FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3
5

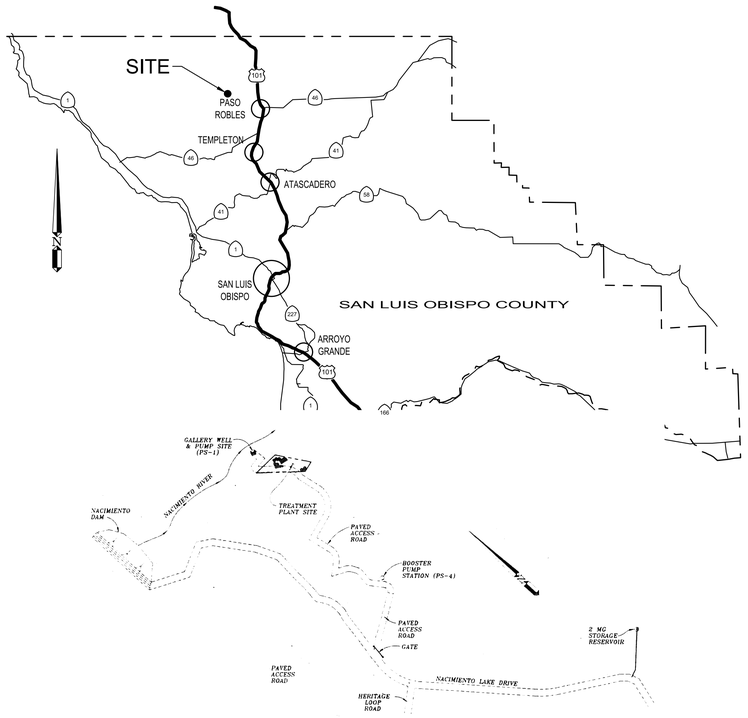
IMPROVEMENT PLANS

FOR

HERITAGE RANCH COMMUNITY SERVICES DISTRICT
RAW WATER VERTICAL INTAKE NO. 1, PHASE 2

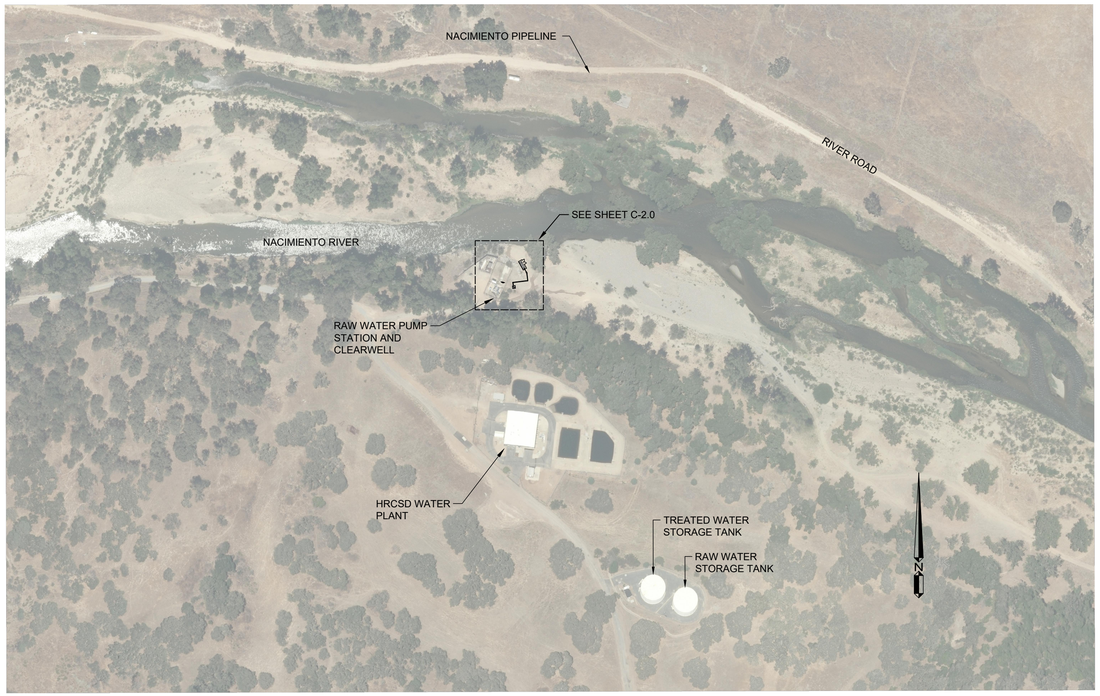
4870 HERITAGE ROAD

PASO ROBLES, CALIFORNIA 93446



HRCSD MAP
NTS

LOCATION MAP
NTS



PROJECT LOCATION MAP
NTS

SHEET INDEX

SHEET #	SHEET TITLE
C1.0	COVER
C2.0	CIVIL SITE PLAN
C3.0	CIVIL DETAILS
C3.1	CIVIL DETAILS
C3.2	CIVIL DETAILS
E0.1	ELECTRICAL GENERAL NOTES, LEGEND & ABBREVIATIONS
E0.2	SINGLE LINE DIAGRAM AND SCHEDULES
E1.0	ELECTRICAL SITE PLAN
E2.0	ELECTRICAL DETAILS

PROJECT APPROVALS

APPROVED: Steven G. Tanaka, MAY 2021

STEVEN G. TANAKA, RCE 49779
HRCSD DISTRICT ENGINEER

APPROVED: _____, 20_____

GENERAL MANAGER

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www.wallacegroup.us

REGISTERED PROFESSIONAL ENGINEER
STEVEN G. TANAKA
No. 49779
CIVIL
STATE OF CALIFORNIA

SIGNATURE

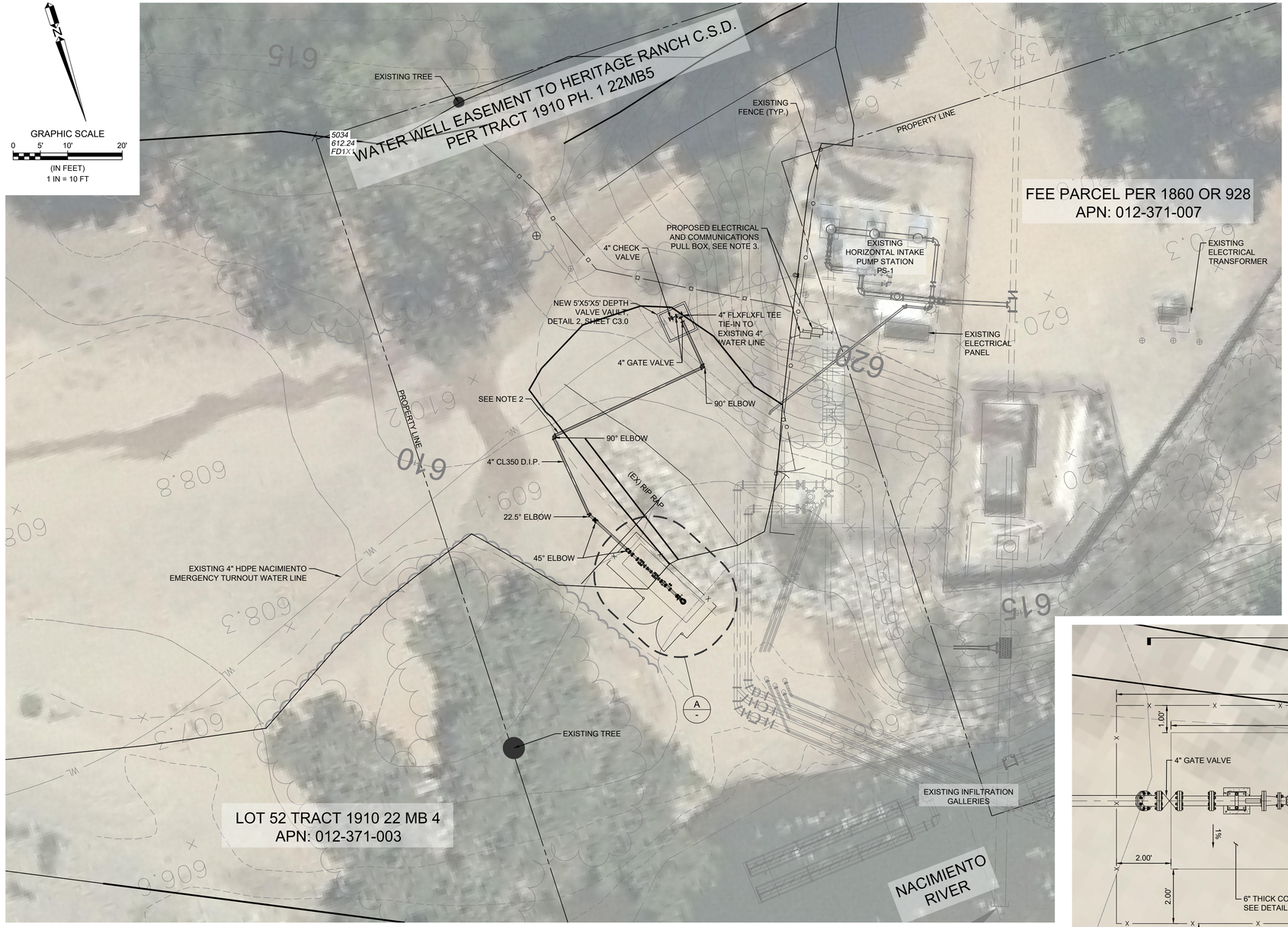
DATE SIGNED

HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 2 PROJECT
COVER

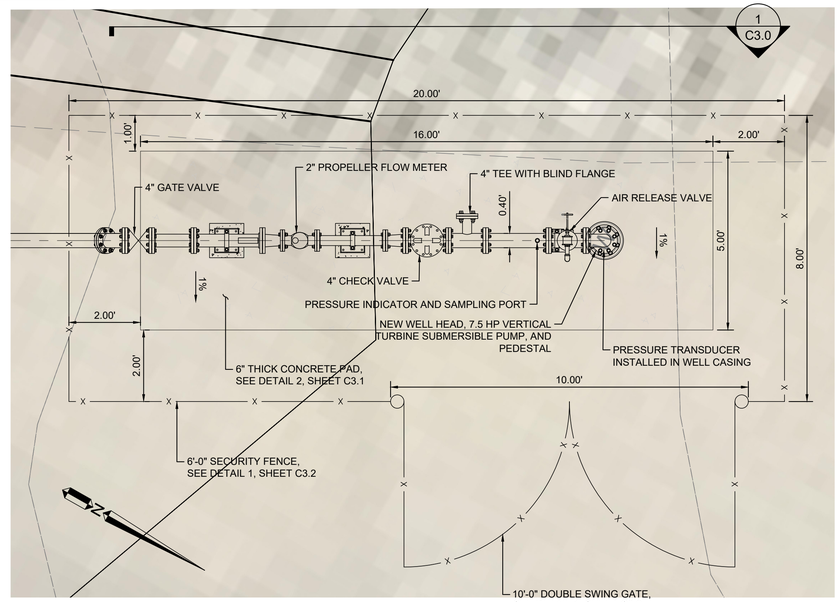
JOB #: 160-0001-06-0100
DESIGNERS: SGT
DRAWN BY: GCH
DATE: 4/23/2021

DRAWING NO.
C1.0
1 OF 9 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3
5



1 PLAN
Scale: 1" = 10'



A INSET
Scale: 1" = 2'

NOTE:

1. LOCATIONS OF EXISTING UTILITIES ARE BASED ON AVAILABLE RECORDS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING LOCATIONS OF UNDERGROUND UTILITIES. NOTIFY THE DISTRICT OF ANY CONFLICTS IDENTIFIED.
2. ALL PIPE JOINTS SHALL BE RESTRAINED UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR SHALL POTHOLE AT PROPOSED LOCATIONS OF PULLBOXES TO VERIFY ABSENCE OF CONFLICT WITH UNDERGROUND UTLITIES. CONTRACTOR MAY FIELD ADJUST LOCATION OF PULL BOXES AS NEEDED TO AVOID CONFLICTS. REFER TO ELECTRICAL SHEETS FOR PROPOSED CONDUIT ROUTING.

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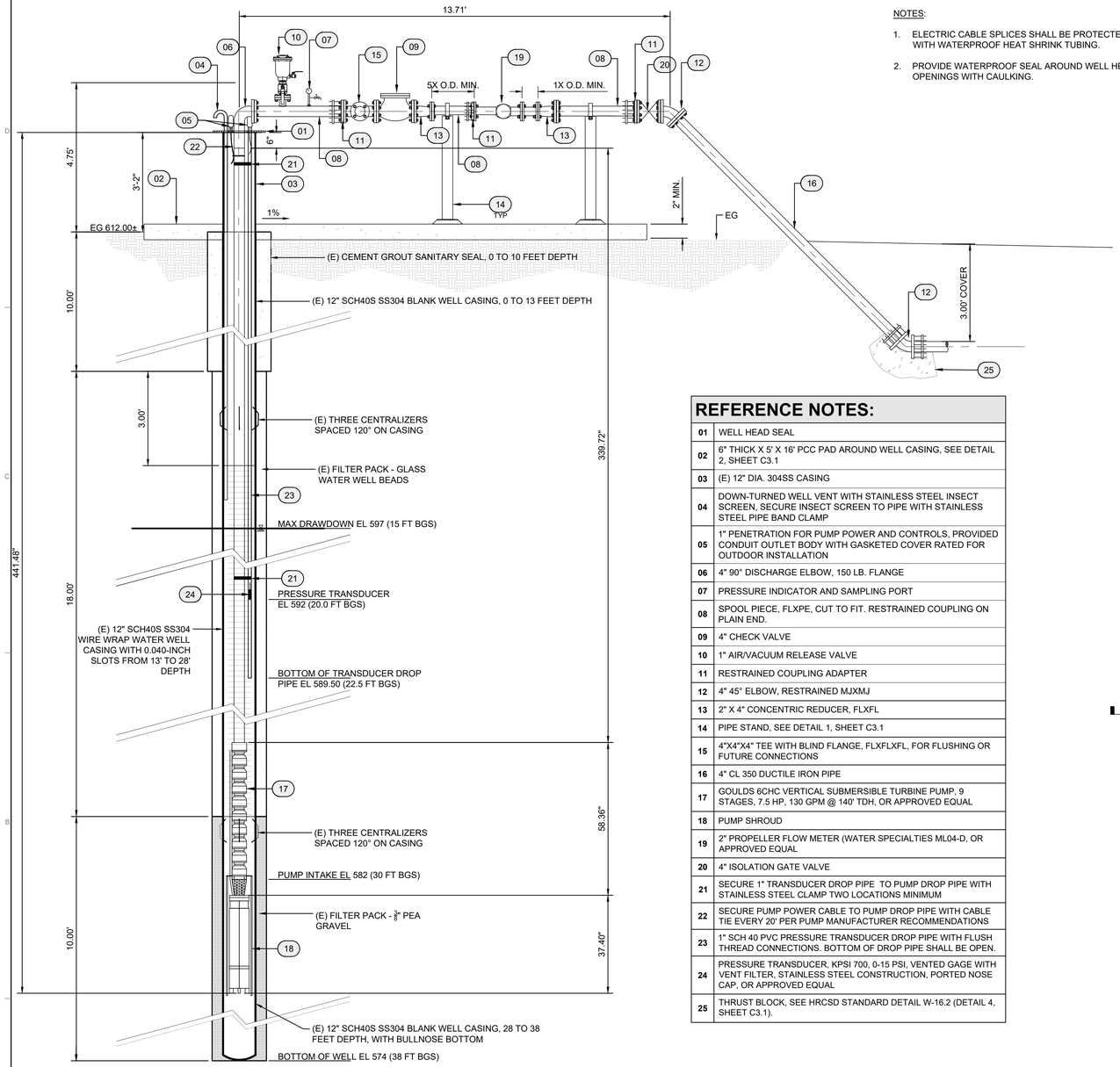
HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 1 PROJECT
CIVIL SITE PLAN

JOB #:	160-0001-06-0100
DESIGNERS:	SGT
DRAWN BY:	GCH
DATE:	4/23/2021

DRAWING NO.
C2.0
2 OF 9 SHEETS



1 WELL HEAD DETAIL

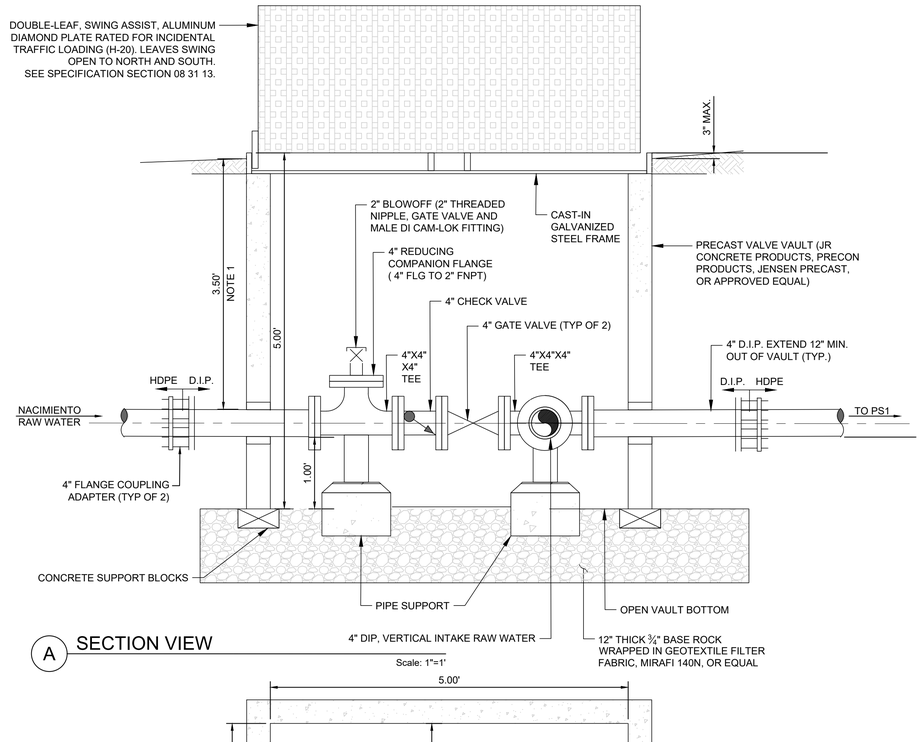
Scale: 1"=2'

NOTES:

1. ELECTRIC CABLE SPLICES SHALL BE PROTECTED WITH WATERPROOF HEAT SHRINK TUBING.
2. PROVIDE WATERPROOF SEAL AROUND WELL HEAD OPENINGS WITH CAULKING.

REFERENCE NOTES:

01	WELL HEAD SEAL
02	6" THICK X 5' X 16' PCC PAD AROUND WELL CASING, SEE DETAIL 2, SHEET C3.1
03	(E) 12" DIA. 304SS CASING
04	DOWN-TURNED WELL VENT WITH STAINLESS STEEL INSECT SCREEN, SECURE INSECT SCREEN TO PIPE WITH STAINLESS STEEL PIPE BAND CLAMP
05	1" PENETRATION FOR PUMP POWER AND CONTROLS, PROVIDED CONDUIT OUTLET BODY WITH GASKETED COVER RATED FOR OUTDOOR INSTALLATION
06	4" 90° DISCHARGE ELBOW, 150 LB. FLANGE
07	PRESSURE INDICATOR AND SAMPLING PORT
08	SPOOL PIECE, FLXPE, CUT TO FIT. RESTRAINED COUPLING ON PLAIN END.
09	4" CHECK VALVE
10	1" AIR/VACUUM RELEASE VALVE
11	RESTRAINED COUPLING ADAPTER
12	4" 45° ELBOW, RESTRAINED MJXMJ
13	2" X 4" CONCENTRIC REDUCER, FLXFL
14	PIPE STAND, SEE DETAIL 1, SHEET C3.1
15	4"X4"X4" TEE WITH BLIND FLANGE, FLXFLXFL, FOR FLUSHING OR FUTURE CONNECTIONS
16	4" CL 350 DUCTILE IRON PIPE
17	GOULDS 6CHC VERTICAL SUBMERSIBLE TURBINE PUMP, 9 STAGES, 7.5 HP, 130 GPM @ 140' TDH, OR APPROVED EQUAL
18	PUMP SHROUD
19	2" PROPELLER FLOW METER (WATER SPECIALTIES ML04-D, OR APPROVED EQUAL
20	4" ISOLATION GATE VALVE
21	SECURE 1" TRANSDUCER DROP PIPE TO PUMP DROP PIPE WITH STAINLESS STEEL CLAMP TWO LOCATIONS MINIMUM
22	SECURE PUMP POWER CABLE TO PUMP DROP PIPE WITH CABLE TIE EVERY 20' PER PUMP MANUFACTURER RECOMMENDATIONS
23	1" SCH 40 PVC PRESSURE TRANSDUCER DROP PIPE WITH FLUSH THREAD CONNECTIONS. BOTTOM OF DROP PIPE SHALL BE OPEN.
24	PRESSURE TRANSDUCER, KPSI 700, 0-15 PSI, VENTED GAGE WITH VENT FILTER, STAINLESS STEEL CONSTRUCTION, PORTED NOSE CAP, OR APPROVED EQUAL
25	THRUST BLOCK, SEE HRCSD STANDARD DETAIL W-16.2 (DETAIL 4, SHEET C3.1).



A SECTION VIEW

Scale: 1"=1'

B PLAN

Scale: 1"=1'

2 VALVE VAULT DETAIL

Scale: 1"=1'

NOTE:

1. EXISTING 4" HDPE OBSERVED DURING POTHOLING IN FEBRUARY 2021 AT A DEPTH OF APPROXIMATELY 3.5' BELOW EG.

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PHASE 2 PROJECT
CIVIL DETAILS

JOB #: 160-0001-06-0100
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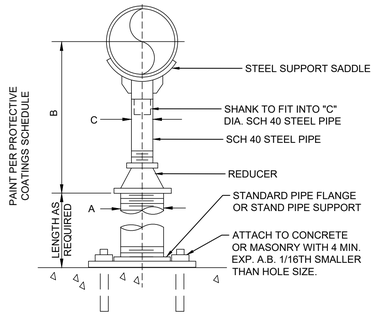
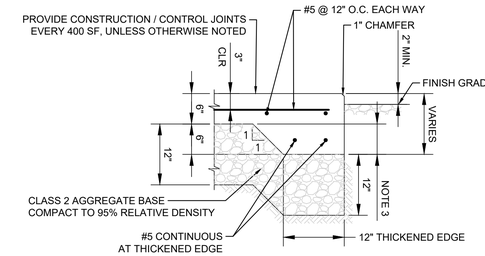
DRAWING NO.
C3.0
3 OF 9 SHEETS



PIPE DIA.	A PIPE SIZE	B MIN.	B MAX.	C PIPE SIZE	MAX. O.D. OF PIPE
2	2	7	11-1/2	1-1/2	2-7/8
3	2	7-5/16	11-13/16	1-1/2	3-1/8
4	3	10-1/4	14-5/4	2-1/2	4-1/8
5	3	11-1/16	15-9/16	2-1/2	5-5/8
6	3	11-9/16	16-1/16	2-1/2	7
8	3	13-9/16	18-1/16	2-1/2	9-1/8

1 PIPE SUPPORT DETAIL

Scale: NTS

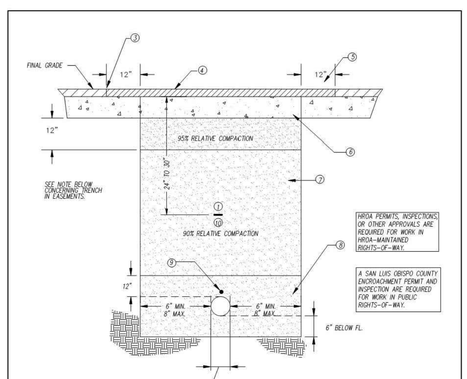


NOTES:

1. SCARIFY SUBGRADE TO A DEPTH OF 18" BELOW CONCRETE PAD.
2. PLACE CLASS 2 AB IN THIN LIFTS, MOISTURE CONDITION TO OPTIMUM MOISTURE CONTENT, AND COMPACT TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY (ASTM D1557).
3. THICKENED EDGE EMBEDMENT SHALL BE A MINIMUM OF 6" BELOW FINISH GRADE.

2 CONCRETE PAD DETAIL

Scale: NTS



NOTES:

1. A MINIMUM OF 90% RELATIVE COMPACTION IS PERMITTED IN A NON-ROADWAY TRENCH WHEN NO STRUCTURES (PAVEMENT, FLATWORK) ARE TO BE BUILT OVER THE TRENCH. IF STRUCTURES ARE TO BE BUILT OVER THE TRENCH, USE RELATIVE COMPACTIONS SHOWN ON THE TRENCH SECTION ABOVE.
2. PAVEMENT AND BASE SECTIONS ARE MINIMUMS. PAVEMENT AND BASE SECTIONS SHOWN IN THIS STANDARD DRAWING SHALL BE NO LESS THAN EXISTING STRUCTURAL SECTIONS, AND SHALL BE AS REQUIRED BY HRGA OR SAN LUIS OBISPO COUNTY ROADS.
3. CUT EXISTING ROADWAY TO PROVIDE VERTICAL SURFACES AND SQUARE CORNERS. CUT EDGES SHALL BE STRAIGHT AND NEAT IN APPEARANCE.
4. MINIMUM 2 INCHES ASPHALT, OR OTHERWISE MATCH EXISTING.
5. PROVIDE MIN 12" BENCH INTO UNDISTRIBUTED ROAD BED (BOTH SIDES).
6. MIN. 6" CLASS 2 AGGREGATE BASE.
7. SELECT BACKFILL FREE FROM DEBRIS AND DELETERIOUS MATERIAL.
8. COMPACTED SAND OR APPROVED GRANULAR MATERIAL.
9. NO 12 INSULATED TRACER WIRE SHALL RUN CONTINUOUSLY OVER WATER MAINS AND SEWER FORCE MAINS, AND BROUGHT UP TO THE SURFACE IN VALVE WELLS AND METER BOXES.
10. 3" WIDE POLYETHYLENE UTILITY WARNING TAPE, MARKED AND COLOR CODED PER DESIGN STANDARDS/SPECIFICATIONS
11. SEE HRCSD STD. SPEC. PARA. 4.6 TRENCHING AND BACKFILL REGARDING USE OF SLURRY BACKFILL.

Revisions	Appd.	Dates

APPROVED BY THE DISTRICT ENGINEER DATE

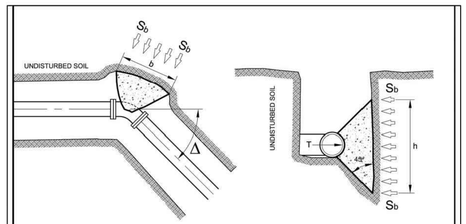
HERITAGE RANCH COMMUNITY SERVICES DISTRICT STANDARD DRAWING

WATER AND SEWER TRENCH

SHEET: **W-07**
DATE:
DRAWN BY: DRD
SCALE: N.T.S.

3 TRENCH DETAIL

Scale: NTS



LEGEND:
T = THRUST AT FITTING (lbs) [TABLE 1]
Sb = SOIL BEARING PRESSURE (psf) [TABLE 2]
A = INTERNAL AREA (sq in) [TABLE 1]
P = INTERNAL PRESSURE (psi)
Δ = HORIZONTAL DEFLECTION ANGLE (degrees)
Sf = FACTOR OF SAFETY [1.5 FOR THRUST BLOCK DESIGN, TYP]
h = THRUST BLOCK HEIGHT (ft)
b = THRUST BLOCK WIDTH (ft)
Ab = MINIMUM THRUST BLOCK AREA (sq ft)

EQUATIONS:
THRUST AT FITTINGS:
[1] T = (P)(A)

THRUST AT HORIZONTAL BEND:
[2] T = 2(P)(A) sin(Δ/2)

MINIMUM BEARING (THRUST) BLOCK AREA:
[3] Ab = (h)(b) = [(Sf)(T)]/Sb

1. THIS THRUST BLOCK CALCULATION IS FROM SLO COUNTY DPW, STANDARD W-1A.

EXAMPLE: DETERMINE THE THRUST BLOCK AREA FOR A 90° BEND, 8" CLASS 165 PIPE IN SAND.

(STEP 1): PRESSURE = 165 + 50 (TEST PRESSURE) = 215 psi. CHOOSE T = 16,372 lbs FROM TABLE 1 SHEET 1/2 (USE EQUATION [2] IF PIPE HAS DIFFERENT INSIDE DIAMETER).

(STEP 2): DETERMINE Sb FROM TABLE 2, SHEET 1/2.

(STEP 3): USE INFORMATION TO CALCULATE Ab USING EQUATION [3]

RESULT: Ab = [(Sf)(T)/Sb = [(1.5)(16,372)]/1,000] = 24.6 sq ft

Revisions	Appd.	Dates

APPROVED BY THE DISTRICT ENGINEER DATE

HERITAGE RANCH COMMUNITY SERVICES DISTRICT STANDARD DRAWING

THRUST BLOCK REQUIREMENTS

SHEET: **W-16.2**
DATE:
DRAWN BY: DRD
SCALE: NONE

4 THRUST BLOCK DETAIL

Scale: NTS

1" WATER SERVICE

PER DRAWING W-04

1" SERVICES SHALL BE INSTALLED FOR SERVICE TO 5/8", 3/4", AND 1" METERS

SERVICE SADDLE
A. SADDLES FOR C900 PVC WATER MAINS, 1" IP (FIPT) THREADS, BRASS WITH EPOXY COATED 304SS DOUBLE STRAPS; JONES J-969, MUELLER BR2S, FORD 202BS
B. SADDLES FOR AC, CAST IRON, OR DUCTILE IRON WATER MAINS; 1" IP (FIPT) THREADS, BRASS WITH EPOXY COATED 304SS DOUBLE STRAPS; JONES J-969, MUELLER BR2B, FORD 202B

CORPORATION STOP
1" CC INLET THREAD x 1" I.P. OUTLET THREAD; JONES J-45, MUELLER H15000, FORD F400-4

SERVICE PIPE
SCHEDULE 80 PVC OR POLYETHYLENE, 1" DIAMETER

ANGLE METER STOP
FOR 5/8" AND 3/4" METERS, USE 1" x 3/4" SIZE. FOR 1" METERS, USE 1" x 1" SIZE JONES J-4202, FORD KV63-342W, FORD KV63-444W, MUELLER 14266

BALL VALVE
FOR 3/4" BALL VALVE; MUELLER 300 BALL VALVE, JONES SUPER STOP, FORD

METER BOX
METER BOXES FOR 5/8", 3/4", AND 1" METERS; METER BOX: CHRISTY B-24, BROOKS 36 SERIES. LID: ECHE LID UNLESS OTHERWISE SPECIFIED; PROVIDE B24-61G LID WHEN REQUIRED BY HRCSD STAFF

AIR & VACUUM RELIEF VALVE ASSEMBLY

PER DRAWING W-10

SERVICE SADDLE
A. SADDLES FOR C900 PVC WATER MAINS, 1", CC THREADS, BRONZE WITH DOUBLE STAINLESS STEEL STRAPS; JONES J-969, A.Y. MCDONALD 3945
B. SADDLES FOR AC, CAST IRON, OR DUCTILE IRON WATER MAINS; 1" CC THREADS, BRONZE WITH DOUBLE STRAPS; JONES J-979, A.Y. MCDONALD 3825

CORPORATION STOP
1" CC INLET THREAD x 1" I.P. OUTLET THREAD; JONES J-45, A.Y. 3128

SERVICE PIPE
SCHEDULE 80 PVC OR POLYETHYLENE, 1" DIAMETER AND 1" COPPER PER PLAN

COMBINATION AIR AND VACUUM RELIEF VALVE
APCO VALVE AND PRIMER CORPORATION 143C, CRISPIN C10 OR APPROVED EQUAL

ANGLE METER STOP
FOR 5/8" AND 3/4" METERS, USE 1" x 3/4" SIZE. FOR 1" METERS, USE 1" x 1" SIZE JONES J-4202, FORD KV63-342W, FORD KV63-444W, MUELLER 14266

Revisions	Appd.	Dates

APPROVED BY THE DISTRICT ENGINEER DATE

HERITAGE RANCH COMMUNITY SERVICES DISTRICT STANDARD DRAWING

HRCSD APPROVED MATERIALS LIST

SHEET: **W-17.1**
DATE:
DRAWN BY: DRD
SCALE: NONE

5 HRCSD APPROVED MATERIALS

Scale: NTS

WATER VALVE AND VALVE WELL

PER DRAWING W-03

3" THROUGH 12" VALVES
GATE VALVE ONLY;
MUELLER RESILIENT WEDGE A2360, CLOW RESILIENT WEDGE

12" AND LARGER VALVES
BUTTERFLY VALVES ONLY;
PRATT GROUNDHOG WITH INTERIOR AND EXTERIOR EPOXY COATING, MUELLER LINESEAL III

VALVE BOX
CHRISTY G-5
BROOKS 37T

FIRE HYDRANT ASSEMBLY

PER DRAWING W-01

FIRE HYDRANTS SHALL HAVE TWO 2 1/2" AND ONE 4" OUTLETS
FIRE HYDRANTS SHALL HAVE A 6 HOLE BOLT PATTERN

JONES J-3765 W/ METAL CAPS
CLOW 2060 W/ METAL CAPS

BREAK OFF BOLTS SHALL BE 5/8" x 3 1/2" CADMIUM PLATED BREAK AWAY BOLTS.

FIRE HYDRANTS SHALL CONFORM TO CDF REQUIREMENTS. CDF FIRE HYDRANT REQUIREMENTS WILL SUPERCEDE THESE DRAWINGS.

MISCELLANEOUS WATER SYSTEM MATERIALS

TAPPING SLEEVES
ROMAC SST WITH DUCTILE FLANGE
MUELLER H 304 WITH DUCTILE FLANGE
FORD – FAST

WATERTIGHT WIRE CONNECTORS
SPEARS DS 400

FITTING HARDWARE
ALL VALVE AND FITTING CONNECTIONS SHALL BE MADE WITH 304 STAINLESS STEEL NUTS AND BOLTS. 316 STAINLESS STEEL, IF REQUIRED BY DISTRICT ENGINEER. BOLT THREADS SHALL BE COATED WITH ANTI SEIZE COMPOUND PRIOR TO TIGHTENING

FITTING COATING
SEE STANDARD SPECIFICATION 4.5.D.3 REGARDING BURIED FITTINGS/FLANGES; SEE STANDARD SPECIFICATION 4.5.F REGARDING PROTECTION OF FITTINGS AND PIPE FROM CONCRETE ENCASEMENT.

Revisions	Appd.	Dates

APPROVED BY THE DISTRICT ENGINEER DATE

HERITAGE RANCH COMMUNITY SERVICES DISTRICT STANDARD DRAWING

HRCSD APPROVED MATERIALS LIST

SHEET: **W-17.2**
DATE:
DRAWN BY: DRD
SCALE: NONE

6 HRCSD APPROVED MATERIALS

Scale: NTS

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RAW WATER VERTICAL INTAKE NO. 1
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DRAWING NO.
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4 OF 9 SHEETS

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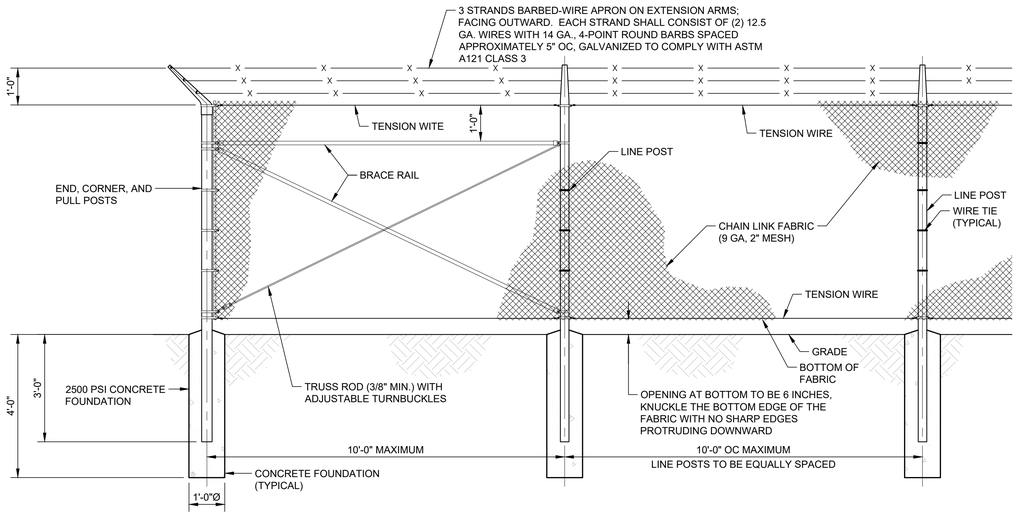
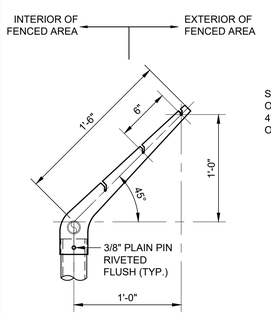


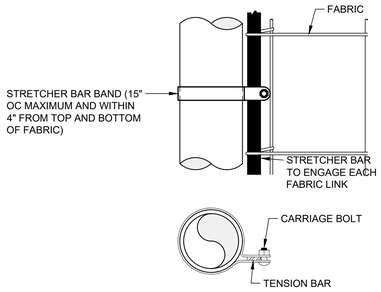
6'-0" CHAIN LINK SECURITY FENCE

SCALE: NTS

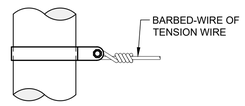


APRON ARM DTL.

SCALE: 1 1/2" = 1'-0"



END OR GATE POST DETAIL

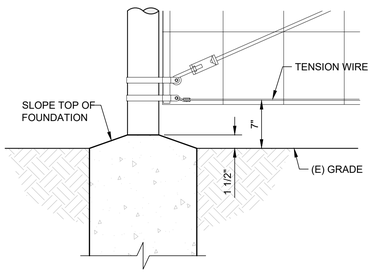


TENSION BAND DETAIL

FASTENING DETAILS

SCALE: 3" = 1'-0"

STEEL MEMBER SCHEDULE	
USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 72" OR LESS
CORNER, END & PULL POSTS TUBULAR - ROUND	3.50" OD (SCH. 40 MINIMUM) GALVANIZED PIPE
LINE POSTS TUBULAR - ROUND	2.875" OD (SCH. 40 MINIMUM) GALVANIZED PIPE
TOP, BOTTOM & BRACE RAILS TUBULAR - ROUND	1.25" OD (SCH. 40 MINIMUM) GALVANIZED PIPE
GATE LEAVES OVER 6'-0", LESS THAN OR EQUAL TO 13'-0"	3.50" OD (SCH. 40 MINIMUM) GALVANIZED PIPE
BOTTOM RAIL	NOT USED
TENSION WIRE	7 GAUGE GALVANIZED PER ASTM A116, CLASS 3
POST BRACING ASSEMBLY	1.66" OD (SCH. 40 MINIMUM) GALVANIZED PIPE
STRETCHER BAR	1/4" x 3/4" BANDS TO BE 15" OC MAXIMUM
ALL STRUCTURAL AND ROLL FORMED SHAPES SHALL CONFORM TO ASTM A36, GALVANIZED COATING CONFORMING TO ASTM A123 ALL TUBULAR MEMBERS SHALL COMPLY WITH PROVISIONS OF ASTM A120, SCH. 40; GALVANIZED COATING CONFORMING TO ASTM A123. ALL ACCESSORIES EXCEPT WIRE TIES AND BARBED-WIRE SHALL BE GALVANIZED CONFORMING TO ASTM A153.	



FOOTING DETAIL

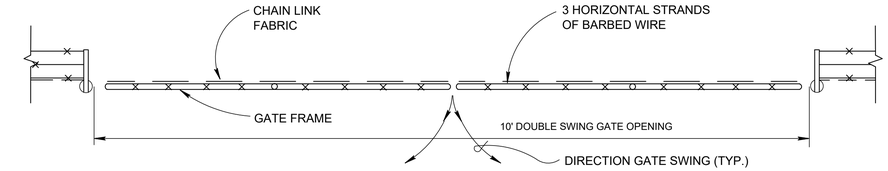
SCALE: 1 1/2" = 1'-0"

NOTES:

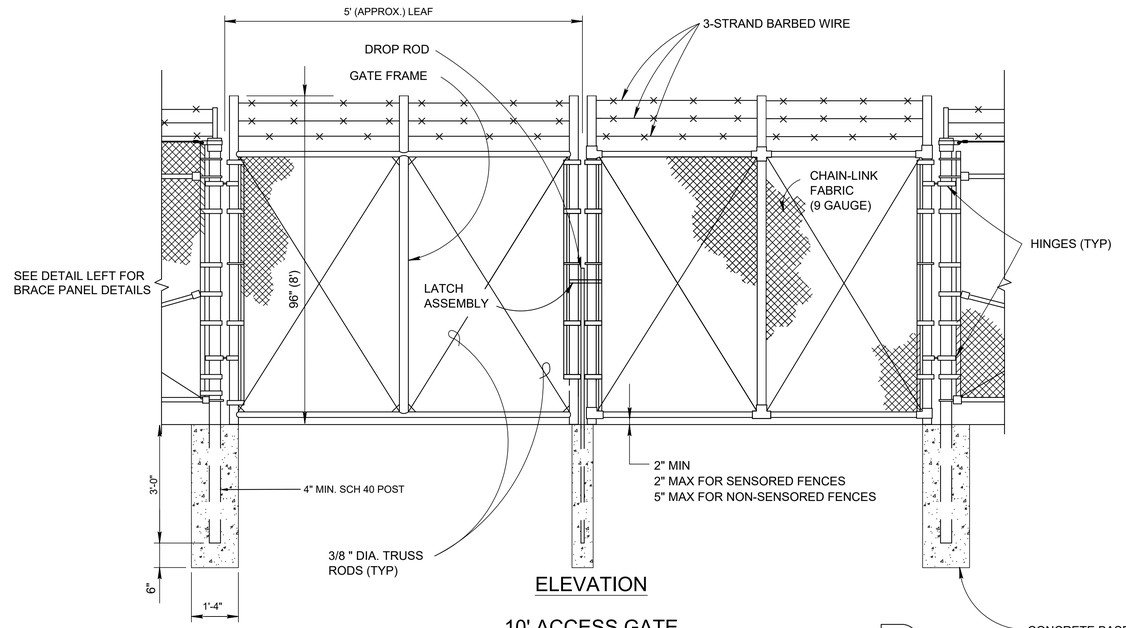
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
3. UNLESS SPECIFICALLY SHOWN OR SPECIFIED, ALL SECURITY FENCE SHALL HAVE A BARBED-WIRE APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.
4. FOR TYING FABRIC TO LINE POSTS, PLACE TIES AT 14" OC FOR TYING FABRIC TO RAILS AND BRACES, PLACE TIES AT 24" OC. FOR TYING FABRIC TO TENSION WIRES, USE 11 GA. HOG RINGS AT 24" OC. ALL TIES TO BE 11 GA. GALVANIZED STEEL WIRE.

1 6'-0" CHAIN LINK SECURITY FENCE AND SWING GATE DETAILS

Scale: AS SHOWN



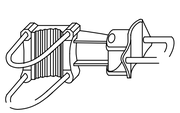
PLAN



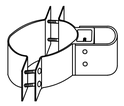
ELEVATION

10' ACCESS GATE

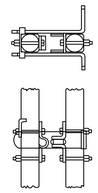
NO SCALE



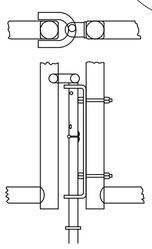
OFFSET HINGE



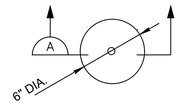
STANDARD HINGE

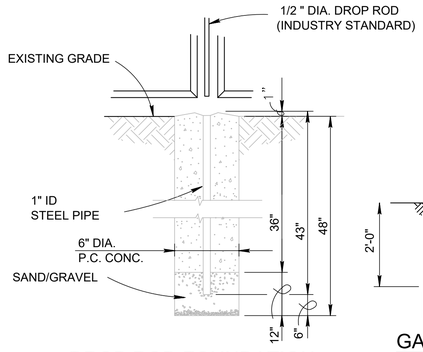


LATCH ASSEMBLY

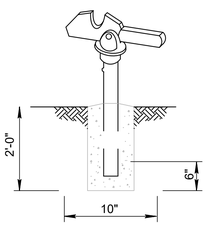


DROP ROD ASSEMBLY





DROP ROD FOUNDATION A



GATE KEEPER

(TO HOLD GATE OPEN)

NOTES:

1. SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.
2. ALL GATE FRAMES SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM F900 1.90" NOMINAL (ROUND) OR 2.00" NOMINAL (SQUARE). GATE FRAMES SHALL BE OF WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT CONTRACTOR'S OPTION A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL-WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.

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REGISTERED PROFESSIONAL ENGINEER
STEVEN G. TANAKA
No. 49779
CIVIL
STATE OF CALIFORNIA

SIGNATURE

DATE SIGNED

HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 2 PROJECT
CIVIL DETAILS

JOB #:	160-0001-06-0100
DESIGNERS:	SGT
DRAWN BY:	GCH
DATE:	4/23/2021

DRAWING NO.
C3.2
5 OF 9 SHEETS

LEGEND

NOTE: INTERPRET IN CONTEXT

LIGHT FIXTURES

- CEILING SURFACEMOUNT
- WALL SURFACEMOUNT
- PENDANT MOUNT
- RECESSED DOWNLIGHT
- RECESSED WALLWASH
- RECESSED FLUOR.
- SURFACE FLUOR.
- FLUOR. STRIP UON
- TRACK LIGHT
- DIRECTIONAL FLOOD
- EMERGENCY FIXTURE
- POLE LIGHT
- POLE LIGHT- DECORATIVE
- TANDEM-WIRED LAMPS
- BOLLARD
- EXIT LIGHT- WALL
- EXIT LIGHT- CEILING (ARROW INDICATES DIRECTION)
- A LETTER ADJACENT INDICATES FIXTURE TYPE

POWER/COMM.

- SINGLE RECEPT.
- DUPLEX RECEPT.
- GFI_{GFI} GROUND FAULT CIRCUIT INTERRUPT
- MOUNTED ABOVE COUNTER
- DUPLEX- HALF SWITCHED
- DOUBLE DUPLEX
- SPECIAL CONFIGURATION
- DUPLEX- FLOOR OUTLET
- JUNCTION BOX
- TELEPHONE OUTLET
- DATA OUTLET
- PHONE/DATA COMBO OUTLET
- MOUNTED ABOVE COUNTER
- SAFETY DISCONNECT
- TV TELEVISION OUTLET
- MOTOR STARTER

CONDUIT/WIRE

- NEW
- UNDERGROUND
- NEW POWER HOMERUN (3 HOTS & NEUT SHOWN)
- ISOLATED GROUND
- EXISTING TO REMAIN
- (E) POWER HOMERUN
- CONDUIT STUB (W/MARKER)
- VERTICAL CONDUIT RUN
- CONDUIT SEAL
- FLEXIBLE CONNECTION
- LOW VOLTAGE
- SURFACEMOUNT RACEWAY

SWITCHES

- $ SPST
- $_2$ DPST
- $_3$ 3-WAY
- $_4$ 4-WAY
- $_D$ DIMMER
- $_T$ TIMER SWITCH
- $_{TT}$ W/THERMAL OVERLOAD
- $_P$ W/PILOT LIGHT
- $_K$ KEY OPERATED
- $$ DUAL LEVEL SWITCHING
- ,a SWITCHLEG DESIGNATION
- OS OCCUPANCY SENSOR

MISCELLANEOUS

- MOTOR
- T THERMOSTAT
- CIRCUIT BREAKER
- FUSIBLE SWITCH
- Ø PHASE
- GROUND

ABBREVIATIONS

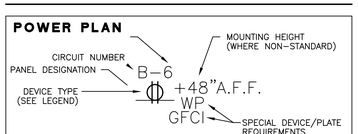
A	AMPERE
AF	AMP FUSE RATING
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AIC	AMPERES INTERRUPT CAPACITY
AS	AMP SWITCH RATING
BFG	BELOW FINISH GRADE
CB	CIRCUIT BREAKER
CEC	CA. ELECTRICAL CODE
CKT	CIRCUIT
C	CONDUIT
C.O.	CONDUIT ONLY
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
EF-#	EXHAUST FAN
(EXN)	(E) IN (N) LOCATION
(EXR)	(E) TO BE (R)
(F)	FUTURE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
G	GROUNDING CONDUCTOR
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CKT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
GWS	GANGED WITH SWITCH
IG	ISOLATED GROUND
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTTB	MAIN TELEPHONE TERMINAL BOARD
(N)	NEW
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
P	POLE
PV	PHOTOVOLTAIC
(R)	RELOCATE(D)
(TBR)	TO BE REMOVED
TYP	TYPICAL
UC	UNDERCABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT AMPERES
W	WATT, WIRE
WP	WEATHERPROOF (NEMA 3R)

MISCELLANEOUS

- X NUMBERED SHEET NOTES: REFERS TO NOTES ON SAME SHEET AS REFERENCE
- Z / X DETAIL REFERENCE: Z = DETAIL DESIGNATION, X = SHEET NUMBER REFERENCE
- Y / X MECHANICAL SYSTEMS TAG (REFER TO MECHANICAL SHEETS) Y = UNIT TYPE, X = UNIT NUMBER
- 3103 FEEDER SCHEDULE DESIGNATION (EXAMPLE: 3103 = 310 AMPERE, 600V, 3 CURRENT CARRYING CONDUCTORS, PREFIXES: 'M' INDICATES MEDIUM VOLTAGE, 'CO14' INDICATES CONDUIT ONLY, QUANTITY (1) AND SIZE (4"))

CIRCUITING LEGEND

POWER PLAN



- BRANCH CIRCUIT AND HOMERUN WIRING SHOWN ON PLANS SHALL BE 3/4"C, (3)#12 COPPER CONDUCTORS PER BRANCH CIRCUIT, UNLESS OTHERWISE NOTED. PROVIDE ALL BRANCH CIRCUIT WIRING FROM FIXTURES/DEVICES TO PANEL(S) AS DESCRIBED BY CIRCUIT NUMBERS SHOWN.
- PROVIDE ALL WIRING BETWEEN WIRING DEVICES AND CONTROL DEVICES AS DESCRIBED IN REFERENCE NOTES AND/OR SHOWN BY SWITCHLEG DESIGNATIONS.
- HOME RUN CONDUITS SHALL BE MINIMUM 3/4"C, MAX OF (3) BRANCH CIRCUITS PER CONDUIT, UNLESS OTHERWISE NOTED. EACH 120V BRANCH CIRCUIT SHALL HAVE DEDICATED NEUTRAL.
- PROVIDE ALL BRANCH CIRCUIT WIRING FROM MECH. EQUIPMENT TO PANELS.

GENERAL NOTES

1. CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:

   A. CALIFORNIA CODE OF REGULATIONS TITLE 24; INCLUDES 2019 CALIFORNIA ELECTRICAL CODE, 2019 CALIFORNIA FIRE CODE, 2019 CALIFORNIA BUILDING CODE, ETC. WITH LOCAL AMENDMENTS AS APPLICABLE.

   B. AMERICANS WITH DISABILITIES ACT (ADA).

2. SAFETY: THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.

3. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, ETC. WITH ARCHITECT OR OWNER.

4. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).

5. EQUIPMENT ANCHORAGE NOTE
   ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2019 CBC, SECTIONS 1613A AND 1616A AND ASCE 7-10 SECTIONS 13.3, 13.4 & 13.6.

   THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS PER 2019 CBC SECTION 1616A.1.18:

   C. ARCHITECTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS IN SEISMIC DESIGN CATEGORIES D, E, OR F THAT MEET ALL OF THE CRITERIA LISTED IN 2019 SECTION 1616A.1.18 ITEM 3.
   D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
   E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

   FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER.

   ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

   ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, AND 13.6.5.5, ITEM 6, RESPECTIVELY.

   THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS WITH AN OPA#, SUCH AS MASON INDUSTRIES (OPA 349), OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

   COPIES OF THE MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

   THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL SYSTEMS

1. MECHANICAL UNIT CONDUITS: TO PREVENT DAMAGE DUE TO VIBRATION, BOTH POWER AND CONTROL WIRING CONDUITS FEEDING EXTERIOR MECHANICAL UNITS SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR WITH LIQUID TIGHT FLEXIBLE TYPE AT FINAL CONNECTION TO UNIT AND BETWEEN ROOF JACK AND DISCONNECT SWITCH WHERE DISCONNECT IS MOUNTED ON UNIT.

2. MECHANICAL CONTROLS ROUGH-IN: PROVIDE AND INSTALL J-BOX, RING AND CONDUIT (SIZE ALL AS REQUIRED) FROM EACH MECHANICAL CONTROLS LOCATION TO CONTROLLED MECHANICAL UNITS.

3. T-STAT J-BOXES: PROVIDE AND INSTALL 4" SQUARE JUNCTION BOX WITH 1-GANG RING AND 1/2" CONDUIT TO ACCESSIBLE CEILING SPACE ABOVE AT EACH THERMOSTAT LOCATION.

4. EXHAUST FANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR WITH WIRING CONNECTIONS MADE BY ELECTRICAL CONTRACTOR.

5. MECHANICAL EQUIPMENT CONTROLS: MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOW VOLTAGE WIRE AND CONNECTIONS (BELOW 120 VOLT) TO AND FROM ALL MECHANICAL CONTROL DEVICES. ALL LOW VOLTAGE CONTROL WIRE SHALL BE IN CONDUIT, UNLESS OTHERWISE NOTED.

6. PULLROPES: ANY RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AND LARGER IF REQUIRED BY SERVING UTILITY COMPANY. ANY NEW OR EXISTING COMMUNICATION OR SIGNAL RACEWAY ROUTED BETWEEN BUILDINGS, SIGNAL CABINETS, AND/OR SIGNAL CLOSETS WITH FUTURE CAPACITY SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AS WELL AS THE CALLED FOR CABLE.

EXISTING BUILDINGS/EQUIPMENT

1. ASBESTOS: IF DURING THE COURSE OF WORK THE CONTRACTOR OBSERVES THE EXISTENCE OF ASBESTOS, OR ASBESTOS-BEARING MATERIALS, THE CONTRACTOR SHALL IMMEDIATELY TERMINATE FURTHER WORK ON THE PROJECT AND NOTIFY THE OWNER OF THE CONDITION. THE OWNER WILL, AFTER CONSULTATION WITH THE OWNER'S REPRESENTATIVE, DETERMINE A FURTHER COURSE OF ACTION.

2. ANY DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.

3. EXISTING CONDITIONS: INFORMATION SHOWN FOR EXISTING CONDITIONS WAS PRIMARILY GAINED FROM "AS BUILT" DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. BEFORE BID, VISIT SITE TO VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN.

4 EXISTING CONDUCTORS: INTERCEPT, EXTEND, REROUTE, REPULL CONDUCTORS, SPLICE AND OTHERWISE MODIFY EXISTING CONDUCTORS OF ALL SYSTEMS AS REQUIRED TO MAINTAIN AND/OR ESTABLISH PROPER FUNCTION AND SATISFY DESIGN INTENT. REMOVE ABANDONED CONDUCTORS.

5. EXISTING COMMUNICATIONS, DATA AND CATV AND OTHER LOW VOLTAGE TYPE SYSTEM OUTLET LOCATIONS SHOWN ON THE PLAN TO BE RELOCATED SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR. MODIFY EXISTING SYSTEM AS REQUIRED FOR FULL FUNCTION (SAME AS EXISTING) IN NEW LOCATION.

1 EXISTING MCC 'MSB' - EXTERIOR
NTS

2 EXISTING MCC 'MSB' - PARTIAL INTERIOR
NTS

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REGISTERED PROFESSIONAL ENGINEER
WILLIAM A. THOMA
No. 17671
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STATE OF CALIFORNIA

EXPIRES: 06/30/23
THOMA #21-8028

SIGNATURE

DATE SIGNED

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THOMA ELECTRIC, INC.
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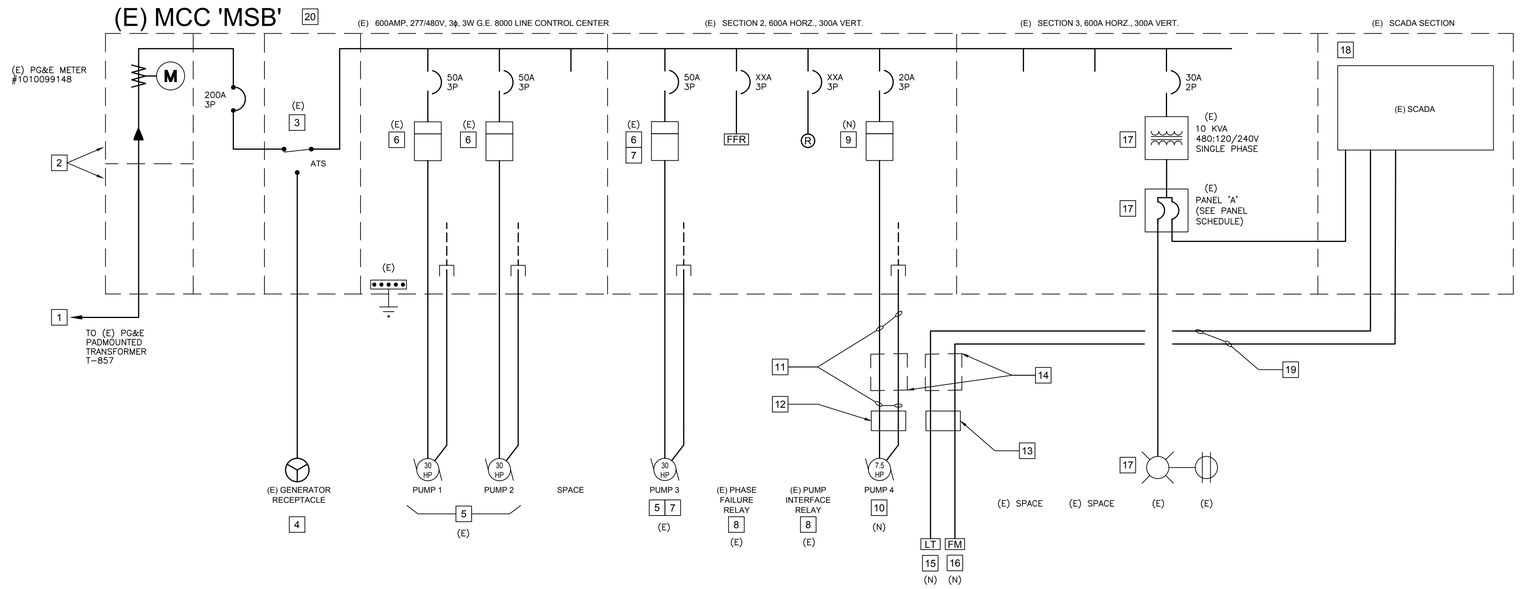
scott@thomaelec.com

HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 2 PROJECT
ELECTRICAL GENERAL NOTES, LEGEND & ABBREVIATIONS

JOB #:	160-0001-06-0100
DESIGNERS:	CP
DRAWN BY:	TE
DATE:	4/23/2021

DRAWING NO.
E0.1
6 OF 9 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES 0 1 2 3 5



HRCSD PUMP STATION

MCC 'MSB'

BUS RATING: 600A, 480V, 3PH, 3W
NEMA 3R
AIC RATING: 65K

DISTRIBUTION					CONNECTED VA (AMPS) %VD			
T (FT)	PANEL/LOAD	TRIP	POLES	COND SIZE	PHASE A	PHASE B	PHASE C	CALC TYPE
	PUMP 1	50	3		11072 (40.0A)	11072 (40.0A)	11072 (40.0A)	CB
	PUMP 2	50	3		11072 (40.0A)	11072 (40.0A)	11072 (40.0A)	CB
	PUMP 3	50	3		11072 (40.0A)	11072 (40.0A)	11072 (40.0A)	CB
130	PUMP 4	20	3	12	3044 (11.0A) 1.02%	3044 (11.0A) 1.02%	3044 (11.0A) 1.02%	CON
	CTRL PWR XFMR	30	2		5000 (18.1A)	5000 (18.1A)	0	CB
					0	0	0	
				KVA (AMPS):	41.26 (149.0A)	41.26 (149.0A)	36.26 (130.9A)	

Total KVA 118.78
Total Amps 143

VD CALCULATION TYPE
CON CONNECTED LOAD
CB 80% OF BREAKER RATING

(E) PANEL A

BUS RATING: 100A 120/208V, 3PH, 4W
MAIN: 100A MAIN CIRCUIT BREAKER
SPACES: 24 FULL SIZE BOLT-ON CB SPACES
AIC RATING: KAIC PANEL

RECESSED_ MOUNT, NEMA 1
LOCATION: INSIDE MCC 'MSB'
WITH EQUIPMENT GND BUS

CKT %WD	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %WD
				1												2				
				3												4				
				5												6				
				7												8				
				9												10				
				11												12				
				13												14				
				15												16				
				17									2	30		18				
				19	MCC AND MOTOR HEATERS	20	1						-	-		20				
				21	RECEPTACLES	20	1						1	15	SCADA & TRANSFORMER PWR.	22				
				23		15	1						1	20	FAN (GFI)	24				
								CON:	0	0	0									
								25%:	0	0	0									
								SUB:	0	0	0									
								TOT:	0	0	0									
								AMPS	0	0	0									

PANEL NOTES:

LOAD (VA) LOAD TYPE LEGEND
0 R RECEPTACLE
0 L LIGHTING (125% OF CONNECTED LOAD CEC 215.2)
0 M MECHANICAL
0 K KITCHEN APPLIANCE
0 N NON-CONTINUOUS MISC.
0 C CONTINUOUS MISC. (125% OF CONNECTED LOAD CEC 215.2)

SINGLE LINE DIAGRAM NOTES

- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT AND COORDINATE WITH THE SERVING UTILITY TO ENSURE ALL SERVING UTILITY REQUIREMENTS ARE MET.
- SERIES RATED EQUIPMENT IS NOT ALLOWED ON THIS PROJECT.
- ALL CONDUCTORS SHALL BE COPPER WITH TYPE [THHN/THWN] INSULATION UNLESS OTHERWISE NOTED.
- ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75 DEG. CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZE BASED ON USE OF 75 DEG. C COPPER WIRES TYPE THWN/THHN.
- ALL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED [UL, CSA, ETC.] (CEC 110-2).
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PURCHASING EQUIPMENT REQUIRED FOR ACTUAL PUMP PURCHASED.
- REFER TO PANEL SCHEDULES FOR INDIVIDUAL BRANCH CIRCUIT VOLTAGE DROP AND SINGLE LINE DIAGRAM FOR FEEDER VOLTAGE DROP CALCULATIONS.
- BRANCH CIRCUIT/FEEDER DISTANCE IS SHOWN FOR REFERENCE ONLY AS THE BASIS OF VOLTAGE DROP CALCULATIONS. CONDUCTOR DISTANCE AS INDICATED SHALL NOT BE USED FOR BIDDING/CONSTRUCTION PURPOSES. SHOULD THE FEEDER DISTANCE EXCEED THE LENGTH NOTED PER INSTALLATION CONDITIONS, NOTIFY THE ENGINEER OF RECORD. TYPICAL.

☐ REFERENCE NOTES

1. (E) UNDERGROUND SERVICE FEEDER TO PG&E TRANSFORMER T-857.
2. (E) METER MAIN ENCLOSURE MOUNTED TO OUTSIDE/END OF G.E. MCC. SERVICE ENTRANCE IS LOCATED AT THE BOTTOM OF MCC SECTION 1.
3. (E) 200A, 480V, 3Ø, 3W MANUAL TRANSFER SWITCH MOUNTED TO EXTERIOR OF MCC.
4. (E) GENERATOR RECEPTACLE. APPLETON CAT. NO. ACR1044, 100A, 480V, 4W, 4P, STYLE 1 MOUNTED TO EXTERIOR OF MANUAL TRANSFER SWITCH.
5. (E) PUMPS P1, P2, P3 AND CONTROL WIRING. NO WORK.
6. (E) FVNR, 3Ø, SIZE 3 MOTOR STARTER WITH CONTROL POWER TRANSFORMER.
7. (E) MOTOR STARTER LABELED PUMP 3 IS SPARE PUMP. NO WORK.
8. (E) PHASE FAILURE RELAY AND PUMP INTERFACE RELAY'S IN INDIVIDUAL COMPARTMENTS. CONNECT TO (N) PUMP 4 STARTER SIMILAR TO (E) STARTERS.
9. (N) 480V, 3Ø, SIZE 1, FVNR STARTER WITH 120V CONTROL POWER TRANSFORMER, HAND-OFF-AUTO SWITCH, RED/GREEN ON/OFF PUSH TO TEST LIGHTS, RUN TIME METER AND AUXILIARY CONTACTS AS REQUIRED TO INTERFACE WITH THE SCADA SYSTEM, WELL CONTROLS AND PHASE FAILER RELAY. INSTALL (N) STARTER IN LOWER TWO "SPACE" BUCKETS. RELOCATE INTERMATIC TIMER FROM UPPER BUCKET TO SCADA SECTION. CLEAN BUCKET SPACES AND PROVIDE ALL REQUIRED HARDWARE FOR THE INSTALLATION OF THE (N) STARTER AND CONTROLS INTERFACE. SEE SPECIFICATION SECTION 33 11 35 FOR DESCRIPTION OF PUMPS CONTROL REQUIREMENTS AND OPERATION.
10. (N) 7.5HP, 480V, 3Ø SUBMERSIBLE PUMP. COORDINATE EXACT PUMP REQUIREMENTS PRIOR TO PURCHASING OF STARTER HARDWARE.
11. (3) #12 THHN/THWN CU, (1) #12 GND. - 3/4" CONDUIT, (1) 3/4" CONDUIT (SPARE). COORDINATE PUMP REQUIREMENTS PRIOR TO PURCHASE OF MATERIAL.
12. PROVIDE (N) 10" X 08" X 4", NEMA 6P POLYCARBONATE ENCLOSURE WITH OPAQUE LOCKING LATCH COVER. INTEGRA ENCLOSURES #H10084S OR ENGINEER APPROVED EQUAL. SPLICE FEEDER TO WELL PUMP CABLING USING MECHANICAL, DIRECT BURIAL, WATERTIGHT, SPLICE/TAP ILSCO USPA/PDSS OR ENGINEER APPROVED EQUAL.
13. PROVIDE (N) 8" X 8" X 4", NEMA 6P POLYCARBONATE ENCLOSURE WITH LOCKING LATCH COVER. INTEGRA ENCLOSURES #H8084S OR ENGINEER APPROVED EQUAL. PROVIDE PVC-COATED RGS AND/OR LIQUID-TIGHT FLEXIBLE CONDUIT AND OTHER REQUIRED MATERIALS TO COMPLETE CONNECTIONS TO LEVEL TRANSDUCER (IN WELL) AND FLOW METER (IN PIPING).
14. PROVIDE TWO (2) (N) 11" X 17" UNDERGROUND PULL BOXES AT POINT ABOVE THE FLOOD PLAIN (SEE SHEET E-1.0) FOR POWER AND CONTROL CIRCUITS. COORDINATE EXACT LOCATION WITH CIVIL ENGINEER AND OWNER PRIOR TO INSTALLATION.
15. (N) LEVEL TRANSDUCER INSTALLED IN THE WELL. PROVIDE AND COORDINATE CONNECTION TO WELL HEAD. INSTALL PER DETAIL 1, SHEET C3.0.
16. (N) FLOW METER INSTALLED IN PIPING AT PAD. PROVIDE AND COORDINATE REQUIRED HARDWARE FOR INSTALLING METER WIRING. PROVIDE #16 TWISTED SHIELDED PAIR (TSP) OR MANUFACTURES RECOMMENDED CABLE.
17. (E) TRANSFORMER, PANELBOARD, LIGHT AND RECEPTACLE. RELOCATE INTERMATIC TIMER AS REQUIRED IN NOTE 9.
18. (E) SCADA SECTION WITH CONTROL SYSTEM. COORDINATE WITH SCADA ENGINEER/PROGRAMMER FOR TERMINATION LOCATIONS AND TERMINATION TYPE REQUIRED TYPE.
19. PROVIDE 1" CONDUIT FOR FLOW METER AND 1" CONDUIT FOR LEVEL TRANSDUCER WIRING.
20. (E) PUMP STATION SERVICE/DISTRIBUTION MCC. G.E. 8000 LINE CONTROL CENTER, 600A, 480V, 3Ø, 3W NEMA 3R BOARD. SECTION 2 AND 3 ARE 600A HORIZONTAL AND 300A VERTICAL. IN SECTION 2 MODIFY AND PROVIDE THE REQUIRED HARDWARE IN THE BOTTOM TWO (2) COMPARTMENTS FOR THE INSTALLATION OF A SIZE 1 STARTER AND CONTROL HARDWARE AS DESCRIBED IN NOTE 9 ABOVE.

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SIGNATURE

DATE SIGNED

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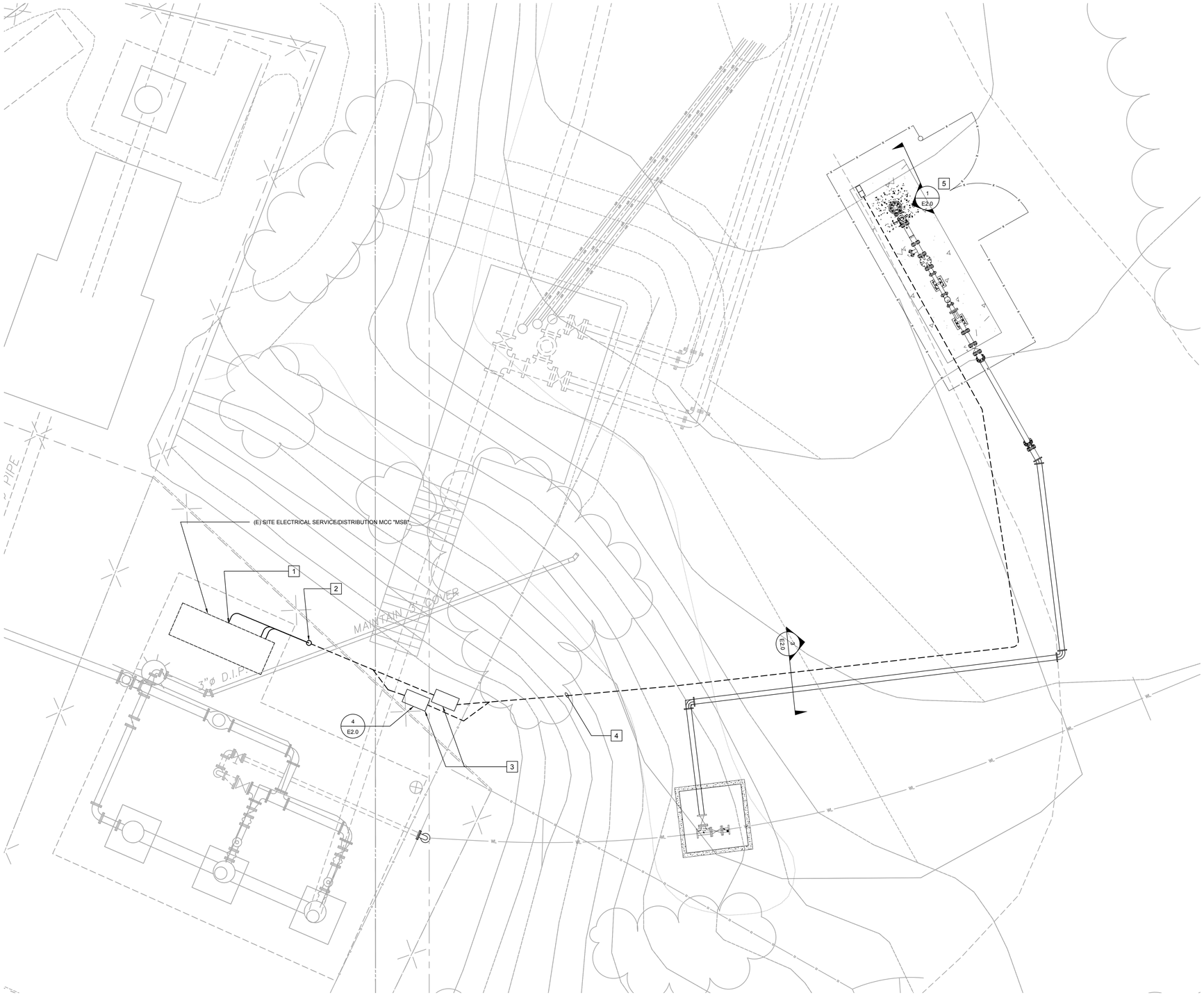
HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 2 PROJECT
SINGLE LINE DIAGRAM AND SCHEDULES

JOB #: 160-0001-06-0100
DESIGNERS: CP
DRAWN BY: TE
DATE: 4/23/2021

DRAWING NO.
E0.2
7 OF 9 SHEETS

FOR REDUCED PLANS
ORIGINAL SCALE IS IN INCHES
0 1 2 3
5



REFERENCE NOTES

1. (N) CONDUIT TO EXIT THE BACKSIDE OF MCC "MSB". PROVIDE GALVANIZED CHANNEL, STACKED CONDUIT STRAPS, DURABLOCKS OR ENGINEERED APPROVED STANDOFF FOR CONDUIT SUPPORTS. CONDUIT TO BE A MINIMUM OF 2" ABOVE FINISHED CONCRETE.
2. TRANSITION FROM HORIZONTAL ON CONCRETE TO VERTICAL UNDERGROUND AT EDGE OF CONCRETE. PROVIDE ELBOW FOR EACH CONDUIT.
3. (N) 11" x 17" CONCRETE UNDERGROUND PULLBOXES. LABEL ONE POWER AND THE OTHER COMMUNICATIONS. PULLBOXES TO BE INSTALLED INSIDE THE (E) FENCE LINE. PROVIDE "KELLEM GRIPS" FOR WIRING LEAVING PULLBOXES AND HEADED DOWN THE HILL TO THE WELL HEAD AREA. SEAL CONDUITS WITH DUCT PUTTY.AFTER CABLES HAVE BEEN INSTALLED IN ORDER TO HELP PREVENT WATER ENTERING THE CONDUITS. SEE SINGLE LINE DIAGRAM (SLD) ON SHEET E0.2 FOR CIRCUIT INFORMATION.
4. ROUTE U.G. CONDUITS AROUND RIP-RAP. COORDINATE EXACT ROUTING WITH CIVIL ENGINEER PRIOR TO INSTALLATION OF SYSTEM.
5. COORDINATE MOUNTING HEIGHT OF WIRING ENCLOSURES WITH FLOOD PLAIN HEIGHT AND CIVIL ENGINEER. SEE SHEET E2.0 FOR ADDITIONAL DETAILS.

ELECTRICAL SITE PLAN

SCALE: 1/4" = 1'-0"

NORTH

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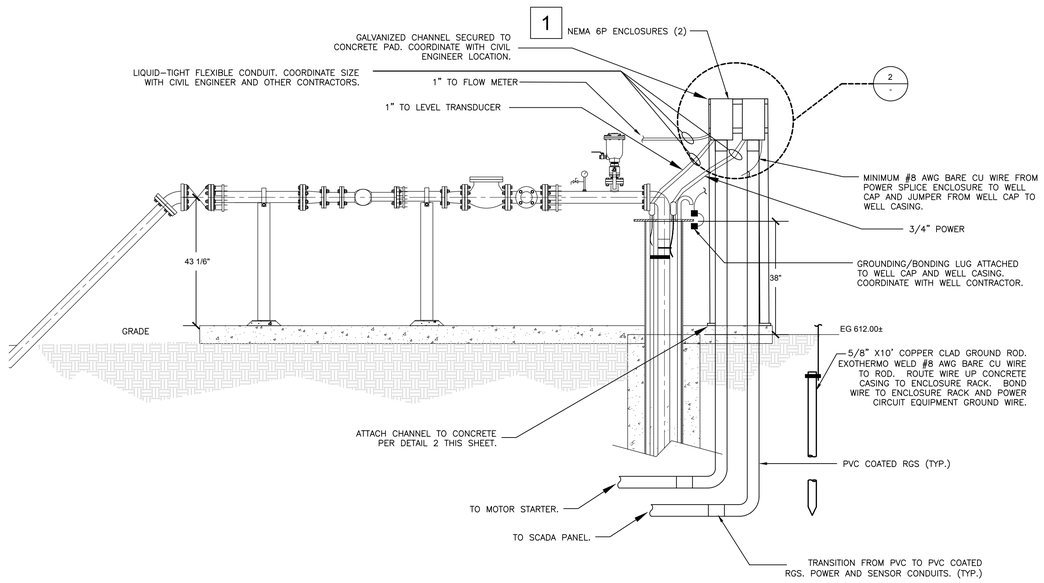
HERITAGE RANCH CSD
RAW WATER VERTICAL INTAKE NO. 1
PHASE 2 PROJECT
ELECTRICAL SITE PLAN

JOB #: 160-0001-06-0100
DESIGNERS: CP
DRAWN BY: TE
DATE: 4/23/2021

DRAWING NO.
E1.0
8 OF 9 SHEETS

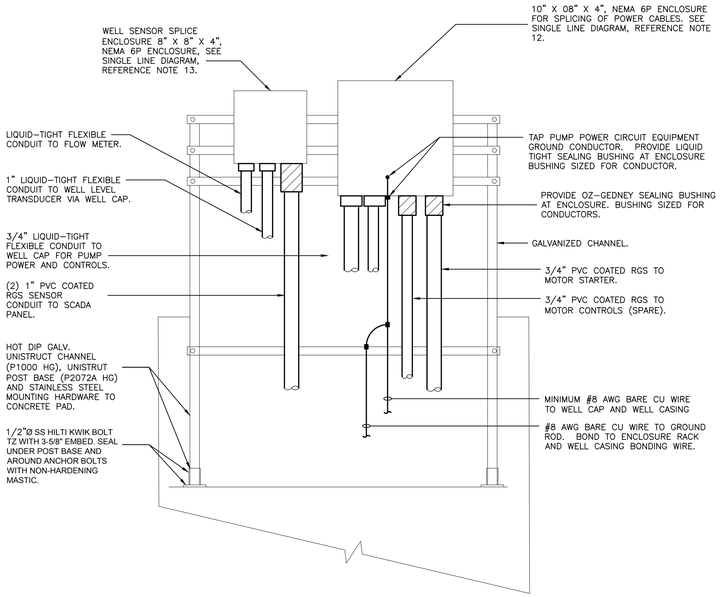


1 POWER CONDUIT PENETRATION AT WELL HEAD

NTS

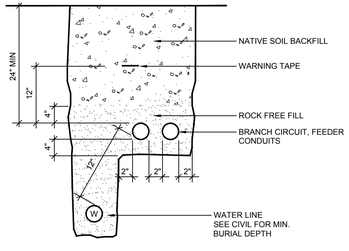
□ REFERENCE NOTES

1. BOTTOM OF ENCLOSURES SHALL BE 18" MIN. ABOVE THE TOP OF THE WELL HEAD. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION OF ENCLOSURES WITH CIVIL ENGINEER AND WELL CONTRACTOR. ENCLOSURE DOORS SHALL OPEN TOWARDS DOUBLE GATE. MINIMUM OF 3'-6" CLEARANCE REQUIRED IN FRONT OF ENCLOSURES.



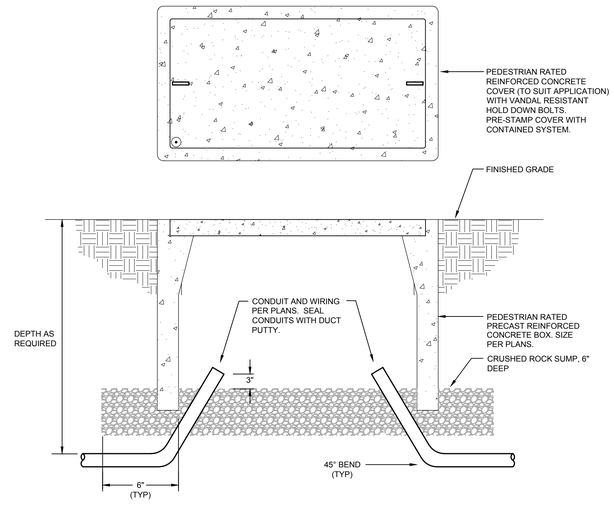
2 ELEVATION - WELL HEAD

NTS



3 TYPICAL TRENCH DETAIL

NTS



4 SITE PULLBOX

NTS

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DRAWING NO.
E2.0
9 OF 9 SHEETS