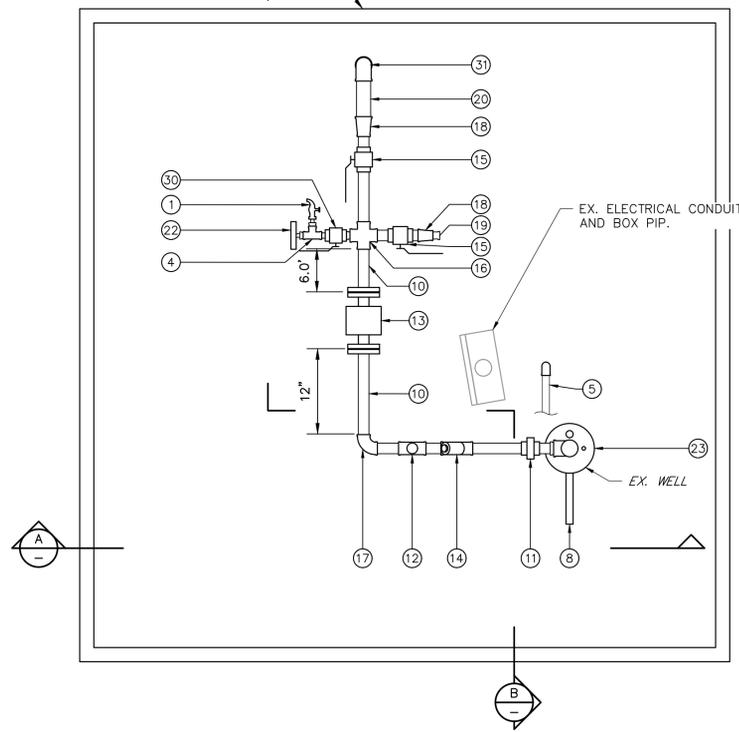


**WELL NOS. 1 AND 2 SITE PLAN**  
SCALE: 1"=80'

WELL NO. 1: CONSTRUCT PROPOSED  
7X7 FT GRAVEL PAD CONTAINED BY  
2X6" HEADERS



**WELL NO. 1 - MECHANICAL PLAN**  
SCALE: 1"=1'-0"

**EQUIPMENT SCHEDULE**

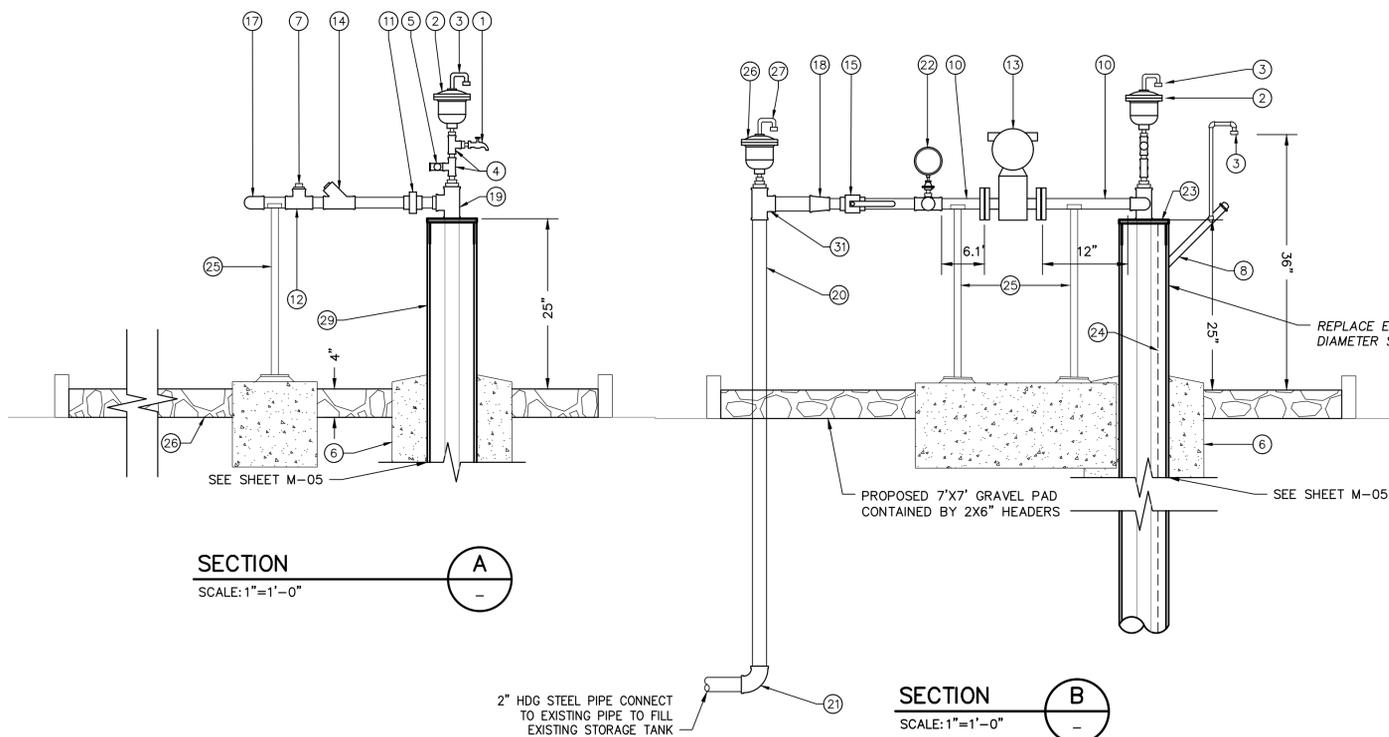
- 1 1/2" 304 SST SAMPLE TAP W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 2 1/2" AIR RELEASE VALVE W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 3 1/2" HDG STEEL U-VENT W/ FINE MESH BUG SCREEN
- 4 3/4" HDG MALLEABLE IRON TEE
- 5 3/4" BRONZE PRESSURE RELIEF VALVE AND PIPING, TO GRAVEL PAD.
- 6 PROPOSED CONCRETE SEAL, EXTEND TO A MINIMUM OF 6" ABOVE EXISTING GROUND SURFACE. SLOPE AWAY FROM WELLHEAD.
- 7 NOT USED
- 8 1" CARBON STEEL SOUNDING TUBE W/ THREADED END CAP. SEE NOTE 3.
- 9 NOT USED
- 10 1 1/2" HDG STEEL PIPE, TYP.
- 11 1 1/2" HDG MALLEABLE IRON UNION
- 12 1 1/2" HDG MALLEABLE IRON TEE
- 13 1 1/2" POSITIVE DISPLACEMENT METER W/ FLOW TOTALIZER
- 14 1 1/2" BRONZE CHECK VALVE
- 15 1 1/2" BRONZE BALL VALVE, WATTS LFFBV-3C-M1 OR APPROVED EQUAL
- 16 1 1/2" HDG MALLEABLE IRON CROSS
- 17 1 1/2" HDG MALLEABLE IRON ELBOW
- 18 1 1/2"x2" HDG MALLEABLE IRON REDUCER
- 19 1 1/2" THREADED HOSE ADAPTOR
- 20 2" HDG STEEL PIPE, TYP.
- 21 1 1/2" HDG MALLEABLE IRON TEE
- 22 PROPOSED SST PRESSURE GAUGE
- 23 CAST IRON WELL SEAL W/ 2" DROP PIPE, 1" & 1/2" VENT OPENINGS
- 24 REMOVE AND REINSTALL EXISTING POWER CABLES TO PUMP
- 25 PIPE SUPPORT, SEE DETAIL 1, THIS SHEET
- 26 EXISTING NATIVE GROUND SURFACE
- 27 1 1/2" AIR RELEASE VALVE W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 28 1 1/2" HDG STEEL U-VENT W/ FINE MESH BUG SCREEN
- 29 NEW WELLHEAD TO BE A MINIMUM HEIGHT OF AT LEAST 29" ABOVE EXISTING SURFACE
- 30 3/4" BRONZE BALL VALVE, NORMALLY OPEN, WATTS LFFBV-3C-M1 OR APPROVED EQUAL
- 31 2" HDG MALLEABLE IRON TEE

DSA APPROVAL

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APP: 04-122492 INC:  
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DATE: 01/03/2024

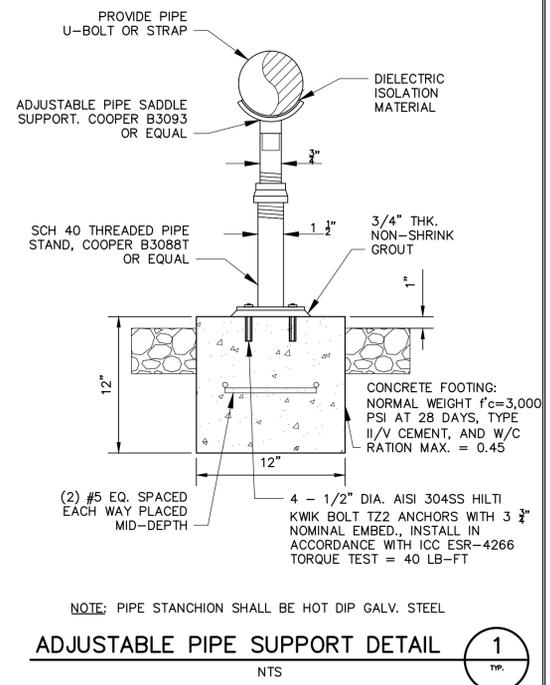
**GENERAL NOTES:**

1. EXCEPT AS NOTED OTHERWISE, CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING ABOVE GRADE WELL PIPING AND APPURTENANCES. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER PRIOR TO ANY DEMOLITION WORK.
2. CONTRACTOR WILL NEED TO LIFT, REMOVE, STORE, AND RE-INSTALL EXISTING WELL PUMP/MOTOR AND DROP PIPING FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
3. THE STEEL SOUNDING TUBE, WITH FACTORY THREADED TAP FOR VENT, SHALL BE SHOP WELDED TO THE PROPOSED STEEL CASING. THE SOUNDING TUBE AND CASING SHALL BE PRIMED AND EPOXY COATED.
4. CONTRACTOR SHALL DISINFECT EXISTING WELL, EXISTING WELL PIPING, AND PROPOSED WELL PIPING IN ACCORDANCE WITH AWWA STANDARD C654-13 PRIOR TO PLACING WELL BACK INTO SERVICE.
5. NEW WELLHEAD CASING SHALL BE A MINIMUM HEIGHT OF 25" ABOVE THE FINISH ELEVATION OF THE PROPOSED GRAVEL PAD WHICH WILL BE SET 4" ABOVE THE ELEVATION OF EXISTING GROUND.
6. INSTALL APPROXIMATELY 10 LF 2" HDPE WATER PIPE. CONNECT TO EXISTING PIPELINE TO EXISTING TANK.
7. CONTRACTOR SHALL MAINTAIN EQUIPMENT, MATERIALS, AND PERSONNEL IN CLOSE PROXIMITY TO WELLHEAD AND SHALL NOT INFRINGE ON SCHOOL AREAS OUTSIDE OF THE FENCED AREA IN WHICH WELL NO. 1 IS LOCATED.
8. ONLY ONE WELL SHALL BE DISCONNECTED FROM THE SYSTEM AT ANY TIME.
9. LOCATE AND EXPOSE ALL POWER AND SIGNAL CONDUITS BENEATH THE FOOTPRINT OF PROPOSED GRAVEL PAD PRIOR TO INITIATING DRILLING OR OTHER GROUND DISTURBING ACTIVITIES.
10. FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH CFC CH. 33 AND CBC CH. 33.



**SECTION A**  
SCALE: 1"=1'-0"

**SECTION B**  
SCALE: 1"=1'-0"



**ADJUSTABLE PIPE SUPPORT DETAIL 1**  
NTS

XREFS: 24X361 - WellImp.dwg; PRMCH - IT.dwg; EXTO - 2T.dwg; EXMA - WT - VepB.dwg; PRMCH - IT.dwg; PRMCH.dwg

DATE: 10/4/2023	TIME: 2:49:02 PM	NO.	BY	DATE	REVISIONS:
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PATH: N:\21-0001154-01\CADD\CIVIL\WELL_IMP					
DRAWING NAME: C-01.DWG					
PAGE SETUP: _____					
DESIGNER: JTW	PROJ. MGR: JFO				



**NIV5**

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SAN DIEGO, CA 92128  
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**REHABILITATION OF EXISTING WELL NO. 1 AND 2**  
**WELL REHABILITATION - WELL NO. 1**

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: OCT 2023

DRAWING NUMBER  
**M-01**  
2 OF 7 DRAWINGS

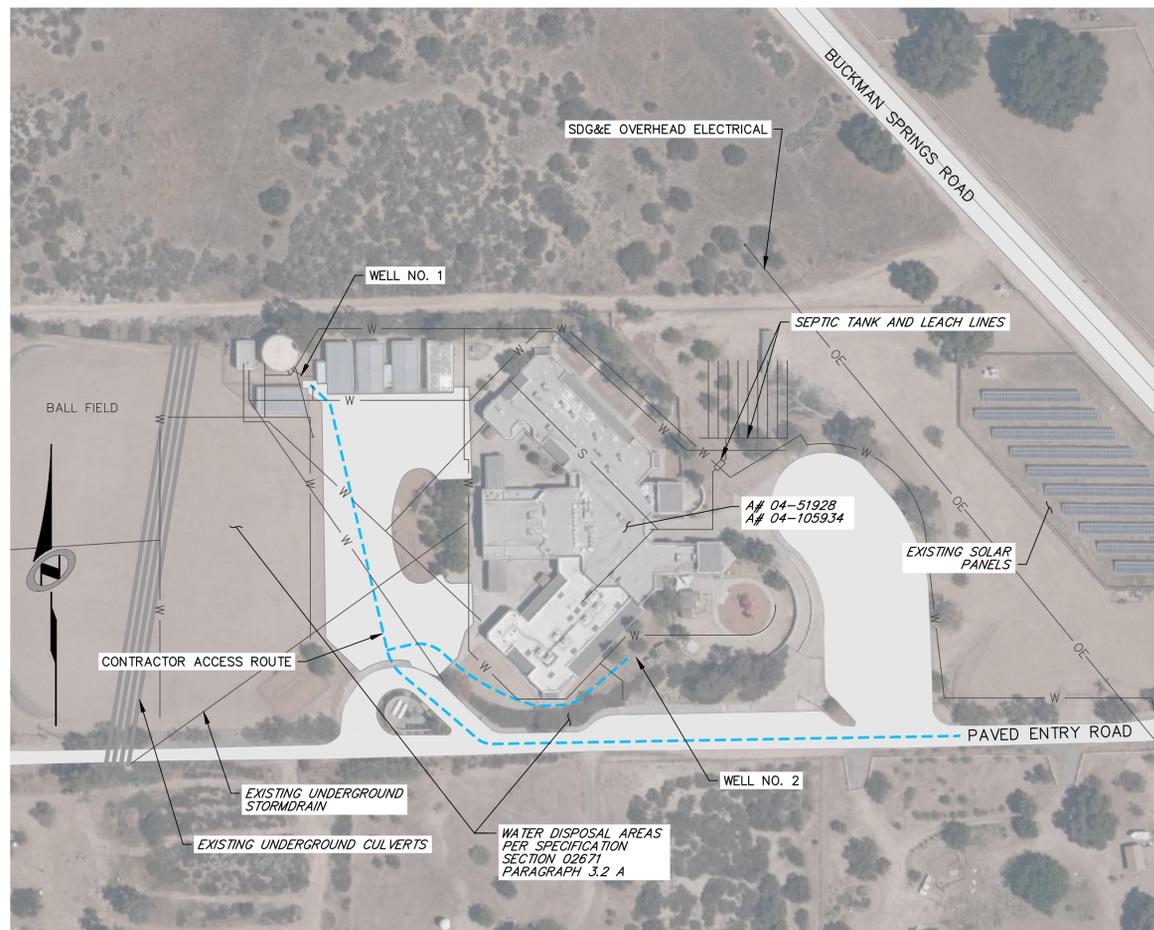
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HORIZONTAL: 1"= AS

DSA PROJECT NUMBER  
**04-122492**

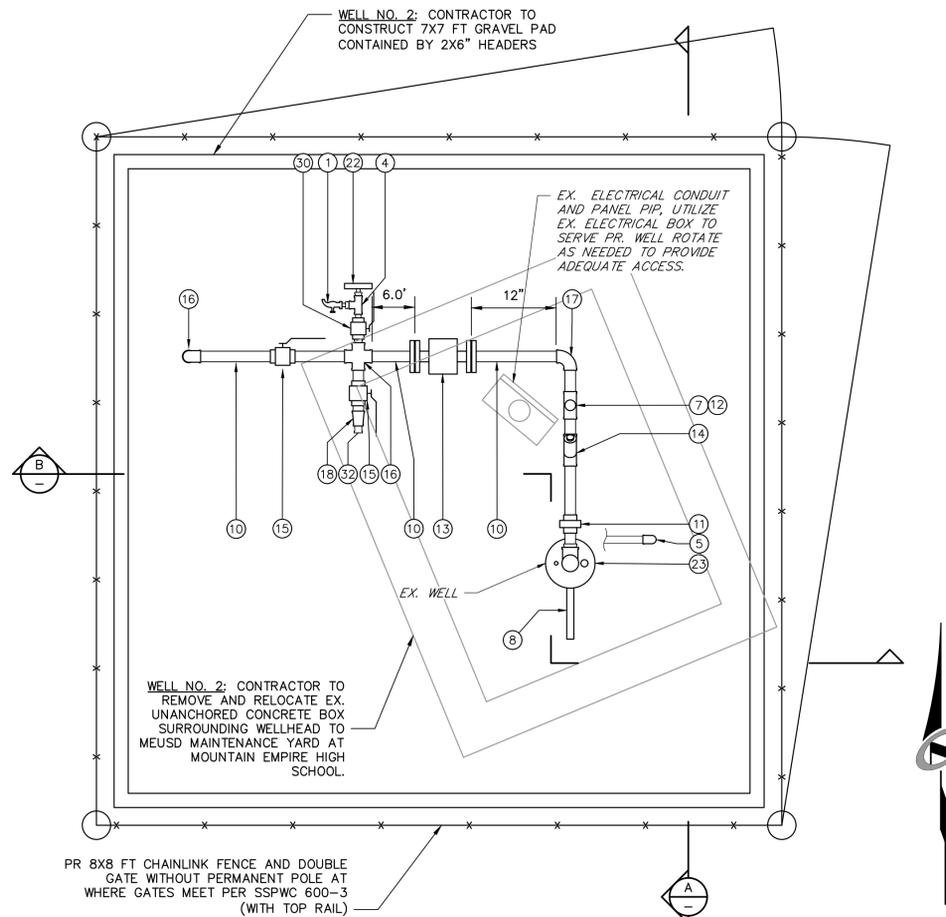
NIV-255 NUMBER  
**21-0001154-01**

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 SS  FLS  ACS   
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**WELL NO. 1 AND 2 SITE PLAN**  
 SCALE: 1"=80'



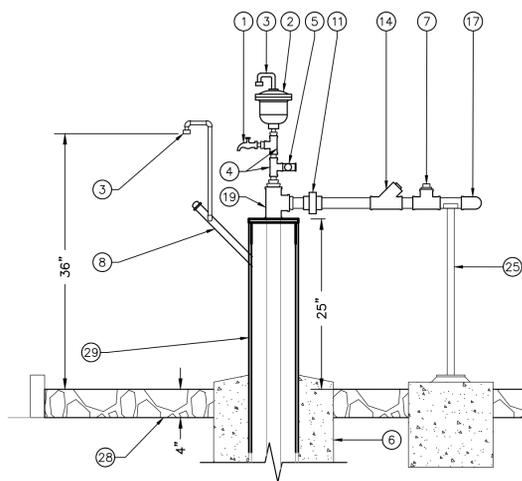
**WELL NO. 2 - MECHANICAL PLAN**  
 SCALE: 1"=1'-0"

**EQUIPMENT SCHEDULE**

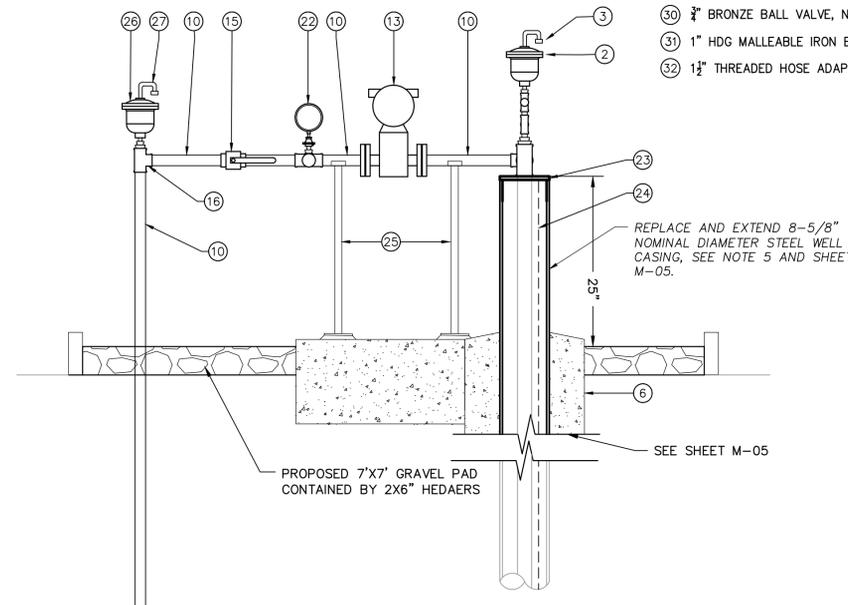
- 1 1/2" 304 SST SAMPLE TAP W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 2 1/2" AIR RELEASE VALVE W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 3 1/2" HDG STEEL U-VENT W/ FINE MESH BUG SCREEN
- 4 3/4" HDG MALLEABLE IRON TEE
- 5 3/4" BRONZE PRESSURE RELIEF VALVE AND PIPING, TO GRAVEL PAD
- 6 PROPOSED CONCRETE SEAL, EXTEND TO A MINIMUM OF 6" ABOVE EXISTING GROUND SURFACE. SLOPE AWAY FROM WELLHEAD.
- 7 1" HDG MALLEABLE IRON PLUG
- 8 1" CARBON STEEL SOUNDING TUBE W/ THREADED END CAP. SEE NOTE 3.
- 9 NOT USED
- 10 1 1/2" HDG STEEL PIPE, TYP.
- 11 1 1/2" HDG MALLEABLE IRON UNION
- 12 1 1/2" HDG MALLEABLE IRON TEE
- 13 1 1/2" POSITIVE DISPLACEMENT METER W/ FLOW TOTALIZER
- 14 1 1/2" BRONZE CHECK VALVE
- 15 1 1/2" BRONZE BALL VALVE, WATTS LFFBV-3C-M1 OR APPROVED EQUAL
- 16 1 1/2" HDG MALLEABLE IRON CROSS
- 17 1 1/2" HDG MALLEABLE IRON ELBOW
- 18 1 1/2"x2" HDG MALLEABLE IRON REDUCER
- 19 2" HDG MALLEABLE IRON TEE
- 20 2" HDG STEEL PIPE, TYP.
- 21 2" HDG MALLEABLE IRON ELBOW
- 22 SST PRESSURE GAUGE
- 23 CAST IRON WELL SEAL W/ 2" DROP PIPE, 1" & 1/2" VENT OPENINGS
- 24 EXISTING POWER CABLES TO PUMP
- 25 PIPE SUPPORT, SEE DETAIL 1, SHEET M-01
- 26 1 1/2" AIR RELEASE VALVE W/ 1/2" 304 SST NIPPLE & 3/4"x1/2" DIELECTRIC BUSHING
- 27 1 1/2" HDG STEEL U-VENT W/ FINE MESH BUG SCREEN
- 28 EXISTING NATIVE GROUND SURFACE
- 29 NEW WELLHEAD TO BE A MINIMUM HEIGHT OF AT LEAST 29" ABOVE EXISTING SURFACE
- 30 3/4" BRONZE BALL VALVE, NORMALLY OPEN, WATTS LFFBV-3C-M1 OR APPROVED EQUAL
- 31 1" HDG MALLEABLE IRON ELBOW WITH THREADS FOR HOSE CONNECTION
- 32 1 1/2" THREADED HOSE ADAPTOR

**GENERAL NOTES:**

1. EXCEPT AS NOTED OTHERWISE, CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING ABOVE GRADE WELL PIPING AND APPURTENANCES. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER PRIOR TO ANY DEMOLITION WORK.
2. CONTRACTOR WILL NEED TO LIFT, REMOVE, STORE, AND RE-INSTALL EXISTING WELL PUMP/MOTOR AND DROP PIPING FOR AND INSTALLATION OF THE PROPOSED IMPROVEMENTS.
3. THE STEEL SOUNDING TUBE, WITH FACTORY THREADED TAP FOR VENT, SHALL BE WELDED TO THE PROPOSED STEEL CASING EXTENSION. THE SOUNDING TUBE AND CASING SHALL BE PRIMED AND EPOXY COATED.
4. CONTRACTOR SHALL DISINFECT EXISTING WELL, EXISTING WELL PIPING, AND PROPOSED WELL PIPING IN ACCORDANCE WITH AWWA STANDARD C654-13 PRIOR TO PLACING WELL BACK INTO SERVICE.
5. CONTRACTOR SHALL RAISE WELLHEAD CASING TO A MINIMUM HEIGHT OF 25" ABOVE THE FINISH ELEVATION OF THE PROPOSED GRAVEL PAD WHICH WILL BE SET APPROXIMATELY 4" ABOVE THE ELEVATION OF EXISTING GROUND. NEW STEEL CASING WILL BE WELDED TO THE EXISTING CASING WHERE EXISTING MATERIAL IS COMPETENT, REPLACING ANY DAMAGED OR INCOMPETENT MATERIAL ON THE EXISTING WELL CASING. EXCAVATION BELOW EXISTING GROUND WILL BE NECESSARY TO REACH COMPETENT CASING MATERIAL.
6. INSTALL APPROXIMATELY 10 LF 1.5" STEEL WATER PIPE. CONNECT TO EXISTING PIPELINE TO EXISTING TANK.
7. CONTRACTOR SHALL MAINTAIN EQUIPMENT, MATERIALS, AND PERSONNEL IN CLOSE PROXIMITY TO WELLHEAD AND SHALL NOT INFRINGE ON AREAS OUTSIDE OF THE FENCED AREA IN WHICH WELL NO. 2 IS LOCATED. CONTRACTOR TO PROVIDE TEMPORARY FENCING TO CONTAIN ANY EQUIPMENT TO REMAIN ONSITE DURING CONSTRUCTION.
8. ONLY ONE WELL SHALL BE DISCONNECTED FROM THE SYSTEM AT ANY TIME.
9. EXISTING WELL NO. 2 PVC CASING TO BE SECURED WITHIN STEEL CASING. SEE SHEET M-05.
10. LOCATE AND EXPOSE ALL POWER AND SIGNAL CONDUITS AND WATER PIPELINES BENEATH FOOTPRINT OF PROPOSED FENCING IMMEDIATELY FOLLOWING REMOVAL OF UTILITY BOX ENCLOSING WELL NO. 2.
11. FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH CFC CH. 33 AND CBC CH. 33.

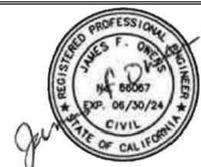


**SECTION A**  
 SCALE: 1"=1'-0"



**SECTION B**  
 SCALE: 1"=1'-0"

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PAGE SETUP: _____					
DESIGNER: JTW	PROJ. MGR: JFO				



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**REHABILITATION OF EXISTING WELL NO. 1 AND 2**  
**WELL REHABILITATION - WELL NO. 2**

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: OCT 2023

DRAWING NUMBER  
**M-02**  
 3 OF 7 DRAWINGS  
 SCALE  
 VERTICAL: 1"= AS  
 HORIZONTAL: 1"= AS  
 DSA PROJECT NUMBER  
 04-122492  
 NIV5 NUMBER  
 21-0001154-01

XREFS: 24X361 - WellImp.dwg; PRMCH; IT.dwg; EXTO-2T.dwg; EXM-A-WI-VenImp.dwg; PRUT-IT.dwg; PRMCH.dwg

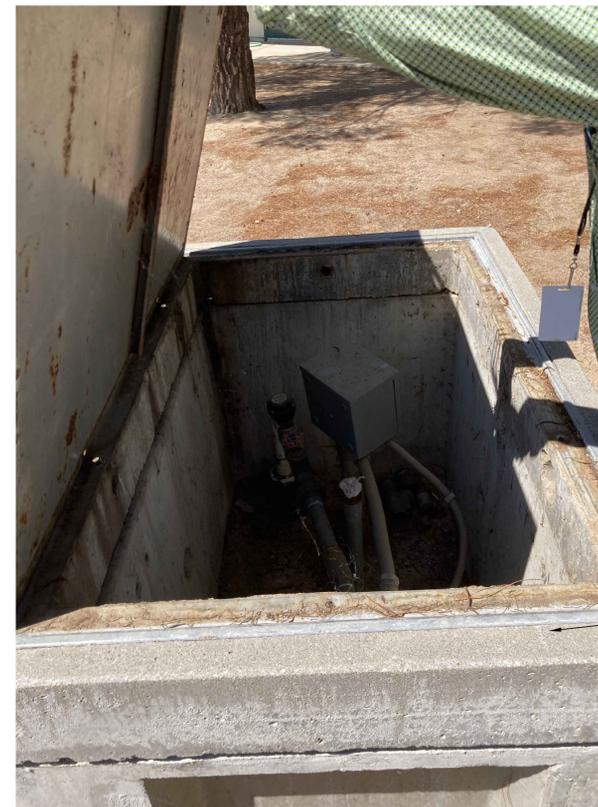
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FOR FENCE AND GATE MODIFICATIONS, SEE SHEET M-04

RELOCATE EX. FIRE HYDRANT, SEE SHEET M-04



WELL NO. 2: CONTRACTOR TO REMOVE AND RELOCATE EX. UNANCHORED CONCRETE BOX SURROUNDING WELLHEAD. COORDINATION WITH MEUSD REQUIRED PER SPECIFICATION SECTION 01040.

WELL NO. 1

WELL NO. 2

DATE: 10/4/2023	TIME: 2:52:15 PM	NO.	BY	DATE	REVISIONS:
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DESIGNER: RMP	PROJ. MGR: JFO				

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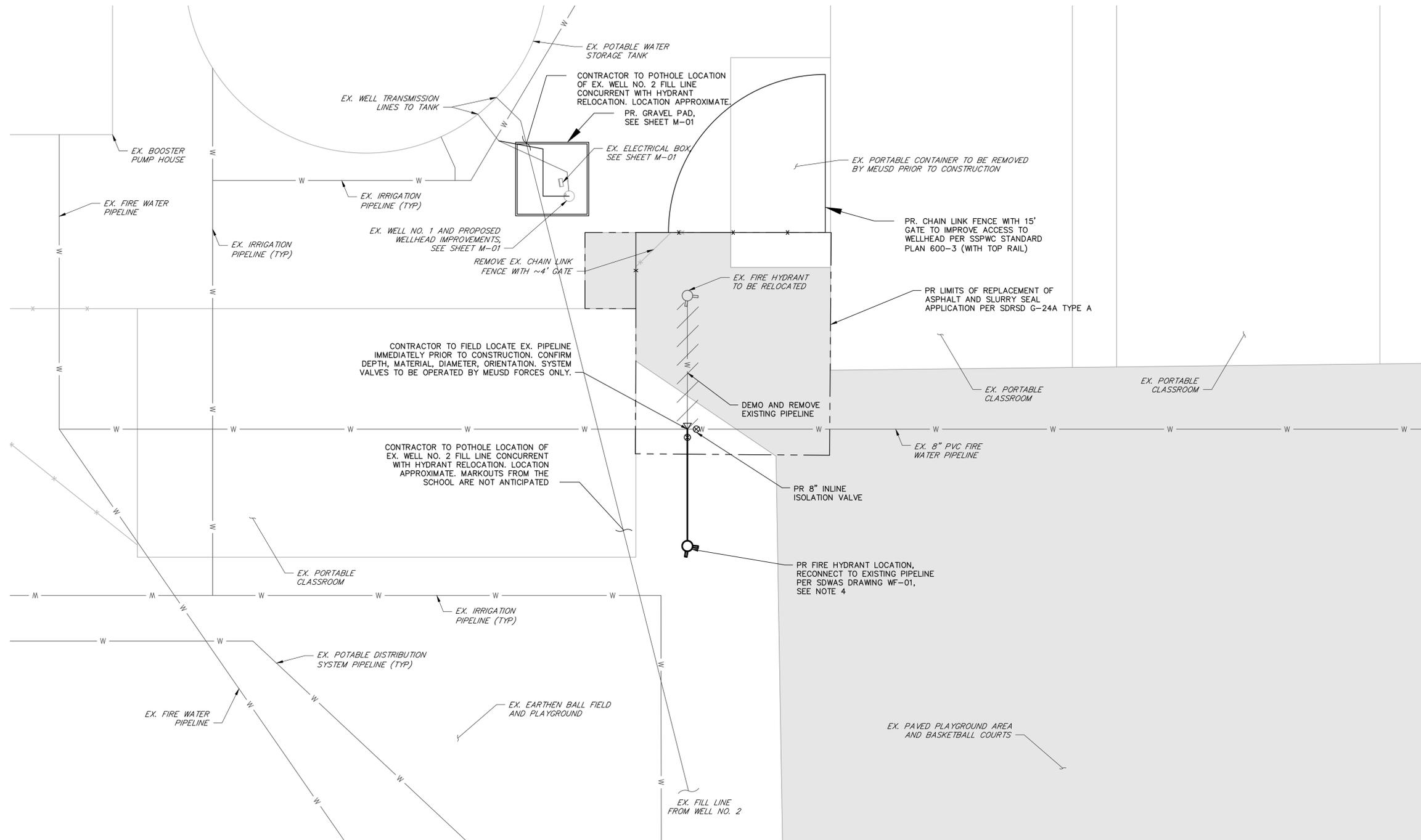
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REHABILITATION OF EXISTING WELL NO. 1 AND 2  
 WELLHEAD PHOTOS

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: OCT 2023

DRAWING NUMBER  
**M-03**  
 4 OF 7 DRAWINGS  
 SCALE  
 VERTICAL: 1" = AS  
 HORIZONTAL: 1" = AS  
 DSA PROJECT NUMBER  
 04-122492  
 NV5 JOB NUMBER  
 21-0001154-01



**GENERAL NOTES:**

1. CONTRACTOR SHALL HOUSE ALL MATERIALS ASSOCIATED WITH THE CONSTRUCTION OF THE PIPELINE AND RELOCATED HYDRANT INSIDE OF THE EXISTING FENCE.
2. CONTRACTOR TO REPLACE PAVEMENT REMOVED OR DAMAGED AS PART OF THE HYDRANT RELOCATION. RESURFACE TRENCH PER SAN DIEGO COUNTY DESIGN STD. DS-22.
3. CONTRACTOR TO COORDINATE CONSTRUCTION SCHEDULE WITH MEUSD TO MINIMIZE IMPACTS OF CONSTRUCTION ON ADJACENT CLASSROOMS AND RECREATION AREAS. CONTRACTOR TO RELOCATE HYDRANT PRIOR TO INITIATING WORK AT WELL NO. 1.
4. LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL EXPOSE AND CONFIRM THE LOCATION, DEPTH, SIZE, MATERIAL, AND ORIENTATION OF EXISTING PIPELINES TO BE CONNECTED PRIOR TO CONSTRUCTION. SEE SPECIFICATION SECTION 01530.
5. LOCATIONS AND OPERABILITY OF EXISTING VALVES UNKNOWN. SHUTDOWN OF FIRE SYSTEM IS LIKELY REQUIRED TO COMPLETE PROPOSED WORK. WORK TO BE PERFORMED WHEN STUDENTS ARE NOT PRESENT. SEE SPECIFICATION SECTION 01047.

**RELOCATED HYDRANT SITE PLAN**

SCALE: 1"=5'

XREFS: 24X361 - WellImp.dwg; PRMECH.dwg; EXMA-WI-VisImp.dwg; PRUT-IT.dwg; PRMECH.dwg; EXTO-2IT.dwg; EXTO-2IT.dwg; EXMA-WI-VisImp.dwg; PRUT-IT.dwg; PRMECH.dwg

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DRAWING NAME:	C-04.DWG		
PAGE SETUP:	---		
DESIGNER:	JTW	PROJ. MGR:	JFO

NO.	BY	DATE	REVISIONS:



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**REHABILITATION OF EXISTING WELL NO. 1 AND 2  
 RELOCATE FIRE HYDRANT**

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

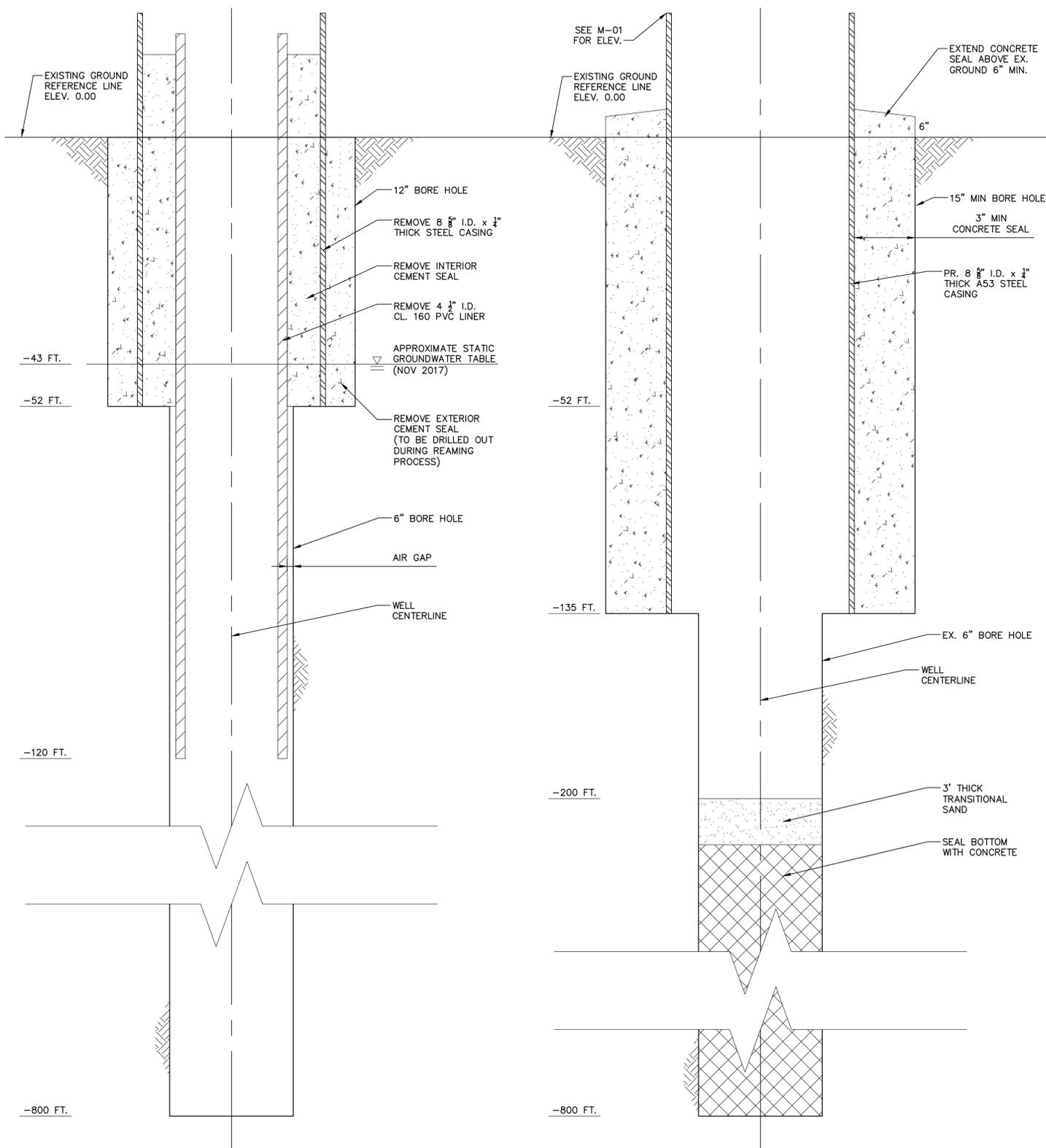
DATE SUBMITTED: OCT 2023

DRAWING NUMBER	M-04
OF DRAWINGS	5 OF 7
SCALE	VERTICAL: 1"= 5' HORIZONTAL: 1"= 5'
DSA PROJECT NUMBER	04-122492
NIV-25 NUMBER	21-0001154-01

CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

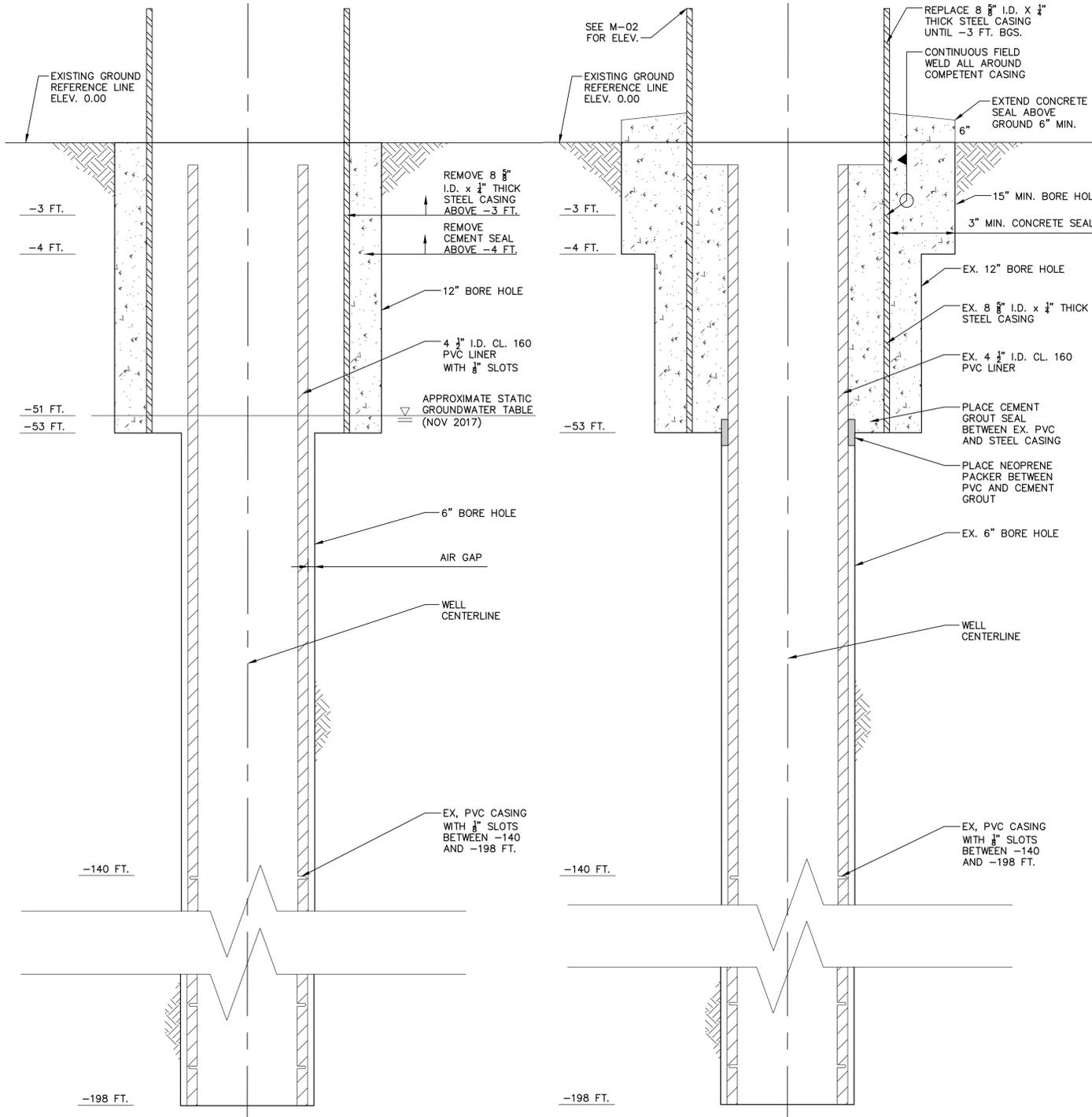
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**EX. WELL NO. 1 PROFILE**  
 HORIZ. SCALE: 1"=3"  
 WELL COMPLETION REPORT NO. 491663

**PR. WELL NO. 1 PROFILE**  
 HORIZ. SCALE: 1"=3"



**EX. WELL NO. 2 PROFILE**  
 HORIZ. SCALE: 1"=3"  
 WELL COMPLETION REPORT NO. 491666

**PR. WELL NO. 2 PROFILE**  
 HORIZ. SCALE: 1"=3"

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
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 DESIGNER: \_\_\_\_\_ PROJ. MGR: \_\_\_\_\_

NO.	BY	DATE	REVISIONS



**REHABILITATION OF EXISTING WELL NO. 1 AND 2**  
**WELLS NO. 1 AND 2 PROFILES**

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

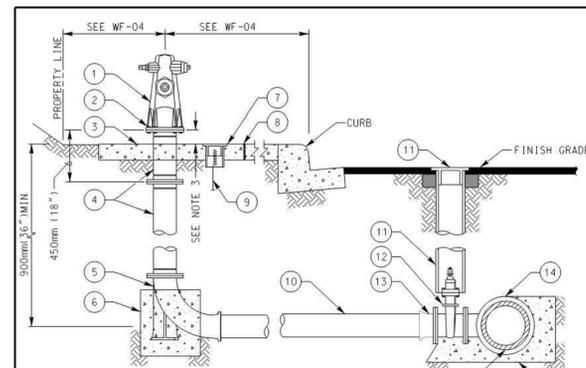
DATE SUBMITTED: OCT 2023

DRAWING NUMBER	<b>M-05</b>
OF 7 DRAWINGS	6
SCALE	VERTICAL: 1"= NTS HORIZONTAL: 1"= 3"
DSA PROJECT NUMBER	04-122492
NIV-25 NUMBER	21-0001154-01

XREFS: 24X361 - WellImp.dwg

CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

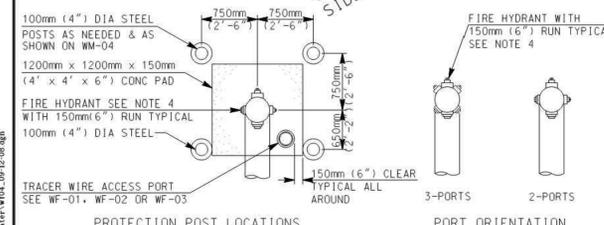
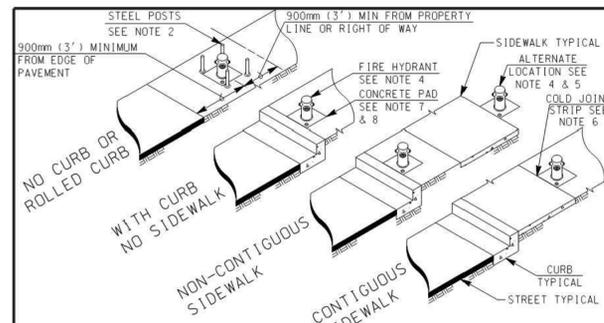
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NOTES:  
1) REFER TO SECTION 15300 OF THE SPECIFICATIONS  
2) THE NUMBER AND SIZE OF OUTLETS SHALL BE AS SHOWN ON PLANS  
3) FIRE HYDRANT FLANGE SHALL BE 150mm ± 25mm (6" ± 1") ABOVE TOP OF CURB OR SPLASH PAD SEE PLANS FOR ELEVATION  
4) LOCATE FIRE HYDRANT AS SHOWN ON WF-04  
5) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WF-01  
6) FIRE HYDRANT FLANGE BOLTS SHALL BE A307 ZINC-PLATED BOLTS INSTALLED WITH NUTS ON TOP OF THE FLANGE.  
7) CONNECTIONS TO STEEL MAINS SHALL BE IN ACCORDANCE WITH SECTION 15061  
8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

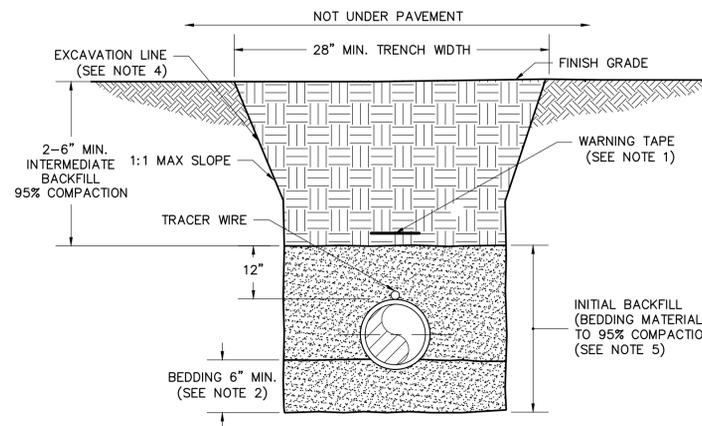
ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	150mm (6") FIRE HYDRANT SEE NOTE 2	7	TRACER WIRE ACCESS PORT, 100mm (4") x 200mm (8") LONG SDR SEWER PIPE W/ CAP
2	BOLTS, SEE NOTE 6	8	COLD JOINT STRIP
3	1200mm x 1200mm x 150mm THICK (4' x 4' x 6" THICK) CONCRETE SPLASH PAD	9	TRACER WIRE PER WP-01
4	150mm (6") FLANGE DI HYDRANT EXTENSION SPOOL(S) WITH BREAK OFF GROOVES (MAXIMUM OF 2 SPOOLS)	10	150mm (6") C-900 PVC PIPE
5	150mm x 400mm (6" x 16") LONG RADIUS FLG x MJ/PO BURY ELL	11	200mm (8") GATE WELL SEE WV-01 & WV-02
6	CONCRETE THRUST BLOCK SEE WT-01	12	150mm (6") FLG x MJ/PO/FLG RWGV (IF REQUIRED)
		13	150mm (6") FLG x MJ/PO ADAPTER (IF REQUIRED)
		14	SIZE x 150mm (6") MJ/PO/FLG x FLG TEE
		15	WATER MAIN

150mm (6") FIRE HYDRANT INSTALLATION  
WATER AGENCIES STANDARDS  
COMMITTEE APPROVAL: 12/16/2019  
DRAWING NUMBER: WF-01



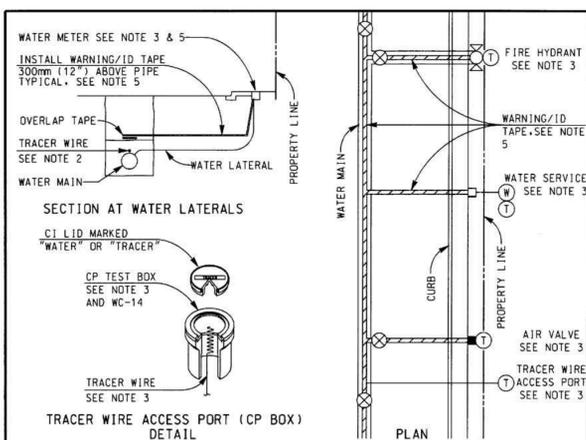
NOTES:  
1) REFER TO SECTION 15300 OF THE SPECIFICATIONS  
2) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE DISTRICT ENGINEER PER WM-04  
3) LOCATE FIRE HYDRANT AS SHOWN ABOVE OR AS DIRECTED BY THE DISTRICT ENGINEER  
4) FIRE HYDRANTS SHALL BE INSTALLED WITH THE LARGEST PORT PERPENDICULAR TO THE STREET  
5) AN EASEMENT MAY BE REQUIRED DEPENDING ON LOCATION OF FIRE HYDRANT  
6) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE CURB OR SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED  
7) 1200mm (24") MINIMUM CLEARANCE SHALL BE MAINTAINED ALL AROUND PAD WHEN INSTALLED WITH OR BY A WALL OR OTHER OBSTRUCTIONS  
8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

FIRE HYDRANT LOCATIONS AND PORT ORIENTATION  
WATER AGENCIES STANDARDS  
COMMITTEE APPROVAL: 09/12/2008  
DRAWING NUMBER: WF-04



TRENCH EXCAVATION AND BACKFILL NOTES:  
1. SEE SDWAS WP-01 FOR BURIED WARNING TAPE AND TRACER WIRE.  
2. TEMPORARY CUTBACK SHALL BE PLACED IMMEDIATELY AFTER BACKFILL.  
3. TRENCHES 5 FEET OR MORE IN DEPTH MUST BE GUARDED BY A SHORING SYSTEM, SLOPING THE GROUND OR OTHER EQUIVALENT MEANS. MAX. SLOPE: 1(H):1(V) SLOPE ONLY ALLOWED OUTSIDE PAVED AREA.  
4. COMPACTION OF BEDDING AND BACKFILL SHALL BE BY MECHANICAL MEANS ONLY. PONDING AND JETTING ARE PROHIBITED.  
5. NATIVE SOILS MAY NOT BE SUITABLE FOR BACKFILL. BEDDING MATERIAL SHALL BE SAND (SE 20 OR BETTER).

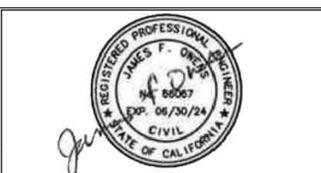
STANDARD TRENCH DETAIL 1 TYP  
NOT TO SCALE



NOTES:  
1) REFER TO SECTION 15000 OF THE SPECIFICATIONS  
2) TRACER WIRE TO RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF WATER MAINS. WIRE SHALL BE SECURED TO THE PIPE AND MAINTAINED ON PIPE CENTERLINE DURING TRENCH BACKFILL  
3) TRACER WIRE ACCESS PORTS SHALL BE INSTALLED WITHIN THE CONCRETE SPLASH PAD OF ALL FIRE HYDRANTS IN ACCORDANCE WITH THE STANDARD DRAWINGS. TRACER WIRE MAY TERMINATE WITHIN METER BOX, BLOWOFF BOX OR AIR VALVE PER SECTION 15000. TRACER WIRE MAY TERMINATE IN A CP TEST BOX ONLY IF NO OTHER APPURTENANCE EXISTS WITHIN THE REQUIRED 305m (1000') INTERVAL. ALL BURIED WIRES THAT REQUIRE TRENCHING TO A TEST BOX LOCATION SHALL BE INSTALLED, WITHOUT SPLICE, IN A CONDUIT IN THE TRENCH AT A MINIMUM DEPTH OF 600mm (24")  
4) WIRE SPLICE CONNECTORS SHALL BE SILICONE FILLED TYPE  
5) WARNING/IDENTIFICATION TAPE SHALL BE INSTALLED 300mm (12") ABOVE THE PIPE AND RUN CONTINUOUSLY ALONG THE ENTIRE LENGTH OF THE PIPE AND ALL RELATED APPURTENANCES IN ACCORDANCE WITH SECTION 15000  
6) FOR PIPE BEDDING AND TRENCH BACKFILL SEE WP-02  
7) FOR INSTALLATION OF WARNING/IDENTIFICATION ON SEWER LINES SEE SP-01  
8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

WARNING IDENTIFICATION TAPE AND TRACER WIRE INSTALLATIONS  
WATER AGENCIES STANDARDS  
COMMITTEE APPROVAL: 12/31/2004  
DRAWING NUMBER: WP-01

DATE: 10/4/2023	TIME: 2:56:35 PM	NO.	BY	DATE	REVISIONS:	
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DRAWING NAME: C-06.DWG						
PAGE SETUP: _____						
DESIGNER: JTW						PROJ. MGR: JFO



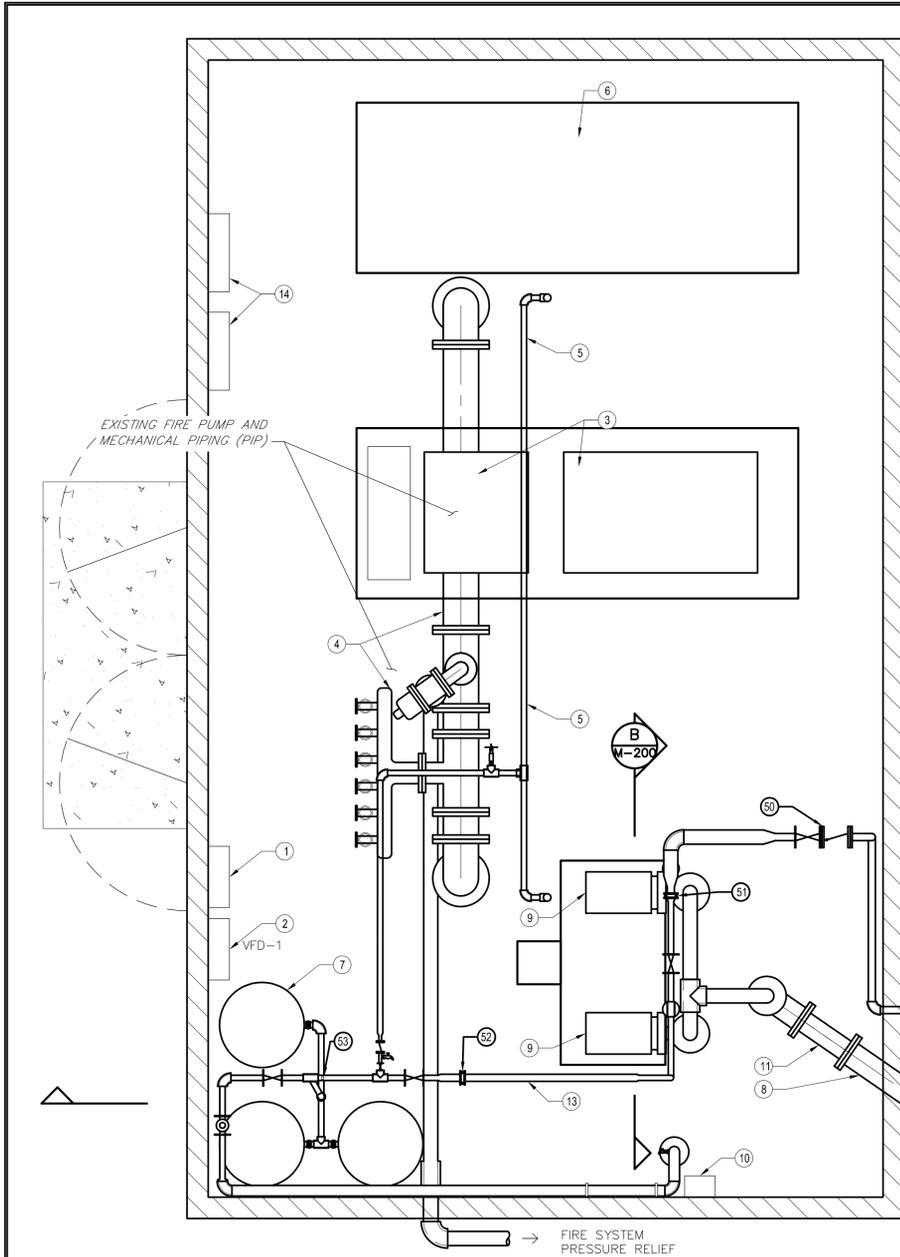
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REHABILITATION OF EXISTING WELL NO. 1 AND 2  
WELL REHABILITATION - DETAILS  
PREPARED FOR: CAMPO ELEMENTARY SCHOOL  
DATE SUBMITTED: OCT 2023

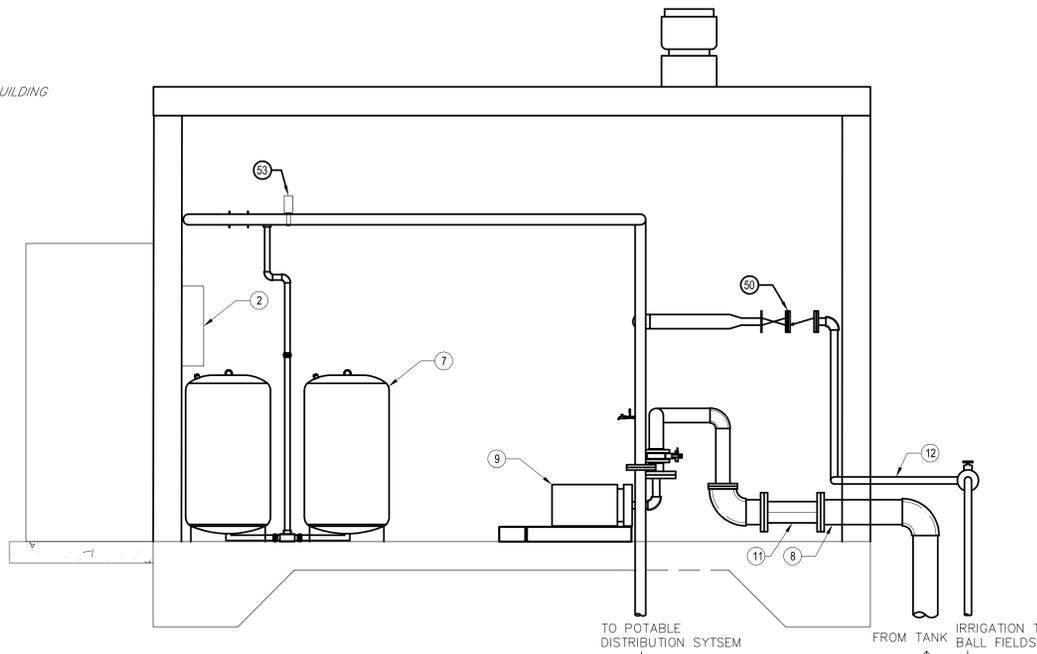
DRAWING NUMBER	M-06
7 OF 7 DRAWINGS	
SCALE	
VERTICAL: 1" = 4'	
HORIZONTAL: 1" = 5'	
DSA PROJECT NUMBER	04-122492
NIV-001 NUMBER	21-0001154-01

XREFS: 24X361 - WellImp.dwg; PRMECH.dwg; EXTO-2T.dwg; EXMIA-WT-VerifBld.dwg; PRUT-IT.dwg; PRMECH.dwg

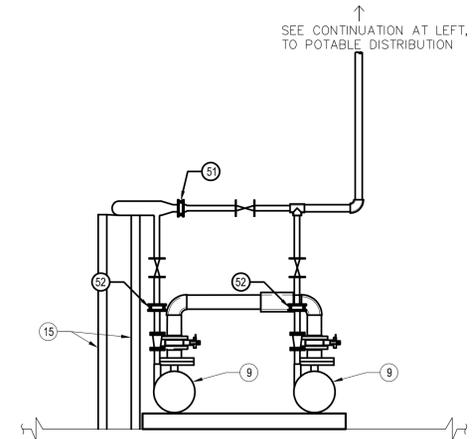
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**CAMPO ELEMENTARY BOOSTER PUMP – MECHANICAL PLAN**  
SCALE: 1"=2'-0"



**SECTION A**  
SCALE: 1"=2'-0"



**SECTION B**  
SCALE: 1"=2'-0"

**CONSTRUCTION NOTES**

- 1 EXISTING WELL NO.1 AND 2 PUMP CONTROLS
- 2 EXISTING BOOSTER PUMP CONTROLS. REMOVE BOOSTER PUMP CONTROLS AND REPLACE WITH VARIABLE FREQUENCY DRIVE PUMP CONTROL PANEL
- 3 EXISTING FIRE PUMP AND DIESEL ENGINE
- 4 EXISTING FIRE PUMP MECHANICAL PIPING
- 5 EXISTING OVERHEAD FIRE SPRINKLER LINES FOR BOOSTER PUMP BUILDING
- 6 EXISTING FIRE PUMP GAS TANK AREA WITH RAISED CURB SECONDARY CONTAINMENT
- 7 EXISTING HYDROPNEUMATIC TANKS SERVING DOMESTIC POTABLE WATER SYSTEM
- 8 EXISTING 6" PVC WATER PIPELINE FROM EXISTING WATER STORAGE TANK
- 9 EXISTING 10 HP BOOSTER PUMP (POTABLE WATER)
- 10 EXISTING ELECTRICAL APPURTENANCE - STORAGE TANK LEVEL SIGNAL SPLITTER BOX
- 11 EXISTING 6" DI COUPLING
- 12 EXISTING 2" PIPELINE TO EXISTING CES IRRIGATION SYSTEM
- 13 EXISTING PIPELINE FROM BOOSTER PUMPS TO DOMESTIC POTABLE WATER SYSTEM VIA EXISTING HYDROPNEUMATIC TANKS
- 14 EXISTING ELECTRICAL PANELS (480 V)
- 15 EXISTING PIPE SUPPORT
- 50 CONTRACTOR TO VERIFY PIPE MATERIAL. REMOVE CHECK VALVE AND INSTALL (2) BLIND FLANGES FOR FUTURE USE. VALVE SIZING TO MATCH EXISTING PIPE SIZE TO CREATE PHYSICAL SEPARATION FROM IRRIGATION SYSTEM
- 51 REMOVE EXISTING AND INSTALL NEW 2" MUELLER 71 CLASS 125 STEAM SPECIALTY CHECK VALVE. REVERSE FLOW DIRECTION TO ALLOW FOR BOTH BOOSTER PUMPS TO SERVE DOMESTIC POTABLE WATER SYSTEM.
- 52 REMOVE EXISTING AND INSTALL NEW 2" MUELLER 71 CLASS 125 STEAM SPECIALTY CHECK VALVE.
- 53 NEW PRESSURE TRANSDUCER (PT-01), 4-20MA, 0-200 PSI, 1/4" NPT CONNECTED TO VFD PANEL FOR REGULATING PUMP PRESSURE.

**VARIABLE FREQUENCY DRIVE SCHEDULE**

TAG	STATION TYPE	PANEL CATEGORY	PUMP HP	ELECTRICAL SERVICE			OPERATION	UL LISTED	VFD MODEL	VFD CONTROLLER MODEL	REMARK
				FLA	V	PH					
VFD-1	DUPLEX	PREMIER	10	17.5	208	3	MUNICIPAL WATER PUMPING, DUPLEX CONTROL PANEL FOR CONSTANT PRESSURE APPLICATION	508A	SCHNEIDER ELECTRIC ALTIVAR 320 SERIES VARIABLE FREQUENCY DRIVES, 17.5 MAX AMPS EACH	VFDC-4100	TWO PUMPS(E) WITH LEAD-LAG OPERATION

- VARIABLE FREQUENCY DRIVE CONTROL PANEL SHALL INCLUDE:
- 1 TYPE 3R, PAINTED WHITE HOFFMAN WEATHERFLO ENCLOSURE W/ PAD LOCKABLE HANDLE
  - 2 POWDER COATED STEEL BACKPANEL
  - 3 ALUMINIUM INNER DOOR (DEAD FRONT)
  - 4 HAND-OFF-AUTO - 3 POSITION SELECTOR SWITCHES
  - 5 PUMP RUN 22MM PILOT LIGHTS

- A. GENERAL**
1. THE OPERATION OF THE PUMP STATION SHALL BE BY VFD CONTROLLER. ONCE INITIALLY STARTED BY OPERATOR INPUT, THE WATER PUMPING SYSTEM SHALL BE AUTOMATICALLY STARTED AND STOPPED BY THE CONTROLLER UNTIL THE OPERATOR STOPS THE SYSTEM BY INPUT TO THE VFD CONTROLLER.
  2. POTABLE WATER PUMPS TO OPERATE IN A LEAD LAG CONFIGURATION. LEAD PUMP TO BE REASSIGNED AS LAG, AND LAG ASSIGNED AS LEAD EVER 2 WEEKS TO PROMOTE EVEN WEAR.
  3. PROVIDE PRESSURE SENSOR/TRANSMITTERS LOCATED AT THE PUMP OUTLET HEADER.
- B. VARIABLE WATER PUMPING CONTROL**
1. THE LEAD WATER PUMP SHALL BE STARTED AT MINIMUM SPEED. THE LEAD PUMP SPEED SHALL BE SLOWLY INCREASED IN 5% INCREMENTS (ADJ.) AND MODULATED TO THE LOWEST SPEED REQUIRED TO MAINTAIN SET POINT OF THE PRESSURE SENSOR/TRANSMITTERS. UPON FAILURE OF THE LEAD PUMP TO MAINTAIN THE SYSTEM PRESSURE, OR LEAD PUMP OPERATING BEYOND 70% OF FULL FLOW, THE LAG PUMP SHALL BE ENERGIZED. THE LAG PUMP SPEED SHALL BE SLOWLY INCREASED IN 5% INCREMENTS (ADJ.) AND MODULATED TO THE LOWEST SPEED REQUIRED TO MAINTAIN SET POINT OF THE PRESSURE SENSOR/TRANSMITTERS.
  2. WHEN THE PRESSURE SETPOINT IS EXCEEDED, THE LAG PUMP SPEED SHALL BE DECREASED IN 5% INCREMENTS (ADJ.) UNTIL THE SETPOINT IS REACHED, OR PUMP IS AT 0% LOAD AND DEENERGIZED. LEAD PUMP SPEED SHALL CONTINUE TO BE DECREASED UNTIL THE SETPOINT IS REACHED AFTER LAG PUMP IS DENERGIZED.
  3. MINIMUM WATER PUMP SPEED SHALL BE THE LOWEST SPEED REQUIRED TO MAINTAIN SET POINTS OF WATER PRESSURE SENSOR/TRANSMITTERS. SET POINT FOR THE PRESSURE SENSOR SHALL BE ADJUSTABLE. THE FINAL SETTINGS COORDINATED WITH THE MECHANICAL CONTRACTOR TO PROVIDE FULL FLOW AT THE MOST REMOTE OUTLET POINT.
- C. ALARMS**
1. UPON FAULT DETECTION ON LEAD PUMP, THE LAG PUMP SHALL BE ASSIGNED AS LEAD AND VISUAL INDICATOR TO ANNUNCIATE FAULT.

**NV5 VFD DUPLEX PUMP STATION CONTROL SEQUENCE**

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PAGE SETUP: ---					
DESIGNER: CWK PROJ. MGR: MY					

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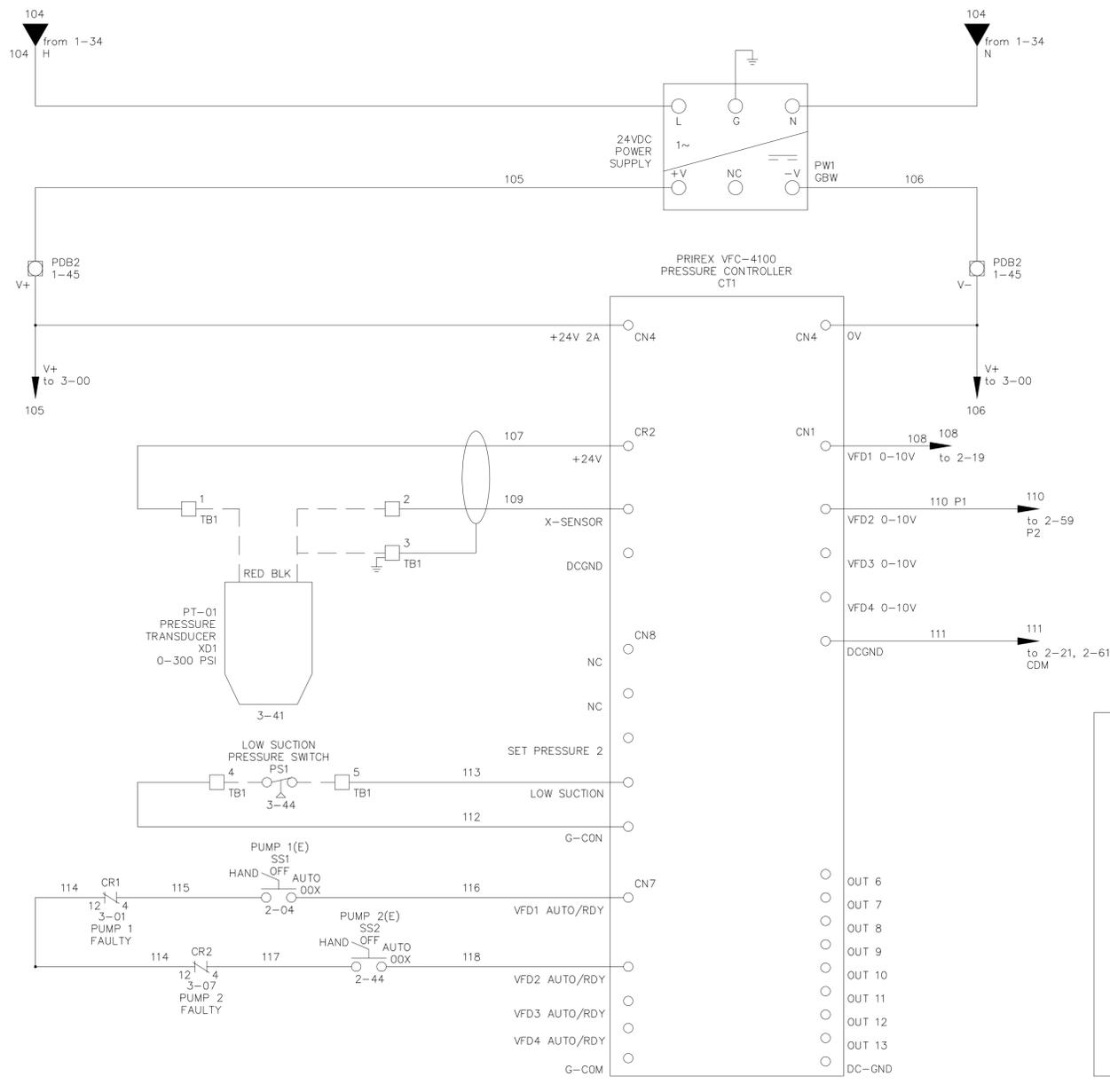
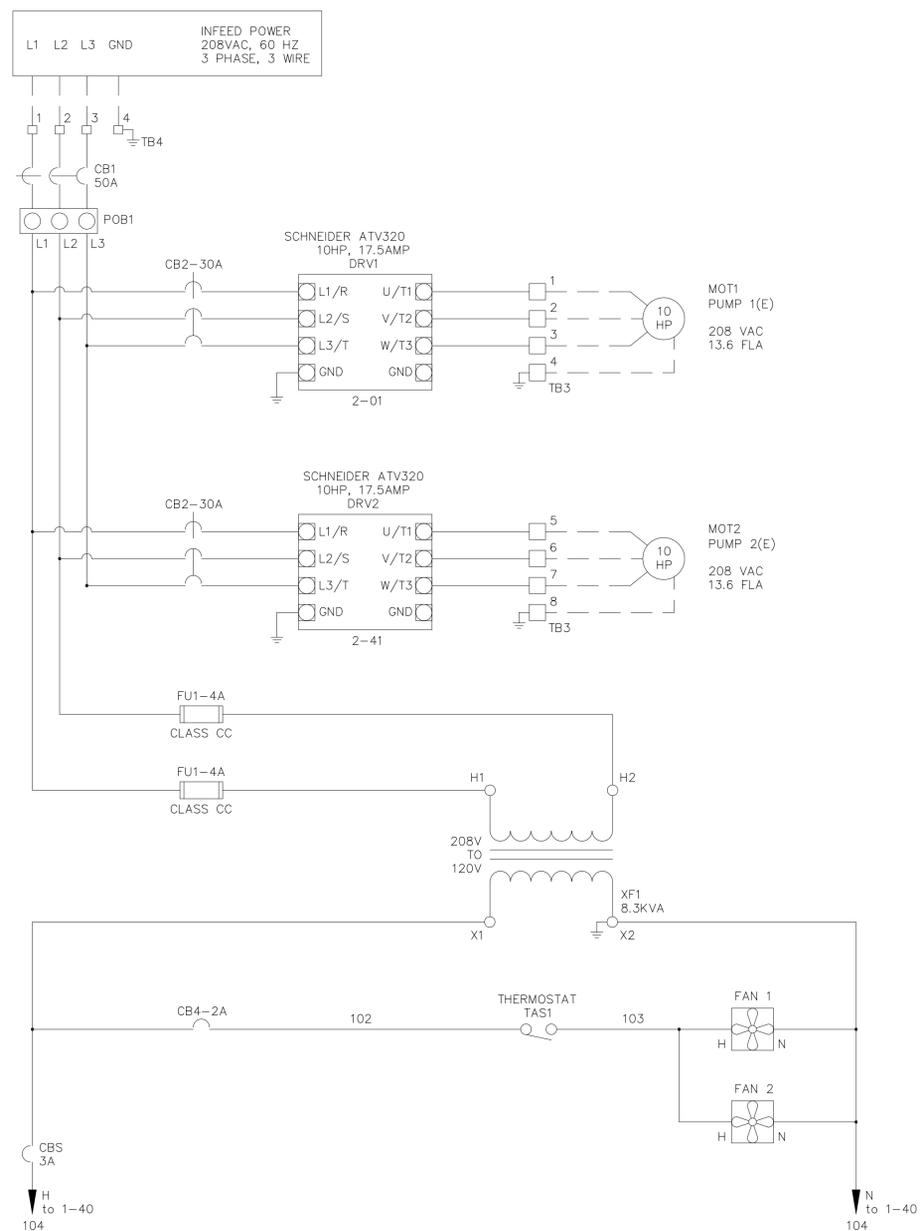


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**REHABILITATION OF EXISTING PUMP STATION**  
**PUMP STATION - MECHANICAL PLAN AND SCHEDULE**

PREPARED FOR: CAMPO ELEMENTARY SCHOOL DATE SUBMITTED: FEB 2024

DRAWING NUMBER  
**M-200**  
8 OF 11 DRAWINGS  
SCALE  
VERTICAL: 1"= AS  
HORIZONTAL: 1"= AS  
PROJECT NUMBER  
04-122492  
REV. NUMBER  
21-0001154-01



VFC-4100 PARAMETERS CHANGED FROM DEFAULT

PUMP SET:  
 P1 = USED  
 P2 = USED

PRESSURE:  
 SET PRESSURE = 60 PSI  
 HIGH PRE. LIMIT = 85 PSI  
 LOW PRE. LIMIT = 25 PSI  
 START LEAD PRESS. = -3 PSI  
 STOP LAG PRESS. = -7 PSI  
 STOP LAG PRESS. = 3 PSI

SENSOR:  
 SENSOR VALUE = 300 PSI

VFD:  
 VFD STOP TIME = 30 SEC  
 VFD MINIMUM RATE = 59%  
 VFD STOP RATE = 60%

SYSTEM:  
 RELAY 1 = PUMP 1 RUN  
 RELAY 2 = PUMP 2 RUN

NOTE: FOR REFERENCE ONLY

DATE: 8/27/2024	TIME: 10:55:04 AM	NO.	BY	DATE	REVISIONS:
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DRAWING NAME: M-500.DWG					
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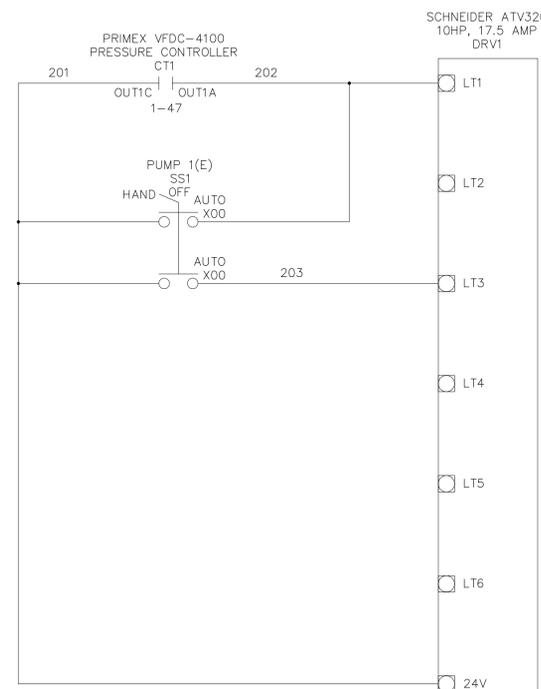
REHABILITATION OF EXISTING PUMP STATION  
 CONTROL 1

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: FEB 2024

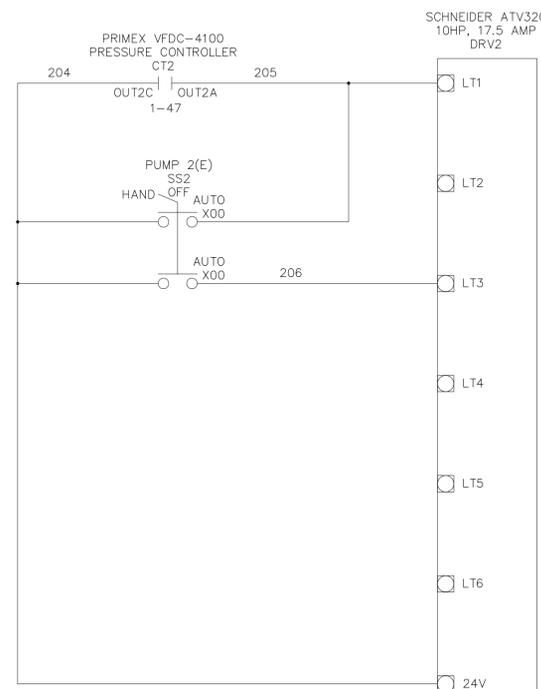
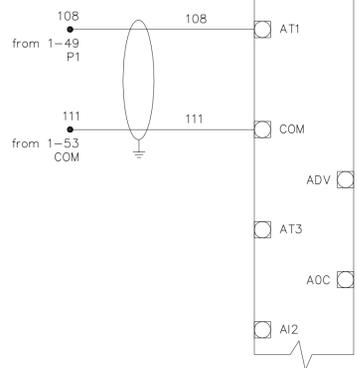
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9 OF 11 DRAWINGS	
SCALE	VERTICAL: 1" = AS HORIZONTAL: 1" = AS
PROJECT NUMBER	04-122492
NV5 JOB NUMBER	21-0001154-01

XREFS: 24X361 - Boost.dwg



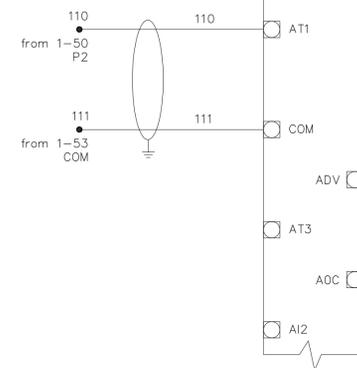
INPUT POWER SW1  
 SOURCE  
 CLI  
 SINK  
 PWR 1-09  
 NO 3-13  
 NC 3-01

DRIVE PARAMETERS CHANGED FROM DEFAULT  
 SET:  
 ACC = 3  
 HSP = 60  
 ICH = 13.6  
 SP2 = 45  
 SFr = 2.0  
 drC:  
 bFr = 60  
 UnS = 208  
 nCr = 13.6  
 Urt = P  
 I-0:  
 tCt = LEL  
 r2 = rUn  
 CIL:  
 PSt = n0  
 FLt:  
 Atr = YES



INPUT POWER SW1  
 SOURCE  
 CLI  
 SINK  
 PWR 1-15  
 NO 3-16  
 NC 3-07

DRIVE PARAMETERS CHANGED FROM DEFAULT  
 SET:  
 ACC = 3  
 HSP = 60  
 ICH = 13.6  
 SP2 = 45  
 SFr = 2.0  
 drC:  
 bFr = 60  
 UnS = 208  
 nCr = 13.6  
 Urt = P  
 I-0:  
 tCt = LEL  
 r2 = rUn  
 CIL:  
 PSt = n0  
 FLt:  
 Atr = YES



NOTE: FOR REFERENCE ONLY

XREFS: PRIMEX BOOST.dwg, 24x361 - Boost.dwg

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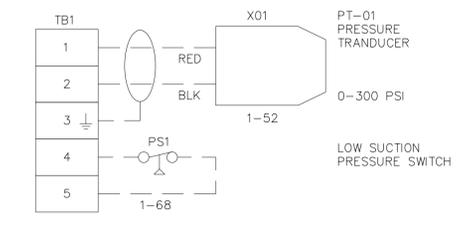
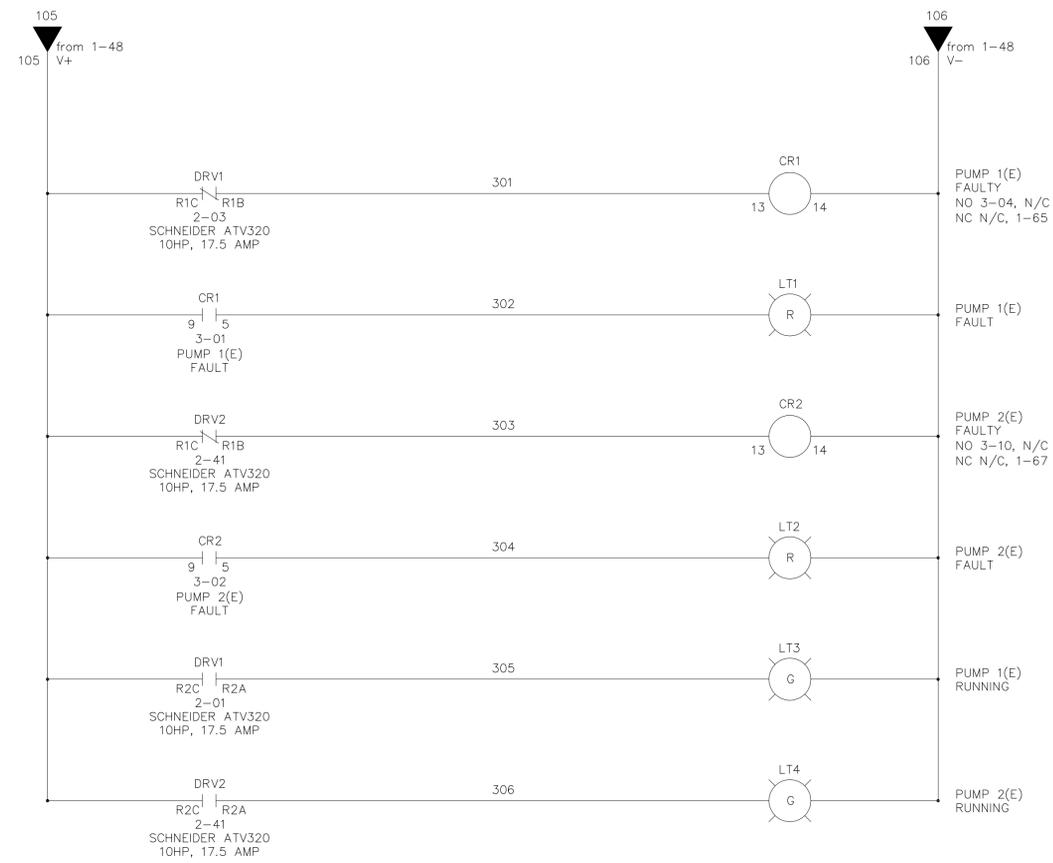
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REHABILITATION OF EXISTING PUMP STATION  
 CONTROL 2

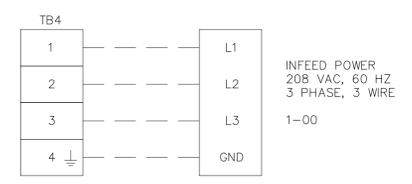
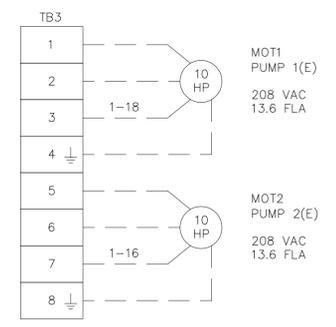
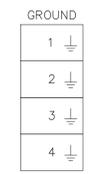
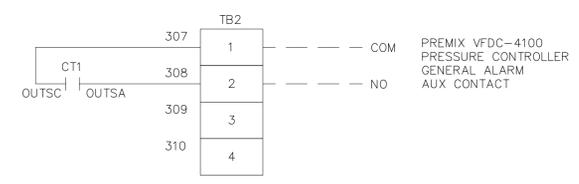
PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: FEB 2024

DRAWING NUMBER	M-501
10 OF 11 DRAWINGS	
SCALE	
VERTICAL: 1" = AS	
HORIZONTAL: 1" = AS	
DSA PROJECT NUMBER	04-122492
NIV5 NUMBER	21-0001154-01



- NOTES:
1. FIELD WIRING IS SHOWN — — — — —
  2. TEMPERATURE RATING OF FIELD INSTALLED CONDUCTORS LESS THAN 100 AMPS MUST BE RATED 60 DEG C OR ABOVE. FIELD INSTALLED CONDUCTORS GREATER THAN OR EQUAL TO 100 AMPS MUST BE RATED 75 DEG C OR ABOVE.
  3. FIELD WIRING WILL ACCEPT COPPER CONDUCTORS ONLY.
  4. TORQUE RATING OF FIELD WIRING TERMINAL CLAMPING SCREWS:  
13.3-15.9 IN/LBS FOR TB1-TB3 & GROUND  
22.1-26.5 IN/LBS FOR TB4
  5. MAIN SERVICE DISCONNECT PROVIDED BY OTHERS.



FIELD WIRING SECTION

NOTE: FOR REFERENCE ONLY

DATE: 8/27/2024	TIME: 10:58:09 AM	NO.	BY	DATE	REVISIONS:
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DRAWING NAME: M-502.DWG					
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DESIGNER: CWK	PROJ. MGR: MY				



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REHABILITATION OF EXISTING PUMP STATION  
CONTROL 3

PREPARED FOR: CAMPO ELEMENTARY SCHOOL

DATE SUBMITTED: FEB 2024

DRAWING NUMBER	M-502
11 OF 11 DRAWINGS	
SCALE	
VERTICAL: 1" = AS	
HORIZONTAL: 1" = AS	
DSA PROJECT NUMBER	04-122492
NV5 JOB NUMBER	21-0001154-01

XREFS: PREMIX BOOST.dwg, 24x361 - Boost.dwg

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