

**Rosedale-Rio Bravo Water Storage District**  
**McCaslin / Bowling Well Drilling & Equipping**

**Addendum #2**

**July 24<sup>th</sup>, 2023**

Bid Date August 3<sup>rd</sup>, 2023 2:00 PM

849 Allen Road Bakersfield, CA

**PLEASE NOTE THE FIRST TWO CHANGES AS THEY ARE EXTREMELY IMPORTANT**

***Q: Important details regarding the relocation of the Bowling Well?***

A: The new location for the bowling well site is shown in the attachments below and is also reflected in the updated Bid Package which can be found at the Districts website using the same link at <https://www.rrbwsd.com/notices/>

***Q: Changes to bid schedule with regards to new well site***

A: As part of the new well location, a line item in the bid schedule has also been added for the proper well abandonment of the existing well on site. See the redline in the documents attached or visit the Districts website at <https://www.rrbwsd.com/notices/> for an updated Bid Package.

*Q: Per the specifications, the contractor is liable for prep-maintenance-restoration of the roads. Driving to the McCaslin site there we soft spots in the road. Is base material approved for compaction in these road areas?*

A: There is no base material approved for the restoration of the roads on the way to McCaslin. District requires proper dust control (water), and your standard grading as needed.

*Q: Will there be a designated contractor laydown yard/storage area be available for the contractor, if so which is the lot size?*

A: There is not a designated contractor laydown yard/storage area that will be available. That being said, the District has various areas nearby where the contractor could use for a storage area.

*Q: The AIS requirement call out a domestic preference, which does not specify domestic pipe. For bidding purposes, does the District want domestic or foreign materials?*

A: The District must follow the language in the Grant Agreement which can be seen below.

**§200.322 Domestic preferences for procurements.**

- (a) As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products under this award.
- (b) For purposes of this section:
  - (1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
  - (2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

*Q: FloServe provides virtual laboratory performance testing. Is this acceptable for the laboratory performance test for pump?*

A: **No** this method of virtual laboratory performance testing is not acceptable.

Attachments

1. New Drawings for Bowling Well Layout and Equipping
2. New Bid Schedule and Measurement and Payment Section

**Attachment 1 Updated Drawings for Bowling Well  
Location**

# COUNTY OF KERN - STATE OF CALIFORNIA

## ROSEDALE - RIO BRAVO WATER STORAGE DISTRICT

### McCASLIN / BOWLING WELL PLANS

ZEIDERS CONSULTING  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8366

**R.R.B.** ROSEDALE-RIO BRAVO  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
WELL SITE PLANS  
COVER SHEET / INDEX

DATE: JULY 21, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

#### BASIS OF BEARINGS AND VERTICAL DATUM

THE BASIS OF BEARINGS AND VERTICAL DATUM FOR THIS SURVEY IS DEFINED BY THE GEODETIC COORDINATES AND ELEVATIONS SHOWN ON THE TOPOGRAPHIC SURVEY DATED NOVEMBER 20, 2009, OF THE GOOSE LAKE SLOUGH FACILITY FOR THE ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT.  
THIS SURVEY WAS MADE UTILIZING THE CALIFORNIA STATE PLANE COORDINATE SYSTEM PER THE NATIONAL GEODETIC SURVEY'S NORTH AMERICAN DATUM OF 1983, 1992 ADJUSTMENT, ZONE V. THE FOLLOWING TWO POSITIONS PER SAID GOOSE LAKE SLOUGH FACILITY SURVEY WERE USED FOR THIS SURVEY:

- A: K.C.W.A. BENCHMARK NO. CVC 12-4.75 BTM.  
LOCATED ON THE SOUTHEAST SIDE OF THE BRIDGE CROSSING OF THE CROSS VALLEY CANAL, APPROXIMATELY 8,946.1 FEET SOUTH OF THE CENTERLINE OF STOCKDALE HIGHWAY AND APPROXIMATELY 10,676.6 FEET WEST OF THE CENTERLINE OF ENOS LANE.  
N.= 2314186.293  
E.= 6177525.876  
ELEV.= 315.60
- B: K.C.S.C.M. 18" DEEP FOR THE WEST 1/4 CORNER, SECTION 32, 29/26  
LOCATED AT THE INTERSECTION OF GREELEY ROAD AND JOHNSON ROAD (BOTH UNPAVED).  
N.= 2320122.625  
E.= 6198926.511  
ELEV.= 334.74

#### BENCH MARK – McCASLIN

TOP OF POST AT GOOSE LAKE CANAL WEIR NO. 6-0-503  
AT NORTHEAST CORNER OF WEIR  
1.1 MILES WEST OF ENOS LANE.  
NEAR SE CORNER OF McCASLIN PROJECT SITE.

ELEVATION = 321.43 (U.S.G.S. DATUM)

#### BENCH MARK – BOWLING

TOP OF NE POST AT GOOSE LAKE CANAL WEIR  
AT NORTHEAST CORNER OF WEIR  
APPROX. 950 FEET SSW OF SUPERIOR WELL #5  
NEAR SE CORNER OF PROJECT SITE.

ELEVATION = 334.93 (U.S.G.S. DATUM)

#### WATER DISTRICT

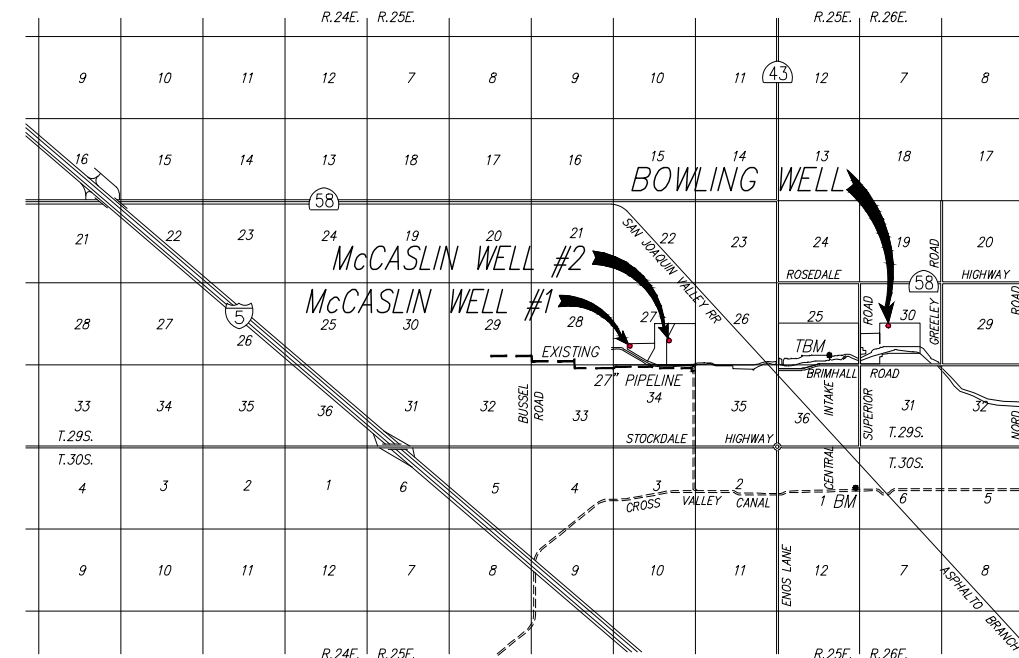
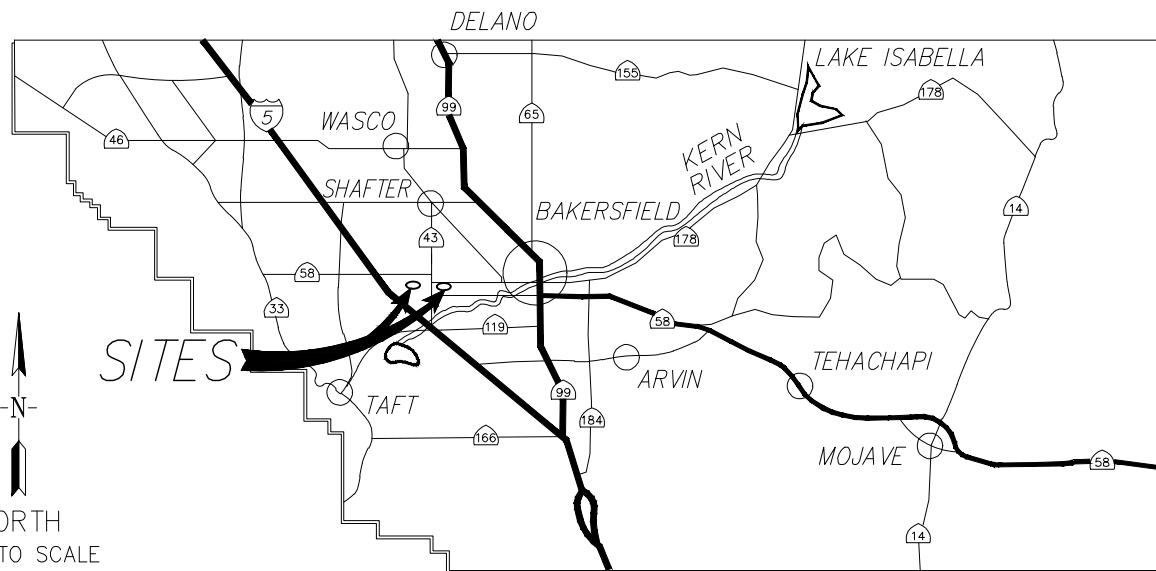
ROSEDALE RIO BRAVO WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390  
(661) 589-6045

#### ENGINEER

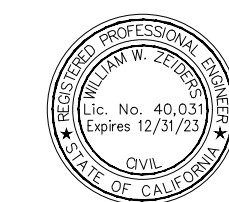
ZEIDERS CONSULTING  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314

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28. SHADE STRUCTURE DETAILS
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32. ELECTRICAL WIRING DIAGRAMS
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36. PG&E PROPOSED OVERHEAD ELECTRIC ROUTE – B1
37. NOTES

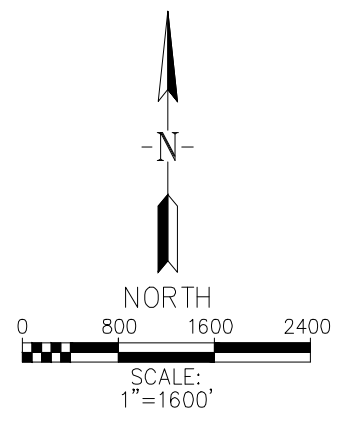
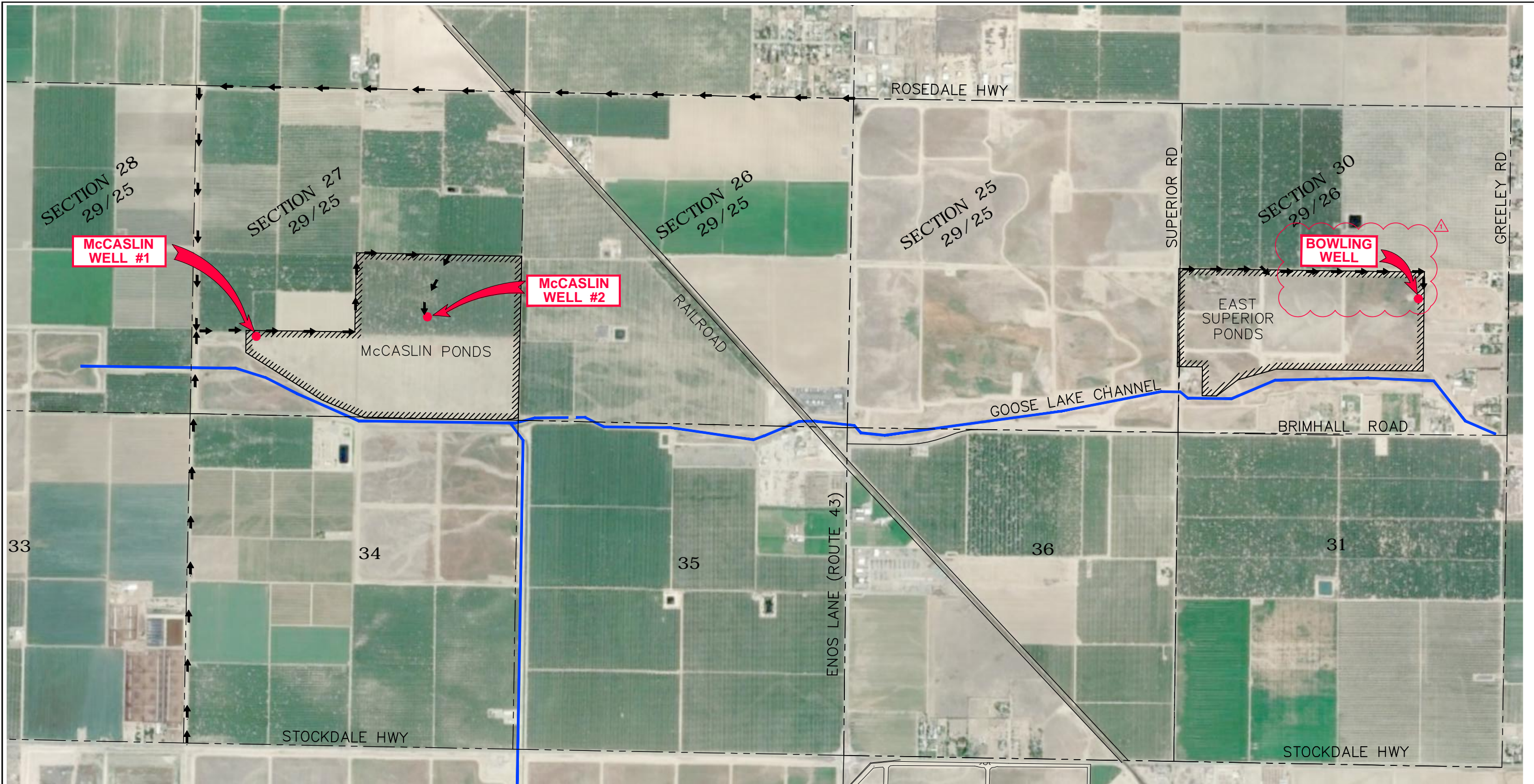


**VICINITY MAP**



ENGINEER:  
*William W. Zeiders* 06-28-23  
WILLIAM W. ZEIDERS R.C.E. 40031 DATE  
EXP. 12/31/2023

REV.	DATE	DESCRIPTION
1	07/21/2023	BOWLING WELL RELOCATED



LEGEND	
	ACCESS ROUTE
	NEW WELL LOCATION
	PROJECT PROPERTY
	SECTION LINE(S)

**A**  
**2** LOCATION MAP – SITE ACCESS  
MC1, MC2, & B1



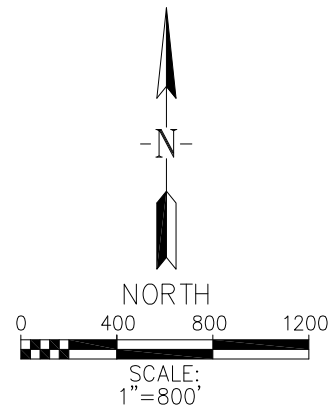
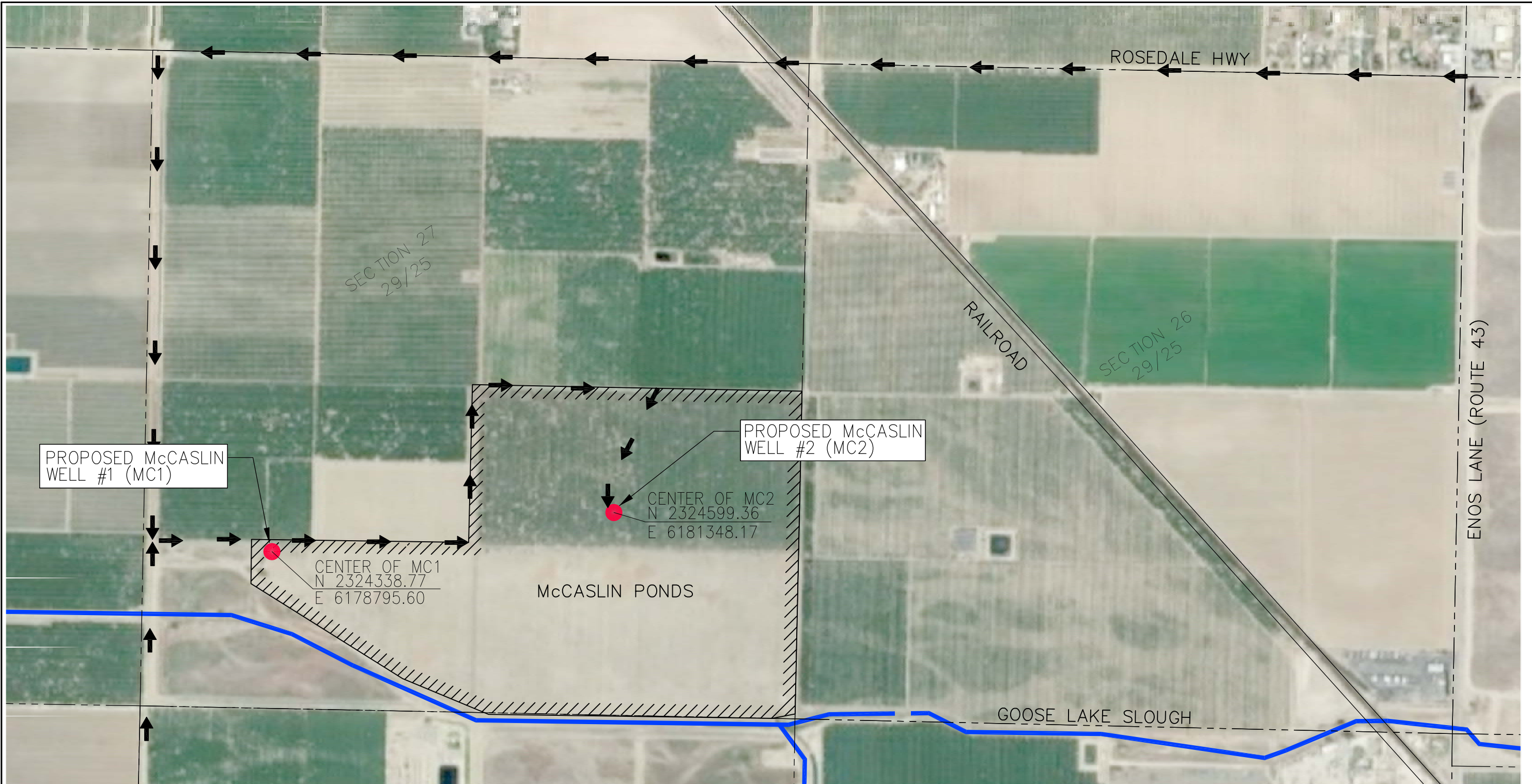
REV.	DATE	DESCRIPTION
1	07/21/2023	BOWLING WELL RELOCATED

DATE: JULY 20, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**WELL SITE PLANS**  
**OVERALL MAP - INDEX FOR NEW WELLS**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8366



LEGEND	
	ACCESS ROUTE
	NEW WELL LOCATION
	PROJECT PROPERTY
	SECTION LINE(S)

**A**  
**3** LOCATION MAP  
MC1 AND MC2

NOTE: AERIAL PHOTOGRAPH IS NOT REPRESENTATIVE OF ACTUAL SITE CONDITIONS.



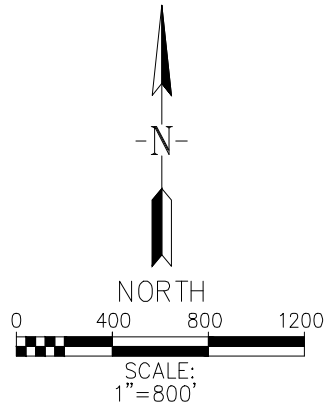
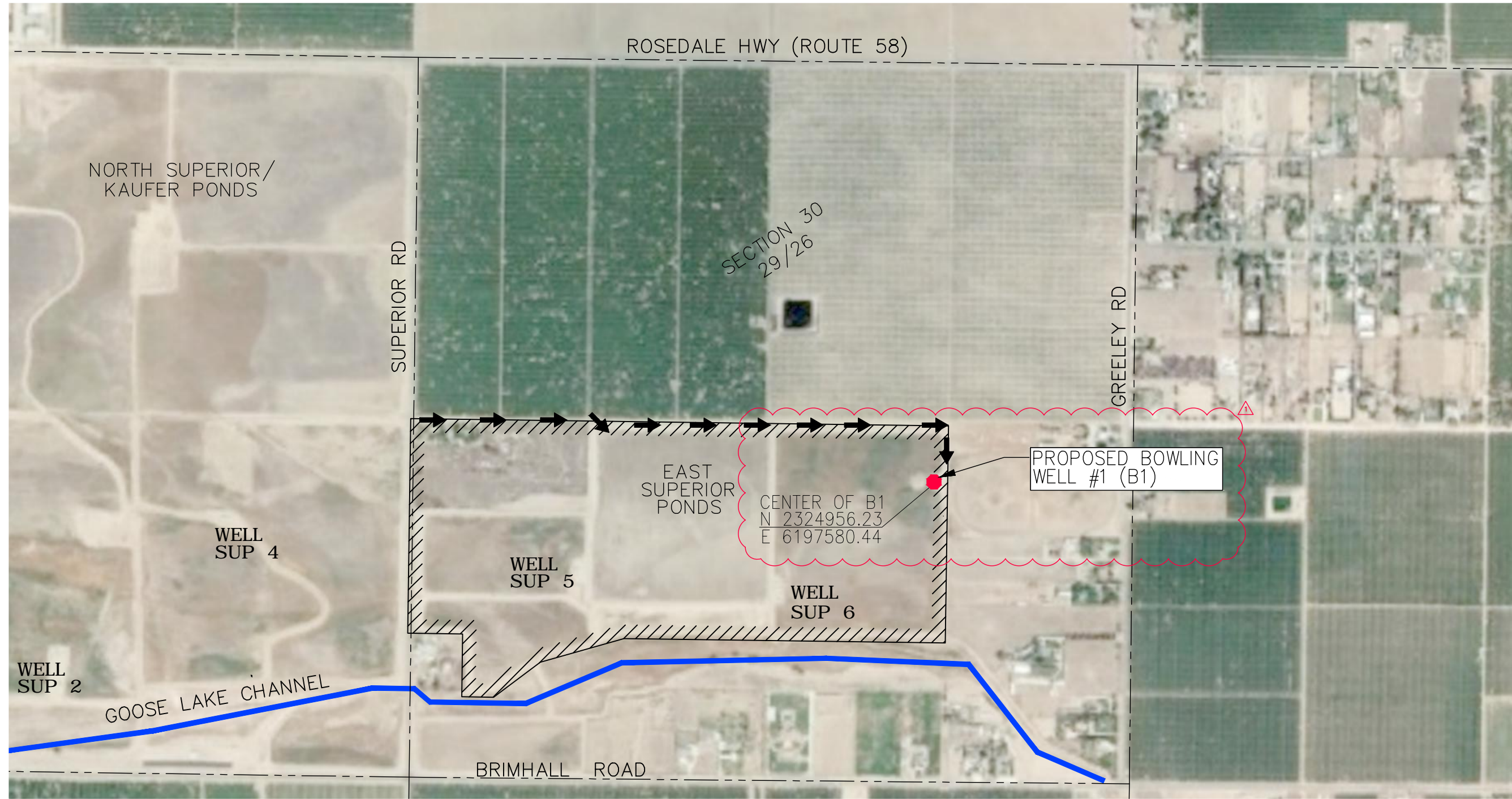
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
WELL SITE PLANS  
LOCATION MAP - MC1 & MC2

**RRB** ROSEDALE-RIO BRAVO  
WATER STORAGE DISTRICT  
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LEGEND	
	ACCESS ROUTE
	NEW WELL LOCATION
	PROJECT PROPERTY
	SECTION LINE(S)

A  
4
 LOCATION MAP  
 BOWLING WELL (B1)



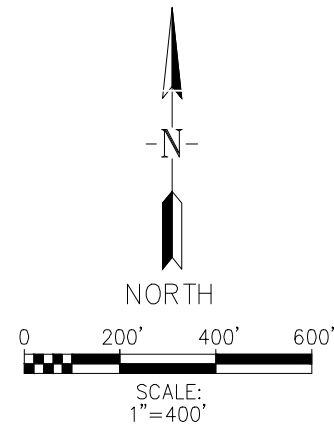
REV.	DATE	DESCRIPTION
1	07/21/2023	BOWLING WELL RELOCATED

DATE: JULY 21, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

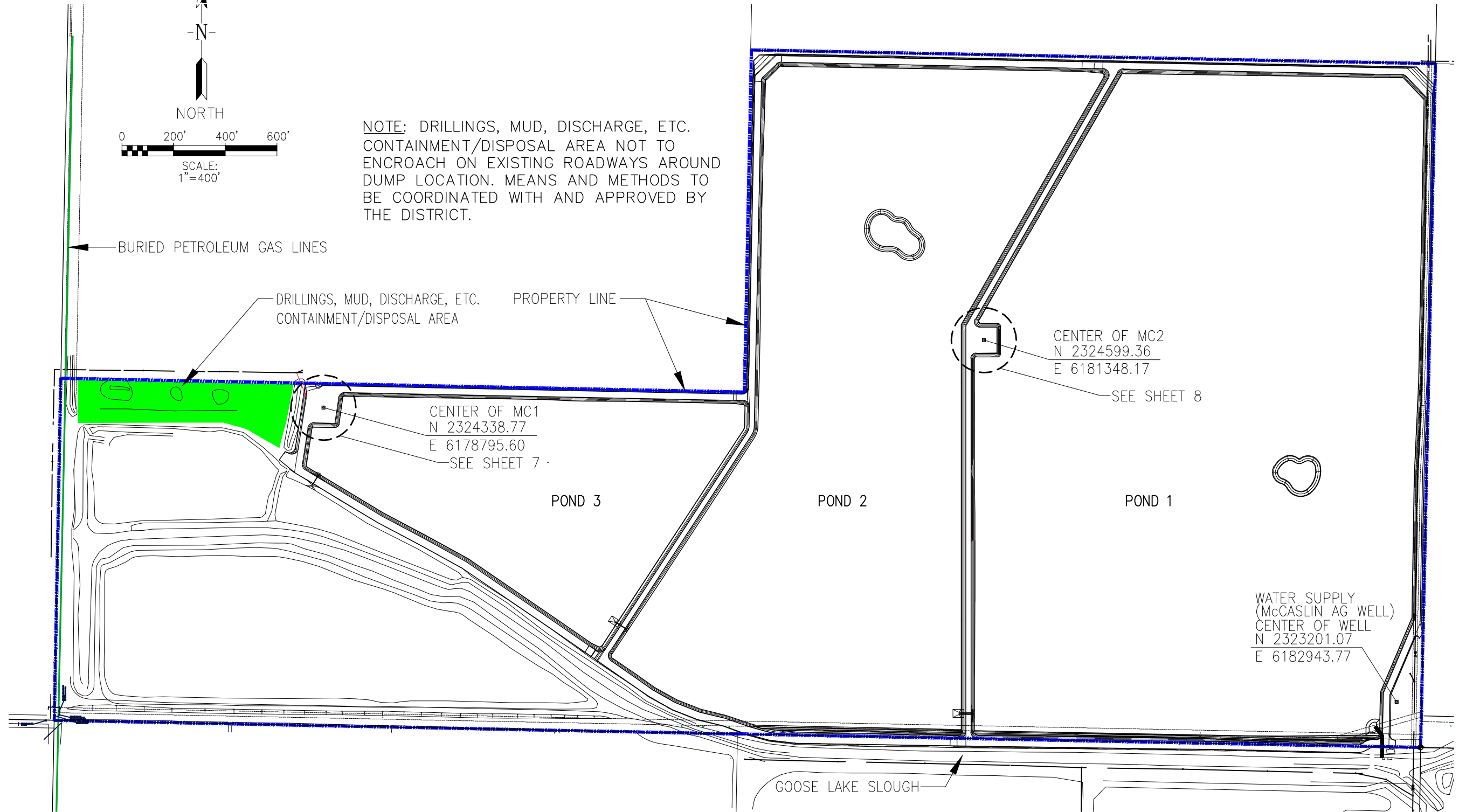
**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**WELL SITE PLANS**  
**LOCATION MAP - B1**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
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NOTE: DRILLINGS, MUD, DISCHARGE, ETC. CONTAINMENT/DISPOSAL AREA NOT TO ENCROACH ON EXISTING ROADWAYS AROUND DUMP LOCATION. MEANS AND METHODS TO BE COORDINATED WITH AND APPROVED BY THE DISTRICT.



**A**  
**5** SITE LOCATION – McCASLIN PONDS  
MC1 & MC2

REV.	DATE	DESCRIPTION

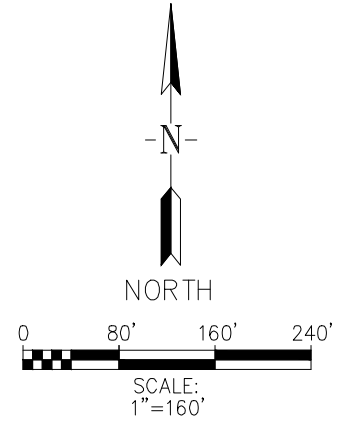
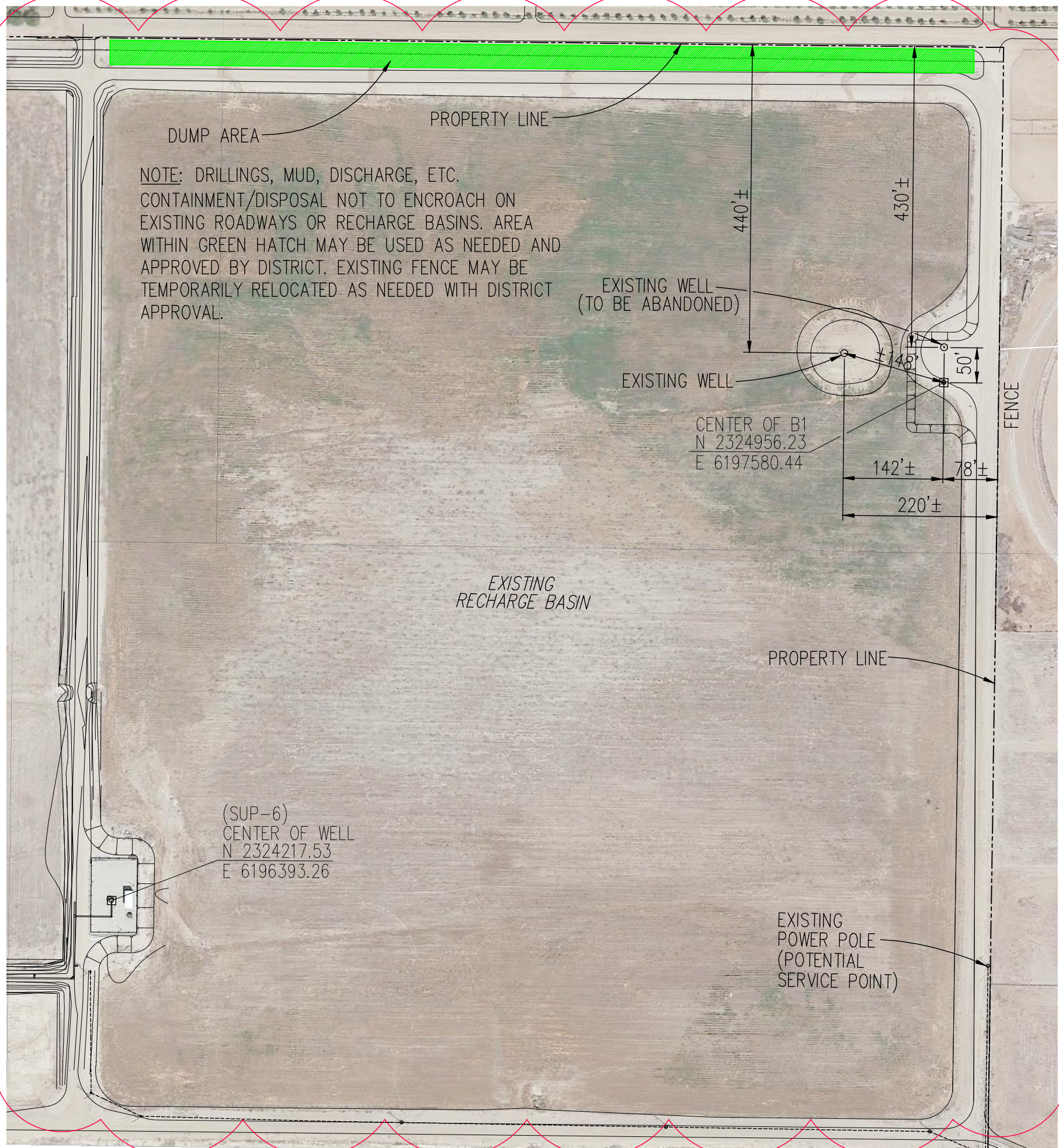
**R. R. B. W. S. D.**  
**McCASLIN / BOWLING WELL PLANS**  
**WELL SITE PLANS**  
**LOCATION MAP - MC1 & MC2**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
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SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...





A  
6 SITE LOCATION  
B1



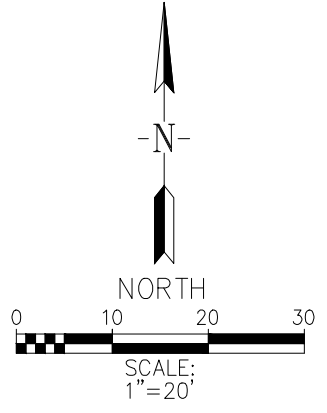
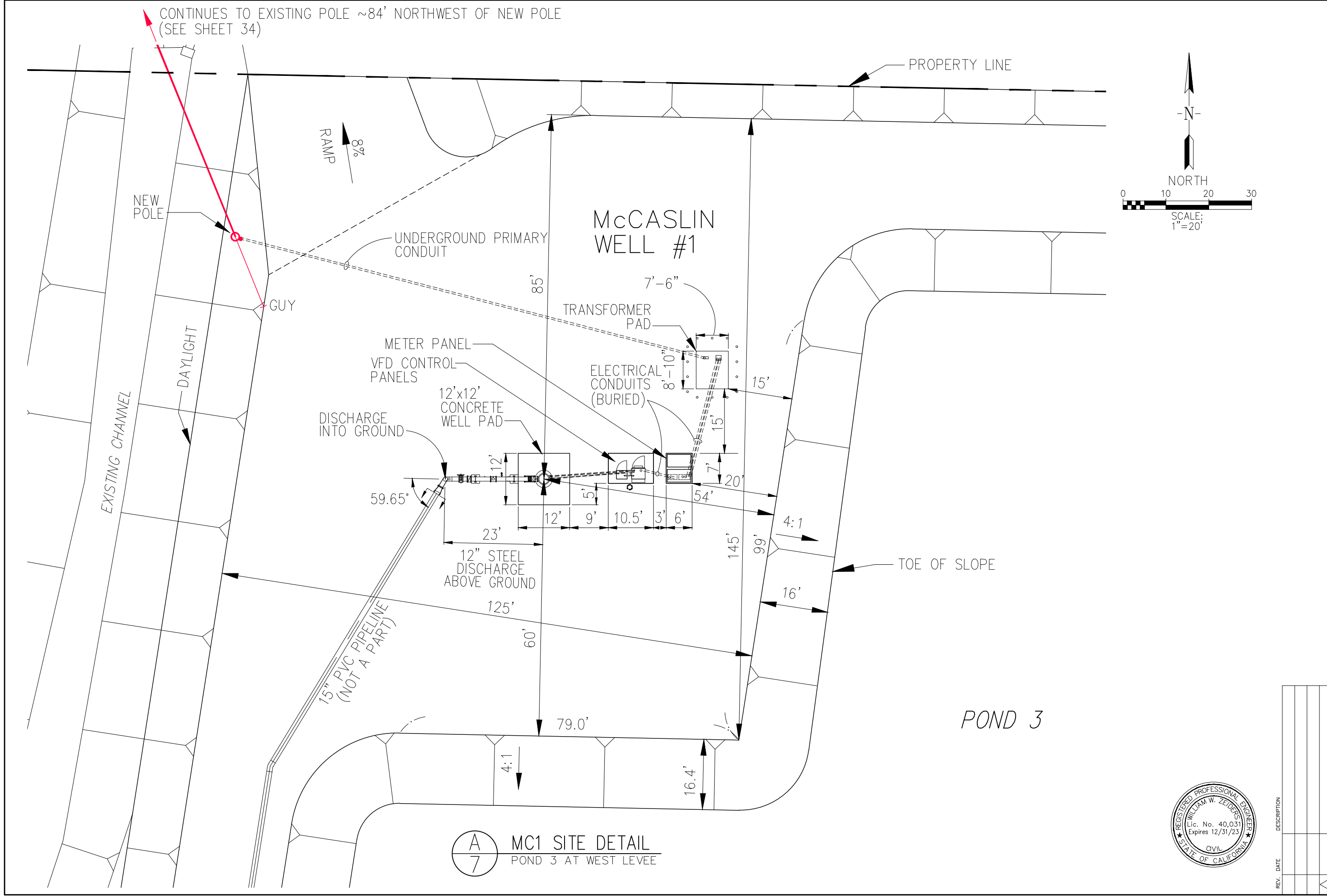
REV.	DATE	DESCRIPTION
1	07/21/2023	RELOCATED BOWLING WELL

DATE: JULY 20, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

R.R.B.W.S.D.  
McCASLIN / BOWLING WELL PLANS  
WELL SITE PLANS  
BOWLING SITE LOCATION

**RRB** ROSEDALE-RIO BRAVO  
WATER STORAGE DISTRICT  
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BAKERSFIELD, CA. 93390

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**A**  
**7** MC1 SITE DETAIL  
POND 3 AT WEST LEVEE



REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
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 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 WELL SITE LAYOUT  
 McCASLIN WELL #1 (MC1)

**R2B ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
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 BAKERSFIELD, CA. 93390

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POND 2

POND 1

McCASLIN WELL #2

DISCHARGE INTO GROUND

15" PVC PIPELINE (NOT A PART)

12" STEEL DISCHARGE ABOVE GROUND

UNDERGROUND PRIMARY CONDUIT

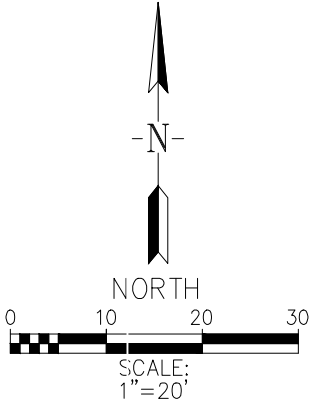
VFD CONTROL PANELS  
METER PANEL

TRANSFORMER PAD

ELECTRICAL SERVICE POINT FOR WELL MC2 FROM SOUTH

NEW POLE

PROPOSED OVERHEAD ELECTRIC



A  
8

MC2 SITE DETAIL  
POND 1 AT WEST LEVEE



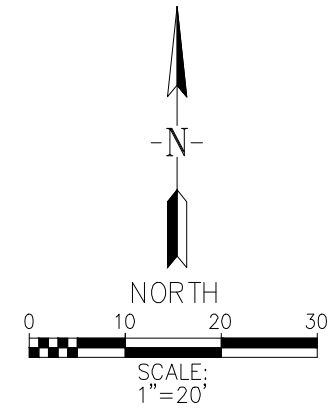
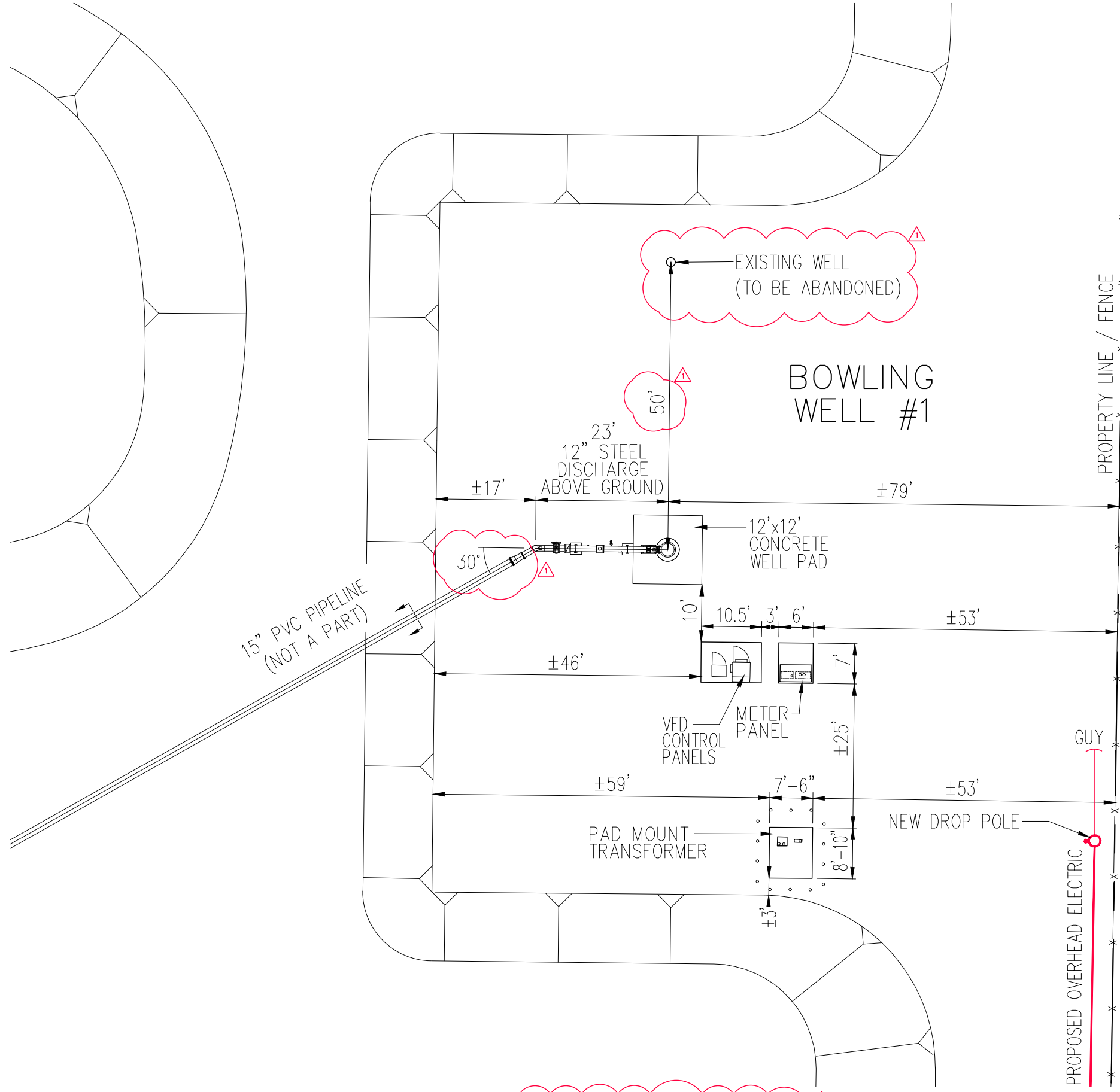
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 WELL SITE LAYOUT  
 McCASLIN WELL #2 (MC2)

**RRB ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
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**A**  
**9** B1 SITE DETAIL  
BOWLING WELL

NOTE: ENTIRE BOWLING WELL LAYOUT WAS RELOCATED. REVISION CLOUDS SHOWN INDICATE CONDITIONS NOT SHOWN IN ORIGINAL PLAN SET.



REV.	DATE	DESCRIPTION
1	07/21/2023	RELOCATED BOWLING WELL

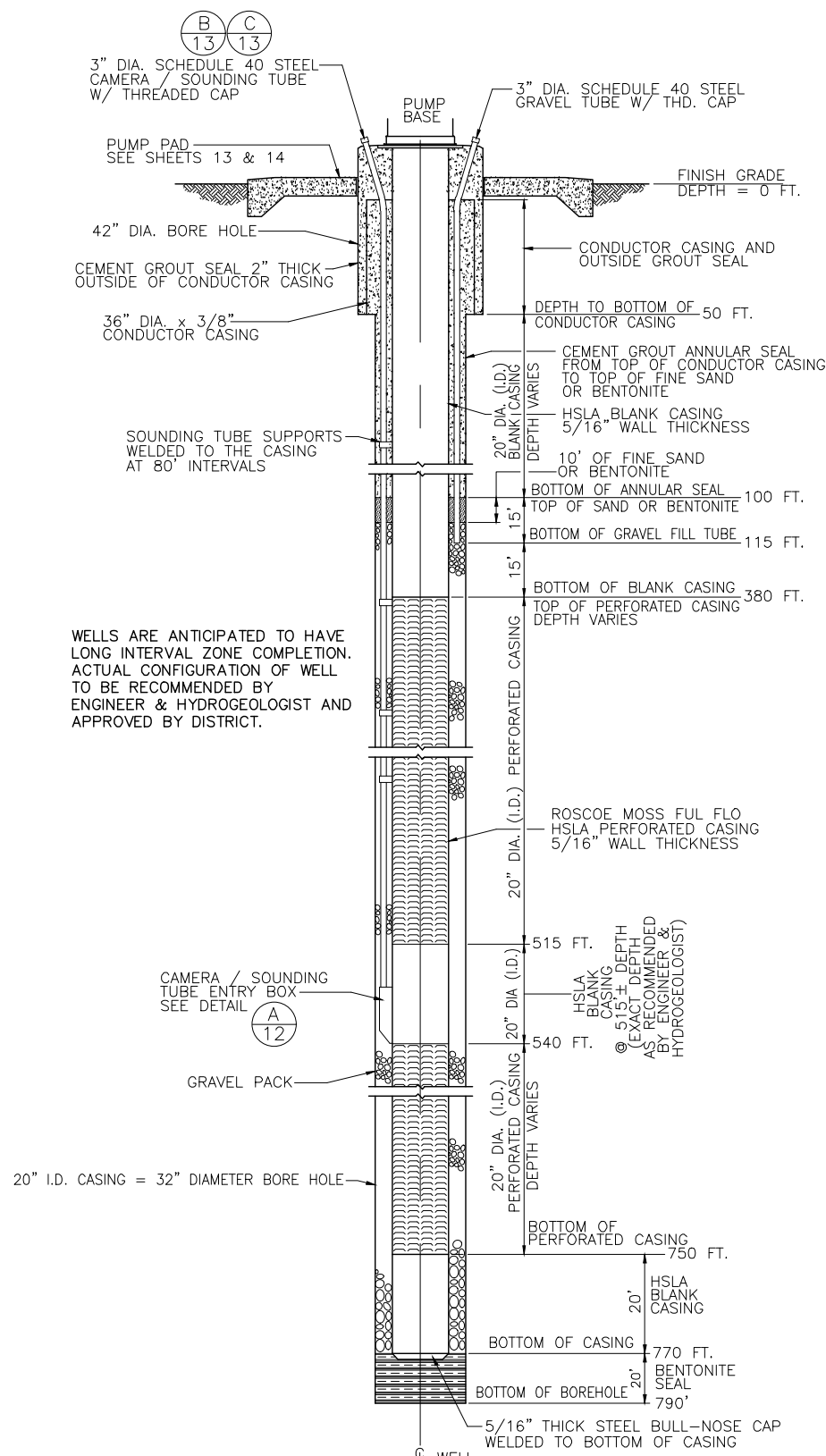
DATE: JULY 21, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**MCCASLIN / BOWLING WELL PLANS**  
**WELL SITE LAYOUT**  
**BOWLING WELL (B1)**

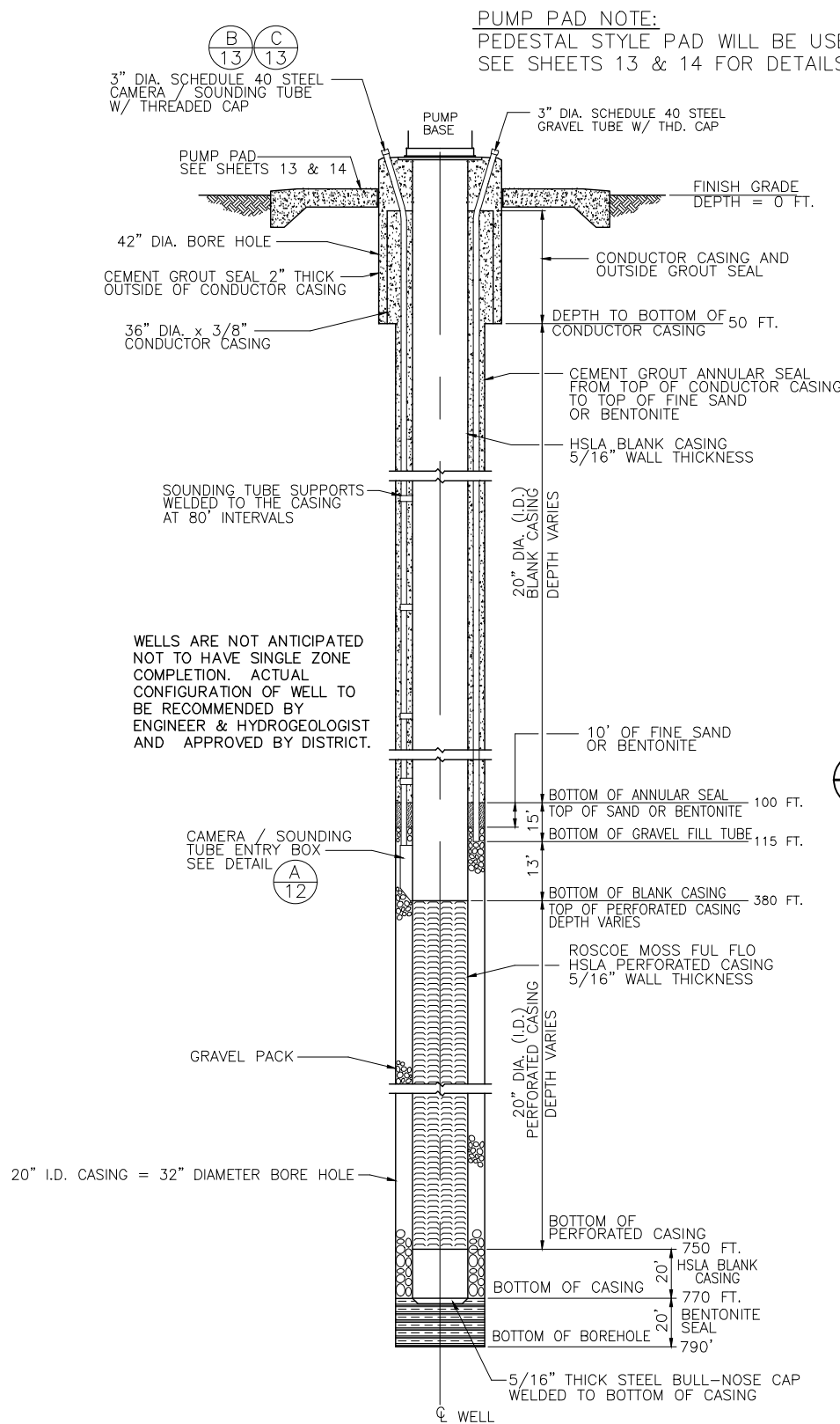
**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
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# McCASLIN WELLS 1 & 2

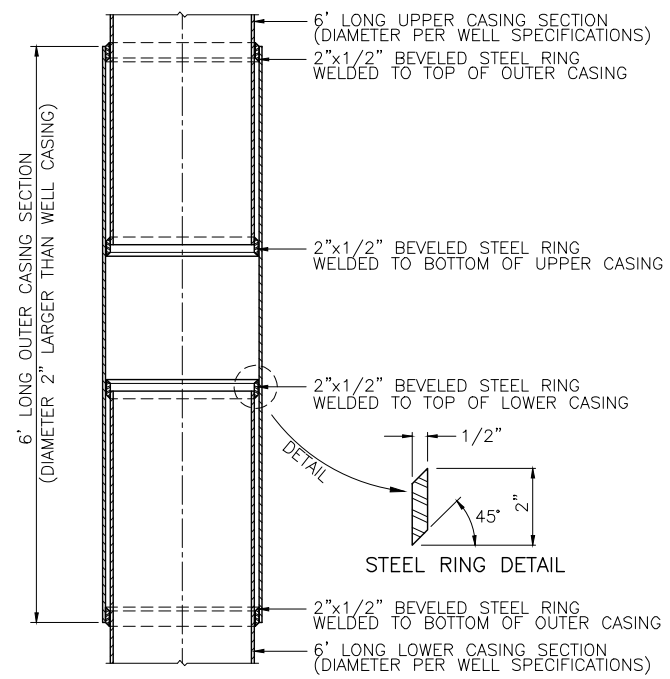


**(A) TYPICAL WELL DETAIL - LONG INTERVAL ZONE COMPLETION**  
 10 FOR WELLS MC1 & MC2 NOT TO SCALE



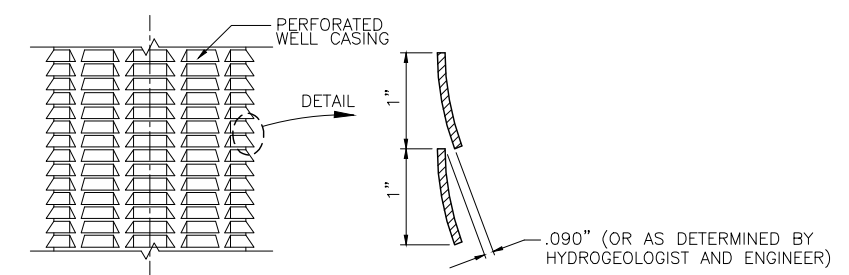
**(B) TYPICAL WELL DETAIL - DEEP COMPLETION**  
 10 NOT ANTICIPATED NOT TO SCALE

**PUMP PAD NOTE:**  
 PEDESTAL STYLE PAD WILL BE USED.  
 SEE SHEETS 13 & 14 FOR DETAILS.



**NOTE:**  
 FABRICATED FROM 3 SECTIONS OF CASING, TWO OF WHICH ARE THE SAME DIAMETER AND WALL THICKNESS AS THE WELL CASING. JOINTS ARE FURNISHED WITH BEVELED STEEL RINGS. ONE RING IS WELDED TO THE BOTTOM OF THE UPPER SECTION AND ONE RING TO THE TOP OF THE LOWER SECTION. THUS, THE JOINTS ARE FREE TO TELESCOPE WITHIN THE OUTER SECTION WHICH IS EQUIPPED WITH RINGS AT EACH END.  
 LOCATION OF COMPRESSION SECTION TO BE DETERMINED AT TIME OF CASING DESIGN.

**(D) TYPICAL COMPRESSION SECTION DETAIL**  
 10 NOT ANTICIPATED NOT TO SCALE



**(C) HORIZ. HSLA FUL FLO LOUVERED SCREEN**  
 10 ROSCOE MOSS HSLA FUL FLO PERFORATED CASING NOT TO SCALE

- LEGEND**
- CEMENT GROUT ANNULAR SEAL
  - SRI SUPREME GRAVEL 1/4"x16"
  - BENTONITE SEAL
  - ROSCOE MOSS, HSLA CASING FUL FLO .090" PERFORATIONS

NOTE: DETAILS SHOWN ARE FOR BIDDING PURPOSES. ALL FINAL DEPTHS AND WELL DESIGNS SHALL BE DETERMINED BY THE ENGINEER AND HYDRO GEOLOGIST AFTER THE E-LOG IS PERFORMED IN THE PILOT BOREHOLE.



REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
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 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 WELL CONSTRUCTION DETAIL  
 WELLS MC1 & MC2

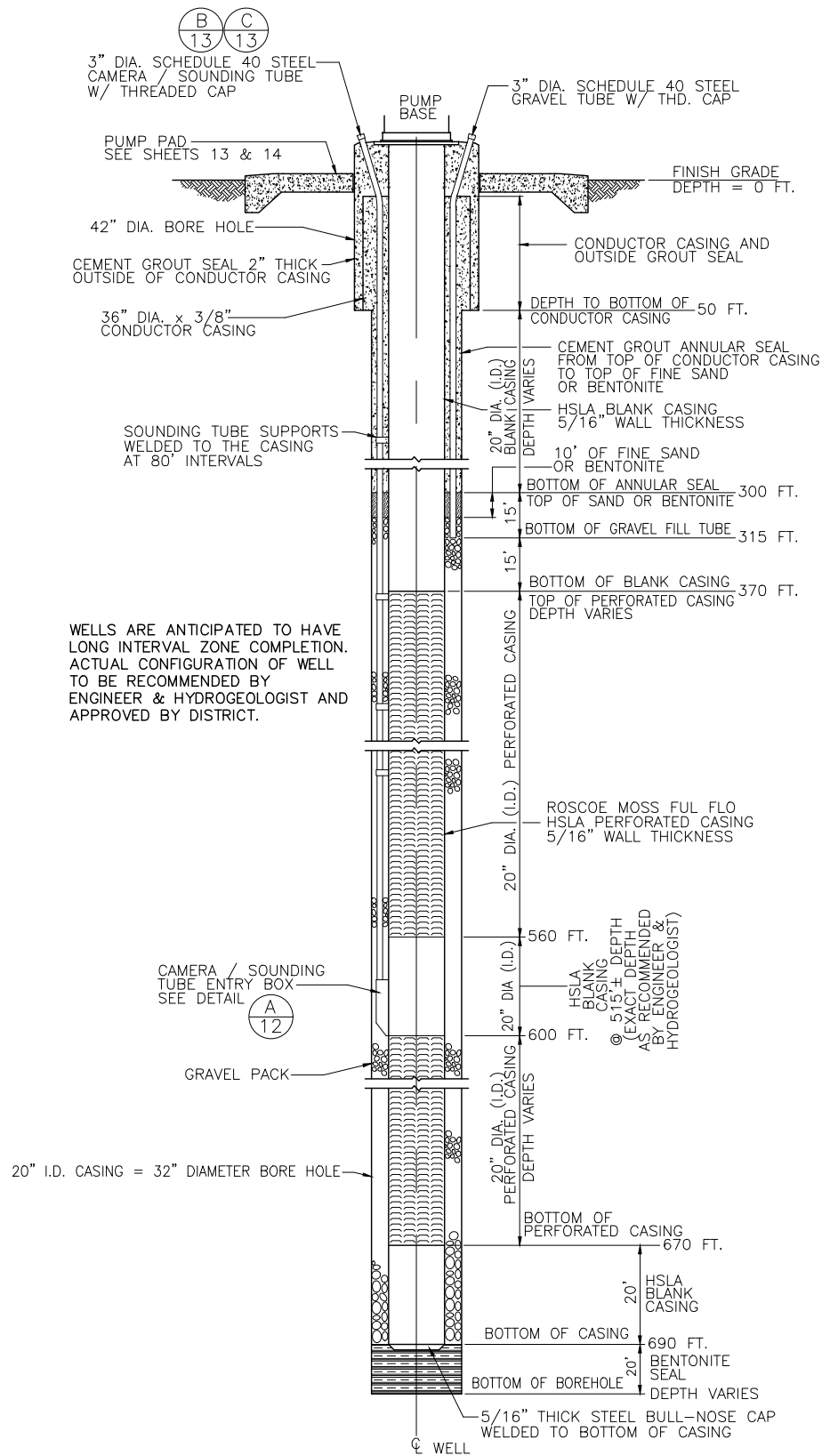
**R3 ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
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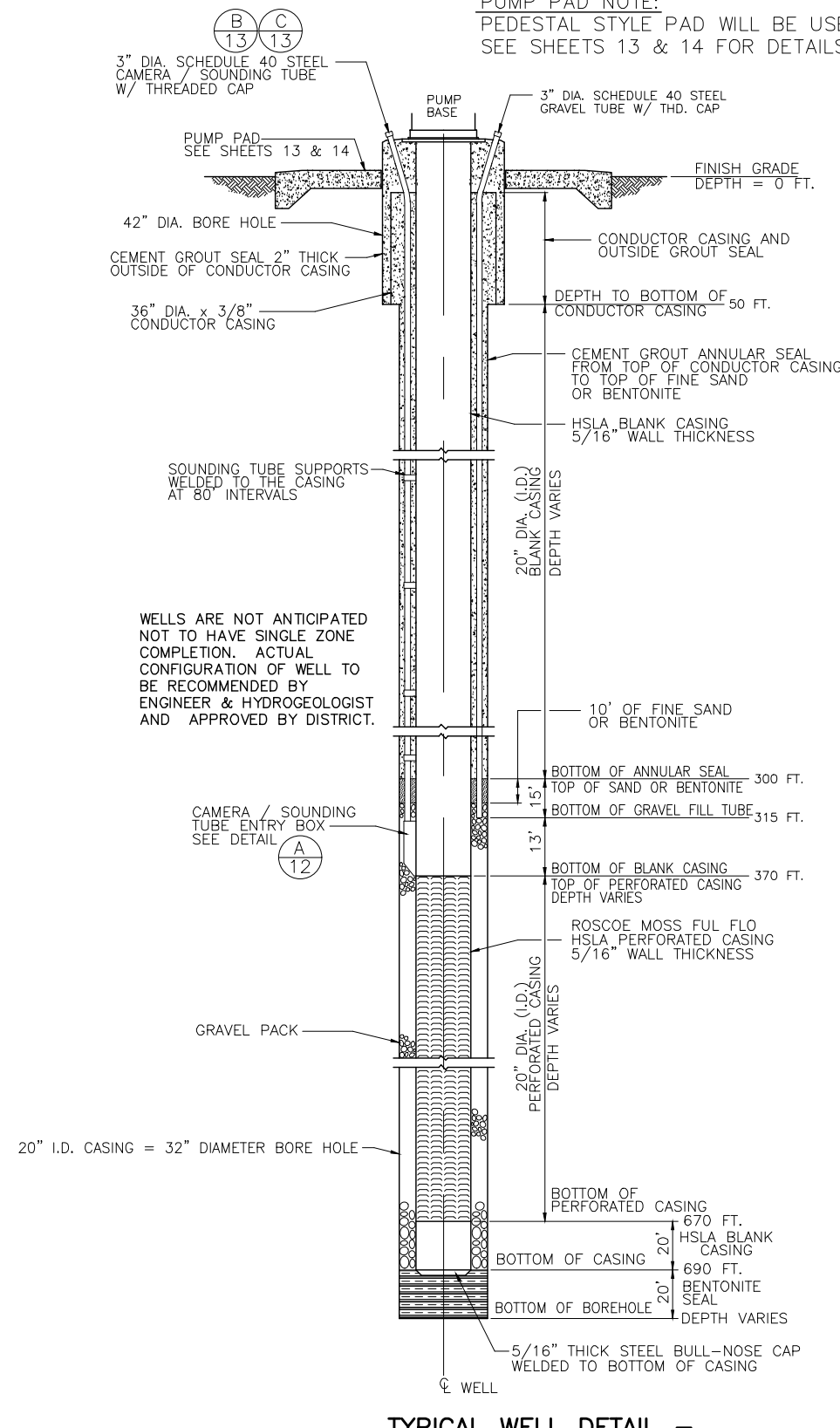
10 of 37

# BOWLING WELL 1

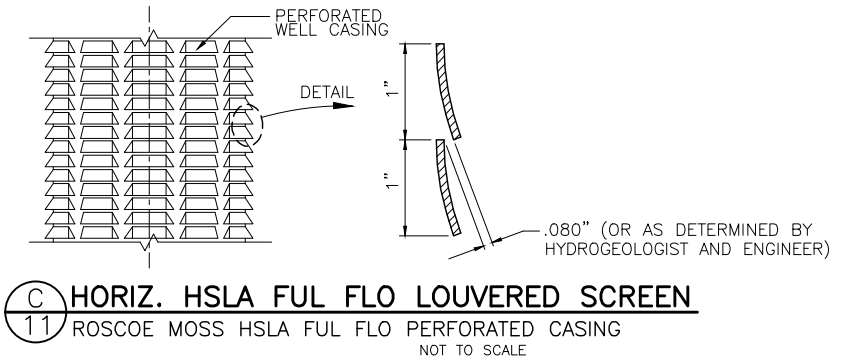
**PUMP PAD NOTE:**  
PEDESTAL STYLE PAD WILL BE USED.  
SEE SHEETS 13 & 14 FOR DETAILS.



**(A) 11** TYPICAL WELL DETAIL – LONG INTERVAL ZONE COMPLETION FOR WELL B1 NOT TO SCALE



**(B) 11** TYPICAL WELL DETAIL – DEEP COMPLETION NOT ANTICIPATED NOT TO SCALE



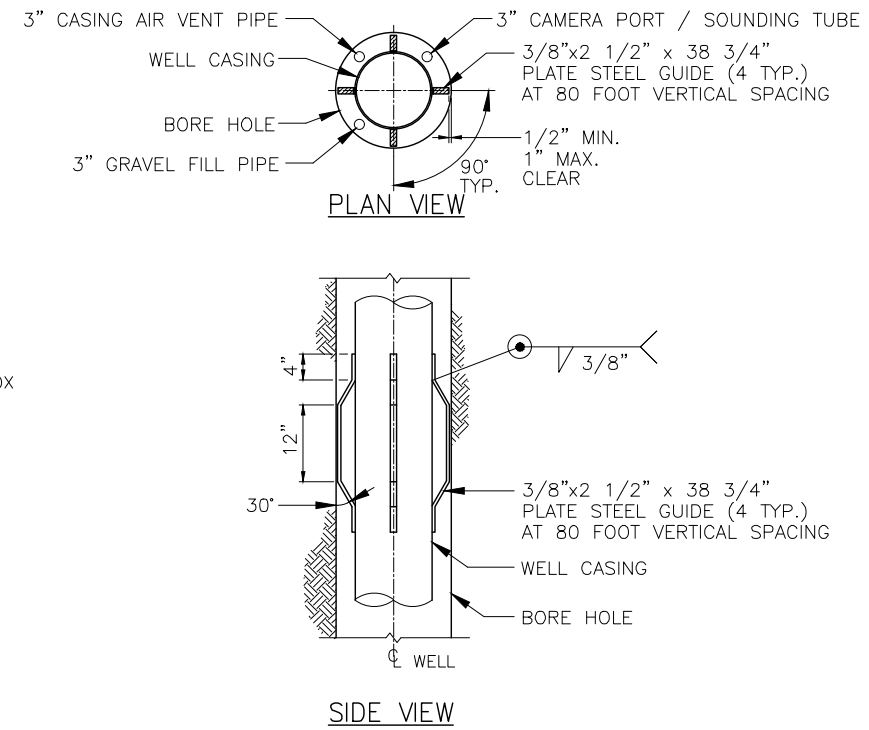
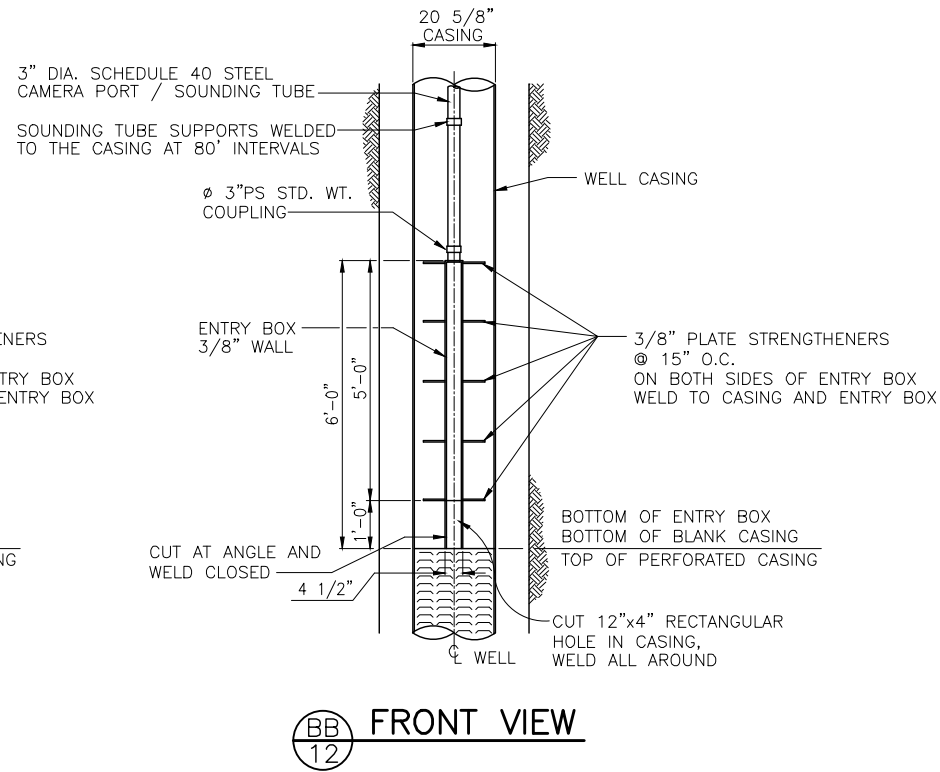
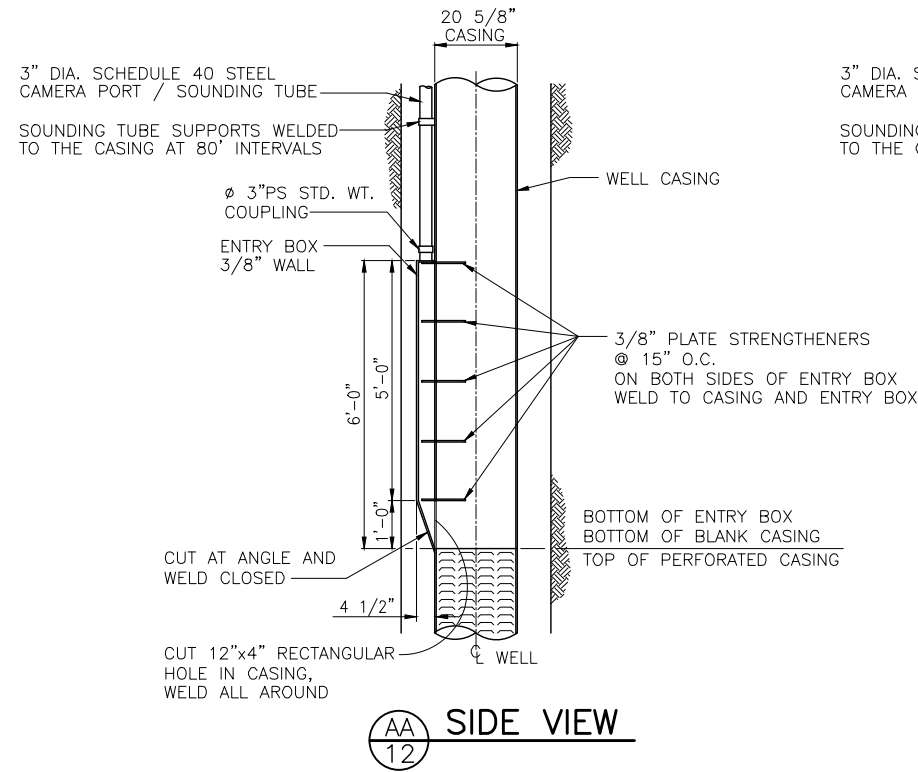
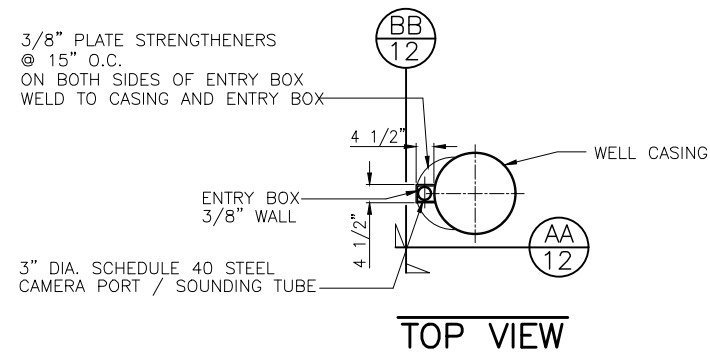
**LEGEND**

- CEMENT GROUT ANNULAR SEAL
- SRI SUPREME GRAVEL 1/4"x16
- BENTONITE SEAL
- ROSCOE MOSS HSLA CASING FULL FLO .090" PERFORATIONS

NOTE: DETAILS SHOWN ARE FOR BIDDING PURPOSES. ALL FINAL DEPTHS AND WELL DESIGNS SHALL BE DETERMINED BY THE ENGINEER AND HYDRO GEOLOGIST AFTER THE E-LOG IS PERFORMED IN THE PILOT BOREHOLE.



REV.	DATE	DESCRIPTION



**(A)** CAMERA / SOUNDING TUBE ENTRY BOX DETAIL  
 12 CAMERA PORT CONNECTION NOT TO SCALE

**(B)** CASING GUIDE DETAIL  
 12 NOT TO SCALE



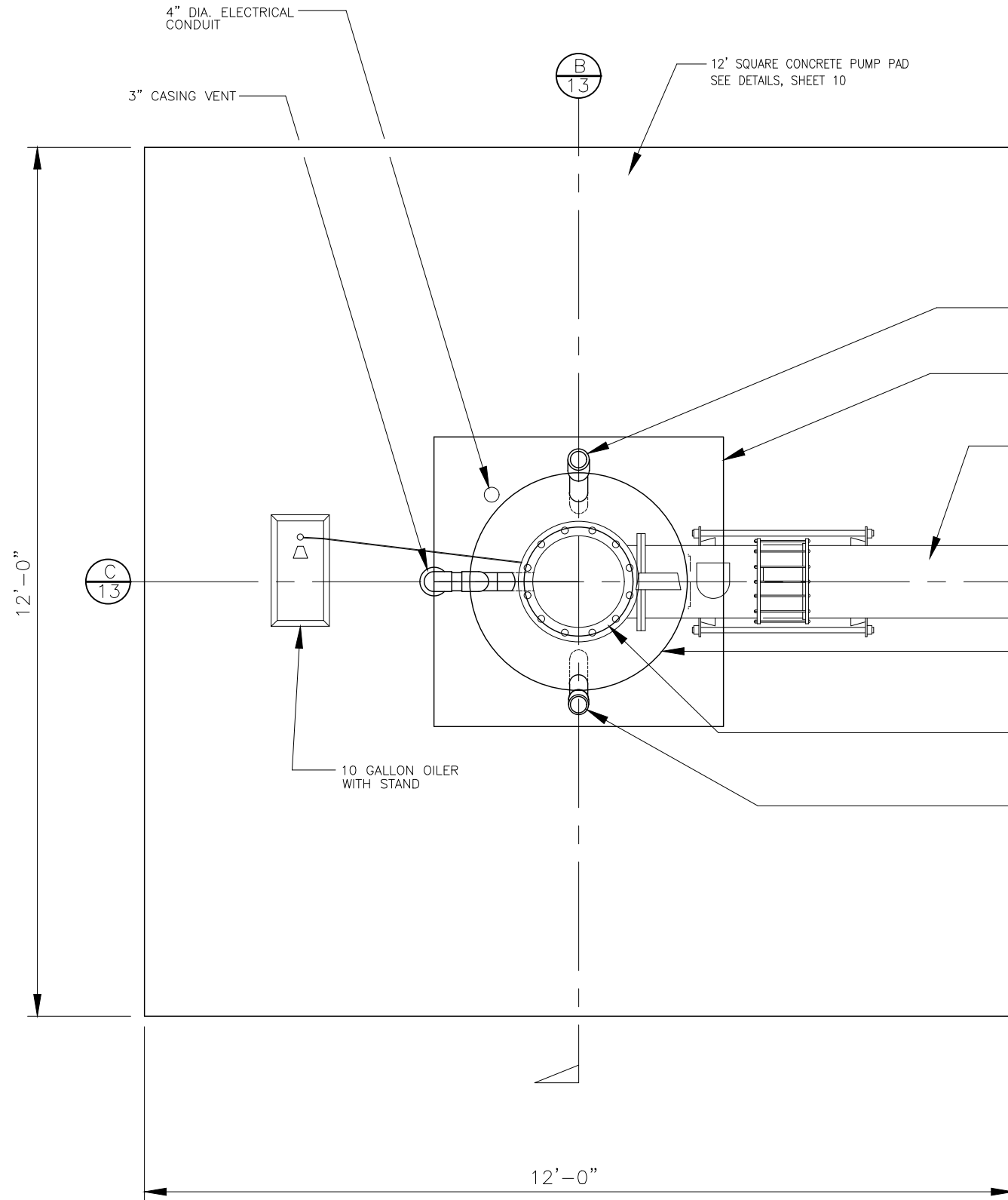
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**WELL CONSTRUCTION DETAIL**  
**ALL WELLS**

**R.R.B.** ROSEDALE-RIO BRAVO  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

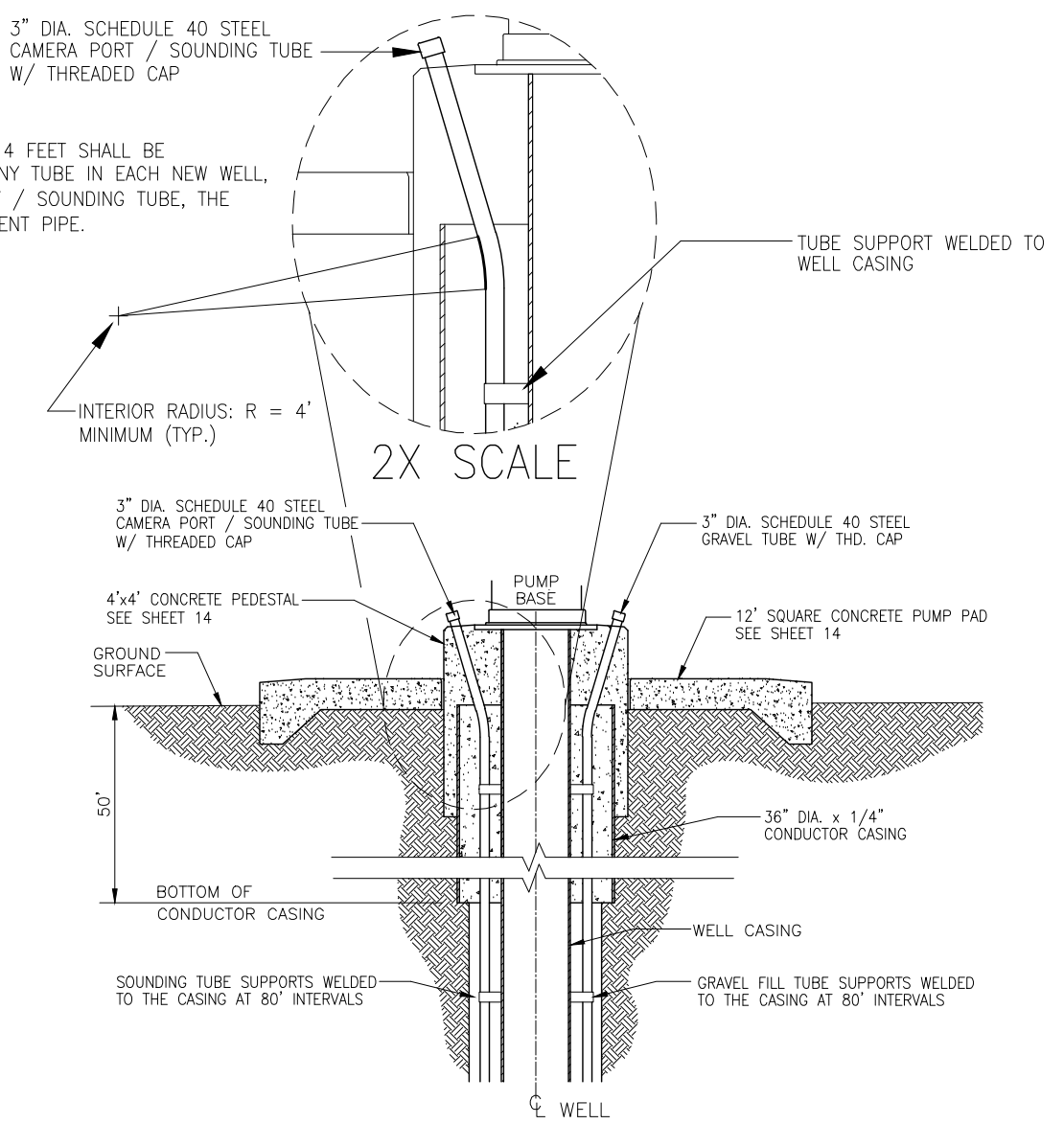
**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8866



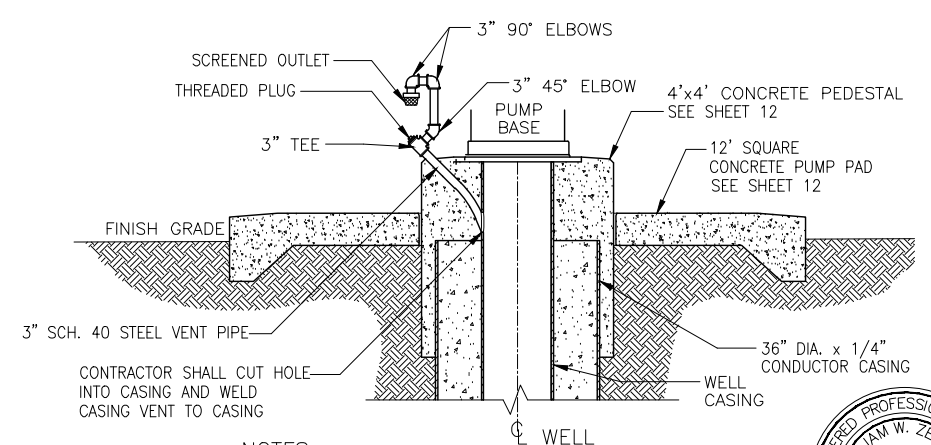
**A**  
13 **PUMP PAD PLAN VIEW**  
PEDESTAL STYLE SCALE: 1"=2'

SUBCONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR THE ORIENTATION OF THE PUMP FOUNDATION AND THE INSTALLATION OF THE ELECTRICAL CONDUIT FOR PUMP.

**NOTE:**  
A MINIMUM INTERIOR RADIUS OF 4 FEET SHALL BE MAINTAINED FOR ANY BEND IN ANY TUBE IN EACH NEW WELL, INCLUDING THE 3" CAMERA PORT / SOUNDING TUBE, THE 3" GRAVEL TUBE, AND THE 3" VENT PIPE.



**B**  
13 **SOUNDING TUBE DETAIL**  
PEDESTAL STYLE SCALE: 1"=4'



**C**  
13 **CASING VENT DETAIL**  
PEDESTAL STYLE SCALE: 1"=4'

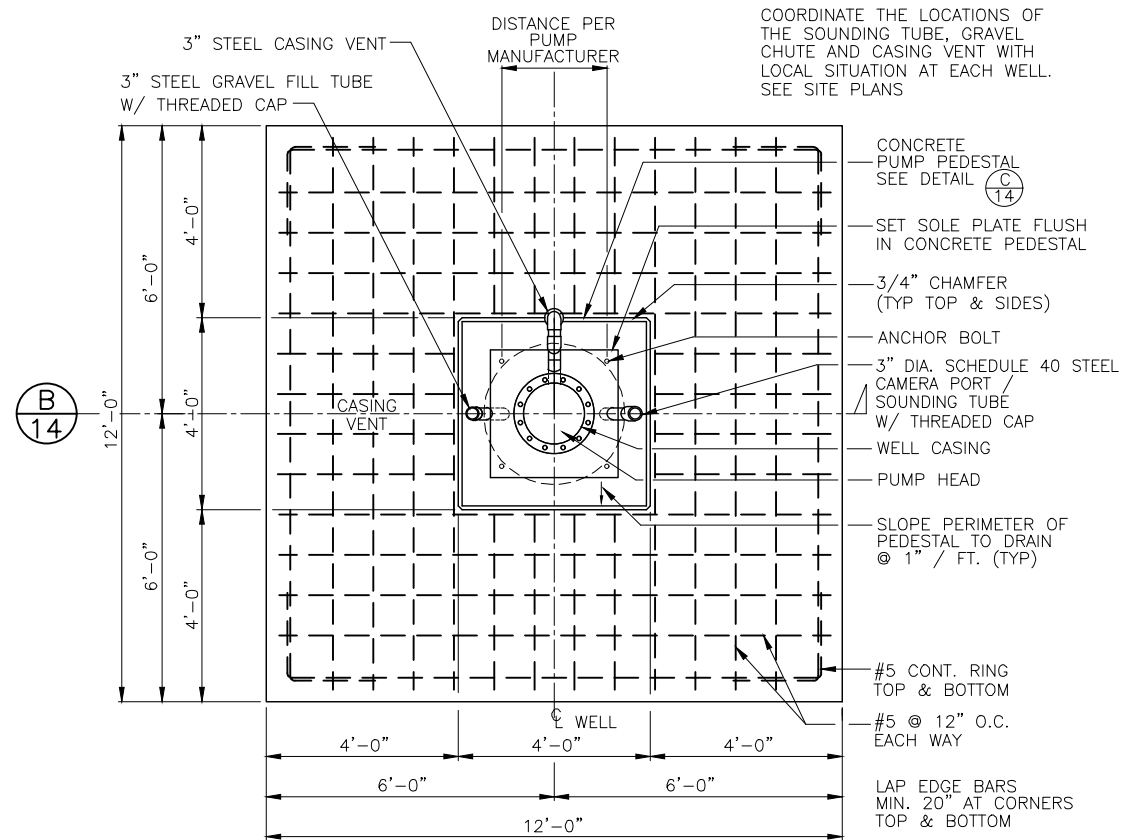
**NOTES:**  
A. SOUNDING TUBE OPENING SHALL BE SCREENED AND SECURED WITH A STAINLESS STEEL CLAMP.  
B. 10 GALLON OILER (W/ STAND) AND STEEL DISCHARGE ARE NOT SHOWN ON THIS DETAIL



REV.	DATE	DESCRIPTION

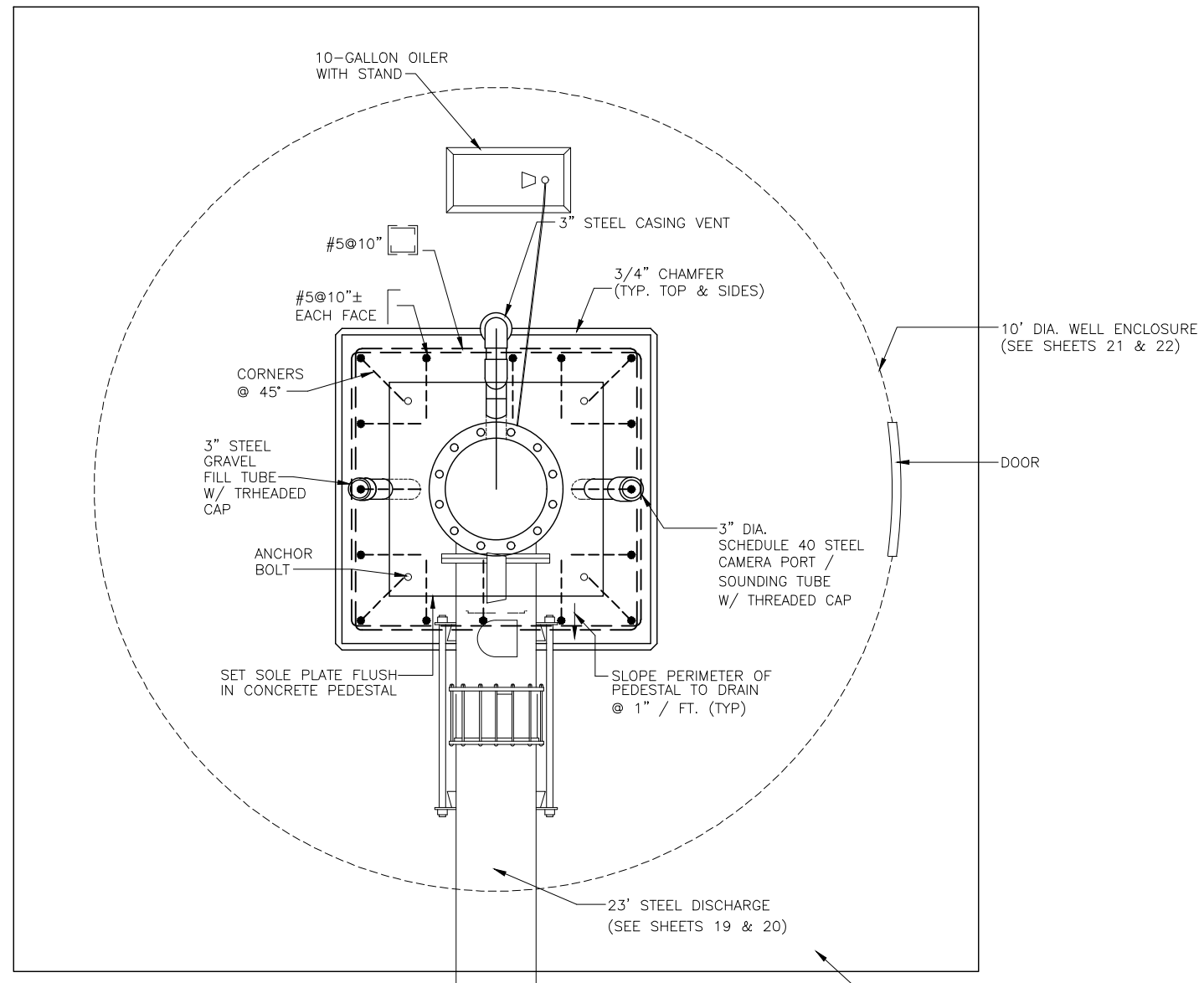
DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...



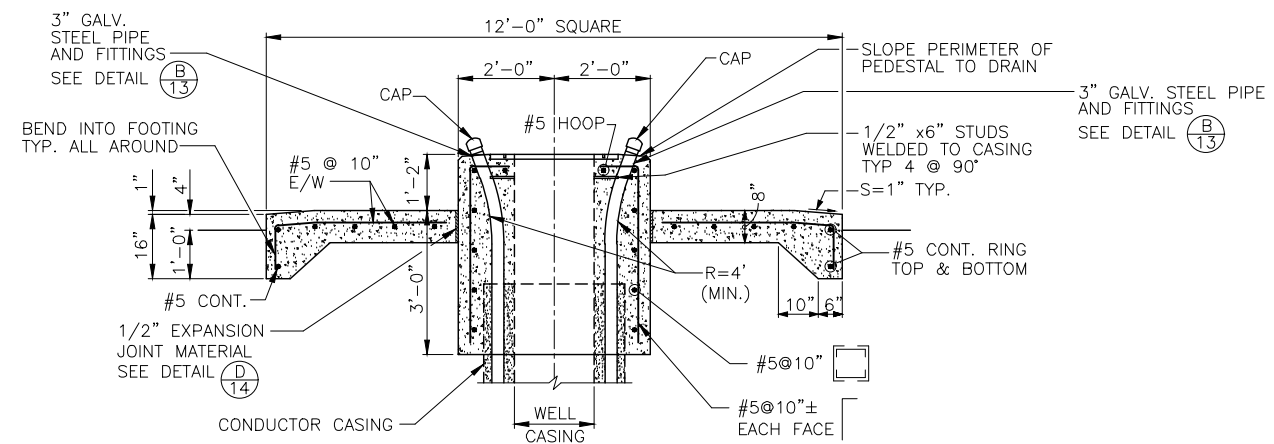


SUBCONTRACTOR SHALL COORDINATE WITH THE PURCHASER THE ORIENTATION OF THE PUMP FOUNDATION AND THE INSTALLATION OF THE ELECTRICAL CONDUIT FOR PUMP.

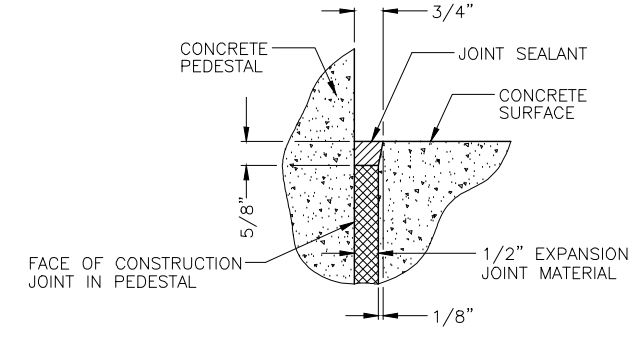
**(A) PUMP PAD AND PEDESTAL REINFORCEMENT PLAN**  
SCALE: 1"=2'



**(C) PEDESTAL REINFORCEMENT DETAIL**  
SCALE: 1"=1'



**(B) PUMP PAD AND PEDESTAL REINFORCEMENT SECTION**  
SCALE: 1"=2'



**NOTE:**  
1. PRIME ALL VERTICAL EDGES.  
2. CONSTRUCTION JOINTS EXPOSED TO HYDRAULIC BEARING SURFACES SHALL HAVE GROOVE AND SEALANT.

**(D) SEALANT GROOVE CONSTRUCTION JOINTS**  
NOT TO SCALE



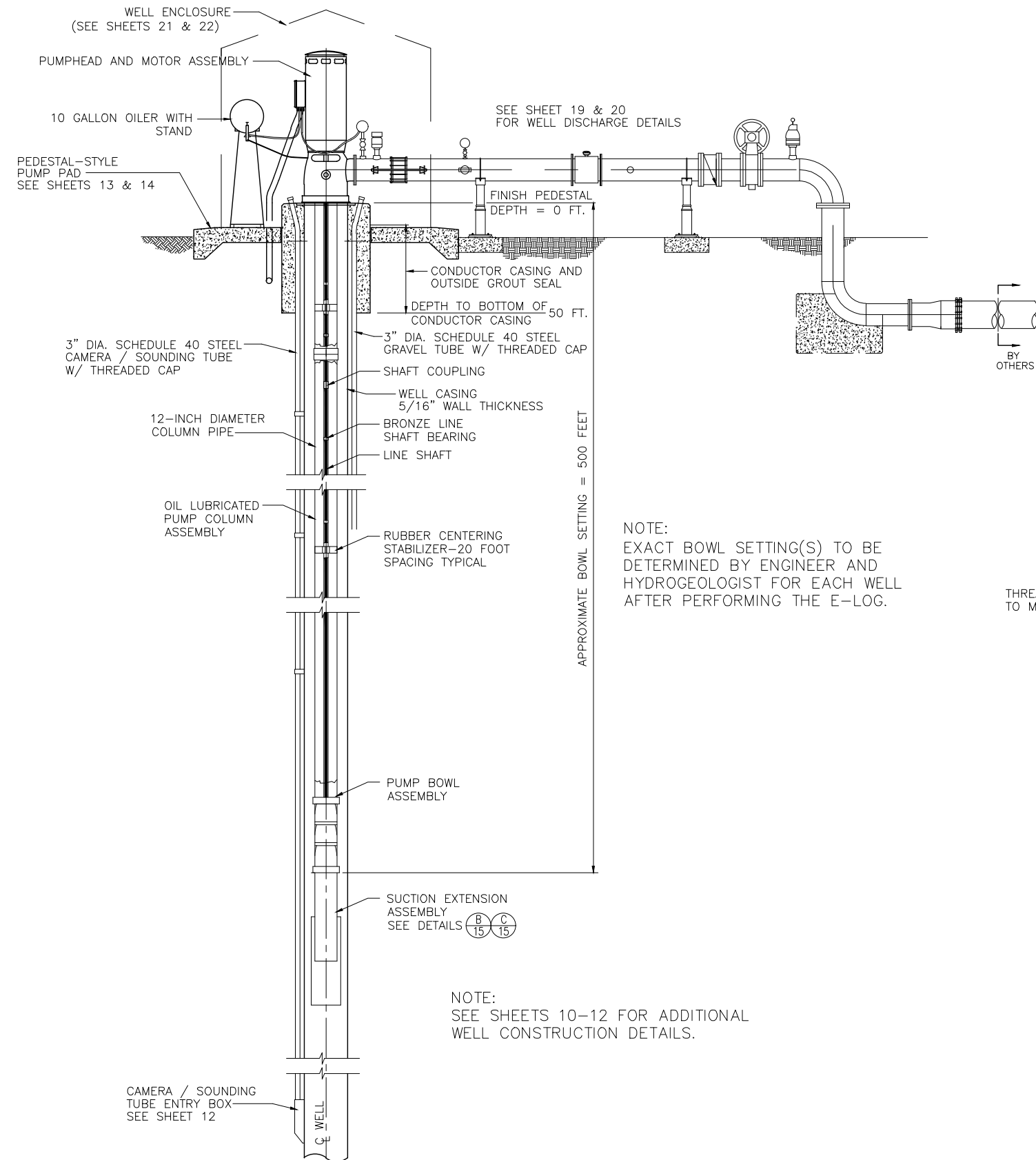
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**MCCASLIN / BOWLING WELL PLANS**  
**WELL PAD DETAILS**  
**ALL WELLS**

**R3B ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

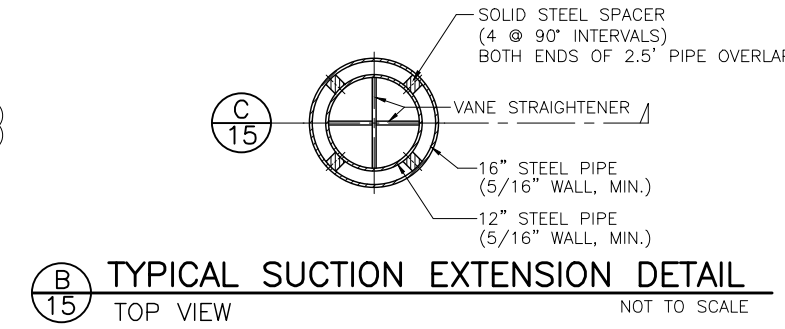
**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866



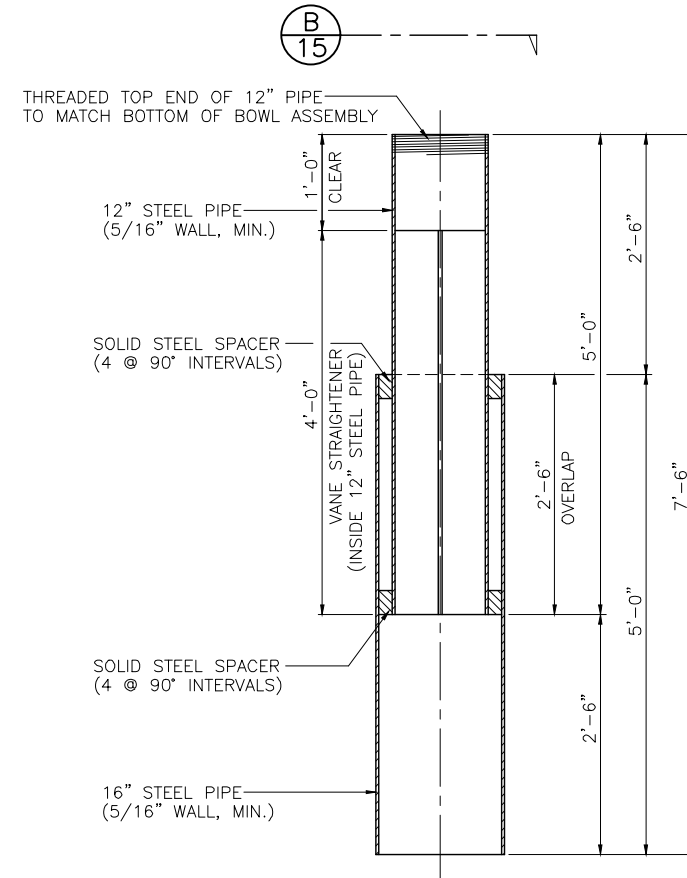
**(A) 15** TYPICAL PUMPING EQUIPMENT DETAIL  
NOT TO SCALE

NOTE:  
EXACT BOWL SETTING(S) TO BE DETERMINED BY ENGINEER AND HYDROGEOLOGIST FOR EACH WELL AFTER PERFORMING THE E-LOG.

NOTE:  
SEE SHEETS 10-12 FOR ADDITIONAL WELL CONSTRUCTION DETAILS.



**(B) 15** TYPICAL SUCTION EXTENSION DETAIL  
TOP VIEW NOT TO SCALE



**(C) 15** TYPICAL SUCTION EXTENSION DETAIL  
SECTION NOT TO SCALE



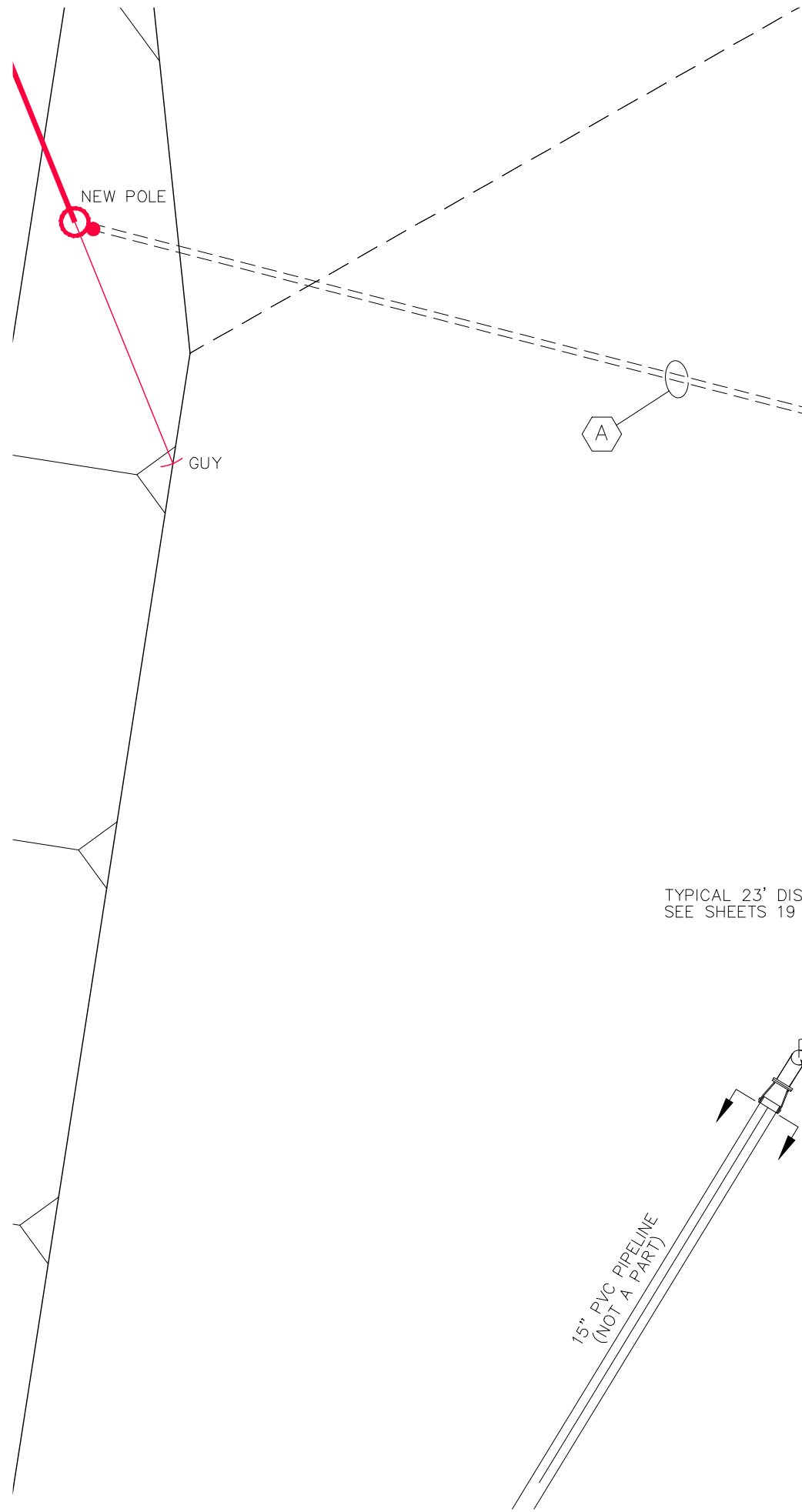
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

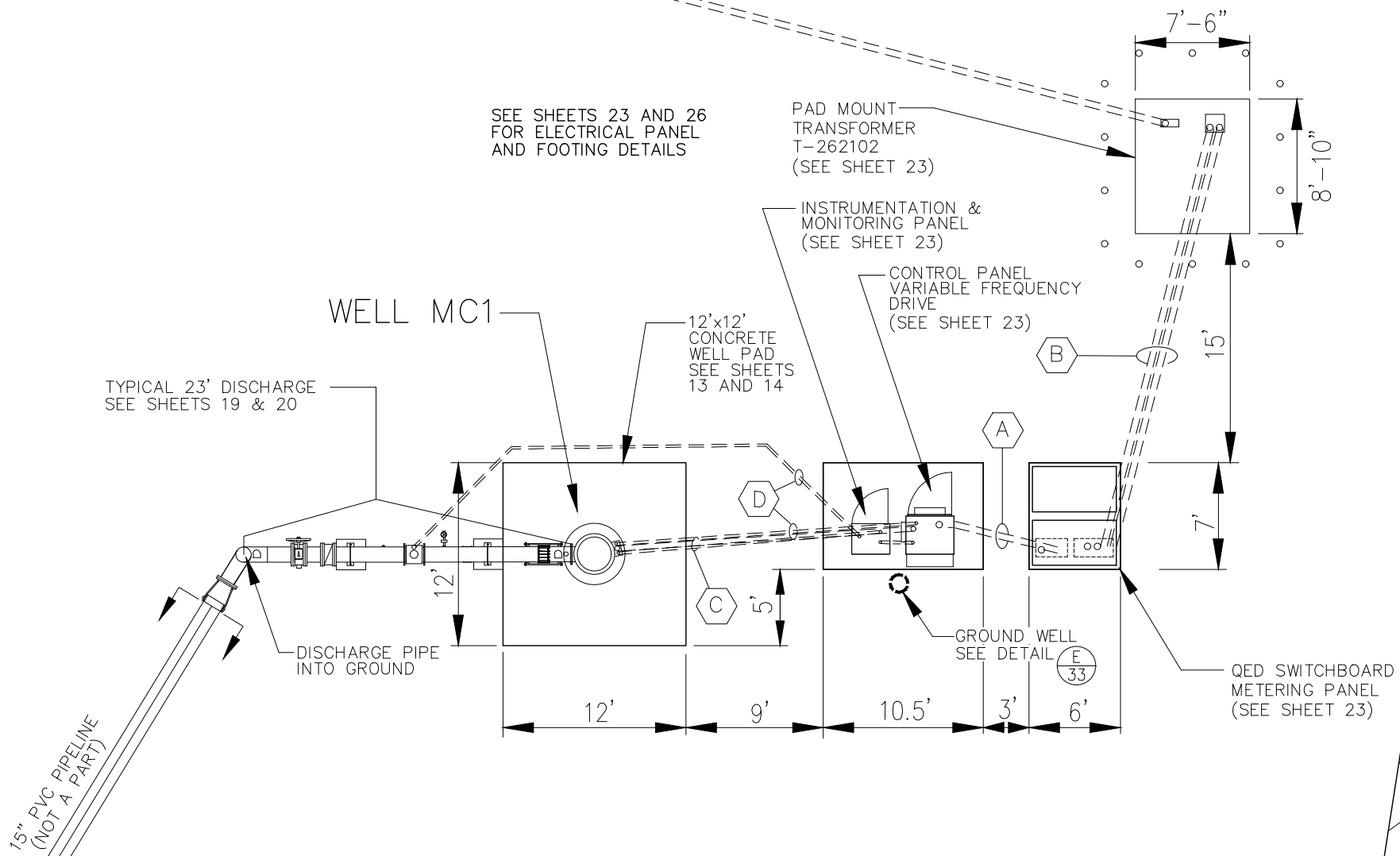
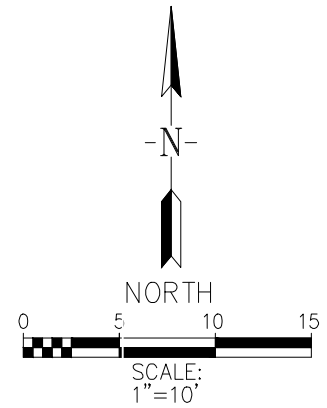
**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
WELL PUMPING EQUIPMENT DETAILS  
ALL WELLS

**RRB ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
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BURIED CONDUIT INDEX	
(A)	BURIED 5" ELECTRICAL CONDUIT
(B)	BURIED 5" ELECTRICAL CONDUIT PAIR
(C)	BURIED 2" & 4" ELECTRICAL CONDUIT PAIR
(D)	BURIED 2" SPARE ELECTRICAL CONDUIT W/ PULL TAPE



**A**  
16  
**MC1 CONDUIT DETAIL**  
POND 3 AT WEST LEVEE



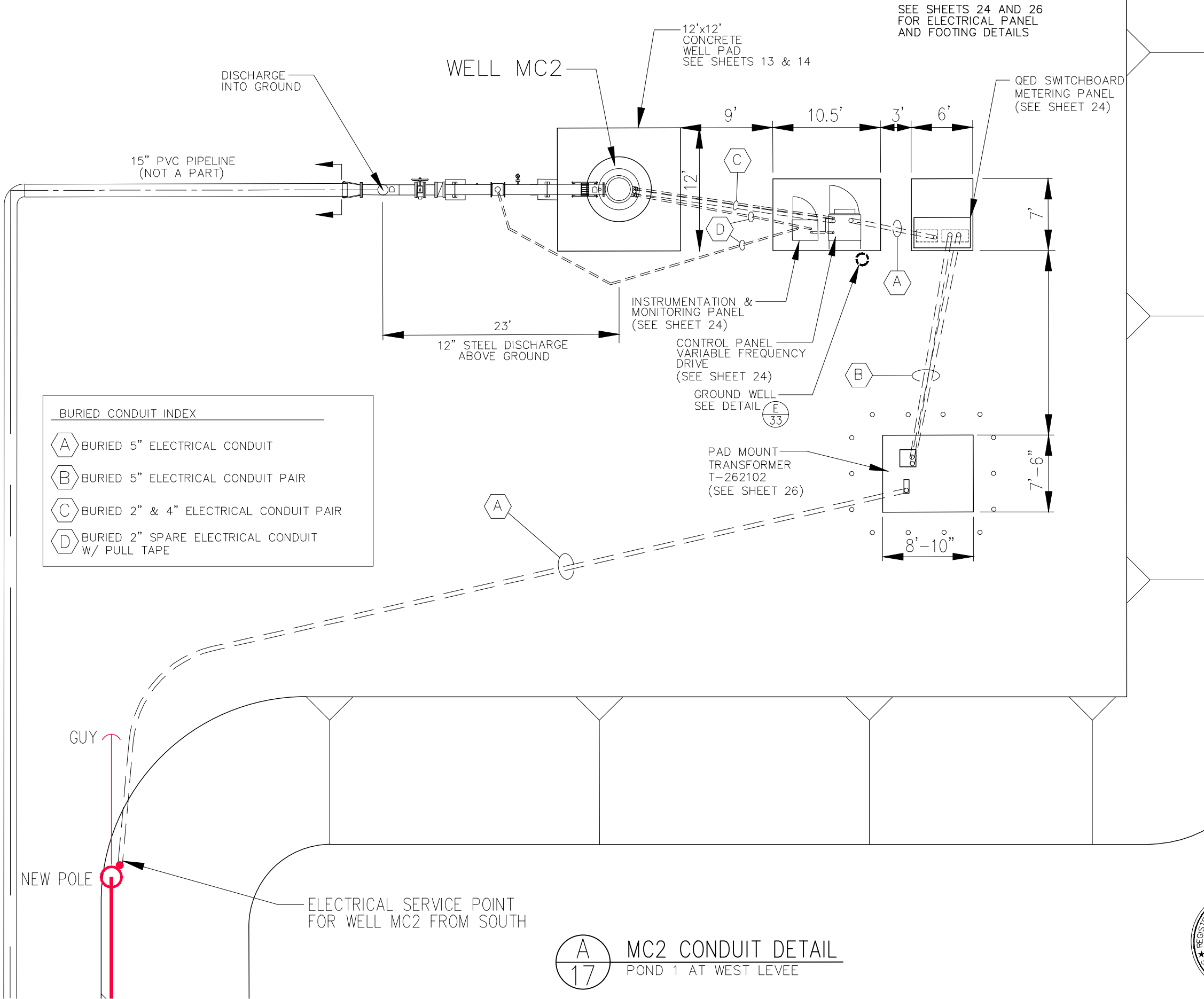
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DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

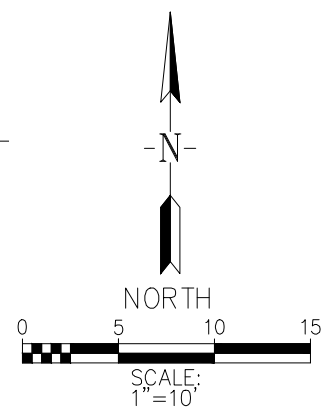
**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**CONDUIT DETAIL**  
**McCASLIN WELL #1 (MC1)**

**R2B ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

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- BURIED CONDUIT INDEX
- (A) BURIED 5" ELECTRICAL CONDUIT
  - (B) BURIED 5" ELECTRICAL CONDUIT PAIR
  - (C) BURIED 2" & 4" ELECTRICAL CONDUIT PAIR
  - (D) BURIED 2" SPARE ELECTRICAL CONDUIT W/ PULL TAPE



NEW POLE

GUY

ELECTRICAL SERVICE POINT FOR WELL MC2 FROM SOUTH

A  
17
MC2 CONDUIT DETAIL  
POND 1 AT WEST LEVEE



REV.	DATE	DESCRIPTION

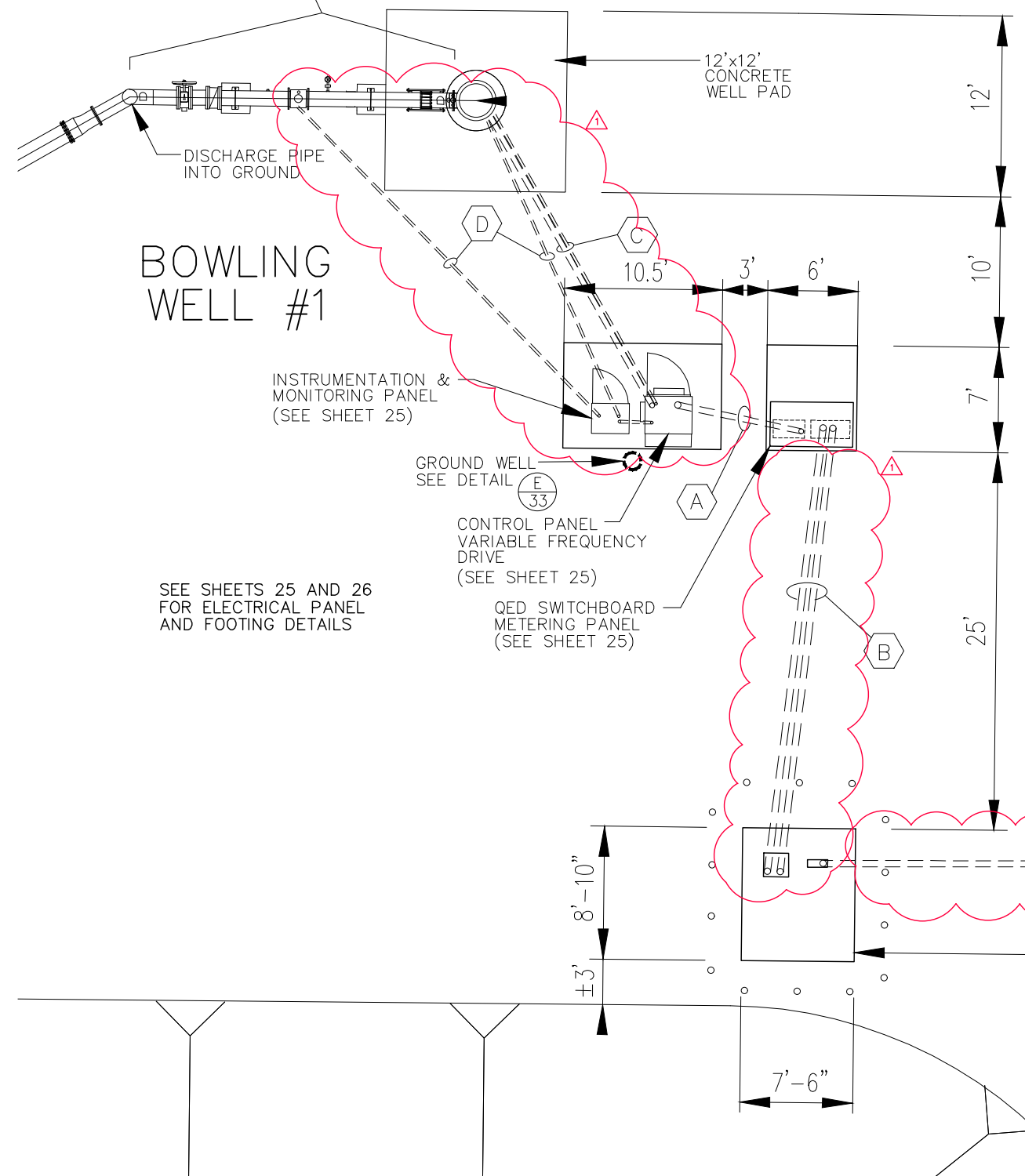
DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**CONDUIT DETAIL**  
**McCASLIN WELL #2 (MC2)**

**R2B ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

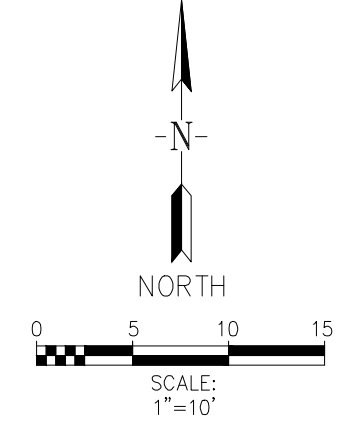
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TYPICAL 23' DISCHARGE PLUS STARTER COUPLER SEE SHEETS 19 & 20



BURIED CONDUIT INDEX

(A)	BURIED 5" ELECTRICAL CONDUIT
(B)	BURIED 5" ELECTRICAL CONDUIT PAIR
(C)	BURIED 2" & 4" ELECTRICAL CONDUIT PAIR
(D)	BURIED 2" SPARE ELECTRICAL CONDUIT W/ PULL TAPE



**A**  
18  
**B1 CONDUIT DETAIL**  
BOWLING WELL

NOTE: ENTIRE BOWLING WELL LAYOUT WAS RELOCATED. REVISION CLOUDS SHOWN INDICATE CONDITIONS NOT SHOWN IN ORIGINAL PLAN SET.



REV.	DATE	DESCRIPTION
1	07/21/2023	RELOCATED BOWLING WELL

DATE: JULY 21, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 CONDUIT DETAIL  
 BOWLING WELL (B1)

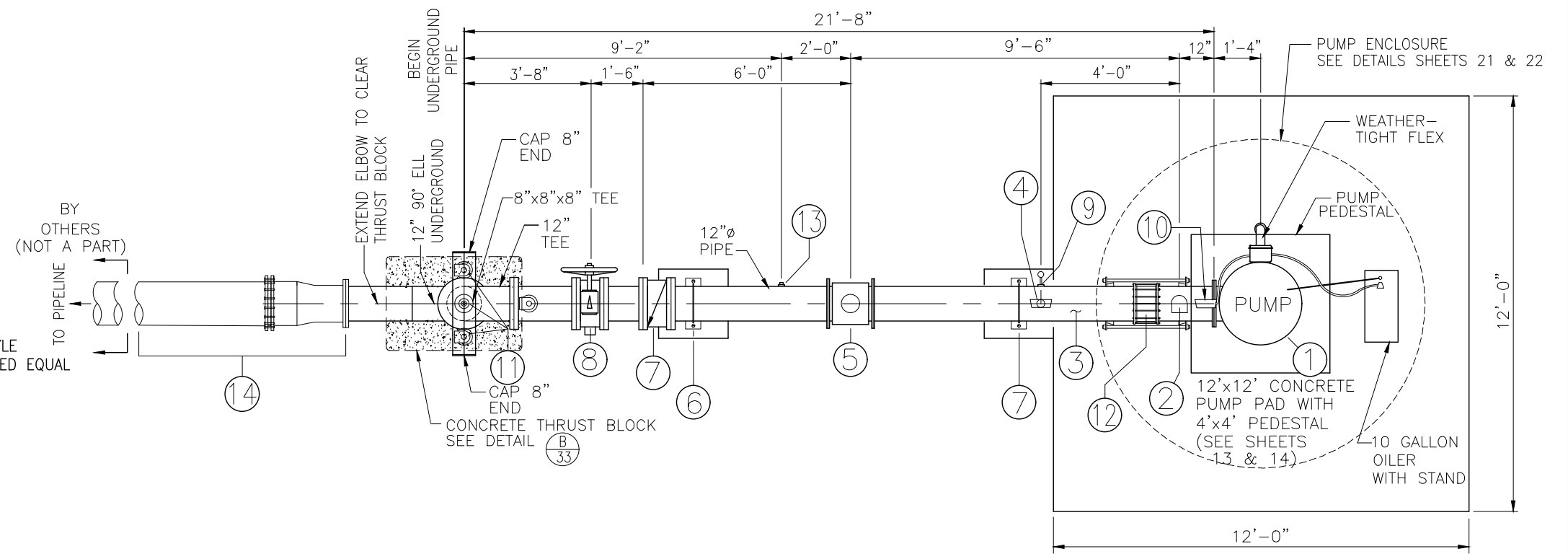
**RRB ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
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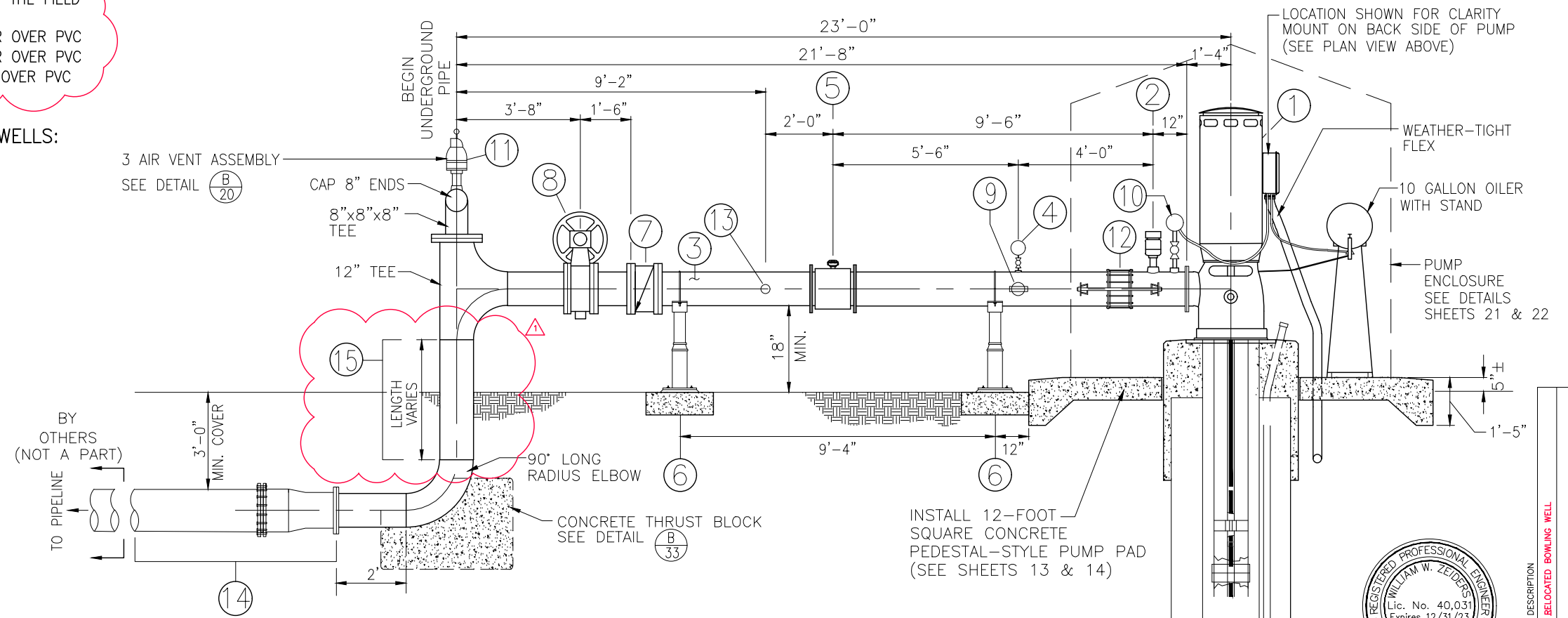
SCOPE OF WORK

- ① PUMPHEAD AND MOTOR ASSEMBLY
- ② 3" WATERMAN AV-150 AIR VENT
- ③ 12" DISCHARGE PIPE
- ④ PRESSURE GAUGE - 3" OIL FILLED, TO 100 PSI
- ⑤ 12" FLOWMETER - 12" SEAMETRICS IN-LINE MAG METER (READS IN CFS AND TOTALIZES IN ACRE-FEET - 0 TO 8 CFS) NOTE: REQUIRES ALTERNATING CURRENT. UNIT SHALL HAVE 4-20 mA AND PULSE OUTPUT. UNITS WITHOUT BOTH OUTPUTS ARE UNACCEPTABLE.
- ⑥ (2) ADJUSTABLE SADDLE TYPE SUPPORT (SEE DETAIL (A/20))
- ⑦ 12" WAFER CHECK VALVE - FRESNO VALVE SERIES 3700, WATERMAN PC-150 OR APPROVED EQUAL
- ⑧ 12" BUTTERFLY VALVE - GRAYLINE 8400 SERIES BFV WAFER STYLE VALVE W/ WORM GEAR OPERATOR AND HAND WHEEL OR APPROVED EQUAL
- ⑨ 1" BALL VALVE (MOUNTED ON SIDE OF 12" PIPE)
- ⑩ HIGH PRESSURE KILL (SHUT-OFF) SWITCH (OFF @ 80 PSI) MERCOID DAW-7000 OR APPROVED EQUAL
- ⑪ (3) VENT ASSEMBLY - 4" WATERMAN CR101 (SEE DETAIL (B/20))
- ⑫ 12" DRESSER TYPE COUPLING (CONSTRAINED) DRESSER STYLE 253 OR APPROVED EQUAL
- ⑬ 1" THREADED COLLAR W/ PLUG (FOR RATING WELL)
- ⑭ 12" X 15" STEEL-TO-PVC STARTER COUPLER WITH 1 JOINT OF 15" PIP PVC CL100. PROTECT END OF PIPE IN PLACE BEFORE BACKFILL. 12" SIDE (STEEL); 150 POUND FLANGE PER THE SPECIFICATIONS 15" SIDE (PVC); COMPRESSION STYLE COUPLER.
- ⑮ ALL LENGTHS PER WELL AS SHOWN AND VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION:  
 MC1: SHALL DEVELOP A MINIMUM 3' OF COVER OVER PVC  
 MC2: SHALL DEVELOP A MINIMUM 3' OF COVER OVER PVC  
 B1: SHALL DEVELOP A MINIMUM 6' OF COVER OVER PVC

NOTE:  
THIS DETAIL APPLIES TO THE FOLLOWING WELLS:  
MC1, MC2, AND B1



(A) TYPICAL WELL DISCHARGE PLAN  
19 WELLS MC1, MC2, AND B1 NOT TO SCALE



(B) TYPICAL WELL DISCHARGE PROFILE  
19 WELLS MC1, MC2, & B1 NOT TO SCALE



REV.	DATE	DESCRIPTION
Δ	07/21/2023	RELOCATED BOWLING WELL

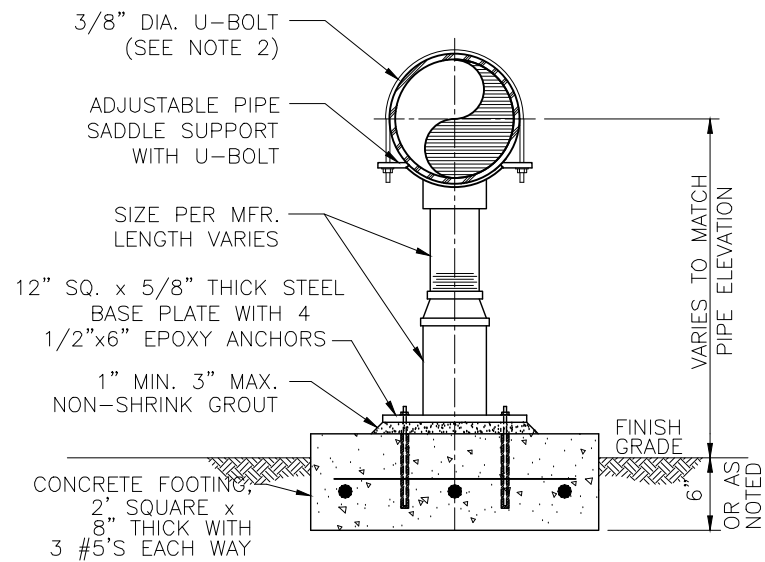
19 of 37

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**R.R.B. ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
TYPICAL DISCHARGE DETAILS  
ALL WELLS

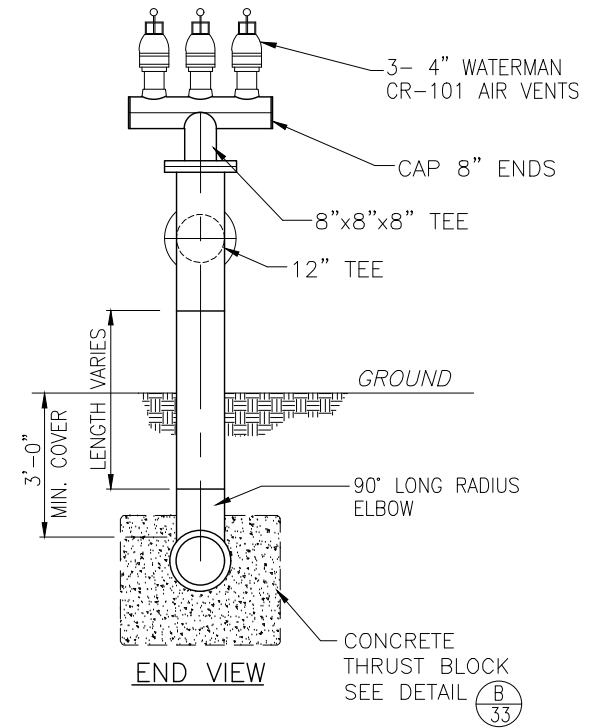
DATE: JULY 21, 2023	SCALE: AS NOTED	DRAWN BY: W. FREY	CHECKED BY: W. ZEIDERS	FILE NAME: McCASLIN & BOWLING...
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**NOTE:**

1. ADJUSTABLE PIPE SUPPORT, GRINNELL FIGURE 265, B-LINE B3093/3089 OR EQUAL WITH A PIPE STANCHION AND U-BOLT, GRINNELL FIGURE 259, B-LINE B3090 OR EQUAL. ALL SUPPORTS EXCEPT SST SHALL BE COATED OR PAINTED PER SPECIFICATIONS.
2. U-BOLTS SHALL HAVE 1/4-INCH CLEARANCE BETWEEN PIPE AND U-BOLT TO ALLOW MOVEMENT WHEN SUPPORTING EXPANSION JOINTS.
3. PROVIDE 1/8 INCH TEFLON PAD BETWEEN PIPE AND SADDLE.

**A** ADJUSTABLE PIPE SUPPORT  
**20** AT WELL DISCHARGE NOT TO SCALE



**B** TYPICAL WELL DISCHARGE  
**20** (END) NOT TO SCALE



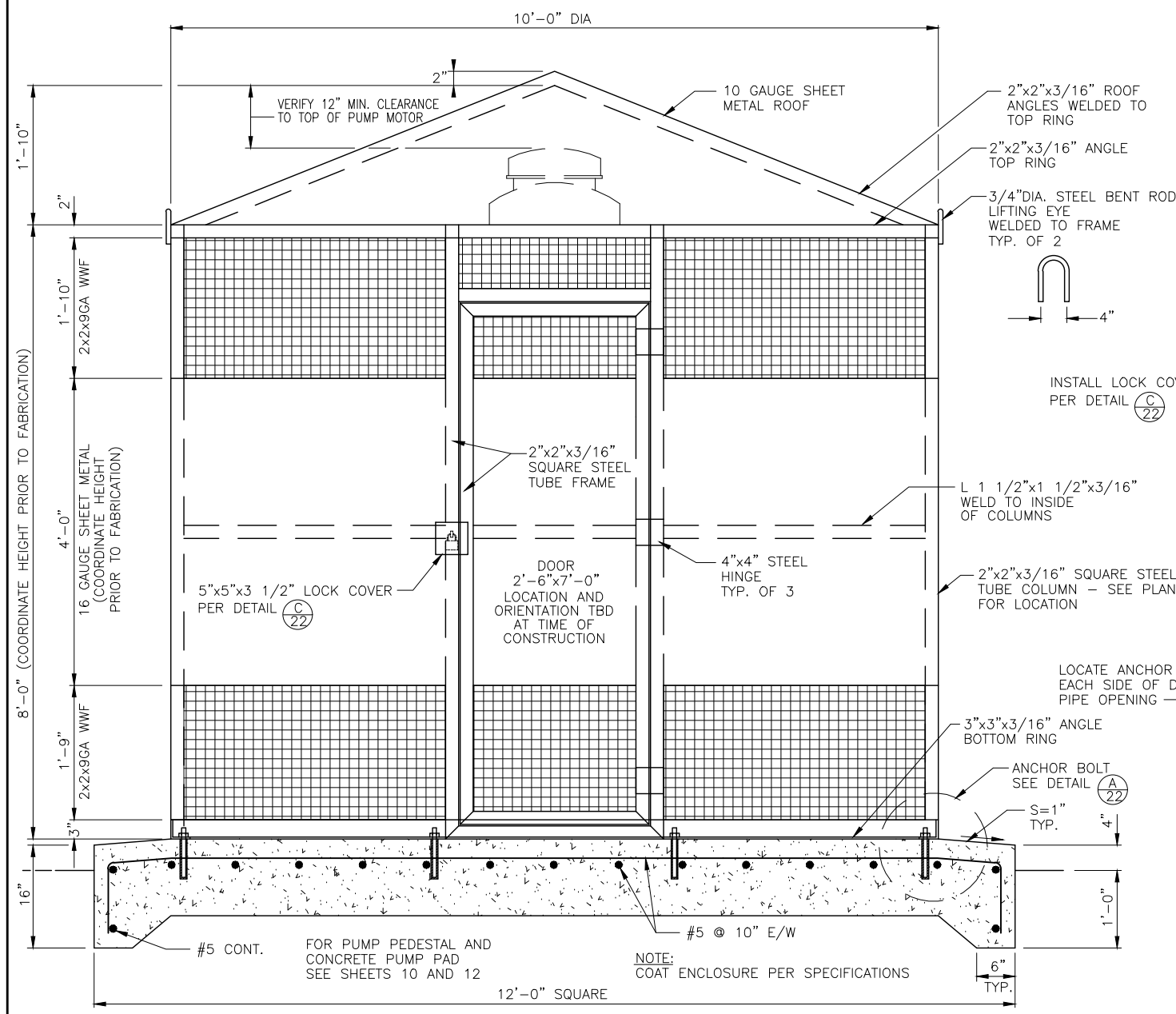
REV.	DATE	DESCRIPTION

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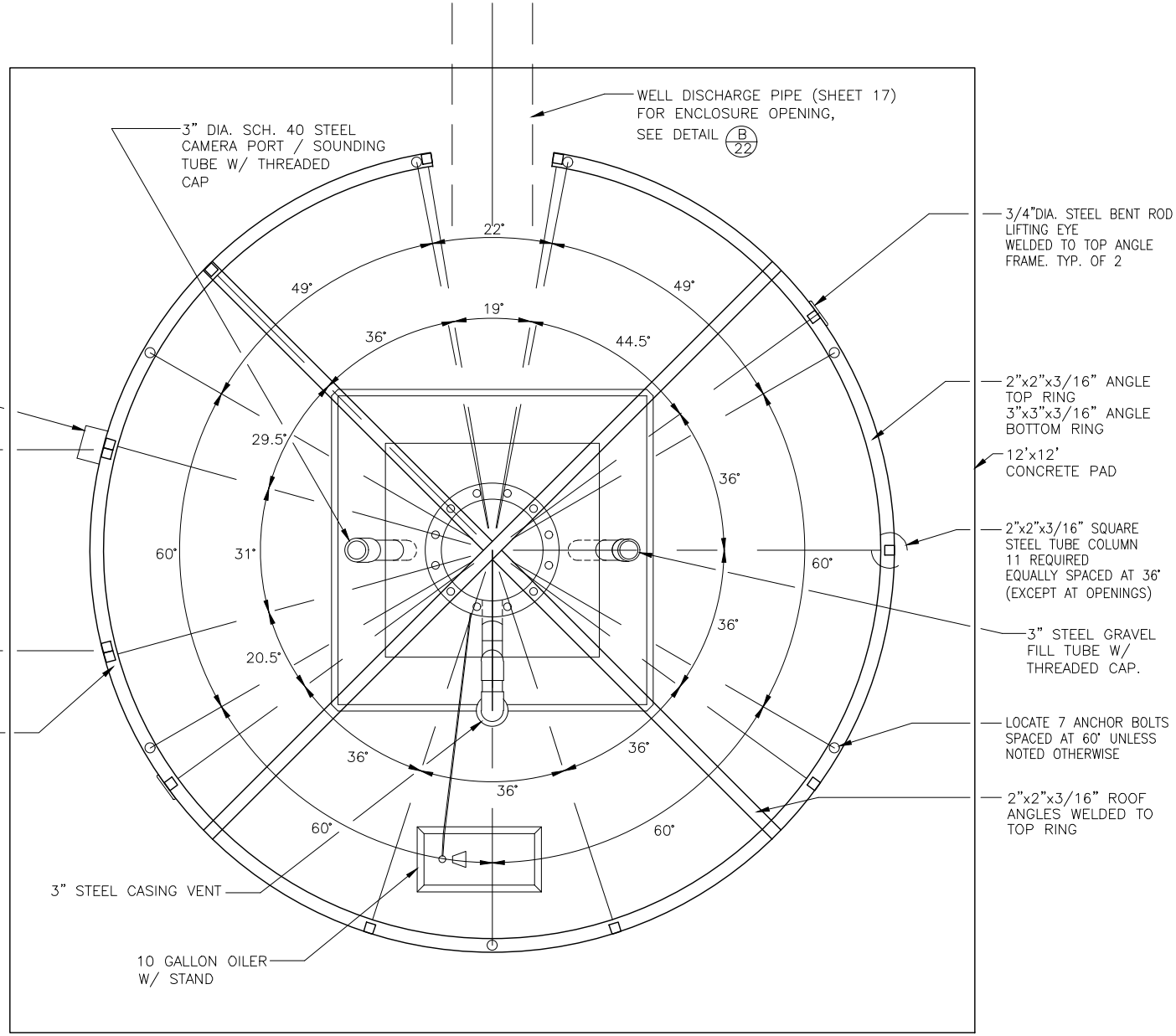
**R. R. B. W. S. D.**  
**McCASLIN / BOWLING WELL PLANS**  
**TYPICAL DISCHARGE DETAILS**  
**ALL WELLS**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
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**(A) 21 WELL ENCLOSURE PLAN**  
SIDE VIEW SCALE: 1" = 2'-0"



**(B) 21 WELL ENCLOSURE PLAN**  
TOP VIEW SCALE: 1" = 2'-0"

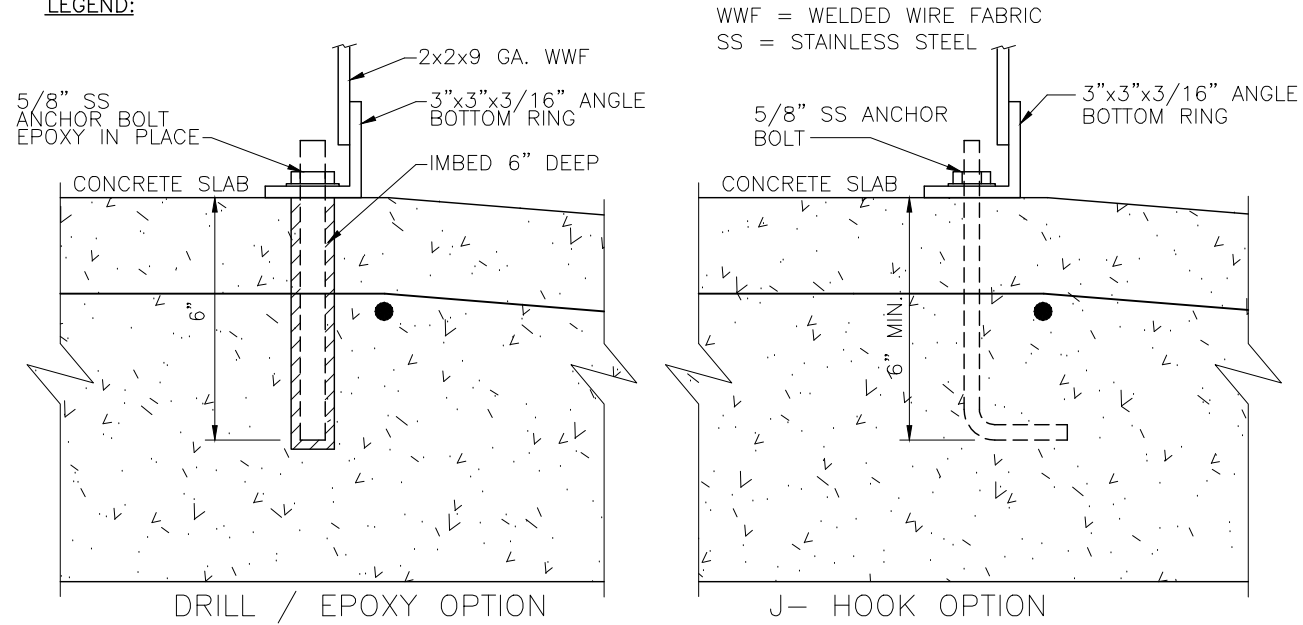


REV.	DATE	DESCRIPTION

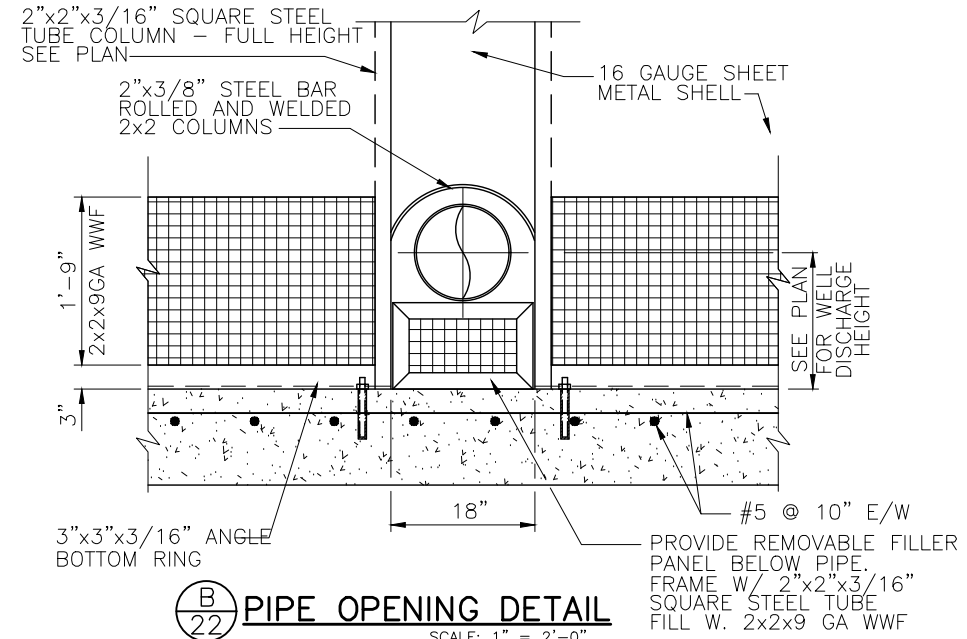
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SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...



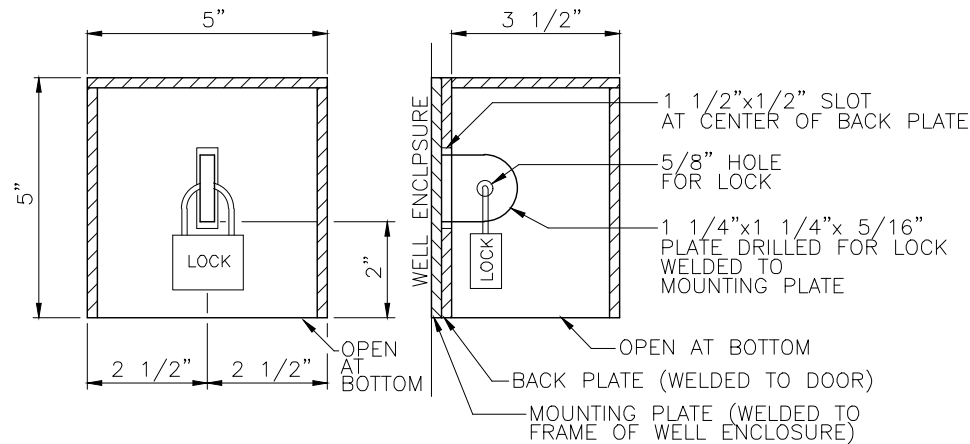
**LEGEND:**



**(A) ANCHOR BOLT DETAIL**  
SCALE: 5" = 2'-0"



**(B) PIPE OPENING DETAIL**  
SCALE: 1" = 2'-0"



NOTE: TO BE CONSTRUCTED OF 5/16" STEEL

**(C) LOCK COVER DETAIL**  
NOT TO SCALE

**NOTE:**

- GRIND SMOOTH ALL WELDS AND EDGES OF SHEET METAL. PROVIDE 1/8 INCH RADIUS AT CORNERS OF SHEET METAL.
- STRUCTURAL STEEL ENCLOSURE SHALL BE ASSEMBLED IN THE SHOP TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE FIELD ASSEMBLY. CONTRACTOR SHALL SUBMIT ERECTION DRAWINGS CLEARLY NOTING COMPONENTS TO BE ASSEMBLED IN THE FIELD. SHOW FIELD WELDING AND SPLICE LOCATIONS. REPAIR DAMAGED METAL.
- MODIFICATIONS DUE TO IMPROPERLY SET J-HOOK ANCHORS ARE NOT ALLOWED. IF A J-HOOK IS IMPROPERLY SET IN THE ENGINEER'S OPINION, IT SHALL BE ABANDONED AND REPLACED WITH AN EPOXY ANCHOR AT THE CONTRACTOR'S EXPENSE.



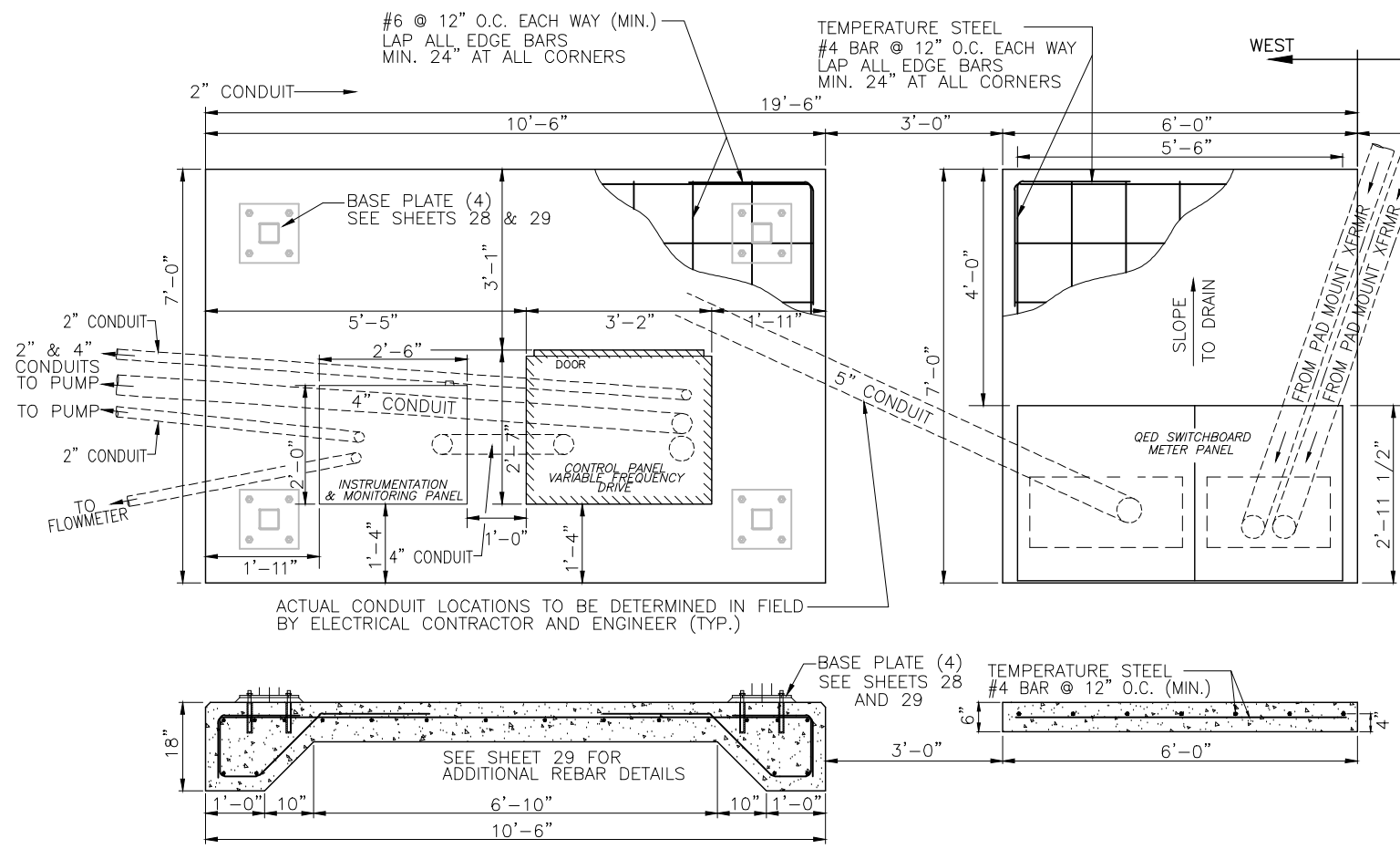
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

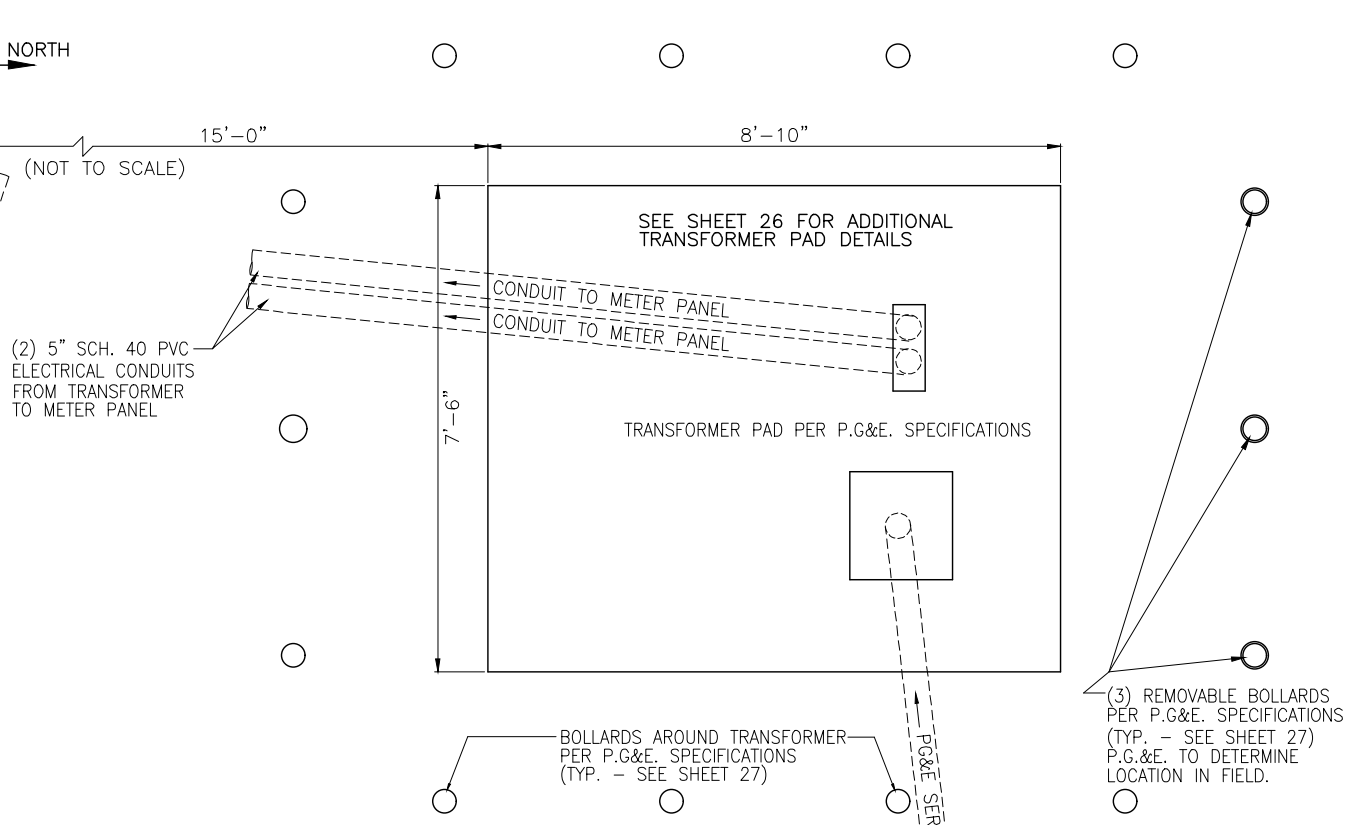
**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**WELL ENCLOSURE DETAILS**  
**ALL WELLS**

**R3B ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
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 BAKERSFIELD, CA. 93390

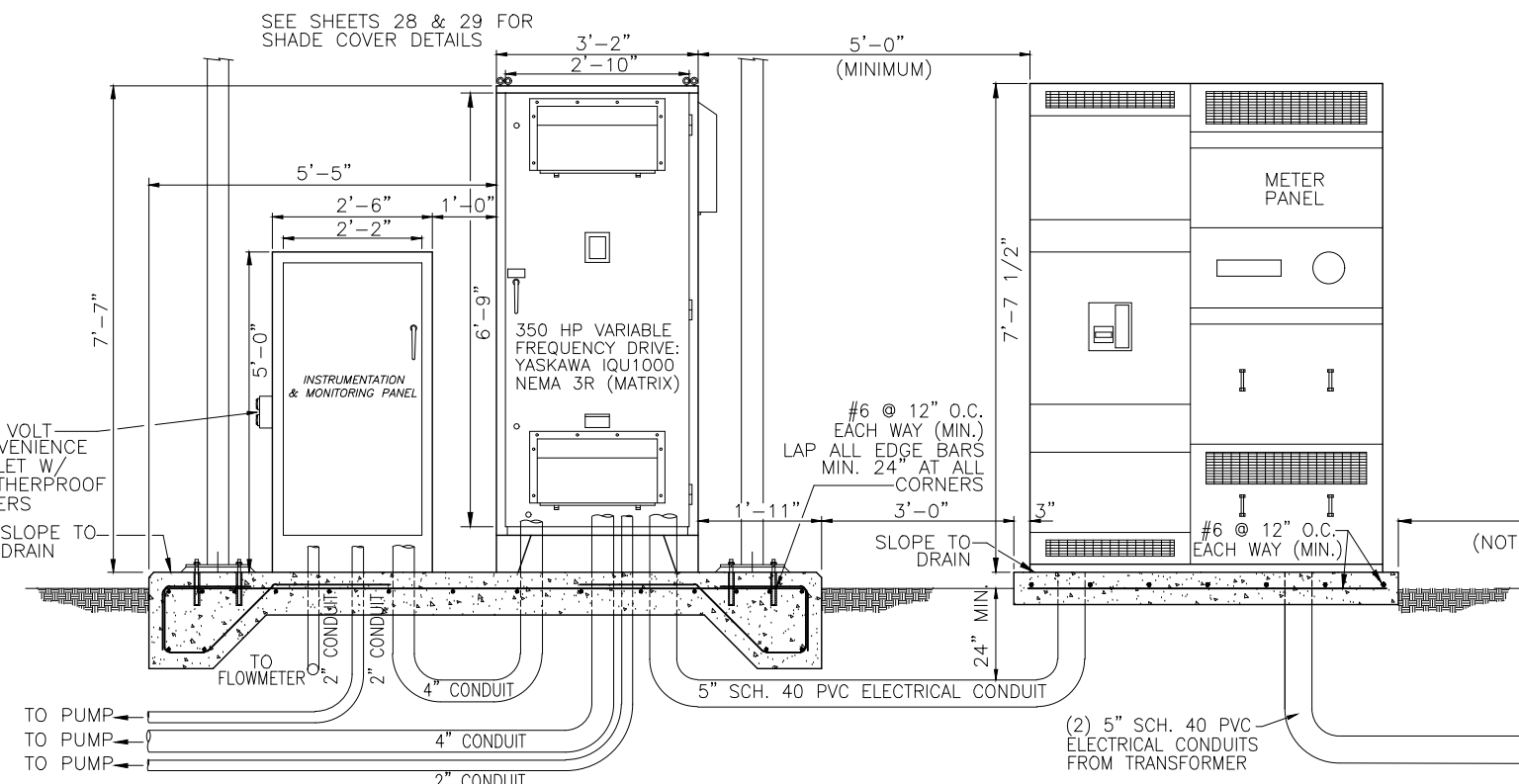
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 (661) 589-8866



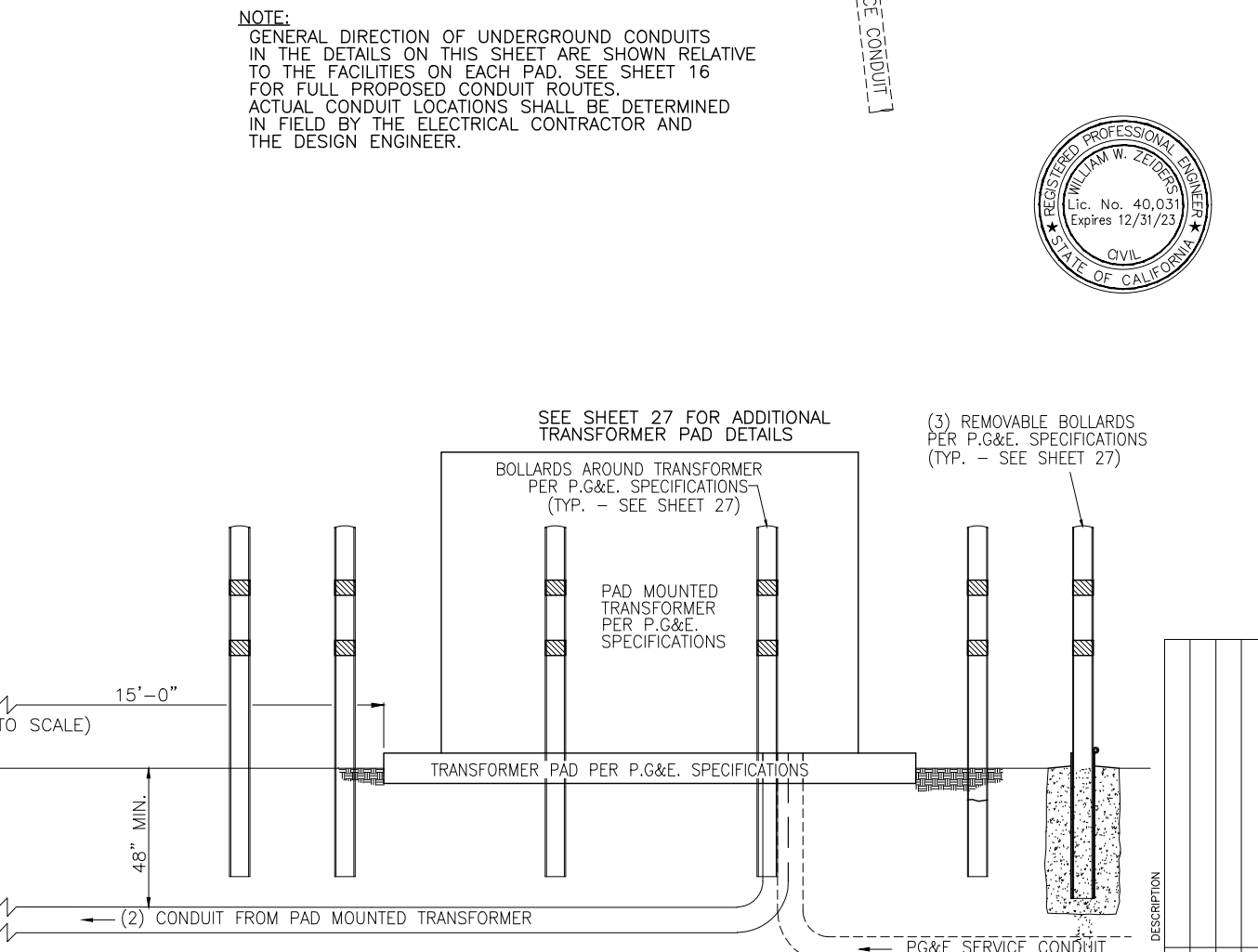
**A** PANEL FOOTING DETAIL  
 23 SITE MC1 NOT TO SCALE



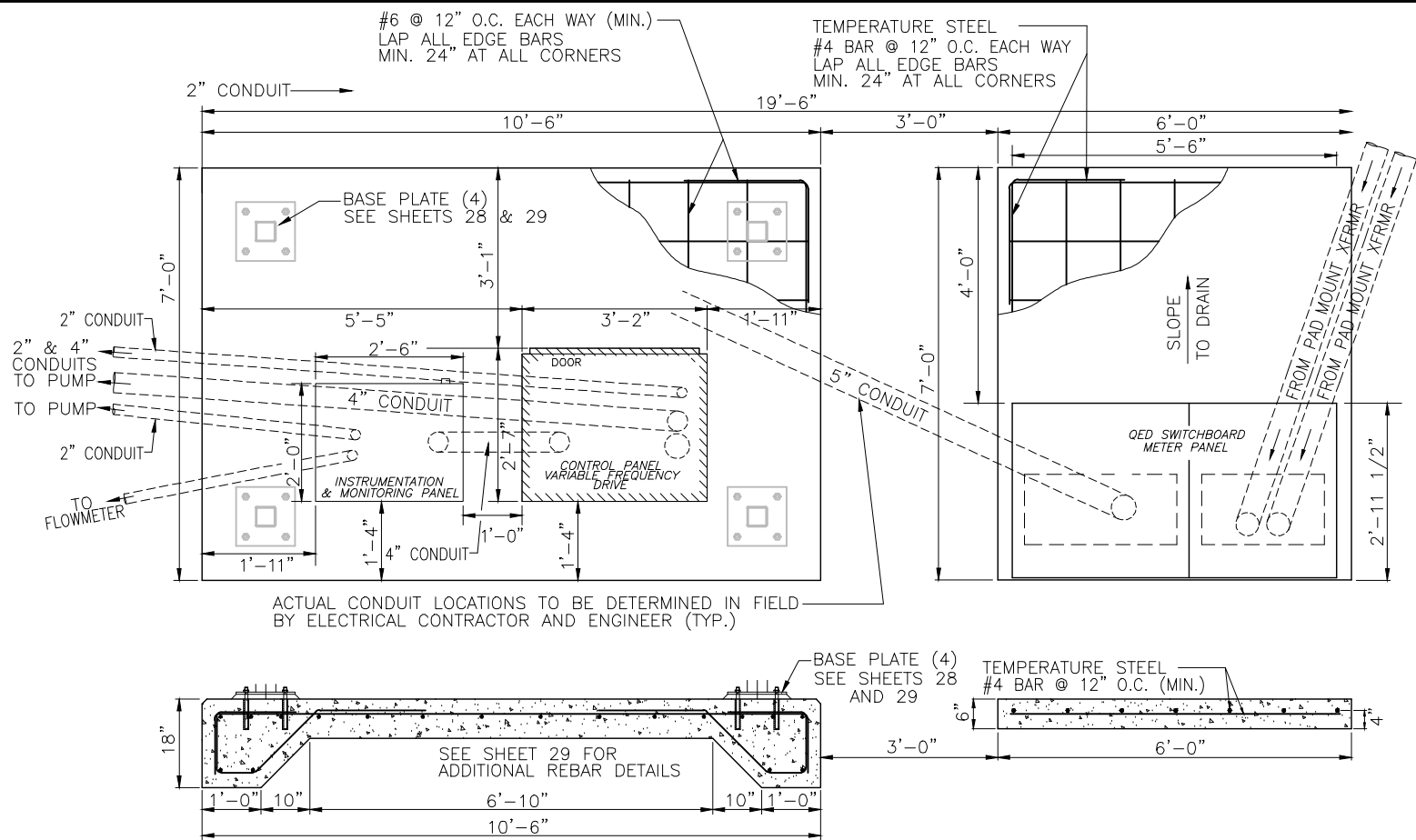
**NOTE:**  
 GENERAL DIRECTION OF UNDERGROUND CONDUITS IN THE DETAILS ON THIS SHEET ARE SHOWN RELATIVE TO THE FACILITIES ON EACH PAD. SEE SHEET 16 FOR FULL PROPOSED CONDUIT ROUTES. ACTUAL CONDUIT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ELECTRICAL CONTRACTOR AND THE DESIGN ENGINEER.



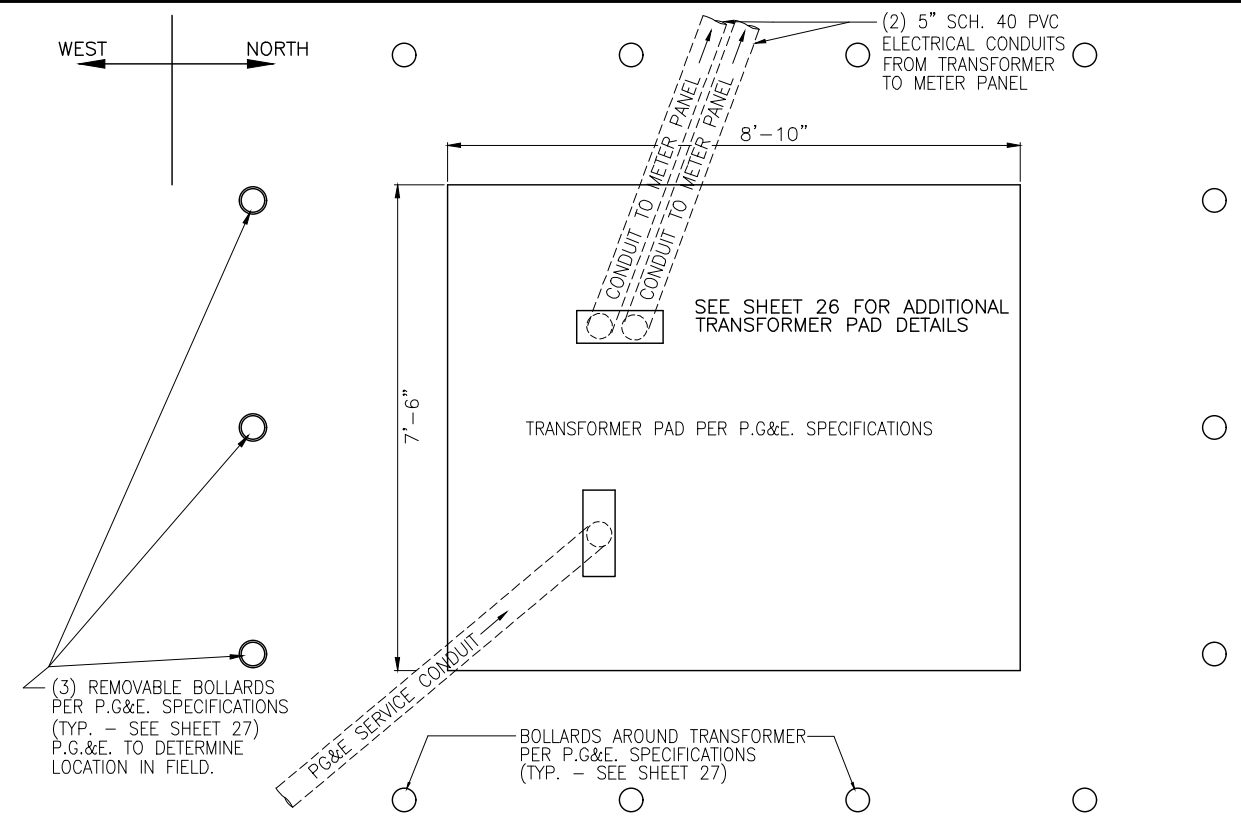
**B** ELECTRICAL PANEL ELEVATION - LOOKING NORTH  
 23 SITE MC1 (BACKSIDE OF PANELS) NOT TO SCALE



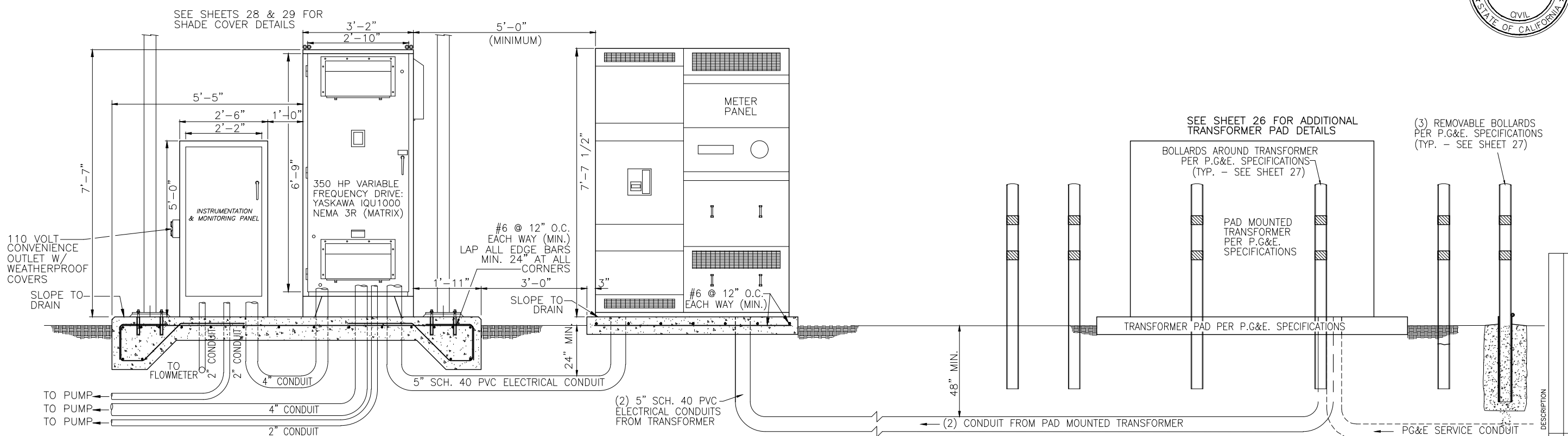
REV.	DATE	DESCRIPTION



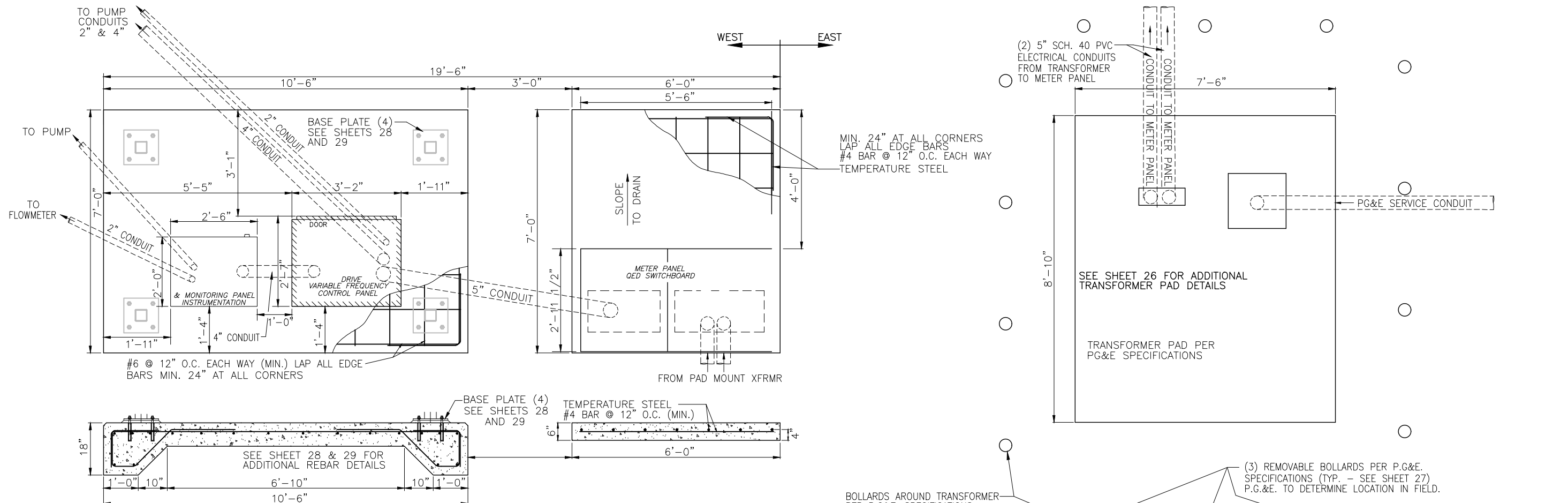
**(A) PANEL FOOTING DETAIL**  
24 SITE MC2 NOT TO SCALE



**NOTE:**  
GENERAL DIRECTION OF UNDERGROUND CONDUITS IN THE DETAILS ON THIS SHEET ARE SHOWN RELATIVE TO THE FACILITIES ON EACH PAD. SEE SHEET 17 FOR FULL PROPOSED CONDUIT ROUTES. ACTUAL CONDUIT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ELECTRICAL CONTRACTOR AND THE DESIGN ENGINEER.



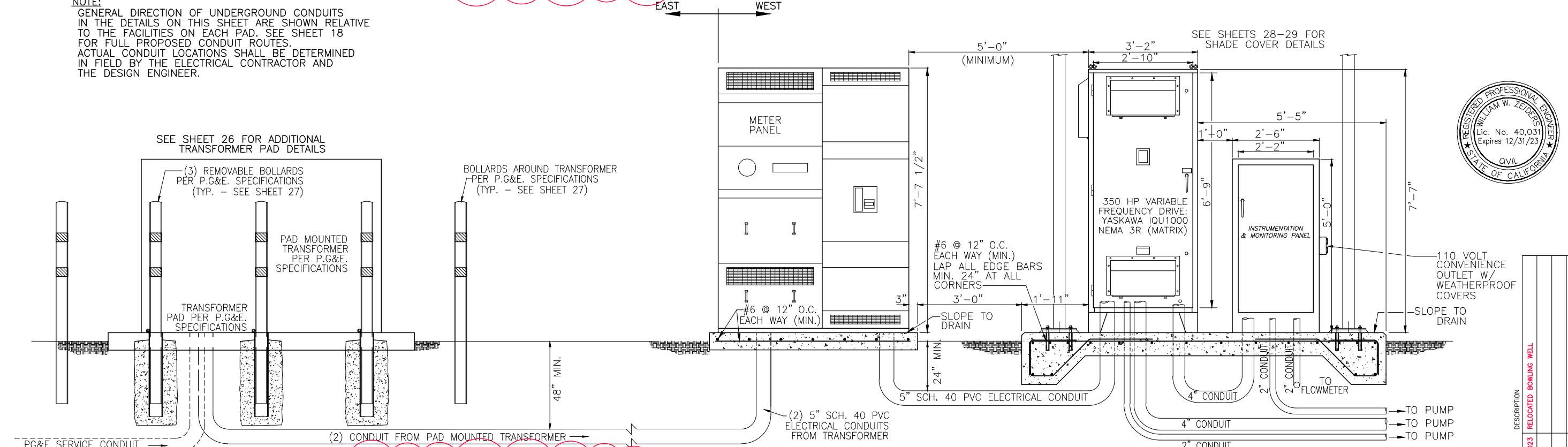
**(B) ELECTRICAL PANEL ELEVATION - LOOKING NORTH**  
24 SITE MC2 (BACKSIDE OF PANELS) NOT TO SCALE



**A** PANEL FOOTING DETAIL  
25 SITE B1 NOT TO SCALE

NOTE: ENTIRE BOWLING WELL LAYOUT WAS RELOCATED. LOCATION AND ORIENTATION OF PANELS CHANGED, BUT NOT SCOPE OF WORK.

NOTE:  
GENERAL DIRECTION OF UNDERGROUND CONDUITS IN THE DETAILS ON THIS SHEET ARE SHOWN RELATIVE TO THE FACILITIES ON EACH PAD. SEE SHEET 18 FOR FULL PROPOSED CONDUIT ROUTES. ACTUAL CONDUIT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ELECTRICAL CONTRACTOR AND THE DESIGN ENGINEER.

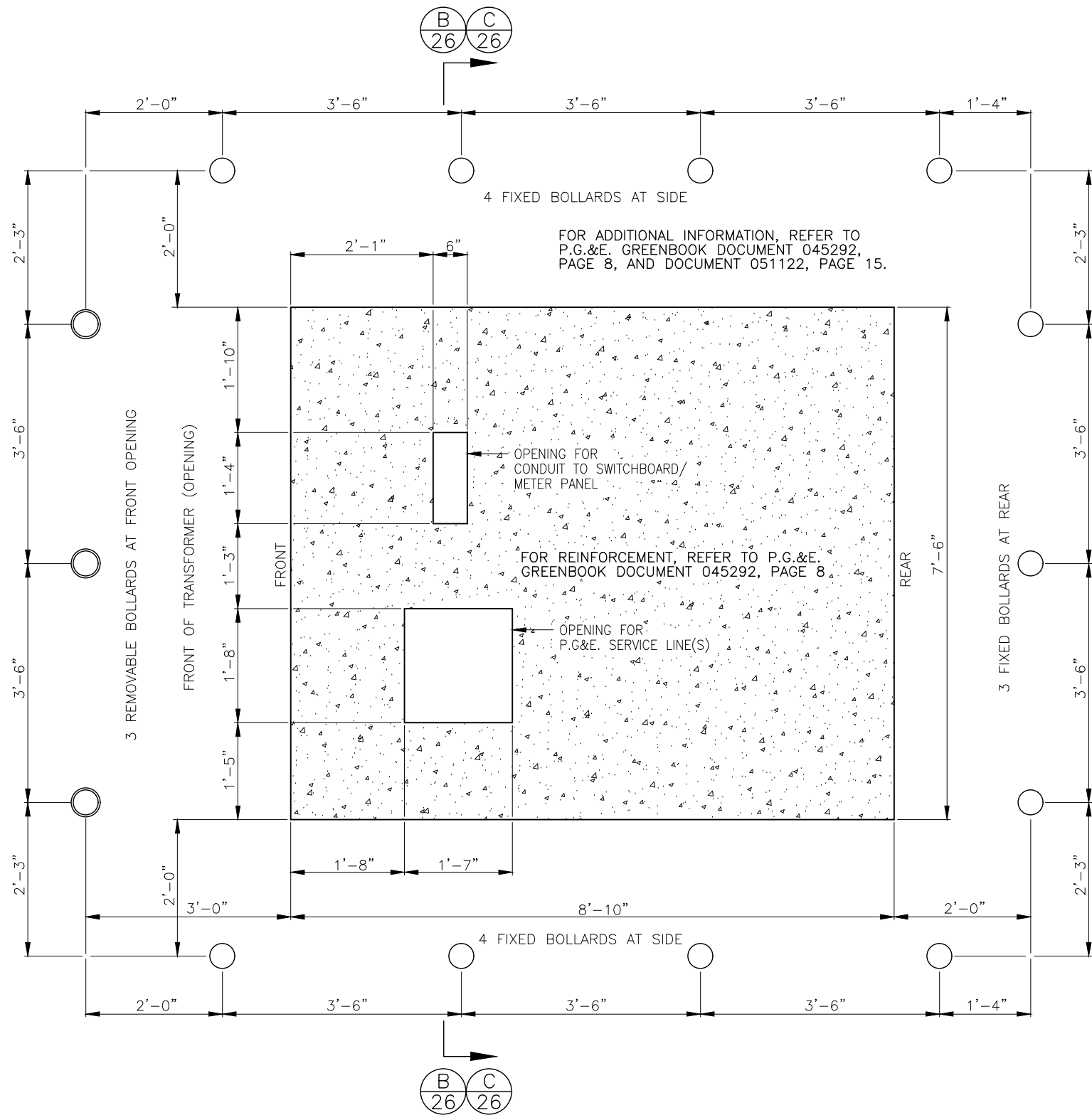


**B** ELECTRICAL PANEL ELEVATION  
25 SITE B1 NOT TO SCALE

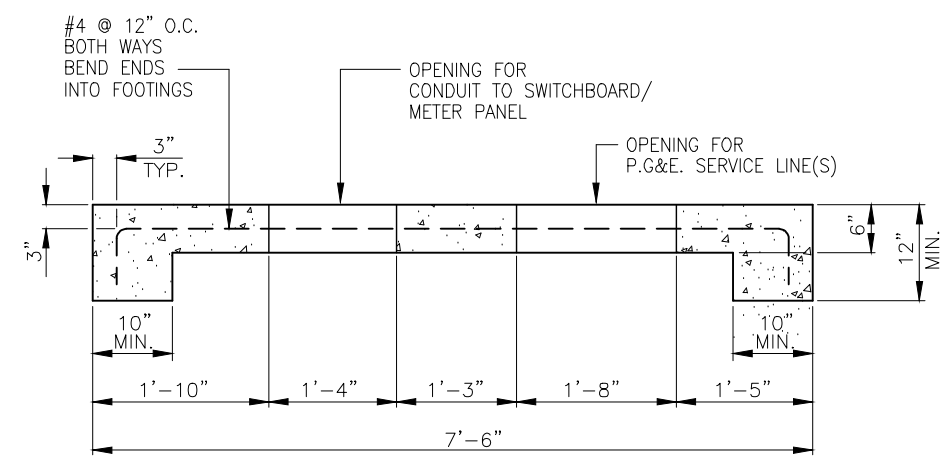
NOTE: ENTIRE BOWLING WELL LAYOUT WAS RELOCATED. LOCATION AND ORIENTATION OF PANELS CHANGED, BUT NOT SCOPE OF WORK.



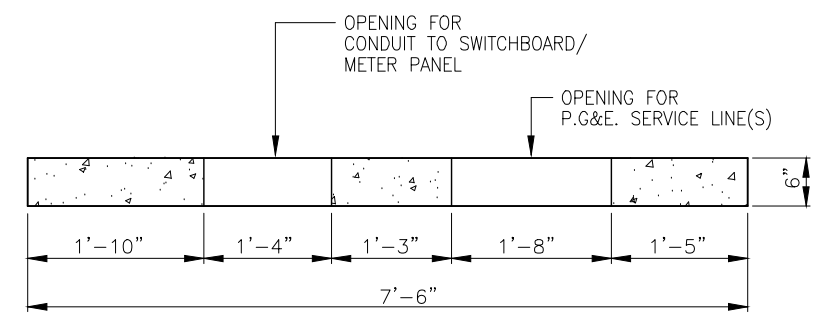
REV.	DATE	DESCRIPTION
1	07/21/2023	RELOCATED BOWLING WELL



**A**  
26 **CONCRETE PAD LAYOUT FOR GROUND MOUNTED TRANSFORMER**  
PER P.G.&E. SPECIFICATIONS SCALE: 1"=2'



**B**  
26 **CONCRETE PAD LAYOUT FOR GROUND MOUNTED TRANSFORMER**  
POURED IN PLACE PAD PER P.G.&E. SPECIFICATIONS SCALE: 1"=2'



**C**  
26 **CONCRETE PAD LAYOUT FOR GROUND MOUNTED TRANSFORMER**  
PRECAST PAD PER P.G.&E. SPECIFICATIONS SCALE: 1"=2'

FOR ADDITIONAL INFORMATION, REFER TO  
P.G.&E. GREENBOOK DOCUMENT 045292,  
PAGE 8, AND DOCUMENT 051122, PAGE 15.



REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**PAD MOUNT TRANSFORMER DETAILS**  
**ALL WELLS**

**R3 ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866

Clearances and Location Requirements for Enclosures, Pads, and Underground Equipment

17. Placement of Metal Barrier Posts and Details

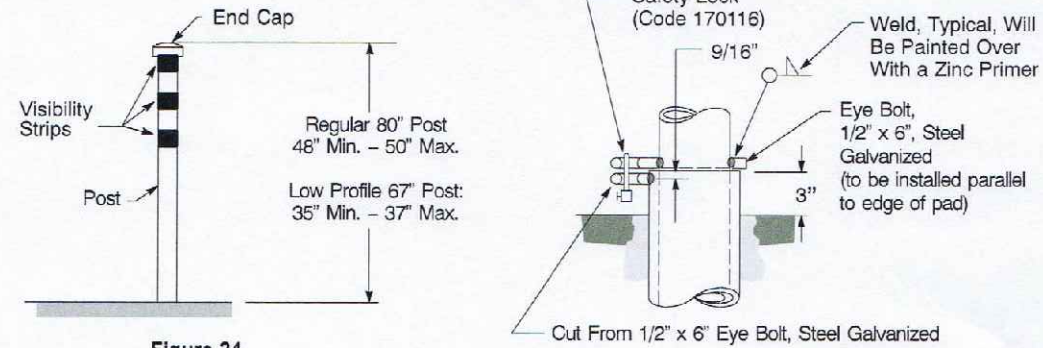


Figure 24 Steel Barrier Post (see Table 4)

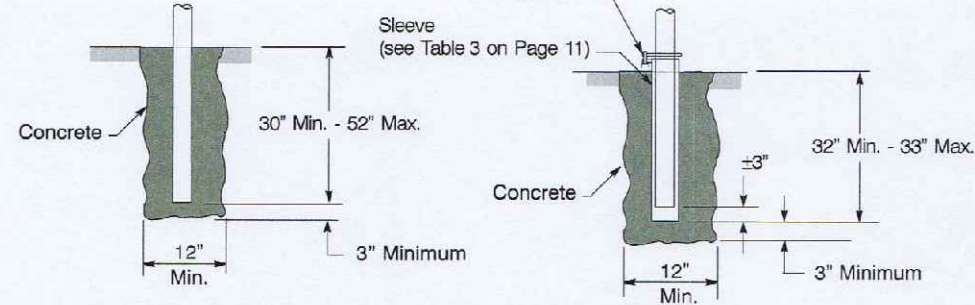


Figure 25 Footing for Fixed Steel Post Detail (see Table 4)

Figure 26 Footing for Removable Steel Post Detail (see Table 4)

Table 4 Description and Codes for Steel Barrier Posts <sup>1</sup>

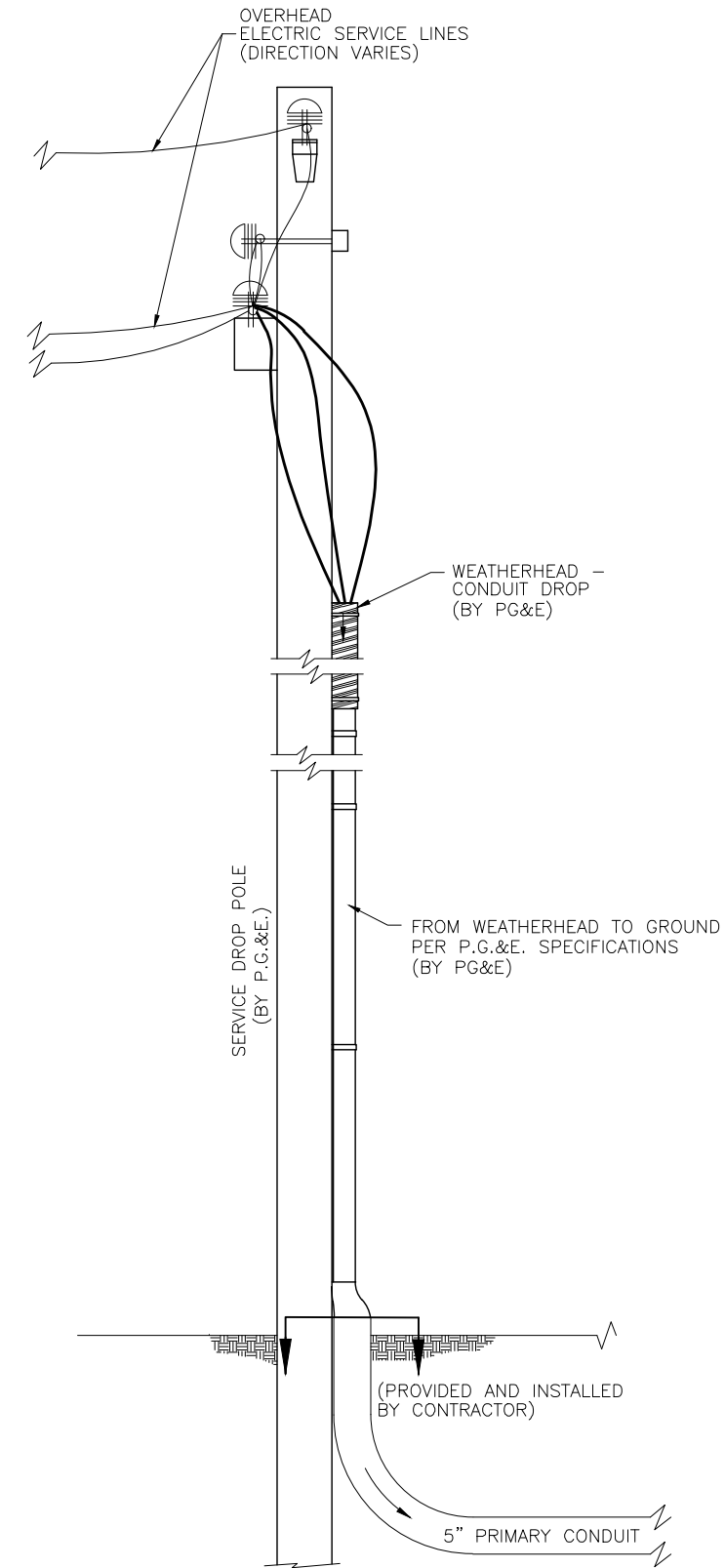
Description	Length (inches)	Code	Doc
Galvanized Fixed Post, 4", Steel Pipe, Standard, Schedule 40	80	155107	-
	67 <sup>2</sup>	155108	-
Removable Post, 4", Galvanized Steel Pipe, Standard, Schedule 40 With 5" Galvanized Steel Pipe Sleeve, 36" Long, Standard, Schedule 40	80	155105	-
	67 <sup>2</sup>	155106	-
Replacement 4" Removable Barrier Post Galvanized Steel Pipe With Cap Less Sleeve and Eye Bolt	67	150265	-
	80	150266	-
End Cap, 4", Galvanized Malleable Iron, May Be Screwed	-	021882	-
Strip, Visibility Reflective Yellow Adhesive Sheet, 2" X 12", Pacific Utilities #PEM212F, Almetek #DL-RY2X12-A	-	013163	022168
Safety Lock	-	170116	-

<sup>1</sup> Posts fabricated from 20-foot lengths of galvanized steel pipe, Code 011794.  
<sup>2</sup> 67" post length is for single-phase transformer.

Rev. #21: 07-31-15

051122 Page 25 of 28

A PG&E BARRIER POST DETAIL  
27



B ELECTRICAL DROP POLE DETAIL  
27 NOT TO SCALE



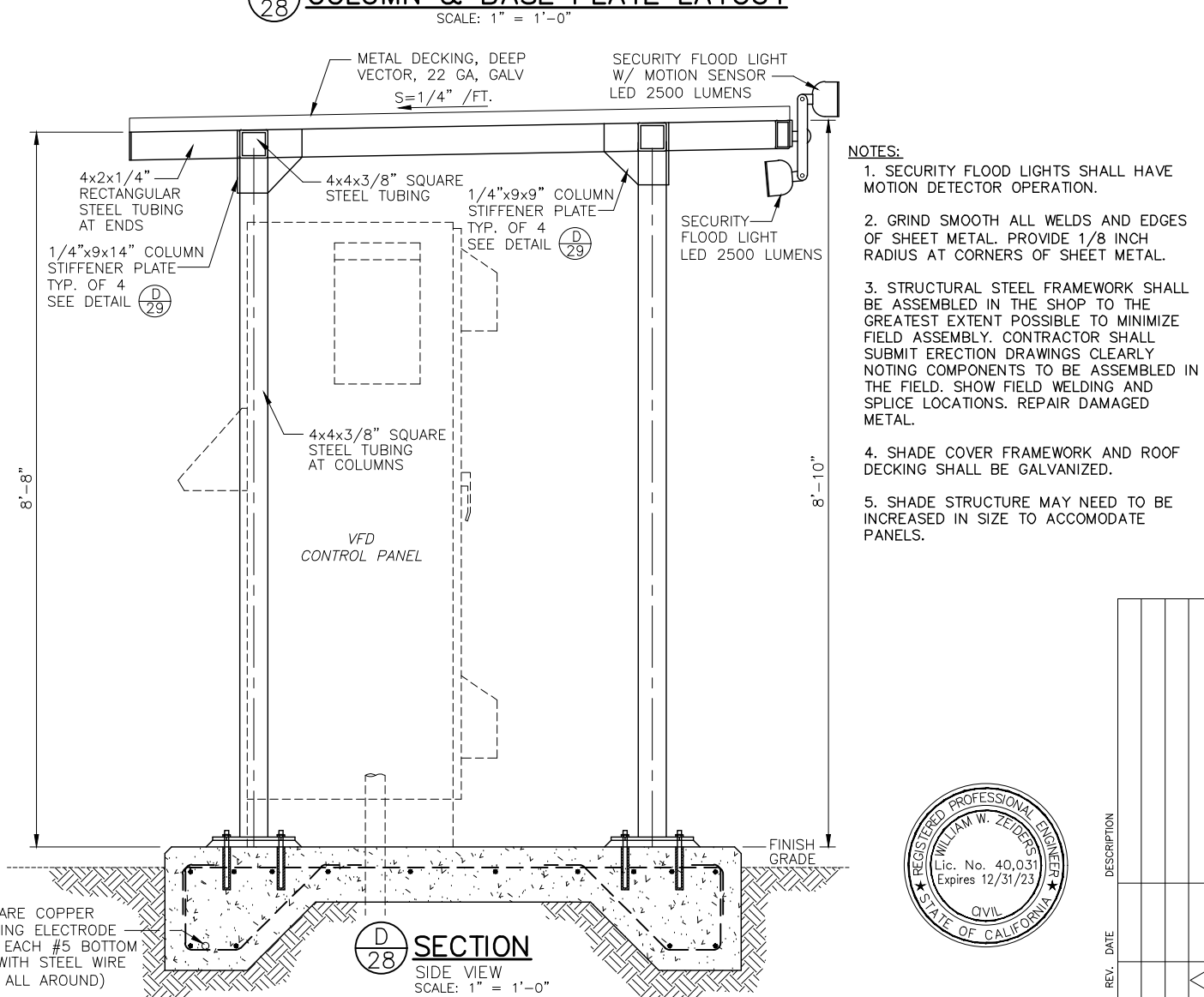
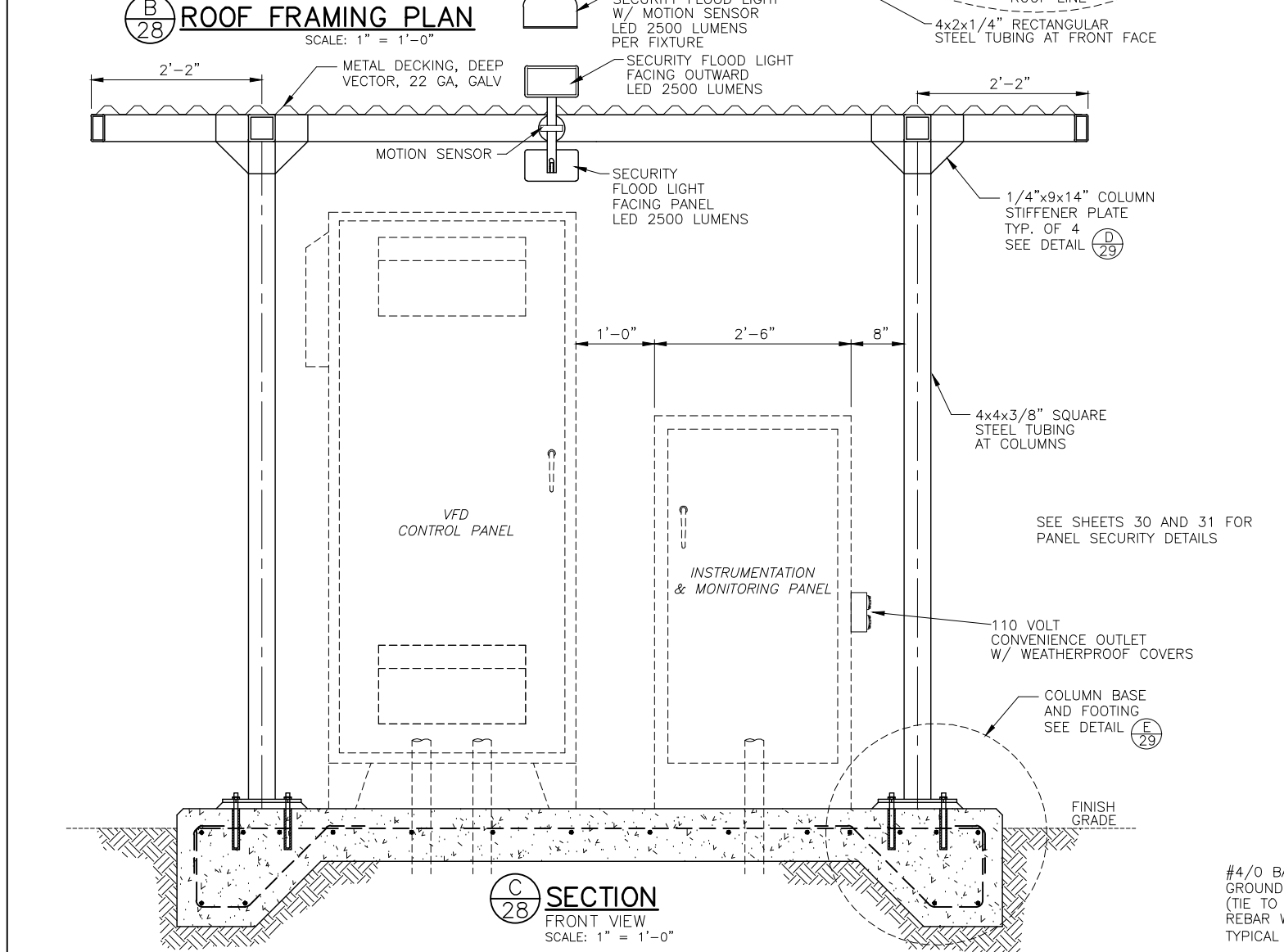
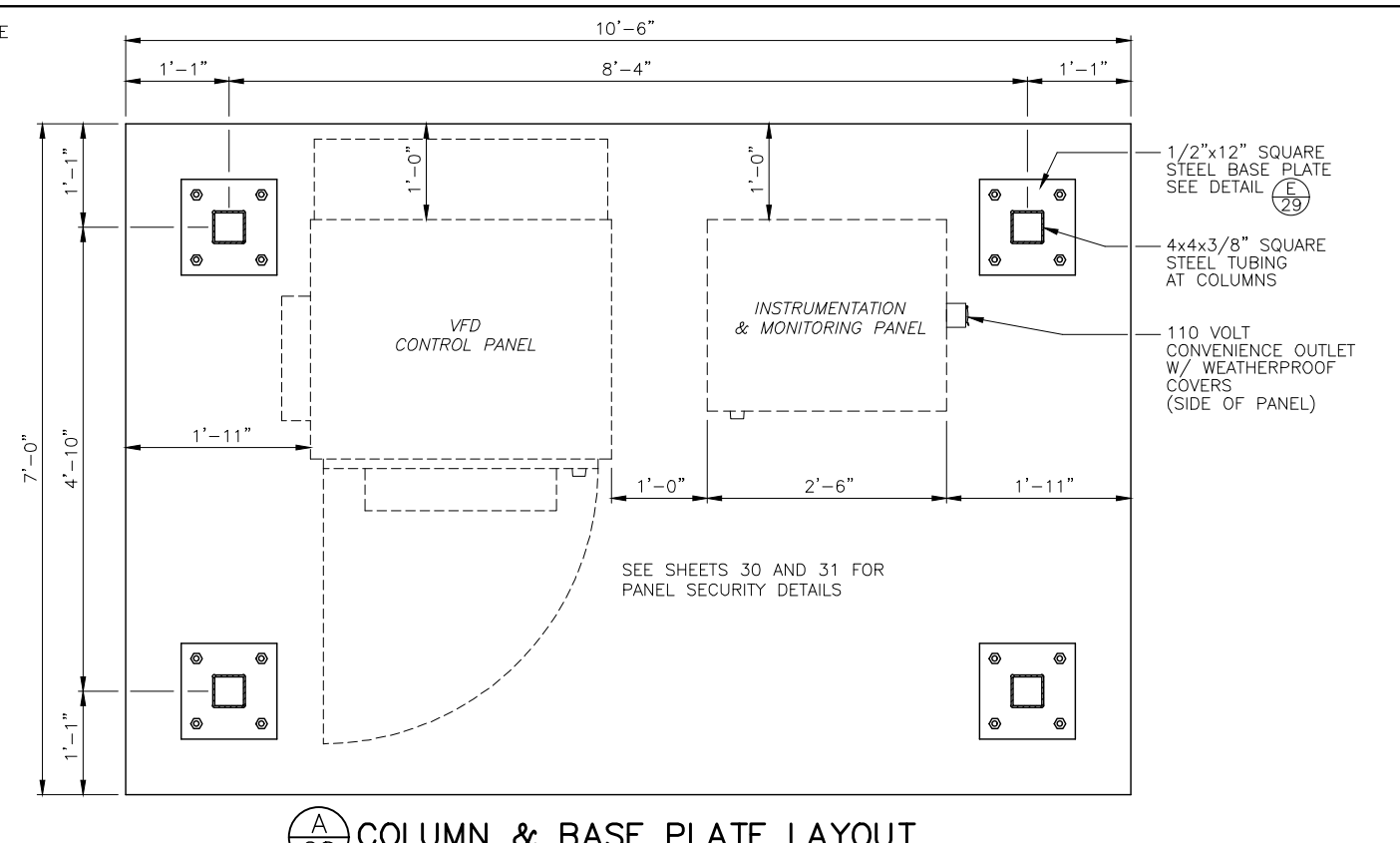
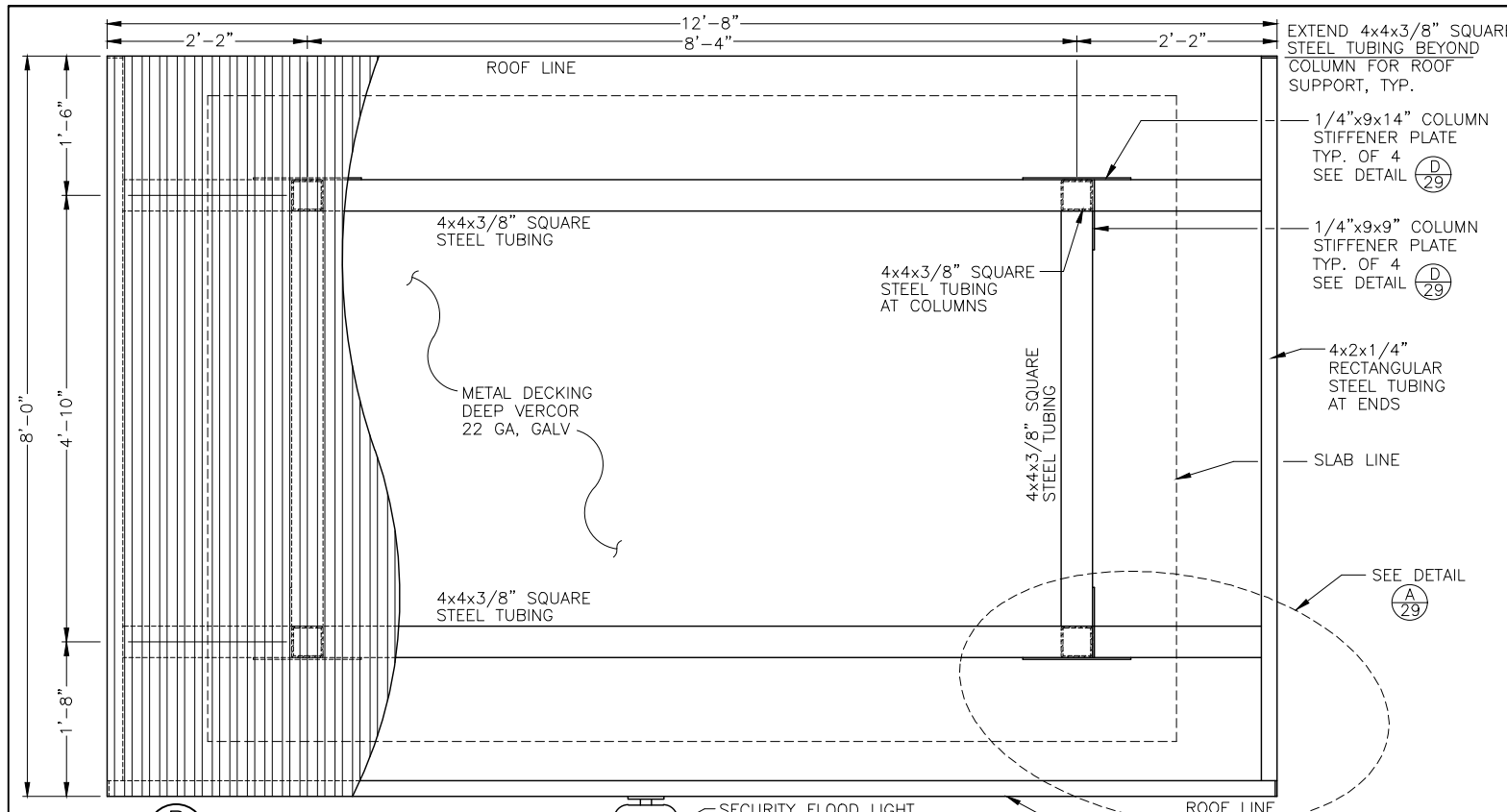
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
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 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: MCCASLIN & BOWLING...

**R3B ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 PG&E DETAILS  
 ALL WELLS

**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8866



- NOTES:**
- SECURITY FLOOD LIGHTS SHALL HAVE MOTION DETECTOR OPERATION.
  - GRIND SMOOTH ALL WELDS AND EDGES OF SHEET METAL. PROVIDE 1/8 INCH RADIUS AT CORNERS OF SHEET METAL.
  - STRUCTURAL STEEL FRAMEWORK SHALL BE ASSEMBLED IN THE SHOP TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE FIELD ASSEMBLY. CONTRACTOR SHALL SUBMIT ERECTION DRAWINGS CLEARLY NOTING COMPONENTS TO BE ASSEMBLED IN THE FIELD. SHOW FIELD WELDING AND SPLICE LOCATIONS. REPAIR DAMAGED METAL.
  - SHADE COVER FRAMEWORK AND ROOF DECKING SHALL BE GALVANIZED.
  - SHADE STRUCTURE MAY NEED TO BE INCREASED IN SIZE TO ACCOMMODATE PANELS.



28 of 37

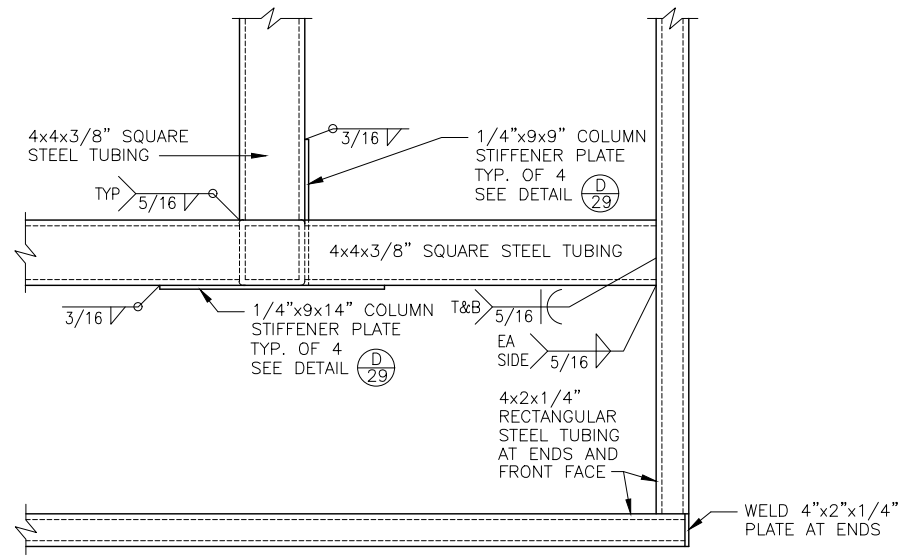
**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866

**R3 ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

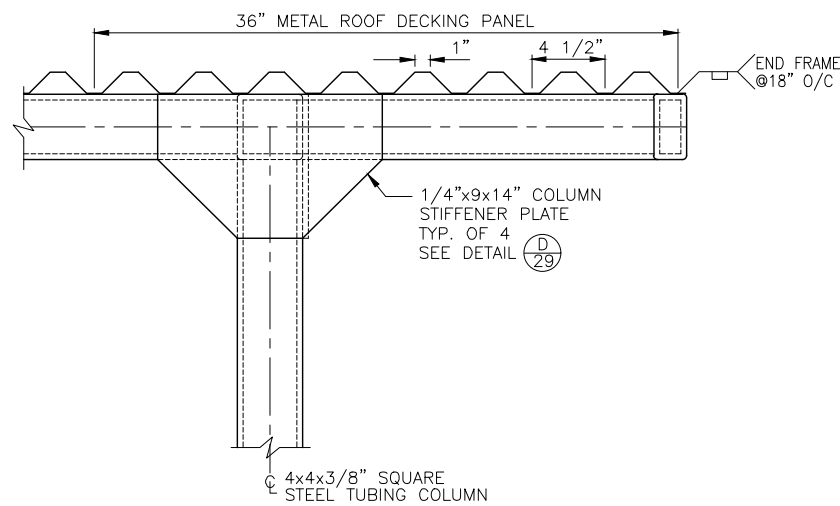
**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PANS  
SHADE STRUCTURE DETAILS  
ALL WELLS

REV.	DATE	DESCRIPTION

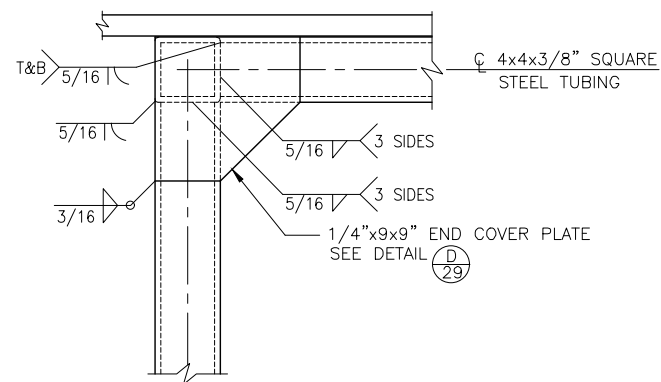
DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: MCCASLIN & BOWLING...



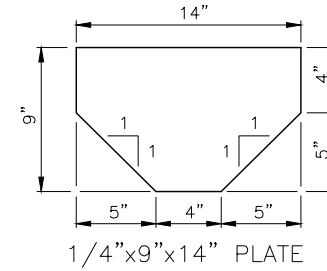
**A**  
29 **ROOF FRAMING DETAIL**  
SCALE: 1" = 1'-0"



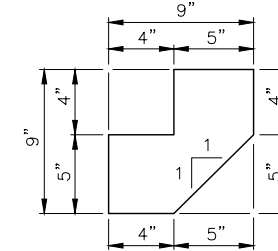
**B**  
29 **METAL ROOF DECKING**  
SCALE: 1" = 1'-0"



**C**  
29 **COLUMN END ELEVATION**  
SCALE: 1" = 1'-0"

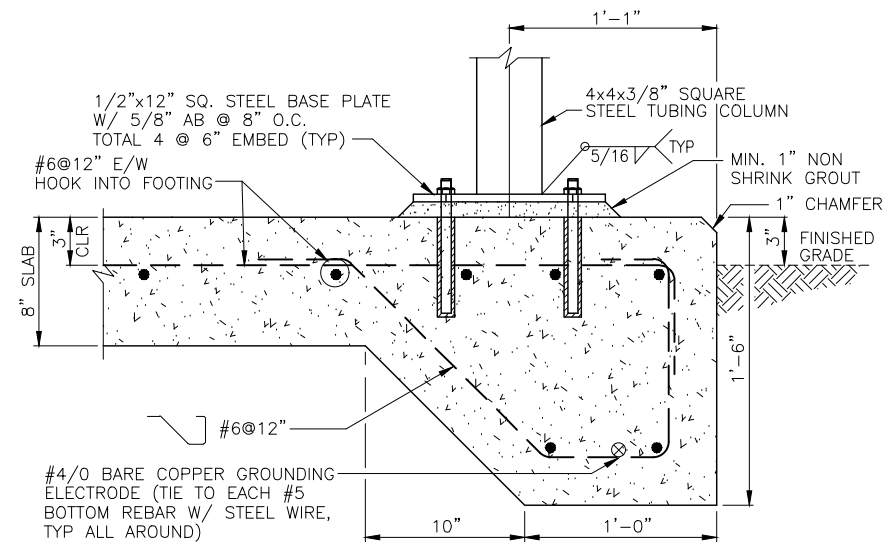


1/4"x9"x14" PLATE



1/4"x9"x9" PLATE

**D**  
29 **TYPICAL STIFFENER PLATE**  
SCALE: 1" = 1'-0"



**E**  
29 **TYPICAL COLUMN BASE AND FOOTING**  
SCALE: 1" = 1'-0"



REV.	DATE	DESCRIPTION

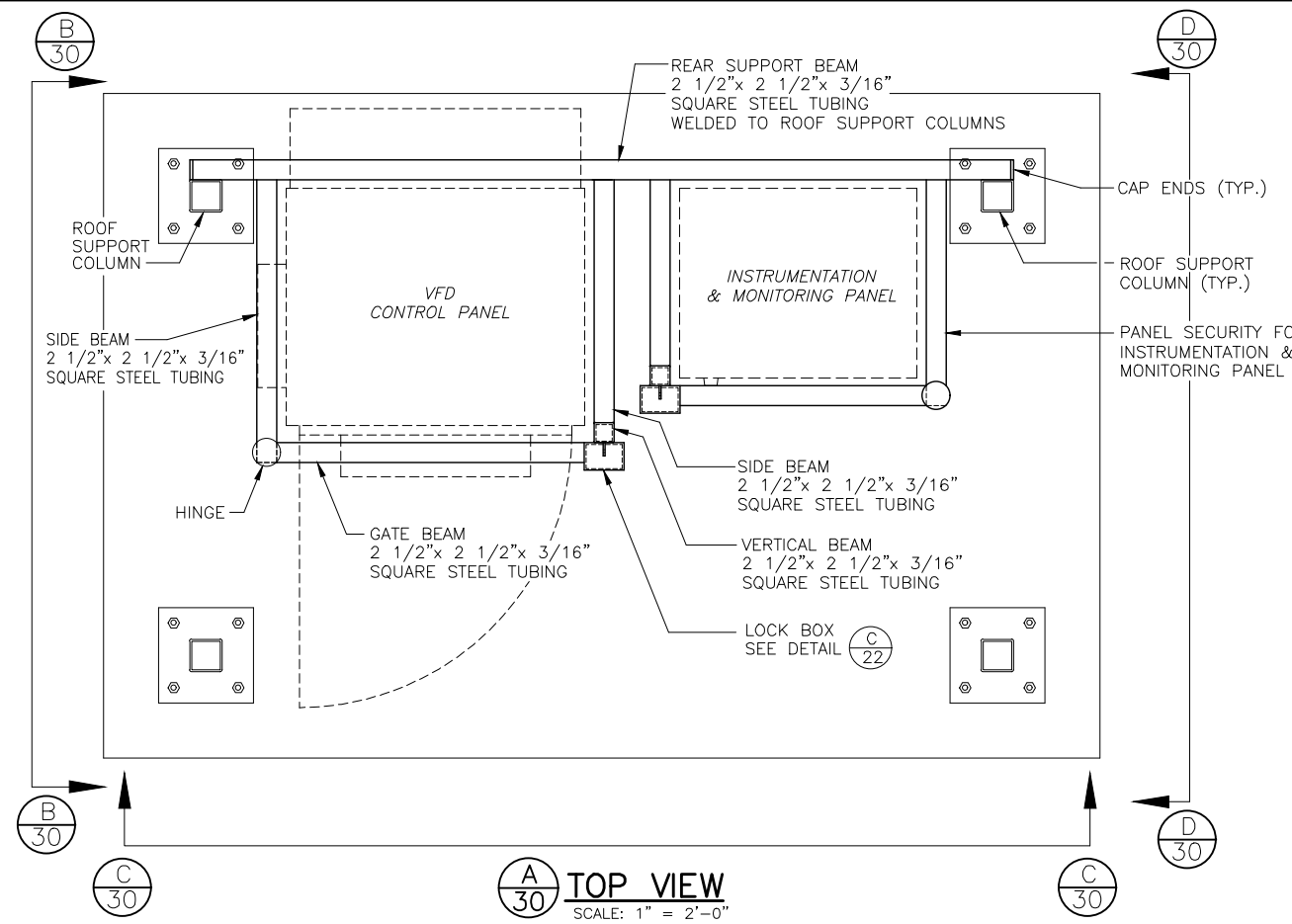
DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

**R.R.B.W.S.D.**  
**MCCASLIN / BOWLING WELL PLANS**  
**SHADE STRUCTURE DETAILS**  
**ALL WELLS**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866



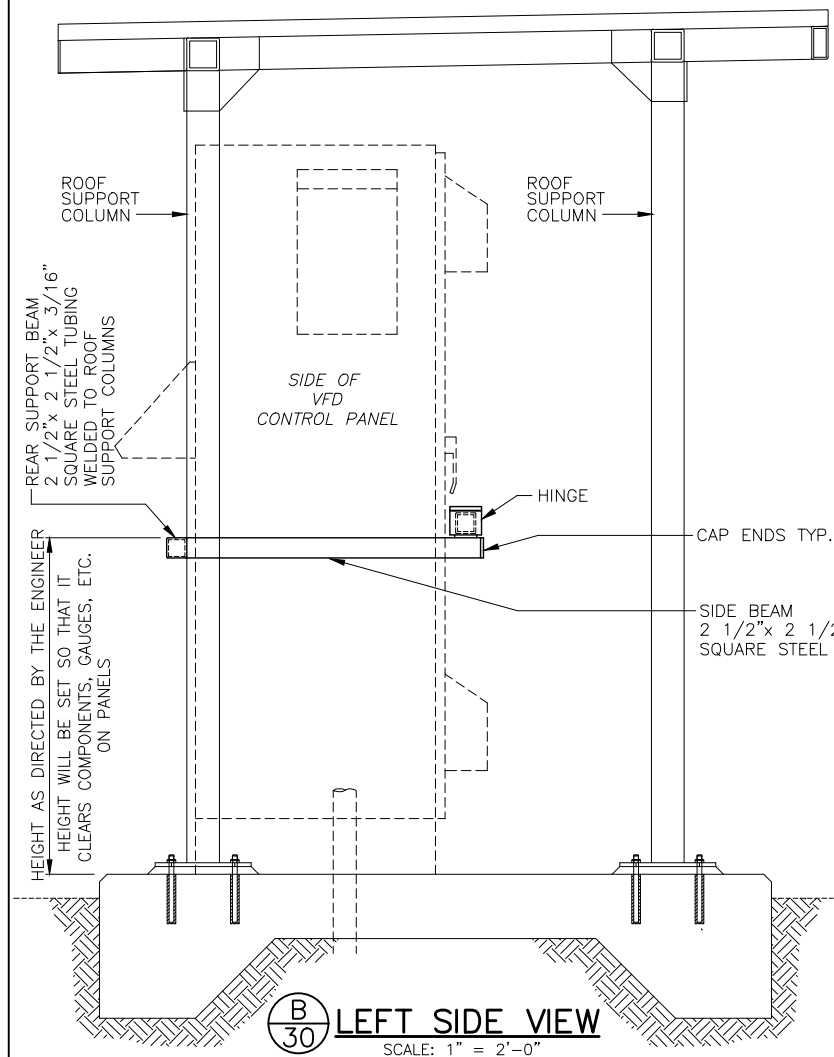


**A**  
30  
**TOP VIEW**  
SCALE: 1" = 2'-0"

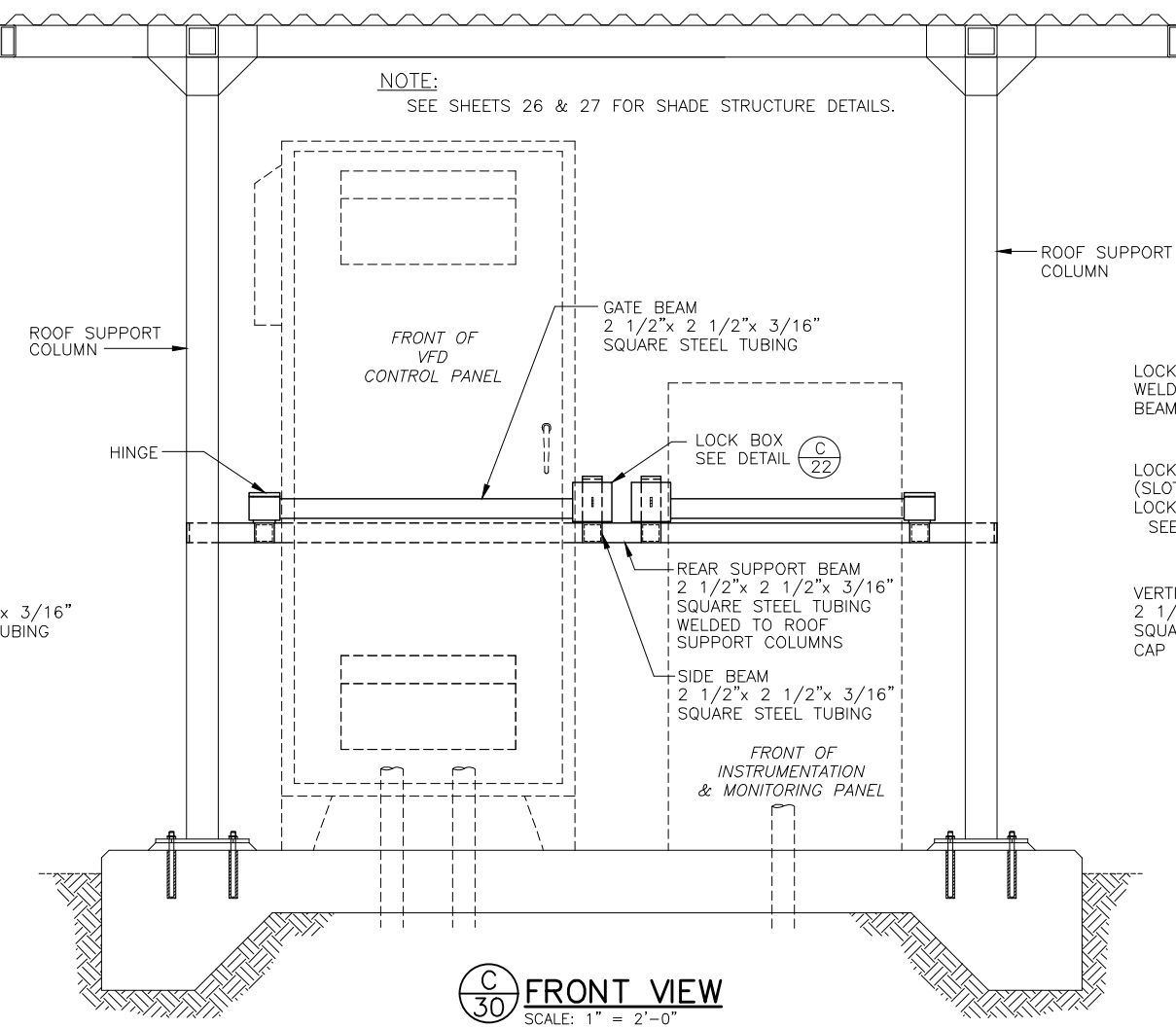
**PANEL SECURITY DETAILS:**  
TYPICAL OF METER PANEL,  
CONTROL PANEL, AND  
INSTRUMENTATION &  
MONITORING PANEL.



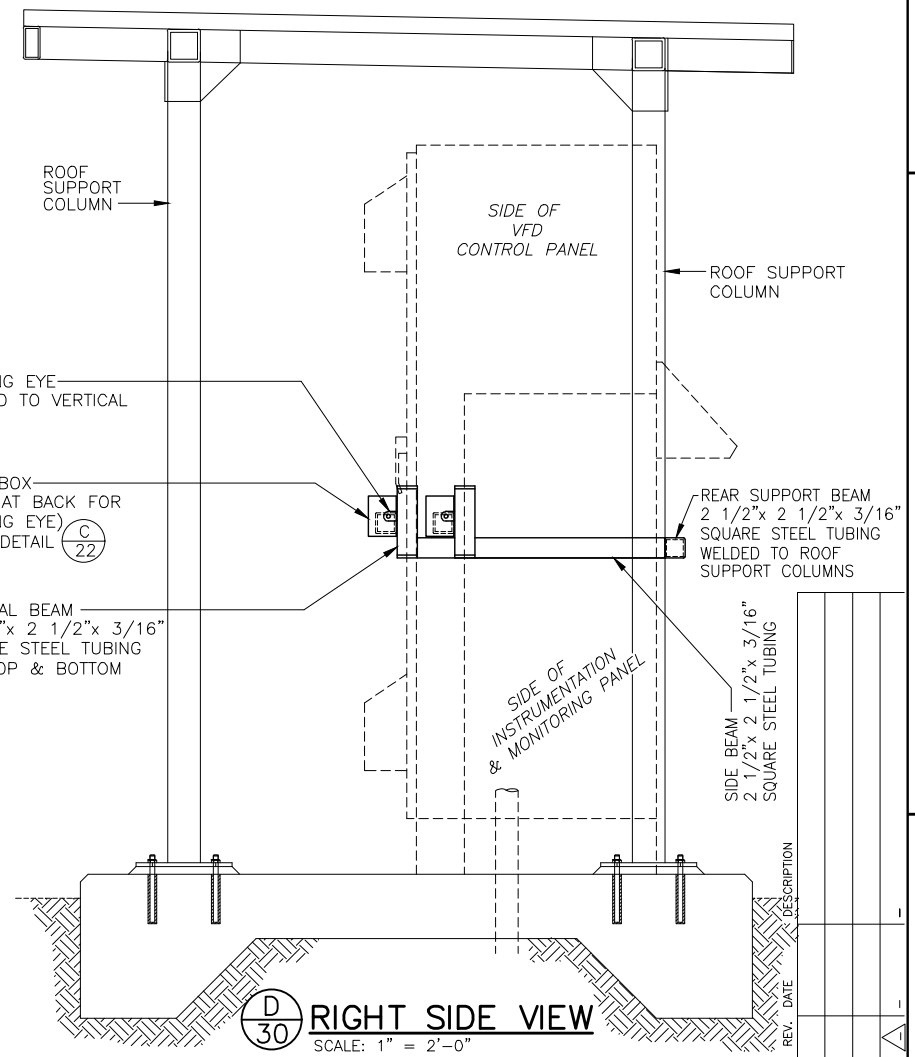
**NOTE:**  
SECURITY BARS MAY NEED TO BE ADJUSTED TO ACCOMMODATE ACTUAL PANEL DIMENSIONS AND CONFIGURATIONS (TYP.). SHOULD ANY ALTERATIONS OCCUR AFTER HOT-DIP GALVANIZING THAT DAMAGE OR REMOVE THE GALVANIZED FINISH (I.E. WELDING, CUTTING, GRINDING, ETC.), SAID PIECES WILL BE REQUIRED TO BE HOT-DIP GALVANIZED AGAIN. STAINLESS STEEL IS AN ACCEPTABLE ALTERNATIVE FOR SECURITY BARS FOR FIELD FABRICATION WITHOUT HOT-DIP GALVANIZING.



**B**  
30  
**LEFT SIDE VIEW**  
SCALE: 1" = 2'-0"



**C**  
30  
**FRONT VIEW**  
SCALE: 1" = 2'-0"



**D**  
30  
**RIGHT SIDE VIEW**  
SCALE: 1" = 2'-0"

30 of 37

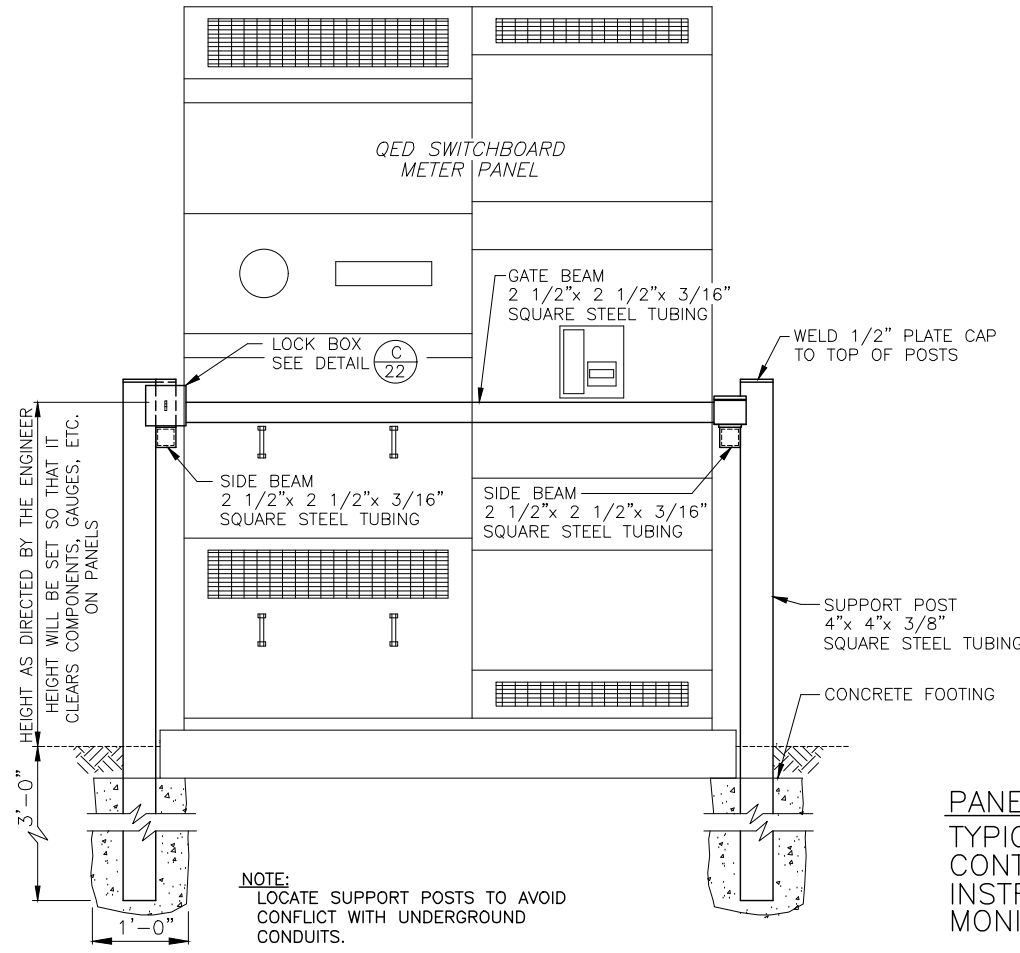
**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866

**R.R. ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
SECURITY STRUCTURE DETAILS  
ALL WELLS

REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...



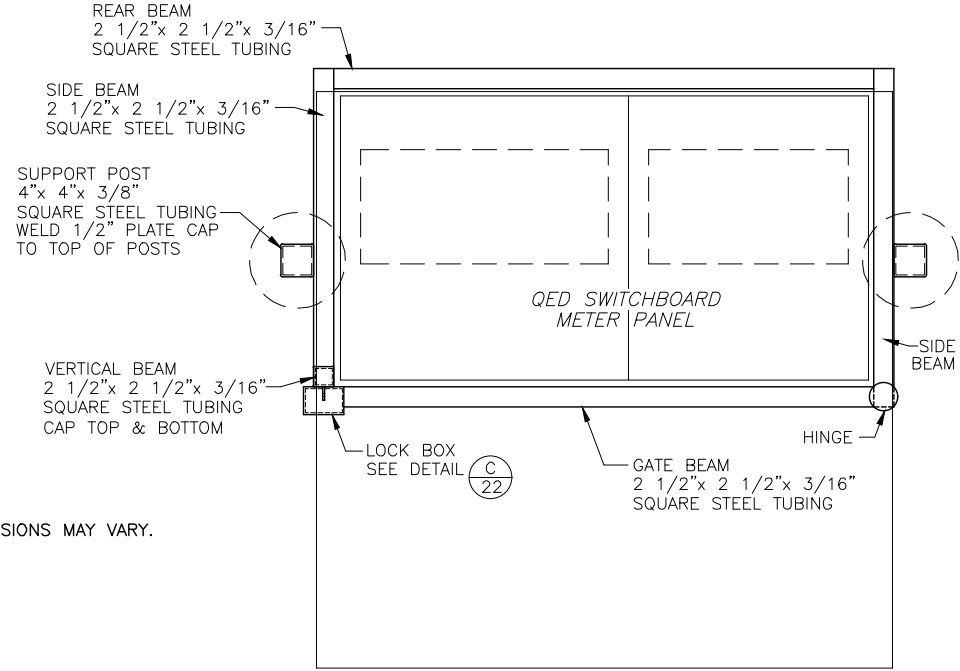
NOTE:  
LOCATE SUPPORT POSTS TO AVOID  
CONFLICT WITH UNDERGROUND  
CONDUITS.

**E**  
31  
**FRONT VIEW**  
METER PANEL  
SCALE: 1" = 2'-0"

NOTE:  
SECURITY BAR DIMENSIONS MAY VARY.

PANEL SECURITY DETAILS:  
TYPICAL OF METER PANEL,  
CONTROL PANEL, AND  
INSTRUMENTATION &  
MONITORING PANEL.

**NOTE:**  
SECURITY BARS MAY NEED TO BE ADJUSTED TO  
ACCOMMODATE ACTUAL PANEL DIMENSIONS AND  
CONFIGURATIONS (TYP.). SHOULD ANY ALTERATIONS  
OCCUR AFTER HOT-DIP GALVANIZING THAT DAMAGE  
OR REMOVE THE GALVANIZED FINISH (I.E. WELDING,  
CUTTING, GRINDING, ETC.), SAID PIECES WILL BE  
REQUIRED TO BE HOT-DIP GALVANIZED AGAIN.  
STAINLESS STEEL IS AN ACCEPTABLE ALTERNATIVE  
FOR SECURITY BARS FOR FIELD FABRICATION  
WITHOUT HOT-DIP GALVANIZING.



**F**  
31  
**TOP VIEW**  
METER PANEL  
SCALE: 1" = 2'-0"



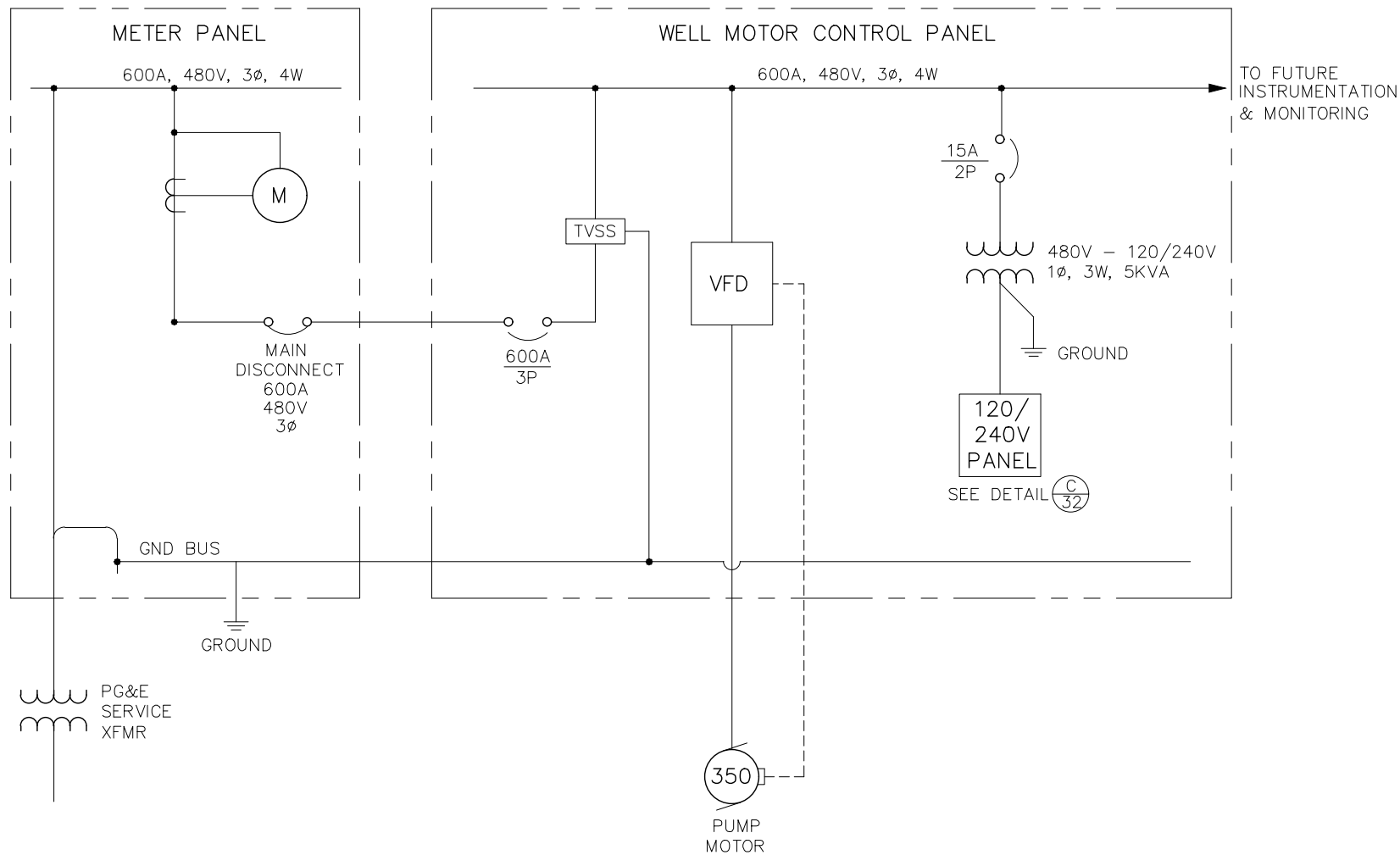
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

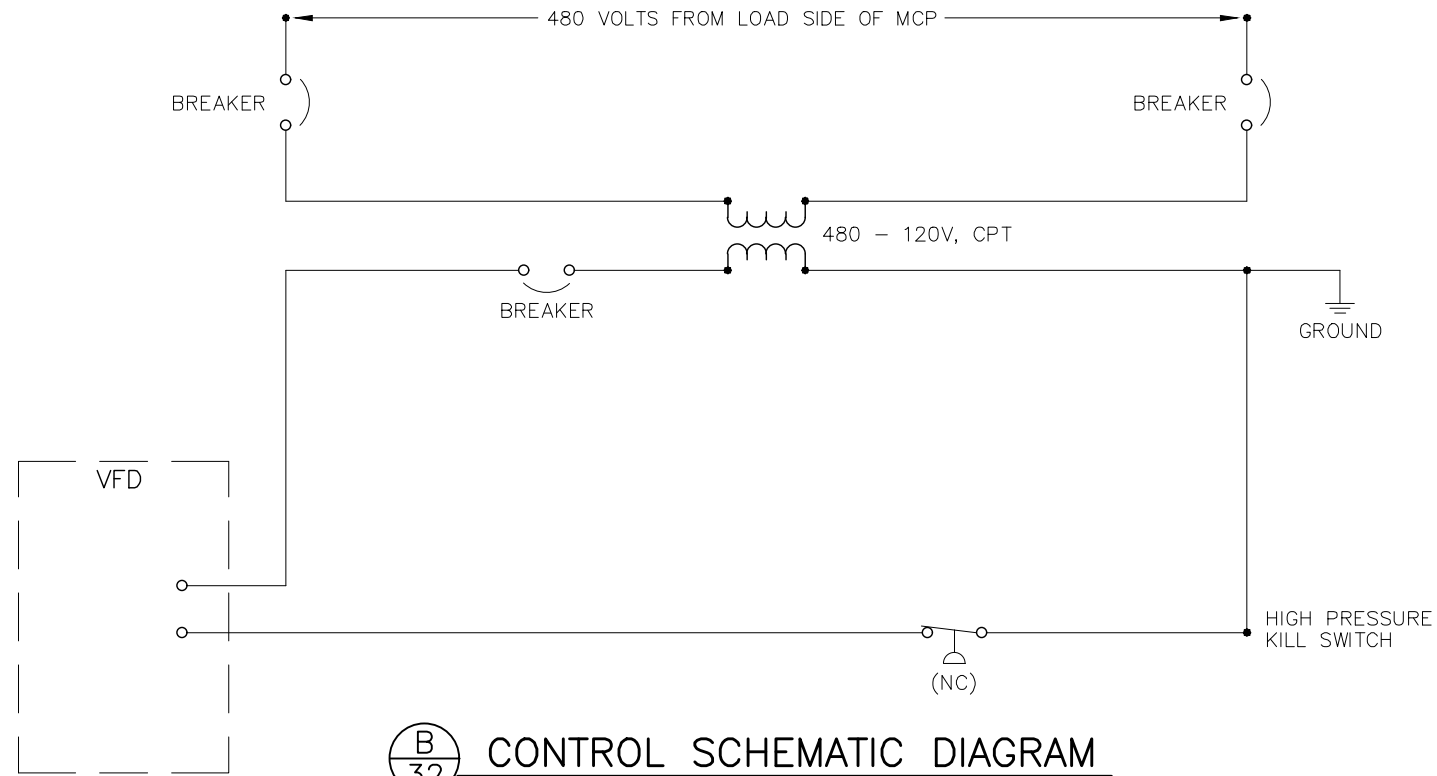
**R.R.B.W.S.D.**  
**MCCASLIN / BOWLING WELL PLANS**  
**SECURITY STRUCTURE DETAILS**  
**ALL WELLS**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

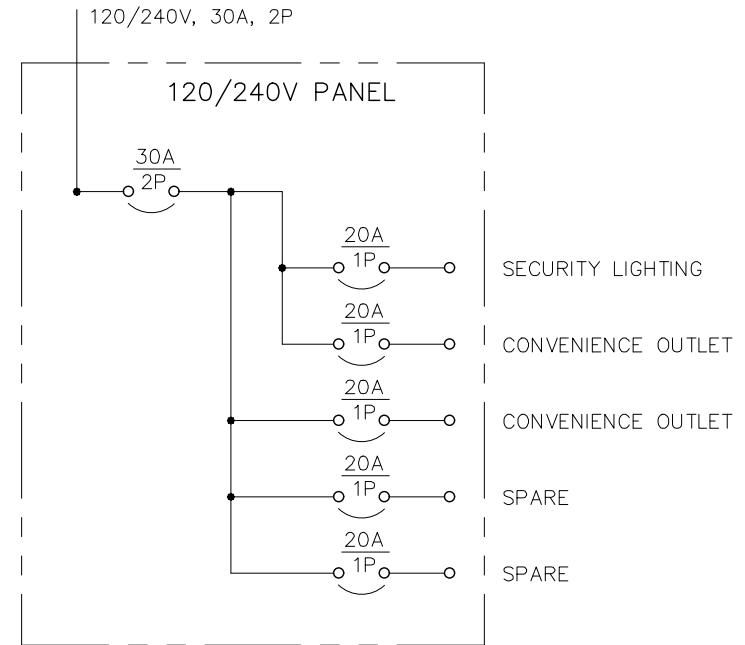
**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866



**A**  
32 SINGLE LINE DIAGRAM



**B**  
32 CONTROL SCHEMATIC DIAGRAM



**C**  
32 120/240V PANEL DIAGRAM

ELECTRICAL SYMBOLS	
DEVICE	SYMBOL DESCRIPTION
	UTILITY METER
	DRY TYPE TRANSFORMER
	CIRCUIT BREAKER (AMPERAGE SHOWN ON PLAN)
	DISCONNECT
	PUMP MOTOR - 350 HORSEPOWER
	GROUND
	CURRENT TRANSFORMER
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	TIME CLOCK
	SELECTOR SWITCH
	HIGH PRESSURE KILL SWITCH (NORMALLY CLOSED)
	VARIABLE FREQUENCY DRIVE



REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: MCCASLIN & BOWLING...

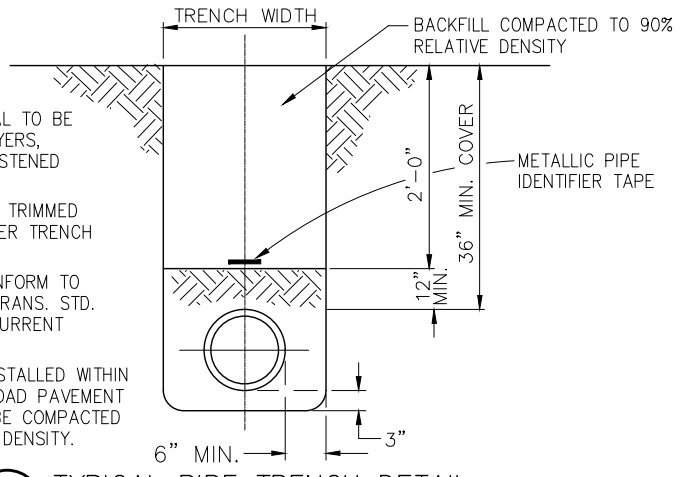
**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 ELECTRICAL WIRING DIAGRAMS  
 ALL WELLS

**RRB ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

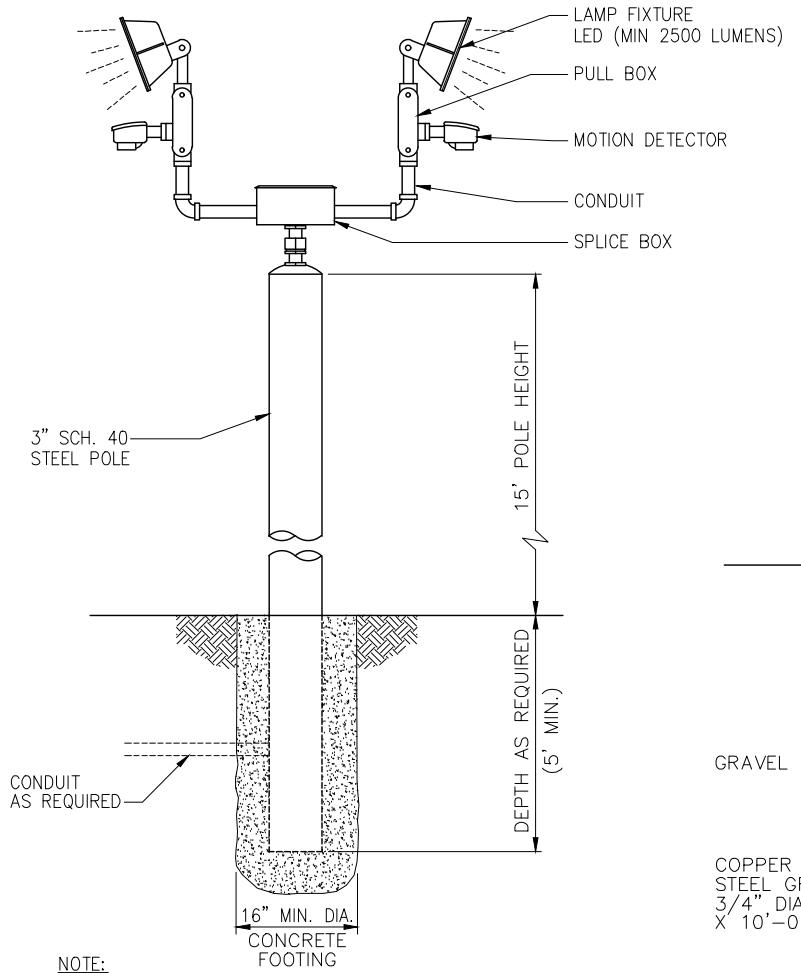
**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8866

**NOTES:**

1. BACKFILL MATERIAL TO BE PLACED IN 8" LAYERS, OF PROPERLY MOISTENED MATERIAL
2. SURFACING TO BE TRIMMED EXTRA WIDTH AFTER TRENCH IS BACKFILLED.
3. ALL WORK TO CONFORM TO CALIF. DEPT. OF TRANS. STD. SPECIFICATIONS, CURRENT EDITION.
4. WHERE PIPE IS INSTALLED WITHIN 8' OF EXISTING ROAD PAVEMENT BACKFILL SHALL BE COMPACTED TO 95% RELATIVE DENSITY.



**A** TYPICAL PIPE TRENCH DETAIL  
33 NOT TO SCALE



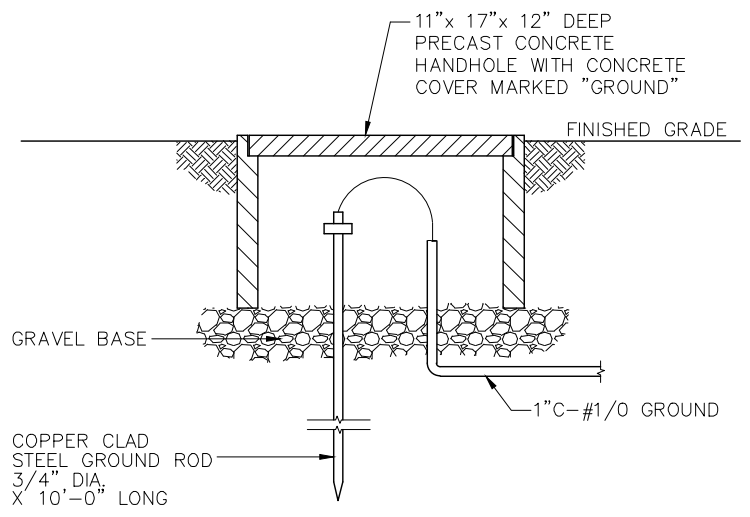
**C** TYPICAL SECURITY LIGHT DETAIL  
33 ALTERNATE POLE MOUNT  
TWO LAMP FIXTURE SHOWN  
NOT TO SCALE

PIPE SIZE	MINIMUM BEARING AREA IN SQUARE FEET *				
	TEE OR PLUG	90° ELL	45° ELL	30° ELL	22 1/2° ELL
12"	3	4	2	1	1
14"	4	5	3	2	2
15"	4	5	3	2	2
18"	5	7	4	3	3
21"	8	10	6	4	4
24"	10	13	7	5	4
27"	13	17	9	6	5
30"	17	22	12	8	7

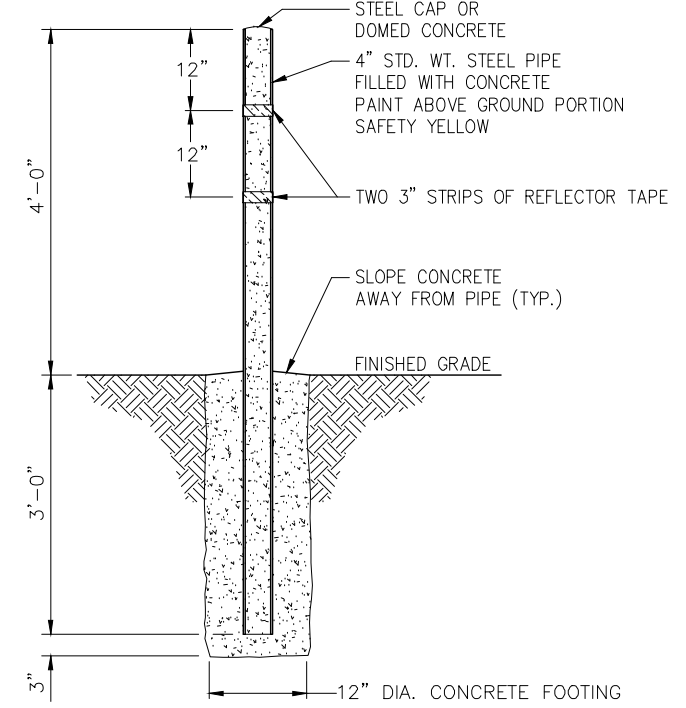
**THRUST BLOCK TABLE**

\* VALUES BASED ON 20 PSI OF HEAD, 1000 PSF SOIL BEARING CAPACITY - MINIMUM  
\*\* WHERE THRUST IS AWAY FROM THRUST BLOCK, INSTALL #4 REBAR REINFORCEMENT TIES AND SECOND POUR AS REQUIRED BY ENGINEER.

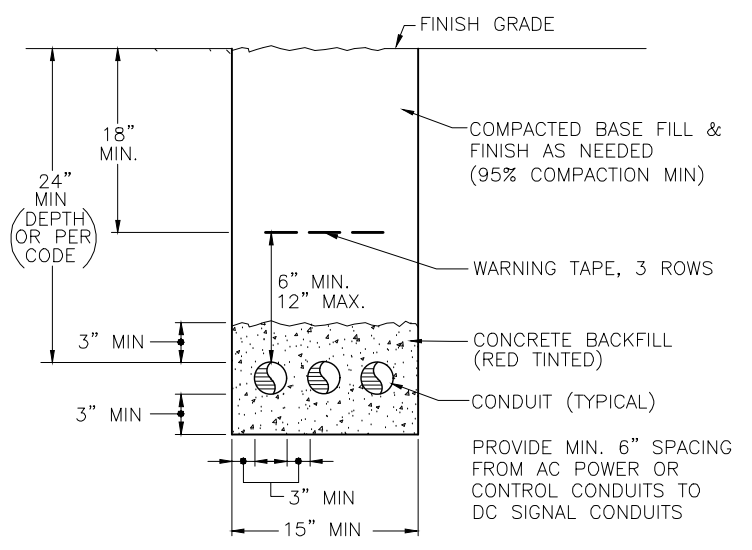
**B** TYPICAL THRUST BLOCK SCHEDULE  
33 NOT TO SCALE



**E** TYPICAL GROUND ROD / GROUND WELL DETAIL  
33 NOT TO SCALE



**D** TYPICAL GUARD POST DETAIL  
33 NOT TO SCALE



**F** ELECTRICAL CONDUIT TRENCH DETAIL  
33 NOT TO SCALE



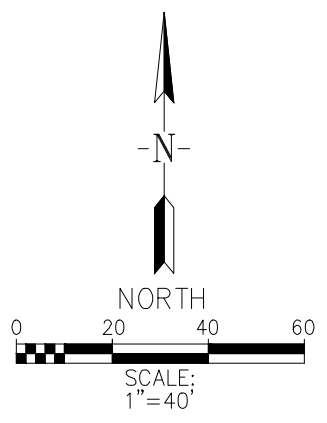
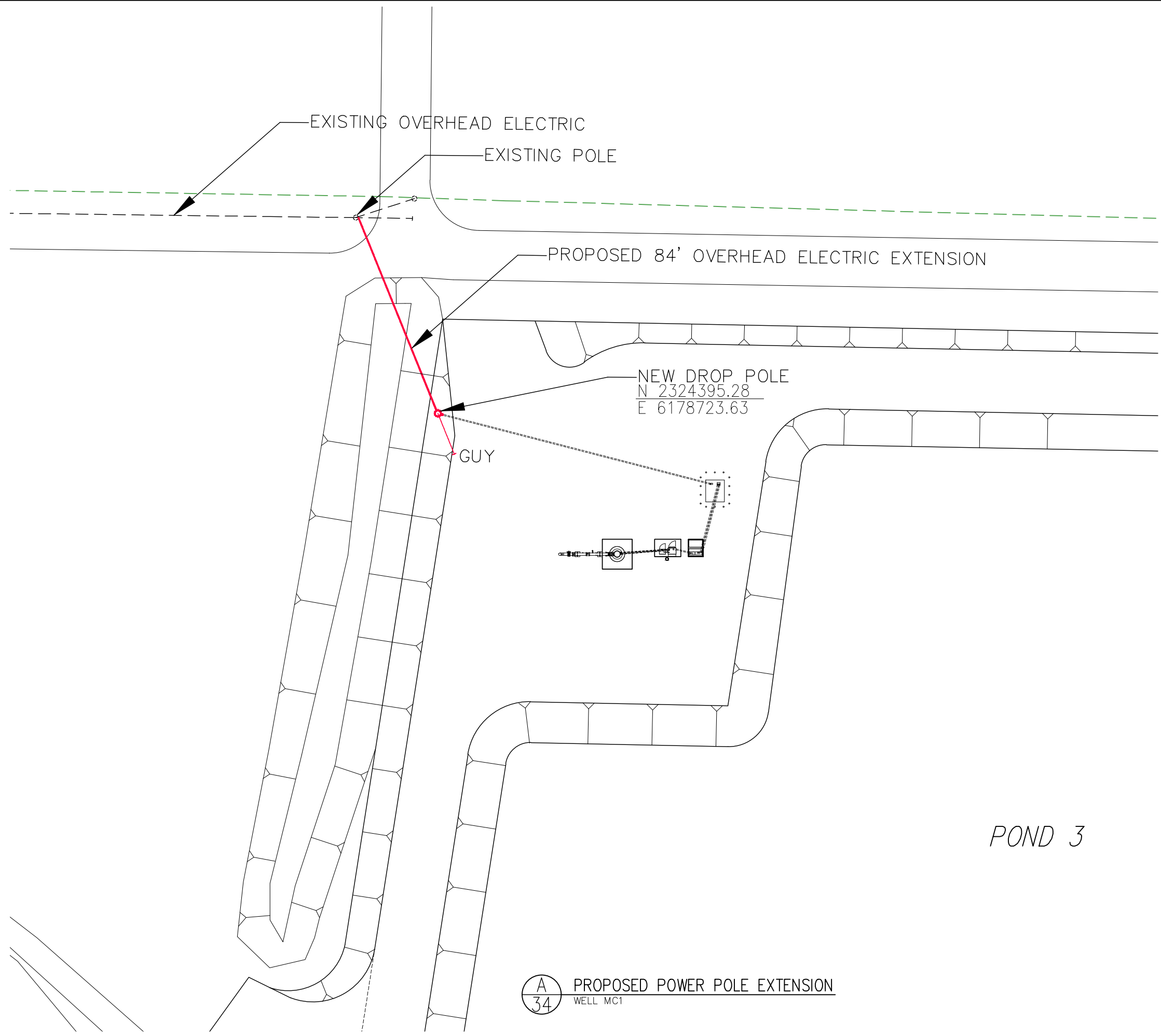
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

**R.R.B.W.S.D.**  
MCCASLIN / BOWLING WELL PLANS  
TYPICAL DETAILS  
ALL WELLS

**RRB ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866



**A**  
34  
PROPOSED POWER POLE EXTENSION  
WELL MC1

POND 3

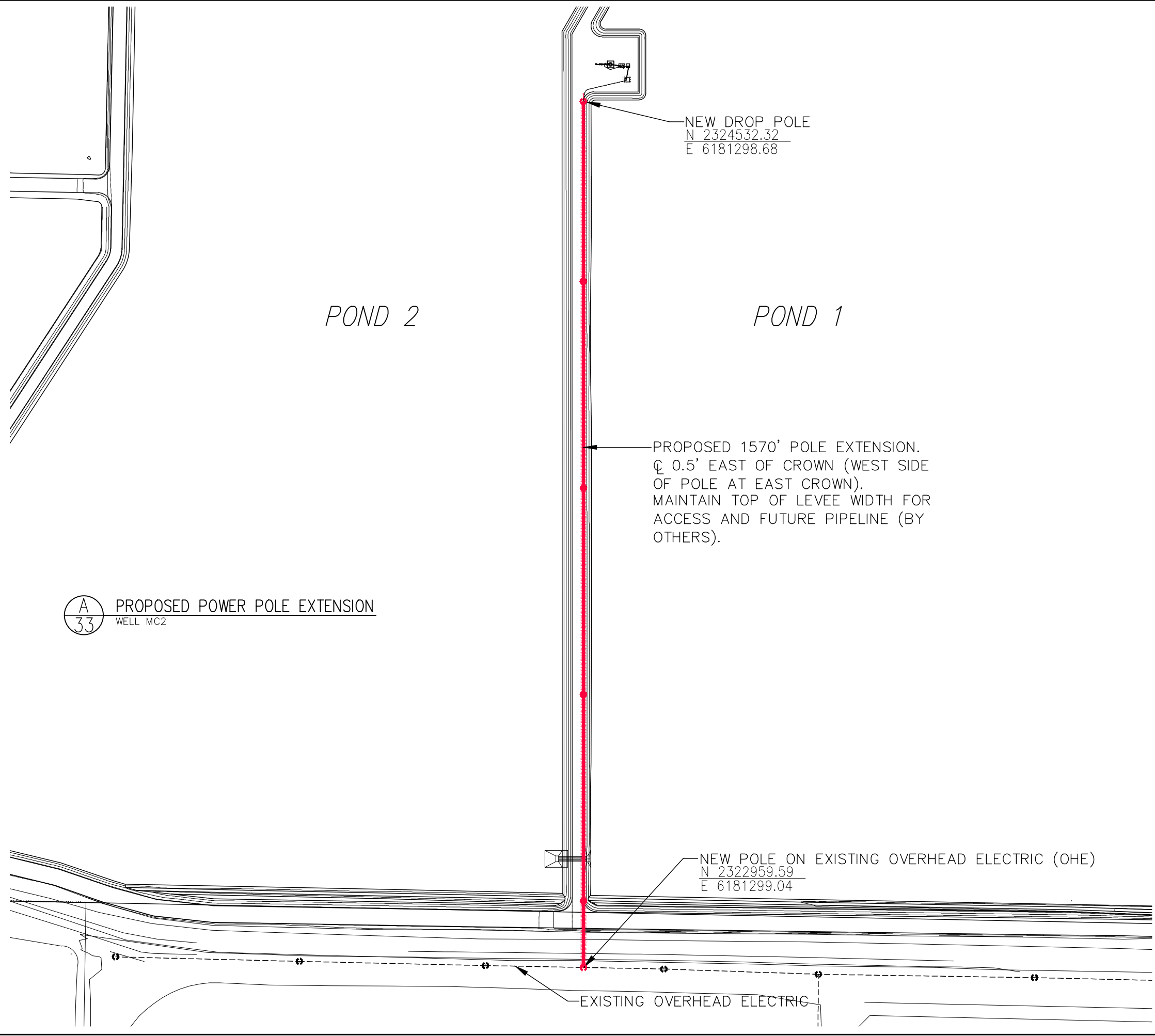
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
 McCASLIN / BOWLING WELL PLANS  
 PG&E PROPOSED OVERHEAD ELECTRIC ROUTE  
 McCASLIN WELL 1 (MC1)

**R2B ROSEDALE-RIO BRAVO**  
 WATER STORAGE DISTRICT  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8366



**A**  
33 PROPOSED POWER POLE EXTENSION  
WELL MC2

NEW DROP POLE  
N 2324532.32  
E 6181298.68

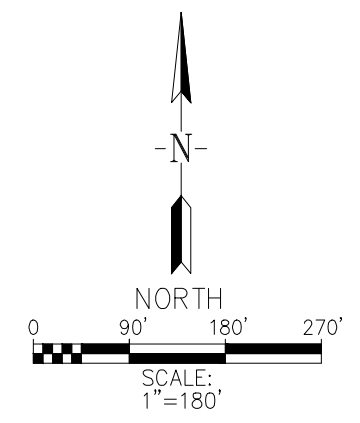
PROPOSED 1570' POLE EXTENSION.  
C 0.5' EAST OF CROWN (WEST SIDE  
OF POLE AT EAST CROWN).  
MAINTAIN TOP OF LEVEE WIDTH FOR  
ACCESS AND FUTURE PIPELINE (BY  
OTHERS).

NEW POLE ON EXISTING OVERHEAD ELECTRIC (OHE)  
N 2322959.59  
E 6181299.04

EXISTING OVERHEAD ELECTRIC

POND 2

POND 1



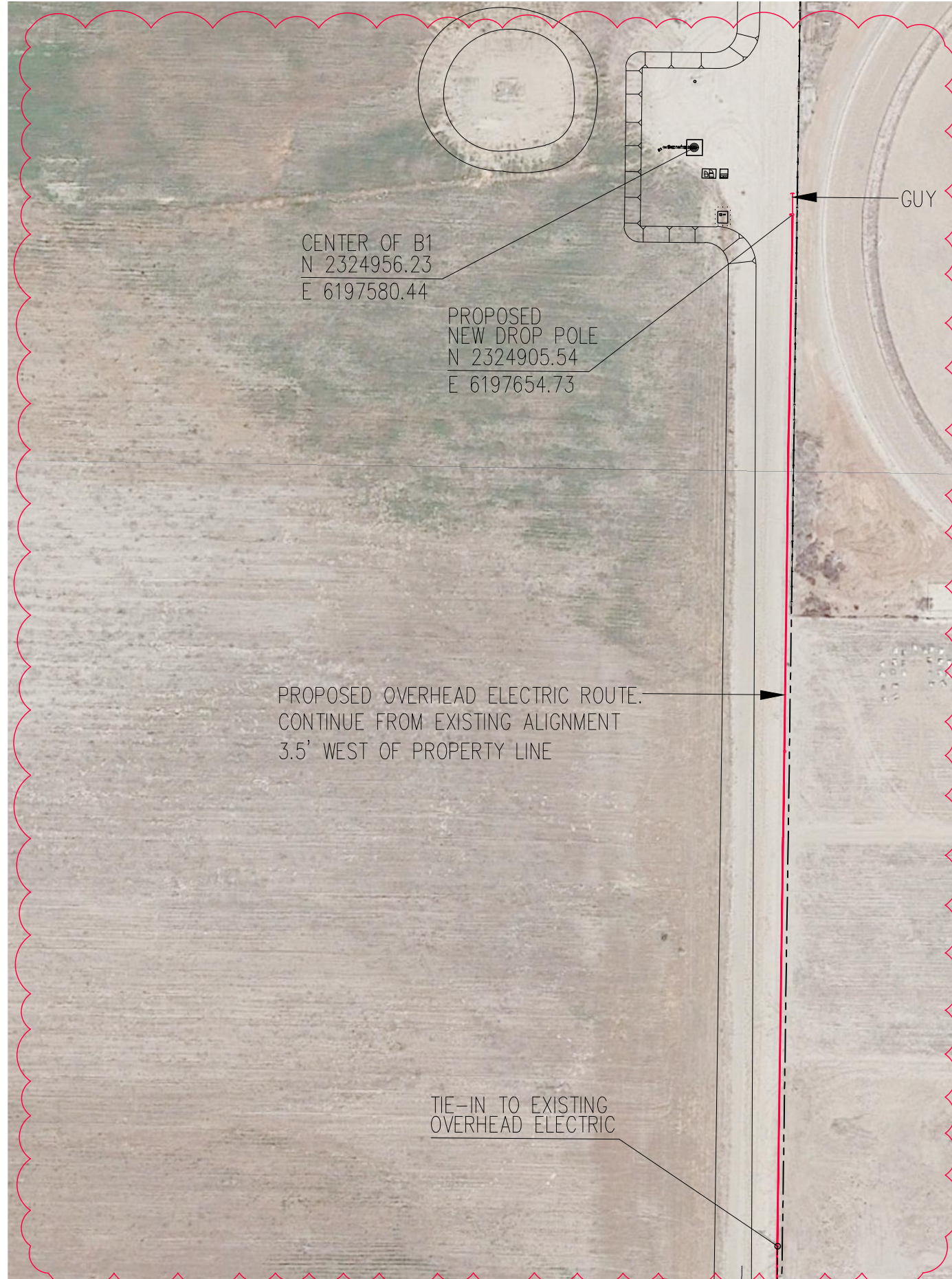
REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

**R.R.B.W.S.D.**  
McCASLIN / BOWLING WELL PLANS  
PG&E PROPOSED OVERHEAD ELECTRIC ROUTE  
McCASLIN WELL 2 (MC2)

**RRB ROSEDALE-RIO BRAVO**  
WATER STORAGE DISTRICT  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8366



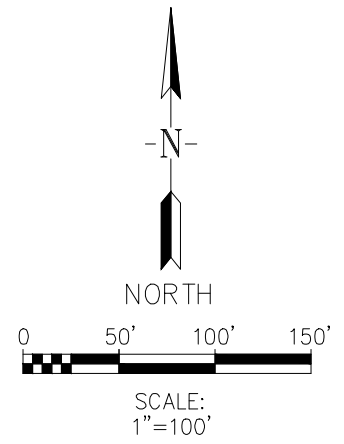
CENTER OF B1  
N 2324956.23  
E 6197580.44

PROPOSED  
NEW DROP POLE  
N 2324905.54  
E 6197654.73

PROPOSED OVERHEAD ELECTRIC ROUTE.  
CONTINUE FROM EXISTING ALIGNMENT  
3.5' WEST OF PROPERTY LINE

TIE-IN TO EXISTING  
OVERHEAD ELECTRIC

GUY



**A**  
**36** PROPOSED POWER POLE EXTENSION  
WELL B1

NOTE: ENTIRE BOWLING WELL LAYOUT WAS RELOCATED.

REV.	DATE	DESCRIPTION
1	07/21/2023	RELOCATED BOWLING WELL

DATE: JULY 21, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: MCCASLIN & BOWLING...

**R. R. B. W. S. D.**  
**MCCASLIN / BOWLING WELL PLANS**  
**PG&E PROPOSED OVERHEAD ELECTRIC ROUTES**  
**BOWLING WELL (B1)**

**RRB ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
849 ALLEN ROAD  
P.O. BOX 20820  
BAKERSFIELD, CA. 93390

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8866

**GENERAL NOTES:**

- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, MADE AVAILABLE TO, OR DISCOVERED BY THE ENGINEER PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND ELEVATIONS OF SUBSURFACE UTILITIES ARE APPROXIMATE, AND NOT ALL UTILITIES AND FACILITIES MAY BE INDICATED. OVERHEAD UTILITIES ARE NOT INDICATED IN ELEVATIONS, PROFILE OR SECTION DRAWINGS.
- SUBCONTRACTOR'S STAGING, PARKING AND MATERIAL STORAGE SHALL BE LIMITED TO THE WORK SITE. PROVIDING ADDITIONAL STORAGE OR PARKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CALL 811 (UNDERGROUND SERVICE ALERT) BEFORE YOU DIG.** CONTRACTOR SHALL VERIFY PRECISE LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STRUCTURES, WHETHER INDICATED ON THE DRAWINGS OR NOT, IN THE FIELD IN ADVANCE OF EXCAVATING, BY CONTACTING ALL UTILITIES AND OTHER AGENCIES, AND BY PROSPECTING, CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, DEMOLITION, RECONSTRUCTION, AND RECONNECTION OF EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. IF REQUIRED AFTER FIELD VERIFICATION, SUBCONTRACTOR SHALL COORDINATE WITH THE DISTRICT TO DETERMINE ANY NECESSARY MODIFICATIONS TO PROPOSED NEW WORK.
- BEFORE CONSTRUCTION IS STARTED, SUBCONTRACTOR SHALL COORDINATE WITH THE DISTRICT AND THE OWNER OF EACH UTILITY AND DEFINE THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AFFECTED BY THE PROPOSED WORK.
- SUBCONTRACTOR SHALL COMPLY WITH ALL GOVERNING AGENCY PERMIT AND CONSTRUCTION REQUIREMENTS, AND SHALL PROVIDE APPROPRIATE MITIGATION MEASURES OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS AND AS DIRECTED BY THE DISTRICT.
- THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS. PROPERTY CORNER MARKERS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RE-ESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF CALIFORNIA.
- FOR ALL SITE GRADING, SMOOTH PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.
- THE SUBCONTRACTOR'S OPERATIONS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS PERTAINING TO EXCAVATION AND TRENCHING.
- THE TERM "BY OWNER" OR "BY OTHERS" AS INDICATED IN THE DRAWINGS MEANS THE ITEM IS DESIGNED OR PLANNED TO BE PROVIDED BY OWNER OR OTHERS SEPARATE FROM THIS CONTRACT. THE TERM "FUTURE" AS INDICATED ON THE DRAWINGS REFERS TO THE DISTRICT'S INTERPRETATION OF THE ITEM FOR FUTURE INSTALLATION, BASED ON AVAILABLE INFORMATION.
- ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BACK TO THE ORIGINAL CONDITION. EXISTING BELOW GROUND AND ABOVE GROUND FACILITIES SHALL BE PROTECTED IN PLACE. CONTRACTOR SHALL RESTORE ANY EXISTING STRUCTURES THAT ARE DISTURBED, DAMAGED, OR REMOVED BY CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY THE DISTRICT AND THE ENGINEER AT LEAST FIVE WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION WORK.
- THE LOCATION OF WELLS SHOWN IS APPROXIMATE. THE DISTRICT AND THE ENGINEER SHALL MARK THE LOCATION OF THE WELLS PRIOR TO THE CONTRACTOR COMMENCING WITH THE WORK. ALL WELLS SHALL BE LOCATED TO ADHERE TO THE KERN COUNTY HEALTH DEPARTMENT SETBACK CRITERIA.
- FOR WORK OCCURRING INSIDE RECHARGE PONDS, THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT. IF RECHARGE OPERATIONS ARE INITIATED, THE DISTRICT WILL NOTIFY THE CONTRACTOR. IN THE EVENT THAT RECHARGE OPERATIONS ARE INITIATED, THE CONTRACTOR WILL BE REQUIRED TO IMPLEMENT ALL MEASURES TO MINIMIZE DISTURBANCES TO THE DISTRICT OPERATIONS.
- SPOIL OBTAINED FROM THE DESIGNATED BORROW AREAS SHALL BE TAKEN UNIFORMLY TO THE SAME BOTTOM DEPTH OVER THE ENTIRE BORROW AREA. AFTER SPOIL REMOVAL, AND PRIOR TO LEAVING THE SITE, AT ALL DESIGNATED BORROW AREAS, CONTRACTOR SHALL LOOSEN SOILS IN THE BOTTOM OF PONDS BY RIPPING TO A MINIMUM DEPTH OF 36 INCHES.

**SOILS AND FOUNDATIONS:**

- ALL EARTHWORK AND FOUNDATION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- TO FACILITATE SCHEDULING, AT LEAST 48 HOURS ADVANCE NOTICE SHALL BE GIVEN PRIOR TO THE REQUIRED INSPECTIONS.
- WHERE APPLICABLE, FOUNDATION CONSTRUCTION SHALL NOT BEGIN UNTIL THE SPECIAL INSPECTION HAS BEEN COMPLETED AND NOTIFICATION TO PROCEED HAS BEEN GIVEN.
- UNLESS OTHERWISE NOTED, BACKFILL SHALL NOT BE PLACED AGAINST WALLS WHICH SUPPORT A CONCRETE SLAB OR WALKWAY UNTIL THE TOP SLAB OR WALKWAY HAS BEEN PLACED IN ITS ENTIRETY AND ALL CONCRETE HAS REACHED ITS DESIGNED STRENGTH.

**REINFORCING STEEL:**

- ALL REINFORCING BAR SHALL BE GRADE 60, DEFORMED, AND CONFORM TO ASTM A615. WELDABLE REBAR SHALL CONFORM THE ASTM A706.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 OR A497.
- DIMENSIONS TO REINFORCING BARS ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS CLEAR DISTANCE BETWEEN BAR AND THE CONCRETE SURFACE
- SPLICING OF REINFORCEMENT FOR WALLS, FOOTINGS AND SLABS SHALL BE MINIMUM 40 DIAMETERS UNLESS OTHERWISE APPROVED BY THE DISTRICT. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPLICE LENGTH FOR THE SMALLER BAR CAN BE USED.
- UNLESS INDICATED OTHERWISE, ALL DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL TO WHICH THEY ARE SPLICED AND SHALL HAVE A MINIMUM LAP PER NOTE NO. 4 ABOVE, UNLESS NOTED OTHERWISE.
- NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IS OBTAINED PRIOR TO CONSTRUCTION AND WELDABLE REBAR IS USED (CONFORMING TO ASTM A706).

**STAINLESS STEEL:**

- STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM A193, TYE 316, UNLESS NOTED OTHERWISE
- STAINLESS STEEL PLATES, BARS AND RODS SHALL CONFORM TO ASTM A240, TYPE 316L.
- STAINLESS STEEL STRUCTURAL SHAPES AND STUDS SHALL CONFORM TO ASTM A276, TYPE 316L

**STRUCTURAL STEEL:**

- UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO ASTM A36, ROLLED WIDE FLANGE SHAPES TO ASTM A992 OR ASTM A572; STRUCTURAL PIPES TO ASTM A53, TYPE E OR S, GRADE B OR ASTM A 500, GRADES B OR C, OR ASTM A501; STRUCTURAL TUBING TO ASTM A500, GRADE B OR C. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE TO THE LATEST AISC SPECIFICATIONS PARTS 1 THRU 4 AND THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS." ALL STEEL PIPING SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH AWWA C-200 STANDARDS.
- ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS. ALL WELDING SHALL BE PERFORMED WITH FILLER METAL HAVING A MINIMUM TENSILE STRENGTH OF 70 KSI. WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.1).
- UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL COMPONENTS AND CONNECTIONS SHALL BE PAINTED OR PROTECTIVE COATED IN ACCORDANCE TO THE SPECIFICATIONS.

**SOILS AND FOUNDATIONS:**

- ALL EARTHWORK AND FOUNDATION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- TO FACILITATE SCHEDULING, AT LEAST 48 HOURS ADVANCE NOTICE SHALL BE GIVEN PRIOR TO THE REQUIRED INSPECTIONS.
- WHERE APPLICABLE, FOUNDATION CONSTRUCTION SHALL NOT BEGIN UNTIL THE SPECIAL INSPECTION HAS BEEN COMPLETED AND NOTIFICATION TO PROCEED HAS BEEN GIVEN.
- UNLESS OTHERWISE NOTED, BACKFILL SHALL NOT BE PLACED AGAINST WALLS WHICH SUPPORT A CONCRETE SLAB OR WALKWAY UNTIL THE TOP SLAB OR WALKWAY HAS BEEN PLACED IN ITS ENTIRETY AND ALL CONCRETE HAS REACHED ITS DESIGNED STRENGTH.

**CAST-IN-PLACE CONCRETE:**

- A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI WAS UTILIZED IN THE DESIGN OF STRUCTURAL, REINFORCED CONCRETE.
- CEMENT SHALL BE ASTM C150, TYPE II, LOW ALKALI.
- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE 2001 CALIFORNIA BUILDING CODE (CBC) AND THE ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" INCLUDING BAR BENDS AND HOOKS, UNLESS DETAILED OTHERWISE.
- THE LOCATION OF ALL CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS, OTHER THAN SPECIFIED OR SHOWN ON THE PLANS, SHALL BE APPROVED PRIOR TO PLACING CONCRETE.
- ALL OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED.
- ALL EXPOSED EDGES AND CORNERS, UNLESS NOTED OTHERWISE, SHALL BE CHAMFERED 3/4" EXCEPT THE TOP EDGE OF WALLS AND SLABS WHICH ARE TO BE TOOLED.
- ALL EXISTING CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM.



REV.	DATE	DESCRIPTION

DATE: JUNE 28, 2023  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: McCASLIN & BOWLING...

37 of 37

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**R.R. ROSEDALE-RIO BRAVO**  
**WATER STORAGE DISTRICT**  
 849 ALLEN ROAD  
 P.O. BOX 20820  
 BAKERSFIELD, CA. 93390

**R.R.B.W.S.D.**  
**McCASLIN / BOWLING WELL PLANS**  
**NOTES**  
**ALL WELLS**



**Attachment 2 Updated Bid Schedule and  
Measurement and Payment Section**

**PROPOSAL BIDDING SCHEDULE**

**McCASLIN / BOWLING  
WELL DRILLING AND EQUIPPING**

**Bid Schedule A-1 – McCaslin / Bowling – Well Drilling and Development**

All Items Furnished and Installed

The following Bid Schedule lists the items necessary to complete the Work. Bidder shall complete the schedule including the unit and total price of each item, including applicable sales and other taxes. If the total cost of any item or the total Base Bid is inconsistent with the unit cost, the unit cost shall prevail. Payment of each item will be based on the plans and those with an asterisk (\*) included in the item number are to be considered as “final pay quantity for each item”, unless the dimensions of the portion of the work shown on the plans are revised by the Engineer, or unless the portion of the work is eliminated. On all other items with no asterisk (\*) included in the item number, payment will be based upon the final quantity installed or completed. If the dimensions of the specific portion of the work are revised, and the revisions result in an increase or decrease in the estimated quantity of the portion of the work, the final quantity for payment will be revised in the amount represented by the changes in the dimensions. If the specific portion of the work is eliminated, the final pay quantity designated for the specific portion of the work will be eliminated. All costs for completing the Work described in the Contract documents and on the plans shall be included in the bid items listed below. Bids will be compared on the basis of the grand total of bid items 1 through 52 and 56 through 65. Contractor shall include all costs to accomplish the project including (but not limited to): mobilization/demobilization, develop water supply, materials, equipment, labor, overhead, profit, taxes, delivery charges, permits etc.

**BASE BID**

**NEW McCASLIN / BOWLING WELLS - GENERAL**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
1 *	Mobilization	1	LS	\$ _____	\$ _____
2 *	Demobilization	1	LS	\$ _____	\$ _____
3 *	Develop and Provide Water Supply	1	LS	\$ _____	\$ _____
4 *	Environmental Compliance and Permitting	1	LS	\$ _____	\$ _____
5 *	Prepare, Maintain and Restore Access Routes	1	LS	\$ _____	\$ _____
<b>General Subtotal (A-1):</b>					<b>\$ _____</b>

**McCASLIN / BOWLING – NEW WELLS (MC-1 AND MC-2)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
6 *	Well Move-In, Move-Out, and Clean-up	1	EA	\$ _____	\$ _____
7	Drill Hole to 42-inch min. Diameter for Conductor Pipe	50	LF	\$ _____	\$ _____
8	Furnish, Install and Grout 36-inch Diameter Conductor Pipe	50	LF	\$ _____	\$ _____
9	Drill Pilot Hole to 18-inch max. Diameter	740	LF	\$ _____	\$ _____
10 *	Perform E-log of Well	1	EA	\$ _____	\$ _____
11 *	Perform Caliper Log of Well	1	EA	\$ _____	\$ _____
12	Ream Pilot Hole to 32-inch min. Diameter (for 20" casing)	740	LF	\$ _____	\$ _____
13	Furnish and Install 20-inch Diameter HSLA – Corten Unperforated Well Casing	425	LF	\$ _____	\$ _____
14	Furnish and Install 20-inch Diameter HSLA – Corten Perforated Well Casing, Roscoe Moss Fulflo, 0.090" <sup>1</sup>	345	LF	\$ _____	\$ _____
15	Furnish and Install Gravel Envelope	680	LF	\$ _____	\$ _____
16	Placement of Cement Grout Annular Seal	100	LF	\$ _____	\$ _____
17	Furnish and Install 3" Gravel Tube	115	LF	\$ _____	\$ _____
18	Furnish and Install 3" Air Vent Pipe	5	LF	\$ _____	\$ _____
19	Furnish and Install 3" Sounding Tube/Camera Port	538	LF	\$ _____	\$ _____
20	Swab and Airlift Well	48	HR	\$ _____	\$ _____
21	Develop Well – Pumping and Surging	60	HR	\$ _____	\$ _____
22	Test Pump of Well – Step-Drawdown and Continuous	36	HR	\$ _____	\$ _____

<sup>1</sup> Roscoe Moss perforated casing opening sizes are subject to change after evaluating initial E-log and bore-hole samples.

23*	Video Log of Well	1	EA	\$ _____	\$ _____
24*	Alignment/Deviation Survey	1	EA	\$ _____	\$ _____
25*	Gyroscopic Survey	1	EA	\$ _____	\$ _____
26*	Dynamic Flow Meter Survey	1	EA	\$ _____	\$ _____
27	Chemical Development	345	LF	\$ _____	\$ _____
28*	Well Disinfection and Capping	1	EA	\$ _____	\$ _____
<b>Single Well Subtotal:</b>					\$ _____
<b>Two Well Subtotal (Single Well Subtotal x 2):</b>					\$ _____
29	Zone Testing for One Well – Per Zone (Up to 4 Total – See Item Description)	4	EA	\$ _____	\$ _____
<b>Sub-1</b>	<b>“Two Well Subtotal” plus the cost of item 29</b>				\$ _____

**McCASLIN / BOWLING – NEW WELL (B1)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
30 *	Well Move-In, Move-Out, and Clean-up	1	EA	\$ _____	\$ _____
31	Drill Hole to 42-inch min. Diameter for Conductor Pipe	50	LF	\$ _____	\$ _____
32	Furnish, Install and Grout 36-inch Diameter Conductor Pipe	50	LF	\$ _____	\$ _____
33	Drill Pilot Hole to 18-inch max. Diameter	660	LF	\$ _____	\$ _____
34*	Perform E-log of Well	1	EA	\$ _____	\$ _____
35*	Perform Caliper Log of Well	1	EA	\$ _____	\$ _____
36	Ream Pilot Hole to 32-inch min. Diameter (for 20” casing)	660	LF	\$ _____	\$ _____
37	Furnish and Install 20-inch Diameter HSLA – Corten Unperforated Well Casing	430	LF	\$ _____	\$ _____
38	Furnish and Install 20-inch Diameter HSLA – Corten Perforated Well Casing, Roscoe Moss Fulflo, 0.080” <sup>2</sup>	260	LF	\$ _____	\$ _____
39	Furnish and Install Gravel Envelope	410	LF	\$ _____	\$ _____

<sup>2</sup> Roscoe Moss perforated casing opening sizes are subject to change after evaluating initial E-log and bore-hole samples.

40	Placement of Cement Grout Annular Seal	300	LF	\$ _____	\$ _____
41	Furnish and Install 3” Gravel Tube	315	LF	\$ _____	\$ _____
42	Furnish and Install 3” Air Vent Pipe	5	LF	\$ _____	\$ _____
43	Furnish and Install 3” Sounding Tube/Camera Port	600	LF	\$ _____	\$ _____
44	Swab and Airlift Well	48	HR	\$ _____	\$ _____
45	Develop Well – Pumping and Surging	60	HR	\$ _____	\$ _____
46	Test Pump of Well – Step-Drawdown and Continuous	36	HR	\$ _____	\$ _____
47	Video Log of Well	1	EA	\$ _____	\$ _____
48	Alignment/Deviation Survey	1	EA	\$ _____	\$ _____
49	Gyroscopic Survey	1	EA	\$ _____	\$ _____
50	Dynamic Flow Meter Survey	1	EA	\$ _____	\$ _____
51	Chemical Development	260	LF	\$ _____	\$ _____
52	Well Disinfection and Capping	1	EA	\$ _____	\$ _____
				<b>Single Well (B1) Subtotal:</b>	\$ _____
53	Existing Well Abandonment <sup>3</sup>	400	LF	\$ _____	\$ _____
<b>Sub-2</b>				<b>Single Well (B1) Subtotal plus the cost of item 53:</b>	\$ _____

**TOTAL AMOUNT FOR SCHEDULE “A-1” (Base Contract)**

General Subtotal (A-1):	\$ _____
MC1 & MC2 Subtotal (Sub-1):	\$ _____
B1 Subtotal (Sub-2):	\$ _____
<b>Total Bid:</b>	\$ _____

<sup>3</sup> Addendum 2: Existing well abandonment price per linear foot added to bid schedule.

**OPTIONAL ITEMS AND ADDS/DEDUCTS (NOT INCLUDED IN BID TOTALS)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
54*	Furnish and Install 20-inch Diameter Well Compression Section	1	EA	\$ _____	\$ _____
55	Well Borehole Abandonment	___	LF	\$ _____	\$ _____
56	Idle Time (for additional hours not included in the bid per the Specifications)	___	HR	\$ _____	\$ _____

**PROPOSAL BIDDING SCHEDULE**

**McCASLIN / BOWLING  
WELL DRILLING AND EQUIPPING**

**Bid Schedule A-2 – McCaslin / Bowling – Well Equipping**

All Items Furnished and Installed

The following Bid Schedule lists the items necessary to complete the Work. Bidder shall complete the schedule including the unit and total price of each item, including applicable sales and other taxes. If the total cost of any item or the total Base Bid is inconsistent with the unit cost, the unit cost shall prevail. Payment of each item will be based on the plans and those with an asterisk (\*) included in the item number are to be considered as “final pay quantity for each item”, unless the dimensions of the portion of the work shown on the plans are revised by the Engineer, or unless the portion of the work is eliminated. On all other items with no asterisk (\*) included in the item number, payment will be based upon the final quantity installed or completed. If the dimensions of the specific portion of the work are revised, and the revisions result in an increase or decrease in the estimated quantity of the portion of the work, the final quantity for payment will be revised in the amount represented by the changes in the dimensions. If the specific portion of the work is eliminated, the final pay quantity designated for the specific portion of the work will be eliminated. All costs for completing the Work described in the Contract documents and on the plans shall be included in the bid items listed below. Bids will be compared on the basis of the grand total of bid items 1 through 52 and 56 through 65.. Contractor shall include all costs to accomplish the project including (but not limited to): mobilization/demobilization, develop water supply, materials, equipment, labor, overhead, profit, taxes, delivery charges, permits etc.

**BASE BID – WELL EQUIPPING**

**McCASLIN / BOWLING – NEW WELLS (MC-1, MC-2, AND B1)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
57*	12'x12' Pedestal-Style Concrete Pump Foundation	3	EA	\$ _____	\$ _____
58*	Furnish and Install 350 HP Well Pumping Unit With Electric Motor	3	EA	\$ _____	\$ _____
59	Furnish and Install 12-Inch Steel Column Tube and Shaft	1,620	LF	\$ _____	\$ _____
60*	Furnish and Install Vertical Turbine Pumping Unit	3	EA	\$ _____	\$ _____
61*	Furnish and Install Suction Extension	3	EA	\$ _____	\$ _____

62*	Furnish and Install 12-Inch Steel Discharge Piping Assembly, Complete With Valves, Flowmeter, Airvents, Couplings, & All Other Appurtenances at Well Site (Details A-19 and B-19)	3	EA	\$ _____	\$ _____
63*	Furnish and Install Panel Shade Structure	3	EA	\$ _____	\$ _____
64*	Furnish and Install Panel Security Structure	3	EA	\$ _____	\$ _____
65*	Furnish and Install Well Enclosure	3	EA	\$ _____	\$ _____
66	Furnish and Install Electrical Service (via Pad Mount Transformer), Metering Panel, <u>VFD</u> Control Panel, Instrumentation & Monitoring Panel, All Wiring & Controls, and All Other Electrical Appurtenances at Well Site	3	EA	\$ _____	\$ _____

**Sub-3**

**New Wells Equipping Subtotal: \$ \_\_\_\_\_**

**TOTAL AMOUNT FOR SCHEDULE “A-2” (Base Contract)**

**Total Bid: (Should be equal to Sub-3)**

\$ \_\_\_\_\_

**OPTIONAL ITEMS AND ADDS/DEDUCTS (NOT INCLUDED IN BID TOTALS)**

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
67	Security Pole & Light (Detail C-33)	1	EA	\$ _____	\$ _____



<u>Total Bid (A-1):</u>	<u>Total Bid (A-2):</u>	<b><u>Grand Total Bid: (Sum of the two bids)</u></b>
\$ _____	\$ _____	\$ _____

Bid Submitted by:

Contractor \_\_\_\_\_

Date \_\_\_\_\_

## SCOPE OF WORK

### **Measurement and Payment:**

Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the Work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety, and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, but which is necessary for the complete construction of the work and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

If the total cost of any item or the total Base Bid is inconsistent with the unit cost, the unit cost shall prevail. Quantities indicated on the bid schedule are for bidding purposes and subject to change per the District, at the unit rate as bid. Payment of each item will be based on the plans and those with an asterisk (\*) included in the item number are to be considered as “final pay quantity for each item”, unless the dimensions of the portion of the work shown on the plans are revised by the Engineer, or unless the portion of the work is eliminated. On all other items with no asterisk (\*) included in the item number, payment will be based upon the final quantity installed or completed. If the dimensions of the specific portion of the work are revised, and the revisions result in an increase or decrease in the estimated quantity of the portion of the work, the final quantity for payment will be revised in the amount represented by the changes in the dimensions. If the specific portion of the work is eliminated, the final pay quantity designated for the specific portion of the work will be eliminated.

### **Mobilization (Bid Item Nos. 1\*):**

a. Mobilization shall include all activities and costs for transportation of personnel, equipment, and operating supplies to and from the site; establishment of portable sanitary and refuse facilities; obtaining an adequate source of fresh water; location, provision and installation of field offices & equipment/materials, storage yards excavation equipment, buildings, and other necessary facilities for the Contractor's operations at the site; premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable.

The site is not fenced, the contractor will be responsible to provide his own security for equipment, materials, fuel, tools, etc. that he may have on site.

The Contractor shall provide all necessary equipment & materials; all tools, accessories, power, fuel, materials, supplies, lighting, water, and other support equipment; and experienced personnel necessary to execute the work in an orderly an efficient manner.

**Mobilization also includes all items necessary to complete the project that are not covered under any other Bid Item.**

b. **Measurement and Payment** - The Lump Sum Price paid for Mobilization shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred to complete the mobilization effort and items to complete the project that are not covered under any other line item – including, but not limited to, premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable.

**Demobilization (Bid Item Nos. 2\*):**

a. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not included in the contract from the site; including the disassembly, removal and site cleanup, of offices, equipment, buildings, restoration of facilities, roads, fences, facilities etc. modified or disturbed during the course of the project and other facilities assembled on the site for this contract.

b. **Measurement and Payment** - The Lump Sum Price paid for Demobilization shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred to complete the demobilization effort.

**Develop and Provide Water Supply (Bid Item Nos. 3\*):**

a. Contractor will be provided with a source of water for construction at each of the Wellfields – see the Plans for source location.

McCaslin Wellfield – Contractor will be provided water, by the District, at the 1) Ponds adjacent to each well site, 2) Adjacent Goose Lake Slough Channel, or 3) McCaslin Ag well located at the southeast corner of McCaslin Pond 1.

Bowling Well – Contractor will be provided water, by the District, at the 1) Pond adjacent to the well site, 2) Adjacent Goose Lake Slough Channel or 3) Either SUP-5 or SUP-6 wells located east and west of the Bowling pond.

See the plans for the locations of all water supply sources.

b. **Measurement and Payment** - The Lump Sum Price paid for Develop and Provide Water Supply shall include full compensation for making all completed arrangements and permission, furnishing all fees, labor, materials, tools, equipment, and incidentals and for

doing all work involved in developing a sufficient supply of water, furnish pipeline and other necessary equipment to supply water to the water application equipment for all water required for the work as well as supplying all water necessary for completing the work.

**Environmental Compliance and Permitting (Bid Item No. 4\*):**

(PM-10 and SWPPP Compliance)

a. The Contractor shall comply with all local, state and federal requirements for Storm Water Pollution Prevention and Site dust control and if required by law, shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a PM-10 Dust Management Plan and obtain permits for each. Contractor shall install, construct, maintain all necessary measures to comply with and keep the necessary records in accordance with the requirements of mandated environmental compliance.

As required, the contractor shall prepare all plans and shall obtain all necessary permits prior to commencement of construction and shall comply with all local, state, and federal requirements.

b. **Measurement and Payment** - The Lump Sum Price paid for Environmental Compliance and Permitting shall include full compensation for making all completed arrangements and permission, furnishing all plans, permits, fees, labor, materials, tools, equipment, and incidentals and for doing all work involved in PM-10 and SWPPP Compliance.

**Prepare, Maintain and Restore Access Routes (Bid Item Nos. 5\*):**

a. The Contractor shall perform all dirt work, grading, etc. for proper preparation and maintenance of Construction Access Routes. This includes maintenance and dust control during Construction. Following completion of the project construction, the Contractor shall restore all access routes to original design and fencing to its original location.

b. **Measurement and Payment** - The Lump Sum Price paid for Preparing, Maintaining and Restoring Access Routes shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Well Move-In, Move-Out, and Clean-up (Bid Item No. 6 and 30):**

a. Well move-in, move-out, and clean-up shall include all activities and costs for transportation of personnel, equipment, and operating supplies to and from each individual well site that is not covered under the general Mobilization and Demobilization for the project. This also includes mobilization and demobilization of tanks, construction and removal of bermed area, cleanup and disposal of any drilling materials and mud from ponds, etc.

b. **Measurement and Payment** - The Lump Sum Price paid for Well move-in, move-out, and clean-up shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**WELL CONSTRUCTION:**

**Drill Hole to 42-inch min. Diameter for Conductor Pipe (Bid Item No. 7 and 31):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to drill a pilot hole to 42-inch min. diameter 50 ft. deep min. to accommodate conductor pipe installation on each well.

b. **Measurement and Payment** – The Unit Price paid to drill one 42-inch min. diameter pilot hole per well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish, Install and Grout 36-inch Diameter Conductor Pipe (Bid Item No. 8 and 32):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to furnish, install and grout a 36-inch diameter 50 ft. deep (minimum below ground surface) conductor pipe at each well site.

b. **Measurement and Payment** – The Unit Price paid for furnish, install and grout 36-inch diameter conductor shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Drill Pilot Hole to 18-inch max. Diameter (Bid Item No. 9 and 33):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to drill one 18-inch max. diameter pilot hole below conductor per well to a depth approved by the District Representative.

b. **Measurement and Payment** – The Unit Price paid to drill one 18-inch max. diameter pilot hole per well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Perform E-Log of Well (Bid Item No. 10\* and 34\*):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to perform an E-log on each well.

b. **Measurement and Payment** – The Unit Price paid to perform caliper log of well on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Perform Caliper Log of Well (Bid Item No. 11\* and 35\*):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to perform a caliper log on each well.

b. **Measurement and Payment** – The Unit Price paid to perform caliper log of well on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Ream Pilot Hole (Bid Item No. 12 and 36):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to ream pilot hole below conductor on each well to 32-inch min. diameter for 20” casing).

b. **Measurement and Payment** - The Unit Price to Ream Pilot Hole shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work to Ream Pilot Hole and no additional allowance shall be made therefore.

**Furnish and Install 20-inch Diameter HSLA – Corten Unperforated Well Casing (Bid Item Nos. 13 and 37):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install unperforated well casing of identical sizing, design and composition in conformance with the plans and specifications.

b. **Measurement and Payment** - The Unit Price per Linear Foot for Unperforated Well Casing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work for this item and no additional allowance shall be made therefore.

**Furnish and Install 20-inch Diameter HSLA – Corten Perforated Well Casing, Roscoe Moss Fulflo (Bid Item Nos. 14 and 38):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install perforated well casing of identical sizing, design and composition in conformance with the casing option that the District chooses to install for each individual well. Quantities and opening size indicated on the bid schedule are for bidding purposes and subject to change per the District after e-log and bore sample evaluation at final design stage, at the unit rate as bid.

b. **Measurement and Payment** - The Unit Price per Linear Foot for Perforated Well Casing shall include full compensation for furnishing all labor, materials, tools,

equipment, and incidentals, and for doing all work for this item and no additional allowance shall be made therefore.

**Furnish and Install Gravel Envelope (Bid Item No. 15 and 39):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a gravel envelope between the casing and enlarged borehole on each well, per the specifications.

b. **Measurement and Payment** – The Unit Price paid to furnish and install gravel envelope on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Placement of Cement Grout Annular Seal (Bid Item No. 16 and 40):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to place a cement grout annular seal on each well. This shall include a fine sand seal or approved equivalent between the gravel envelope and cement grout, per the specifications.

b. **Measurement and Payment** – The Unit Price paid to place a cement grout annular seal on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 3” Gravel Tube (Bid Item No. 17 and 41):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a 3” gravel tube on each well as shown in the plans. Gravel tube material shall match casing material.

b. **Measurement and Payment** – The Unit Price paid to furnish and install a 3” gravel tube on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 3” Air Vent Pipe (Bid Item No. 18 and 42):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a 3” air vent pipe on each well. Air vent material shall match casing material.

b. **Measurement and Payment** – The Unit Price paid to furnish and install a 3” air vent pipe on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 3” Sounding Tube/Camera Port (Bid Item No. 19 and 43):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to install a 3” sounding tube/camera port on each well as shown in the plans. Sounding tube/camera port material shall match casing material.
- b. **Measurement and Payment** – The Unit Price paid to furnish and install a 3” sounding tube/camera port on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Swab and Airlift Well (Bid Item No. 20 and 44):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to swab and airlift each well as defined in the specifications.
- b. **Measurement and Payment** – The Unit Price paid to swab and airlift each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Develop Well – Pumping and Surging (Bid Item No. 21 and 45):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to develop each well via pumping and surging. Development pumping shall be per the specifications (minimum) and subject to the District’s approval.
- b. **Measurement and Payment** – The Unit Price paid to develop each well via pumping and surging shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Test Pump of Well (Bid Item No. 22 and 46):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to test pump each well. Test pumping shall be per the specifications, unless otherwise approved by the District.
- b. **Measurement and Payment** – The Unit Price paid to test pump each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.



**Perform Video Log of Well (Bid Item No. 23\* and 47\*):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to perform a video log on each well.
- b. **Measurement and Payment** – The Unit Price paid to perform a video log on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Alignment/Deviation Survey (Bid Item No. 24\* and 48\*):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to perform an alignment/deviation survey on each well.
- b. **Measurement and Payment** – The Unit Price paid to perform an alignment/deviation survey on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Gyroscopic Survey (Bid Item No. 25\* and 49\*):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to perform a gyroscopic survey at the request of the District Representative.
- b. **Measurement and Payment:** Measurement for payment shall be per each gyroscopic survey performed. The Quantity Pay Unit Price paid to perform a gyroscopic survey shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Dynamic Flow Meter Survey (Bid Item No. 26\* and 50\*):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to perform a dynamic flow meter survey at the request of the District Representative.
- b. **Measurement and Payment** – The Unit Price paid to perform a dynamic flow meter survey shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Chemical Development (Bid Item No. 27 and 51):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to chemically develop any or all of the wells at the request of the District Representative as defined in the specifications.

b. **Measurement and Payment** – The Unit Price paid to chemically develop wells shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Well Disinfection and Capping (Bid Item No. 28\* and 52\*):**

a. The Contractor shall provide all materials, equipment, labor and incidentals disinfect and cap any or all wells at the request of the District Representative.

b. **Measurement and Payment** – The Unit Price paid to disinfect and cap any or all wells shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Zone Testing – Per Zone on 1 Well (Bid Item No. 29):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to perform zone testing on up to 4 separate zones on a single well on a per-zone basis. It is anticipated that 4 zones will be tested on McCaslin well 2, with no other zone testing anticipated at the time of bidding. Quantities indicated on the bid schedule are for bidding purposes and subject to change per the District, at the unit rate as bid.

b. **Measurement and Payment** – The Unit Price paid to perform zone testing per zone on a single well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Existing Well Abandonment (Bid Item No. 53)<sup>1</sup>:**

a. The Contractor shall provide all materials, equipment, labor and incidentals to properly abandon an existing well in accordance with the Kern County Well Ordinance and relevant specifications. This item shall include (but is not limited to) – required permits, a preliminary video log for assessment purposes, tagging (depth confirmation), concrete or neat cement fill from the bottom of the well to 6 feet below grade (or the cap if lower), cutting and capping of the well at least 6' below grade, and compacted backfill to 90% per ASTM D1557 in the resulting hole.

b. **Measurement and Payment** – The Unit Price paid to abandon an existing well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

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<sup>1</sup> Addendum 2: Existing well abandonment price per linear foot added to bid schedule.

**Furnish and Install 20-inch Diameter Well Compression Section (Bid Item No. 54): (OPTIONAL)**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to install a well compression section corresponding to the well casing size option selected by the District. The well compression section shall be in accordance to the design shown in the plans. Well Compression Section material shall match the casing material.
- b. **Measurement and Payment** – The Unit Price paid to furnish and install a Well Compression Section shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Well Borehole Abandonment (Bid Item No. 55): (OPTIONAL)**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to abandon a well borehole at the request of the District Representative.
- b. **Measurement and Payment** – The Unit Price paid to abandon a well borehole shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Idle Time (Bid Item No. 56): (OPTIONAL)**

- a. Idle time represents any additional idle time incurred by the Contractor that is not already included in the bid per the Specifications.
- b. **Measurement and Payment** – The per Hour Price paid for additional idle time shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred.

**WELL EQUIPPING:****12'x12' Pedestal-Style Concrete Pump Foundation (Bid Item No. 57\*):**

- a. The Contractor shall provide all materials, equipment, labor and incidentals to construct a 12'x12' pedestal-style concrete pump foundation at each wellsite. The Contractor shall perform all subgrade preparation, installation of conduits, forming, tying of steel, provision and placement of concrete, finishing, and curing of pump foundations.
- b. **Measurement and Payment** - The Unit Price per Pedestal-Style Concrete Pump Foundation shall include full compensation for furnishing all labor, materials, forms, tools, equipment, and incidentals, and for doing all work and operations which must be

performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 350 HP Well Pumping Unit with Electric Motor (Bid Item No. 58):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a 350 HP well pumping unit with electric motor, pumphead, headshaft, oiler, etc. on each well.

b. **Measurement and Payment** - The Unit Price paid to furnish and install a 350 HP well pumping unit with electric motor on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 12-inch Steel Column Tube and Shaft (Bid Item No. 59):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install 12-inch column tube and shaft on each well.

b. **Measurement and Payment** - The Unit Price paid to furnish and install 12-inch column tube and shaft on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Vertical Turbine Pumping Unit (Bid Item No. 60):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a vertical turbine pumping unit on each well.

b. **Measurement and Payment** - The Unit Price paid to furnish and install a vertical turbine pumping unit on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Suction Extension (Bid Item No. 61):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a suction extension on each well as shown on the Plans.

b. **Measurement and Payment** - The Unit Price paid to furnish and install a suction extension on each well shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed, or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install 12-inch Steel Discharge Piping Assembly, Complete with Valves, Flowmeter, Airvents, Couplings & All Other Appurtenances at Well Site (Bid Item No. 62):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install 12-inch steel discharge piping assembly, complete with valves, flowmeter, airvents, couplings & all other appurtenances at each well site as shown on the Plans and described in the Specifications. Included in this line item is a single joint of PIP 15" PVC Class 100 installed as shown in the plans.

b. **Measurement and Payment** - The Unit Price paid to furnish and install 12-inch steel discharge piping assembly, complete with valves, flowmeter, airvents, couplings & all other appurtenances at each well site shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Panel Shade Structure (Bid Item No. 63):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a panel shade structure at each well site as shown on the Plans and described in the Specifications.

b. **Measurement and Payment** - The Unit Price paid to furnish and install a panel shade structure at each well site shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Panel Security Structure (Bid Item No. 64):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install panel security structures at each well site as shown on the Plans and described in the Specifications.

b. **Measurement and Payment** - The Unit Price paid to furnish and install panel security structures at each well site shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Well Enclosure (Bid Item No. 65):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a well enclosure at each well site as shown on the Plans and described in the Specifications.

b. **Measurement and Payment** - The Unit Price paid to furnish and install a well enclosure at each well site shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Furnish and Install Electrical Service (via Pad Mount Transformer), Metering Panel, VFD Control Panel, Instrumentation & Monitoring Panel, All Wiring & Controls, and All Other Electrical Appurtenances at Well Site (Bid Item No. 66):**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install the electrical service (including the installation of a pad mount transformer), electrical metering panel, variable frequency drive control panel (Yaskawa IQU1000 NEMA 3R Matrix VFD), instrumentation and monitoring panel, all conduits, wiring & controls, lighting and all other electrical appurtenances at each relevant well site as shown on the Plans and described in the Specifications.

b. **Measurement and Payment** - The Unit Price paid to furnish and install the electrical service, electrical panels, all conduits, wiring & controls, and all other electrical appurtenances at each well site shall include full compensation for all labor, materials, transportation, supplies, tools, equipment, and incidentals and for doing all other work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.

**Security Pole & Light (Bid Item No. 67): (OPTIONAL)**

a. The Contractor shall provide all materials, equipment, labor and incidentals to install a Security Pole and Light facility, including related conduits, underground facilities, wiring, switches, etc. per the Plans and Specifications. Item to be installed at the request of the District Representative.

b. **Measurement and Payment** - The Unit Price per Security Pole and Light facility shall include full compensation for furnishing all labor, materials, forms, tools, equipment, and incidentals, and for doing all work and operations which must be performed or costs incurred prior to beginning, during and after the completion of the work on this item and no additional allowance shall be made therefore.