNED GCE
DRAWN ANV
CHECKED CAC
DATE FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT
DAVIS SOUTH WTP PAC FEED PROJECT
ELECTRICAL
CHEMICAL BUILDING LOWER LEVEL POWER AND CONTROL PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING
0 1'
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

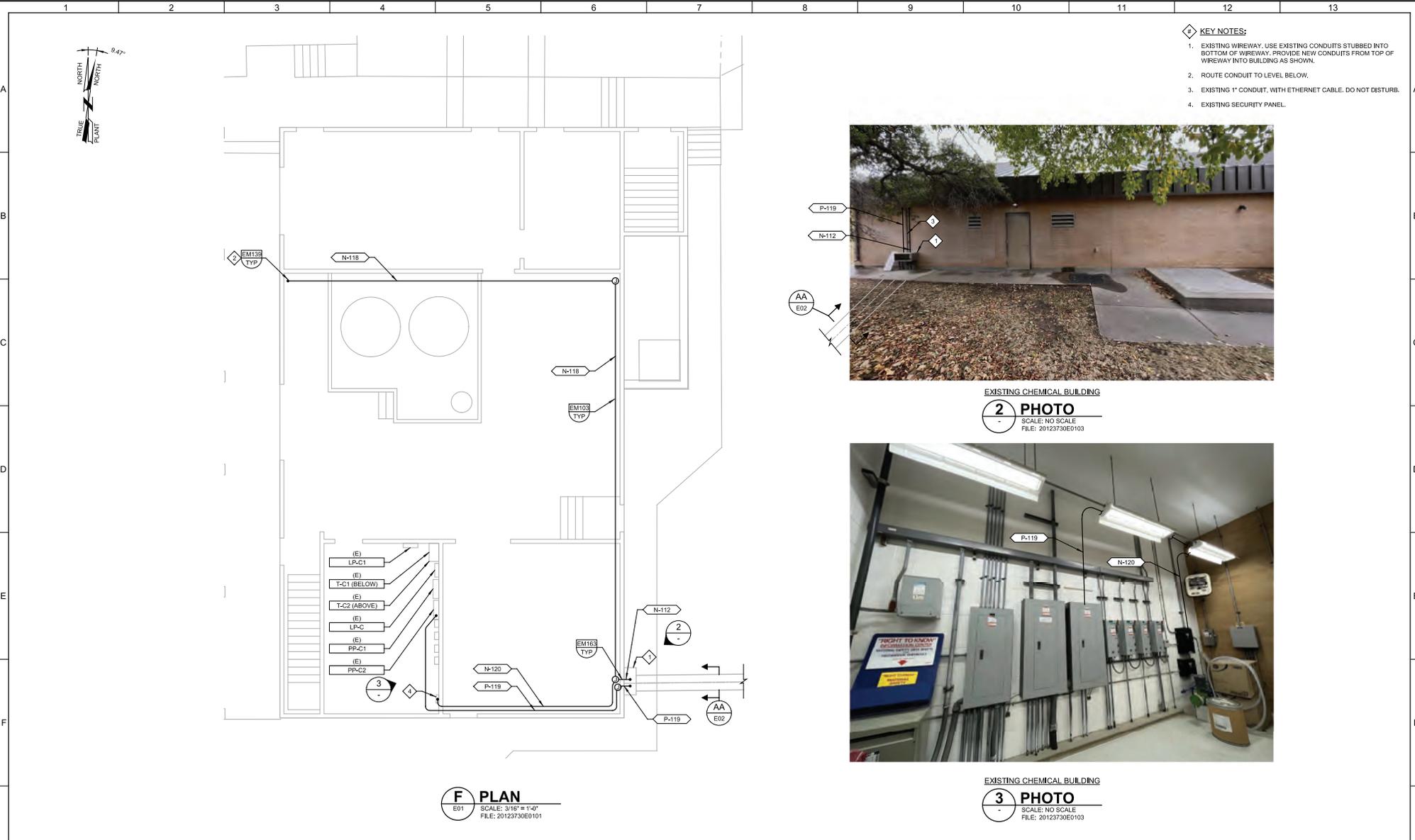
JOB NO. 201237
DRAWING NO. E06
SHEET NO. 28 OF 46

Plot Date: 22-FEB-2023 2:10:04 PM

User: rrp/PW

Model: Layout ColorTable: gtdad.ctb DesignScript: Carollo\_Site\_Plan\_V0905.dgn PlotScale: 1:1

LAST SAVED BY: hbaseard



- KEY NOTES:**
1. EXISTING WIREWAY. USE EXISTING CONDUITS STUBBED INTO BOTTOM OF WIREWAY. PROVIDE NEW CONDUITS FROM TOP OF WIREWAY INTO BUILDING AS SHOWN.
  2. ROUTE CONDUIT TO LEVEL BELOW.
  3. EXISTING 1" CONDUIT, WITH ETHERNET CABLE. DO NOT DISTURB.
  4. EXISTING SECURITY PANEL.



EXISTING CHEMICAL BUILDING  
**2 PHOTO**  
 SCALE: NO SCALE  
 FILE: 20123730E0103



EXISTING CHEMICAL BUILDING  
**3 PHOTO**  
 SCALE: NO SCALE  
 FILE: 20123730E0103

REV	DATE	BY	DESCRIPTION

DESIGNED  
GCE

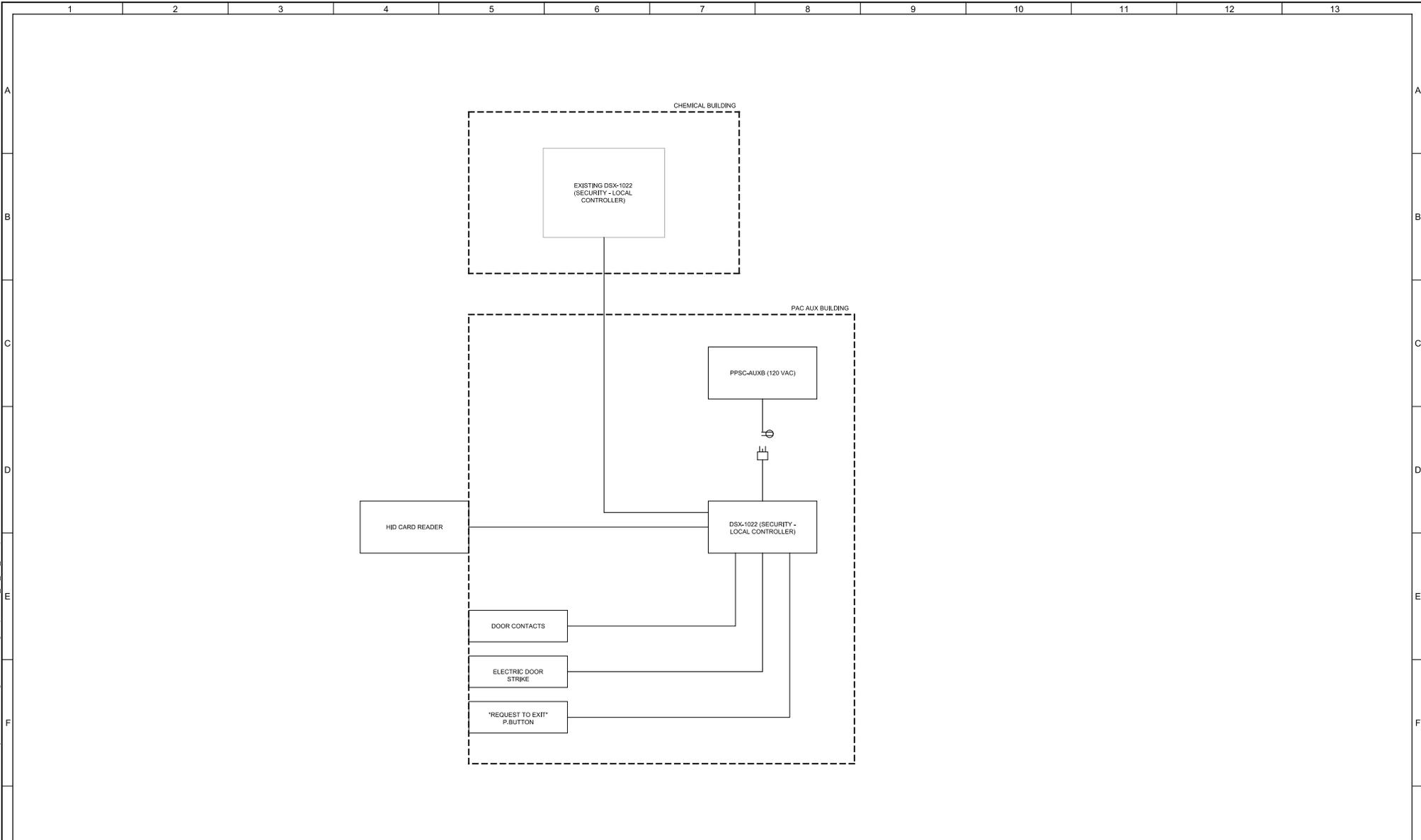
DRAWN  
ANV

CHECKED  
CAC

DATE  
FEBRUARY 2023

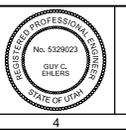


WEBER BASIN WATER CONSERVANCY DISTRICT	WEBER BASIN CONSERVANCY DISTRICT DAVIS SOUTH WTP PAC FEED PROJECT ELECTRICAL CHEMICAL BUILDING UPPER LEVEL POWER AND CONTROL PLAN	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	JOB NO. 201237 DRAWING NO. E07 SHEET NO. 29 OF 46
--	---	---	--



REV	DATE	BY	DESCRIPTION

DESIGNED GCE
DRAWN MNH
CHECKED CAC
DATE FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 ELECTRICAL  
 SECURITY SYSTEM RISER DIAGRAM

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. E08
	SHEET NO. 30 OF 46

Plot Date: 22-FEB-2023 2:28:55 PM

User: rwp/PW

Model Layout Color Table: Carollo\_Sig\_Pac\_Feeds.dwg Plot Scale: 1:1

Location:

1 2 3 4 5 6 7 8 9 10 11 12 13

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6	FIELD - 7	FIELD - 8
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	ACTION ALARM SP - NUMERIC STATUS TREND	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE 7 - IO TABLE	REFER	REFER	AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT RTD - RTD INPUT	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE IO VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - PROTOCOL 4 - PANEL 5 - PLC 6 - EXISTING/FUTURE 7 - IO TABLE 8 - SWITCH SEGMENT	REFER	REFER	COMMUNICATION PROTOCOL DNET - CONTROLNET DNET - DEVCENET EIP - ETHERNET/IP FF - FOUNDATION FIELDBUS HART-IP - HART OVER ETHERNET MANP - MTR PROPRIETARY MBRTU - MODBUS RTU MBP - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SNMP - SNMP HTTP - WEB SERVER (OP/PP)	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE IO VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	ACTION ALARM SP - NUMERIC STATUS TREND	DESCRIPTION	LOI - LOCAL OPERATOR INTERFACE NO. LOP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	AM - AUTOMANUAL BYPASS - BY PASS ESTOP - EMERGENCY STOP FBLR - FIELD BATTLE RATE HOA - HANDOFF/AUTO LOR - LOCAL OFF/REMOTE LOS - LOCK OUT STOP LEADSTANDBY - LOCAL STOP/REMOTE LSR - LOCAL STOP/REMOTE NOOT - NO OFF LINE/OFFLINE TRANSITION OPENCLOSE - OPEN/CLOSE DOL - ON LINE/OFFLINE CO - OFFON OSC - OPEN/STOP/CLOSE RST - RESET SMM - SEMI-AUTOMANUAL SEL - SELECT SPD - SPEED SS - START/STOP ST - STOP	DESCRIPTION	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE	REFER	TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 24VDC - 2P 24VAC - 1P 120VAC - 2P 208VAC - 1P 208VAC - 2P 240VAC - 2P 240VAC - 3P 480VAC - 3P 240VAC - 3P 4180VAC - 3P	OP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	DISC - DISCONNECT	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE		
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER FU - FUSE	REFER	MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 24VDC - 2P 24VAC - 1P 120VAC - 2P 208VAC - 1P 208VAC - 2P 240VAC - 2P 240VAC - 3P 480VAC - 3P 240VAC - 3P 4180VAC - 3P	OP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LCP - LOCAL CONTROL PANEL NO. LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6	FIELD - 7	FIELD - 8
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	OUT - OUTDOOR
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH	REFER	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	
	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - POWER SOURCE 6 - EXISTING/FUTURE	MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE	REFER	FVNR - FULL VOLTAGE NONREVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART WINDING STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE	120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 4180VAC - 3P	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		

INSTRUMENT BUBBLE LOCATIONS		NOTES	
PCS		1	INSTRUMENT TAG IDENTIFICATION LETTERS TABLE
IO		2	OPERATOR PILOT DEVICE LEGEND
INTERMEDIATE CONTROL		3	EQUIPMENT TAGGING TABLE
FIELD		4	IO TYPE DESIGNATIONS
		5	INSTRUMENT TYPE DESIGNATIONS TABLE
		6	FURNISHED BY: FBO FURNISHED BY OWNER FBV FURNISHED BY VENDOR
		7	PROVIDED BY: PRO PROVIDED BY OWNER PBV PROVIDED BY VENDOR

DESIGNED CE				WEBER BASIN CONSERVANCY DISTRICT	VERIFICATION SCALES	JOB NO. 201237
DRAWN CE						
CHECKED CDS				WEBER BASIN CONSERVANCY DISTRICT	BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. GN01
DATE FEBRUARY 2023				DAVIS SOUTH WTP PAC FEED PROJECT	0 1" IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	SHEET NO. 31 OF 46
REV	DATE	BY	DESCRIPTION	SYMBOLS AND ABBREVIATIONS 1		

PROJECT NO. 201237-100000 FILE NAME: 20123700GN001.dwg

Plot Date: 24-FEB-2023 2:28:14 PM

User: suppw

Model: Layout - ColorTable: gtabd.ctb Design/Script: Carollo\_Sig\_Pac\_09050.dwg PlotScale: 1:1

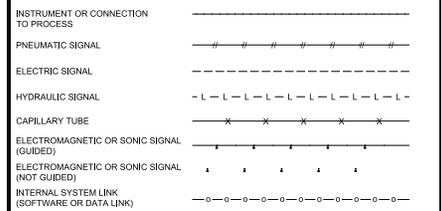
Location:

### INSTRUMENT TAG IDENTIFICATION LETTERS

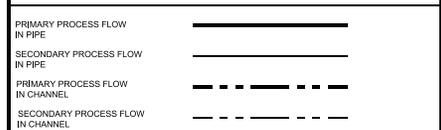
MEASURED VARIABLE	INSTRUMENT FUNCTION	ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROL COMMAND	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW/LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH/HIGH	SWITCH COMBINATION HIGH/LOW	ACTION	ALARM LOW/LOW	ALARM LOW	ALARM HIGH	ALARM HIGH/HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL		AALL	AAL	AAH	AAHH				AL	
B	BURNER FLAME	BE	BT	BIT	BY	BI	BR	BC	BIC	BRC	BS	BSLL	BSL	BSH	BSHH			BALL	BAL	BAH	BAHH				BL	
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL		CALL	CAL	CAH	CAHH				CL	
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL		DALL	DAL	DAH	DAHH				DL	
E	VOLTAGE																									
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSLL	FSL	FSH	FSHH	FSHL		FALL	FAL	FAH	FAHH	FCI	FCV	FG	FL	
FF	FLOW RATIO	FFY	FFI	FFI	FFI	FFI	FFI	FFC	FFIC	FFRC	FFS	FFSLL	FFSL	FFSH	FFSHH	FFSHL									FFL	
H	HAND (MANUAL)*																HA*						HV		HL	HSS
I	CURRENT	IT	IT	IT	IY	II	IR	IC	IC	IRC	IS	ISLL	ISL	ISH	ISHH			IALL	IAL	IAH	IAHH				IL	
J	POWER																									
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSLL	KSL	KSH	KSHH			KALL	KAL	KAH	KAHH			KV	KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL		LALL	LAL	LAH	LAHH			LCV	LG	LL
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH			MALL	MAL	MAH	MAHH				ML	
N	USER'S CHOICE																									
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI	PR	PC	PIC	PRC	PS	PSLL	PSL	PSH	PSHH	PSHL		PALL	PAL	PAH	PAHH			PCV	PL	
PD	DIFFERENTIAL PRESSURE	PDT	PDT	PDT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSSL	PDSSL	PDSH	PDSHH	PDSHL		PDALL	PDAL	PDAH	PDAHH			PDCV	PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH			QALL	QAL	QAH	QAAH					
R	RADIATION																									
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSH	SSHL		SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL		TALL	TAL	TAH	TAHH			TCV	TL	
TD	DIFFERENTIAL TEMPERATURE	TDT	TDT	TDT	TDY	TDI	TDL	TDL	TDIC	TDRC	TDS	TDSSL	TDSL	TDSH	TDSHH	TDSL		TDALL	TDAL	TDAH	TDAHH			TDCV	TDL	
U	MULTIVARIABLE					UI	UR	UC	UC	URC	US														UL	
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSSL	VSL	VSH	VSHH			VALL	VAL	VAH	VAHH					VL
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH			WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSSL	XSL	XSH	XSHH			XALL	XAL	XAH	XAAH			XCV	XG	XL
XV	VIBRATION	XVE	XVT	XVIT	XVY	XVI	XVR				XVS										XVAVH					XVL
Y	STATUS**					YI																				YL
Z	POSITION	ZE	ZT	ZIT	ZY	ZI		ZC**			ZS**														ZL**	

\* REFER TO OPERATOR PILOT DEVICE LEGEND  
 \*\* LETTER INDICATES POSITION (O=OPEN, C=CLOSED, R=RAISE, L=LOWER, ETC)

### P&ID LINE SYMBOLS



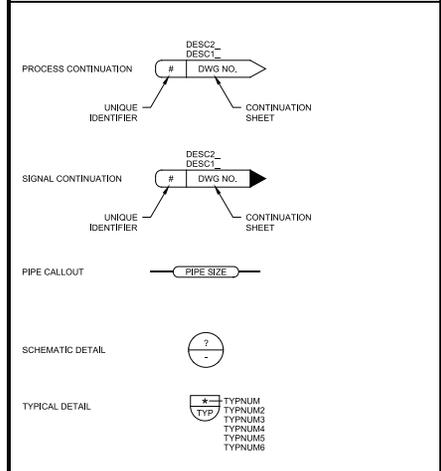
### PROCESS LINE SYMBOLS



### DESIGNATIONS



### MISCELLANEOUS P&ID SYMBOLS



### OPERATOR PILOT DEVICE LEGEND

PILOT DEVICE FUNCTION	LOCAL/REMOTE/LOCAL/STOP/REMOTE (L/R/S)	STOP(S/P)	START (S/T)	HAND-OFF-AUTO (HOA)	OFF-ON (OO)	SELECT (SEL)	OPEN/STOP-CLOSE (OSC)	JOG OPEN/HOLD-CLOSE (JOHC)	SEMI-AUTO-AUTOMANUAL (SAMM)	LEAD-LAG-STANDBY (LLOS)	JOG OPEN/JOG CLOSE (JOJC)	ONLINE-OFFLINE (O/OFP)	AUTO-MANUAL (AM)	FIXED RATE/LEVEL RATE (F/LR)	OPEN-CLOSE (OC)	NO OFFLINE/OFFLINE TRANSITION (NOOT)	LOW-HIGH (LH)	RESET (RST)	SPEED (S/P)	START/STOP (S/STP)	ESTOP (E-SP)	BYPASS (BYP)	SILENCE	POSITION (POS)
PILOT DEVICE TAG (HAND SWITCHES)	HAS*	HSB	HSC	HSD	HSE	HSF	HSG	HSJ	HSK	HSL	HSM	HSN	HSO	HSP	HSQ	HSR	HSS	HST	HSU	HSV	HSW	HSX	HSY	HSZ

### I/O TYPE DESIGNATIONS

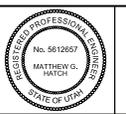
RNG	RUNNING	SPDC	SPEED COMMAND
FAIL	FAILED/FAULT	SPFB	SPEED FEEDBACK
FWD	RUNNING FORWARD	REM	LOR IN REMOTE
FAST	RUNNING HIGH	LOC	LOR IN LOCAL
SLOW	RUNNING LOW	AUTO	HOA IN AUTO
REV	RUNNING REVERSE	HAND	HOA IN HAND
SVC	SOLENOID VALVE CLOSE	RST	RESET
SWO	SOLENOID VALVE OPEN		
RUN	RUN		
SLWC	MOTOR START LOW		
REVC	MOTOR START REVERSE		

### INSTRUMENT TYPE DESIGNATIONS

CCD	COMBUSTIBLE GAS DETECTOR	RTD	RESISTANCE TEMP DETECTOR
COND	CONDUCTIVITY	SB	SLUDGE BLANKET
DO	DISSOLVED OXYGEN	SC	STREAMING CURRENT
FMCW	FREQ. MODULATED CONT. WAVE	SD	SLUDGE DEPTH
IS	INTRINSIC SAFETY BARRIER	SH	SODIUM HYPOCHLORITE
LEL	LOWER EXPLOSIVE LIMIT	SO2	SULFUR DIOXIDE
M.LSS	MIXED LIQUOR SUSPENDED SOLIDS	TDR	TIME DOMAIN REFLECTOMETRY
ORP	OXIDATION REDUCTION POTENTIAL	TOC	TOTAL ORGANIC CARBON
P-SUB	PRESSURE SUBMERSIBLE	TSS	TOTAL SUSPENDED SOLIDS
PC	PARTICLE COUNTER	UVI	UV INTENSITY
PTOF	PULSE TIME OF FLIGHT	UVT	UV TRANSMITTANCE

### SPECIFIC ABBREVIATIONS

HTR	HEATER
HTU	HEAT TRACE UNIT
MHH	MOTOR WINDING HEATER
SV	SOLENOID VALVE
SPD	SURGE PROTECTIVE DEVICE
UPS	UNINTERRUPTIBLE POWER SUPPLY
YA	STATUS AUTO
YR	STATUS REMOTE
Y1	STATE RUNNING
Y2	ALARM FAILED/FAULT



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 INSTRUMENTATION  
 SYMBOLS AND ABBREVIATIONS 2

VERIFY SCALES  
 JOB NO. 201237  
 DRAWING NO. GN02  
 SHEET NO. 32 OF 46

Plot Date: 22-FEB-2023 2:28:20 PM

User: spjpw

Model: Layout - ColorTable.gdbxctb DesignSource: Carollo\_Sig\_Pac\_09050.dwg PlotScale: 1:1

Location:

	1	2	3	4	5	6	7	8	9	10	11	12	13		
A	<b>ACTUATORS</b>						<b>PIPING</b>			<b>PUMPS</b>			<b>BLOWERS/COMPRESSORS</b>		
	DIAPHRAGM ELECTRIC DISCRETE ELECTRIC MODULATING ELECTRIC HYDRAULIC HAND HYDRAULIC PNEUMATIC SOLENOID	HYDRAULIC MODULATING PNEUMATIC SINGLE SOLENOID OPEN/CLOSE PNEUMATIC DUAL SOLENOID OPEN/CLOSE PNEUMATIC DUAL SOLENOID OPEN/HOLD/CLOSE	PNEUMATIC DUAL SOLENOID OPEN/CLOSE PNEUMATIC MODULATING PNEUMATIC DUAL SOLENOID OPEN/CLOSE w/ SPEED CONTROL	AIR GAP BLIND FLANGE CAPPED OR PLUGGED CONCENTRIC INCREASER CONCENTRIC REDUCER DRAIN ECCENTRIC INCREASER FLANGED CONNECTION	TEE UNION ECCENTRIC REDUCER EXPANSION COUPLING EXPANSION JOINT VIBRATION CENTER FLEXIBLE CONNECTION QUICK DISCONNECT	AIR DRIVEN CENTRIFUGAL CHEMICAL FEED DIAPHRAGM DIAPHRAGM GEAR PERISTALTIC OR HOSE PISTON PROGRESSIVE CAVITY	SUBMERSIBLE VERTICAL TURBINE VERTICAL CHOPPER WATER PUMP	CENTRIFUGAL SINGLE STAGE BLOWER CENTRIFUGAL MULTI STAGE BLOWER RECIPROCATING COMPRESSOR SCREW COMPRESSOR FAN LIQUID RING COMPRESSOR ROTARY LOBE BLOWER							
B	<b>CHECK VALVES</b>						<b>PRESSURE VALVES</b>			<b>VALVES</b>			<b>MISC</b>		
	BACK FLOW PREVENTER BALL DIAPHRAGM CHECK DOUBLE FLAP FLAPPER SLANTING CHECK VALVE SPRING LOADED GENERAL SPRING LOADED SWING SWING	BACKPRESSURE REGULATING SELF CONTAINED BACKPRESSURE REGULATING EXTERNAL TAP PRESSURE REDUCING SELF CONTAINED PRESSURE REDUCING EXTERNAL PRESSURE TAP REGULATING PRESSURE RELIEF VACUUM RELIEF	3-WAY 3-WAY PLUG 4-WAY AIR-RELIEF ANGLE BALL BALL V-NOTCH BUTTERFLY BUTTERFLY-BURIED VALVE BOX CONE DIAPHRAGM	FLOAT GATE GATE-BURIED VALVE BOX GLOBE HOSE MUD NEEDLE PINCH PLUG ECCENTRIC PLUG ECCENTRIC w-VALVE BOX PLUG ECCENTRIC LUBRICATED	PLUG ECCENTRIC LUBRICATED BURIED VALVE BOX PLUG CONCENTRIC PLUG CONCENTRIC BURIED VALVE BOX PLUG CONCENTRIC LUBRICATED PLUG CONCENTRIC LUBRICATED BURIED VALVE BOX PUMP DISCHARGE TELESCOPING	AIR / CHEMICAL DIFFUSER BASKET STRAINER BLOW-OFF SILENCER CALIBRATION COLUMN COALESCEUR DESICCANT DRYER EDUCTOR/EJECTOR EQUIPMENT/INSTRUMENT LOCATOR EXHAUST FAN	EYE WASH FILTER FILTER SEPARATOR FINE FILTER FIRE ALARM/SENSOR FLAME ARRESTER FLAME ARRESTER w/THERMALLY OPERATED VALVE	FLOW CONDITIONER GAS CANNON GRINDER HEAT EXCHANGER HOIST HORIZONTAL MIXER HOSE CONNECTION INLET STRAINER INLINE STATIC MIXER INLINE DUCT DAMPER LOUVER OR DAMPER	MATERIAL CHANGE MIXER MOTOR NOZZLE ORIFICE RESTRICTION PERISTALTIC COMPOSITE SAMPLER PULSATION DAMPENER REFRIGERATED DRYER RUPTURE DISK	SAMPLE PORT SIGHT TUBE SMOKE DETECTOR STRAINER - MECHANICALLY CLEANED STRAINER WITH BLOW OFF STRAINER WYE TYPE VAPOR HEATER VAPORIZER VENT VENT TO ATMOSPHERE					
C	<b>VALVE DESIGNATIONS</b>														
	NO NORMALLY OPEN NC NORMALLY CLOSED FO FAIL OPEN FC FAIL CLOSE FLP FAIL LAST POSITION														
D	<b>DESIGNED</b>						<b>CHECKED</b>			<b>DATE</b>			<b>SCALE</b>		
	CE						CDS			FEBRUARY 2023			1" = 30'		
E	<b>PROJECT NO.</b>						<b>FILE NAME:</b>			<b>WEBER BASIN CONSERVANCY DISTRICT</b>			<b>VERIFY SCALES</b>		
	201237-100000						20123700GN003.dwg			DAVIS SOUTH WTP PAC FEED PROJECT			BAR IS ONE INCH ON ORIGINAL DRAWING		
F	<b>DESIGNED BY</b>						<b>CHECKED BY</b>			<b>DATE</b>			<b>SCALE</b>		
	CE						CDS			FEBRUARY 2023			1" = 30'		
G	<b>PROJECT NO.</b>						<b>FILE NAME:</b>			<b>WEBER BASIN CONSERVANCY DISTRICT</b>			<b>VERIFY SCALES</b>		
	201237-100000						20123700GN003.dwg			DAVIS SOUTH WTP PAC FEED PROJECT			BAR IS ONE INCH ON ORIGINAL DRAWING		

PROJECT NO. 201237-100000 FILE NAME: 20123700GN003.dwg



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 INSTRUMENTATION  
 SYMBOLS AND ABBREVIATIONS 3

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1" = 30'  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 201237  
 DRAWING NO. GN03  
 SHEET NO. 33 OF 46

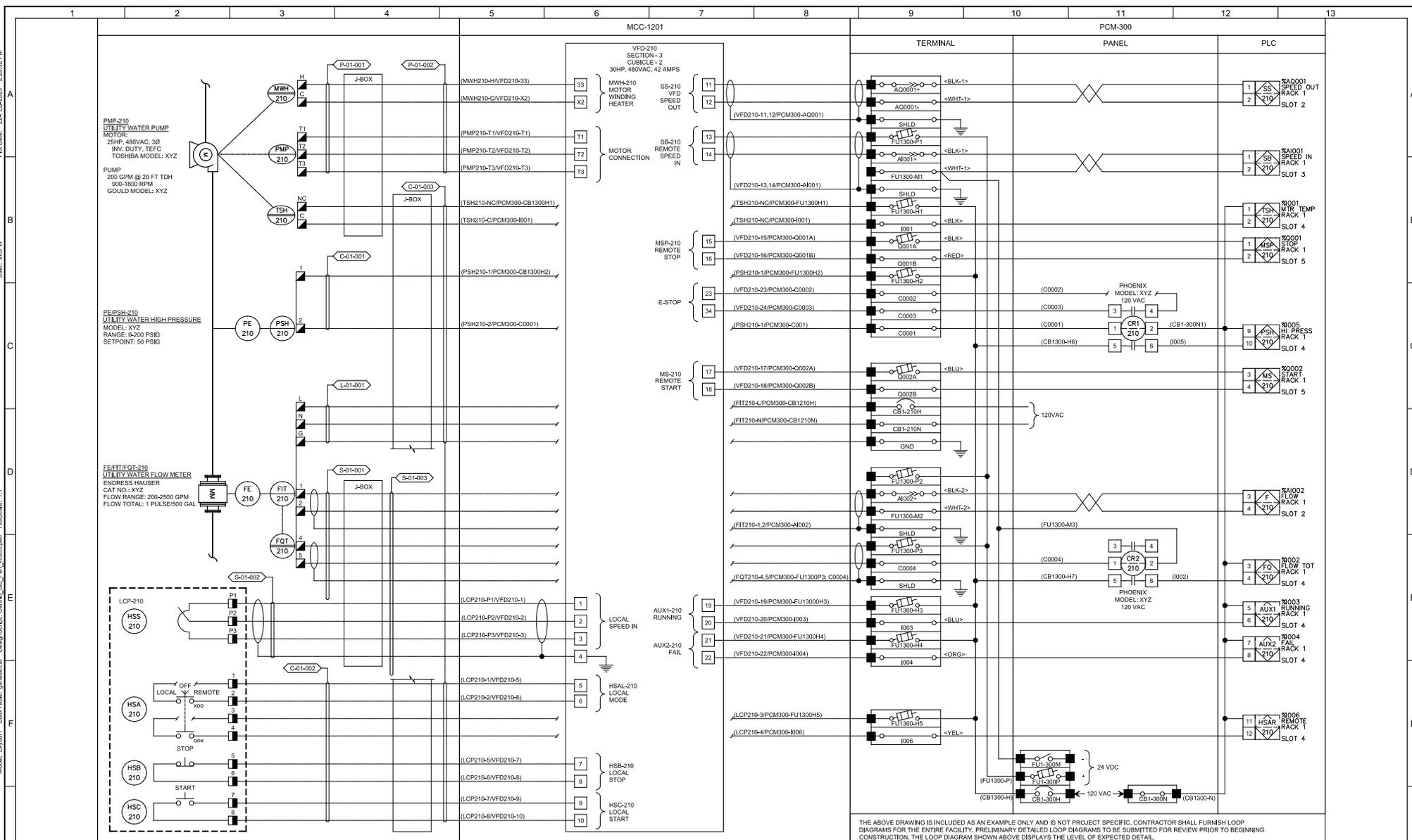
1		2		3		4		5		6		7		8		9		10		11		12		13							
FLOW													FLUMES			GATES			LEVEL			NETWORKS									
																						<p><b>CABLE CALLOUTS AND ABBREVIATIONS</b></p> <p><b>FIBER ABBREVIATIONS</b></p> <p>##FO-XX ## = STRAND COUNT FO = FIBER OPTIC</p> <p>XX = MODE SM = SINGLE MODE MM = MULTIMODE</p> <p><b>NETWORK ABBREVIATIONS</b></p> <p>BMS = BUILDING MANAGEMENT SYSTEM BSN = BUSINESS NETWORK FCN = FIELD CONTROL NETWORK MIN = MAINTENANCE INFORMATION NETWORK PCN = PROCESS CONTROL NETWORK PLCN = PLC NETWORK SCN = SECURITY CONTROL NETWORK PCN-W = WIRELESS PROCESS CONTROL NETWORK NR = NETWORK RACK NP = NETWORK PANEL ES = ETHERNET SWITCH FPP = FIBER PATCH PANEL</p> <p><b>WLAN SYMBOLS</b></p> <p><b>NETWORK LINE SYMBOLS</b></p> <p>COPPER ETHERNET: — C — C — C — C — C — C —</p> <p>FIBER OPTIC ETHERNET: — F — F — F — F — F — F —</p> <p>WIRELESS ETHERNET: — W — W — W — W — W — W —</p> <p>PROFIBUS DP: — PBD — PBD — PBD — PBD — PBD — PBD —</p> <p>PROFIBUS PA: — PBA — PBA — PBA — PBA — PBA — PBA —</p> <p>SERIAL DATA: — 0 — 0 — 0 — 0 — 0 — 0 — 0 — 0 — 0 — 0 —</p> <p><b>MISCELLANEOUS NETWORK SYMBOLS</b></p> <p><b>NETWORK CABLE CONTINUATIONS</b></p> <p><b>FIELD NETWORK DEVICE</b></p> <p><b>NETWORK EQUIPMENT CALLOUT</b></p>									
PRESSURE/VACUUM						TEMPERATURE			WEIRS																						
PRESSURE		DIFFERENTIAL PRESSURE		PRESSURE SEALS		TEMPERATURE WITH THERMOWELL			SIDE VIEW			PLAN VIEW																			
EXAMPLE						WEIGHT																									
DESIGNED CE		DRAWN CE		CHECKED CDS		DATE FEBRUARY 2023												<b>WEBER BASIN CONSERVANCY DISTRICT</b> <b>DAVIS SOUTH WTP PAC FEED PROJECT</b> <b>INSTRUMENTATION</b> <b>SYMBOLS AND ABBREVIATIONS 4</b>			<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY		<b>JOB NO.</b> 201237 <b>DRAWING NO.</b> GN04 <b>SHEET NO.</b> 34 OF 46								
REV	DATE	BY	DESCRIPTION																												

Plot Date: 22-FEB-2023 2:28:52 PM

User: sap/PW

Model: Layout ColorTable: gblhatch.dwg

Revision:



THE ABOVE DRAWING IS INCLUDED AS AN EXAMPLE ONLY AND IS NOT PROJECT SPECIFIC. CONTRACTOR SHALL FURNISH LOOP DIAGRAMS FOR THE ENTIRE FACILITY. PRELIMINARY DETAILED LOOP DIAGRAMS TO BE SUBMITTED FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION. THE LOOP DIAGRAM SHOWN ABOVE DISPLAYS THE LEVEL OF EXPECTED DETAIL.

REV	DATE	BY	DESCRIPTION
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DESIGNED CE	
DRAWN CE	
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DATE FEBRUARY 2023	



WEBER  
BASIN  
WATER  
CONSERVANCY  
DISTRICT

WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
INSTRUMENTATION  
SAMPLE LOOP DRAWING

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237
DRAWING NO. GN05	SHEET NO. 35 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700GN006.dwg

Plt Date: 22-FEB-2023 2:28:57 PM

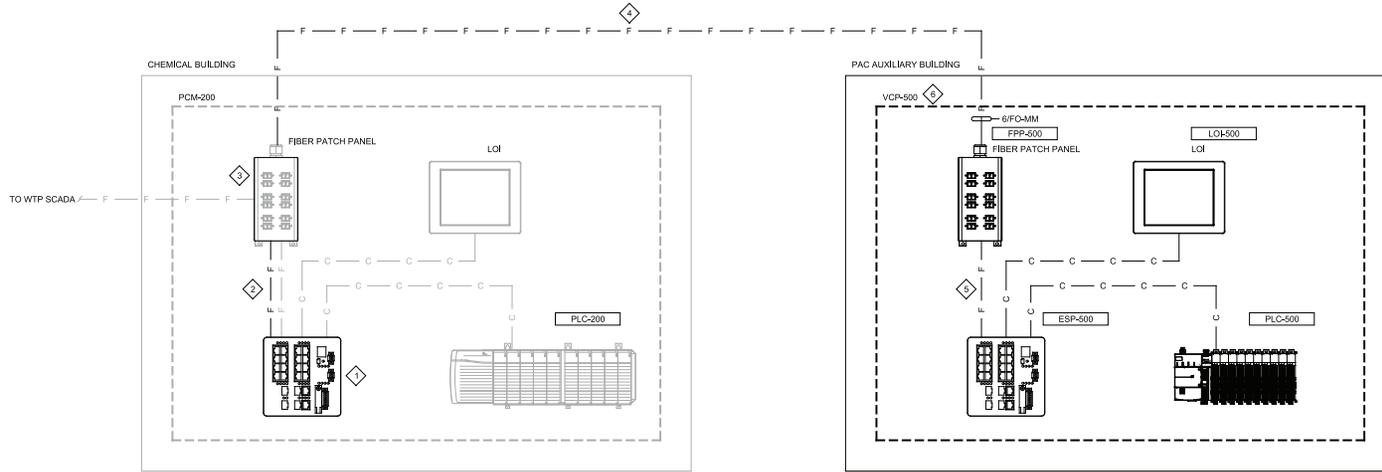
User: sap/PW

Model Layout ColorTable.gdb:ch: Design/Std: Carollo\_Sig\_Pac\_0905.dwg PltScale: 1:1

Inception

- GENERAL NOTES:**
1. COMMUNICATION PROTOCOL SHALL BE ETHERNET/IP, UNLESS NOTED OTHERWISE. ALL NETWORK COMMUNICATION SHALL BE MINIMUM 100 MBPS.
  2. PROVIDE ADDITIONAL HARDWARE AND CONFIGURATION AS NEEDED FOR A FULLY FUNCTIONAL SYSTEM.

- KEY NOTES:**
1. NEW ETHERNET SWITCH FURNISHED AND INSTALLED BY OWNER.
  2. NEW DUPLEX FIBER OPTIC PATCH CABLE FURNISHED AND INSTALLED BY OWNER.
  3. TERMINATE NEW FIBER OPTIC CABLE WITH TYPE SC CONNECTORS. PROVIDE NEW FIBER OPTIC PATCH PANEL CONNECTOR PLATE FOR EXISTING PATCH PANEL.
  4. 6-STRAND MULTIMODE FIBER OPTIC CABLE.
  5. DUPLEX FIBER OPTIC PATCH CABLE.
  6. VENDOR CONTROL PANEL SHALL BE PROVIDED BY THE PAC SYSTEM SUPPLIER.



REV	DATE	BY	DESCRIPTION

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DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
INSTRUMENTATION  
**PAC SYSTEM NETWORK CONNECTION DIAGRAM**

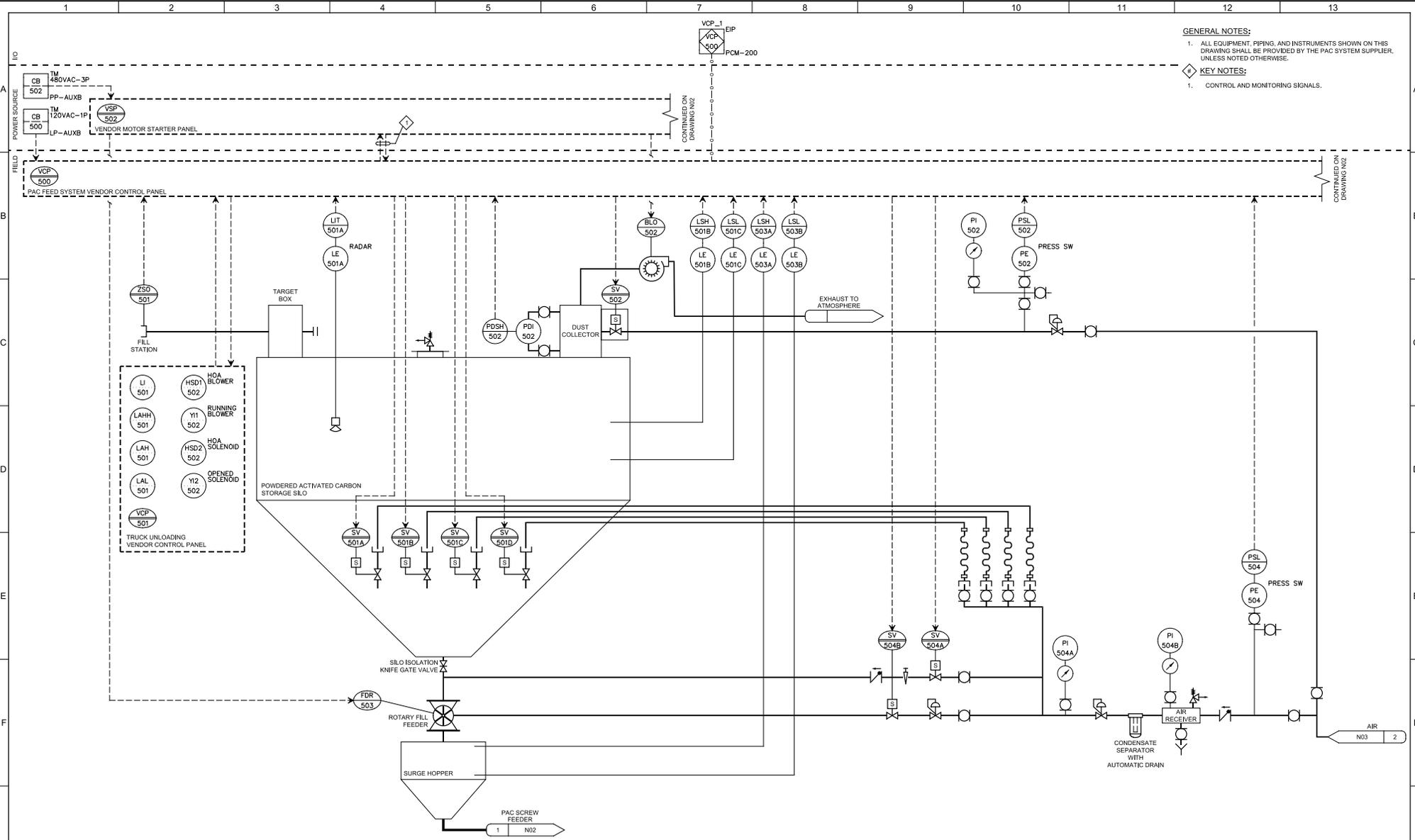
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237 DRAWING NO. <b>GN06</b> SHEET NO. 36 OF 46
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Proj Date: 22-FEB-2023 2:28:28 PM

User: sap/PW

Model: Layout ColorTable: gblsdc.ctb DesignStyle: Carollo\_Sig\_Pac\_V0905.dwg PlotScale: 1:1

Location:



**GENERAL NOTES:**  
 1. ALL EQUIPMENT, PIPING, AND INSTRUMENTS SHOWN ON THIS DRAWING SHALL BE PROVIDED BY THE PAC SYSTEM SUPPLIER, UNLESS NOTED OTHERWISE.

**KEY NOTES:**  
 1. CONTROL AND MONITORING SIGNALS.

REV	DATE	BY	DESCRIPTION
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SGS

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CDS

DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 INSTRUMENTATION  
 PAC STORAGE AND FEED SYSTEM P&ID 1

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1"

IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

JOB NO.  
201237

DRAWING NO.  
**N01**

SHEET NO.  
37 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700N001.dwg

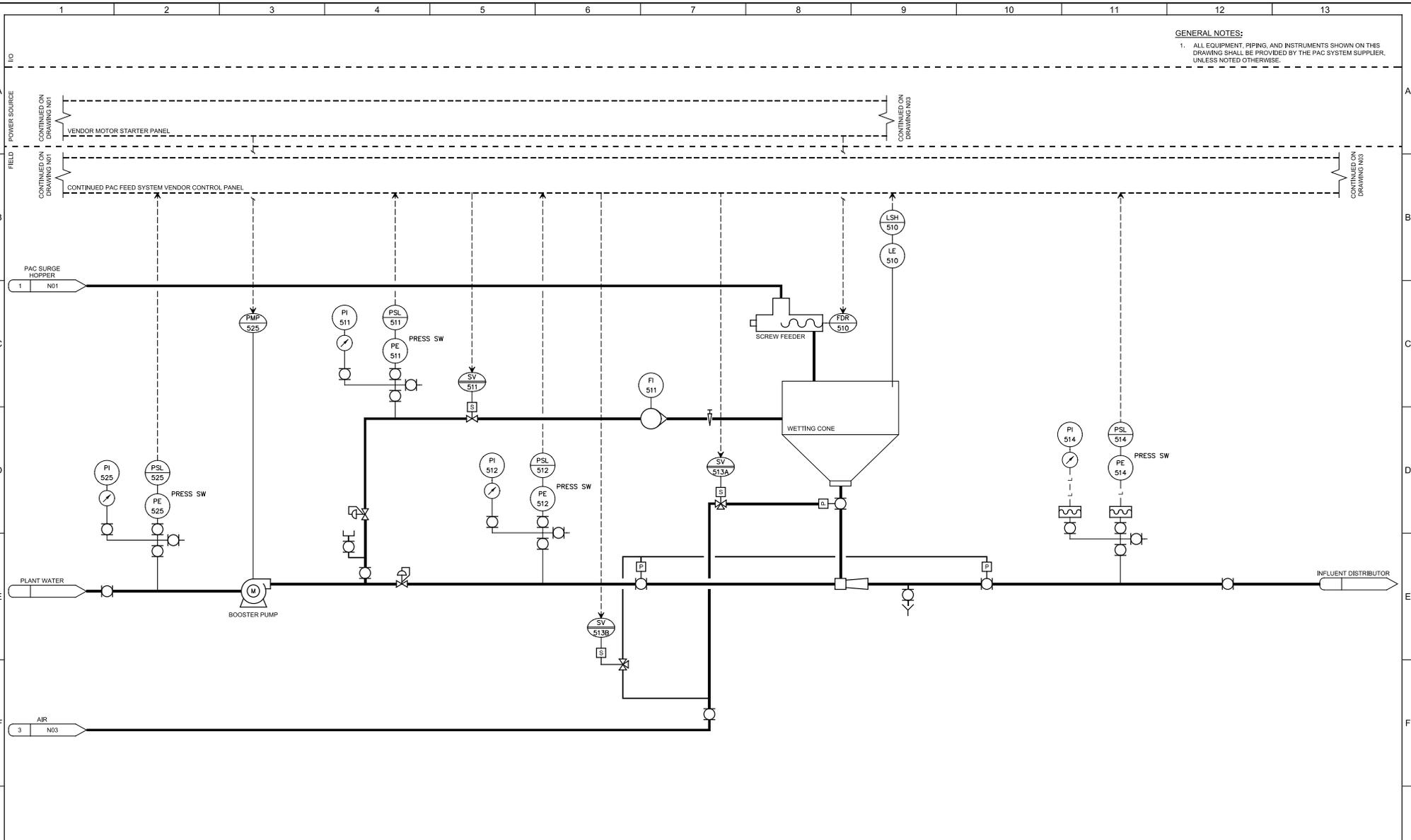
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User: ssp/PW

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Inception

GENERAL NOTES:  
1. ALL EQUIPMENT, PIPING, AND INSTRUMENTS SHOWN ON THIS DRAWING SHALL BE PROVIDED BY THE PAC SYSTEM SUPPLIER, UNLESS NOTED OTHERWISE.



REV	DATE	BY	DESCRIPTION
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DESIGNED  
MH

DRAWN  
SGS

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CDS

DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
INSTRUMENTATION  
PAC STORAGE AND FEED SYSTEM P&ID 2

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"

JOB NO.  
201237

DRAWING NO.  
N02

SHEET NO.  
38 OF 46

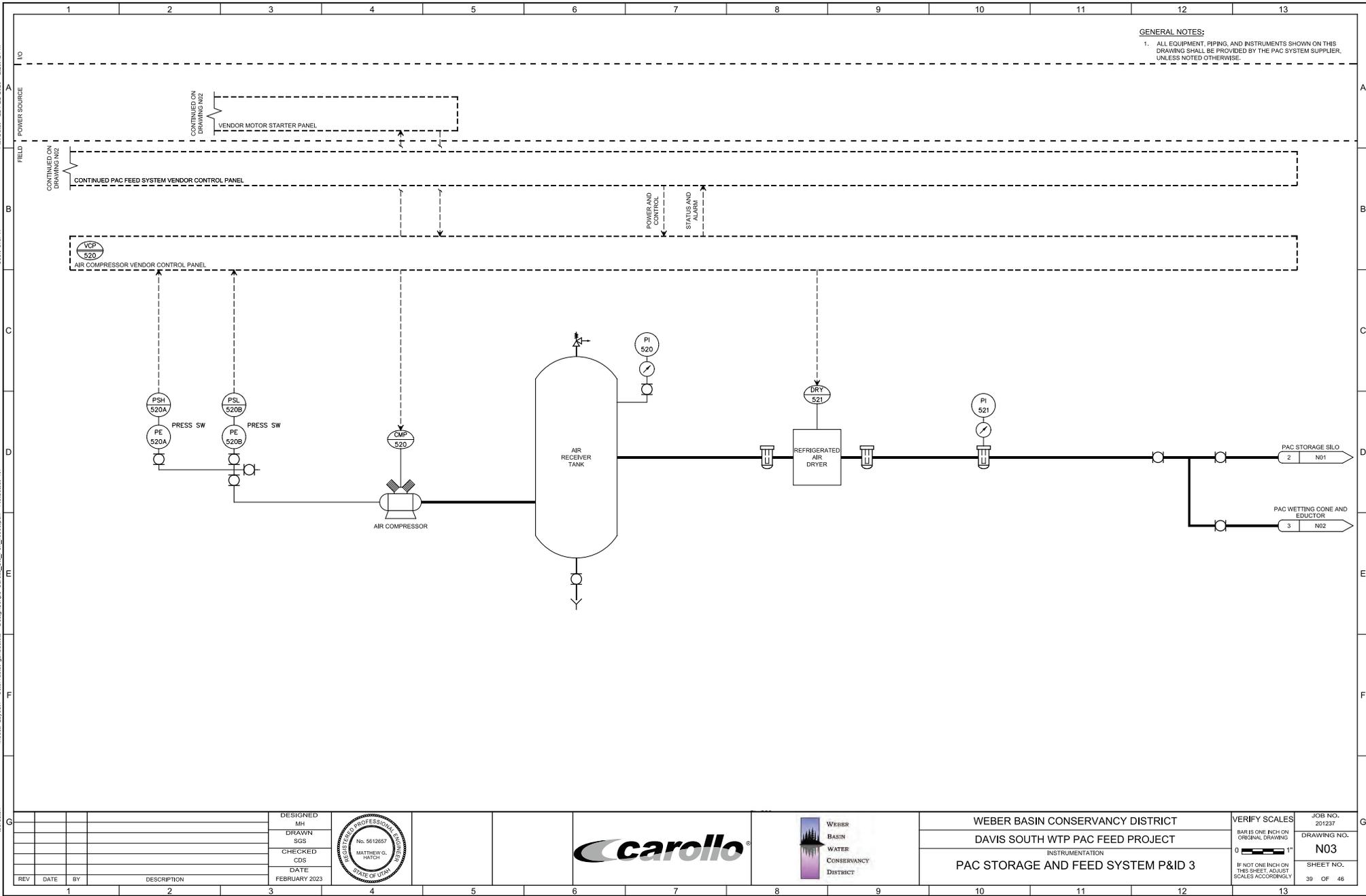
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User: ssp/PW

Model: Layout - Color/Title: g:\hds\cch... Design/Sheet: Carollo\_S&P\_Pac\_Feed.dwg PktScale: 1:1

Inception



**GENERAL NOTES:**  
 1. ALL EQUIPMENT, PIPING, AND INSTRUMENTS SHOWN ON THIS DRAWING SHALL BE PROVIDED BY THE PAC SYSTEM SUPPLIER, UNLESS NOTED OTHERWISE.

REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED	MH
DRAWN	SGS
CHECKED	CDS
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 INSTRUMENTATION  
 PAC STORAGE AND FEED SYSTEM P&ID 3

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 11'  
 IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

JOB NO. 201237  
 DRAWING NO. N03  
 SHEET NO. 39 OF 46

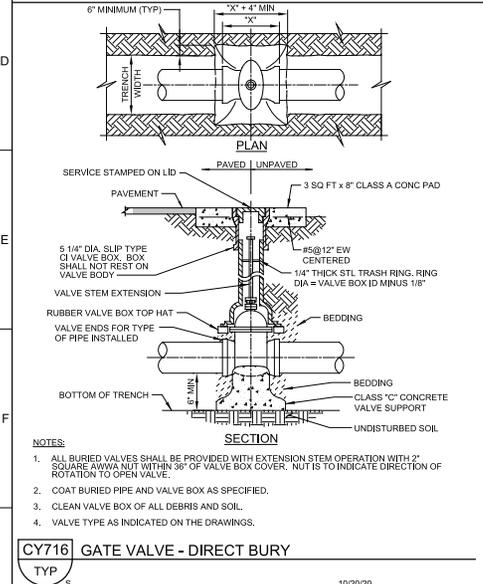
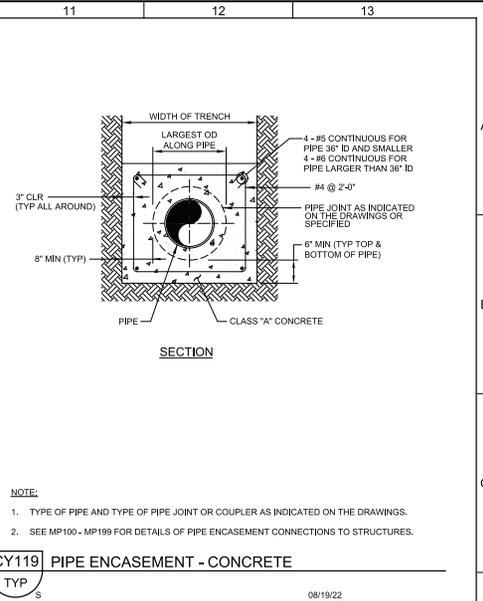
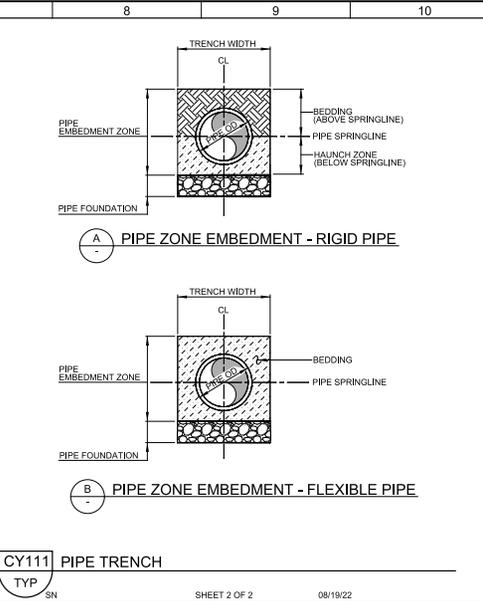
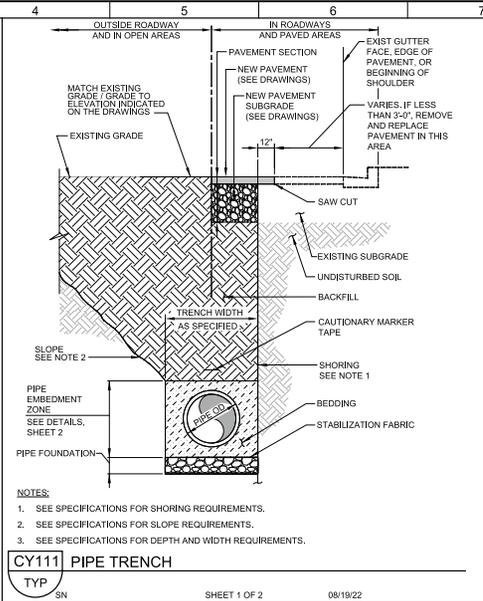
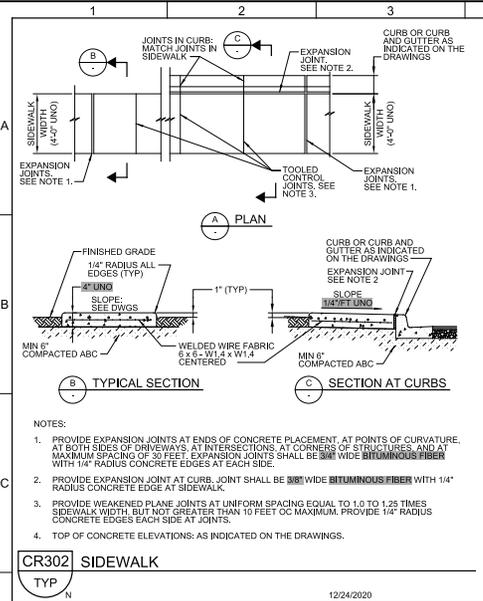
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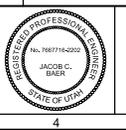
User: rrpw

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LAST SAVED BY: rrpw



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CHECKED	CRKJ
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT		VERIFY SCALES	JOB NO.
DAVIS SOUTH WTP PAC FEED PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	201237
TYPICAL DETAILS		0" = 1"	DRAWING NO.
CIVIL		IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	TC01
			SHEET NO.
			40 OF 46

Plot Date: 22-FEB-2023 2:30:08 PM

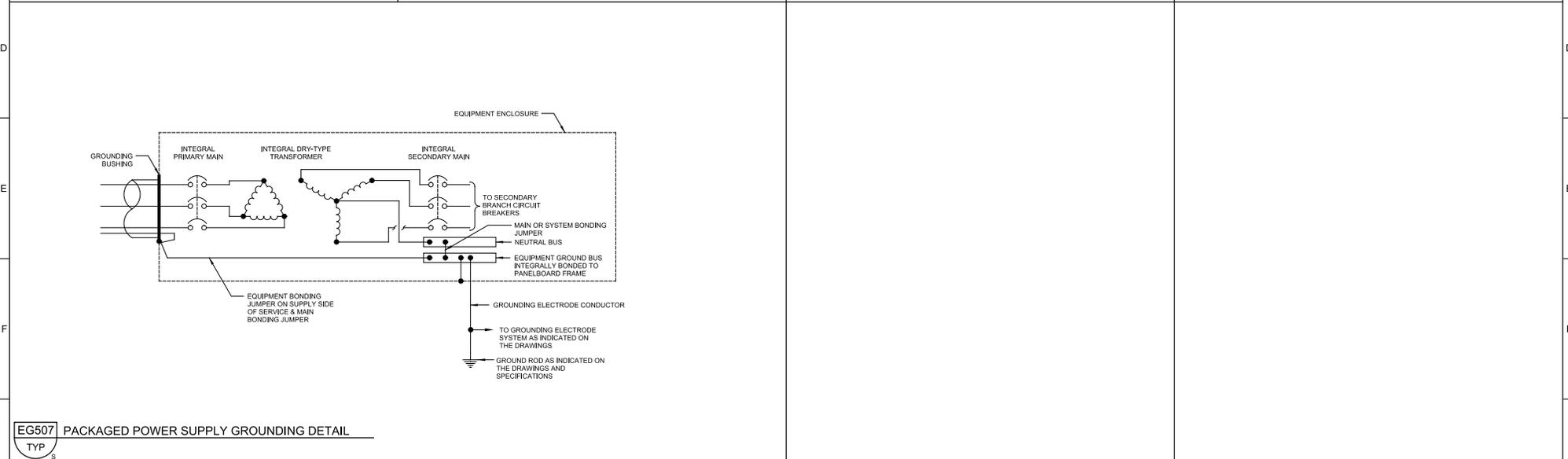
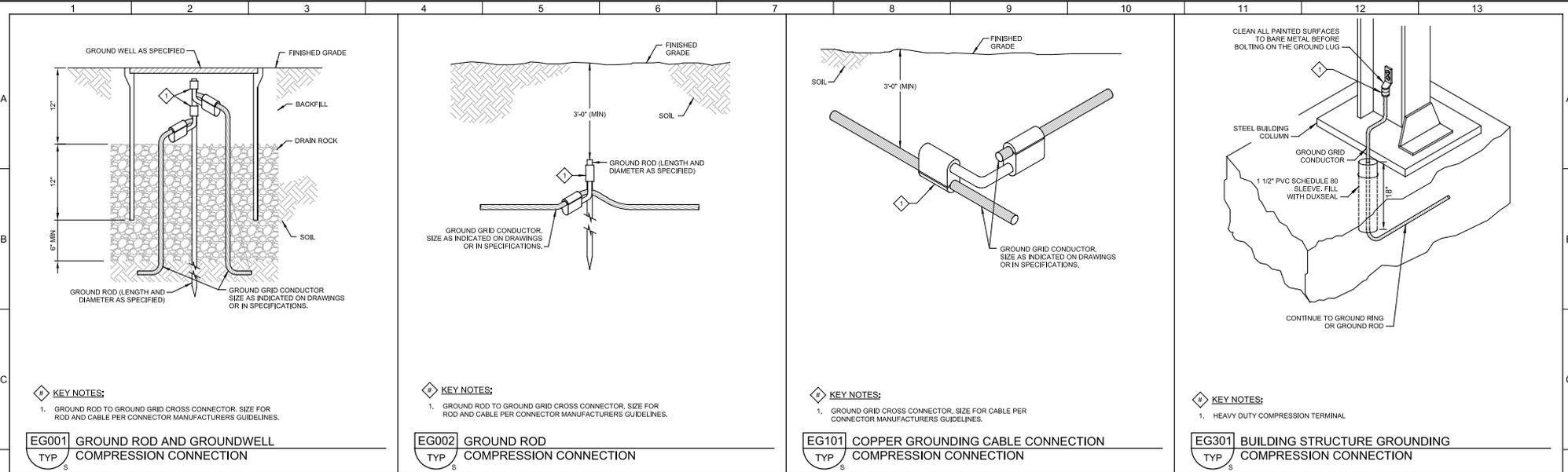
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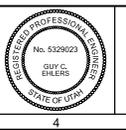
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Plot Scale: 1:1

LAST SAVED BY: rmoore



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DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
 DAVIS SOUTH WTP PAC FEED PROJECT  
 TYPICAL DETAILS  
**ELECTRICAL 1**

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	201237
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	TE01
	SHEET NO.
	41 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700TE01.dgn

Plot Date: 22-FEB-2023 2:30:03 PM

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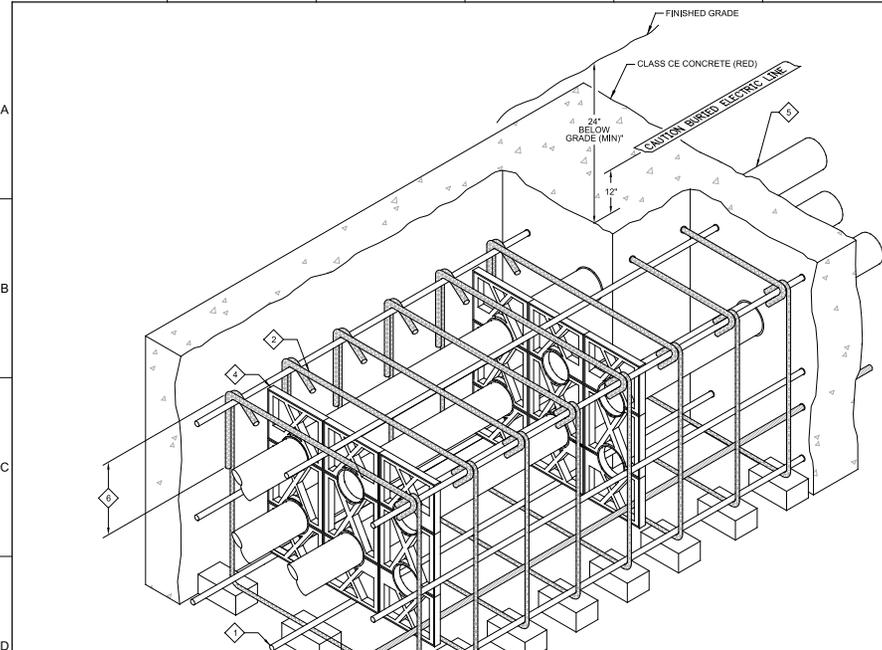
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Model Layout

Color/Tables: gtdwg.ctb

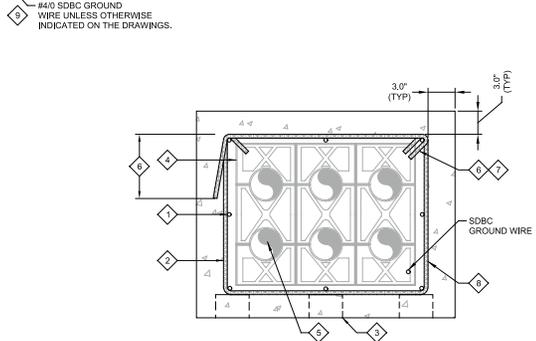
LAST SAVED BY: rrp/mtb

1 2 3 4 5 6 7 8 9 10 11 12 13

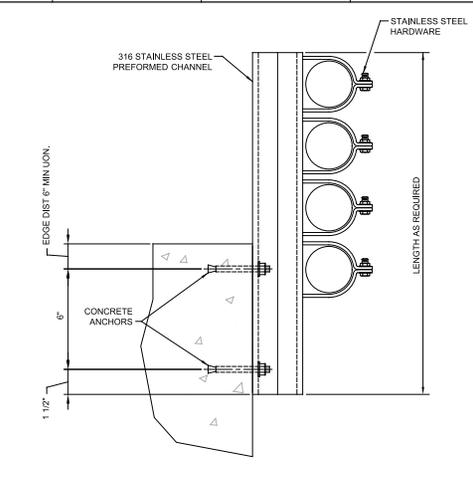


- GENERAL NOTES:**
- DIMENSIONS SHOWN ARE MINIMUM.
  - ADJUST SIZE OF DUCT BANK BASED UPON THESE GUIDELINES AND THE DUCT BANK SPECIFICATION TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS WITHIN DUCT BANK. REFER TO DUCT BANK SECTIONS, AND CONDUIT SCHEDULE FOR NUMBER AND SIZE OF CONDUITS.
  - MAKE PROVISIONS TO PREVENT CONDUIT FLOTATION DURING CONCRETE PLACEMENT & CURING.

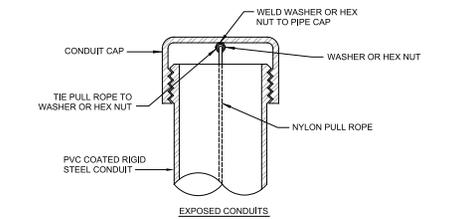
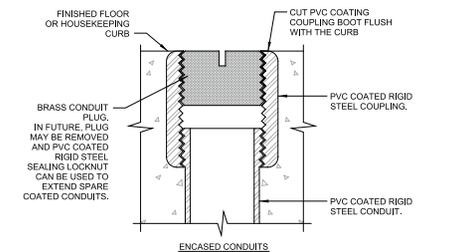
- KEY NOTES:**
- #4 REINFORCING STEEL 12" MAXIMUM ON CENTER AROUND ENTIRE PERIMETER OF DUCT BANK.
  - #4 REINFORCING STEEL TIES MAXIMUM 24" ON CENTER ALONG LENGTH OF DUCT BANK.
  - MINIMUM OF TWO PRECAST CONCRETE BAR SUPPORTS PLACED UNDER A TIE AT EACH PVC CONDUIT SPACER ALONG LENGTH OF DUCT BANK. PROVIDE PRECAST BAR SUPPORTS AT INTERVALS OF 24" TO REDUCE DEFLECTION.
  - PVC CONDUIT SPACERS ON 8-1/2" CENTERS (MAXIMUM), LOCATE 12" FROM TIES.
  - REFER TO DUCT BANK SECTIONS AND SPECIFICATIONS FOR CONDUIT REQUIREMENTS.
  - 1'-4" OR 135 DEGREE HOOK FOR SHALLOW DUCT BANKS SHALLOWER THAN 21"
  - CONTRACTOR'S OPTION TO PROVIDE 1'-4" LAP LENGTH EACH SIDE OF HORIZONTAL TIE.
  - LOWER PORTION OF TIES COULD BE U-BARS IF UPPER PORTIONS PROVIDES 1'-4" VERTICAL LEGS EACH SIDE.
  - BOND THE DUCT BANK GROUND WIRE TO THE GROUNDING SYSTEM AT BOTH ENDS OF THE DUCT BANK.



**EM001 REINFORCED CONCRETE DUCT BANK**  
TYP



**EM103 CONDUIT SUPPORT**  
TYP



- GENERAL NOTES:**
- PROVIDE 2" MIN CLEAR BETWEEN ADJACENT CONDUITS

**EM105 SPARE CONDUIT DETAIL**  
TYP

DESIGNED	CE
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CHECKED	CAC
DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
TYPICAL DETAILS  
**ELECTRICAL 2**

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	201237
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	TE02
	SHEET NO.
	42 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700TE02.dgn



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User: rrp/PW

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LAST SAVED BY: rmoore

**MA203 DRAIN - FLOOR OR EQUIPMENT DRAIN W/O TRAP**  
TYP

12/01/22

**NOTE:**  
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

**MP175 PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM**  
TYP

12/01/22

**NOTES:**  
1. HANGER SPACING SHALL BE BASED ON MAXIMUM SPAN ALLOWABLE FOR ANY INDIVIDUAL PIPE.  
2. ALL-THREAD ROD SHALL BE USED ONLY FOR DOUBLE SUPPORTS.  
3. ALL MATERIALS SHALL BE HOT-DIP GALVANIZED.

**MP175 PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM**  
TYP

12/01/22

**MP185 PIPE SUPPORT - OVERHEAD CONNECTIONS TO STEEL FRAMING**  
TYP

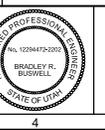
12/01/22

**MP218 PIPE SUPPORT - WALL - PREFORMED CHANNEL W/ PIPE CLIPS**  
TYP

12/01/22

**NOTES:**  
1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.  
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

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DATE	FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
TYPICAL DETAILS  
PIPING

VERIFY SCALES	JOB NO.
BAR IS ONE INCH ON ORIGINAL DRAWING	201237
0 1"	DRAWING NO.
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	TP01
	SHEET NO.
	44 OF 46

Plot Date: 22-FEB-2023 2:33:13 PM

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Model: Layout - ColorTable: gtabcolor.dwg Design/Script: C:\utils\_Sit\_Plan\_0905.dwg PlotScale: 1:1

LAST SAVED BY: mmoore

- SEE DIVISION 03 SPECIFICATION FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
  - 10" THICK OR LESS: #5 @ 12" EACH WAY.
  - MORE THAN 10" THICK: #6 @ 12" EACH WAY, EACH FACE.
- WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPICED TO THE DOWELS.
- SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
- PROVIDE STRIPUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
  - A. SLABS AND JOISTS:
    - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS #7 BARS AND SMALLER: 1"
    - #6 BARS AND LARGER: 1 1/2"
  - B. BEAMS AND COLUMNS:
    - FORMED CONCRETE SURFACES FOR DRY CONDITIONS: STRIRUPS, SPIRALS, AND TIES: 1 1/2"
    - PRINCIPAL REINFORCEMENT: 2"
  - C. WALLS:
    - FORMED CONCRETE SURFACES FOR DRY CONDITIONS: #7 BARS AND SMALLER: 1"
    - #8 BARS AND LARGER: 1 1/2"

- FOOTINGS AND SLABS ON GRADE:
  - FORMED VERTICAL CONCRETE SURFACES: 2"
  - AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS: 3"
  - TOP SURFACE OF FOOTINGS AND SLABS: SAME AS SLABS
- WATERSTOPS:
  - A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE. SPICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
  - B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS. SPICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
- CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
  - A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
  - B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THAN 3 TIMES DAILY.
- DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
  - A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f<sub>c</sub>).
  - B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f<sub>c</sub>).
- LAP SPLICES:
  - A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPLICE LENGTHS.
  - B. WHEN MULTIPLE BARS ARE SPICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH MINUS ONE BAR DIAMETER.
  - C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
  - D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
- FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

**TABLE 1: REINFORCING BAR LAP SPLICES; f<sub>c</sub> = 4500 PSI, F<sub>y</sub> = 60,000 PSI**

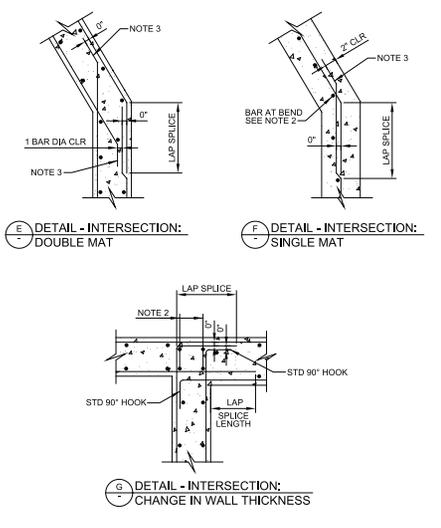
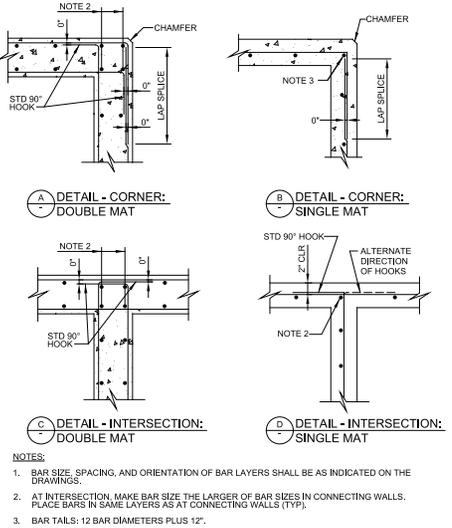
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43 *	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

- REINFORCING BAR LAP SPLICE TABLE NOTES:**
- TABULATED SPLICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
  - \*\* IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

**S101 REINFORCED CONCRETE NOTES**  
TYP SHEET 1 OF 3 03/12/19

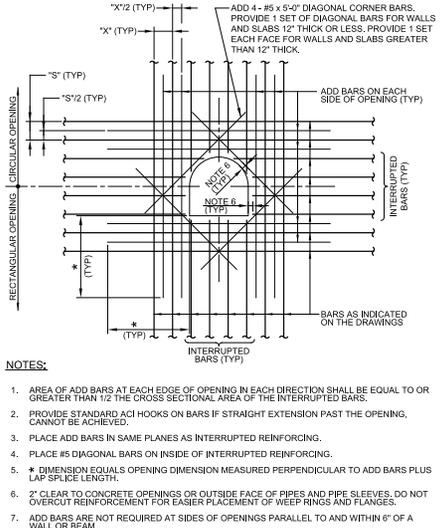
**S101 REINFORCED CONCRETE NOTES**  
TYP SHEET 2 OF 3 03/12/19

**S101 REINFORCED CONCRETE NOTES**  
TYP SHEET 3 OF 3 03/12/19



**S144 WALL REINFORCEMENT AT CORNERS & INTERSECTIONS**  
TYP SHEET 1 OF 2 05/31/16

**S144 WALL REINFORCEMENT AT CORNERS & INTERSECTIONS**  
TYP SHEET 2 OF 2 05/31/16



**S180 ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS**  
TYP SHEET 1 OF 1 03/12/19

REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED	CE
DRAWN	CE
CHECKED	FF
DATE	FEBRUARY 2023

**PROFESSIONAL STRUCTURAL ENGINEER**  
No. 780264-0200  
D. CRAIG BRINCK  
STATE OF ILLINOIS

**carollo**

WEBER  
BASIN  
WATER  
CONSERVANCY  
DISTRICT

**WEBER BASIN CONSERVANCY DISTRICT**  
**DAVIS SOUTH WTP PAC FEED PROJECT**  
TYPICAL DETAILS  
**STRUCTURAL 1**

VERIFY SCALES	JOB NO. 201237
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. TS01
0 1"	SHEET NO. 45 OF 46
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	

Plot Date: 22-FEB-2023, 2:03:25 PM

User: rcp-rw

Model: Layout - ColorTable: gtabcolor.ctb; Design/Script: Carullo\_S302.dwg; PlotScale: 1:1

LAST SAVED BY: rmoore

<p><b>S302 EQUIPMENT BASE</b> TYP</p> <p>12/29/17</p>	<p><b>S310 ANCHOR BOLT - EMBED AND SLEEVE</b> TYP</p> <p>05/20/15</p>	<p><b>S320 EQUIPMENT GROUTING WITH NON-SHRINK GROUT</b> TYP</p> <p>12/15/20</p>
<p><b>S322 EQUIPMENT GROUTING WITH NON-SHRINK EPOXY GROUT</b> TYP</p> <p>12/29/17</p>		

<p><b>S350 ELECTRICAL EQUIPMENT HOUSEKEEPING PAD</b> TYP</p> <p>02/21/14</p>	<p><b>S559 GRATING - FASTENERS (ALL MATERIALS)</b> TYP</p> <p>03/16/21</p>
--	--

<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>DESIGNED</td><td>CE</td></tr> <tr><td>DRAWN</td><td>CE</td></tr> <tr><td>CHECKED</td><td>FF</td></tr> <tr><td>DATE</td><td>FEBRUARY 2023</td></tr> </table>	DESIGNED	CE	DRAWN	CE	CHECKED	FF	DATE	FEBRUARY 2023				<b>WEBER BASIN CONSERVANCY DISTRICT</b> <b>DAVIS SOUTH WTP PAC FEED PROJECT</b> TYPICAL DETAILS <b>STRUCTURAL 2</b>	<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING 0 1'	JOB NO. 201237 DRAWING NO. <b>TS02</b> SHEET NO. OF 46
DESIGNED	CE													
DRAWN	CE													
CHECKED	FF													
DATE	FEBRUARY 2023													

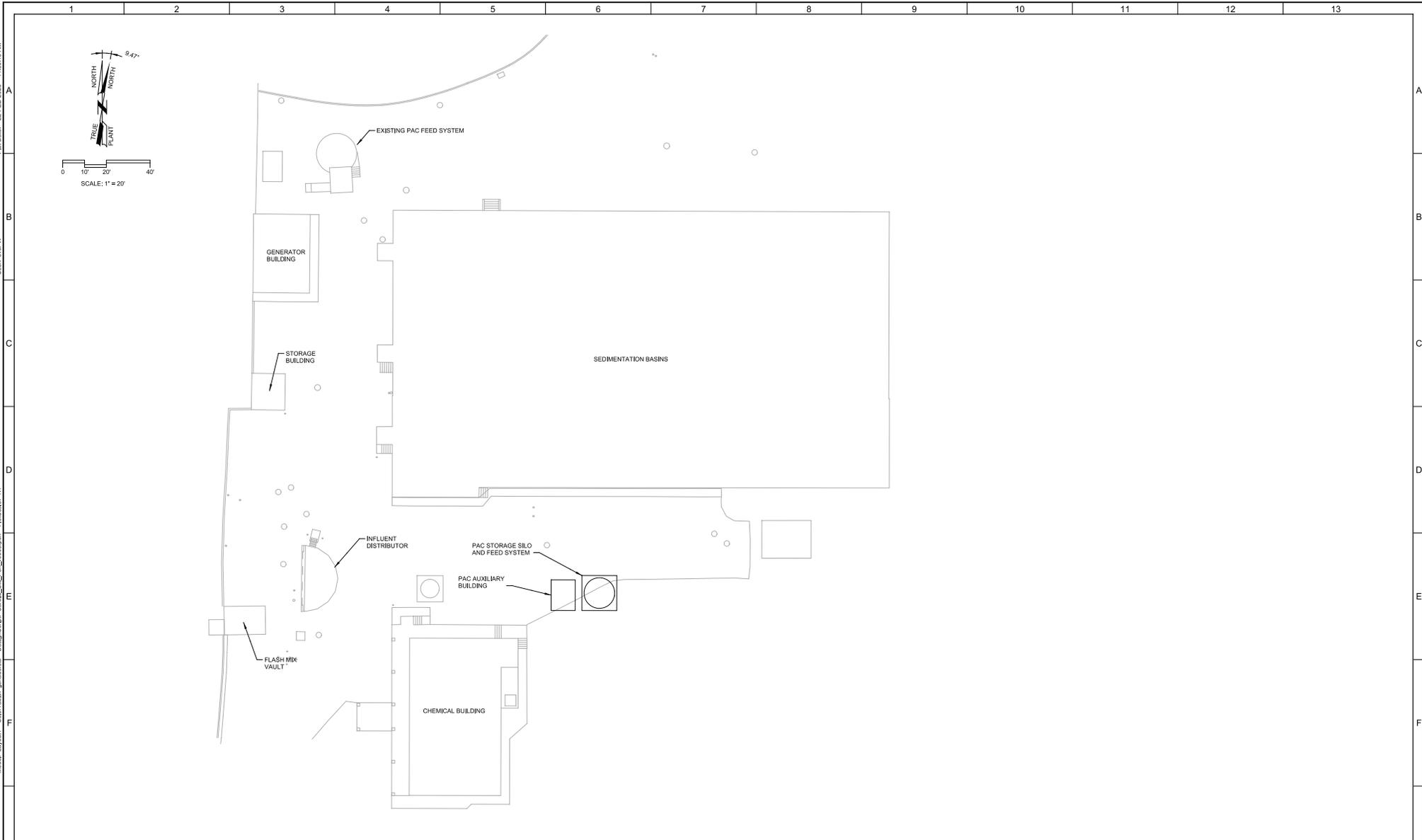
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Plot Date: 22-FEB-2023 11:09:49 AM

User: rrp/PW

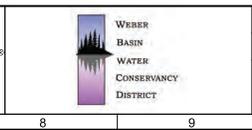
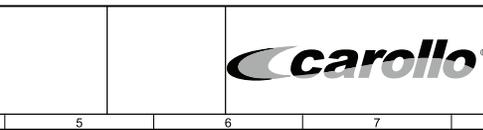
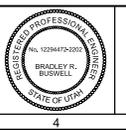
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LAST SAVED BY: rmoonts



REV	DATE	BY	DESCRIPTION

DESIGNED  
BRB  
DRAWN  
MM  
CHECKED  
CRKJ  
DATE  
FEBRUARY 2023



WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
GENERAL  
OVERALL SITE PLAN

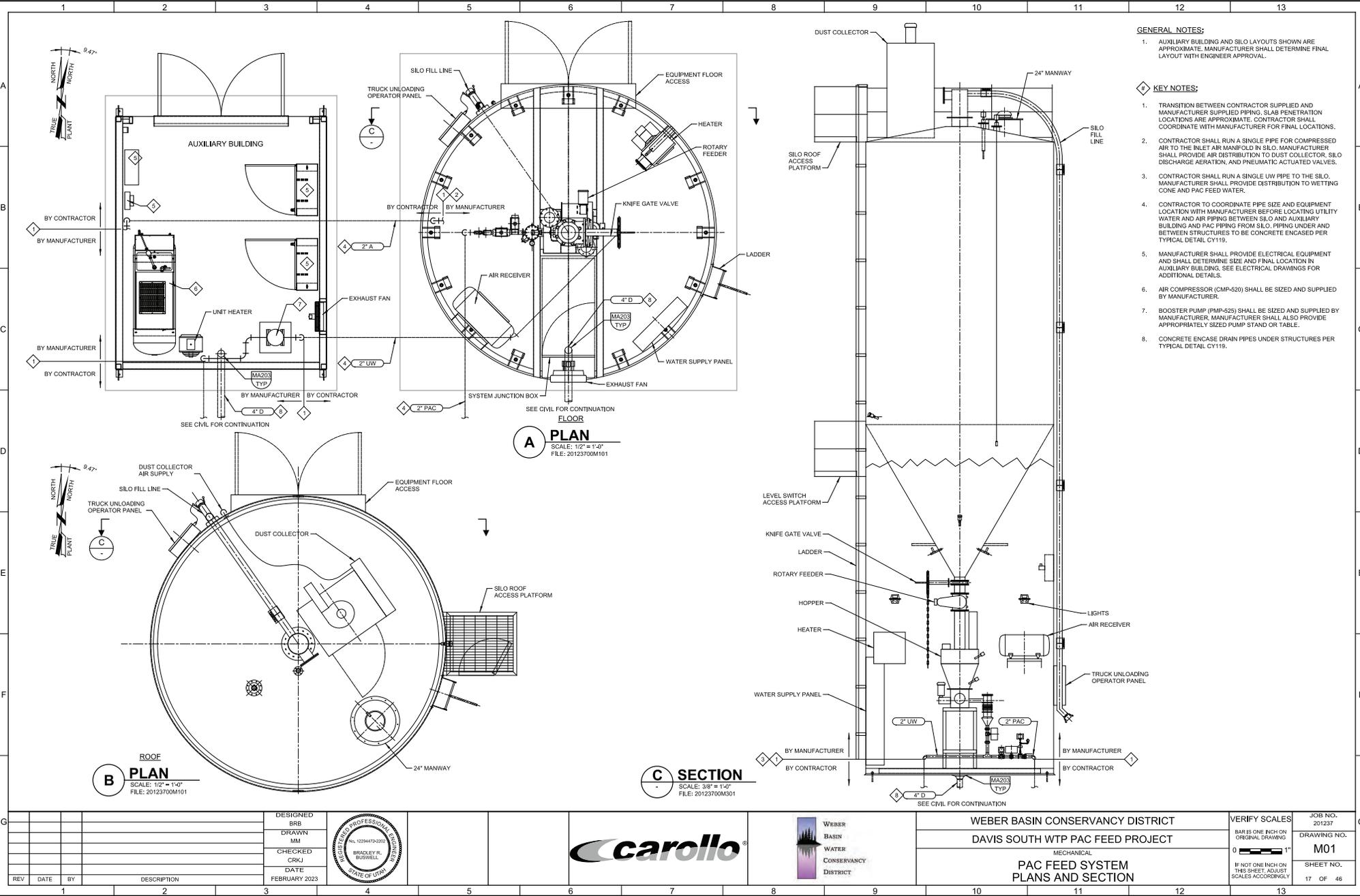
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 201237
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY	DRAWING NO. G06
	SHEET NO. 6 OF 46

Plot Date: 22-FEB-2023 2:16:41 PM

User: rtp/PW

Model: Layout - ColorTable: gtdhdc.ctb Design/Script: Carullo\_Sit\_Plan\_0905.dwg PlotScale: 1:1

LAST SAVED BY: rmoats



- GENERAL NOTES:**
- AUXILIARY BUILDING AND SILO LAYOUTS SHOWN ARE APPROXIMATE. MANUFACTURER SHALL DETERMINE FINAL LAYOUT WITH ENGINEER APPROVAL.
- KEY NOTES:**
- TRANSITION BETWEEN CONTRACTOR SUPPLIED AND MANUFACTURER SUPPLIED PIPING, SLAB PENETRATION LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER FOR FINAL LOCATIONS.
  - CONTRACTOR SHALL RUN A SINGLE PIPE FOR COMPRESSED AIR TO THE INLET AIR MANIFOLD IN SILO. MANUFACTURER SHALL PROVIDE AIR DISTRIBUTION TO DUST COLLECTOR, SILO DISCHARGE AERATION, AND PNEUMATIC ACTUATED VALVES.
  - CONTRACTOR SHALL RUN A SINGLE LW PIPE TO THE SILO. MANUFACTURER SHALL PROVIDE DISTRIBUTION TO WETTING CONE AND PAC FEED WATER.
  - CONTRACTOR TO COORDINATE PIPE SIZE AND EQUIPMENT LOCATION WITH MANUFACTURER BEFORE LOCATING UTILITY WATER AND AIR PIPING BETWEEN SILO AND AUXILIARY BUILDING AND PAC PIPING FROM SILO. PIPING UNDER AND BETWEEN STRUCTURES TO BE CONCRETE ENCASED PER TYPICAL DETAIL CY119.
  - MANUFACTURER SHALL PROVIDE ELECTRICAL EQUIPMENT AND SHALL DETERMINE SIZE AND FINAL LOCATION IN AUXILIARY BUILDING. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS.
  - AIR COMPRESSOR (CMP-520) SHALL BE SIZED AND SUPPLIED BY MANUFACTURER.
  - BOOSTER PUMP (PMP-525) SHALL BE SIZED AND SUPPLIED BY MANUFACTURER. MANUFACTURER SHALL ALSO PROVIDE APPROPRIATELY SIZED PUMP STAND OR TABLE.
  - CONCRETE ENCASE DRAIN PIPES UNDER STRUCTURES PER TYPICAL DETAIL CY119.

REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED  
BRB  
DRAWN  
MM  
CHECKED  
CRKJ  
DATE  
FEBRUARY 2023

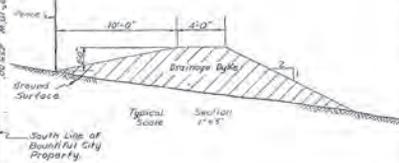
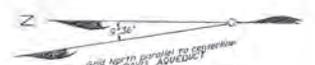
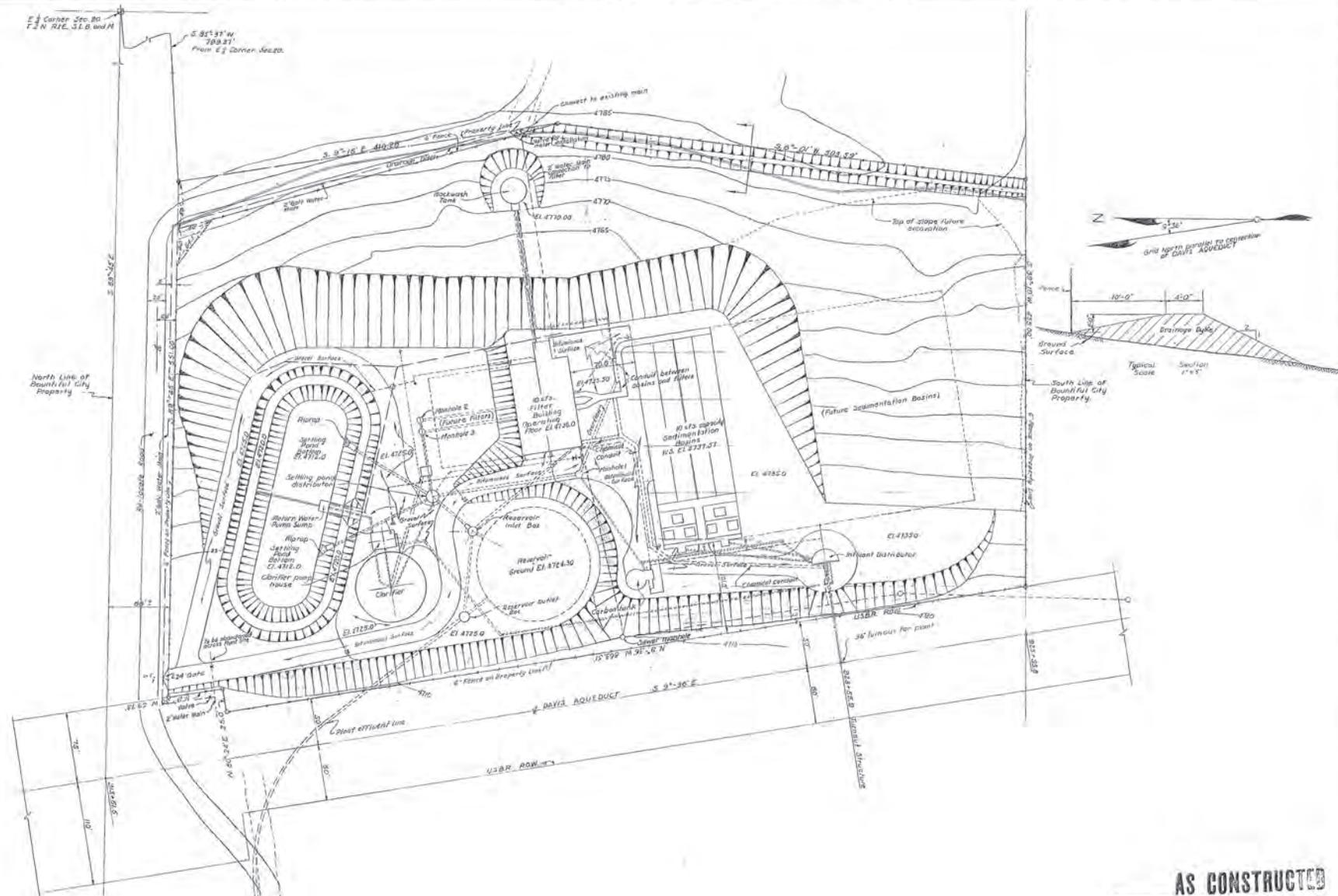


WEBER BASIN CONSERVANCY DISTRICT  
DAVIS SOUTH WTP PAC FEED PROJECT  
MECHANICAL  
PAC FEED SYSTEM  
PLANS AND SECTION

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1'  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.  
201237  
DRAWING NO.  
M01  
SHEET NO.  
17 OF 46

PROJECT NO. 201237-100000 FILE NAME: 20123700M01.dgn



**AS CONSTRUCTED**

TEMPLETON AND LINKE - CONSULTING ENGINEERS 500 DOOLY BUILDING, SALT LAKE CITY, UTAH			
WEBER BASIN WATER CONSERVANCY DISTRICT WATER PURIFICATION PLANT 4 PLOT PLAN			
DRAWN	R.E.	SCALE	DWG. NO.
CHECKED	H.A.L.D.	1" = 60'	1
TRACED		DATE	FILE NO.
DESIGNED		NOV 1955	6E-4
APPROVED	H.E.E.		

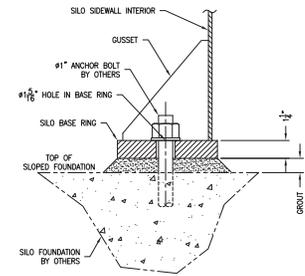
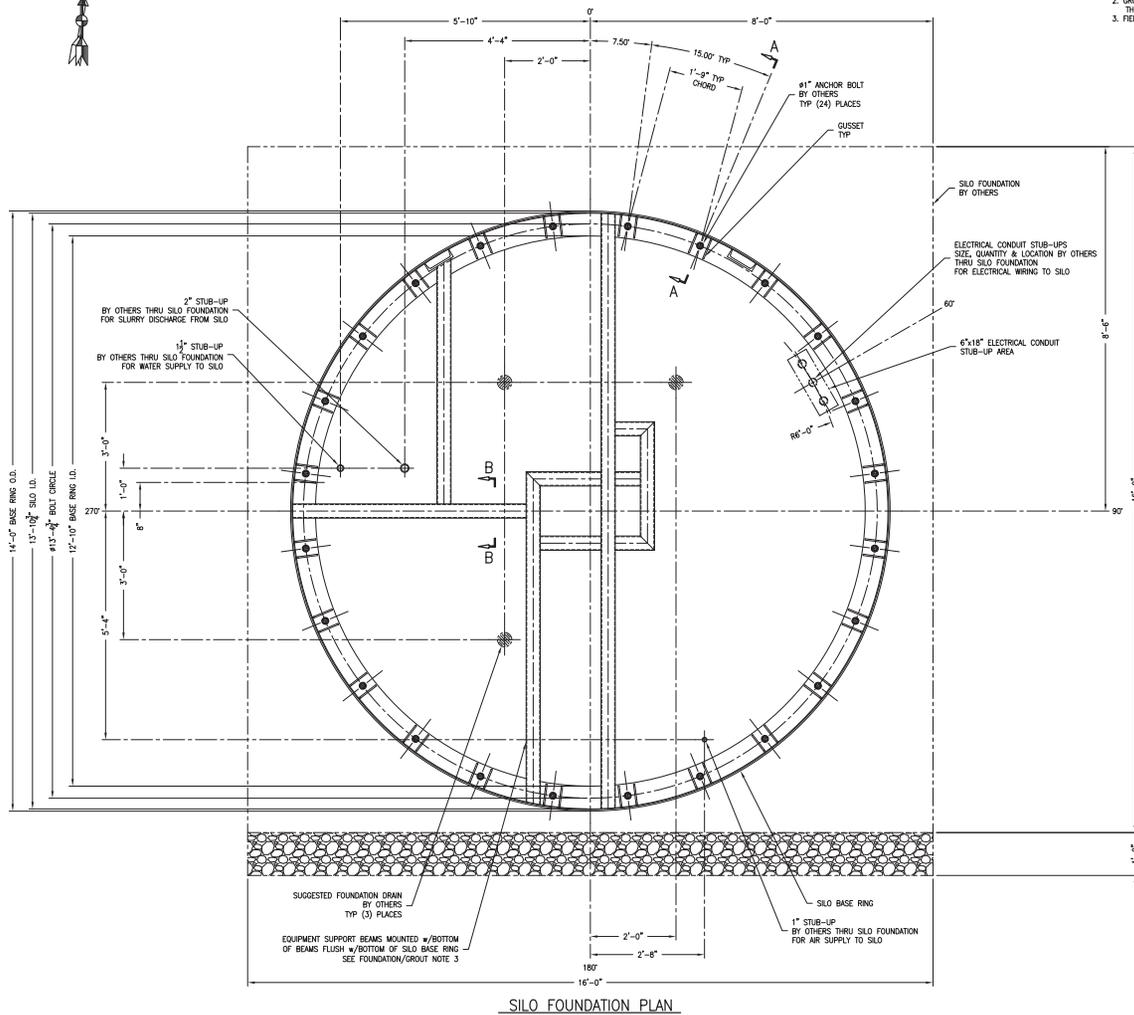
SEE OTHER SHEETS OF THIS PROJECT FOR  
E. & S. PROPERTY LINES AND ADJACENT LOTS



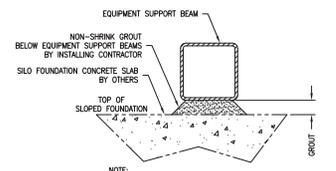
**SILO LOADING DATA NOTES:**  
 1. WIND AND SEISMIC LOADS ARE ULTIMATE LOADS.  
 2. ALL OTHER LOADS ARE SERVICE LOADS.

**FOUNDATION/GROUT NOTES:**  
 1. FOUNDATION MUST BE LEVEL TO  $\pm 1/8"$  IN ANY 30' CIRCUMFERENCE AND NO MORE THAN  $1/2"$  VARIANCE IN ANY ONE PLANE AROUND THE ENTIRE CIRCUMFERENCE.  
 2. GROUT MUST BE FLOWABLE, SELF-LEVELING, NON-SHRINK, WITH 100% CONTACT WITH THE BOTTOM OF SILO BASE RING.  
 3. FIELD TO GROUT UNDER EQUIPMENT BASE BEAMS.

SILO LOADING DATA			
SILO INSIDE DIAMETER:	13'-10"	ROOF LIVE LOAD:	9099 LBS.
SILO EAVE HEIGHT:	35'-0"	ROOF SNOW LOAD:	6320 LBS.
MATERIAL IN SILO:	POWDER ACTIVATED CARBON	TOTAL ICE LOAD:	4417 LBS.
PRODUCT COMPACTED BULK DENSITY:	35.0 LBS./FT. <sup>3</sup>	EQUIPMENT LIVE LOAD:	0 LBS.
ROOF LIVE LOAD:	60.0 LBS./FT. <sup>2</sup>	EQUIPMENT DEAD LOAD:	2000 LBS.
PLATFORM LIVE LOAD:	100.0 LBS./FT. <sup>2</sup>	EQUIPMENT PRODUCT LOAD:	735 LBS.
ENVIRONMENTAL LOADS PER:		TANK DEAD LOAD:	20663 LBS.
BC 2021/2018 - ASCE 7 2016		PRODUCT LOAD:	76176 LBS.
RISK CATEGORY:	3	SHEAR WIND:	8703 LBS.
SNOW:	GROUND SNOW LOAD: 41.0 LBS./FT. <sup>2</sup>	MOMENT WIND:	172115 FT.-LBS.
EXPOSURE:	C	SHEAR SEISMIC:	85802 LBS.
ROOF SNOW LOAD:	41.7 LBS./FT. <sup>2</sup>	MOMENT SEISMIC:	2077927 FT.-LBS.
IC:	1.10	ANCHOR ROD QUANTITY:	24 EQ. SPACED AROUND PERIMETER
ICE:	ICE THICKNESS: 0.5 IN	ASD LOAD COMBINATIONS:	
ROOF ICE LOAD:	1.8 LBS./FT. <sup>2</sup>	IC:	1.25
WIND:	WIND VELOCITY: 109 MPH	SEISMIC:	1.25
EXPOSURE:	C	S <sub>ds</sub> :	1.056 (PER CAROLLO SPEC)
WIND VELOCITY:	109 MPH	S <sub>d1</sub> :	0.886 (PER CAROLLO SPEC)
SEISMIC:	1.25	R:	2.00
WIND VELOCITY:	109 MPH	V:	0.858 W
SEISMIC:	1.25	SDC:	E
MAX. TENSION PER ANCHOR ROD:	15113 LBS.		
MAX. SHEAR PER ANCHOR ROD:	1915 LBS.		
MAX. TENSION PER ANCHOR ROD:	21414 LBS.		
MAX. SHEAR PER ANCHOR ROD:	2251 LBS.		



**SECTION "A-A"**  
 ANCHOR BOLT HOLD DOWN ELEVATION  
 TYP (24) PLACES  
 SCALE: 3"=1'-0"



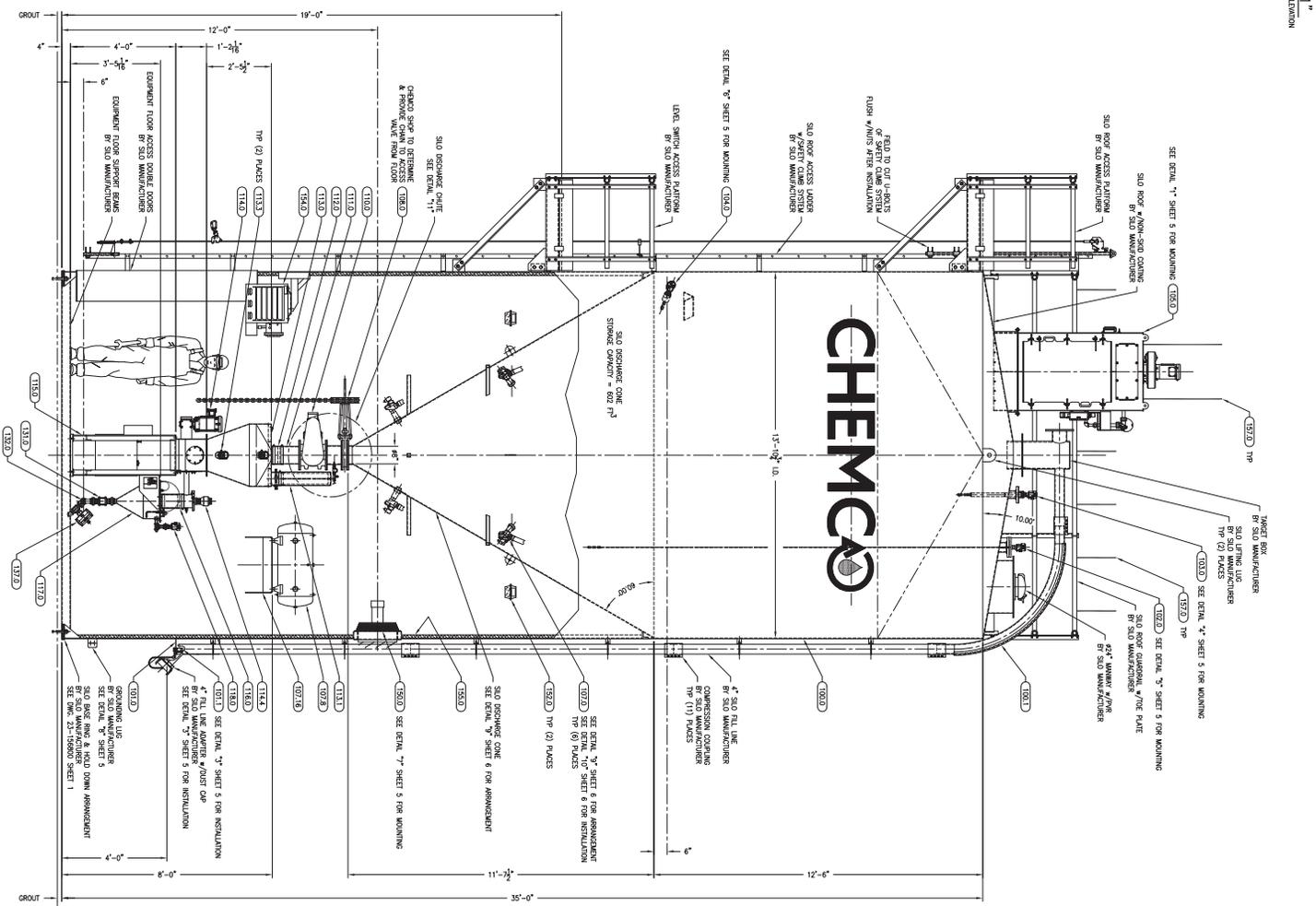
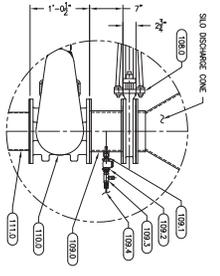
**SECTION "B-B"**  
 TYPICAL EQUIPMENT SUPPORT BEAM GROUTING ELEVATION  
 SCALE: 3"=1'-0"

NOTE:  
 INSTALLING CONTRACTOR TO LEAVE OPENINGS IN GROUT BELOW SUPPORT BEAMS AS REQ'D TO ALLOW FOR DRAINING.

**SILO FOUNDATION PLAN**

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	CHEMCO SYSTEMS, L.P. 1500 INDUSTRIAL DRIVE MONONGAHELA, PA	
	SHT. DESCRIPTION: SILO FOUNDATION & ANCHOR BOLT PLAN	
	DWC. DESCRIPTION: WEBER BASIN WTP POWDER ACTIVATED CARBON SILO BOUNTIFUL, UT	
	DATE: 12/22/23 0 GK INITIAL ISSUE	
SCALE: 3/4" = 1'-0"	DATE: OCTOBER 24, 2023	CHECKED BY: J. KENNEDY
DRAWN BY: G. KUDRAT		D DWG NO.: 23-156800
		APPROVED BY: J. KENNEDY
		SHEET NO. 1



**CHEMCO SYSTEMS, L.P.**  
1500 INDUSTRIAL DRIVE, MONROESVILLE, PA

**SILO ELEVATION**

DATE: 12/22/23  
SCALE: 1/2" = 1'-0"

DATE	REV	BY	REVISIONS
12/22/23	0	CK	INITIAL ISSUE

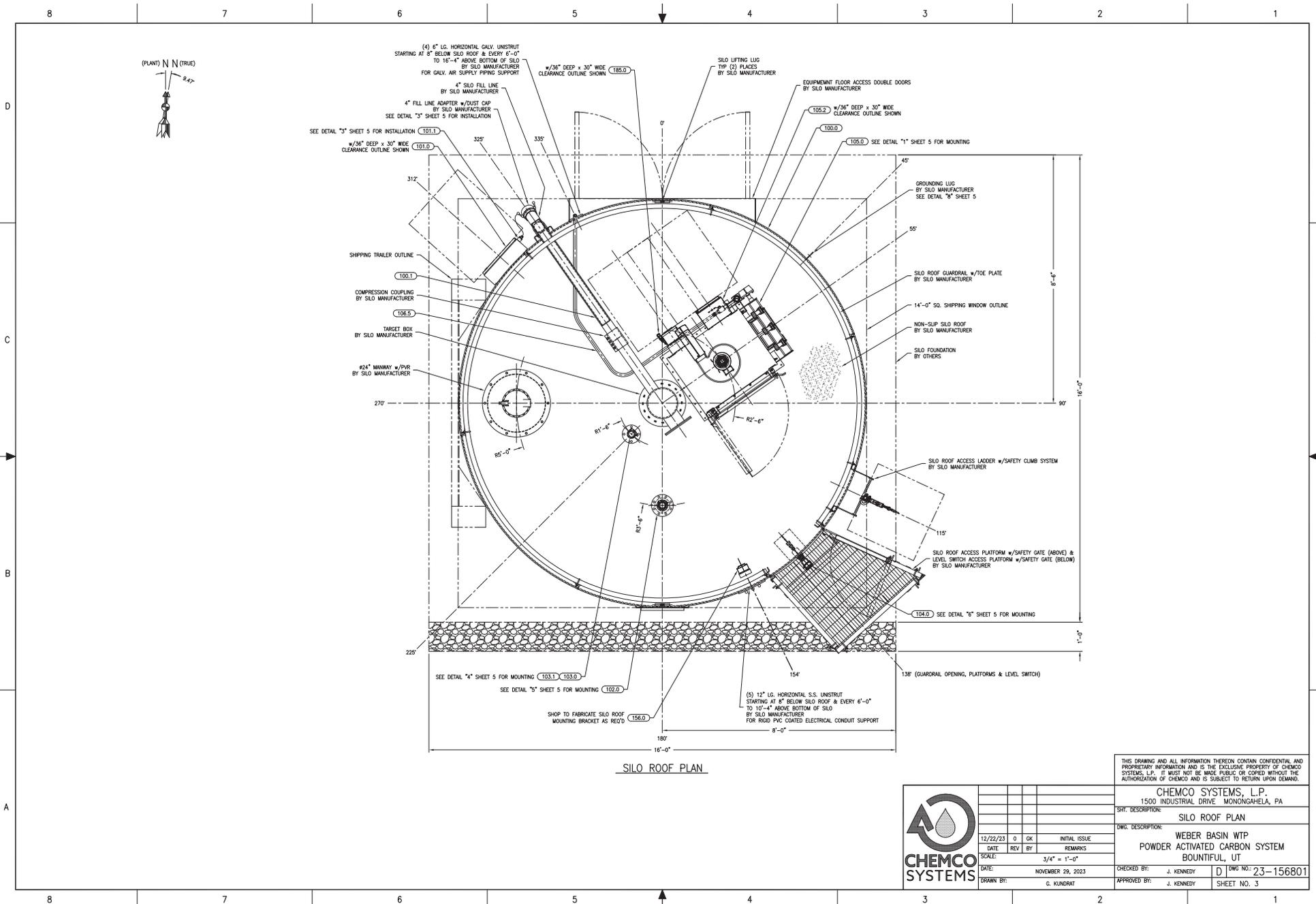
DESIGNER: L. KENNEDY  
CHECKED BY: L. KENNEDY  
APPROVED BY: L. KENNEDY

SHEET NO. 2 OF 2  
PROJECT NO. 23-156801

**CHEMCO SYSTEMS**

NOTE:  
1. ELEVATION VIEWS ARE FOR ELEVATION ONLY.  
2. SEE PLAN VIEWS FOR CORRECT DIMENSIONS.

**SILO ELEVATION**



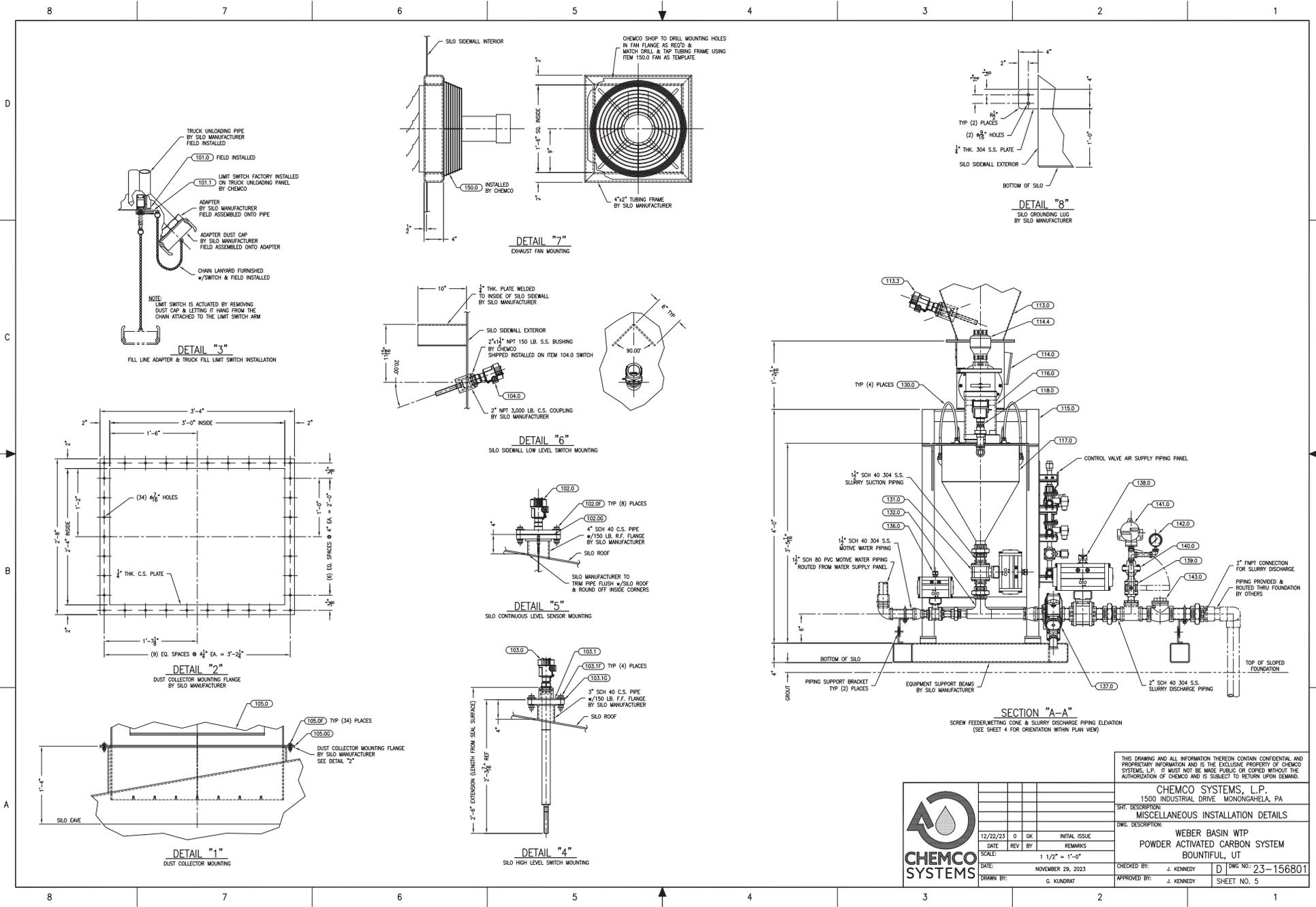
SILO ROOF PLAN

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CHEMCO SYSTEMS, L.P. 1500 INDUSTRIAL DRIVE MONONGAHELA, PA	
SHEET DESCRIPTION: SILO ROOF PLAN	
DWC DESCRIPTION: WEBER BASIN WTP POWDER ACTIVATED CARBON SYSTEM BOUNTIFUL, UT	
DATE: 12/22/23	INITIAL ISSUE
DATE: 0	REV BY
SCALE: 3/4" = 1'-0"	REMARKS
DATE: NOVEMBER 29, 2023	CHECKED BY: J. KENNEDY
DRAWN BY: G. KUNDRAJ	APPROVED BY: J. KENNEDY
DWG NO.: 23-156801	SHEET NO. 3







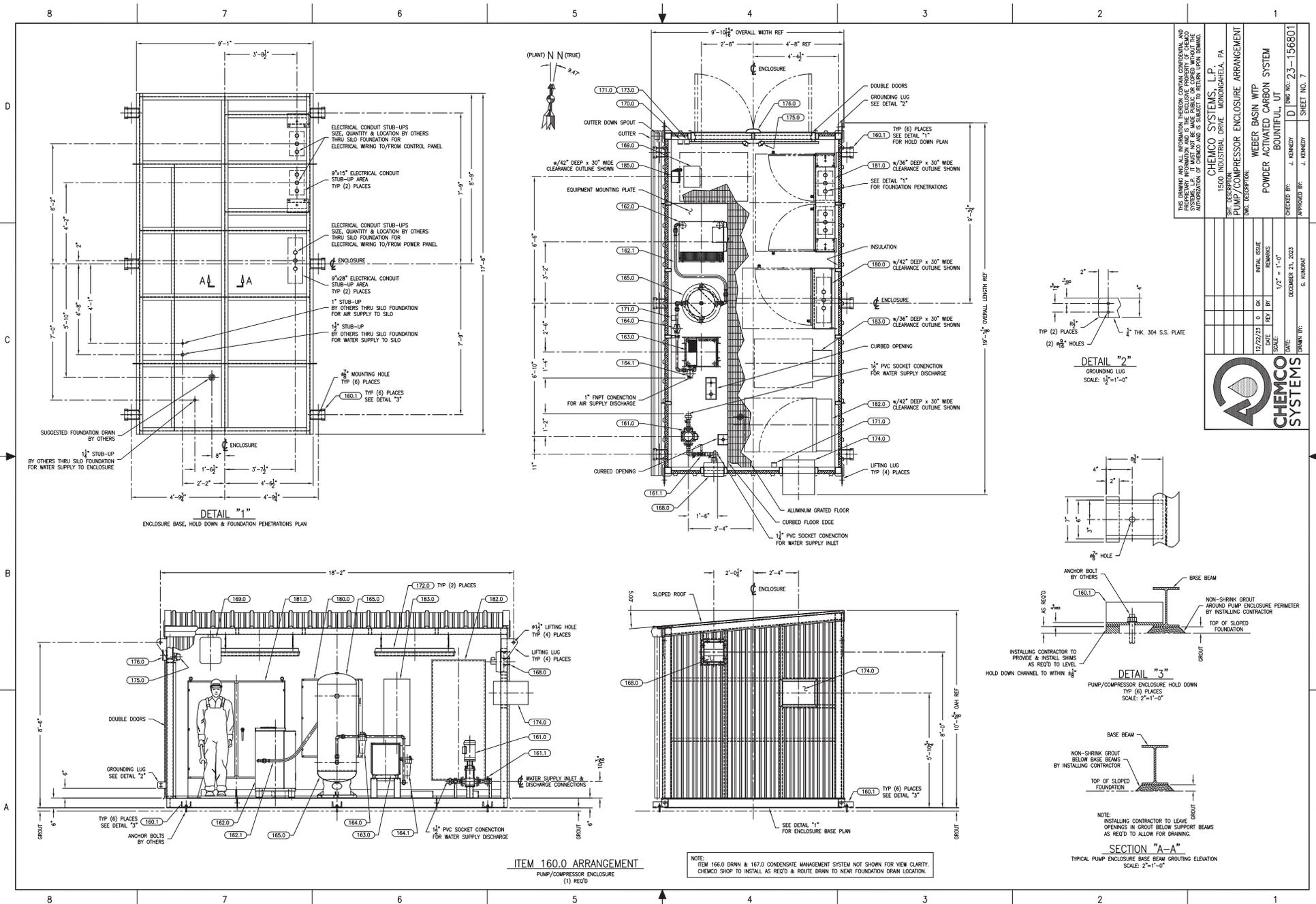
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12/22/23	0	GK	INITIAL ISSUE
DATE	REV	BY	REMARKS
SCALE	1 1/2" = 1'-0"		
DATE	NOVEMBER 29, 2023		
DRAWN BY:	G. KLUDRAT		

CHEMCO SYSTEMS, L.P. 1500 INDUSTRIAL DRIVE, MONONGAHELA, PA	
SHR. DESCRIPTION: MISCELLANEOUS INSTALLATION DETAILS	
DWS. DESCRIPTION: WEBER BASIN WTP POWDER ACTIVATED CARBON SYSTEM BOUNTIFUL, UT	
CHECKED BY:	J. KENNEDY
APPROVED BY:	J. KENNEDY
DWS. NO.:	23-156801
SHEET NO. 5	





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**CHEMCO SYSTEMS, L.P.**  
 1500 INDUSTRIAL DRIVE, MONROEGHLEA, PA

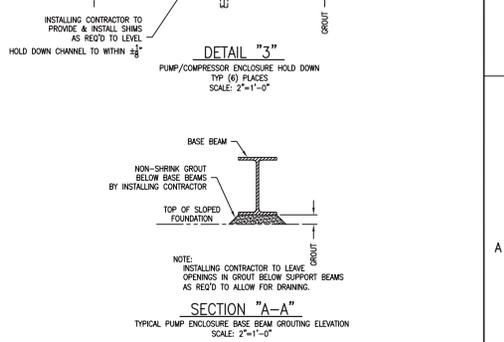
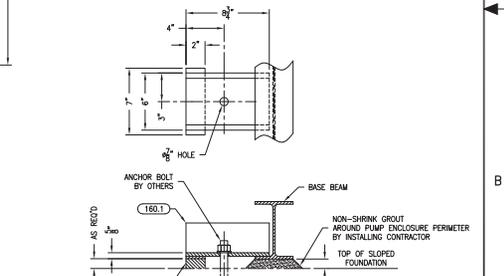
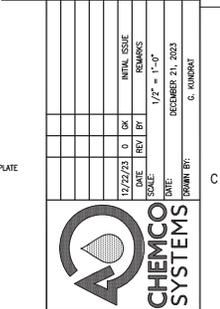
**SITE DESCRIPTION:**  
 PUMP/COMPRESSOR ENCLOSURE ARRANGEMENT

**DATE:** 12/22/23  
**SCALE:** 1/8" = 1'-0"  
**DATE:** 12/22/23  
**SCALE:** 1/8" = 1'-0"

**WEBER BASIN WTP**  
**POWDER ACTIVATED CARBON SYSTEM**  
**BOUNTIFUL, UT**

**CHECKED BY:** J. KENNEDY  
**DATE:** DECEMBER 21, 2023  
**DRAWN BY:** C. RUMRINT

**DWG. NO.:** 23-156801  
**SHEET NO.:** 7



**NOTE:**  
 ITEM 166.0 DRAIN & 167.0 CONDENSATE MANAGEMENT SYSTEM NOT SHOWN FOR VIEW CLARITY.  
 CHEMCO SHOP TO INSTALL AS REQ'D & ROUTE DRAIN TO NEAR FOUNDATION DRAIN LOCATION.