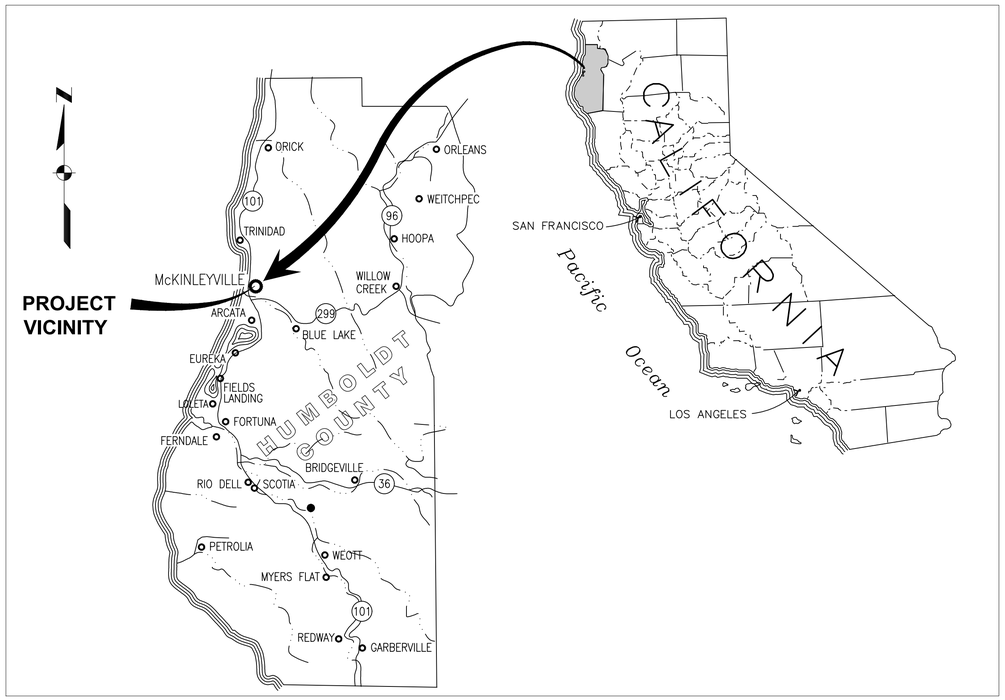
CONTRACT DRAWINGS

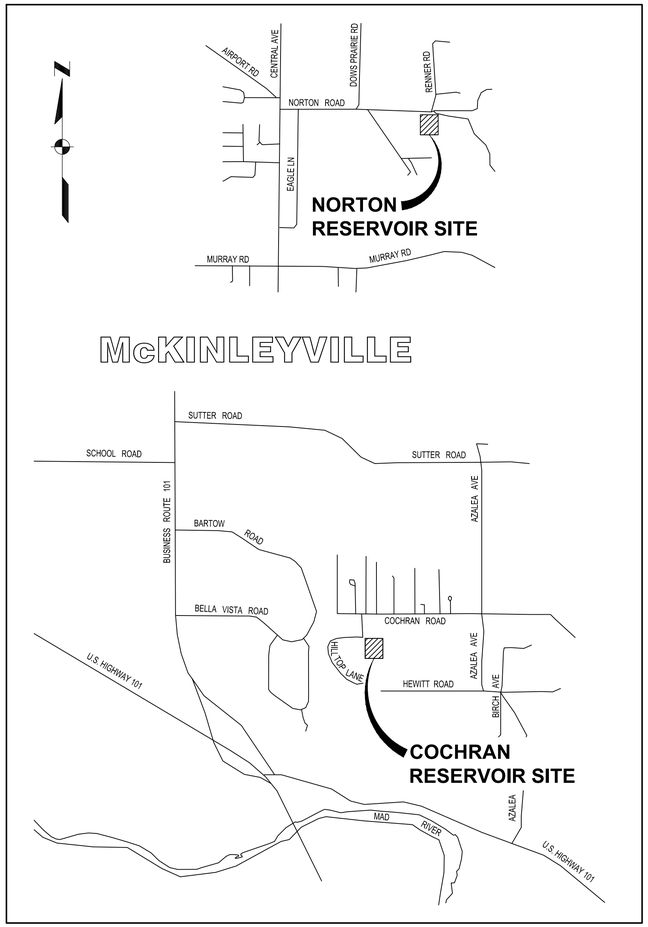
McKINLEYVILLE COMMUNITY SERVICES DISTRICT

McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT



VICINITY MAP
SCALE: NTS



LOCATION MAPS
SCALE: NTS

DRAWING INDEX

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
DONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED CLW
DRAWN CLS
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COVER, GENERAL LOCATION AND VICINITY MAPS, DRAWING INDEX

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 1 OF 57
G-01

ABBREVIATIONS

'	FOOT, FEET
"	INCH, INCHES
#	POUND, NUMBER
%	PERCENT
&	AND
(SH)	SHIELDED
@	AT
℄	CENTERLINE
℗	PLATE
±	APPROXIMATELY
<	LESS THAN
=	EQUALS
>	GREATER THAN
Δ	DEFLECTION
∠	ANGLE
°	DEGREE(-S) (ANGULAR)
A	AMPERE(-S)
A/C	AIR CONDITIONING
A/D	ANALOG TO DIGITAL
A/M	AUTO/MANUAL
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
AB	AGGREGATE BASE, ANCHOR BOLT(-S)
ABAN(-D)	ABANDON(-ED)
ABS	ABSOLUTE, ACRYLONITRILE-BUTADIENE-STYRENE
AC	ASPHALTIC CONCRETE, ALTERNATING CURRENT
ACH	AIR CHANGES PER HOUR
ACI	AMERICAN CONCRETE INSTITUTE
ACK	ACKNOWLEDGE
ACOUS	ACOUSTIC(-AL)
ACP	ASBESTOS CEMENT PIPE
ADA	AMERICANS WITH DISABILITIES ACT
ADDITT	ADDITIONAL
ADJ	ADJUST(-ED,-MENT,-ABLE)
ADJT	ADJACENT
ADWF	AVERAGE DRY WEATHER FLOW
AF	ACRE-FEET, AMPERE FRAME
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGG	AGGREGATE
AI	ANALOG INPUT
AIC	AMPERES INTERRUPTING CAPACITY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALT	ALTERNAT(-E, -OR)
ALTD	ALTITUDE
ALUM	ALUMINUM
AMB	AMBIENT
ANC	ANCHOR
ANN	ANNUNCIATOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ANT	ANTENNA
AO	ANALOG OUTPUT
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATE(-LY)
ARCH	ARCHITECT(-URAL)
AS	AMMETER SWITCH
ASB	ASBESTOS
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASD	ADJUSTABLE SPEED DRIVE (DC)
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AT	AMPERE TRIP
ATM	ATMOSPHERE (14.7 LB/IN2)
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWS	AMERICAN WELDING SOCIETY
AWT	ADVANCED WATER TREATMENT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B/W	BOTTOM OF WALL
BARM	BARMINUTOR
BATT	BATTERY
BB(S)	BEARING BAR(-S)
BC	BEGINNING OF HORIZONTAL CURVE, BARE COPPER
BCR	BEGIN CURB RETURN
BD	BOARD, BELT DRIVE
BDD	BACKDRAFT DAMPER
BF	BLIND FLANGE
BFP	BELT FILTER PRESS, BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BITUM	BITUMINOUS
BKR	BREAKER
BL	BUILDING LINE
BLDG	BUILDING
BLK	BLOCK(-S)
BLKG	BLOCKING
BM	BEAM, BENCH MARK
BM-1	BEAM MEMBER 1
BN	BOUNDARY NAILING
BO	BLOWOFF
BOC	BACK OF CURB
BOD 5	BIOCHEMICAL OXYGEN DEMAND (5 DAY)
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BS	BLACK STEEL, BOTH SIDES
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BTWN	BETWEEN
BVC	BEGINNING OF VERTICAL CURVE
C	CURVE, CONDUCTOR, CONTACT
C/C	CENTER-TO-CENTER
C/S	CONSTANT SPEED
CAB	CABINET
CALC(S)	CALCULATION(S)
CAT	CATEGORY
CATV	CABLE TV
CB	CATCH BASIN, CIRCUIT BREAKER
CC	CUBIC CENTIMETER(-S)
CCT	CHLORINE CONTACT TANK
CCTV	CLOSED-CIRCUIT TELEVISION
CD	CONTROL DAMPER
CEM	CEMENT
CEN	CENTRAL
CENT	CENTRIFUGAL
CER	CEILING EXHAUST RETURN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHAMBER
CHAN	CHANNEL
CHEM	CHEMI(-CAL, -STRY)
CHK	CHECK
CHKD	CHECKERED
CI	CAST IRON
CID1	CLASSIFICATION I, DIVISION 1
CID2	CLASSIFICATION I, DIVISION 2
CIP	CAST IRON PIPE, CAST IN PLACE, CLEAN IN PLACE
CIRC	CIRCULA(-R, -TION)
CIRCUM	CIRCUMFERENCE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CKT	CIRCUIT
CL2	CHLORINE
CLASS	CLASSIFICATION
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR(-ANCE)
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CM	CENTIMETERS
CMC	CEMENT MORTAR COATED
CML	CEMENT MORTAR LINED
CML&C	CEMENT MORTAR LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNJ	CONTROL JOINT
CNTR	CENTER
CNTRSK	COUNTERSUNK
CO	CLEANOUT, CONDUIT ONLY
CO2	CARBON DIOXIDE
COAX	COAXIAL
COD	CHEMICAL OXYGEN DEMAND
COL	COLUMN
COM	COMMON
COMM	COMMUNICATION
COMP	COMPRESSOR
CONC	CONCRETE
COND	CONDENSATE, CONDUIT
CONN	CONNECT (-ED, -S, -ION)
CONST	CONSTRUCTION
CONT	CONTINU(-ED, -OUS, -ATION)
COORD	COORDINATE
COP	COEFFICIENT OF PERFORMANCE
COR	CORNER
CORP	CORPORATION
CORR	CORRUGATED
COTG	CLEANOUT TO GRADE
CP	CONTROL POINT, CATHODIC PROTECTION
CPLG	COUPLING
CPT	CONTROL POWER TRANSFORMER
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CONTROL RELAY, CRUSHED ROCK
CSD	CEILING SUPPLY DIFFUSER
CT	COURT, CURRENT TRANSFORMER, COOLING TOWER
CTRL	CONTROL
CTS	CATHODIC TEST STATION
CU FT	CUBIC FOOT, CUBIC FEET
CU IN	CUBIC INCH(-ES)
CU M	CUBIC METER(-S)
CU YD	CUBIC YARD(-S)
CUR	CURRENT
CV	VALVE FLOW COEFFICIENT
CWT	ONE HUNDRED POUNDS
DB	DRY BULB
DBL	DOUBLE
DC	DIRECT CURRENT
DCA	DOUBLE CHECK ASSEMBLY (TWIN ELEMENT CHECK VALVE)
DCS	DISTRIBUTED CONTROL SYSTEM
DEFL	DEFLECTION
DEG	DEGREE(-S)
DEG C	DEGREES CELSIUS
DEG F	DEGREES FARENHEIT
DEMO	DEMOLISH
DEPT	DEPARTMENT
DH	HEAD LOSS (IN FEET), DOWNHOLE
DI	DUCTILE IRON, DROP INLET, DISCRETE INPUT
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIAPH	DIAPHRAGM
DIM(-S)	DIMENSION(-S)
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISC	DISCONNECT
DISCH	DISCHARGE
DISTR	DISTRIBUTION
DL	DEAD LOAD
DN	DOWN
DO	DISSOLVED OXYGEN, DISCRETE OUTPUT
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DR	DOOR, DRAIN, DRYER
DRG	DOUBLE RUBBER GASKET JOINT
DS	DOWN SPOUT
DTL(-S)	DETAIL(-S)
DUP	DUPLEX
DWG(-S)	DRAWING(-S)
E	EAST
EA	EACH, EXHAUST AIR
EC	END OF HORIZONTAL CURVE
ECC	ECCENTRIC
ECD	EPOXY COATED
ECR	END CURB RETURN
EER	ENERGY EFFICIENCY RATIO
EF	EACH FACE
EFFIC	EFFICIENCY
EFFL	EFFLUENT
EG	EXISTING GRADE
EGL	ENERGY GRADE LINE
EL	ELEVATION, EPOXY LINED
EL&C	EPOXY LINED AND COATED
ELEC	ELECTRIC(-AL)
ELEM	ELEMENTARY
ELL	ELBOW
EMBED	EMBEDMENT
EMERG	EMERGENCY
EN	EDGE NAILING
ENCL	ENCLOSURE
ENET	ETHERNET
ENGR	ENGINEER
ENTR	ENTRANCE
EP	EDGE OF PAVEMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQ	EQUAL (-LY, -IZATION)
EQPM	EQUIPMENT
ES	EACH SIDE
ES/EW	EMERGENCY SHOWER/EYE WASH
ESP	EXTERNAL STATIC PRESSURE
EST	ESTIMATE(-D)
E-STOP	EMERGENCY STOP
ETC	ET CETERA
ETM	ELAPSED TIME METER
ETS	ELECTROLYSIS TEST STATION
EUSERC	ELECTRIC UTILITY SERVICE EQUIPMENT REQUIREMENTS COMMITTEE
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EWT	ENTERING WATER TEMPERATURE
EXC	EXCAVATE
EXH	EXHAUST
EXIST, (E)	EXISTING
EXP	EXPANSION
EXT	EXTERNAL, EXTERIOR
FA	FIRE ALARM
FAB	FABRICATE(-D)
FAC	FACTORY
FACIL	FACILIT(-Y, -IES)
FAI	FRESH AIR INTAKE
FB	FLAT BAR
FC	FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN, FIRE DAMPER
FDC	FIRE DEPARTMENT CONNECTION
FDR	FEEDER
FE	FIRE EXTINGUISHER
FF	FAR FACE, FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH(-ED)
FL	FLOW LINE
FLA	FIRE/SMOKE DAMPER
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLANGE(-D)
FLOC	FLOCCULATION
FLR	FLOOR
FM	FLOW METER
FN	FIELD NAILING
FNDN	FOUNDATION
FO	FIBER OPTIC
FOS	FACE OF STUD
FPS	FEET PER SECOND
FREQ	FREQUENCY
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE-RETARDANT FLOOR
FS	FINISHED SURFACE, FAR SIDE
FSD	FIRE/SMOKE DAMPER
FT	FOOT, FEET
FTG	FOOTING
FU	FUSE
FURN	FURNITURE, FURNISHINGS
FURR	FURRING
FUT	FUTURE
FVNR	FULL VOLTAGE, NON REVERSING
FVR	FULL VOLTAGE, REVERSING
FWD	FORWARD
G	GRAMS, GROUND (ELECTRICAL)
GA	GAUGE
GAC	GRANULAR ACTIVATED CARBON
GAL	GALLON(-S)
GALV	GALVANIZED
GAS	GASOLINE
GB	GRADE BREAK
GC	GROOVED COUPLING
GDL	GROUND LEVEL
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GI	GALVANIZED IRON
GL	GLASS
GLAZ	GLAZING
GLB	GLULAM BEAM
GLL	GLASS LINED
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GROUND PENETRATING RADAR
GR	GRATE
GRL	GUARDRAIL
GRS	GALVANIZED RIGID STEEL
GS	GALVANIZED STEEL
GYP (BD)	GYPSUM (BOARD)
H	HIGH, HEIGHT
H2O2	HYDROGEN PEROXIDE
H2S	HYDROGEN SULFIDE
H2SO4	SULFURIC ACID
HB	HOSE BIB
HD	HEAVY DUTY, HEAT DETECTOR
HDG	HOT DIP GALVANIZE(-D)
HDPE	HIGH DENSITY POLYETHYLENE
HDWD	HARDWOOD
HGL	HYDRAULIC GRADE LINE
HGR	HANGER
HH	HANDHOLE
HI	HYDRAULIC INSTITUTE
HM	HOLLOW METAL
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HORZ	HORIZONTAL
HP	HORSEPOWER
H-P	HINGE POINT
HPT	HIGH POINT
HR(S)	HOUR(-S)
HRL	HANDRAIL
HSPF	HEATING SEASONAL PROFICIENCY FACTOR
HSS	HOLLOW STRUCTURAL SECTION
HST	HOIST
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HVY	HEAVY
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRAULIC
HZ	HERTZ (CYCLES PER SECOND)
I&C	INSTRUMENTATION AND CONTROL
I/O	INPUT/OUTPUT
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IF	INSIDE FACE
IL	INDICATING LIGHT
IN	INCH(-ES)
INFL	INFLUENT
INST	INSTANTANEOUS
INSTR	INSTRUMENT(-ATION)
INSUL	INSULATION
INT	INTERIOR, INTERNAL
INV	INVERT
IP	INTERNET PROTOCOL
IPS	INTERNATIONAL PIPE STANDARD, INCHES PER SECOND, IRON PIPE SIZE
IR	INFRARED
IRRG	IRRIGATION
IS	INTRINSICALLY SAFE
ISA	INTERNATIONAL SOCIETY OF AUTOMATION
ISO	ISOLAT(-E, -ION), ISOMETRIC
ISR	INTRINSICALLY SAFE RELAY
IW	INDUSTRIAL WASTE
IX	ION EXCHANGE
JB	JUNCTION BOX
JST	JOIST
JT	JOINT
KA	KILOAMPERE(-S)
KCMIL	THOUSANDS OF CIRCULAR MILS
KG	KNIFE GATE, KILOGRAM(-S)
KHZ	KILOHERTZ
KIP	ONE THOUSAND POUNDS
KM	KILOMETER(-S)
KSI	KIPS PER SQUARE INCH
KV	KILOVOLT(-S)
KVA	KILOVOLT-AMPERE(-S)
KVAR	KILOVOLT-AMPERE(-S) REACTIVE
KVARH	KILOVOLT-AMPERE REACTIVE HOUR(-S)
KW	KILOWATT(-S)
KWH	KILOWATT HOUR(-S)
L	LITER(-S), LENGTH, LINE
L/D	LITERS PER DAY
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAM	LAMINATE
LAN	LOCAL AREA NETWORK
LAT	LATERAL
LAV	LAVATORY
LB(-S)	POUND(-S)
LB(-S)/SF	POUND(-S) PER SQUARE FOOT
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LD	DEVELOPMENT LENGTH
LDG	LANDING
LE	LIFTING EYE
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LEL	LOWER EXPLOSIVE LIMIT
LF	LINEAR FEET
LG	LONG
LH	LEFT HAND
LIP	LIP OF GUTTER
LIQ	LIQUID
LL	LIVE LOAD
LLBB	LONG LEG BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW
LOC	LOCATION
LONGIT	LONGITUDINAL
LOR	LOCAL-OFF-REMOTE
LOTO	LOCK-OUT, TAG-OUT
LP	LOW POINT, LIGHTING PANELBOARD
LPG	LIQUIFIED PETROLEUM GAS (PROPANE OR BUTANE AS NOTED)
LR	LONG RADIUS
L-R	LOCAL-REMOTE
LS	LIMIT SWITCH
LT	LEFT, LIGHT, LEFT TURN
LTG	LIGHTING
LV	LOW VOLTAGE
LW	LIGHT WEIGHT
LWL	LOW WATER LEVEL
LWT	LEAVING WATER TEMPERATURE
M	METER(-S)
mA	MILLIAMPERE(-S)
MACH	MACHINE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBH	BTU PER HOUR (THOUSANDS)
MBR	MEMBRANE BIOREACTOR
MC	MOISTURE CONTENT, MISCELLANEOUS CHANNEL
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MF	MICROFILTRATION
MFR	MANUFACTURER
MFRD	MANUFACTURED
MG	MILLIGRAM(-S), MILLION GALLON(-S)
MG/L	MILLIGRAMS PER LITER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MHZ	MEGAHERTZ
MIL(-S)	ONE-THOUSANDTH OF AN INCH
MIN	MINIMUM, MINUTE(-S)
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MILLILITER(-S)
MLO	MAIN LUGS ONLY
MM	MILLIMETER(-S), MULTIMODE (FIBER)
MMBH	BTU PER HOUR (MILLIONS)
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOD(-S)	MODIF(-Y, -ICATIONS)
MON	MONUMENT
MOV	MOTOR OPERATED VALVE
MPH	MILES PER HOUR
MR	MOISTURE-RESISTANT
MSE	MECHANICALLY STABILIZED EARTH
MT(-D, -G)	MOUNT(-ED, -ING)
MTL	METAL
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MUL	MULLION
MV	MEDIUM VOLTAGE
N	NORTH, NEUTRAL (ELECTRICAL)
N/A	NOT APPLICABLE
NAD	NORTH AMERICAN DATUM
NAOCL	SODIUM HYPOCHLORITE
NAOH	SODIUM HYDROXIDE
NAVD	NORTH AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NDT	NON-DESTRUCTIVE TEST(ING)
NE	NORTHEAST
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NECA	NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NETA	INTERNATIONAL ELECTRICAL TESTING ASSOCIATION
NF	NEAR FACE, NANOFILTRATION
NFC	NOT FOR CONSTRUCTION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NG	NATURAL GAS
NH3	AMMONIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NORM	NORMAL
NPT	NATIONAL PIPE THREAD
NRS	NON-RISING STEM GATE VALVE
NS	NEAR SIDE
NSG	NON-SHRINK GROUT
NT	NORMALLY THROTTLED
NTS	NOT TO SCALE
NW	NORTHWEST
NWL	NORMAL WATER LEVEL
O/C	OPEN/CLOSE
O3	OZONE
OA	OVERALL
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
OF	OVERFLOW, OUTSIDE FACE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFS	OUTSIDE FACE OF STUD
OG	ORIGINAL GROUND
OH	OPPOSITE HAND, OVERHEAD
OIT	OPERATOR INTERFACE TERMINAL
OL	THERMAL OVERLOAD RELAY
OPNG(-S)	OPENING(-S)
OPP	OPPOSITE
ORIG	ORIGINAL
OS&Y	OUTSIDE SCREW AND YOKE (RISING STEM GATE VALVE)
OSA	OUTSIDE AIR
OSC	OPEN/STOP/CLOSE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OT	OVER TEMPERATURE
OZ	OUNCE(-S)
P	PNEUMATIC, PIPE, POLE
P/L	PROPERTY LINE
PA	PUBLIC ADDRESS
PACP	PERFORATED ASBESTOS CEMENT PIPE
PAF	POWDERPOWER ACTUATED FASTENER
PB	PULLBOX, PUSHBUTTON
PC(-S)	PIECE(-S), PHOTOCELL, POINT OF CURVE (BEGIN CURVE), PROGRESSIVE CAVITY
PCC	POINT OF COMPOUND CURVE, POINT OF COMMON COUPLING
PCCP	PRETENSIONED CONCRETE CYLINDER PIPE
PCF	POUNDS PER CUBIC FOOT
PCO	PRESSURE CLEANOUT
PCOTG	PRESSURIZED CLEANOUT TO GRADE
PD	PRESSURE DROP, POSITIVE DISPLACEMENT
PE	PHOTOELECTRIC, PLAIN END, POLYETHYLENE
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRAT(-E, -ION)
PER	PERIODIC
PERC	PERCOLAT(-E, -ION)
PERF	PERFORAT(-E, -ED, -ES, -ATION)
PF	POWER FACTOR, PROFILE
PFAS	PER- AND POLYFLUOROALKYL SUBSTANCES
PFOA	PERFLUOROOCTANOIC ACID
PFOS	PERFLUOROOCTANESULFONATE
PFR	POWER FACTOR RELAY
PH	PIPE HANGER, PHASE
pH	MEASURE OF ACIDITY OR ALKALINITY
PHMS	PAN HEAD MACHINE SCREW
PHSMS	PAN HEAD SHEET METAL SCREW
PI	POINT OF INTERSECTION
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
PIV	POST INDICATOR VALVE
PLAS	PLASTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLF	POUND PER LINEAL FOOT
PM	PROJECT MANAGER, POWER MONITOR
PNL	PANEL
PNLBD	PANELBOARD
POE	POWER OVER ETHERNET
POT	POTABLE
PP	PARTIAL PENETRATION, POWER POLE, PAGES
PPB	PARTS PER BILLION
PPE	PERSONAL PROTECTIVE EQUIPMENT
PPM	PARTS PER MILLION
PR	PAIR
PRE-ENG	PRE-ENGINEERED
PRESS	PRESSURE
PRI	PRIMARY
PROJ	PROJECT(-ION)
PROP	PROPERTY, PROPOSED, PROPELLER
PROT	PROTECT(-OR)
PRS	PRESSURE SNUBBER
PRV	PRESSURE RELIEF VALVE, PRESSURE REDUCING VALVE
PS	PIPE SUPPORT, POWER SUPPLY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE (PRESSURE ABOVE VACUUM)
PSIG	POUNDS PER SQUARE INCH GAUGE (PRESSURE ABOVE ATMOSPHERE)
PSL	PIPE SLEEVE
PSTA	PUMP STATION
PSV	PRESSURE SUSTAINING VALVE
PT(-S)	POINT OF TANGENT (END CURVE), PRESSURE-TREATED, POTENTIAL TRANSFORMER, POINT(-S)
PU	POLYURETHANE
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PW	POTABLE WATER
PWR	POWER
PWWF	PEAK WET WEATHER FLOW
Q	FLOW OR DISCHARGE
R, RAD	RADIUS
R/W	RIGHT OF WAY
RA	RETURN AIR
RAS	RETURN ACTIVATED SLUDGE
RC	REINFORCED CONCRETE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RCPT	RECEPTACLE
RCT	REPEAT CYCLE TIMER
RD	ROAD
REC	RECEIVING
RECIRC	RECIRCULAT(-E, -ION)
RECT	RECTANG(-LE, -ULAR)
RED	REDUCE(-R)
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGULAT(-E, -OR, -ION, -ING)
REINF	REINFORC(-E, -ED, -ING, -EMENT)
REL	RELATIVE
REQD	REQUIRED
REQT	REQUIREMENT
RESIL	RESILIENT
RESV	RESERVOIR
REV	REVISION
RH	RIGHT HAND
RIO	REMOTE INPUT/OUTPUT
RM	ROOM
RMT	REMOTE
RND	ROUND
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RPP	REDUCED PRESSURE PRINCIPLE
RPS	REVOLUTIONS PER SECOND
RR	RAILROAD
RST	RESET
RT	RIGHT TURN, RESET TIMER
RTE	ROUTE
RTN	RETURN
RTU	ROOF TOP UNIT, REMOTE TELEMETRY UNIT
RVSS	REDUCED VOLTAGE, SOLID STATE
S	SEWER, SOUTH
S/S	START/STOP
S/W	SIDEWALK
SA	SUPPLY AIR
SAN	SANITARY
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SCR	SILICON CONTROLLED RECTIFIER
SD	STORM DRAIN, SMOKE DETECTOR
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECONDARY, SECOND(-S)
SECT	SECTION
SED	SEDIMENTATION
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SER	SERVICE ENTRANCE RATED
SGNL	SIGNAL
SH	SHOWER
SHT	SHEET
SI	SIDE INLET
SIM	SIMILAR
SK	SINK
SL	SLUDGE
SLBB	SHORT LEGS BACK-TO-BACK
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SM	SINGLEMODE (FIBER)
SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
SMS	SHEET METAL SCREW
SO2	SULFUR DIOXIDE
SP	STATIC PRESSURE, SET POINT
SP GR	SPECIFIC GRAVITY
SPC(-S, -D)	SPACE(-S, -D)
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SPEC(-S)	SPECIFICATION(-S)
SQ	SQUARE
SQ CM	SQUARE CENTIMETERS
SQ FT	SQUARE FEET
SQ IN	SQUARE INCHES
SQ M	SQUARE METER(-S)
SQ MI	SQUARE MILES
SQ YD	SQUARE YARD(-S)
SRG	SINGLE RUBBER GASKET JOINT
SS	STAINLESS STEEL, SANITARY SEWER, SOLID STATE
SSD	SATURATED SURFACE DRY
ST	STREET
STA	STATION
STAG	STAGGER
STB	SHORTING TERMINAL BLOCK
STD(-S)	STANDARD(-S)
STIFF	STIFFEN(-ER)
STL	STEEL
STM	STEAM
STOR	STORAGE
STP	SHIELDED TWISTED PAIR
STRC	STRUCTUR(-E, -AL)
SUB	SUBNATANT
SUBM	SUBMISSION, SUBMIT
SUP	SUPERNATANT
SUPP	SUPPORT(-S)
SURF	SURFACE
SUSP	SUSPEND(-ED)
SW	SOUTHWEST, SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
SYNC	SYNCHRONIZING
SYS	SYSTEM
T	TIME(-R)
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/C	TOP OF CONCRETE
T/P	TOP OF PAVEMENT
T/S	TOP OF STEEL
T/W	TOP OF WALL
T-_-P	TYPE _____ PIPE
T-_-S	TYPE _____ SUPPORT
TA	TRANSFER AIR
TAN	TANGENT(-IAL)
TB	THRUST BLOCK, TERMINAL BLOCK
TBM	TEMPORARY BENCHMARK, TUNNEL BORING MACHINE
TC	TRAY CABLE
TCP	TRANSMISSION CONTROL PROTOCOL
TDH	TOTAL DYNAMIC HEAD
TDS	TOTAL DISSOLVED SOLIDS
TEFC	TOTALLY ENCLOSED FAN COOLED
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TMPTNK	TEMPERING TANK
TENV	TOTALLY ENCLOSED NON-VENTILATED
THK	THICK(-ENED, -ENER, -NESS)
THRU	THROUGH
TMV	THERMOSTATIC MIXING VALVE
TNK	TANK
TOD	TOTAL OXYGEN DEMAND
TOPO	TOPOGRAPHY
TOT	TOTAL, TOTALIZE(R)
TP	TEST PIT
TR	TREAD(-S)
T-R	THROUGH ROOF
TRTMT	TREATMENT
TS	STRUCTURAL TUBING
TSS	TOTAL SUSPENDED SOLIDS
TSTAT	THERMOSTAT
TURB	TURBIDITY
TYP	TYPICAL
U	URINAL
UBC	UNIFORM BUILDING CODE
UD	UNDERDRAIN
UF	ULTRAFILTRATION
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UNKN	UNKNOWN
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
USGBC	UNITED STATES GREEN BUILDING COUNCIL
UT	ULTRASONIC TESTING
UTP	UNSHIELDED TWISTED PAIR
UV	ULTRAVIOLET
V	VOLTS
V/S	VARIABLE SPEED
VA	VOLT-AMPERES
VAC	VACUUM
VAR	VARIES, VARIABLE, VOLT-AMPERES REACTIVE
VAT	VINYL ASBESTOS TILE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE, VENDOR CONTROL PANEL
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VERTS	VERTICAL BARS
VFD	VARIABLE FREQUENCY DRIVE (AC)
VFI	VACUUM FAULT INTERRUPTER
VIF	VERIFY IN FIELD
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
VS	VOLTMETER SWITCH
VT	VENT
VTP	VERTICAL TURBINE PUMP
VTR	VENT TO ROOF
VVT	VARIABLE VOLUME/TEMPERATURE
W	WIDE, WIDTH, WIRE, WATTS, WELDED, WEST
W/	WITH
W/O	WITHOUT
WAN	WIDE AREA NETWORK
WAS	WASTE ACTIVATED SLUDGE
WB	WAT

NOTES

GENERAL

1. THIS PROJECT IS WITHIN McKINLEYVILLE COMMUNITY SERVICES DISTRICT (MCSD) PROPERTY.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH MCSD STANDARDS AND AWWA STANDARDS.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ALL IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
4. ALL BUILDING COORDINATES ARE TO OUTSIDE CORNER OF COLUMN OR BUILDING.
5. THE CONTRACTOR SHALL DISPOSE OF ALL NON-ORGANIC WASTES SUCH AS OLD GUNITE, PIPING, ROCK RUBBLE ETC. AT AN APPROVED LANDFILL OR, OTHER SUITABLE DISPOSAL SITES AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL RESTORE ALL SURVEY MONUMENTS THAT ARE DAMAGED OR DESTROYED DURING CONSTRUCTION.
7. MAINTAIN RECORD DRAWINGS FOR ALL WORK THROUGHOUT THE COURSE OF CONSTRUCTION. SUCH DRAWINGS SHALL RECORD THE LOCATION AND GRADE OF ALL UNDERGROUND IMPROVEMENTS CONSTRUCTED AND SHALL BE DELIVERED TO THE OWNER PRIOR TO AND IN CONSIDERATION OF THE OWNER'S ACCEPTANCE OF WORK.

UTILITIES

1. LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM AVAILABLE RECORDS AND ARE SHOWN IN THEIR APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL EXISTING UTILITIES AND OBSTRUCTIONS ARE SHOWN OR THAT LOCATIONS INDICATED ARE ACCURATE. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL POTHOLE TO DETERMINE ACTUAL LOCATION AND ELEVATION OF ALL EXISTING UTILITIES IN AND AROUND THE AREAS OF NEW CONSTRUCTION.
2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT ALL REMAINING EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN.
3. PRIOR TO ANY CONNECTION TO AN EXISTING UTILITY, THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER.
4. PRIOR TO THE SUBMITTAL OF PIPE SHOP DRAWINGS, VERIFY THE INVERT ELEVATION, ALIGNMENT, OUTSIDE DIAMETER, LOCATION AND MATERIAL OF ALL EXISTING PIPELINES TO WHICH PIPELINES WILL BE CONNECTED.
5. PRIOR TO ANY EXCAVATION IN THE VICINITY OF ANY EXISTING UNDERGROUND FACILITIES, INCLUDING ALL WATER, SEWER, STORM DRAIN, GAS, PETROLEUM PRODUCTS, OR OTHER PIPELINES; ALL BURIED ELECTRIC POWER, COMMUNICATIONS, OR TELEVISION CABLES; ALL TRAFFIC SIGNAL AND STREET LIGHTING FACILITIES; AND ALL ROADWAY, STATE HIGHWAY, AND RAILROAD RIGHTS-OF-WAY, THE CONTRACTOR SHALL NOTIFY THE RESPECTIVE AUTHORITIES REPRESENTING THE OWNERS OR AGENCIES RESPONSIBLE FOR SUCH FACILITIES NOT LESS THAN 3 DAYS NOR MORE THAN 7 DAYS PRIOR TO EXCAVATION SO THAT A REPRESENTATIVE OF SAID OWNERS OR AGENCIES CAN BE PRESENT DURING SUCH WORK IF THEY SO DESIRE. IN THE CASE OF THE UNDERGROUND UTILITY SERVICE ALERT CENTER, THIS NOTICE WILL GIVE THEM TIME TO MARK THE LOCATION OF THE UTILITIES. THE CONTRACTOR SHALL ALSO NOTIFY THE REGIONAL OR LOCAL UNDERGROUND SERVICE ALERT COMPANY AT LEAST 3 DAYS, BUT NO MORE THAN 7 DAYS, PRIOR TO SUCH EXCAVATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING WITHIN THE PROJECT SITE.
7. ADJUST ALL GRADE RINGS AND VALVE BOXES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED.

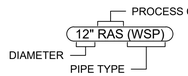
DEMOLITION

1. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL DEBRIS FROM DEMOLITION AT CONTRACTORS EXPENSE.

EROSION CONTROL

1. CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD CONSTRUCTION ACTIVITIES STORM WATER GENERAL PERMIT NO. 2009-0009-DWQ AS AMENDED BY ORDER NO. 2010-0014-DWQ AND 2012-0006-DWQ (NPDES NO. CAS000002) FOR THE WORK DURING THE CONSTRUCTION, PREPARED AND SIGNED BY A QUALIFIED SWPPP DEVELOPER PRIOR TO GROUND DISTURBANCE ACTIVITIES. SEE SPECIFICATION SECTION 00140.
   a. ALL SLOPES SHALL BE PROTECTED FROM EROSION DURING ROUGH GRADING OPERATIONS AND THEREAFTER, UNTIL INSTALLATION OF FINAL GROUNDCOVER.
   b. ALL SLOPE PROTECTION SWALES SHALL BE CONSTRUCTED AT THE SAME TIME AS BANKS ARE GRADED.
   c. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES PER REQUIREMENTS OF THE CONTRACTOR'S SWPPP.
   d. UNLESS OTHERWISE SHOWN, ALL DISTURBED AREAS SHALL BE HYDROSEEDED PER SPECIFICATION SECTIONS 02300 AND 02370.

CALLOUTS AND SHORTHAND SYMBOLS



PIPE IDENTIFICATION TAG

DIRECTION OF FLOW

SHEET KEYNOTE

CENTERLINE

PROPERTY LINE

DIAMETER

APPROXIMATELY

ANGLE

WATER/FLUID SURFACE

BUILDING GRID LABEL OR ACCESSORY NUMBER

DOOR

ROOM

WALL

WINDOW

REVISION SYMBOLS

CLOUDED AREA INDICATES CHANGED INFORMATION; NUMBER IN TRIANGLE INDICATES THE DRAWING VERSION AND MATCHES WITH REVISION INFORMATION IN THE REVISION BLOCK WITHIN THE DRAWING BORDER

SYMBOLOGY

NORTH ARROW

NEW

EXISTING

FUTURE

EXISTING LINEAR ELEMENTS TO BE REMOVED OR DEMOLISHED

EXISTING NON-LINEAR ELEMENTS TO BE REMOVED OR DEMOLISHED

CENTERLINE

MATCHLINE CONTINUED ON SHEET ---

MATCHLINE

BREAK LINE

NATIVE EARTH (IN SECTION)

ENGINEERED FILL (IN SECTION)

AGGREGATE BASE (IN PLAN AND SECTION)

CHECKER PLATE (IN PLAN)

CONCRETE (IN PLAN AND SECTION)

CRUSHED ROCK (IN PLAN AND SECTION)

GRATING (IN PLAN)

GRAVEL (IN PLAN AND SECTION)

MASONRY (IN SECTION)

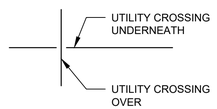
PERVIOUS BACKFILL MATERIAL

SAND OR GROUT (IN PLAN AND SECTION)

SODIUM THIOSULFATE

STEEL (IN SECTION

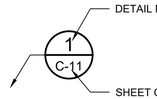
STORM BASIN PLANTING MEDIUM (IN PLAN AND SECTION)

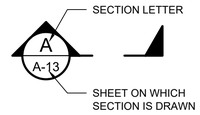


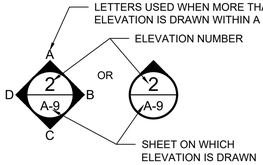
CROSSING UTILITIES

CROSS-REFERENCING SYMBOLS

FOUND ON DRAWING WHERE DETAIL, SECTION, OR ELEVATION IS CALLED OUT







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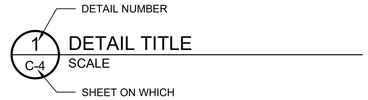

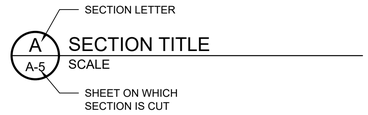

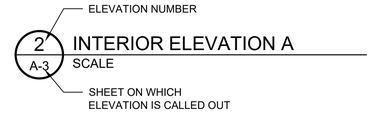

NOTE
STANDARD DETAILS ARE LOCATED WITHIN THEIR RESPECTIVE DISCIPLINE, IMMEDIATELY FOLLOWING THE GENERAL ABBREVIATIONS, NOTES, AND LEGEND SHEETS.

DESIGN CRITERIA

RESERVOIR (NEW)

TYPE	PRESTRESSED CONCRETE (AWWA D110)
VOLUME, GAL (NOMINAL)	4.5 MILLION
DIAMETER, FT	142
WATER DEPTH, FT (MAX)	38.5

RESERVOIR (EXISTING)

TYPE	WELDED STEEL
NUMBER	2
VOLUME, GAL (NOMINAL)	1.0 / 1.5 MILLION
DIAMETER, FT	67 / 82
WATER DEPTH, FT (MAX)	38.5 / 39

MIXING

TYPE	SUBMERSIBLE PROPELLER
NUMBER PER RESERVOIR	1
POWER, HP, (EA)	1.5

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JOSHUA D. LEE BARRETT — No. C45483 — Exp. 12/31/24 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED KJ
DRAWN CLS
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

GENERAL NOTES, LEGENDS AND DESIGN CRITERIA

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 3 OF 57
G-03

EQUIPMENT DESIGNATIONS

NEW EQUIPMENT

EQUIPMENT PREFIX (1-4 CHARACTERS) SEE LIST THIS SHEET

##-EQPM-XXX

WHEN USED, FIRST TWO DIGITS REFER TO PROCESS AREA WHERE EQUIPMENT IS LOCATED (SEE LIST THIS SHEET)

SEQUENTIAL NUMBER OF EQUIPMENT IN PROCESS AREA

EXISTING EQUIPMENT

##-EQPM-XXX

FUTURE EQUIPMENT

##-EQPM-XXX

EQUIPMENT PREFIXES

ACU	HVAC AIR CONDITIONING UNIT (SELF-CONTAINED)
AF	HVAC AIR FILTER
AGT	AGITATOR
AHU	HVAC AIR HANDLER UNIT
ASD	ADJUSTABLE SPEED DRIVE (DC)
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY SYSTEM
BFP	BELT FILTER PRESS
BLWR	BLOWER
BOIL	HVAC BOILER
BP	BACKFLOW PREVENTER
CAP	CAPACITOR
CDU	HVAC CONDENSING UNIT
CH	HVAC CHILLER
CNV	CONVEYOR
COM	COMMINUTOR
COMP	AIR/GAS COMPRESSOR
COVR	COVER (FLOATING)
CPT	COMPACTOR (SCREENINGS, ETC.)
CPU	COMPUTER
CRAN	CRANE
CRCP	HVAC RECIRCULATING PUMP
CSTR*	COMBINATION MOTOR STARTER - SEE NOTES
CTFG	CENTRIFUGE
DCSW	DISCONNECT SWITCH
DHMD	HVAC DEHUMIDIFIER
DIS	DISTRIBUTOR (ARM TYPE, EDUCTOR, EJECTOR, DIFFUSER, ETC.)
DMPR	HVAC CONTROL DAMPER
DP	DISTRIBUTION PANELBOARD
DR	DRYER
DU	DRIVE UNIT
ECU	HVAC EVAPORATIVE COOLING UNIT
EEW	EMERGENCY EYEWASH
ENG	ENGINE
EWS	EMERGENCY EYEWASH/SHOWER
EXF	HVAC FAN (EXHAUST)
FACP	FIRE ALARM CONTROL PANEL
FAN	HVAC FAN (RECIRCULATING)
FCU	HVAC FAN COIL UNIT
FILT	FILTER
FLAR	FLARE
FLOC	FLOCCULATOR
FURN	HVAC FURNACE
GATE*	GATE - SEE NOTES
GBT	GRAVITY BELT THICKENER
GEN	GENERATOR
GR	GRINDER
HC	HEATING COIL
HF	HARMONIC FILTER
HH	HANDHOLE
HPU	HEAT PUMP UNIT
HST	HOIST
HX	HEAT EXCHANGER
INJ	INJECTOR (INDUCTOR, EDUCTOR)
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LVR	HVAC LOUVER
LP	LIGHTING PANELBOARD
M	MOTOR
MAU	MAKE-UP AIR UNIT
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MME	MISCELLANEOUS MECHANICAL EQUIPMENT
MOV	MOTORIZED VALVE OPERATOR
MTS	MANUAL TRANSFER SWITCH
MUX	MULTIPLEXER
MX*	MIXER - SEE NOTES
OCU	ODOR CONTROL UNIT
OIT	OPERATOR INTERFACE TERMINAL
P*	PUMP - SEE NOTES
POL	POLYMER DILUTION SYSTEM
PLC	PROGRAMMABLE LOGIC CONTROLLER
POV	PNEUMATIC VALVE OPERATOR
RH	ROOF HOOD
RIO	REMOTE INPUT/OUTPUT
RVAT	REDUCED VOLTAGE, AUTO TRANSFORMER MOTOR STARTER

EQUIPMENT PREFIXES (CONT)

RVPW	REDUCED VOLTAGE, PART WINDING MOTOR STARTER
RVSS	REDUCED VOLTAGE, SOLID STATE MOTOR STARTER
SC	SCREW COMPRESSOR
SCAL	WEIGHT SCALE
SCRN	SCREEN (BAR, ROTARY, ETC.)
SEP	SEPARATOR (SEDIMENTATION, TRAP, DRIP TRAP, CYCLONE, STRAINER, ETC.)
SLGR	SLUDGE GRINDER
SIL	SILENCER
SMP	SAMPLER
SEPT	SEPTAGE RECEIVING TANK
SUF	HVAC FAN (SUPPLY)
SV	SOLENOID VALVE OPERATOR
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T*	TANK - SEE NOTES
TP	TRAP PRIMER
UH	HVAC UNIT HEATER
UPS	UNINTERRUPTIBLE POWER SUPPLY
UV	ULTRAVIOLET DISINFECTION UNIT
V*	VALVE - SEE NOTES
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE (AC)
WH	WATER HEATER
XFMR	TRANSFORMER

NOTES

THE EQUIPMENT PREFIXES LISTED ABOVE ARE USED TO UNIQUELY IDENTIFY EACH PIECE OF EQUIPMENT. PREFIXES SHOWN WITH AN ASTERISK (*) MAY BE FURTHER REFINED BY SYMBOL, AND IDENTIFIED IN GREATER DETAIL IN EQUIPMENT SCHEDULES AND SPECIFICATIONS WITH THE ABBREVIATIONS SHOWN BELOW.

COMBINATION MOTOR STARTERS

FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING

GATES

SLID	SLIDE
FLAP	FLAP
TILT	TILTING WEIR

MIXERS

MECH	MECHANICAL
STATIC	STATIC
TANK	IN TANK (MOTORIZED)

PUMPS

CHOP	CHOPPER
DPHM	DIAPHRAGM
HOSE	HOSE
LOBE	LOBE (ROTARY LOBE)
PC	PROGRESSIVE CAVITY
PD	POSITIVE DISPLACEMENT
PERI	PERISTALTIC
SUBM	SUBMERSIBLE
SUMP	SUBMERSIBLE SUMP
VT	VERTICAL TURBINE
WELL	SUBMERSIBLE WELL

TANKS

NPRS	NON-PRESSURIZED (DIGESTER, STORAGE, ETC.)
PRS	PRESSURE VESSEL (AIR RECEIVER, ETC.)

VALVES

ALTD	ALTITUDE
AR	AIR RELEASE
ARVR	AIR RELEASE VACUUM RELIEF
AV	VACUUM RELIEF/AIR INLET
BALL	BALL
BFLY	BUTTERFLY
CA	COMBINATION AIR/VACUUM
CHK	CHECK
FCTL/FCV	FLOW CONTROL
GATE	GATE
GLOB	GLOBE
NEDL	NEEDLE
PCTL	PUMP CONTROL
PINC	PINCH
PLUG	PLUG
PRED	PRESSURE REDUCING
PREL	PRESSURE RELIEF
PSUS	PRESSURE SUSTAINING
SCV	SEISMIC CONTROL
SOL	SOLENOID

PIPING DESIGNATIONS

NEW PIPING

CENTERLINE ELEVATION (UNLESS OTHERWISE NOTED)

XXX.X

XXX.X

6"-RW

PROCESS CODE, SEE PIPE SCHEDULE

NOMINAL PIPE DIAMETER

EXISTING PIPING

6"-RW

FUTURE PIPING

6"-RW

PROCESS CODES

AA	AERATION AIR
ALUM	LIQUID ALUM
AM	AMMONIA
AS	ACTIVATED SILICA
BA	BUBBLER AIR
BWS	BACKWASH SUPPLY
BWW	BACKWASH WASTE
CA	COMPRESSED AIR
CEN	CENTRATE
CHWR	HVAC CHILLED WATER RETURN
CHWS	HVAC CHILLED WATER SUPPLY
CLG	CHLORINE - GAS
CLL	CHLORINE - LIQUID
CLS	CHLORINE SOLUTION
CLV	CHLORINE GAS UNDER VACUUM
CLVD	CHLORINE VENT & DETECTION
CND	CONDENSATE
CNDD	HVAC CONDENSATE DRAIN
CRD	CHEMICAL RESISTANT DRAIN
CRV	CORROSION RESISTANT VENT
CS	CIRCULATED SLUDGE
CTS	CALCIUM THIOSULFATE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
D	PLUMBING SANITARY DRAIN & VENT
DCNT	DECANT
DHWR	PLUMBING DOMESTIC HOT WATER RETURN
DHWS	PLUMBING DOMESTIC HOT WATER SUPPLY
DR	PROCESS DRAIN
DS	DIGESTED SLUDGE
DW	DEMINERALIZED WATER
EBS	ENGINEERED BIOSOLIDS
EEX	ENGINE EXHAUST
EWR	ENGINE COOLING WATER RETURN
EWS	ENGINE COOLING WATER SUPPLY
FA	FOUL AIR
FAW	FILTER AIR WASH
FC	FERRIC CHLORIDE
FE	FINAL EFFLUENT
FI	FILTER INFLUENT
FM	FORCE MAIN
FOG	FATS, OILS, AND GREASE
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FSP	FIRE PROTECTION SPRINKLER
FSW	FILTER SURFACE WASHWATER
FTW	FILTER TO WASTE
FW	FILTERED WATER
FWS	FOOD WASTE SLURRY
FWW	FILTER WASTE WASHWATER
GR	GRIT
H2O2	HYDROGEN PEROXIDE
HCA	HYDROCHLORIC ACID
HFA	HYDROFLUOSILICIC ACID
HHWR	HVAC HEATING WATER RETURN
HHWS	HVAC HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HYPO	SODIUM HYPOCHLORITE
IA	INSTRUMENT AIR
INJ	INJECTOR WATER
IRR	LANDSCAPING SPRINKLER SYSTEM
IXE	ION EXCHANGE EFFLUENT
LAS	LIQUID AMMONIUM SULFATE
LO	LUBE OIL
LOX	LIQUID OXYGEN
LPG	LIQUIFIED PETROLEUM GAS
LS	LIME SLURRY

PROCESS CODES (CONT)

MC	MEMBRANE CONCENTRATE SUPPLY
MCCR	MEMBRANE CONCENTRATE RETURN
MCP	MEMBRANE CLEANING PERMEATE SUPPLY
MCPR	MEMBRANE CLEANING PERMEATE RETURN
MCR	MEMBRANE CLEANING RETURN
MCS	MEMBRANE CLEANING SUPPLY
MCW	MEMBRANE CLEANING WASTE
METH	METHANOL
MF	MEMBRANE FEED WATER
MGOH	MAGNESIUM HYDROXIDE
ML	MIXED LIQUOR
MP	MEMBRANE PERMEATE
MUA	MURIATIC ACID
NAOH	SODIUM HYDROXIDE
NG	NATURAL GAS
NPW	NON-POTABLE WATER
OF	OVERFLOW
OG	OFF GAS
OXG	GASEOUS OXYGEN
OZ	OZONE
OZW	OZONATED WATER
PA	PLANT AIR
PAC	POLYALUMINUM CHLORIDE
PD	PLANT DRAIN
PEFF	PRIMARY EFFLUENT
PHOS	PHOSPHATE
POL	POLYMER
PP	POTASSIUM PERMANGANATE
PSL	PRIMARY SLUDGE
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
REW	RECLAIMED WATER
REF	REFRIGERANT
RS	RAW SEWAGE
RSL	RAW SLUDGE
RW	RAW WATER
SA	SAMPLE LINE
SBS	SODIUM BUSULTFITE
SCI	SCALE INHIBITOR
SCM	SCUM
SD	STORM DRAIN
SEFF	SECONDARY EFFLUENT
SG	SLUDGE GAS
SH	SODIUM HYDROXIDE/CAUSTIC SODA
SI	SODIUM SILICATE
SL	SLUDGE
SN	SUPERNATANT
SO	SULFUR DIOXIDE
SO2	SULFUR DIOXIDE SOLUTION
SO2V	SULFUR DIOXIDE GAS UNDER VACUUM
SOA	SULFURIC ACID
SPD	SUMP PUMP DISCHARGE
SS	SANITARY SEWER
ST	STEAM (LOW PRESSURE <10 PSI)
SW	SETTLED WATER
TD	TANK DRAIN
TE	TERTIARY EFFLUENT
TO	TANK OVERFLOW
TPW	PLUMBING TEMPERED WATER
TS	THICKENED SUPERNATANT
TSL	THICKENED SLUDGE
TW	TREATED WATER
TWAS	THICKENED WAS
UD	UNDER DRAIN
UW	UTILITY WATER
VE	VENT
VTR	PLUMBING VENT TO ROOF
W	POTABLE WATER
WAS	WASTE ACTIVATED SLUDGE
WLO	WASTE LUBE OIL
WW	WASTE WASHWATER
WWR	WASHWATER RETURN

PIPE SCHEDULE

ID	DESCRIPTION	SIZE	SERVICE	MATERIAL
OF	OVERFLOW	≥ 4	B/C	DI
		≥ 12	E/S	WS
SD	STORM DRAIN	≥ 4	B	PVC
TD	TANK DRAIN	≥ 4	B/C/E/S	DI
UD	UNDER DRAIN	≥ 4, ≤ 8	B	PVC
W	POTABLE WATER	≥ 4	B/C/E/S	DI
		≤ 1	B/C/E/S	CU

PIPE TYPE LEGEND

SIZE
NOMINAL DIAMETER IN INCHES

SERVICE
B BURIED
C CONCRETE ENCASED
E EXPOSED
S SUBMERGED

MATERIAL
FOR REFERENCE ONLY.
SEE SPECIFICATION 02510 FOR DETAILED PIPE MATERIAL REQUIREMENTS.

CU COPPER
DI DUCTILE IRON
GS GALVANIZED STEEL
PVC POLYVINYL CHLORIDE
WS WELDED STEEL

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
RICHARD LEE BARRAZA
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED KJ
DRAWN RLH
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

GENERAL EQUIPMENT DESIGNATIONS, PROCESS IDENTIFICATION CODES AND PIPE SCHEDULE

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 4 OF 57
G-04

IN ACCORDANCE WITH THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, R-14-03 REVISION OF WATER WORKS STANDARDS, CALIFORNIA CODE OF REGULATIONS TITLE: 22, CHAPTER 16, ARTICLE 6. DISTRIBUTION RESERVOIRS, SECTION 64585.
DESIGN AND CONSTRUCTION, THE FOLLOWING TABLE IS PROVIDED TO INDICATE HOW THE DISTRIBUTION RESERVOIRS REQUIREMENTS HAVE BEEN ADDRESSED IN THE DRAWINGS AND SPECIFICATIONS:

SECTION 64585	DDW DISTRIBUTION RESERVOIR REQUIREMENTS	COMMENTS	REFERENCE DRAWING REFERENCE SPECIFICATION
(a)(1)	1. ANY RESERVOIR COATINGS OR LININGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	RESERVOIR (PRESTRESSED CONCRETE) DOES NOT HAVE INTERIOR NOR EXTERIOR ABOVE-GRADE COATINGS. EXTERIOR BELOW GRADE COATING SHALL BE MODIFIED BITUMINOUS SHEET MEMBRANE WATERPROOFING WHICH SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	SECTION A SHEET S-12 SECTION 07136
(a)(2)	2. VENTS AND OTHER OPENINGS SHALL BE CONSTRUCTED AND DESIGNED TO PREVENT THE ENTRY OF RAINWATER OR RUNOFF, AND BIRDS, INSECTS, RODENTS, OR OTHER ANIMALS.	VENTS ARE CONSTRUCTED TO PREVENT THE ENTRY OF RAINWATER OR RUNOFF, BIRDS, INSECTS, RODENTS AND OTHER ANIMALS. ROOF VENT UTILIZES 20X20 STAINLESS STEEL BIRD AND #24 MESH INSECT SCREEN. VENT AND HATCHES ARE CONSTRUCTED ON CURBS WITH 11 ¼ INCH HEIGHT TO PREVENT ENTRY OF RAINWATER OR RUNOFF.	DETAIL 4 AND SECTION A SHEET S-22 SECTION 13201 PARAGRAPH 2.07 D.
(a)(3)	3. AT LEAST ONE SAMPLING TAP SHALL BE AVAILABLE TO ENABLE REPRESENTATIVE SAMPLING OF THE WATER IN THE RESERVOIR THAT WILL BE ENTERING THE DISTRIBUTION SYSTEM; THE TAP SHALL BE PROTECTED AGAINST FREEZING, IF NECESSARY.	A SAMPLE TAP IS PROVIDED AT GRADE AND ADJACENT TO THE RESERVOIR WITHIN A LOCKABLE ENCLOSURE TO PROTECT AGAINST FREEZING AND VANDALISM.	DETAIL 3 SHEET S-23
(a)(4)	4. A RESERVOIR SHALL NOT BE DESIGNED, CONSTRUCTED, OR USED FOR ANY ACTIVITY THAT CREATES A CONTAMINATION HAZARD.	THERE ARE NO CONTAMINATION HAZARDS ASSOCIATED WITH THE NEW RESERVOIR.	NOT APPLICABLE
(b)(1)	5. CONSTRUCTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCATION (AWWA) D110-13 (WIRE AND STRAND-WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS).	CONTRACT DOCUMENTS SPECIFY NEW 4.5 MG AWWA D110-13 WIRE- AND STRAND-WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS.	SECTION 13201 PARAGRAPH 1.02.A
(b)(2)	6. CONSTRUCTED OF AN IMPERVIOUS MATERIAL THAT PREVENTS THE MOVEMENT OF WATER INTO OR OUT OF THE RESERVOIR.	RESERVOIR IS DESIGNED AND CONSTRUCTED OF PRESTRESSED CONCRETE IN ACCORDANCE WITH AWWA D110-13 WIRE- AND STRAND-WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS. TANK SHALL BE LEAK TESTED PER SPECIFICATION SECTION 03340 IN ACCORDANCE WITH AWWA D110-13 AND ACI 350.1-10.	SECTION 03340 PARGRAPH 3.01 C. SECTION 13201 PARGRAPH 3.06 B.
(b)(3)(a)	7. COVERED WITH A RIGID STRUCTURAL ROOF MADE OF IMPERVIOUS MATERIAL THAT PREVENTS THE MOVEMENT OF WATER OR OTHER LIQUIDS INTO OR OUT OF THE RESERVOIR.	RESERVOIR IS COVERED WITH REINFORCED CONCRETE SLAB.	ROOF PLAN SHEET S-19
(b)(4)	8. EQUIPPED WITH AT LEAST ONE SEPARATE INLET AND OUTLET (INTERNAL OR EXTERNAL) AND DESIGNED TO MINIMIZE SHORT-CIRCUITING AND STAGNATION OF THE WATER FLOW THROUGH THE RESERVOIR.	RESERVOIR CONTAINS SEPARATE 18-INCH INLET/OUTLETS. ACTIVE MIXING IS PROVIDED WITH PAX MIXER, OR EQUAL, TO MINIMIZE SHORT CIRCUITING AND PREVENT STAGNATION OF WATER WITHIN THE RESERVOIR. PAX TANK MIXERS ALSO ADDED TO EXISTING TANKS 1A AND 1B.	SHEET S-11, E-11 AND I-04 SECTION 11220
(b)(5)	9. EQUIPPED WITH DRAINAGE FACILITIES THAT ALLOW THE TANK TO BE DRAINED AND ALL RESIDUAL SEDIMENT REMOVED, AND AN OVERFLOW DEVICE. THE RESERVOIR DRAINAGE FACILITIES AND OVERFLOW DEVICE SHALL NOT BE CONNECTED DIRECTLY TO A SEWER OR STORM DRAIN AND SHALL BE FREE OF CROSS-CONNECTIONS.	RESERVOIR IS EQUIPPED WITH SEPARATE 8-INCH DRAIN AND 12-INCH OVERFLOW. OUTLET IS ABOVE THE FLOOR TO PREVENT RESIDUAL SEDIMENT FROM ENTERING DISTRIBUTION SYSTEM. THE DRAIN AND OVERFLOW ARE CONSTRUCTED WITH AIR GAPS AND DUCKBILL TYPE ONE WAY CHECK VALVES.	DETAIL 2/C-08 DETAIL 2/S-23 AND DETAIL 1/S-24
(b)(6)	10. EQUIPPED WITH CONTROLS TO MAINTAIN AND MONITOR RESERVOIR WATER LEVELS.	RESERVOIR IS EQUIPPED WITH ALTITUDE VALVE, SEISMIC VALVE AND ULTRASONIC LEVEL INSTRUMENT TO MONITOR AND MAINTAIN RESERVOIR WATER LEVELS. A SEPARATE REDUNDANT HIGH-LEVEL SENSOR IS PROVIDED FOR OVERFLOW ALARM.	SHEETS E-11 AND I-04 SECTION 17140
(b)(7)	11. EQUIPPED TO PREVENT ACCESS BY UNAUTHORIZED PERSONS.	RESERVOIR IS EQUIPPED WITH LOCKABLE LADDER CAGE DOOR AND LOCKABLE ROOF HATCHES. THE LOCKABLE LADDER CAGE DOOR AND THE LOCKABLE ROOF HATCHES EACH HAVE A LIMIT SWITCH/INTRUSION ALARM TO NOTIFY OPERATIONS PERSONNEL WHEN OPENED.	DETAIL 2/S-22 DETAIL 2/S-25 SHEET I-04 SECTION 08307 PARAGRAPH 2.01F
(b)(8)	12. DESIGNED TO ALLOW AUTHORIZED ACCESS AND ADEQUATE LIGHTING OF RESERVOIR INTERIOR FOR INSPECTIONS, CLEANING OR REPAIR	RESERVOIR IS EQUIPPED WITH TWO LOCKABLE ROOF HATCHES TO ALLOW AUTHORIZED ACCESS AND LIGHTING OF RESERVOIR INTERIOR FOR INSPECTIONS, CLEANING OR REPAIR. THE OBSERVATION/EQUIPMENT HATCH HAS A CLEAR OPENING OF 8 FEET BY 4 FEET. THE ACCESS HATCH HAS A CLEAR OPENING OF 3.5 FEET BY 3.5 FEET.	DETAILS 2 & 3 SHEET S-22 SECTION 08307 PARAGRAPH 2.01F
(b)(9)	13. EQUIPPED WITH ISOLATION VALVES AND DESIGNED AND OPERATED TO ALLOW CONTINUED DISTRIBUTION OF WATER WHEN THE RESERVOIR IS REMOVED FROM SERVICE. THE ISOLATION VALVES SHALL BE LOCATED WITHIN 100 FEET OF THE RESERVOIR. FOR A RESERVOIR USED TO MEET THE DISINFECTANT CONTACT TIME REQUIREMENTS OF CHAPTER 17 (SURFACE WATER TREATMENT), BYPASS LINES SHALL BE BLIND-FLANGED CLOSED DURING NORMAL OPERATIONS.	THE COMBINED INLET/OUTLET PIPE FOR THE RESERVOIR IS EQUIPPED WITH BOTH MANUAL ISOLATION VALVES AND A SEISMIC VALVE. VALVES ARE IN THE ALTITUDE VALVE VAULT LOCATED WITHIN 100 FEET OF THE RESERVOIR. RESERVOIR IS NOT REQUIRED TO MEET THE DISINFECTANT CONTACT TIME REQUIREMENT OF CHAPTER 17 (SURFACE WATER TREATMENT). THERE ARE NO BYPASS PIPELINES ASSOCIATED WITH THE RESERVOIR.	DETAIL 1 SHEET C-15
(b)(10)	14. DESIGNED AND CONSTRUCTED TO PREVENT THE ENTRY OF SURFACE RUNOFF, SUBSURFACE FLOW, OR DRAINAGE INTO THE RESERVOIR.	RESERVOIR IS A PRESTRESSED CONCRETE TANK WITH NO OPENINGS NEAR GROUND SURFACE. A BELOW GRADE WATERPROOFING AND POLYETHYLENE LINER BELOW THE RESERVOIR FLOOR WITH DRAIN ROCK AND 6-INCH PERFORATED RING DRAINPIPE IS PROVIDED TO DIRECT SUBSURFACE FLOW AWAY FROM THE RESERVOIR. SURFACE RUNOFF, SUBSURFACE FLOW, OR DRAINAGE CANNOT ENTER INTO THE RESERVOIR. VENT AND HATCHES ARE CONSTRUCTED ON CURBS WITH 11 ¼ INCH HEIGHT TO PREVENT ENTRY OF SURFACE RUNOFF FROM ROOF.	SECTIONS A & B SHEET S-12 DETAIL 4 AND SECTION A SHEET S-22
(b)(11)	15. DESIGNED TO PREVENT CORROSION OF THE INTERIOR WALLS OF THE RESERVOIR.	RESERVOIR IS A PRESTRESSED CONCRETE TANK CONSTRUCTED IN ACCORDANCE WITH AWWA D110-13 WIRE- AND STRAND-WOUND, CIRCULAR, PRESTRESSED CONCRETE WATER TANKS. DESIGN IS INHERENTLY CORROSION RESISTANT.	SECTION 13201
(b)(12)(A)	16. PROTECTED AGAINST FLOODING (BOTH RESERVOIR AND VENTS).	RESERVOIR ROOF AND VENTS ARE LOCATED A MINIMUM OF 25 FEET ABOVE THE SURROUNDING GROUND ELEVATION. BOTH RESERVOIR AND VENTS ARE NOT SUSCEPTIBLE TO FLOODING.	SHEET S-12
(b)(12)(B)	17. EQUIPPED WITH UNDERDRAIN FACILITIES TO DIVERT ANY WATER IN PROXIMITY TO THE RESERVOIR AWAY FROM THE RESERVOIR.	A POLYETHYLENE LINER BELOW THE RESERVOIR FLOOR WITH DRAIN ROCK AND 6-INCH PERFORATED RING DRAINPIPE IS PROVIDED TO DIVERT WATER IN PROXIMITY TO THE RESERVOIR AWAY FROM THE RESERVOIR.	SECTION B SHEET S-12
(b)(12)(C)	18. SITED A MINIMUM OF 50 FEET HORIZONTALLY FROM A SANITARY SEWER AND 100 FEET HORIZONTALLY FROM ANY OTHER WASTE FACILITIES AND ANY FORCE MAIN.	THERE ARE NO SANITARY SEWER, WASTE FACILITIES OR FORCE MAINS WITHIN THE PROJECT AREA.	SHEET C-15
(b)(12)(D)	19. CONSTRUCTED SO AS TO HAVE THE RESERVOIR BOTTOM LOCATED ABOVE THE HIGHEST ANTICIPATED GROUNDWATER LEVEL, BASED ON A SITE INVESTIGATION THAT INCLUDES ACTUAL MEASUREMENTS OF THE GROUND WATER LEVEL DURING PEAK RAINFALL PERIODS;	RESERVOIR FLOOR WILL BE CONSTRUCTED ABOVE THE HIGHEST ANTICIPATED GROUNDWATER ELEVATION. GEOTECHNICAL BORINGS DONE DURING A PERIOD OF HIGH GROUND WATER (DECEMBER) RECORDED GROUNDWATER LEVELS 20 TO 31 FEET BELOW THE ELEVATION OF THE RESERVOIR FLOOR.	PAGE 9 GEOTECHNICAL REPORT (LACO, 2014)
(b)(12)(E)	20. PROVIDED WITH A MINIMUM OF TWO GROUNDWATER LEVEL MONITORING WELLS DRILLED TO A DEPTH AT LEAST 20 FEET BELOW THE RESERVOIR BOTTOM AND SITED WITHIN 100 FEET AND ON OPPOSITE SIDES (UPGRADIENT AND DOWNGRADIENT) OF THE RESERVOIR.	RESERVOIR FLOOR IS CONSTRUCTED MORE THAN 20 FEET ABOVE ANTICIPATED GROUNDWATER ELEVATION. IN ADDITION, A POLYETHYLENE LINER BELOW THE RESERVOIR FLOOR WITH DRAIN ROCK AND 6-INCH PERFORATED RING DRAINPIPE IS PROVIDED TO DIVERT WATER IN PROXIMITY TO THE RESERVOIR AWAY FROM THE RESERVOIR TO A DAYLIGHT POINT. A WAIVER FROM THE REQUIREMENT FOR GROUNDWATER LEVEL MONITORING WELLS IS REQUESTED.	SECTION B SHEET S-12
(b)(12)(F)	21. IF THE ROOF IS TO BE BURIED AND HAVE A FUNCTION (E.G., RECREATION, LANDSCAPE, PARKING) IN ADDITION TO COVERING THE RESERVOIR:1) DESIGNED AND CONSTRUCTED PURSUANT TO AWWA D110-13, 2) EQUIPPED WITH AN IMPERVIOUS CONNECTION, SUCH AS PVC WATERSTOP, BETWEEN THE WALL AND BURIED ROOF; AND 3) WATERTIGHT, SLOPED FOR DRAINAGE AND COATED WITH A DAMP PROOFING MATERIAL.	NOT APPLICABLE. RESERVOIR ROOF IS NOT BURIED.	NOT APPLICABLE

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 ——— 1"
0 ——— 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
RONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED CLW
DRAWN CLS
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

TITLE 22 DISTRIBUTION RESERVOIR REGULATIONS

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 5 OF 57
G-05

ABBREVIATIONS

'	FOOT, FEET
"	INCH, INCHES
#	POUND, NUMBER
%	PERCENT
&	AND
@	AT
±	APPROXIMATELY
℄	CENTERLINE
℞	PLATE
<	LESS THAN
=	EQUALS
>	GREATER THAN
Δ	DEFLECTION
∠	ANGLE
°	DEGREE(-S) (ANGULAR)
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
AB	AGGREGATE BASE, ANCHOR BOLT(-S)
ABAN(-D)	ABANDON(-ED)
ABS	ACRYLONITRILE-BUTADIENE-STYRENE
AC	ASPHALTIC CONCRETE
ACP	ASBESTOS CEMENT PIPE
ADA	AMERICANS WITH DISABILITIES ACT
ADDITIONAL	ADDITIONAL
ADJ	ADJUST(-ED,-MENT,-ABLE)
ADWF	AVERAGE DRY WEATHER FLOW
AF	ACRE-FEET
AGG	AGGREGATE
ALTD	ALTITUDE
ALUM	ALUMINUM
ANC	ANCHOR
APPROX	APPROXIMATE(-LY)
ARCH	ARCHITECT(-URAL)
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
AVG	AVERAGE
AWT	ADVANCED WATER TREATMENT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B/W	BOTTOM OF WALL
BC	BEGINNING OF HORIZONTAL CURVE
BCR	BEGIN CURB RETURN
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BLK	BLOCK(-S)
BM	BENCH MARK
BO	BLOWOFF
BOC	BACK OF CURB
BOT	BOTTOM
BVC	BEGINNING OF VERTICAL CURVE
C	CURVE
C/C	CENTER-TO-CENTER
CALC(S)	CALCULATION(S)
CATV	CABLE TV
CB	CATCH BASIN
CEM	CEMENT
CFS	CUBIC FEET PER SECOND
CHAN	CHANNEL
CI	CAST IRON
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CLR	CLEAR(-ANCE)
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMC	CEMENT MORTAR COATED
CML	CEMENT MORTAR LINED
CML&C	CEMENT MORTAR LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNJ	CONTROL JOINT
CNTR	CENTER
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (-ED, -S, -ION)
CONST	CONSTRUCTION
CONT	CONTINU(-ED, -OUS, -ATION)
CORP	CORPORATION
COTG	CLEANOUT TO GRADE
CP	CONTROL POINT, CATHODIC PROTECTION
CPLG	COUPLING
CPVC	CHLORINTATED POLYVINYL CHLORIDE
CR	CRUSHED ROCK
CTRL	CONTROL
CTS	CATHODIC TEST STATION
CU FT	CUBIC FOOT, CUBIC FEET
CU YD	CUBIC YARD(-S)
DCA	DOUBLE CHECK ASSEMBLY (TWIN ELEMENT CHECK VALVE)
DEFL	DEFLECTION
DEG	DEGREE(-S)
DEMO	DEMOLISH
DEPT	DEPARTMENT
DI	DUCTILE IRON, DROP INLET
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM(-S)	DIMENSION(-S)
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DISTR	DISTRIBUTION
DL	DEAD LOAD
DN	DOWN
DO	DISSOLVED OXYGEN
DR	DRAIN
DS	DOWN SPOUT
DTL(-S)	DETAIL(-S)
DWG(-S)	DRAWING(-S)
E	EAST
EA	EACH
EC	END OF HORIZONTAL CURVE
ECC	ECCENTRIC
ECD	EPOXY COATED
ECR	END CURB RETURN
EF	EACH FACE
EFFIC	EFFICIENCY
EFFL	EFFLUENT
EG	EXISTING GRADE
EGL	ENERGY GRADE LINE
EL	ELEVATION, EPOXY LINED
EL&C	EPOXY LINED AND COATED
ELEC	ELECTRIC(-AL)
ELL	ELBOW
EMERG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQ	EQUAL (-LY, -IZATION)
EQPM	EQUIPMENT
EST	ESTIMATE(-D)
ETC	ET CETERA
ETS	ELECTROLYSIS TEST STATION
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EXC	EXCAVATE
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERNAL
FAC	FACTORY
FACIL	FACILIT(-Y, -IES)
FC	FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDR	FEEDER
FF	FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH(-ED)
FL	FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE(-D)
FLOC	FLOCCULATION
FLR	FLOOR
FM	FLOW METER
FO	FIBER OPTIC
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FINISHED SURFACE
FT	FOOT, FEET
FTG	FOOTING
FUT	FUTURE
GA	GAUGE
GAC	GRANULAR ACTIVATED CARBON
GAL	GALLON(-S)
GALV	GALVANIZED
GAS	GASOLINE
GB	GRADE BREAK
GI	GALVANIZED IRON
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GROUND-PENETRATING RADAR
GR	GRATE
GRL	GUARDRAIL
GS	GALVANIZED STEEL
H	HIGH, HEIGHT
H2O2	HYDROGEN PEROXIDE
H2S	HYDROGEN SULFIDE
H2SO4	SULFURIC ACID
HB	HOSE BIB
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HH	HANDHOLE
HM	HOLLOW METAL
HORZ	HORIZONTAL
HP	HORSEPOWER
H-P	HINGE POINT
HPT	HIGH POINT
HR(S)	HOUR(-S)
HT	HEIGHT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRAULIC
I&C	INSTRUMENTATION AND CONTROL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH(-ES)
INFL	INFLUENT
INSTR	INSTRUMENT(-ATION)
INV	INVERT
IPS	IRON PIPE SIZE
IRRG	IRRIGATION
ISO	ISOLAT(-E, -ION)
IX	ION EXCHANGE
JB	JUNCTION BOX
JT	JOINT
L	LENGTH, LINE
LAT	LATERAL
LB(-S)	POUND(-S)
LB(-S)/SF	POUND(-S) PER SQUARE FOOT
LF	LINEAR FEET
LG	LONG
LIP	LIP OF GUTTER
LL	LIVE LOAD
LOC	LOCATION
LP	LOW POINT
LPG	LIQUIFIED PETROLEUM GAS (PROPANE OR BUTANE AS NOTED)
LR	LONG RADIUS
LT	LEFT TURN
LTG	LIGHTING
LWL	LOW WATER LEVEL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MF	MICROFILTRATION
MFR	MANUFACTURER
MG	MILLION GALLON(-S)
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIL(-S)	ONE-THOUSANDTH OF AN INCH
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MOD(-S)	MODIF(-Y, -ICATIONS)
MON	MONUMENT
MPH	MILES PER HOUR
MSE	MECHANICALLY STABILIZED EARTH
MT(-D, -G)	MOUNT(-ED, -ING)
MTL	METAL
N	NORTH
N/A	NOT APPLICABLE
NAD	NORTH AMERICAN DATUM
NAOCL	SODIUM HYPOCHLORITE
NAOH	SODIUM HYDROXIDE
NAVD	NORTH AMERICAN VERTICAL DATUM
NE	NORTHEAST
NF	NANOFILTRATION
NFC	NOT FOR CONSTRUCTION
NG	NATURAL GAS
NH3	AMMONIA
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NORM	NORMAL
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
NW	NORTHWEST
NWL	NORMAL WATER LEVEL
O3	OZONE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OG	ORIGINAL GROUND
OPNG(-S)	OPENING(-S)
ORIG	ORIGINAL
P	PNEUMATIC, PIPE
P/L	PROPERTY LINE
PACP	PERFORATED ASBESTOS CEMENT PIPE
PC(-S)	PIECE(-S), PHOTOCELL, POINT OF CURVE (BEGIN CURVE)
PCC	POINT OF COMPOUND CURVE
PCCP	PRETENSIONED CONCRETE CYLINDER PIPE
PCO	PRESSURE CLEANOUT
PCOTG	PRESSURIZED CLEANOUT TO GRADE
PE	POLYETHYLENE
PERC	PERCOLAT(-E, -ION)
PERF	PERFORAT(-E, -ED, -ES, -ATION)
PF	PROFILE
PI	POINT OF INTERSECTION
PM	PROJECT MANAGER
POT	POTABLE
PP	POWER POLE
PR	PAIR
PRESS	PRESSURE
PROP	PROPERTY
PROT	PROTECT(-OR)
PRV	PRESSURE RELIEF VALVE, PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PIPE SLEEVE
PSTA	PUMP STATION
PSV	PRESSURE SUSTAINING VALVE
PT(-S)	POINT OF TANGENT (END CURVE), PRESSURE-TREATED, POINT(-S)
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PW	POTABLE WATER
PWR	POWER
PWWF	PEAK WET WEATHER FLOW
R, RAD	RADIUS
R/W	RIGHT OF WAY
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RED	REDUCE(-R)
REG	REGULAT(-E, -OR, -ION, -ING)
REINF	REINFORC(-E, -ED, -ING, -EMENT)
REQD	REQUIRED
REQT	REQUIREMENT
RESIL	RESILIENT
RESV	RESERVOIR
RM	ROOM
RND	ROUND
RO	REVERSE OSMOSIS
RPP	REDUCED PRESSURE PRINCIPLE
RR	RAILROAD
RT	RIGHT TURN
RTE	ROUTE
RTN	RETURN
S	SEWER, SOUTH
S/W	SIDEWALK
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SECT	SECTION
SGNL	SIGNAL
SHT	SHEET
SI	SIDE INLET
SIM	SIMILAR
SPC(-S, -D)	SPACE(-S, -D)
SPEC(-S)	SPECIFICATION(-S)
SQ	SQUARE
SQ FT	SQUARE FEET
SQ MI	SQUARE MILES
SS	STAINLESS STEEL, SANITARY SEWER
ST	STREET
STA	STATION
STD(-S)	STANDARD(-S)
STL	STEEL
STM	STEAM
STRC	STRUCTUR(-E, -AL)
SUPP	SUPPORT(-S)
SURF	SURFACE
SW	SOUTHWEST
SYM	SYMMETRICAL
SYS	SYSTEM
T&B	TOP AND BOTTOM
T/C	TOP OF CONCRETE
T/P	TOP OF PAVEMENT
T/S	TOP OF STEEL
T/W	TOP OF WALL
T-_-P	TYPE _____ PIPE
T-_-S	TYPE _____ SUPPORT
TAN	TANGENT(-IAL)
TBM	TEMPORARY BENCHMARK, TUNNEL BORING MACHINE
TDH	TOTAL DYNAMIC HEAD
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
THK	THICK(-ENED, -ENER, -NESS)
THRU	THROUGH
TNK	TANK
TOPO	TOPOGRAPHY
TOT	TOTAL, TOTALIZE(R)
TP	TEST PIT
TRTMT	TREATMENT
TYP	TYPICAL
UD	UNDERDRAIN
UF	ULTRAFILTRATION
UG	UNDERGROUND
UNKN	UNKNOWN
UV	ULTRAVIOLET
VAR	VARIES, VARIABLE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE (AC)
VIF	VERIFY IN FIELD
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
VT	VENT
VTP	VERTICAL TURBINE PUMP
VTR	VENT TO ROOF
W	WIDE, WIDTH, WELDED, WEST
W/	WITH
W/O	WITHOUT
WB	WATER BAR
WCO	WALL CLEANOUT
WD	WOOD
WMH	WATER MANHOLE
WP	WATERPROOF
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
WSTP	WATERSTOP
WT	WEIGHT
WTP	WATER TREATMENT PLANT
WTR	WATER
WV	WATER VALVE
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWTP	WASTEWATER TREATMENT PLANT
XFMR	TRANSFORMER
YD	YARD
YR	YEAR

CIVIL NOTES

GENERAL

1. PROTECT ALL EXISTING AND CONSTRUCTED ITEMS:
   1.1. ON SITE
   1.2. ADJACENT TO SITE
   1.3. ALONG ROUTE TO CONSTRUCTION SITE.
   ANY DAMAGE SHALL BE IDENTIFIED TO OWNER AND REPAIRED PER OWNERS REQUIREMENTS.
2. OBTAIN PERMITS NECESSARY TO COMPLETE FEATURES WITHIN EASEMENTS, DEDICATIONS AND PUBLIC RIGHT-OF-WAY.
3. COORDINATES ARE PROVIDED AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:
   3.1. FACE OF WALL
   3.2. FACE OF CURB
   3.3. CORNER OF EQUIPMENT PADS AND VAULTS
4. SURFACE FEATURES SHALL BE ORIENTED PARALLEL TO CURB/GUTTER OR WALLS UNLESS OTHERWISE NOTED.
5. PROTECT ALL SURVEY MONUMENTS. ANY SURVEY MONUMENTS DAMAGED BY CONTRACTOR SHALL BE REPLACED BY A LICENSED SURVEYOR AT CONTRACTORS EXPENSE.
6. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
7. THE CONTRACTOR SHALL MAINTAIN A COPY OF AN APPROVED SET OF PLANS ON THE CONSTRUCTION SITE AT ALL TIMES.
8. "LIMITS OF EXCAVATION" INDICATES THE MINIMUM MATERIAL REMOVAL REQUIRED DUE TO GEOTECHNICAL RECOMMENDATIONS AND THE NATURE OF THE WORK. TAKE CARE NOT TO EXCAVATE BEYOND THE LIMITS INDICATED IN THE CONTRACT DOCUMENTS.
9. "LIMITS OF GRADING" INDICATES THE MINIMUM DISTURBANCE AREA DUE TO FINISH GRADES. LIMITS OF GRADING MAY NOT BE INCLUSIVE OF ALL PIPING, CONDUITS, OR DUCT BANKS. LIMITS OF GRADING MAY ALSO BE CALLED DAYLIGHT OR CONFORM LINE, WHICH ARE INTENDED TO BE INTERCHANGEABLE.
10. "LIMITS OF WORK" INDICATES THE TOTAL AREA OF DISTURBANCE DUE TO THE NATURE AND SCOPE OF THE WORK. THE TERM MAY ALSO BE USED TO INDICATE AREAS WHERE ACCESS IS LIMITED OR RESTRICTED.
11. PROVIDE TEMPORARY TRAFFIC SIGNAGE IN ACCORDANCE WITH STATE AND LOCAL AGENCIES DURING THE COURSE OF CONSTRUCTION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL WITHIN THE PUBLIC RIGHT OF WAY IN ACCORDANCE WITH LOCAL ORDINANCES. NO WORK SHALL COMMENCE UNTIL ALL REQUIRED TRAFFIC CONTROL MEASURES ARE IN PLACE.

ENVIRONMENTAL PROTECTION

1. COMPLY WITH ENVIRONMENTAL PROTECTION REQIREMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
2. PRIOR TO CONSTRUCTION ACTIVITIES OWNER SHALL DEMARCATE SENSITIVE HABITAT AREAS AND CONDUCT PRECONSTRUCTION BIOLOGICAL SURVEYS PER SECTION 01040. ACCESS WITHIN THE DEMARCATED HABITAT AREAS SHALL BE RESTRICTED TO THE MINIMUM REQUIRED TO COMPLETE RESPECTIVE CONSTRUCTION ACTIVITIES.
3. SEE MITIGATION MEASURES BIO-7 AND BIO-10 FOR OPEN-TRENCHING CONSTRUCTION AND RESTORATION AND POST CONSTRUCTION RESTORATION AND VEGETATION REQUIREMENTS.
4. SEE MITIGATION MEASURE HYD-2 FOR REQUIREMENTS RELATED TO THE PERMANENT ONSITE STORAGE OF EXCAVATED SOILS.

GRADING

1. ADJUST VALVE BOXES, PULL BOXES, VAULTS, AND MAHOLES TO FINISHED GRADES AND SLOPES SHOWN ON CIVIL GRADING DRAWINGS UNLESS OTHERWISE SHOWN OR SPECIFIED. MANHOLES IN OPEN FIELDS SHALL BE SET ONE FOOT ABOVE GRADE. APPROXIMATE RIM ELEVATIONS ARE SHOWN ON DRAWINGS.
2. GRADES SHOWN ARE TO TOP OF THE FINISHED SURFACE UNLESS NOTED OTHERWISE.
3. EXISTING FEATURES SHOWN OUTSIDE OF PROJECT SURVEY ARE FOR REFERENCE ONLY.

DEMOLITION

1. DEMOLITION SHOWN ON DRAWINGS IS THE MINIMAL AMOUNT REQUIRED TO COMPLETE DESIGN. ADJUST THE EXTENT OF DEMOLITION PER MEANS AND METHODS. COORDINATE ADDITIONAL DEMOLITION REQUIRED WITH THE ENGINEER.
2. SUBMIT AS-BUILTS OF UTILITIES ABANDONED IN PLACE AS PART OF THE WORK.

PIPING

1. THESE NOTES ARE GENERIC IN NATURE. PROJECT SPECIFIC NOTES ON FOLLOWING DRAWINGS TAKE PRECEDENCE.
2. THE CONTRACTOR SHALL COMPLY WITH THE STATE DEPARTMENT OF HEALTH SERVICES CRITERIA FOR THE SEPARATION BETWEEN WATER MAINS, NON-POTABLE WATER UTILITIES, AND SEWER.
3. WATER, STORM AND SEWER PIPELINES SHALL BE INSTALLED WITH A MINIMUM OF 36 INCHES OF COVER, UNLESS OTHERWISE NOTED.
4. PRIOR TO SUBMITTAL OF PIPE SHOP DRAWINGS, VERIFY THE INVERT ELEVATIONS, ALIGNMENT, OUTSIDE DIAMETER, LOCATION, AND MATERIAL OF ALL EXISTING PIPELINES TO WHICH NEW PIPELINES WILL BE CONNECTED.
5. PIPE STATIONING REPRESENTS THE HORIZONTAL PROJECTION OF THE PIPE CENTERLINE BETWEEN MANHOLES, POINTS OF INFLECTION, AND/OR CENTER OF FITTINGS.
6. RESTRAIN ALL PIPE, FITTINGS, FLEXIBLE CONNECTORS, AND/OR FLANGED COUPLING ADAPTERS UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
7. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL EXPOSE EXISTING PIPE(S) OR STRUCTURE(S) TO WHICH NEW PIPE(S) IS/ARE CONNECTING. VERIFY EXACT LOCATION, SIZE, MATERIALS, AND INVERT ELEVATIONS PRIOR TO SUBMITTING PIPE DRAWINGS.
8. PROTECT EXISTING UTILITIES UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN PROXIMITY TO GAS. CONTRACTOR SHALL NOTIFY UTILITY COMPANY WHEN WORKING WITHIN THE VICINITY AND SHALL FOLLOW UTILITY SAFETY GUIDELINES AND OSHA REQUIREMENTS. ALL CONSTRUCTION WITHIN 5 FEET HORIZONTALLY OF ANY GAS MAIN SHALL BE HAND DUG.
10. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN PROXIMITY TO OVERHEAD ELECTRICAL LINES. CONTRACTOR SHALL FOLLOW ELECTRICAL UTILITY SAFETY GUIDELINES AND OSHA REQUIREMENTS.
11. CROSSING PIPELINES SHOWN IN PROFILE REPRESENT OUTSIDE DIAMETER UNLESS OTHERWISE NOTED.
12. ORIENT ECCENTRIC MANHOLE(S) SUCH THAT THE LID IS OUTSIDE OF WHEEL PATH.
13. COORDINATES LOCATING MANHOLES ARE TO THE CENTER OF THE STRUCTURE.
14. SIZE OF FITTING SHOWN ON THE DRAWINGS SHALL CORRESPOND TO THE ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL MATCH AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE NOTED.
15. PIPE HANGERS AND SUPPORTS SHOWN ARE APPROXIMATE. FINAL PIPE SUPPORT SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
16. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS ARE APPROXIMATE. PROVIDE UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
17. CONTRACTOR SHALL PROVIDE AS-BUILT PIPELINE PLAN AND PROFILES IN ACCORDANCE WITH THE GENERAL CONDITIONS.
18. CONTRACTOR SHALL COORDINATE AND PERFORM PIPE CONNECTIONS TO APPURTENANCES, EXISTING PIPING, FACILITIES, AND TO THE WORK OF OTHER CONTRACTORS, IF APPLICABLE.

SURVEY NOTES

BASIS OF COORDINATES

HORIZONTAL DATA SHOWN HEREON ARE CALIFORNIA COORDINATE SYSTEM NAD83 (2011) ZONE 1, EPOCH 2010.0, BASED ON AN OPUS SOLUTION AT CONTROL POINT NUMBER 50. TO OBTAIN GROUND DISTANCES, A COMBINED SCALE FACTOR OF 1.00011844 SHOULD BE APPLIED.

BENCHMARK

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTIAL DATUM 1988 (NAVD 88).

UNDERGROUND UTILITIES

UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE BASED ON VISIBLE EVIDENCE AND UNDERGROUND SERVICE ALERT MARKINGS.

CONTROL POINT TABLE

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
117	198.52	2227859.89	5985066.60	CP 117
118	193.45	2227846.49	5985234.08	CP 118
125	272.99	2227453.74	5984522.70	CP.MAG
126	274.74	2227390.35	5984581.27	FND.3/4IP.LS3431
127	283.50	2227330.80	5984591.64	CP.MAG.DISK
128	283.48	2227263.89	5984727.75	CP.MAG.DISK
129	283.75	2227200.53	5984657.37	CP.MAG.DISK
226	192.89	2227834.89	5985301.38	PK W WASHER
240	193.84	2227828.76	5985225.59	BM 240

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NO	REVISION	DATE	BY

SCALES
0 ——— 1"
0 ——— 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JESSE A. CURTIS — No. C83541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED: JAC
DRAWN: HCS
CHECKED: CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

CIVIL ABBREVIATIONS AND NOTES

SCALE: AS SHOWN
JOB NO: 2076050.00
DATE: FEBRUARY 2023
SHEET 6 OF 57
C-01

GEOTECHNICAL SYMBOLS

- SOIL BORING LOCATION
- TEST PIT LOCATION
- MONITORING WELL

CORROSION CONTROL SYMBOLS

- ELECTROLYSIS TEST STATION
- CATHODIC TEST STATION

CTS	CORROSION TEST STATION
CATS	CASING TEST STATION
IJTS	INSULATING JOINT TEST STATION
FPTS	FOREIGN PIPELINE TEST STATION
CSTS	CURRENT SPAN TEST STATION

EROSION CONTROL SYMBOLS

- RIPRAP
- HAY BALE/STRAW WATTLE
- SILT FENCE

GENERAL CIVIL SYMBOLS

- SLOPE ON PAVED SURFACE OR PIPE
- BERM SLOPE (HORZ TO VERT)
- SURFACE FLOW DIRECTION

TOPOGRAPHY AND MAPPING SYMBOLS

- MAJOR CONTOURS
- MINOR CONTOURS
- TOP OF SLOPE
- TOE OF SLOPE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- GRADE BREAK
- RIDGE LINE
- EASEMENT LINE
- EASEMENT CENTERLINE
- TEMPORARY EASEMENT LINE
- TRAIL OR DIRT ROAD
- FLOW LINE
- FLOOD HAZARD AREA
- EDGE OF WETLANDS
- RAILROAD
- SITE OR RETAINING WALL
- GUARDRAIL (PERMANENT)
- LIMITS OF GRADING
- SPECIAL TREATMENT ZONE
- LIMITS OF EXCAVATION

EXISTING UTILITIES

- ABANDONED UTILITY
- CABLE TV
- COMMUNICATIONS LINE
- FIBER OPTIC CABLE
- FIRE SUPPLY WATER
- HIGH PRESSURE GAS
- IRRIGATION WATER
- LIQUID PETROLEUM
- MULTIPLE OVERHEAD UTILITES
- NATURAL GAS
- OVERHEAD ELECTRICAL
- POTABLE WATER
- POWER
- RECLAIMED WATER
- SANITARY SEWER
- STEAM
- STORM DRAIN
- TELEPHONE
- UNIDENTIFIED
- UTILITY/NON-POTABLE WATER
- WATER LINE

EXISTING FEATURES

- VEGETATION
- TREE (SIZE AND TYPE)
- WELL
- POWER POLE
- GUY LINE AND ANCHOR
- MAILBOX
- TRAFFIC SIGNAL BOX OR POLE
- SIGN
- TELEPHONE BOX
- COMMUNICATION/CATV BOX
- HOSE BIBB
- HOSE RACK
- WATER BOX/METER
- BACKFLOW PREVENTER
- MANHOLE OR VAULT
- FIRE HYDRANT

PROPOSED FEATURES

- DROP INLET CATCH BASIN
- FLARED END SECTION

PIPING AND UTILITIES

- AV/AR VALVE (IN PLAN) LOCATE ON SIDE SHOWN
- AV/AR VALVE (IN PROFILE)
- BLOWOFF (IN PLAN) LOCATE ON SIDE SHOWN
- BLOWOFF (IN PROFILE)
- FIRE HYDRANT (IN PLAN)
- MANHOLE (IN PLAN)
- CLEANOUT TO GRADE (IN PLAN)

SURVEY LEGEND AND SYMBOLS

- FIRE HYDRANT
- WATER METER
- WATER VALVE
- SANITARY SEWER MANHOLE
- SEWER CLEANOUT
- CHAIN LINK FENCE
- POWER POLE
- CURB
- TREE
- VEGETATION
- CONTROL POINT

ROADWORK AND PAVING

NOTES:
1. PAVING PATTERNS MAY ONLY APPEAR IN PORTIONS OF PAVED AREAS TO DEFINE LIMITS OF PAVING.
2. SEE ALSO GENERAL LEGEND FOR ADDITIONAL PAVING PATTERNS.

- ASPHALT (IN PLAN AND SECTION)
- CONCRETE CURB
- CONCRETE CURB AND GUTTER
- DRIVEWAY/ACCESS RAMP
- WELDED WIRE FABRIC (IN SECTION)

CONTROL SYMBOLS

- BENCH MARK
- SITE COORDINATES (SEE TABLE ON DRAWINGS)
- SITE COORDINATES
- CONTROL POINT
- MONUMENT
- FINISHED ELEVATION/GRADE
- EXISTING ELEVATION/GRADE
- CURVE DATA (SEE TABLE ON DRAWINGS)

STRUCTURES

- FENCE (CHAIN LINK)
- FENCE (WOOD)
- FENCE (SWING GATE)
- PROTECTIVE BARRIER
- PROTECTIVE BARRIER (REMOVABLE)
- STRUCTURE
- STRUCTURE (BELOW GRADE)

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0 25mm
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REGISTERED PROFESSIONAL ENGINEER — JESSE A. CURTIS — No. C85541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

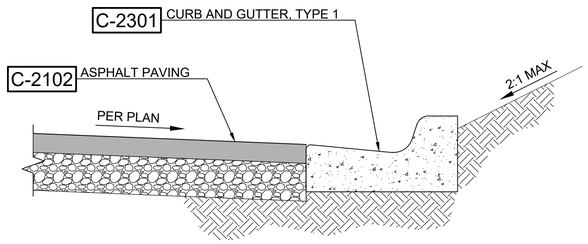
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

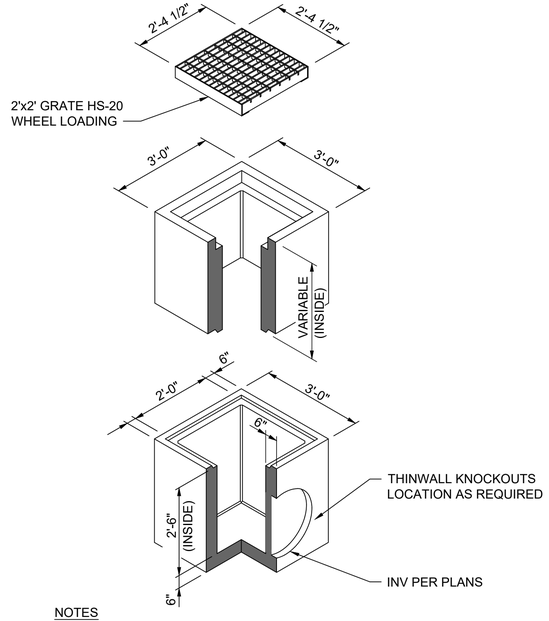
Kennedy Jenks

CIVIL LEGEND AND SYMBOLS

SCALE	AS SHOWN
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	7 OF 57
	C-02



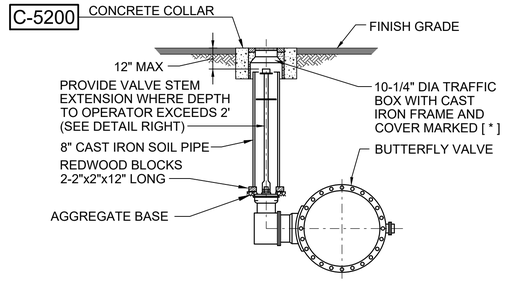
A C-13 ROAD SECTION
SCALE: NTS

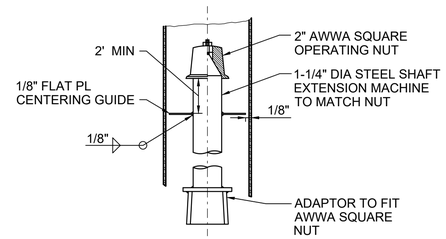


NOTES

1. INSTALL GRATES UNLESS OTHERWISE NOTED ON DWG C-16.
2. DEPTH OF CBS VARY. CONFORM TO INVERTS SHOWN ON C-16, AND GRATE ELEVATIONS SHOWN ON C-14.

1 C-16 CATCH BASIN/JUNCTION BOX
SCALE: NTS

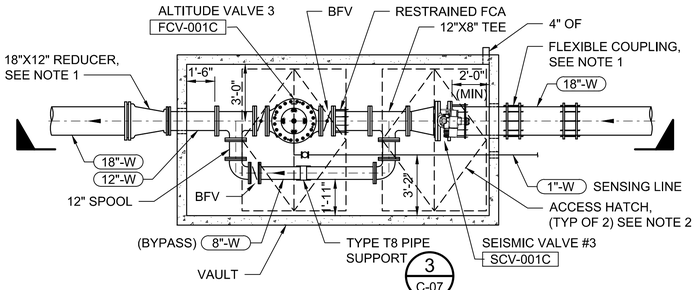




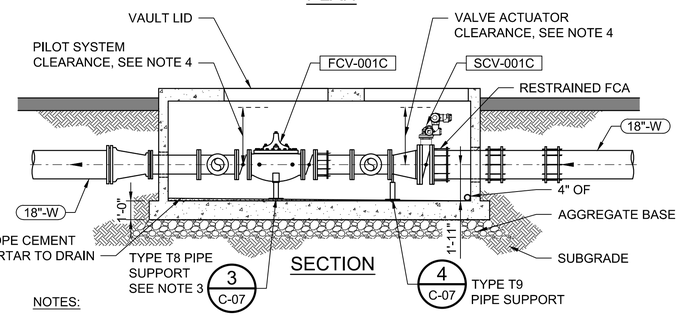
NOTE

1. PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY IN ACCORDANCE WITH SPECS.

2 C-15 BURIED BUTTERFLY VALVE INSTALLATION
SCALE: NTS



PLAN

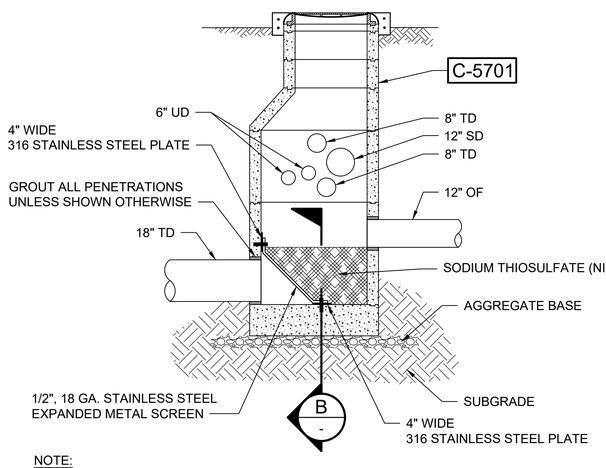


SECTION

NOTES:

1. PROVIDE TWO JOINTS CAPABLE OF ANGULAR DEFLECTION PER REQUIREMENTS OF SPECIFICATION SECTION 02510.
2. COORDINATE HATCH POSITION TO FACILITATE ACCESS TO VALVES. SEE SPECIFICATION SECTION 08307.
3. TOP STRAP OF SUPPORT NOT REQUIRED. SIZE BOTTOM STRAP TO FIT BOTTOM PROFILE OF ALTITUDE VALVE.
4. DIMENSION REQUIRED FOR PILOT SYSTEM AND VALVE ACTUATOR DIMENSION APPROXIMATELY 36 INCHES. COORDINATE FINAL VAULT DIMENSIONS WITH APPROVED ALTITUDE VALVE AND ACTUATOR SUBMITTALS.

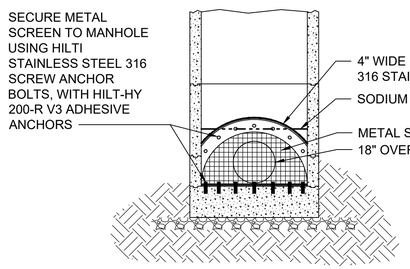
5 C-16 ALTITUDE VAULT
SCALE: 1/4"=1'-0"



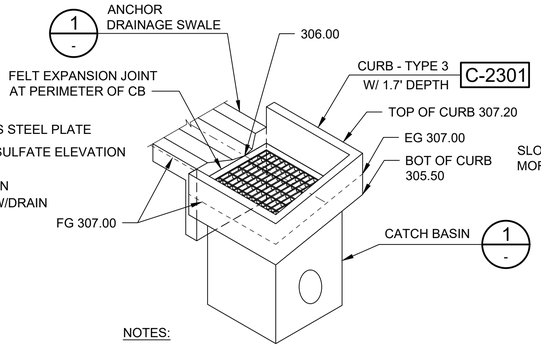
NOTE:

1. PROVIDE LABELS MEETING REQUIREMENTS OF SPECIFICATION SECTION 10400 ATTACHED ABOVE PIPES INSIDE OF MANHOLE FOR IDENTIFICATION AS FOLLOWS:
   - 6" UD TANK 1C
   - 6" UD TANK 1C
   - 8" DRAIN TANK 1C
   - 8" DRAIN TANKS 1A & 1B
   - 12" SD TANK 1C
   - 12" SD BASIN

3 C-16 NEUTRALIZATION MANHOLE
SCALE: NTS



B - NEUTRALIZATION MANHOLE SECTION
SCALE: NTS



NOTES:

1. FLOWLINE OF SWALE IS SAME ELEVATION OF GRATE.
2. CURB IS INSTALLED OUTSIDE OF CB. SEE SHEETS C-13 AND C-16.
3. PROVIDE MINIMUM REINFORCEMENT IN CURB/WALL. REFER TO STRUCTURAL SHEET S-01.

4 C-16 SWALE INTAKE CATCH BASIN
SCALE: NTS

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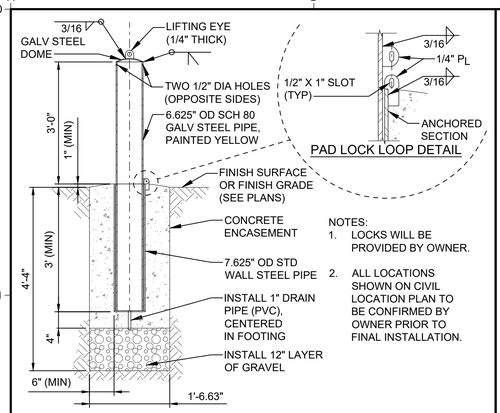
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

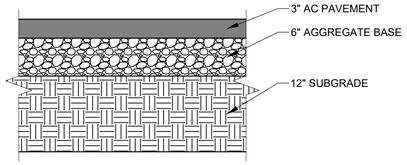
CIVIL DETAILS - I

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 8 OF 57
C-03

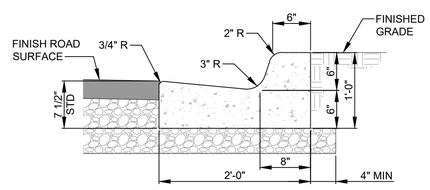


NOTES:
1. LOCKS WILL BE PROVIDED BY OWNER.
2. ALL LOCATIONS SHOWN ON CIVIL LOCATION PLAN TO BE CONFIRMED BY OWNER PRIOR TO FINAL INSTALLATION.

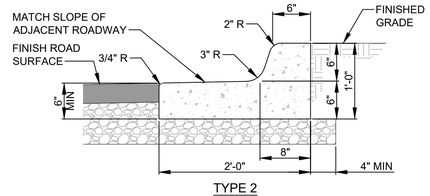
GUARD POST — C-1101
REMOVABLE — SCALE: NTS — REV 01



PAVEMENT SECTION — C-2102
AC — SCALE: NTS — REV 2021



TYPE 1



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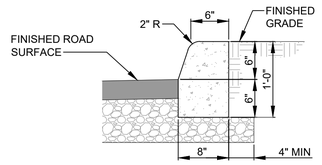

TYPE 3

NOTES:
1. INSTALL 1/4" EXPANSION JOINT AT 30'-0" MAXIMUM SPACING.
2. INSTALL A WEAKENED PLANE JOINT EVERY 10'0".
3. INSTALL SUBGRADE TO A MIN DEPTH OF 12" FOR THE FULL WIDTH OF BASE MATERIAL, UON.
4. PROVIDE A BROOM FINISH.

CURB AND GUTTER — C-2301
TYPE 1, 2, AND 3 — SCALE: NTS — REV 00

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

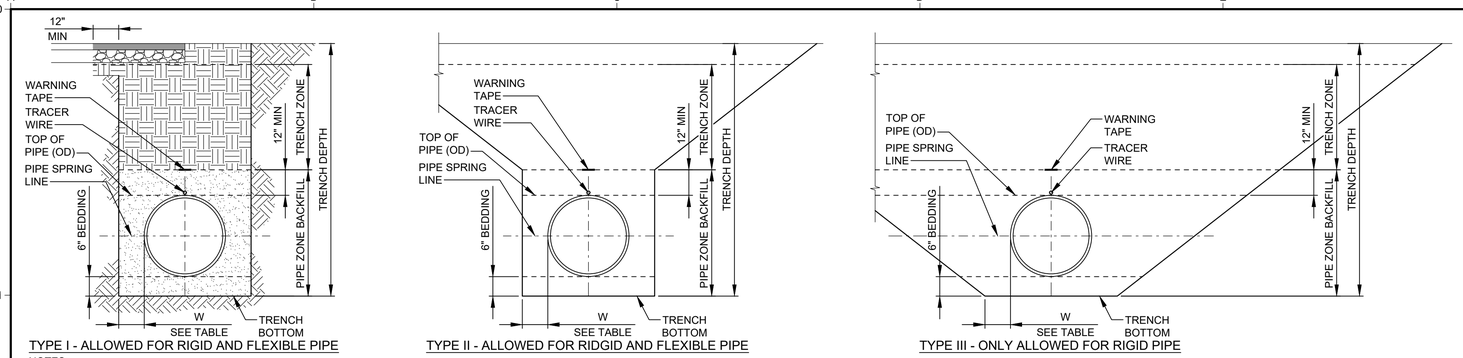
REGISTERED PROFESSIONAL ENGINEER — JESSE A. CURTIS — No. C83541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED: JAC
DRAWN: HCS
CHECKED: CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

CIVIL DETAILS - II

SCALE: AS SHOWN
JOB NO: 2076050.00
DATE: FEBRUARY 2023
SHEET 9 OF 57
C-04



TYPE I - ALLOWED FOR RIGID AND FLEXIBLE PIPE

TYPE II - ALLOWED FOR RIDGID AND FLEXIBLE PIPE

TYPE III - ONLY ALLOWED FOR RIGID PIPE

NOTES:

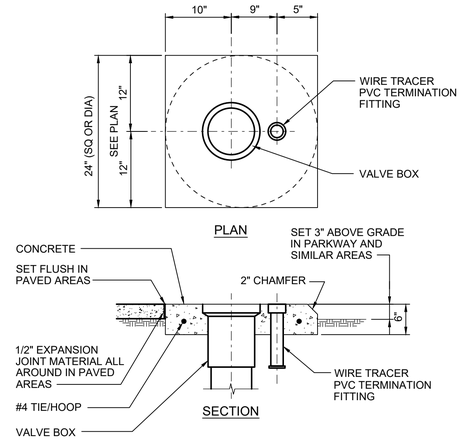
1. COORDINATE WITH THE ENGINEER IF OBSTRUCTIONS ARE ENCOUNTERED THAT DEMONSTRATIVELY MAKES THESE SECTIONS UNVIABLE.
2. TRENCH SECTIONS OTHER THAN AS SHOWN MAY BE UTILIZED PROVIDED THEY COMPLY WITH LOCAL, STATE AND FEDERAL SAFETY STANDARDS AND THE CONTRACTOR HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER. PIPE DESIGN CALCULATIONS AND PROOF OF COMPLIANCE SHALL BE SUBMITTED TO THE ENGINEER A MINIMUM 7 DAYS PRIOR TO TRENCHING.
3. RIGID PIPE REFERS TO REINFORCED AND UN-REINFORCED CONCRETE PIPE AND VITRIFIED CLAY PIPE. FLEXIBLE PIPE REFERS TO STEEL, DUCTILE IRON AND PLASTIC PIPES (PVC AND HDPE).

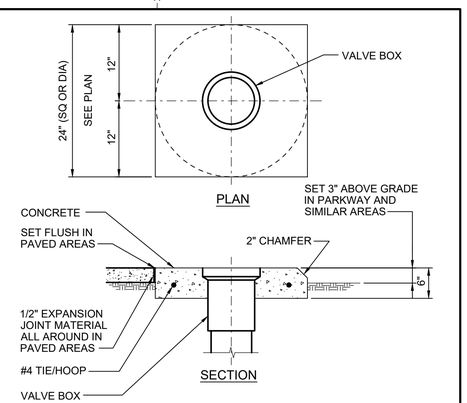
TRENCH DIMENSION SCHEDULE		
NOMINAL PIPE SIZE	"W" MIN	"W" MAX
SALLER THAN 12"	6"	23"
12" TO 24"	8"	18"
GREATER THAN 24"	12"	24"

TRENCH SECTION

C-5001

SCALE: NTS
REV 00





VALVE BOX COLLAR

C-5200

SCALE: NTS
REV 01

NOTE:

IN FIGURE ABOVE (100%) AT THRUST BLOCK INDICATES THE PERCENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA

THRUST PER PSI OF WATER PRESSURE AT VARIOUS FITTINGS				
PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	19	27	15	7
6	39	55	30	15
8	67	94	51	26
10	109	154	84	43
12	155	218	119	61
14	210	296	161	82
16	275	383	209	106
18	351	494	269	137
20	434	611	333	169
24	623	878	478	244

EXAMPLE:

8-INCH 90° ELBOW, PRESSURE=200 PSF
FROM TABLE: THRUST = 94 X 200 = 18,800 lb
ASSUME BEARING STRENGTH OF SOIL = 2000 PSF

18,800 / 2000 =9.4 SQ FT= BEARING AREA REQUIRED FOR THRUST BLOCK

SIDE THRUST PER 100 PSI PRESSURE PER DEGREE OF DEFLECTION			
PIPE SIZE	SIDE THRUST-lb	PIPE SIZE	SIDE THRUST-lb
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

NOTES:

1. IN USING THE ABOVE TABLES, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (i.e. HYDROSTATIC TEST PRESSURE) POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT-OFF, ETC.
2. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL IN THE ABSENCE OF A SOILS REPORT AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 PSF
3. USE LIGHTWEIGHT CONCRETE FOR HILL THRUST BLOCK.
4. CONCRETE FOR THRUST BLOCKS TO BE 2000 PSI.

CONCRETE THRUST BLOCKS

C-5401

SCALE: NTS
REV 00

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JESSE A. CURTIS — No. C83541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

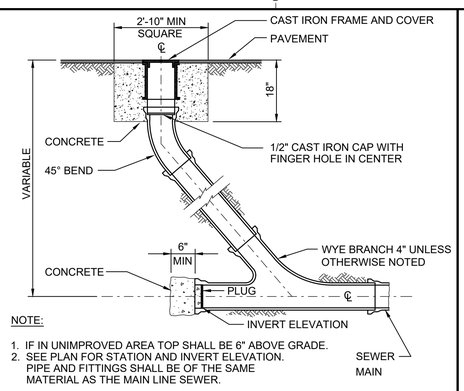
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

CIVIL DETAILS - III

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 10 OF 57
C-05

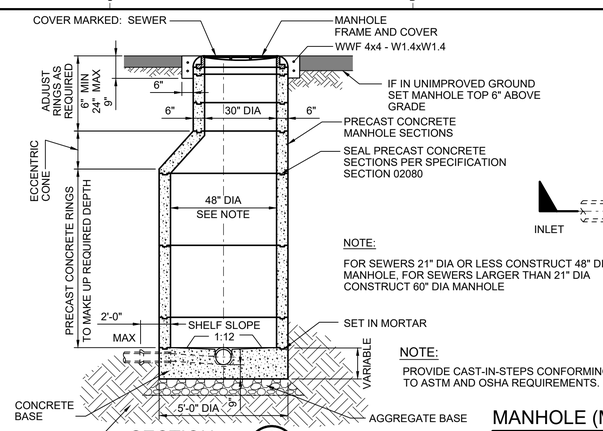


NOTE:

1. IF IN UNIMPROVED AREA TOP SHALL BE 6" ABOVE GRADE.
2. SEE PLAN FOR STATION AND INVERT ELEVATION. PIPE AND FITTINGS SHALL BE OF THE SAME MATERIAL AS THE MAIN LINE SEWER.

CLEANOUT TO GRADE (COTG) — C-5601

PAVED AREAS — SCALE: NTS — REV 01



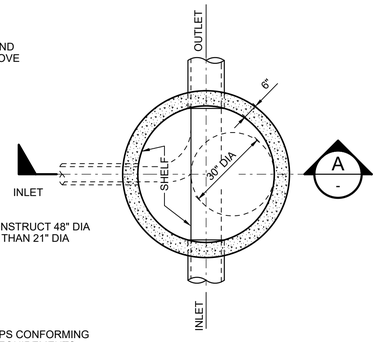
NOTE:

FOR SEWERS 21" DIA OR LESS CONSTRUCT 48" DIA MANHOLE. FOR SEWERS LARGER THAN 21" DIA CONSTRUCT 60" DIA MANHOLE

NOTE:

PROVIDE CAST-IN-STEPS CONFORMING TO ASTM AND OSHA REQUIREMENTS.

SECTION A



SECTIONAL PLAN

MANHOLE (MH) — C-5701

SEWER, WITH ECCENTRIC CONE — SCALE: NTS — REV 01

CONCRETE FENCE POST BASES

ELEVATION

NOTES

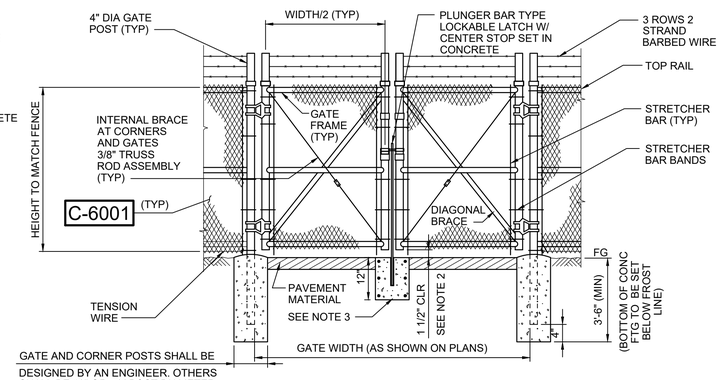
1. ALL MATERIAL TO CONFORM TO FEDERAL SPEC RR-F-191G (1-25-74).
2. ALL GALVANIZED FITTINGS TO CONFORM TO ASTM-A153.
3. PROVIDE TENSION BAR BANDS AND TRUSS ROD AND TIGHTENERS AT CORNERS.

FENCE — C-6001

CHAIN LINK — SCALE: NTS — REV 00

NOTES:

1. SEE SPECIFICATIONS FOR FENCE MATERIAL, COATINGS, AND INSTALLATION REQUIREMENTS.
2. SEE SPECIFICATIONS FOR CLEARANCES IN SNOW REGIONS.
3. 12" DIAMETER X 18" DEEP CONCRETE STOP W/ 20 GA STEEL PLUNGER SLEEVE, DIA = ROD OD +1/2".



GATE — C-6121

CHAIN LINK, DOUBLE LEAF — SCALE: NTS — REV 01

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES

0 — 1"

0 — 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JESSE A. CUEVAS — No. C83541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA

02/10/23

DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

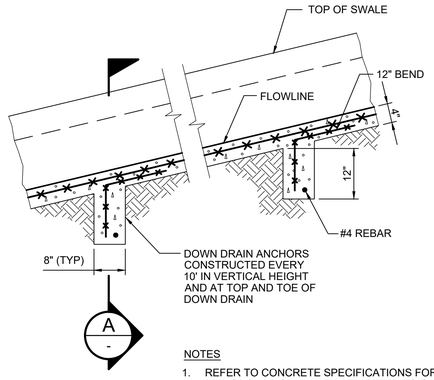
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

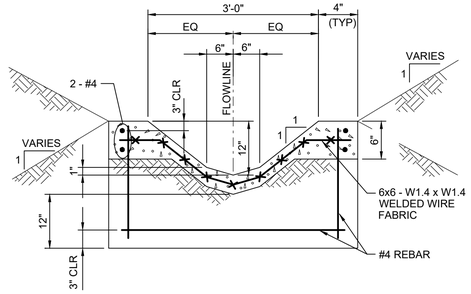
4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

CIVIL DETAILS - IV

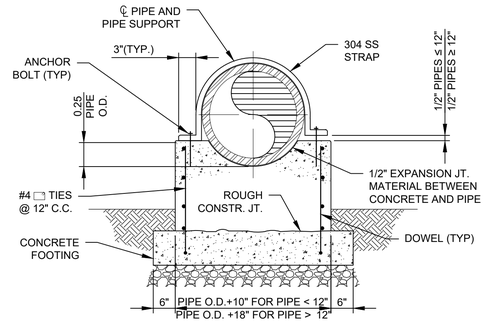
SCALE	AS SHOWN
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	11 OF 57
	C-06



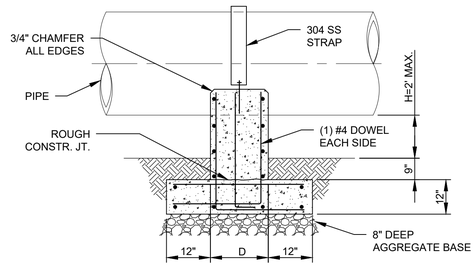


NOTES

1. REFER TO CONCRETE SPECIFICATIONS FOR MINIMUM COMPRESSIVE STRENGTH.
2. THE GROUND SHALL BE PREWETTED TO OPTIMUM MOISTURE.
3. EXPANSION JOINTS OF 1/2" PREMOLDED JOINT FILLER SHALL BE PLACED AT 20'-0" SPACING.
4. OMIT ANCHORS IN AREAS WHERE SLOPE IS LESS THAN 3:1.



END VIEW

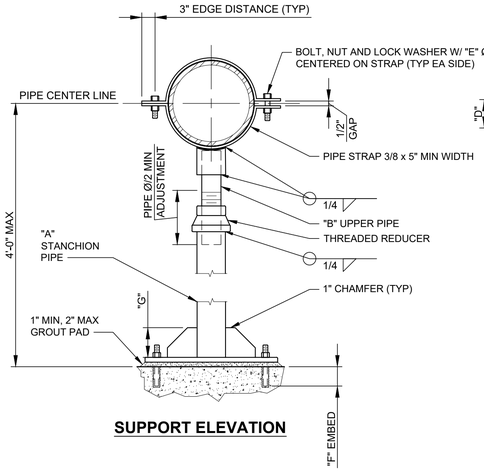


SIDE VIEW

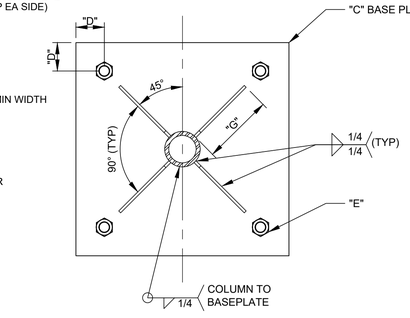
PIPE SIZE	"D"	DOWELS	ANCHOR BOLT	STEEL STRAP
>12" ≤ 30"	1'-6"	#5 @12"	3/4", 30" EMBED	3/8" X 2"

1 C-13 ANCHORED DRAINAGE SWALE
SCALE: NTS

A - SECTION
SCALE: NTS



SUPPORT ELEVATION



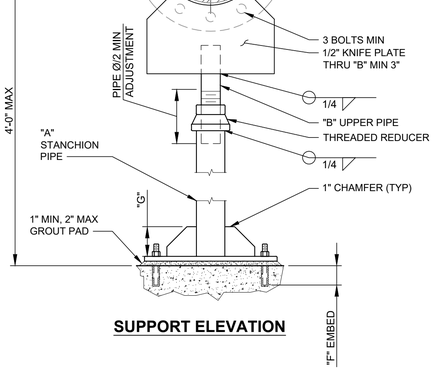
BASE PLATE PLAN

ADJUSTABLE PIPE SUPPORT									
PIPE SIZE	"A" STANCHION PIPE	"B" NECK PIPE	"C" BASE PLATE	"D" EDGE DISTANCE	"E" (Ø ANCHOR AND BOLT SIZE)	"F" MIN EMBED DEPTH	"G" GUSSET HEIGHT AND WIDTH	MIN CONCRETE SLAB THICKNESS	MIN CONCRETE EDGE DISTANCE
8"	3" XS	2 1/2"	14" SQ X 1/2" THK	1 1/2"	(4) 3/4"	7"	3"	1'-0"	1'-0"
12"	3" XS	2 1/2"	16" SQ X 3/4" THK	1 1/2"	(4) 7/8"	10"	5"	1'-0"	1'-6"

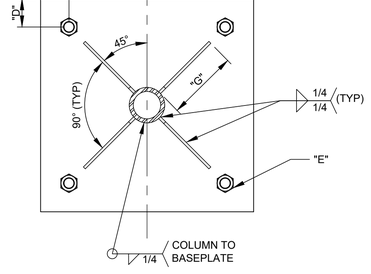
NOTES:
1. IF ADJUSTMENT IS NOT REQ'D, DELETE UPPER/NECK PIPE AND REDUCER AND WELD STANCHION DIRECTLY TO BOTTOM PIPE STRAP.
2. PIPE SUPPORT TO BE HOT DIP GALVANIZED. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.
4. ANCHOR BOLTS SHALL BE GALVANIZED GR 55 THREADED ROD W/ HILTI HIT-RE 500 V3 EPOXY ADHESIVE.
5. GUSSET PLATES SHALL BE 1/4" THICK UNLESS OTHERWISE NOTED. CHAMFER GUSSET PLATES @ INTERSECTION OF COLUMN AND BASE PLATE SO WELDS DO NOT OVERLAP.
6. BASE PLATE SHALL HAVE CORNERS AND EDGES ROUNDED W/ 1/8" RADIUS.

3 C-03 TYPE T8 PIPE SUPPORT
SCALE: NTS

2 C-17 TYPE T22S PIPE SUPPORT
SCALE: NTS



SUPPORT ELEVATION



BASE PLATE PLAN

ADJUSTABLE PIPE SUPPORT									
PIPE SIZE	"A" STANCHION PIPE	"B" NECK PIPE	"C" BASE PLATE	"D" EDGE DISTANCE	"E" (Ø ANCHOR AND BOLT SIZE)	"F" MIN EMBED DEPTH	"G" GUSSET HEIGHT AND WIDTH	MIN CONCRETE SLAB THICKNESS	MIN CONCRETE EDGE DISTANCE
12"	3" XS	2 1/2"	16" SQ X 3/4" THK	1 1/2"	(4) 7/8"	10"	5"	1'-0"	1'-6"

NOTES:
1. IF ADJUSTMENT IS NOT REQ'D, DELETE UPPER/NECK PIPE AND REDUCER AND WELD STANCHION DIRECTLY TO KNIFE PLATE.
2. PIPE SUPPORT TO BE HOT DIP GALVANIZED. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.
4. ANCHOR BOLTS SHALL BE GALVANIZED GR 55 THREADED ROD W/ HILTI HIT-RE 500 V3 EPOXY ADHESIVE.
5. GUSSET PLATES SHALL BE 1/4" THICK UNLESS OTHERWISE NOTED. CHAMFER GUSSET PLATES @ INTERSECTION OF COLUMN AND BASE PLATE SO WELDS DO NOT OVERLAP.
6. BASE PLATE SHALL HAVE CORNERS AND EDGES ROUNDED W/ 1/8" RADIUS.

4 C-03 TYPE T9 PIPE SUPPORT
SCALE: NTS

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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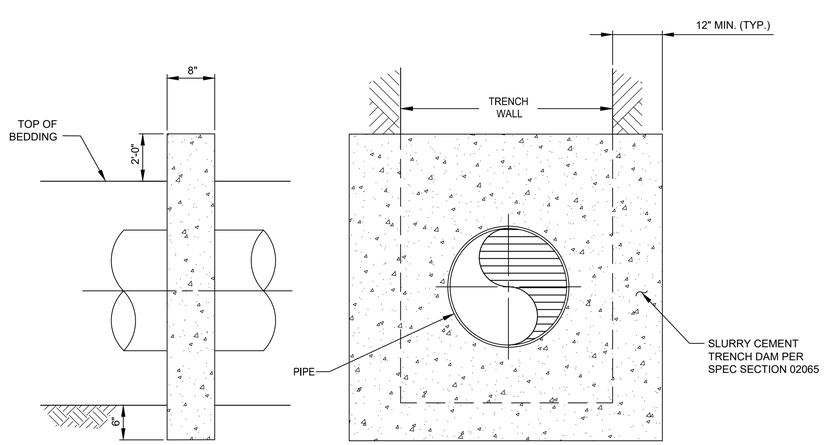
REGISTERED PROFESSIONAL ENGINEER JESSE A. CUEVAS No. C83417 Exp.9/30/2024 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

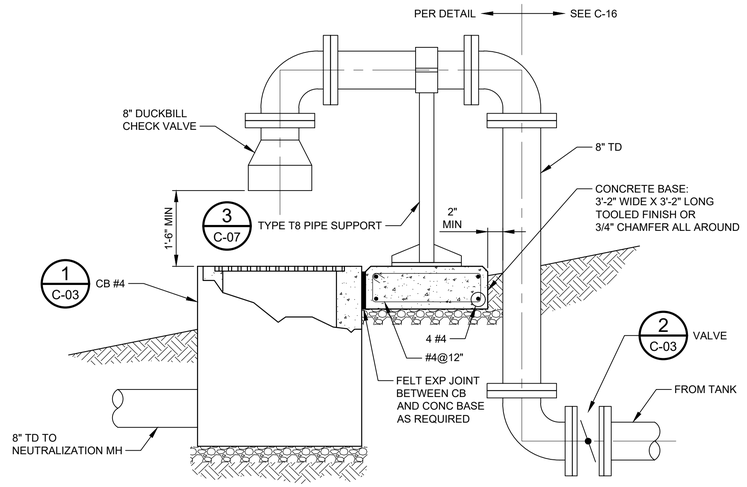
CIVIL DETAILS - V

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 12 OF 57
C-07



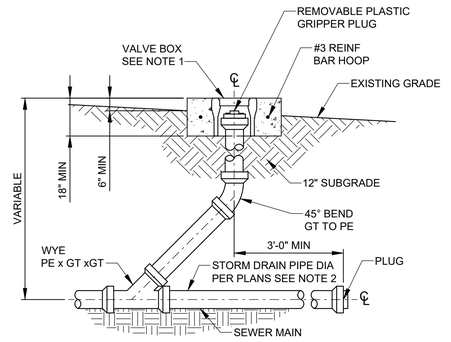
NOTES:
1. PROVIDE TRENCH DAMS AS SHOWN ON DRAWING PROFILES FOR PIPES WITH SLOPES GREATER THAN 4%.
2. TRENCH DAMS SHALL BE KEYED INTO UNDISTURBED SOIL 12" MIN. BEYOND TRENCH WALLS & 6" BELOW TRENCH BOTTOM.

1 C-17 TRENCH DAM
SCALE: NTS



NOTES:
1. FOR 8" TD INVERTS AND CB #4, SEE C-16.
2. FOR CB #4 GRATE ELEVATION, SEE C-14.

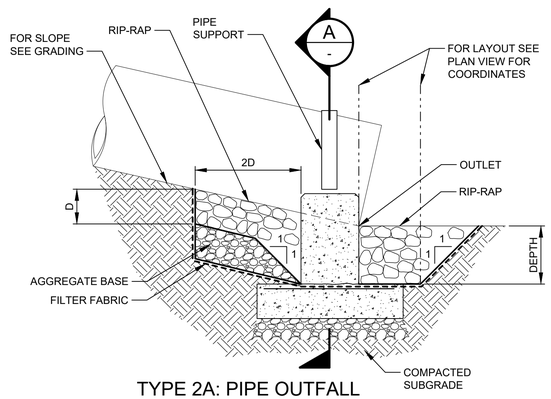
2 C-16 DUCKBILL CHECK VALVE
SCALE: NTS



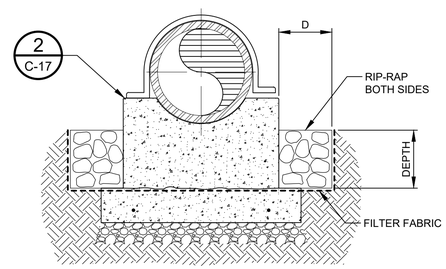
NOTES:
1. TOP OF CLEAN OUT SHALL BE LOCATED IN A PRECAST CONCRETE VALVE BOX WITH CAST IRON LID. VALVE BOX SHALL BE LABELED "D" AND SET 6" ABOVE GRADE.
2. CLEANOUT SIZE SHALL MATCH STORM DRAIN PIPE SIZE.
3. TRENCH MATERIALS PER TRENCH DETAIL.

3 C-16 CLEANOUT FOR NON-PAVED AREAS
SCALE: NTS

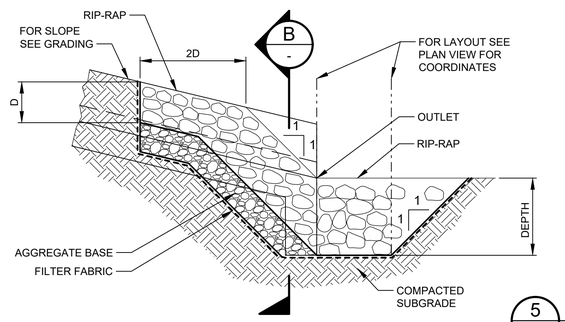
C-17



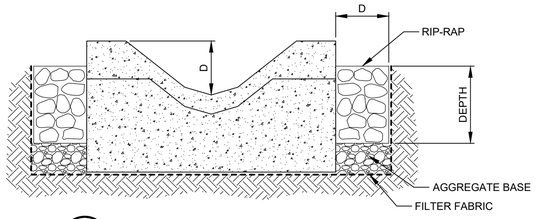
TYPE 2A: PIPE OUTFALL



A - PIPE OUTFALL
SCALE: NTS



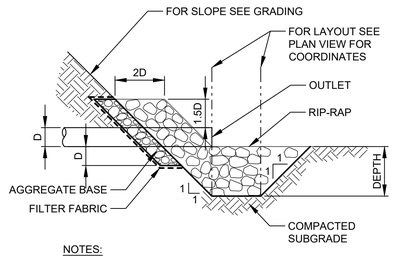
TYPE 2B: SWALE OUTFALL



B - SWALE OUTFALL
SCALE: NTS

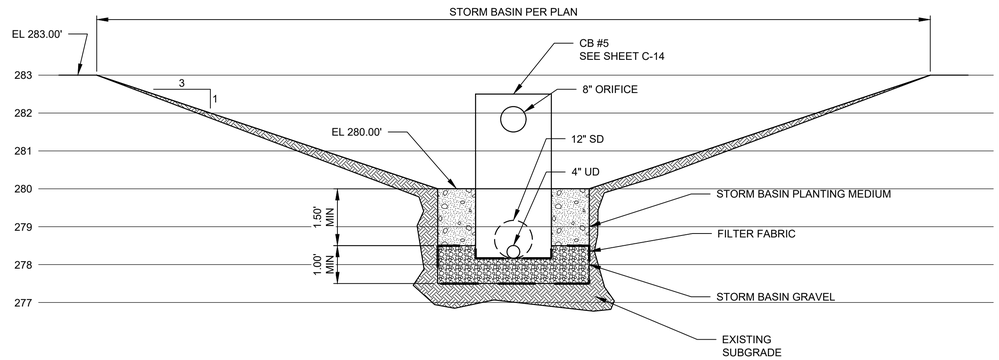
NOTES:
1. SEE PLAN VIEW DRAWING FOR DEPTH OF RIP-RAP AND SIZE OF ROCK.
2. SEE YARD PIPING FOR PIPE DIAMETER (D).
3. EXTEND RIP-RAP AS SHOWN UNLESS OTHERWISE NOTED ON DRAWINGS.

5 C-13 C-17 RIP-RAP PROTECTION TYPE 2
SCALE: NTS



NOTES:
1. SEE PLAN VIEW DRAWING FOR DEPTH OF RIP-RAP AND SIZE OF ROCK.
2. SEE YARD PIPING FOR PIPE DIAMETER (D).
3. EXTEND RIP-RAP AS SHOWN UNLESS OTHERWISE NOTED ON DRAWINGS.

4 C-16 RIP-RAP PROTECTION TYPE 1
SCALE: NTS



A C-16 STORM BASIN SECTION
SCALE: 1/2" = 1'-0"

NO	REVISION	DATE	BY

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

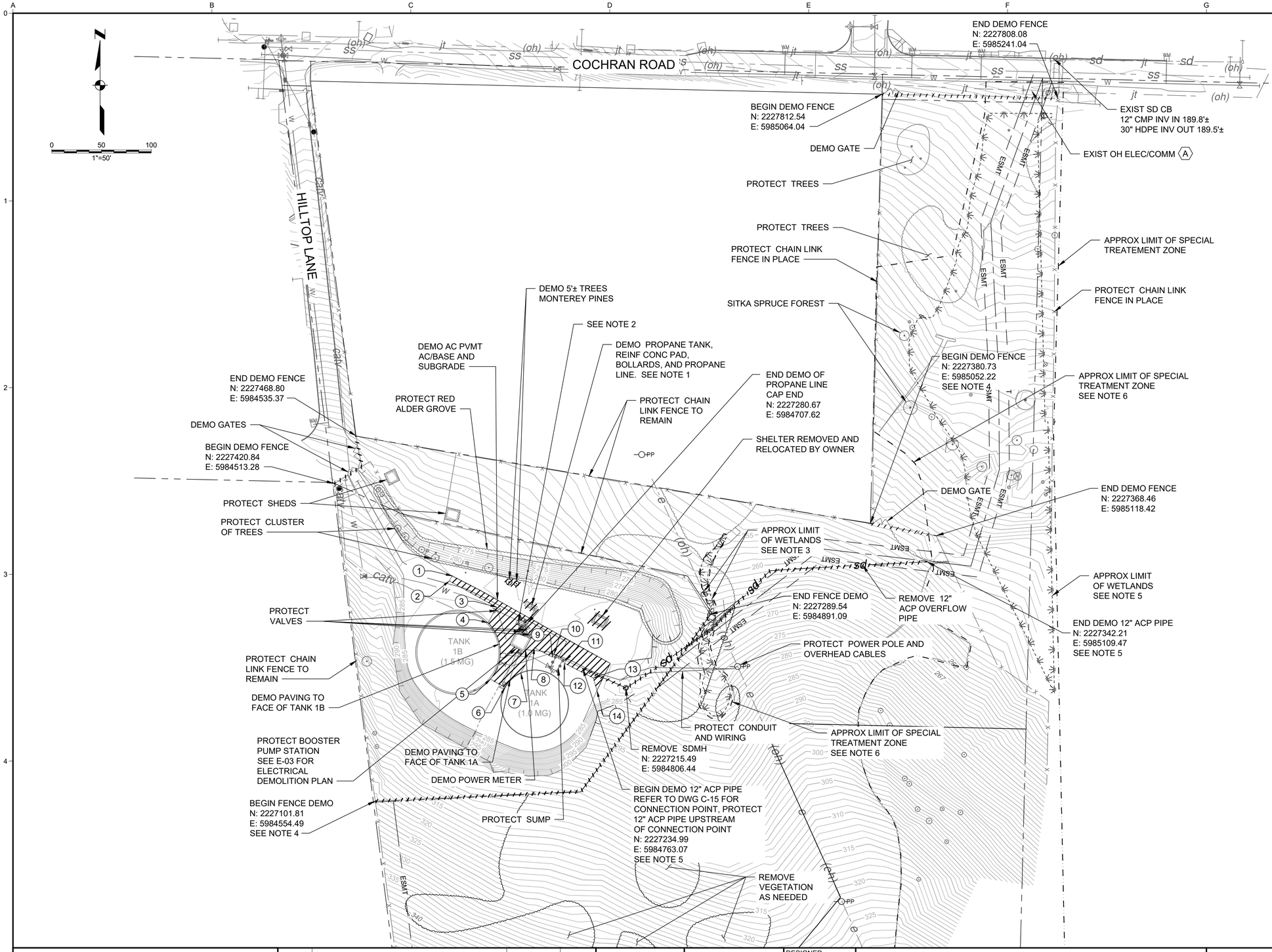
REGISTERED PROFESSIONAL ENGINEER — JESSE A. CURTIS — No. C85541 Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

CIVIL DETAILS - VI

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 13 OF 57
C-08



GENERAL SHEET NOTES

1. SEE SPECIFICATION SECTION 01010 FOR CONSTRUCTION SEQUENCING CONSTRAINTS RELATED TO THE REMOVAL OF STANDBY GENGERATOR AND ASSOCIATED PROPANE TANK AND FUEL LINE.
2. DEMOLISH EXISTING VAULT AND BOLLARDS. PROTECT AND SUPPORT ALL UTILITIES DURING DEMOLITION AND PRIOR TO INSTALLATION OF NEW VAULT.
3. SEE MITIGATION MEASURES BIO-6: WETLAND IDENTIFICATION AND DEMARCATION AND BIO-7: OPEN-TRENCHING CONSTRUCTION AND RESTORATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
4. CONTRACTOR TO REMOVE EXISTING CHAIN LINK FOOTINGS IN THEIR ENTIRETY. SALVAGE CHAIN LINK MATERIAL AND RETURN TO OWNER. CONTRACTOR TO COORINATE DATE AND LOCATION OF DELIVERY WITH OWNER AND PROVIDE ROLLED SALVAGED CHAIN LINK MATERIAL ACCORDINGLY.
5. DO NOT CUT THROUGH ACP, REMOVE ACP STARTING AT NEXT UPSTREAM AND DOWNSTREAM JOINT, AND ADJUST DEMOLITION POINTS ACCORDINGLY. FOR DISPOSAL SEE SPECIFICATION SECTION 02110.
6. SENSITIVE BIOLOGICAL RESOURCE SPECIAL TREATMENT ZONE. SEE REQUIREMENTS FOR MITIGATION MEASURE BIO-1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.

SHEET KEYNOTES

A STRICTLY ADHERE TO PG&E AND OSHA SAFETY REQUIREMENTS WHEN WORKING IN PROXIMITY TO EXISTING OH LINES.

POINT TABLE

#	NORTHING	EASTING	DESCRIPTION
1	2227328.09	5984631.77	BEGIN SAW CUT
2	2227323.02	5984628.97	SAW CUT ANGLE POINT
3	2227296.71	5984676.56	SAW CUT ANGLE POINT
4	2227281.05	5984667.73	END SAW CUT
5	2227224.27	5984670.25	BEGIN SAW CUT
6	2227216.11	5984684.91	END SAW CUT
7	2227230.60	5984700.83	BEGIN SAW CUT
8	2227255.86	5984714.32	SAW CUT ANGLE POINT
9	2227246.45	5984732.69	SAW CUT ANGLE POINT
10	2227249.29	5984734.20	SAW CUT ANGLE POINT
11	2227243.03	5984746.22	SAW CUT ANGLE POINT
12	2227240.28	5984744.75	SAW CUT ANGLE POINT
13	2227225.41	5984773.78	SAW CUT ANGLE POINT
14	2227212.83	5984777.37	END SAW CUT

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

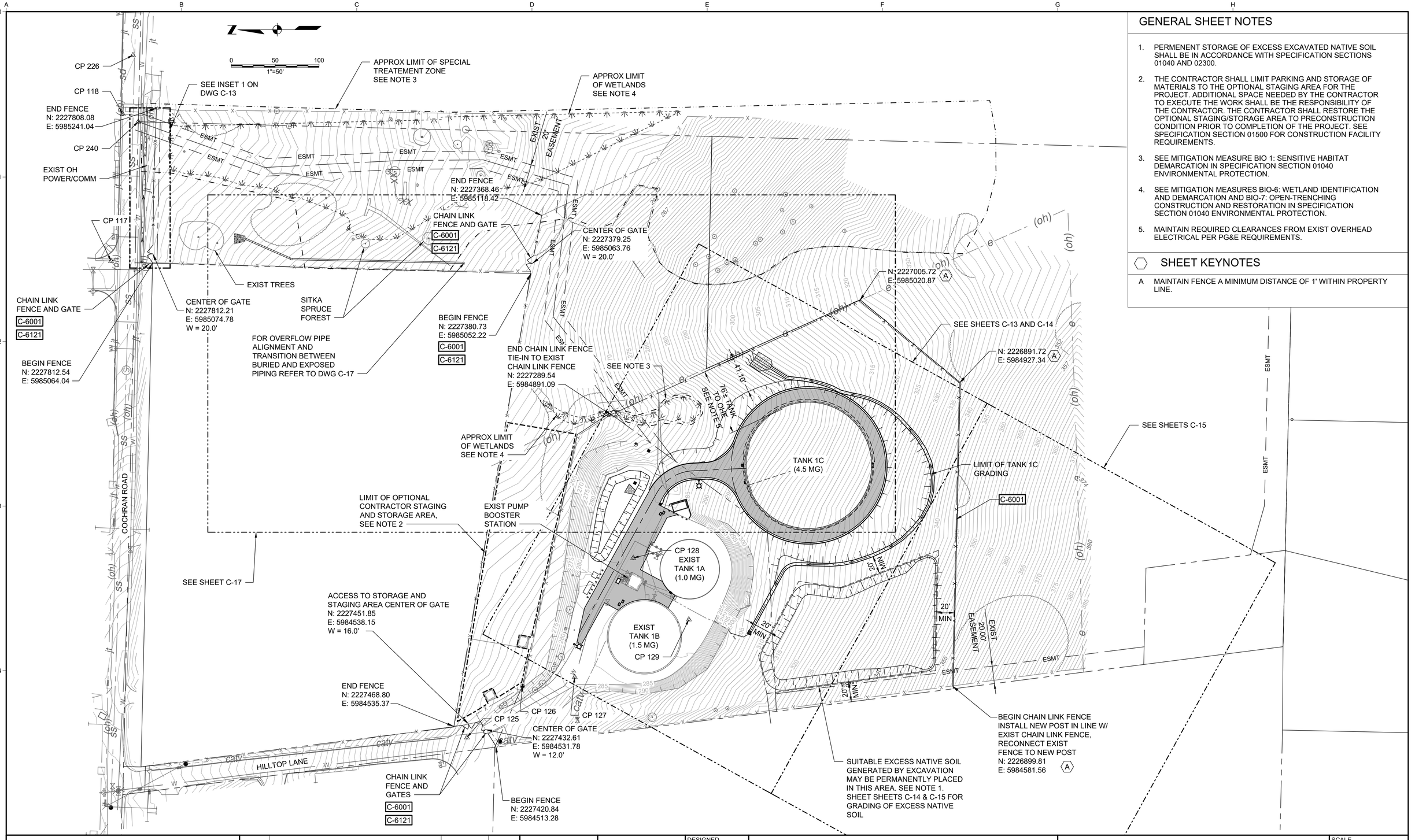
REGISTERED PROFESSIONAL ENGINEER — CALVIN L. WONG — No. C85341 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE 1" = 50'
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 14 OF 57
C-11



GENERAL SHEET NOTES

1. PERMENENT STORAGE OF EXCESS EXCAVATED NATIVE SOIL SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTIONS 01040 AND 02300.
2. THE CONTRACTOR SHALL LIMIT PARKING AND STORAGE OF MATERIALS TO THE OPTIONAL STAGING AREA FOR THE PROJECT. ADDITIONAL SPACE NEEDED BY THE CONTRACTOR TO EXECUTE THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL RESTORE THE OPTIONAL STAGING/STORAGE AREA TO PRECONSTRUCTION CONDITION PRIOR TO COMPLETION OF THE PROJECT. SEE SPECIFICATION SECTION 01500 FOR CONSTRUCTION FACILITY REQUIREMENTS.
3. SEE MITIGATION MEASURE BIO 1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
4. SEE MITIGATION MEASURES BIO-6: WETLAND IDENTIFICATION AND DEMARCATION AND BIO-7: OPEN-TRENCHING CONSTRUCTION AND RESTORATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
5. MAINTAIN REQUIRED CLEARANCES FROM EXIST OVERHEAD ELECTRICAL PER PG&E REQUIREMENTS.

SHEET KEYNOTES

A MAINTAIN FENCE A MINIMUM DISTANCE OF 1' WITHIN PROPERTY LINE.

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER A. CUKA
No. C65541
Exp.9/30/2024
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

OVERALL SITE PLAN

SCALE	1" = 50'
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	15 OF 57
	C-12

FOR CONTINUATION SEE DWG C-12

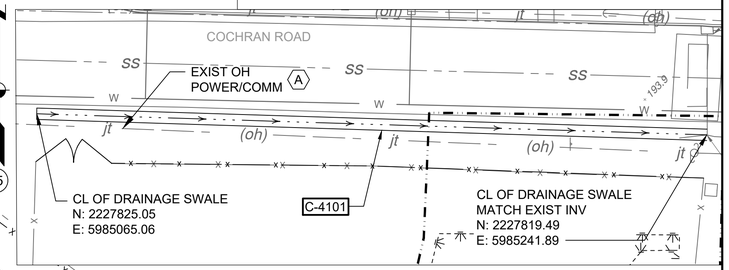
SHEET KEYNOTES

- A CONTRACTOR TO PROTECT EXIST OH POWER/COMM LINES WHILE CONSTRUCTING DRAINAGE SWALE AND WILL BE IN COMPLIANCE WITH CAL/OSHA & PG&E REQUIREMENTS.
- B DIMENSION IS TO FACE OF TANK WALL. CLEARANCE WILL VARY DEPENDING ON THICKNESS OF TANK SHOTCRETE. SEE DETAIL A ON S-17.

GENERAL SHEET NOTES

1. SEE DWG C-12 FOR OVERALL SITE LAYOUT AND CONTRACTOR STORAGE, STAGING AND ACCESS LOCATIONS.
2. FOR GENERATOR AND TRANSFORMER PADS, SEE DETAIL S-3342 ON SHEET S-03. SEE ELECTRICAL SHEETS E-06 AND E-08 FOR CONDUIT ROUTING AND ADDITIONAL SITE PLAN.
3. SENSITIVE BIOLOGICAL RESOURCE SPECIAL TREATMENT ZONE. SEE MITIGATION MEASURE BIO 1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
4. FOR COORDINATE POINT TABLES, SEE SHEET C-18.
5. SEE DWG E-8 FOR ADDITIONAL POLE INFORMATION AND DETAIL.

EXIST CHAIN LINK FENCE
PG&E TRANSFORMER PAD SEE NOTE 2
STANDBY GENERATOR PAD SEE NOTE 2
MATCH EXIST AC PVMT N: 2227319.60 E: 5984670.30
MATCH EXIST AC PVMT N: 2227328.10 E: 5984631.78
POLE N: 2227331.25 E: 5984629.18 SEE NOTE 5
STA 0+00.00 BEGIN ROAD N 2227326.05 E 5984641.07
0+00
5' (TYP)
VALVE VAULT
17.00' ROAD
MATCH EXIST AC PVMT N: 2227234.87 E: 5984788.39
CB #2
PB PB101
PB SB101
SUMP: 276.35
MATCH EXIST AC PVMT N: 2227323.02 E: 5984628.97
MATCH EXIST AC PVMT
MIXER CP 2
PB PB102
PB SB102
MASTER SEISMIC CONTROLLER
TANK ACCESS PORT
CONTROL PANEL
EXIST PUMP BOOSTER STATION
EXIST TANK 1B TANK PAD 284.0'
CONDUIT 1" WATER LINE
TANK ACCESS PORT
TO FACE OF TANK 1B
MIXER CP 2
CP 129
SEISMIC VALVE 3 CONTROLLER LCP-001CA
AC PVMT C-2102
EXIST TANK 1A TANK PAD 284.0'
CPR
(4) CONDUIT
CONTROL PANEL
TANK ACCESS PORT
TO FACE OF TANK 1A
EX AC PVMT
L=15.67', R=11.00' Δ=081°37'58"
L=15.67', R=11.00' Δ=081°37'58"
STORM BASIN
END CURB N: 2227244.84 E: 5984805.48
NEUTRALIZATION MANHOLE
CB #4
CB #5
PC STA 1+83.18 N 2227237.40 E 5984801.37
C-2301 TYPE 3
ALTITUDE VALVE VAULT
C-2301 TYPE 3
2+00 Δ=058°22'48" R=50.00' L=50.95'
PT STA 2+34.12 N 2227195.98 E 5984827.12
POLE N: 2227189.10 E: 5984816.12 SEE NOTE 5
MIXER CP 3
ECR N: 2227143.85 E: 5984796.16
15.24' EX RD
59.7'± EOR TO TANK WALL
C-2301 TYPE 1
CB #1
ECR N: 2227146.97 E: 5984862.81
C-2301 TYPE 1
BEARING TO 18" INLET/OUTLET N18°13'47.43"W
GUARD POST N: 2227132.17 E: 5984808.92 C-1011
EP STA 2+95.19 N 2227134.99 E 5984829.97
30'Ø
R = 72.08'
15.9'± ROAD
CENTER OF TANK 1C N: 2227064.06 E: 5984833.29
TANK FOOTING SHOWN FOR REFERENCE
TANK 1C
GUARD POST N: 2226991.13 E: 5984835.64 C-2301
GUARD POST N: 2226991.13 E: 5984830.95 C-2301
C-2301 TYPE 1
TOP OF EX SLOPE
TYPE 3 C-2301
CB #3
CURVE DATA L=19.91', R=18.17' Δ=062°48'09"
1 C-07 ANCHORED DRAINAGE SWALE
LIMIT OF TANK 1C GRADING
EXIST 6-FT CHAINLINK FENCE, SEE DWG C-12
APPROX LIMITS OF EXIST WETLANDS
EXIST OVERHEAD ELECTRICAL
6-FT CHAIN LINK FENCE, SEE DWG C-12
APPROX LIMIT OF EXIST SPECIAL TREATEMENT ZONE SEE NOTE 3
BCR N: 2227182.73 E: 5984836.27
BEGIN CURB TRANSITION FROM TYPE 3 TO TYPE 1 WITH CURB AND GUTTER N: 2227171.07 E: 5984838.63 C-2301
END CURB TRANSITION TO CURB AND GUTTER N: 2227161.71 E: 5984845.30 C-2301
1 C-03 TYPE 2B 6" ROCK 9" DEEP
5 C-03
LIMIT OF TANK 1C GRADING
C-2301 TYPE 1
AC PVMT C-2102
1 C-07 ANCHORED DRAINAGE SWALE
6-FT CHAIN LINK FENCE, SEE DWG C-12
FOR CONTINUATION SEE DWG C-12



INSET 1 - DRAINAGE SWALE
SEE SHEET C-12

0 10 20 30
1"=20'

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER CALVIN L. WEBB No. C85541 Exp.9/30/2024 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

HORIZONTAL CONTROL AND PAVING PLAN

SCALE	1" = 20'
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	16 OF 57
	C-13

GENERAL SHEET NOTES

1. TOE OF SLOPE SHALL REMAIN A MINIMUM 10-FT CLEAR OF EDGE OF WETLAND.
2. SENSITIVE BIOLOGICAL RESOURCE SPECIAL TREATMENT ZONE. SEE MITIGATION MEASURE BIO 1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
3. SEE MITIGATION MEASURES BIO-6: WETLAND IDENTIFICATION AND DEMARCATION AND BIO-7: OPEN-TRENCHING CONSTRUCTION AND RESTORATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.

SHEET KEYNOTES

A TRANSITION FROM TYP CURB AND GUTTER TO GUTTER FLUSH WITH THE TOP OF THE CB GRATE.

0 10 20 30
1"=20'

TOP OF PAD ELEV 283.50
STORM BASIN
CB #5 GRATE 282.50
CB #4 GRATE 277.13
NEUTRALIZATION MANHOLE RIM GRATE 274.50
APPROX LIMIT OF SPECIAL TREATEMENT ZONE SEE NOTE 2
APPROX LIMITS OF WETLANDS SEE NOTE 3
SEE NOTE 1
T/P 282.9±
T/P 283.0±
FG 282.9±
MIN 2% SLOPE
MATCH EG ROAD 283.1±
MATCH EG ROAD 283.2±
MATCH EG 283.27±
VALVE VAULT LID 283.54
MATCH EG 283.7±
MATCH EG 283.6±
MATCH EG 283.3±
MATCH EG 283.3±
MASTER SEISMIC CONTROLLER
TANK ACCESS PORT
CONTROL PANEL
CONDUIT 1" WATER LINE
TANK ACCESS PORT
MATCH EG AT TANK FACE 283.3±
EXIST TANK 1B TANK PAD 284.0'
PUMP BOOSTER STATION
MATCH EG AT TANK FACE 283.3±
EXIST TANK 1A TANK PAD 284.0'
CPR (4) CONDUIT CONTROL PANEL TANK ACCESS PORT
ALTITUDE VAULT LID 283.70
TOC 284.20 FG 283.70
TOC 284.20 MATCH EG FG 283.56
CB #2 GR 283.30
FL 283.30
FL 283.47
TOC 284.20 FG 283.70
MATCH EG FL 282.3±
SUMP: 276.35'
FL 289.30
FL 291.48
FL 296.00
FL 285.92
FL 291.84
FL 293.01
DAYLIGHT/ LIMIT OF TANK 1C GRADING
FL 299.00
FL 301.55
FL 299.10
FL 305.00
FL 302.56
FL 314.46
FL 319.23
FL 309.57
FL 327.76
FL 334.26
APPROX LIMIT OF SPECIAL TREATMENT ZONE SEE NOTE 2
T/P 284.00
CB #1 GR 296.19
TANK 1C TOP OF FLOOR EL 284.0' @ PERIMETER
TANK FOOTING SHOWN FOR REFERENCE
T/P 302.97
8.73%
8.76%
2.00%
CP 129
EX AC PVMT
CB #3 GRATE 306.00
FL 306.00
FL 310.76
FL 318.21
FL 321.40
FL 323.53
FL 310.00
FL 332.01
HIGH POINT FL 335.67
HIGH POINT EP 310.35± FL 310.33
DAYLIGHT/ LIMIT OF TANK 1C GRADING
OPTIONAL PERMANENT STORAGE OF SUITABLE EXCESS EXCAVATED SOIL
3.70:1
2.00:1
C-15A
C-15

FOR CONTINUATION SEE DWG C-15

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

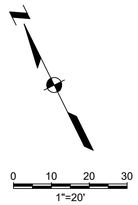
REGISTERED PROFESSIONAL ENGINEER JESSE A. CUEVA No. C63541 Exp.9/30/2024 CIVIL STATE OF CALIFORNIA
02/10/23

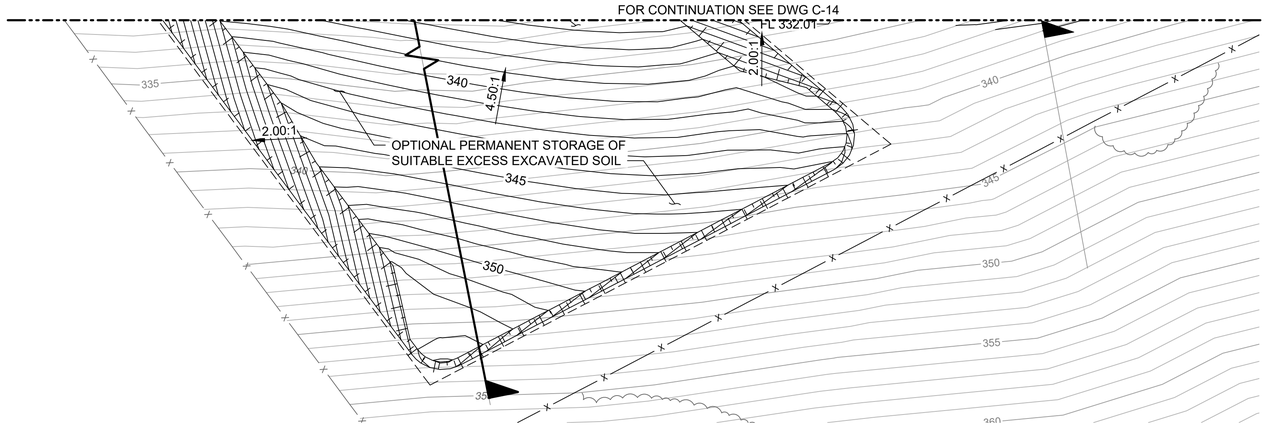
DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

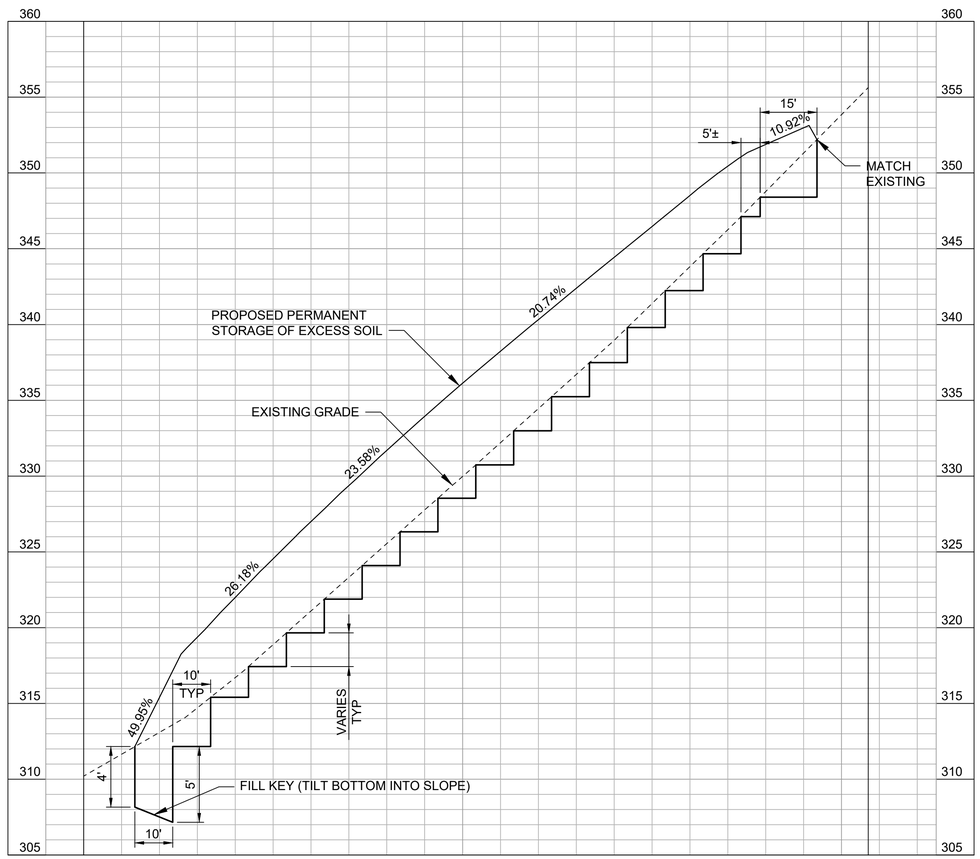
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

GRADING AND DRAINAGE PLAN - I

SCALE	1" = 20'
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	17 OF 57
	C-14



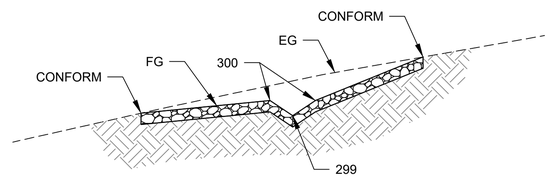




1 C-14 C-15 OPTIONAL PERMANENT STORAGE OF SUITABLE EXCESS EXCAVATION SECTION
SCALE: NTS

0 20 40
HORIZ 1"=20'

0 1 2 3 4 5
VERT 1"=5'



2 C-14 RIP-RAP AT SWALE OUTFALL SECTION
SCALE: NTS

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
JOSE A. CUEVAS
No. C63541
Exp.9/30/2024
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

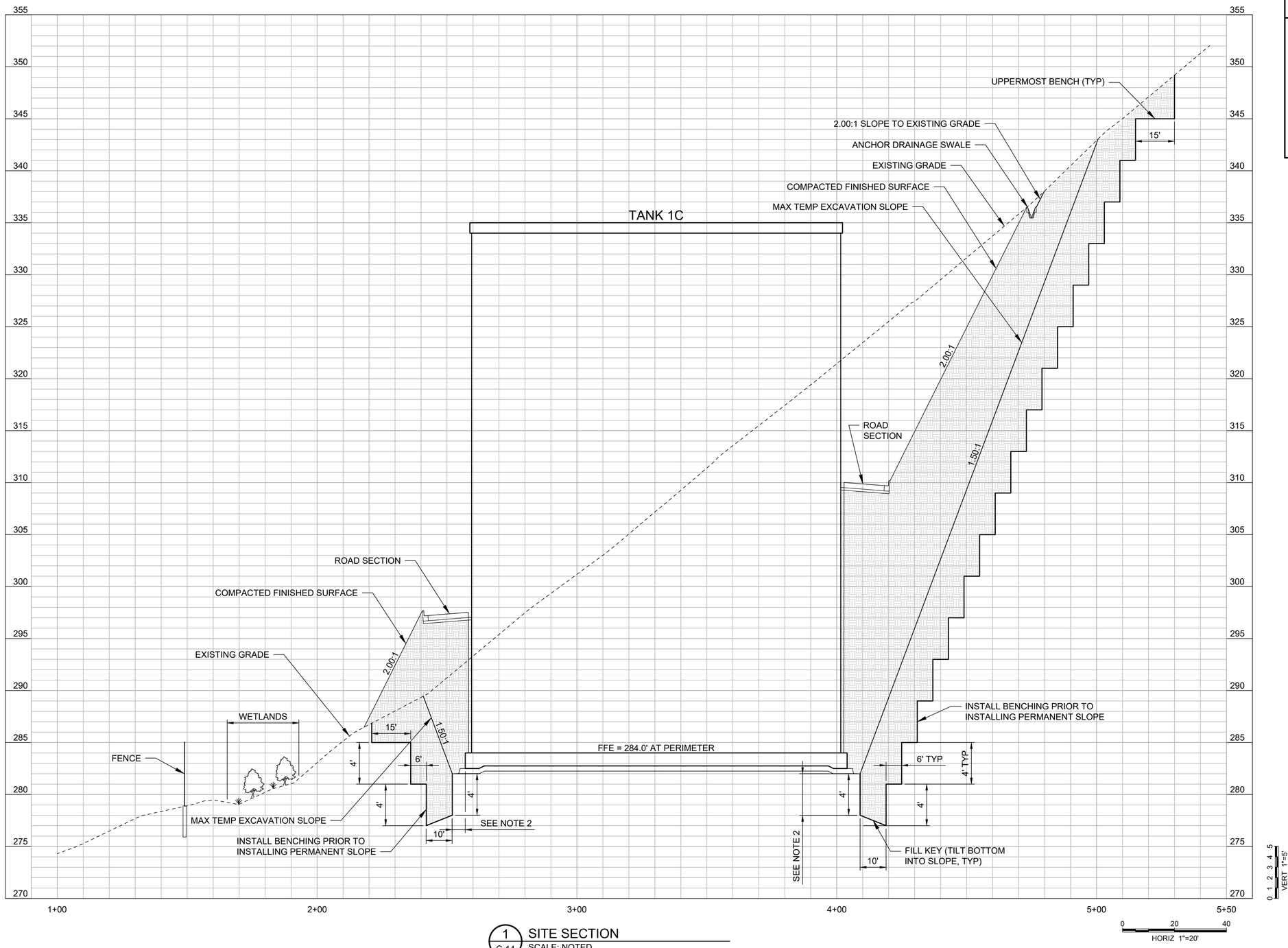
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

GRADING AND DRAINAGE PLAN - II

SCALE 1" = 20'
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 18 OF 57
C-15



1 C-14 SITE SECTION
SCALE: NOTED

GENERAL SHEET NOTES

1. CUT, FILL AND RE-COMPACT IN ACCORDANCE WITH SPECIFICATION SECTION 02300.
2. SEE STRUCTURAL DRAWING S-12 FOR TANK, TANK FOUNDATIONS AND ADDITIONAL EARTHWORK NOTES.
3. SUITABLE EXCESS SOIL TO BE PLACED IN "PERMANENT STORAGE OF EXCESS EXCAVATED SOIL" AREA AS SHOWN ON C-14 AND C-15.
4. UNLESS OTHERWISE SHOWN, ALL DISTURBED AREAS SHALL BE HYDROSEEDED PER SPECIFICATION SECTIONS 02300 AND 02370.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

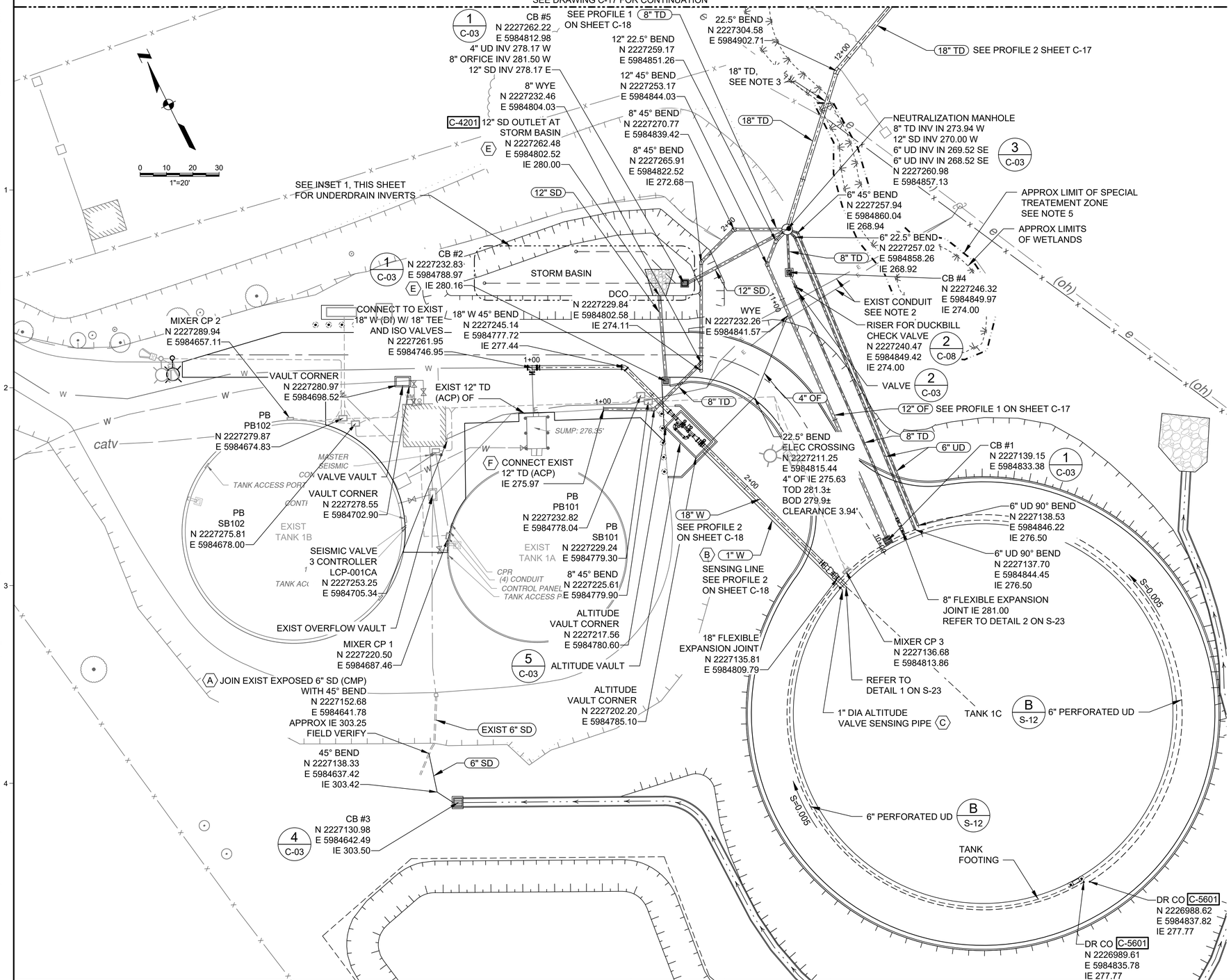
REGISTERED PROFESSIONAL ENGINEER JESSE A. CUNHA No. C63541 Exp.9/30/2024 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED	JAC
DRAWN	WAS
CHECKED	CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

SITE SECTION

SCALE	
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	19 OF 57
	C-15A

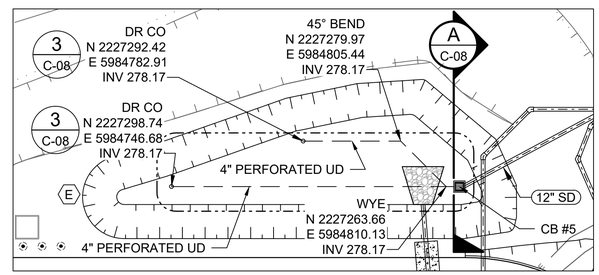


GENERAL SHEET NOTES

1. SEE DRAWING C-17 FOR CONTINUATION OF 18" TANK DRAIN AND PROFILE FROM NEUTRALIZATION MANHOLE TO OVERFLOW OUTFALL.
2. PROTECT EXIST PG&E SECONDARY SERVICE ELECTRICAL CONDUITS AND FEEDERS. MAINTAIN OPERATIONAL UNTIL DECOMMISSIONED BY PG&E AND POWER PROVIDED TO NEW 480 VOLT SERVICE.
3. SEE MITIGATION MEASURES BIO-6: WETLAND IDENTIFICATION AND DEMARCATION AND BIO-7: OPEN-TRENCHING CONSTRUCTION AND RESTORATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION FOR CONSTRUCTION THROUGH WETLANDS.
4. PROVIDE VALVE BOX COLLAR AS REQUIRED PER DETAIL C-5200. VALVE BOX COLLARS TO MATCH PROPOSED OR EXISTING GRADES AS SHOWN ON C-14.
5. SENSITIVE BIOLOGICAL RESOURCE SPECIAL TREATMENT ZONE. SEE MITIGATION MEASURE BIO 1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.

SHEET KEYNOTES

- A CONNECT 6" SD TO EXPOSED EXIST CMP WITH 45° DOUBLE COUPLING FOR CONNECTION. REMOVE PORTION OF EXIST CMP REQUIRED FOR NEW CONNECTION. MAINTAIN ALIGNMENT AND SLOPE OF EXIST CMP.
- B PROVIDE MINIMUM 3' OF COVER. SLOPE NOT TO BE LESS THAN 3.4% (2 DEGREES) FROM VALVE VAULT TO TANK.
- C REFER TO STRUCTURAL DETAIL 3 ON S-23.
- D PROVIDE THRUST BLOCK PER DETAIL C-5401.
- E PROVIDE CLSM ENCASEMENT FROM INVERT OF PIPE TO TOP OF TRENCH ZONE AND FULL TRENCH WIDTH AS DEFINED BY TYPE 1 IN DETAIL C-5001 ON SHEET C-05.
- F CONNECT TO EXIST 12" ACP WITH FERNCO SERIES 1051, ROMAC, OR EQUIVLENT AND REDUCER. CONFIRM CONNECTION POINT RELATIVE TO ANY MODIFICATIONS MADE FOR THE DEMOLITION REQUIRED PER DRAWING C-11. ENSURE POSITIVE SLOPE FROM CONNECTION TO 45° BEND DOWNSTREAM.



INSET 1 - UNDERDRAINS
THIS SHEET

0 10 20 30
1"=20'

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
CASEY A. CLAY
No. 085541
Exp.9/30/2024
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED	JAC
DRAWN	HCS
CHECKED	CLW

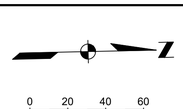
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

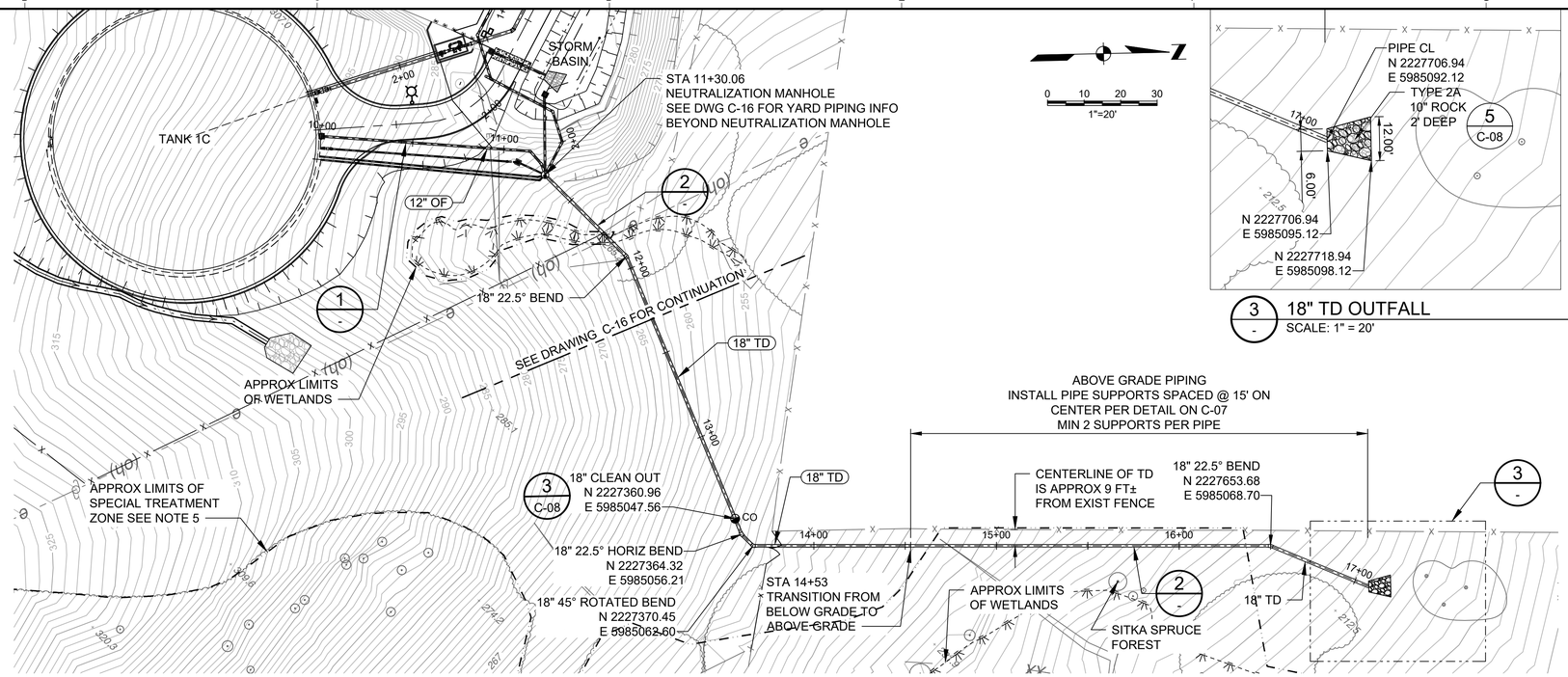
4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

YARD PIPING PLAN

SCALE	1" = 20'
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	20 OF 57
	C-16





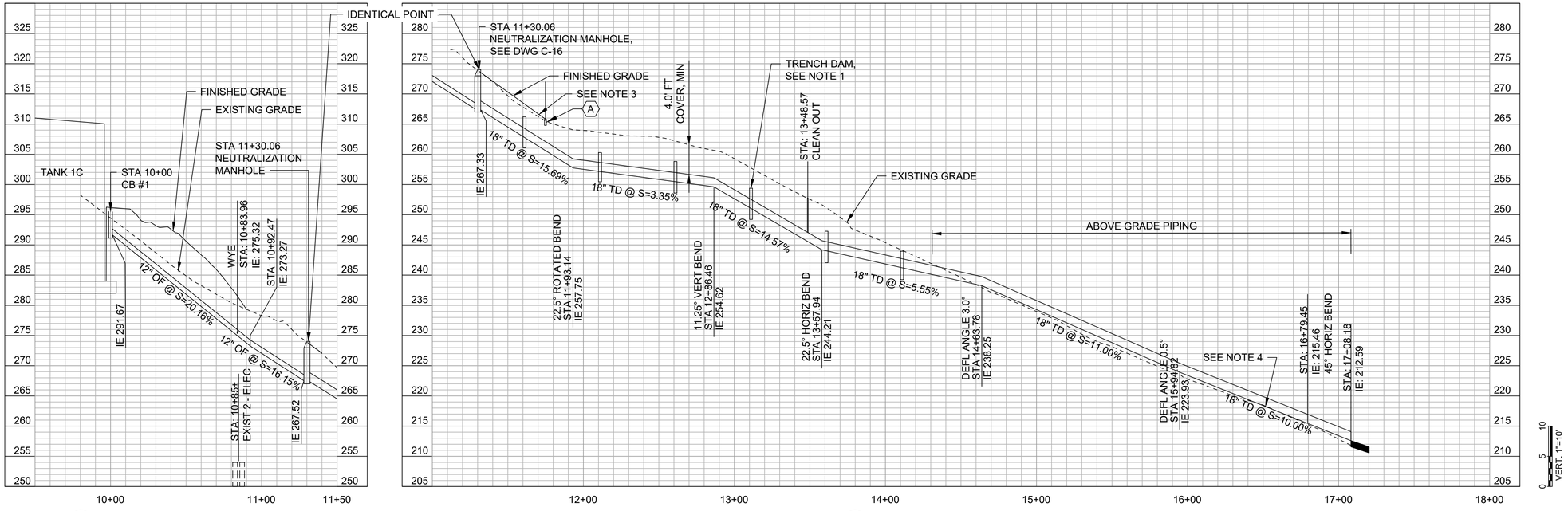
3 - 18" TD OUTFALL
SCALE: 1" = 20'

GENERAL SHEET NOTES

1. INSTALL TRENCH IN 50-FT INTERVALS. SEE DETAIL 1 ON C-08.
2. OVERFLOW DRAIN PIPELINE WILL BE BACKFILLED WITH NATIVE MATERIAL EXCEPT WHERE ENGINEERED MATERIAL IS REQUIRED BY DESIGN CONSTRAINTS.
3. RE-GRADE AS NEEDED TO MAINTAIN LESS THAN 1 DEGREE OF DEFLECTION ALONG THE PIPELINE.
4. INSTALL PIPE SUPPORTS SPACED @ 15' ON CENTER, SEE DETAIL 2 ON C-07. PROVIDE PIPE SUPPORT AT END OF PIPE. INSTALL RIPRAP ADJACENT TO CONC PIPE SUPPORT.
5. SENSITIVE BIOLOGICAL RESOURCE SPECIAL TREATMENT ZONE. SEE MITIGATION MEASURE BIO 1: SENSITIVE HABITAT DEMARCATION IN SPECIFICATION SECTION 01040 ENVIRONMENTAL PROTECTION.
6. ELEVATIONS OF EXISTING UTILITIES ARE UNAVAILABLE. CROSSINGS ARE GRAPHICALLY SHOWN AT BOTTOM OF PROFILE. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION.

SHEET KEYNOTES

A ENSURE FENCE FOOTINGS BRIDGE PIPE TO AVOID CONFLICT.



1 - 12" OF PROFILE
SCALE: NOTED

2 - 18" TD PROFILE
SCALE: NOTED

0 40 80
HORIZ. 1"=40'

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — JOSE A. CUEVAS — No. C63341 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

TANK OVERFLOW AND DRAIN PIPING
PLAN AND PROFILES

SCALE 1" = 40'
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 21 OF 57
C-17

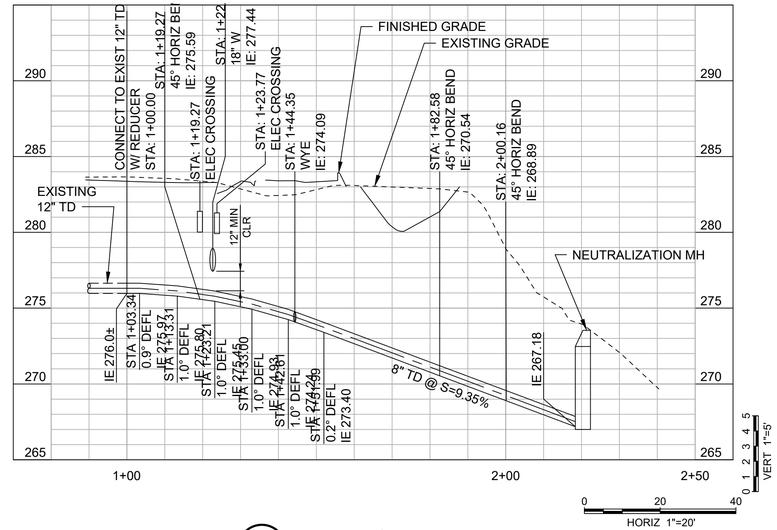
POINT TABLES CORRESPOND TO POINTS ON SHEET C-13:

POINT TABLE

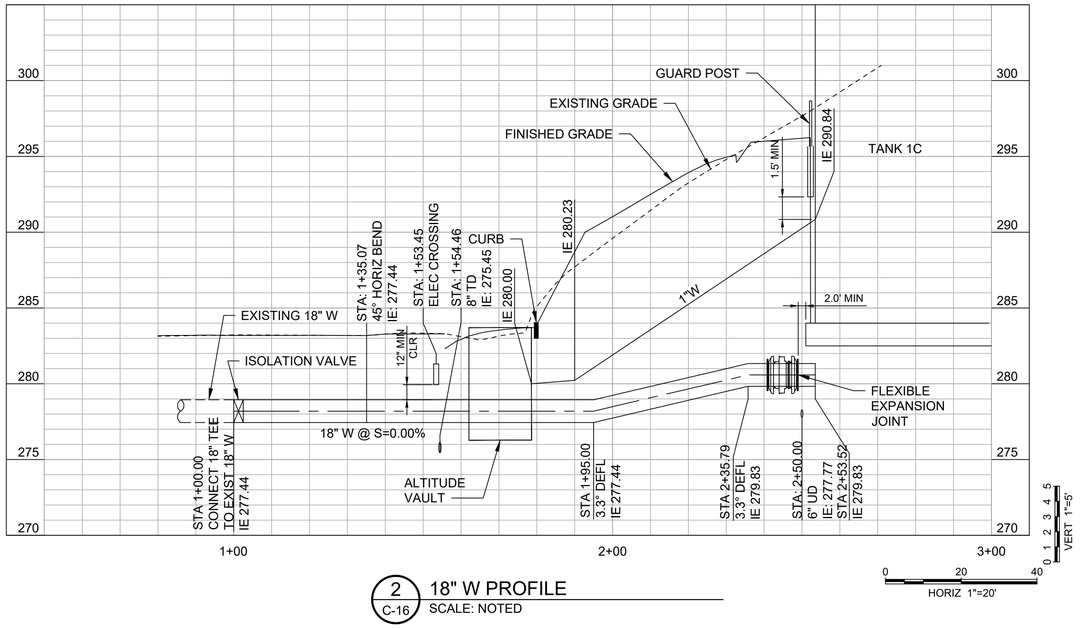
#	NORTHING	EASTING	DESCRIPTION	DETAIL/NOTE
1	2227222.79	5984781.55	GUARD POST	C-1011 (TYP OF 5)
2	2227203.06	5984771.82	GUARD POST	C-1011
3	2227230.79	5984789.57	BEGIN CURB AND GUTTER TRANSITION	-
4	2227228.97	5984795.47	END CURB AND GUTTER TRANSITION	-
5	2227181.94	5984819.24	BCR	-
6	2227200.79	5984772.26	FACE OF CURB	C-2301/TYPE 3
7	2227198.40	5984776.58	FACE OF CURB	C-2301/TYPE 3
8	2227203.60	5984794.33	FACE OF CURB	C-2301/TYPE 3
9	2227221.92	5984788.97	FACE OF CURB	C-2301/TYPE 3
10	2227222.83	5984787.32	FACE OF CURB	C-2301/TYPE 3
11	2227315.96	5984682.88	GUARD POST	C-1011 (TYP OF 8)
12	2227299.11	5984713.55	GUARD POST	C-1011
13	2227321.40	5984688.40	GENERATOR PAD	NOTE 2
14	2227314.22	5984701.38	GENERATOR PAD	NOTE 2
15	2227311.90	5984706.95	TRANSFORMER PAD	NOTE 2
16	2227309.00	5984712.20	TRANSFORMER PAD	NOTE 2
17	2227303.11	5984732.58	TOE OF SLOPE	MATCH EXIST
18	2227295.73	5984782.39	TOE OF SLOPE	MATCH EXIST
19	2227290.35	5984799.64	TOE OF SLOPE	MATCH EXIST
20	2227284.51	5984811.61	TOE OF SLOPE	MATCH EXIST
21	2227266.99	5984818.50	TOE OF SLOPE	MATCH EXIST
22	2227256.25	5984816.39	TOE OF SLOPE	MATCH EXIST
23	2227268.30	5984827.63	TOP OF SLOPE	MATCH EXIST
24	2227255.05	5984826.56	TOP OF SLOPE	MATCH EXIST
25	2227247.66	5984822.49	TOP OF SLOPE	MATCH EXIST
26	2227245.22	5984819.86	TOP OF SLOPE	MATCH EXIST
27	2227249.39	5984807.59	TOE OF SLOPE	MATCH EXIST
28	2227292.78	5984729.13	TOE OF SLOPE	MATCH EXIST
29	2227306.27	5984724.16	TOE OF SLOPE	MATCH EXIST
30	2227313.16	5984736.78	TOP OF SLOPE	MATCH EXIST
31	2227304.50	5984784.49	TOP OF SLOPE	MATCH EXIST
32	2227298.75	5984802.92	TOP OF SLOPE	MATCH EXIST
33	2227291.11	5984818.72	TOP OF SLOPE	MATCH EXIST
34	2227224.27	5984670.25	PAVEMENT	MATCH EXIST
35	2227216.11	5984684.91	PAVEMENT	MATCH EXIST
36	2227230.60	5984700.83	PAVEMENT	MATCH EXIST
37	2227255.86	5984714.32	PAVEMENT	MATCH EXIST
38	2227246.45	5984732.69	PAVEMENT	MATCH EXIST
39	2227249.29	5984734.20	PAVEMENT	MATCH EXIST
40	2227243.05	5984746.23	PAVEMENT	MATCH EXIST
41	2227240.28	5984744.75	PAVEMENT	MATCH EXIST
42	2227225.41	5984773.78	PAVEMENT	MATCH EXIST

POINT TABLE

#	NORTHING	EASTING	DESCRIPTION	DETAIL/NOTE
43	2227212.83	5984777.37	PAVEMENT	MATCH EXIST
44	2227281.17	5984704.35	VAULT	-
45	2227278.55	5984702.90	VAULT	-
46	2227280.97	5984698.52	VAULT	-
47	2227283.59	5984699.98	VAULT	-
48	2227296.71	5984676.56	PAVEMENT	-
49	2227280.90	5984667.87	PAVEMENT	-
50	2227038.25	5984719.76	FL SWALE	DETAIL 1, C-13
51	2227024.80	5984720.94	FL SWALE	DETAIL 1, C-13
52	2227011.05	5984723.84	FL SWALE	DETAIL 1, C-13
53	2226990.87	5984730.70	FL SWALE	DETAIL 1, C-13
54	2226970.30	5984740.58	FL SWALE	DETAIL 1, C-13
55	2226957.11	5984749.33	FL SWALE	DETAIL 1, C-13
56	2226945.50	5984760.38	FL SWALE	DETAIL 1, C-13
57	2226935.12	5984773.03	FL SWALE	DETAIL 1, C-13
58	2226927.03	5984787.54	FL SWALE	DETAIL 1, C-13
59	2226922.74	5984803.60	FL SWALE	DETAIL 1, C-13
60	2226922.09	5984820.17	FL SWALE	DETAIL 1, C-13
61	2226924.75	5984836.46	FL SWALE	DETAIL 1, C-13
62	2226931.21	5984851.72	FL SWALE	DETAIL 1, C-13
63	2226939.84	5984865.31	FL SWALE	DETAIL 1, C-13
64	2226959.82	5984887.45	FL SWALE	DETAIL 1, C-13
65	2226970.42	5984896.42	FL SWALE	DETAIL 1, C-13
66	2226981.69	5984903.71	FL SWALE	DETAIL 1, C-13
67	2227263.69	5984800.33	RIPRAP	DETAIL 4/C-08; 6" ROCK, 6" DEEP
68	2227273.89	5984802.55	RIPRAP	DETAIL 4/C-08; 6" ROCK, 6" DEEP
69	2227268.57	5984812.17	RIPRAP	DETAIL 4/C-08; 6" ROCK, 6" DEEP
70	2227261.27	5984804.71	RIPRAP	DETAIL 4/C-08; 6" ROCK, 6" DEEP
71	2227088.32	5984933.32	FL SWALE	DETAIL 1, C-13
72	2227107.23	5984945.25	FL SWALE	DETAIL 1, C-13
73	2227105.37	5984948.19	RIPRAP	-
74	2227106.58	5984953.94	RIPRAP	-
75	2227120.68	5984962.80	RIPRAP	-
76	2227131.01	5984947.85	RIPRAP	-
77	2227120.51	5984940.59	RIPRAP	-
78	2227108.58	5984943.10	RIPRAP	-
80	2227016.99	5984915.00	FL SWALE	DETAIL 1, C-13
81	2227027.11	5984917.44	FL SWALE	DETAIL 1, C-13
82	2227036.19	5984922.17	FL SWALE	DETAIL 1, C-13
83	2227046.26	5984925.94	FL SWALE	DETAIL 1, C-13
84	2227056.68	5984928.84	FL SWALE	DETAIL 1, C-13
85	2227067.58	5984931.04	FL SWALE	DETAIL 1, C-13



1 C-16 8" TD PROFILE
SCALE: NOTED



2 C-16 18" W PROFILE
SCALE: NOTED

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER — JESSE A. CUEVAS — No. C63541 — Exp.9/30/2024 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED JAC
DRAWN HCS
CHECKED CLW

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

TANK DRAIN, W PROFILE, AND COORDINATE TABLES

SCALE 1" = 20'
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 22 OF 57
C-18

GENERAL STRUCTURAL NOTES

GENERAL
1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2022 CALIFORNIA BUILDING CODE, AND THE REFERENCED BUILDING CODE STANDARDS.
2. THESE NOTES AS WELL AS THE TYPICAL DETAILS APPLY TO ALL PARTS OF THE PROJECT, UNLESS NOTED OTHERWISE.
3. SHOP DRAWINGS FOR THIS CONTRACT SHALL BE COORDINATED WITH FAVORABLY REVIEWED EQUIPMENT MANUFACTURER'S DRAWINGS.
4. DIMENSIONS NOTED WITH AN ASTERISK, " * ", ARE TO BE COORDINATED WITH FAVORABLY REVIEWED SUBMITTAL BY THE EQUIPMENT MANUFACTURER.
5. DETAILS CALLED OUT WITH S-XXXX SHALL REFER TO THE STANDARD DETAIL FOR WHICH THEY ARE SO NAMED.

PERMITS AND INSPECTIONS
1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED BY THE LOCAL BUILDING INSPECTOR AND AS DESCRIBED IN THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SELECT, INSTALL AND MAINTAIN SHORING, SHEETING, BRACING AND SLOPING AS NECESSARY TO MAINTAIN SAFE EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING FULL COMPLIANCE WITH 29 CFR PART 1926 OSHA SUBPART P EXCAVATIONS AND TRENCHES REQUIREMENTS. ALL EARTHWORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE LAW, INCLUDING LOCAL ORDINANCES, (CALOSHA, CALIFORNIA CIVIL CODE AND CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY REQUIREMENTS), AND APPLICABLE OSHA REQUIREMENTS.

SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS
1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48-HOURS BEFORE PLACEMENT OF REINFORCING STEEL AND CONCRETE SO THAT THE SUBGRADE OF EXCAVATIONS MAY BE INSPECTED BY THE GEOTECHNICAL ENGINEER.
2. THE GEOTECHNICAL ENGINEER SHALL VERIFY BACKFILL MATERIAL AND BACKFILLING PROCEDURES AND PROVIDE SOIL COMPACTION TESTS.
3. STRUCTURAL OBSERVATION SHALL BE PROVIDED BY THE DESIGN ENGINEER(S) OF RECORD OR THEIR AUTHORIZED REPRESENTATIVES IN ACCORDANCE WITH CBC 2022, SECTION 1710. STRUCTURAL OBSERVATION SHALL CONSIST OF SITE VISITS AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO OBSERVE CONSTRUCTION IN PROGRESS AND REVIEW OF TESTING AND INSPECTION REPORTS FOR GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS RELATING TO THE STRUCTURAL WORK AND THE NONSTRUCTURAL COMPONENTS AND EQUIPMENT ANCHORAGE.
4. SPECIAL INSPECTION IN ACCORDANCE WITH CBC 2022, SECTION 1704, SHALL BE REQUIRED AS INDICATED IN THE SPECIAL INSPECTION AND TESTING SCHEDULE ON SHEET S-02.

SOIL AND FOUNDATIONS
1. GEOTECHNICAL INVESTIGATIONS FOR DESIGN PURPOSES FOR THIS PROJECT WERE MADE FOR McKINLEYVILLE COMMUNITY SERVICES DISTRICT BY LACO IN A REPORT DATED 16 JANUARY 2014 ALONG WITH AMENDMENTS DATED 4 APRIL 2014 AND 17 AUGUST 2020.
2. IN ACCORDANCE WITH THE CBC CHAPTER 18 THE SOILS IN MCKINLEYVILLE AT THE RESERVOIR SITE ARE GENERALLY CLASSIFIED AS TOPSOIL UNDERLAIN BY SILTY SANDS UNDERLAIN BY POORLY GRADED SANDS UNDERLAIN BY FRANCISCAN FORMATION ROCK.
3. THE DESIGN BEARING CAPACITY OF THE SOILS IS 5,000 PSF FOR FOOTINGS. BEARING CAPACITY OF SOILS ARE FOR DEAD AND LIVE LOADS FOR FOUNDATIONS. BEARING VALUES MAY BE INCREASED BY ONE-THIRD WHEN TRANSIENT LOADS SUCH AS WIND OR SEISMIC LOADS ARE INCLUDED.
4. SOILS SHALL BE EXCAVATED TO THE ELEVATIONS INDICATED ON THE DRAWINGS FOR FOUNDATIONS. THE SUBGRADE SHALL BE PREPARED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS AND APPROVED BY THE GEOTECHNICAL ENGINEER. EXCAVATED MATERIAL SHALL BE REPLACED WITH STRUCTURAL FILL AS SHOWN ON THE DRAWINGS. FOUNDATIONS SHALL BE CONSTRUCTED AGAINST UNDISTURBED NATIVE COMPETENT MATERIAL OR COMPACTED STRUCTURAL FILL.
5. SOIL DESIGN CRITERIA:

MAX SETTLEMENT	1 INCH CENTER, 0.8-INCH PERIMETER EDGE
FRICTION COEFFICIENT	0.35
ACTIVE PRESSURE	30 PCF
SEISMIC INCREASE PRESSURE	30 PCF
AT REST PRESSURE	45 PCF
PASSIVE PRESSURE	350 PCF

LOADING CRITERIA
1. MINIMUM LOADING REQUIREMENTS PER CHAPTER 16 OF THE 2022 CALIFORNIA BUILDING CODE INCLUDING LATEST REVISION.
2. DEAD LOAD: AS CALCULATED
3. LIVE LOADS:

ELEVATED SLABS	100 PSF UNIFORM
FIXED LADDERS	300 LBS POINT
HANDRAILS, GUARDRAILS AND GRAB BARS	50 PLF AT TOP RAIL, 200 LBS POINT
ROOF (REDUCTION FOR UNIFORM LOAD)	20 PSF UNIFORM, 2,000 LBS POINT
ROOF SUPERIMPOSED DEAD LOAD	50 PSF
GRATING, CHECKERED PLATE, ACCESS HATCHES	EQUAL TO FLOOR LIVE LOAD
SIDEWALKS & VEHICULAR DRIVEWAYS	250 PSF UNIFORM, 8,000 LBS POINT AASHTO
UNRESTRICTED VEHICULAR ACCESS	HS20-44
CONCRETE VAULTS AND COVERS	AASHTO HS20-44

4. WIND LOAD:

BASIC WIND SPEED, V_{ULT}	115 MPH
NOMINAL WIND SPEED, V_{ASD}	89 MPH
EXPOSURE	C

5. RISK CATEGORY: IV, UON ON STRUCTURAL PLANS
6. SNOW LOAD:

IMPORTANCE FACTOR, I_S	1.15
BASIC GROUND SNOW LOAD, P_g	5 PSF
SNOW EXPOSURE COEFFICIENT, C_e	1.0
THERMAL FACTOR, C_t	1.0
FLAT ROOF SNOW LOAD, P_F	

7. SEISMIC LOAD:

SEISMIC IMPORTANCE FACTOR, I_E	1.50
SEISMIC IMPORTANCE FACTOR, I_p	1.50
MAPPED RESPONSE PARAMETER, S_S	2.610
MAPPED RESPONSE PARAMETER, S_1	1.077
SITE CLASS	C
DESIGN RESPONSE PARAMETER, S_{DS}	2.088
DESIGN RESPONSE PARAMETER, S_{D1}	1.005
SEISMIC DESIGN CATEGORY	F
RESPONSE MODIFICATION FACTOR, R	3.25 (ASCE 7), 3.50 (AWWA D110)
RESPONSE MODIFICATION FACTOR, Rc	1.0
LONG PERIOD TRANSITION PERIOD, T_L	8.0

8. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD FOR THE STRUCTURE. PROVIDE SHORING AND/OR BRACING WHERE LOADS EXCEED DESIGN CAPACITY AND WHERE STRUCTURES HAVE NOT ATTAINED THE 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE.

REINFORCING STEEL
1. REINFORCING BARS SHALL BE ASTM A615-GRADE 60.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
3. ARRANGEMENT AND DETAILING OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL.
4. REINFORCING SHALL LAP IN ACCORDANCE WITH THE CONCRETE REINFORCEMENT SPLICE TABLE. UNLESS OTHERWISE SHOWN. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPLICE LENGTH FOR THE SMALLER BAR CAN BE USED. DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL THEY ARE SPLICED AND SHALL HAVE A MINIMUM LAP AS NOTED ABOVE. BAR SPLICES SHALL BE STAGGERED.
5. HOOK REINFORCING BARS INTERUPTED BY OPENINGS.
6. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IN WRITING IS OBTAGED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
7. DIMENSIONING TO REINFORCING ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE BAR COVER IS CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE. UNLESS NOTED OR SHOWN OTHERWISE BAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND BASE SLABS:	
FORMED SURFACES AND BOTTOMS ON CONCRETE WORK MAT	2-INCH
TOP SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
BOTTOMS AND SIDES IN CONTACT WITH EARTH	3-INCH
SUSPENDED SLABS:	
FORMED SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
TOP AND BOTTOM BARS DRY CONDITION	1-INCH
BEAMS AND COLUMNS:	
DRY CONDITIONS:	
STIRRUPS, SPIRALS, AND TIES	1 1/2-INCH
PRINCIPAL REINFORCEMENT	2-INCH
EXPOSED TO EARTH, WATER, OR WEATHER:	
STIRRUPS, SPIRALS, AND TIES	2-INCH
PRINCIPAL REINFORCEMENT	2 1/2-INCH
WALLS:	
LESS THAN 12-INCHES THICK	1 1/2-INCH
12 INCHES OR OVER IN THICKNESS	2 1/2-INCH

8. REINFORCING STEEL CALLED OUT AS GALVANIZED SHALL HAVE A CLASS 1 COATING IN ACCORDANCE WITH ASTM A767, WITHOUT CHROMATE.

CONCRETE:
1. PROVIDE CONCRETE MEETING THE REQUIREMENTS OF ACI 301. SUBMIT MIX DESIGNS IN ACCORDANCE WITH THE SPECIFICATIONS. CEMENT SHALL BE ASTM C150 TYPE II FOR ALL STRUCTURES. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI) AS NOTED IN THE TABLE BELOW AND AS FURTHER DEFINED IN THE SPECIFICATIONS:

CONCRETE STRENGTH (PSI)		
TYPE	STRENGTH	LOCATION
A	4,000	RESERVOIR, FLOORS, FOOTINGS FOUNDATIONS, COREWALL, COLUMNS, DROP PANELS, ROOF SLAB AND PIPELINE ENCASEMENT BLOCKS BENEATH RESERVOIR FLOOR.
B	2,500	MISCELLANEOUS STRUCTURES AND SITEWORK AND ENCASEMENT
C	125 (MAX)	CLSM/CDF - SEE SPECIFICATION SECTION 02065

2. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-19 INCLUDING BAR BENDS AND HOOKS, UNLESS DETAILED OTHERWISE.
3. SUBMIT CONCRETE AND MASONRY LIFT DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS, WATERSTOPS AND OTHER TYPES OF JOINTS OTHER THAN SPECIFIED OR SHOWN ON THE DRAWINGS FOR FAVORABLE REVIEW BY THE ENGINEER BEFORE START OF WORK ON FORMS, REINFORCING STEEL OR PLACING CONCRETE. ANY ADDITIONAL VERTICAL OR HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE A STANDARD KEYWAY AND SHALL BE FAVORABLY REVIEWED BY THE ENGINEER. REFER TO SPECIFICATIONS AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4-INCH AMPLITUDE.
4. OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, LANDSCAPING, HVAC, PLUMBING, INSTRUMENTATION AND OTHER PLANS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT INDICATED OR SHOWN ON STRUCTURAL DRAWINGS. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS (UNLESS SHOWN ON STRUCTURAL DRAWINGS). COORDINATE WITH EQUIPMENT MANUFACTURERS DRAWINGS FOR ANCHORING DEVICES.
5. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4-INCH. INTERIOR FLOOR SLABS AND EXTERIOR SIDEWALKS SHALL HAVE TOOLED 3/8-INCH RADIUS CONSTRUCTION JOINT.
6. EACH FACE CONCRETE SHALL BE REINFORCED A MINIMUM OF NO. 5 BARS AT 12-INCHES EACH WAY.
7. CONCRETE ENCASE ALL PIPES AND CONDUITS UNDER CONCRETE SLABS AND FOOTINGS

STRUCTURAL ALUMINUM:
1. UNLESS NOTED OTHERWISE, STRUCTURAL ALUMINUM SHALL BE GRADE 6061-T6.
2. THE FABRICATOR AND INSTALLER MUST BE A STATE LICENSED CONTRACTOR REGULARLY ENGAGED IN CUSTOM FABRICATION AND INSTALLATION OF WELDED AND BOLTED STRUCTURAL ALUMINUM.
3. WELD ELECTRODES SHALL CONFORM TO AWS A5.3 OR A5.10. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. WELDING SHALL USE ONLY APPROVED ELECTRODES. WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.2).
4. CONNECTIONS SHALL USE AISI TYPE 304, STAINLESS STEEL BOLTS UNLESS NOTED OTHERWISE. PROVIDE WASHERS AT ALL BOLTED CONNECTIONS.
5. ALL ALUMINUM IN CONTACT WITH CONCRETE, PLASTER OR OTHER METALS SHALL RECEIVE AN ISOLATION COATING IN ACCORDANCE WITH THE SPECIFICATIONS.

STRUCTURAL STEEL:
1. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO ASTM A36. W- AND WT- SHAPES SHALL CONFORM TO ASTM A992. PLATES CONNECTING TO W- AND WT- SHAPES SHALL CONFORM TO ASTM A572 GRADE 50. HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B. STEEL PIPE SHALL CONFORM TO ASTM A53 TYPE E OR S.
2. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED BY AN AISC CERTIFIED FABRICATOR IN CONFORMANCE WITH THE LATEST AISC SPECIFICATION PARTS 1 THRU 4 AND THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
3. CONNECTIONS AND BOLTS SHALL CONFORM TO THE AISC ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. CONNECTIONS SHALL USE ASTM A325-X BOLTS UNLESS NOTED OTHERWISE. PROVIDE WASHERS AT ALL CONNECTIONS WITH OVERSIZE OR SHORT SLOTTED HOLES.
4. WELD ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 E70XX ELECTRODES. WELDING SHALL BE DONE BY CERTIFIED WELDERS. WELDING SHALL USE ONLY APPROVED ELECTRODES. WELDING SHALL CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.1).
5. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL COMPONENTS AND CONNECTIONS SHALL BE PAINTED OR PROTECTIVE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.

POST-INSTALLED CONCRETE ANCHORS:
ADHESIVE
1. INSTALL ADHESIVE ANCHORS BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WITH STRICT ADHERENCE TO THE PROVISIONS WITHIN THE MANUFACTURER'S PRINTED INSTALLATIONS INSTRUCTIONS.
2. INSTALL ADHESIVE ANCHORS IN CONCRETE HAVING A MINIMUM AGE OF 28 DAYS AT THE TIME OF ANCHOR INSTALLATION AND IN ACCORDANCE WITH ACI 318-14 SECTION 17.12.
3. ADHERE TO ACI 318-14 SECTION 17.8.2.2 FOR INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION. USE ONLY CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) IN ACCORDANCE WITH ACI 318-14 SECTION 17.8.2.2 SUBMIT PROOF OF CURRENT CERTIFICATION PRIOR TO BEGINNING INSTALLATION OF ADHESIVE ANCHORS.

MECHANICAL
1. INSTALL MECHANICAL ANCHORS BY QUALIFIED PERSONNEL TRAINED TO INSTALL MECHANICAL ANCHORS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WITH STRICT ADHERENCE TO THE PROVISIONS WITHIN THE MANUFACTURER'S PRINTED INSTALLATIONS INSTRUCTIONS.

LADDERS & APPURTENANCES:
1. WHERE EXTERIOR LADDER, OR OTHER APPURTENANCES REQUIRE ANCHORS TO BE PLACED ON THE EXTERIOR WALL OF THE RESERVOIR, DRILL AND PLACE ANCHORS AFTER WRAPPING AND BEFORE FINAL SHOTCRETE. TAKE EXTREME CARE TO AVOID DAMAGE TO THE PRESTRESSED STRAND. PLACE A STEEL PIPE AROUND THE DRILL BIT TO KEEP THE DRILL BIT FROM COMING IN CONTACT WITH THE STRAND. INSTALL INSERT BEFORE SHOTCRETING TO MARK HOLE LOCATION. FOR ALL TYPES OF ANCHORING SYSTEMS, INCLUDING DROP-IN AND EXPANSION WEDGE ANCHORS, FILL HOLE IN SHOTCRETE AND WALL WITH EPOXY ADHESIVE BEFORE FINAL INSTALLATION OF ANCHORS TO INSURE COMPLETE COVERAGE AND PROTECTION OF THE STRAND.
2. USE ADHESIVE ANCHORS WITH 1-INCH MAXIMUM EMBEDMENT INTO THE SHOTCRETE IN NON-STRUCTURAL APPLICATIONS AND WHEN APPROVED BY THE ENGINEER. ONLY DRILL HOLES IN SHOTCRETE WITH A DRILL EQUIPPED WITH A POSITIVE STOP TO PREVENT DRILLING MORE THAN 1-INCH IN DEPTH. USE EPOXY ADHESIVE ANCHORS TO ENSURE COMPLETE COVERAGE AND PROTECTION OF THE PRESTRESSING STRAND DO NOT USE EXPANSION, DROP-IN, OR OTHER TYPES OF MECHANICAL ANCHORS.
3. USE ASTM F593 GR. 316 STAINLESS STEEL BOLTS AND ANCHORS UNLESS OTHERWISE NOTED. WHERE BOLTS OR ANCHORS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND WASHERS.

STRUCTURAL ABBREVIATIONS

&	AND	JT	JOINT
@	AT		
#	NUMBER	KIP	1,000 POUNDS
ø	DIAMETER	KSI	KIPS PER SQUARE INCH
ℓ_d	DEVELOPMENT LENGTH		
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIAL	L,∠	ANGLE
		LB(S)	POUNDS
		LB/SF	POUND(S) PER SQUARE FOOT
AB	AGGREGATE BASE, ANCHOR BOLT	LL	LIVE LOAD
ACI	AMERICAN CONCRETE INSTITUTE	LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
ADDIT	ADDITIONAL	LLBB	LONG LEG BACK-TO-BACK
ADJ	ADJACENT	LONGIT	LONGITUDINAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LT	LIGHT
		LW	LIGHT WEIGHT
AISI	AMERICAN IRON AND STEEL INSTITUTE	MATL	MATERIAL
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	MAX	MAXIMUM
		MB	MACHINE BOLT
ALUM	ALUMINUM	MC	MOISTURE CONTENT
ALT	ALTERNATE	MC	MISCELLANEOUS CHANNEL
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MECH	MECHANICAL
		MIN	MINIMUM
APA	AMERICAN PLYWOOD ASSOCIATION	MISC	MISCELLANEOUS
		MSE	MECHANICALLY STABILIZED EARTH
APROX	APPROXIMATE		
ARCH	ARCHITECTURAL		
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	N/A	NOT APPLICABLE
		(N)	NEW
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	NDT	NON-DESTRUCTIVE TEST(ING)
		NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
AWS	AMERICAN WELDING SOCIETY		
AWWA	AMERICAN WATER WORKS ASSOCIATION	NIC	NOT IN CONTACT
		NO.	NUMBER
		NOM	NOMINAL
B/	BOTTOM OF	NS	NEAR SIDE
BB(S)	BEARING BAR(S)	NSFC	NOT SHOWN FOR CLARITY
BLKG	BLOCKING	NSG	NON-SHRINK GROUT
BLDG	BUILDING	NTS	NOT TO SCALE
BM	BEAM		
BM-1	BEAM MEMBER 1	OC	ON CENTERS
BN	BOUNDARY NAILING	OD	OUTSIDE DIAMETER
BOT	BOTTOM	OH	OPPOSITE HAND, OVERHEAD
BP	BASE PLATE	OPNG(S)	OPENING(S)
BS	BOTH SIDES	OPP	OPPOSITE
BTWN	BETWEEN	OSHA	OCCUPATIONAL SAFETY AND HEALTH ASSOCIATION
C	CHANNEL		
CALC'S	CALCULATIONS	PAF	POWDER/POWER ACTUATED FASTENER
CC,C/C	CENTER-TO-CENTER		
CBC	CALIFORNIA BUILDING CODE	PER	PERIODIC
CIP	CAST IN PLACE	PEMB	PRE-ENGINEERED METAL BUILDING
CJ	CONSTRUCTION JOINT		
CJP	COMPLETE JOINT PENETRATION	PL	PLATE
℄	CENTERLINE	PLF	POUND PER LINEAL FOOT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	PP	PARTIAL PENETRATION
		PSF	POUND PER SQUARE FOOT
CLR, CL	CLEAR	PSI	POUND PER SQUARE INCH
CNJ	CONTROL JOINT	PT(S)	POINT(S)
COL	COLUMN	PT	PRESSURE TREATED
CONC	CONCRETE		
CONN	CONNECTION	R, RAD	RADIUS
CONST	CONSTRUCTION	RECT	RECTANGLE, RECTANGULAR
CONT	CONTINUOUS	REINF	REINFORCING, -MENT
		REQ'D	REQUIRED
DBL	DOUBLE		
DIA	DIAMETER	SCH	SCHEDULE
DIAG	DIAGONAL	SF	SQUARE FOOT
DIM	DIMENSION	SHT	SHEET
DL	DEAD LOAD	SIM	SIMILAR
DN	DOWN	SLBB	SHORT LEGS BACK-TO-BACK
DWG(S)	DRAWINGS	SLH	SHORT LEG HORIZONTAL
		SLV	SHORT LEG VERTICAL
(E)	EXISTING	SMS	SHEET METAL SCREW
EA	EACH	SPEC(S)	SPECIFICATION(S)
EF	EACH FACE	SQ	SQUARE
EL	ELEVATION	SS	STAINLESS STEEL
ELEC	ELECTRICAL	SSD	SATURATED SURFACE DRY
EMBED	EMBEDMENT	SST	STAINLESS STEEL
EN	EDGE NAILING	STAG	STAGGER
EQ	EQUAL	STD	STANDARD
EQUIP	EQUIPMENT	STIFF	STIFFENER
ES	EACH SIDE	STL	STEEL
EW	EACH WAY	STRUC	STRUCTURE
EXP	EXPANSION	SUSP	SUSPENDED
EXT	EXTERIOR	SYM	SYMMETRICAL
(F)	FUTURE	T/	TOP OF
FD	FLOOR DRAIN	T&B	TOP AND BOTTOM
FF	FINISH FLOOR	TOF	TOP OF FLOOR, TOP OF FOOTING
FIN	FINISH	TS	STRUCTURAL TUBING
FLR	FLOOR	TYP	TYPICAL
FN	FIELD NAILING		
FNDN	FOUNDATION	UON	UNLESS OTHERWISE NOTED
FRP	FIBERGLASS REINFORCED PLASTIC	UT	ULTRASONIC TESTING
		VERT	VERTICAL
FS	FAR SIDE	VIF	VERIFY IN FIELD
FT	FOOT/FEET		
FTG	FOOTING	W/	WITH
		W/O	WITHOUT
GA	GAGE/GAUGE	W, WF	WIDE FLANGE
GALV	GALVANIZED	WCLIB	WEST COAST LUMBER INSPECTION BUREAU
GLB	GLULAM BEAM		
HDG	HOT DIP GALVANIZE(D)	WP	WORK POINT
HORIZ	HORIZONTAL	WSTP	WATERSTOP
HSS	HOLLOW STRUCTURAL SECTION	WT	WEIGHT, STRUCTURAL TEE WALL THICKNESS
HT	HEIGHT		
HWL	HIGH WATER LEVEL	WWF	WELDED WIRE FABRIC
IBC	INTERNATIONAL BUILDING CODE	YD	YARD
ICC	INTERNATIONAL CODE COUNCIL		
IN	INCH		
INT	INTERIOR		

STRUCTURAL LEGEND:

- CLASS II AGGREGATE ROAD BASE
- DRAIN ROCK
- ENGINEERED FILL OR STRUCTURAL BACKFILL (IN SECTION)
- SCARIFIED NATIVE MATERIAL
- NATIVE EARTH/BACKFILL (IN SECTION)
- CONCRETE
- SHOTCRETE
- STEEL (IN SECTION)
- BEARING PAD
- CLOSED CELL RUBBER PAD

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — RONALD LEE BARRAZA — No. C45483 — Exp. 12/31/24 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

SCALE NONE
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 23 OF 57
S-01

Plot Date: 29/2023 1:27 PM
User: NAP BRAVO
pw:\\kjoe-pw.bentley.com:kjoe-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Structural\2076050.00_S-01

SPECIAL INSPECTIONS AND TESTS - GENERAL

1. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH CHAPTER 17 OF THE 2022 CALIFORNIA BUILDING CODE DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED AND IDENTIFY THE APPROVED AGENCIES TO THE DISTRICT. STRUCTURAL SPECIAL INSPECTIONS AND TESTS SHALL GOVERN THE QUALITY, WORKMANSHIP AND REQUIREMENTS FOR MATERIALS COVERED. MATERIALS OF CONSTRUCTION AND TESTS SHALL CONFORM TO THE APPLICABLE STANDARDS LISTED IN THE REFERENCED BUILDING CODE.

2. APPROVED AGENCY: AN ESTABLISHED AND RECOGNIZED AGENCY THAT IS REGULARLY ENGAGED IN CONDUCTING TESTS OR FURNISHING INSPECTION SERVICES, WHERE SUCH AGENCY HAS BEEN APPROVED BY THE DISTRICT. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY.

3. ACCESS FOR SPECIAL INSPECTION: THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS.

4. REPORT REQUIREMENT: APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE OWNER AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE DISTRICT.

5. SPECIAL INSPECTIONS OF FABRICATED ITEMS: WHERE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION.

6. STATEMENT OF SPECIAL INSPECTIONS: THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE HAS PREPARED THIS DRAWING TO SERVE AS THE STATEMENT OF SPECIAL INSPECTIONS.

7. MATERIAL TESTS: IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, THE OWNER SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

8. SEISMIC REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS: WHERE SPECIAL INSPECTIONS OR TESTS FOR SEISMIC RESISTANCE ARE REQUIRED, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE DESIGNATED SEISMIC SYSTEMS AND SEISMIC FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO THE SPECIAL INSPECTIONS OR TESTS.

9. DESIGNATED SEISMIC SYSTEMS: SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATION IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.

10. CONTRACTOR RESPONSIBILITY: CORRECT DISCREPANCIES IDENTIFIED IN THE SPECIAL INSPECTIONS AND TESTS WHERE WORK WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.

SOIL & FOUNDATIONS

1. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING TABLES. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.

CONCRETE

1. SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING TABLES.

1.1 WELDING OF REINFORCING BARS:
SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.

NON-STRUCTURAL

1. PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE REQUIRED FOR THE FOLLOWING:

   ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY AND STANDBY POWER SYSTEMS IN STRUCTURES.

   ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT IN STRUCTURES.

   INSTALLATION AND ANCHORAGE OF PIPING SYSTEMS AND THEIR ASSOCIATED MECHANICAL UNITS IN STRUCTURES.

   INSTALLATION AND ANCHORAGE OF DUCTWORK DESIGNED TO CARRY HAZARDOUS MATERIALS IN STRUCTURES.

STRUCTURAL OBSERVATIONS

1. STRUCTURAL OBSERVATIONS:
THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE AND WIND REQUIREMENTS.

2. STRUCTURAL OBSERVATIONS SHALL BE PROVIDED AT THE FOLLOWING EXTENT AND FREQUENCY:

2.1 WALL FOUNDATION AND FLOOR SLAB:
AFTER FORMING, WATERSTOPS, CABLES, REINFORCING AND ALL OTHER CAST-IN ITEMS HAVE BEEN PUT IN PLACE BUT PRIOR TO THE FIRST CONCRETE PLACEMENT.

2.2 FIRST WALL SECTION:
AFTER ONE SIDE OF THE FORMING, WATERSTOPS, CABLES, REINFORCING AND ALL OTHER CAST-IN ITEMS HAVE BEEN PUT INTO PLACE, BUT PRIOR TO ENCLOSING THE FORMS.

2.3 COLUMNS:
AFTER THE FOOTING INSTALLATION WITH ALL REINFORCING AND SPACERS INSTALLED, PRIOR TO CONCRETE INSTALLATION. DISCUSS FORMING METHOD WITH ENGINEER OF RECORD TO DETERMINE ANY ADDITIONAL OBSERVATION REQUIREMENTS.

2.4 VERTICAL POST-TENSIONING:
OBSERVE A SELECT NUMBER OF VERTICAL ASSEMBLY TENDONS TENSION AND ELONGATION RECORDINGS WITHIN THE FIRST 15 UNITS.

2.5 ROOF SLAB:
AFTER INSTALLATION OF THE FORMING, REINFORCING, SHEAR CANS AND ALL OTHER CAST-IN ITEMS PRIOR TO THE FIRST CONCRETE PLACEMENT.

2.6 WALL PRESTRESSING:
OBSERVE A SELECT NUMBER OF WRAPS AND DATA RECORDINGS STARTING AT THE INITIATION OF THE WRAPPING INSTALLATION.

2.7 FINAL OBSERVATION:
AFTER COMPLETION OF ALL STRUCTURAL ELEMENTS CONTAINED WITHIN THE CONTRACT DOCUMENTS AND AFTER INTERIOR WASH DOWN, PRIOR TO BACKFILLING AND LEAKAGE TESTING TO OBSERVE THE INTERIOR AND EXTERIOR OF THE RESERVOIR STRUCTURE.

3. EACH STRUCTURAL OBSERVATION REPORT SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, AND AUTHORITY HAVING JURISDICTION.

CONCRETE TESTING SCHEDULE:

[X] (6) 6"Ø CYLINDERS PER 100 CUBIC YARDS*
2 @ 7 DAYS, 2 @ 28 DAYS, HOLD 2 IN RESERVE. EACH MIX PLACED, EACH DAY PLACED
[X] SLUMP TEST - PER 50 CY & AT STRENGTH SAMPLE
[X] AIR TEST - PER STRENGTH SAMPLES SCHEDULE
[X] UNIT WEIGHT TEST - PER STRENGTH SAMPLES

CONCRETE

REQUIRED SPECIAL INSPECTIONS AND TESTS

SPECIAL INSPECTION REQUIRED	TYPE	CONT	PERIODIC	REFERENCED STANDARD	IBC REF
YES	1. INSPECT REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS, AND VERIFY PLACEMENT.	--	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1 - 26.6.3	1908.4
YES	2. REINFORCING BAR WELDING:				
YES	a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	--	X	AWS D1.4, ACI 318 26.6.4	--
YES	b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16".	--	X		
YES	c. INSPECT ALL OTHER WELDS.	X	--		
YES	3. INSPECT ANCHORS CAST IN CONCRETE.	--	X	ACI 318 17.8.2	--
YES	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.				
YES	a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	--	ACI 318 17.8.2.4	--
YES	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	--	X	ACI 318 17.8.2	
YES	5. VERIFY USE OF REQUIRED DESIGN MIX.	--	X	ACI 318 Ch. 19, 26.4.3, 26.4.4	1904.1 1904.2 1908.2 1908.3
YES	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	--	ASTM C172, ASTM C31, ACI 318 26.4, 26.12	1908.10
YES	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	--	ACI 318 26.5	1908.6, 1908.7, 1908.8
YES	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	--	X	ACI 318 26.5.3 - 26.5.5	1908.9
YES	9. INSPECT PRESTRESSED CONCRETE FOR:				
YES	a. APPLICATION OF PRE-STRESSING FORCES.	X	--	ACI 318 26.10	--
YES	b. GROUTING OF BONDED PRE-STRESSING TENDONS.	X	--		
YES	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	--	X	ACI 318 26.8	--
YES	11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	--	X	ACI 318 26.11.2	--
YES	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED,	--	X	ACI 318 26.11.1.2(b)	--

SOILS

REQUIRED SPECIAL INSPECTIONS AND TESTS

SPECIAL INSPECTION REQUIRED	TYPE	CONT	PERIODIC
YES	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	--	X
YES	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	--	X
YES	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	--	X
YES	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	--
YES	5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	--	X

GOVERNING CODES

GENERAL	CBC 2022
CONCRETE	ACI 318-19
STEEL	ANSI/AISC 360-10
MASONRY	ACI 530-13
WELDING	AWS D1.1-16

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
ROMAN LEE BARRERA
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

STRUCTURAL INSPECTIONS AND TESTING SCHEDULE

SCALE NONE
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 24 OF 57
S-02

Plot Date: 2/10/2023 1:01 PM

User: STEPHANIE GOTSCH

LAP SPLICE LENGTH FOR REINFORCING BARS IN WALLS, SLABS & FTNGS (INCHES)

CONCRETE COMPRESSIVE STRENGTH, f'c ≥ 3,000 PSI						
BAR SIZE	COVER=1.00 IN.		COVER=1.50 IN.		COVER=2.00 IN.	
IMPERIAL [SOFT METRIC]	TOP[4]	OTHER	TOP [4]	OTHER	TOP [4]	OTHER
#3 [#10]	17	13	17	13	17	13
#4 [#13]	23	17	23	17	23	17
#5 [#16]	33	26	28	22	28	22
#6 [#19]	46	35	34	26	34	26
#7 [#22]	74	57	55	43	49	38
#8 [#25]	93	72	70	54	56	43
#9 [#29]	113	87	86	66	69	53
#10 [#32]	137	106	105	81	85	66
#11 [#36]	162	125	125	97	102	79

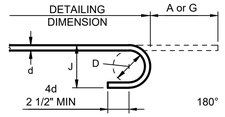
NOTES:
1. THE SPLICE LENGTH TABLE IS SPECIFIC TO TENSION DEVELOPMENT AND TENSION LAP SPLICE LENGTHS FOR WALLS, SLABS AND FOOTINGS DETERMINED IN ACCORDANCE WITH ACI 318-14 CHAPTER 25, ACI 350-06 CHAPTER 12, AND THE CRITERIA IN THIS DETAIL. CONTACT THE EOR FOR ANY DISCREPANCIES TO THE CRITERIA IN THIS DETAIL.
2. LAP SPLICE LENGTHS ARE CLASS B LAPS, IN INCHES, FOR GRADE 60 REINF IN NORMAL-WEIGHT CONC WITH f'c ≥ 3,000 PSI.
3. OC SPACING OF REINF SHALL BE > TWICE THE CONC COVER PLUS ONE BAR DIA.
4. TOP BARS ARE HORIZ BARS WITH > 12" OF CONC CAST BELOW BARS.
5. FOR EPOXY-COATED REINF OR LIGHTWEIGHT CONC, CONTACT THE EOR FOR LAP SPLICE LENGTHS.
6. FOR BARS OF DIFFERENT SIZES, THE LAP SPLICE LENGTHS OF THE SMALLER BAR SHALL BE USED.
7. STAGGER LAPS A DISTANCE OF ONE-HALF THE SPLICE LENGTH, UON.

CONCRETE REBAR LAP SPLICE — S-3010

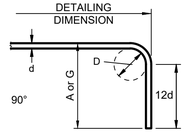
- SCALE: NTS
REV 00

D = FINISHED INSIDE BEND DIAMETER (INCLUDES SPRINGBACK)

d = BAR DIAMETER



ACI 318-14 MIN BEND DIAMETER:
6d FOR #3 THROUGH #8
8d FOR #9, #10 & #11
10d FOR #14 AND #18

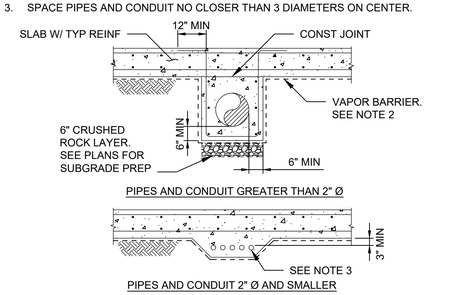


RECOMMENDED END HOOK DIMENSIONS					
BAR SIZE	D	180 ° HOOKS		90° HOOKS	
		A or G	J	A or G	
#3	0'-2 1/4"	0'-5"	0'-3"	0'-6"	
#4	0'-3"	0'-6"	0'-4"	0'-8"	
#5	0'-3 3/4"	0'-7"	0'-5"	0'-10"	
#6	0'-4 1/2"	0'-8"	0'-6"	1'-0"	
#7	0'-5 1/4"	0'-10"	0'-7"	1'-2"	
#8	0'-6"	0'-11"	0'-8"	1'-4"	
#9	0'-9 1/2"	1'-3"	0'-11 3/4"	1'-7"	
#10	0'-10 3/4"	1'-5"	1'-'1 1/4"	1'-10"	
#11	1'-0"	1'-7"	1'-2 3/4"	2'-0"	

REINFORCING HOOKS — S-3020

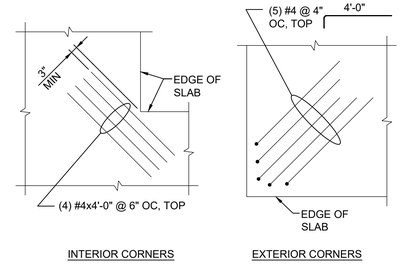
- SCALE: NTS
REV 00

NOTES:
1. ENCASEMENT REINFORCING SHALL BE #4@12" UON. PROVIDE A MINIMUM 3 INCHES CLEAR COVER.
2. WHERE VAPOR BARRIER IS SHOWN IN PLANS OR SECTIONS THE VAPOR BARRIER SHALL BE PLACED CONTINUOUSLY UNDER SLAB AND ENCASEMENT.
3. SPACE PIPES AND CONDUIT NO CLOSER THAN 3 DIAMETERS ON CENTER.



PIPE AND CONDUIT ENCASEMENT — S-3030

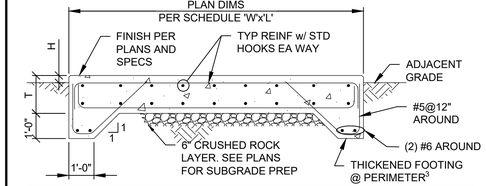
- SCALE: 3/8" = 1'-0"
REV 00



ADDITIONAL REINF AT SLAB CORNERS — S-3180

- SCALE: 1" = 1'-0"
REV 00

NOTES:
1. COORDINATE ALL DIMENSIONS WITH FAVORABLY REVIEWED EQUIPMENT ANCHORAGE AND INSTALLATION SHOP DRAWING.
2. SLABS LESS THAN 10-INCH THICK SEE S-3341
3. NO THICKENED FOOTING REQUIRED AT SLABS WITH AT LEAST ONE PLAN DIMENSION LESS THAN 6'-0".
4. EQUIPMENT BASEPLATE SHALL BE UNDERLAIN BY A MINIMUM 1/4" NON-SHRINK GROUT.
5. EQUIPMENT PADS ON SLABS SEE S-3831



CONCRETE PAD SCHEDULE[1]					
PAD	WIDTH "W"	LENGTH "L"	THICK "T"	"H"	REINF
STANDBY GENERATOR	5'-4"	14'-10"	2'-0	6"	#5@12" T&B EA WAY
PG&E TRANSFORMER	6'-0"	6'-0"	1'-0	6"	#5@12" T&B EA WAY

EQUIPMENT SLAB — S-3342

HEAVY EXTERIOR

SCALE: NTS
REV 00

DRAIN NOTES:
1. CONC GUTTER REQ'D ADJACENT TO TOP OF WALL WITH PREMOLDED EXPANSION JOINT. IMPERVIOUS PAVING (ASPHALT OR CONCRETE OR CLAY) REQ'D AT TOP OF BACKFILL, EXTEND 5FT MIN BEHIND WALL.
2. DRAIN BOARD REQ'D AT FULL HT OF WALL (LESS 6" FROM TOP OF GUTTER). MIRAFI G100N OR EQUAL.
3. ROCK BACKFILL IS CRUSHED ROCK, WASHED, WITH 100% PASSING 3/4", LESS THAN 5% PASSING No. 4 SIEVE, AND LESS THAN 2% PASSING No. 200 SIEVE. ROCK SHALL BE AT LEAST 10" WIDE BEHIND WALL, AND AT LEAST 6" THICK OVER FOOTING. ROCK SHALL EXTEND DOWN TO HORIZONTAL DRAIN AT HEEL, AND EXTEND UP NEAR TOP OF WALL (LESS 1'-0" FROM GUTTER).
4. ROCK IS COMPLETELY WRAPPED IN GEOTEXTILE DRAIN FABRIC - MIRAFI 180N OR EQUAL.
5. HORIZONTAL PERFORATED DRAIN SHALL BE 3" DIA MIN, WRAPPED WITH GEOTEXTILE FABRIC SOCK. PROVIDE TEE INTERSECTION OF HEEL DRAIN TO NON-PERFORATED HORIZ DRAIN [AND DAYLIGHT EVERY 24FT OF WALL LENGTH] [PER CIVIL DRAINAGE PLAN].
6. PROVIDE WEEP DRAIN IN WALL FORMWORK EVERY 8'-0" MIN ALONG WALL. 1-1/2" PVC PIPE (1.90"x0.145") WITH PREFABRICATED TEE OUTLET.

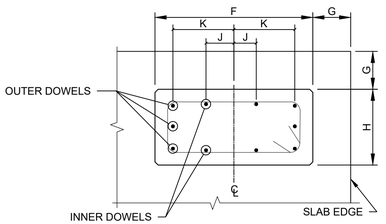
RETAINING WALL DRAINAGE — S-3630

- SCALE: 1" = 1'-0"
REV 00

PIPE DIA	≤ 12"	>12" ≤ 30"	>30" ≤ 48"
A	2 1/2"	3"	5"
B	4"	8"	10"
C	4"	4"	8"
D	9"	1'-2"	1'-3"
E	12"	1'-4"	1'-6"
F	2'-1"	4'-4"	6'-6"
G	1'-0"	3'-0"	5'-6"
H	1'-0"	2'-6"	2'-6"
J	0"	8"	1'-6"
K	10"	2'-0"	2'-9"
ANCHOR BOLT	1/2"Ø ROD	5/8"Ø ROD	5/8"Ø ROD
STRAP SIZE	2 1/2"X1/4"	2 1/2"X1/4"	3 1/2"X1/4"
DOWEL SIZE	GR 60 #5 BAR	GR 60 #6 BAR	GR 60 #6 BAR
# OF INNER DOWELS ONE SIDE OF CENTER	2	4	3
# OF OUTER DOWELS ONE SIDE OF CENTER	2	3	3

ELEVATION

NOTES:
1. ALL ANCHORS AND DOWELS SHALL BE POST-INSTALLED WITH HILTI HIT-HY200 EPOXY AND MAY NOT BE UP-SIZED.
2. ALL SUPPORT DIMENSIONS ARE MINIMUMS AND MAY BE SIZED UP AT CONTRACTOR'S OPTION UON.
3. ANCHORS SHALL BE CENTERED ON PIPE STRAP
4. PIPE STRAPS SHALL HAVE LENGTH SUCH THAT STRAP END DISTANCE PAST ANCHOR IS MINIMUM 1.5x THE STRAP WIDTH.
5. PIPE SUPPORT DOWEL LAYOUT IS SYMMETRICAL ABOUT THE CENTERLINE.
6. DOWELS ARE TO BE PLACED AS CLOSE TO #4 CIRCUMFERENTIAL BAR AS POSSIBLE AND EQUALLY SPACED ALONG FAR EDGES OF SUPPORT WHERE THERE ARE >2 OUTER DOWELS.
7. (E) SLAB ON GRADE SHALL HAVE A MINIMUM OF 3,000 PSI CONCRETE.



A — SECTION

CONCRETE CRADLED PIPE — M-5103

SCALE: 1" = 1'-0"
REV 00

NOTES:
1. PLACE ALL EQUIPMENT ON CONCRETE PADS (UON).
2. SEPARATE ALL STEEL SURFACES BEARING ON CONC BY 1/4" (MIN) THICK GROUT LAYER.
3. INSTALL THE MAX OF STANDARD HOOK DEVELOPMENT LENGTH OR 3" LESS THAN THE SLAB THICKNESS

EQUIP PAD — S-3831

ON NEW CONC

SCALE: NTS
REV 00

NOTES:
1. PLACE ALL EQUIPMENT ON CONCRETE PADS (UON).
2. SEPARATE ALL STEEL SURFACES BEARING ON CONC BY MINIMUM 1/4" THICK GROUT LAYER.
3. FOR INSTALLATION AT EXISTING SLABS, THE CONTRACTOR SHALL LOCATE AND AVOID DRILLING THRU EXISTING REINFORCING STEEL.
4. THE MAXIMUM OF 8 TIMES THE BAR Ø OR 3" LESS THAN THE SLAB THICKNESS.

EQUIP PAD — S-3832

ON EXISTING CONC

SCALE: NTS
REV 00

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NO	REVISION	DATE	BY

SCALES
0 — 1"
0 — 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — RONALD LEE BARRETT — No. C45483 — Exp. 12/31/24 — CIVIL — STATE OF CALIFORNIA

02/10/23

DESIGNED: DLB
DRAWN: NEB
CHECKED: PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

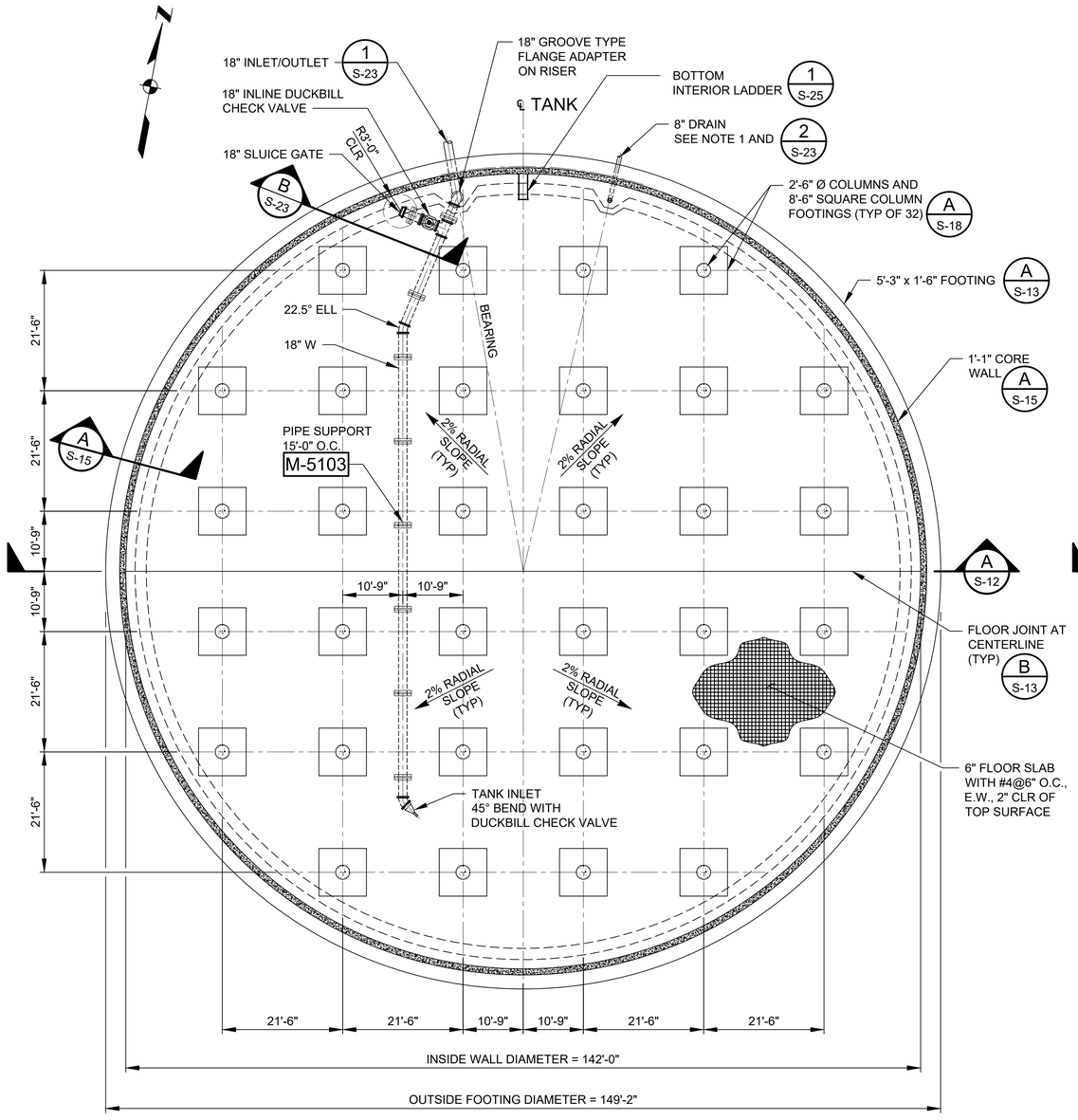
Kennedy Jenks

STRUCTURAL STANDARD DETAILS

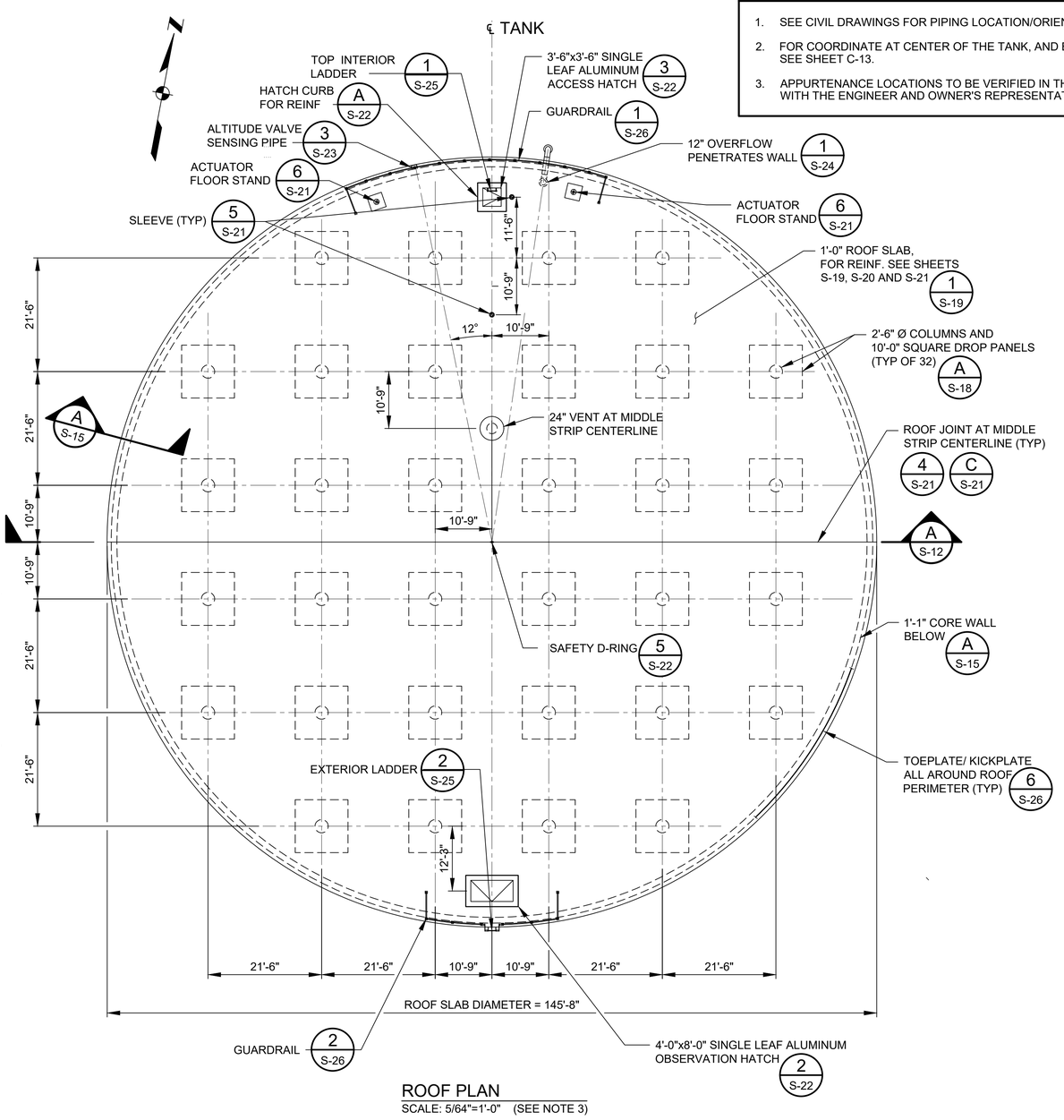
SCALE
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 25 OF 57
S-03

GENERAL SHEET NOTES:

1. SEE CIVIL DRAWINGS FOR PIPING LOCATION/ORIENTATION.
2. FOR COORDINATE AT CENTER OF THE TANK, AND BEARING SEE SHEET C-13.
3. APPURTENANCE LOCATIONS TO BE VERIFIED IN THE FIELD WITH THE EINGINEER AND OWNER'S REPRESENTATIVE.



FLOOR PLAN
SCALE: 5/64"=1'-0" (SEE NOTE 3)



ROOF PLAN
SCALE: 5/64"=1'-0" (SEE NOTE 3)

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SCALES
0 1"
0 25mm
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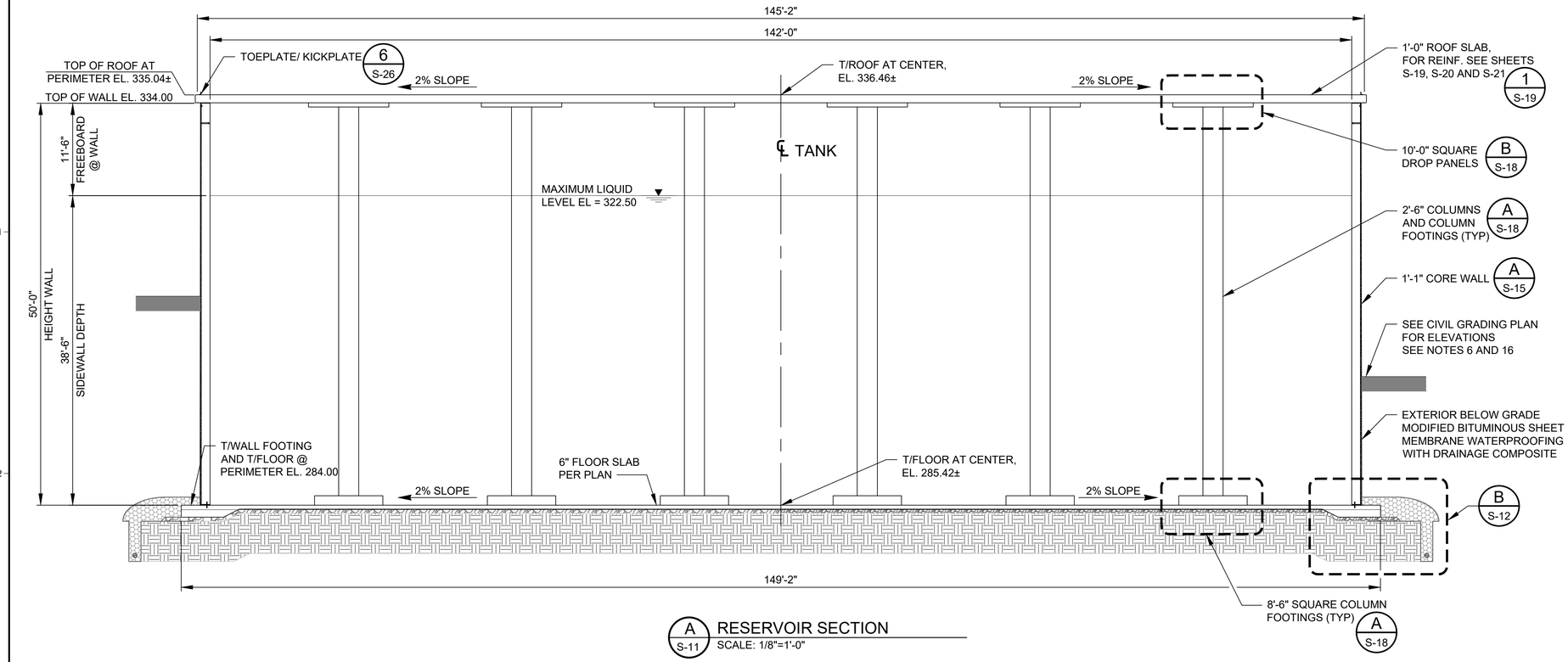
REGISTERED PROFESSIONAL ENGINEER
DONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

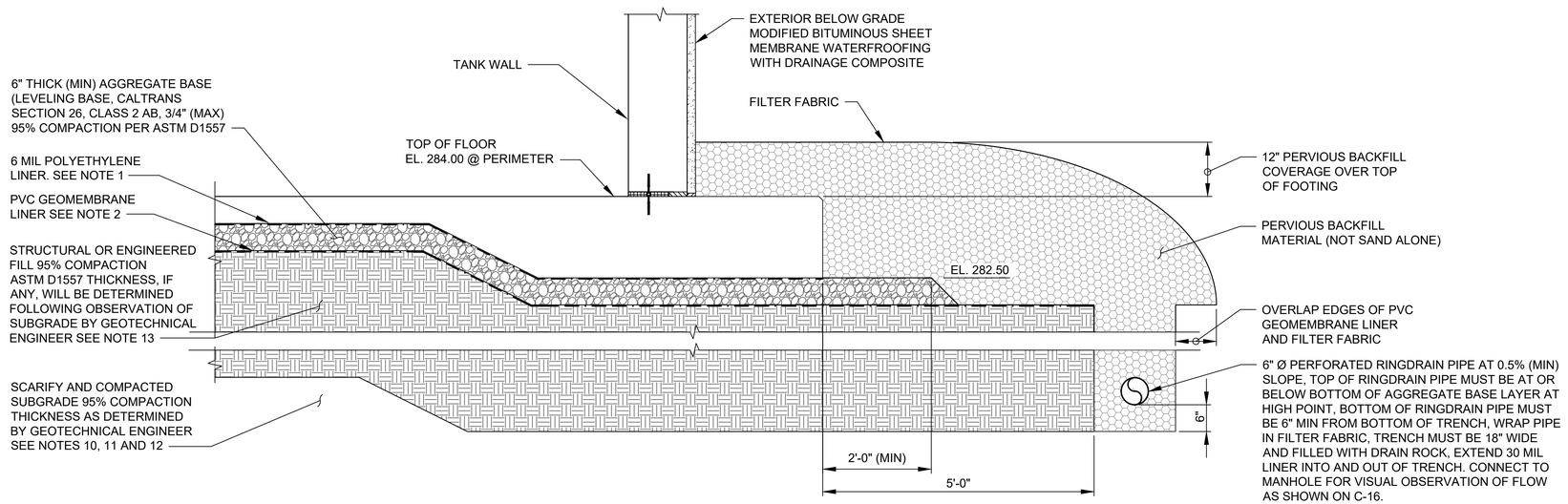
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

RESERVOIR FLOOR AND ROOF PLANS

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 26 OF 57
S-11



A S-11 RESERVOIR SECTION
SCALE: 1/8"=1'-0"



B S-12 SUBBASE AND FOOTING EDGE
SCALE: 3/4"=1'-0"

GENERAL SHEET NOTES:

1. A 6 MIL POLYETHYLENE LINER SHALL BE PLACED ON TOP OF THE FINAL LEVELING BASE DIRECTLY BELOW THE CONCRETE TANK FOUNDATION. LAP EDGES MIN. 6"
2. PVC GEOMEMBRANE LINER FOR LEAK DETECTION. SEAL DRAIN PIPE ENTRANCE.

EARTHWORK NOTES:

1. SPECIFICATIONS: SEE SPECIFICATION SECTION 02200 FOR SITE PREPARATION REQUIREMENTS. SEE SPECIFICATION SECTION 02300 FOR EARTHWORK REQUIREMENTS.
2. SUBSURFACE INVESTIGATIONS: GEOTECHNICAL INVESTIGATIONS FOR DESIGN PURPOSES FOR THIS PROJECT WERE MADE FOR THE MCKINLEYVILLE COMMUNITY SERVICES DISTRICT BY LACO ASSOCIATES, INC. IN A REPORT "MCSD COCHRAN ROAD WATER TANK ASSESSOR'S PARCEL NUMBER 509-021-046" DATED 16 JANUARY 2014 AND SUPPLEMENTED BY ADDENDUM NO. 1 DATED 4 APRIL 2014 AND ADDENDUM NO. 2 DATED 17 AUGUST 2020. THESE REPORTS ARE AVAILABLE FROM THE DISTRICT.
3. GROUNDWATER: GROUNDWATER WAS ENCOUNTERED IN BORINGS B-2, B-3, B-4, AND B-5 AT DEPTHS RANGING FROM 16 TO 47 FEET BELOW THE EXISTING GRADE (254 TO 265 FEET ABOVE MSL, NAVD88) IN DECEMBER 2013.
4. OBSERVATION OF FOOTING EXCAVATIONS: THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE FOR OBSERVATION OF ALL FOOTING EXCAVATIONS. EXCAVATIONS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER TO CHECK THAT EXPOSED SOILS ARE FIRM AND UNYIELDING WITH THE RECOMMENDED BEARING AVAILABLE. IF ISOLATED SOFT AND/OR LOOSE NATIVE SOILS ARE ENCOUNTERED, THE EXCAVATIONS SHALL BE EXTENDED INTO UNDERLYING FIRMER SOILS.
5. FOUNDATION SUBGRADE: FOUNDATION CONCRETE SHALL BE PLACED NEAT AGAINST A FIRM SOIL SURFACE THAT IS FREE OF LOOSE, DEBRIS MATERIAL, OR STRUCTURAL FILL, ENGINEERED FILL MATERIAL, THAT IS PLACED AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE DRAWINGS AND SECTION 02300.
6. BACKFILL FOR CUT SLOPES: BACKFILL FOR THE EXCAVATED CUT-SLOPES AROUND THE TANK SHALL BE COMPRISED OF EXCAVATED ON-SITE MATERIALS THAT IS PLACED AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE DRAWINGS AND SECTION 02300.
7. SITE CLEARING FOR RESERVOIR: EXISTING VEGETATION SHALL BE STRIPPED, GRUBBED, AND/OR OTHERWISE REMOVED. FOLLOWING CLEARING STRIPPING/GRUBBING AND REQUIRED EXCAVATION, THE LOOSE, DARK BROWN SILT TOPSOIL (≤4 FEET THICK) SHALL BE COMPLETELY REMOVED.
8. REUSE OF ON-SITE SOILS: STOCKPILING OF THE SILT AND UNDERLYING GRANULAR SOILS SHALL BE PERFORMED IF REUSE AS BACKFILL AND/OR STRUCTURAL FILL IS INTENDED.
9. EARTHWORK CONDITIONS: ALL EARTHWORK INCLUDING, BUT NOT LIMITED TO, SITE CLEARING AND STRIPPING/GRUBBING, SHALL BE CONDUCTED DURING DRY-WEATHER CONDITIONS.
10. OBSERVATION OF SUBGRADE SOILS: FOLLOWING SITE CLEARING AND REQUIRED EXCAVATION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE SO THAT THE EXPOSED SUBGRADE SOILS CAN BE REVIEWED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF BASE MATERIAL.
11. OVEREXCAVATION OF SUBGRADE SOILS: THE PROJECT GEOTECHNICAL ENGINEER MAY REQUIRE OVER EXCAVATION, AND/OR SCARIFICATION AND RECOMPACTION DEPENDING ON THE DENSITY AND QUALITY OF THE SOILS EXPOSED.
12. PROOF ROLLING: SUBGRADE SOILS TO RECEIVE FILL SHALL BE "FIRM AND UNYIELDING" UNDER PROOF ROLLING WITH CONVENTIONAL EARTHMOVING EQUIPMENT SUCH AS A FULLY LOADED, 10-YARD DUMP TRUCK WITH A MINIMUM REAR-AXLE LOAD OF 8 TONS, OR EQUIVALENT.
13. STRUCTURAL FILL AND BACKFILL: BACKFILL AND/OR STRUCTURAL FILL SHALL CONSIST OF A LOW-EXPANSION-POTENTIAL MATERIAL AND BE FREE OF ORGANIC DEBRIS AND OTHER DELETERIOUS MATTER. STRUCTURAL FILLS/BACKFILLS SHALL BE PLACED ON A PREPARED GRADE. THE MATERIAL SHALL NOT CONTAIN ROCKS LARGER THAN 2 INCHES IN GREATEST DIMENSION. THE MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 02300 FOR ENGINEERED FILL.
14. GRANULAR ONSITE MATERIALS: THE GRANULAR MATERIALS ENCOUNTERED ON SITE MEETING THE SECTION 02300 REQUIREMENTS FOR ENGINEERED FILL MAY BE REUSED AS STRUCTURAL (ENGINEERED) FILL.
15. COMPACTION: STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. THE STRUCTURAL FILL/BACKFILL SHALL BE PLACED ON A PREPARED GRADE AS SPECIFIED ABOVE IN LOOSE LIFTS LESS THAN 8 INCHES THICK. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 02300.
16. USE ONLY HAND HELD COMPACTION EQUIPMENT WITHIN 5 FEET OF RESERVOIR WALL AND LIGHTWEIGHT EQUIPMENT (15,600 LBS MAX) BEYOND THE 5 FEET AND WITHIN 15 FEET OF THE RESERVOIR WALL SO AS NOT TO DAMAGE THE WALL. BRING UP THE BACKFILL AROUND THE RESERVOIR IN UNIFORM LIFTS. DIFFERENCE IN BACKFILL HEIGHTS DURING INSTALLATION SHALL NEVER EXCEED THE DIFFERENCE IN BACKFILL HEIGHTS.
17. CUT AND FILL SLOPES: PERMANENT OR TEMPORARY CUT-SLOPES SHALL HAVE A GRADIENT NO STEEPER THAN 1.5H:1V: PERMANENT FILL SLOPES SHALL HAVE A GRADIENT NO STEEPER THAN 2H:1V. CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HUMBOLDT COUNTY GRADING ORDINANCE AND THE CALIFORNIA BUILDING CODE.
18. DRAINAGE: GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE RESERVOIR. A 10-PERCENT GRADIENT SHALL BE MAINTAINED FOR LANDSCAPED AREAS WITHIN 8 FEET OF A STRUCTURE. GRADING OR LANDSCAPING DESIGN AND CONSTRUCTION SHALL NOT ALLOW WATER TO POND ON THE SITE, NOR TO MIGRATE BENEATH ANY STRUCTURE. RUNOFF FROM UPSLOPE TERRAIN, HARDSCAPED AREAS, ROOFS, EXTERIOR SLABS, AND OTHER IMPERMEABLE SURFACES SHALL GENERALLY BE CONTAINED, CONTROLLED, AND COLLECTED IN A TIGHT-LINE PIPE THAT OUTLETS INTO THE SITE STORM DRAINAGE SYSTEM.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER DONALD LEE BARRETT No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

RESERVOIR SECTION

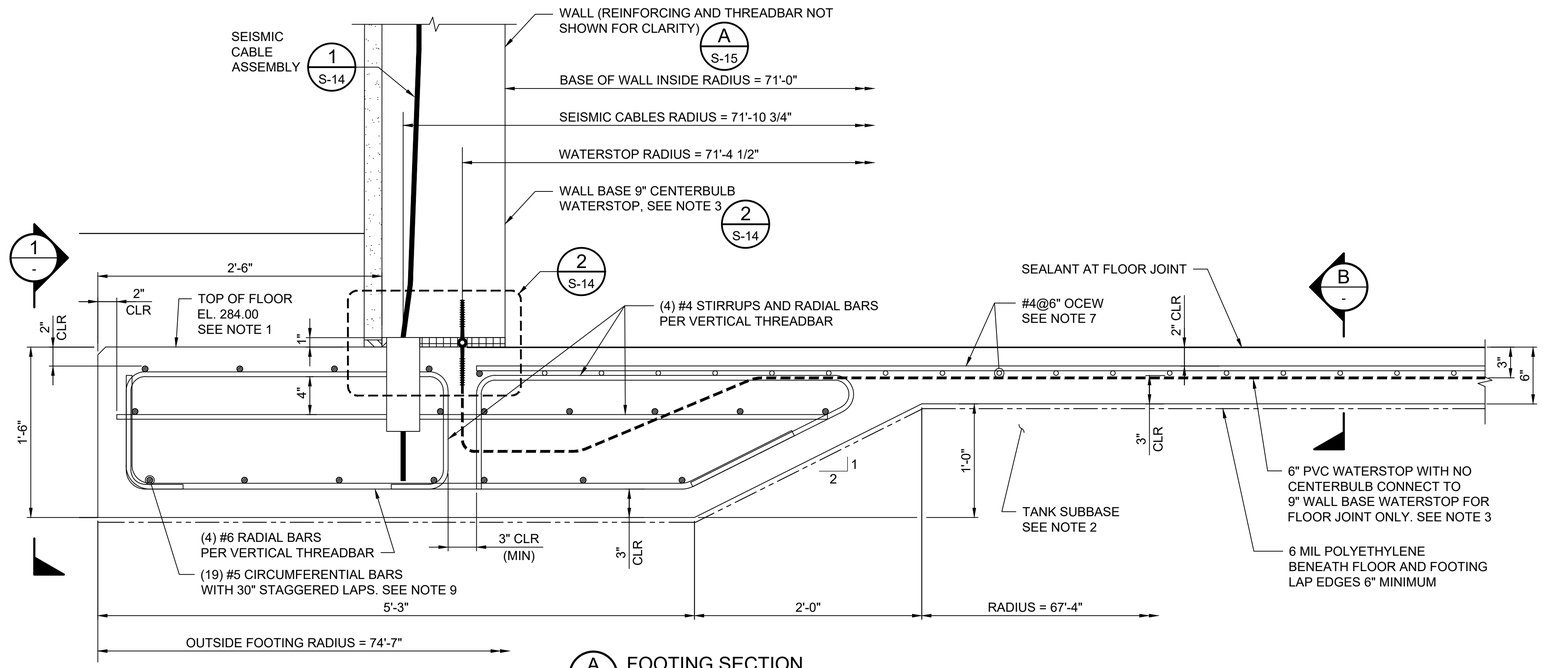
SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 27 OF 57
S-12

pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Structural\2076050.00-S-12

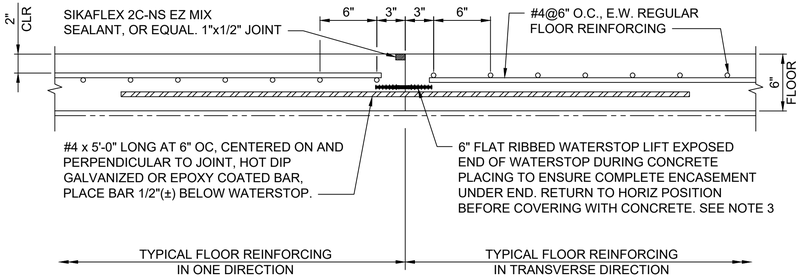
GENERAL SHEET NOTES:

FOUNDATION

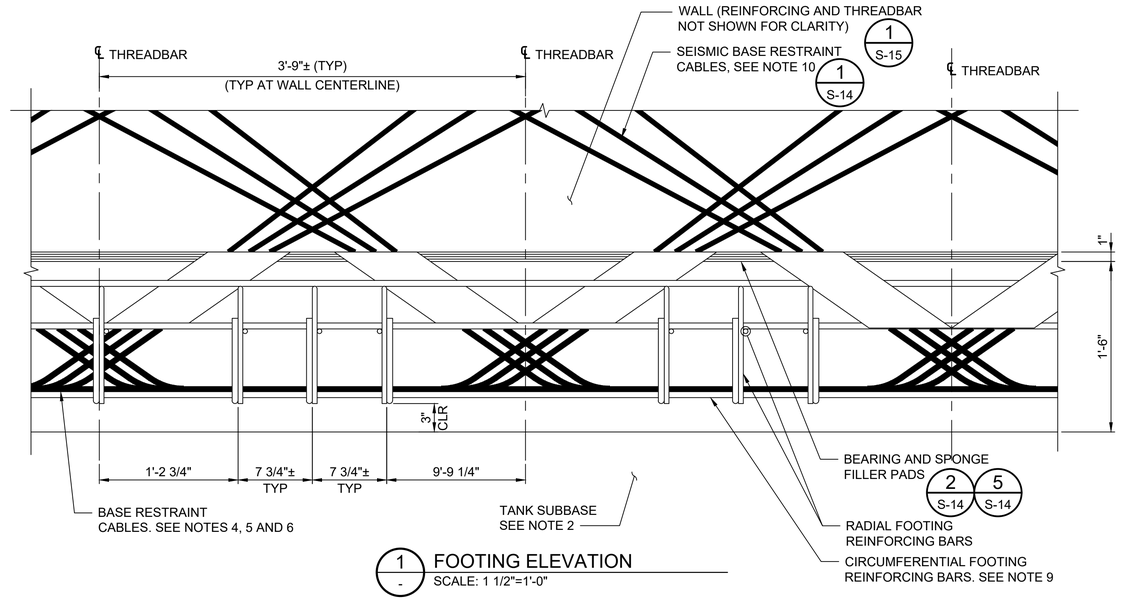
1. TOP OF FLOOR TO RECEIVE A SMOOTH AND HARD STEEL TROWELED FINISH.
2. SEE DWG. S-12 FOR FOUNDATION SUBBASE PREPARATION.
3. WATERSTOP TO BE TIED OFF IN BOTH DIRECTIONS AT 12" O.C.
4. BASE RESTRAINT CABLE STRAND ENDS TO BE SPACED ±6"O.C. (4" MIN.)
5. BASE RESTRAINT CABLES MAY BE BUNDLED WITHIN 12" OF BOOT.
6. BASE RESTRAINT CABLES MAY BE BENT AT BOTTOM OF BOOT TO FACILITATE INSTALLATION.
7. UPPER LAYER OF FLOOR REINFORCEMENT (IN ONE DIRECTION) MAY BE SHIFTED TO BELOW BOTTOM LAYER OF FLOOR REINFORCEMENT (IN TRANSVERSE DIRECTION) TO ACT AS A BURY OR CARRIER BAR. THE CLEAR DISTANCE FROM THE COMPACTED SOIL TO THESE BURY BARS SHALL BE CAREFULLY INSPECTED AND IN NO LOCATION SHALL THE COVER BE LESS THAN 2".
8. THE COMBINED FLOOR AND WALL FOOTING SHALL BE PLACED MONOLITHICALLY.
9. AT CONSTRUCTION JOINTS, STOP CIRCUMFERENTIAL BARS 2" CLEAR OF JOINT AND INSTALL #5x6'-0" GALVANIZED SPLICE BARS CENTERED AND PERPENDICULAR TO JOINT.
10. MAINTAIN CLEARANCE BETWEEN THE INDIVIDUAL STRANDS IN THE SEISMIC CABLE SETS (DO NOT BUNDLE).
11. REINFORCING STEEL CALLED OUT AS GALVANIZED SHALL HAVE A CLASS I COATING IN ACCORDANCE WITH ASTM A767, WITHOUT CHROMATE.



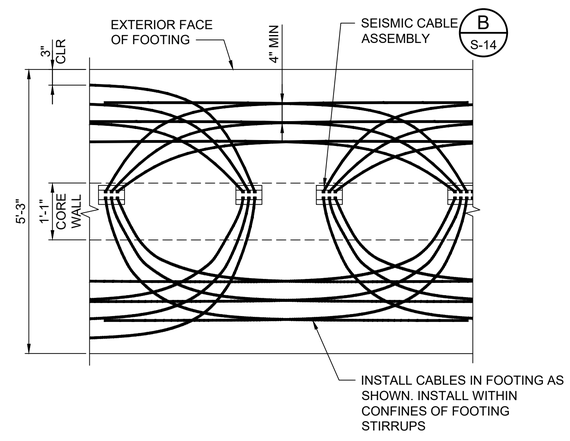
A - FOOTING SECTION
SCALE: 1 1/2"=1'-0" (SEE NOTE 8)



B - FLOOR JOINT SECTION
SCALE: 1 1/2"=1'-0"



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



2 - SEISMIC BASE RESTRAINT CABLE PLAN
SCALE: 3/4"=1'-0"

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

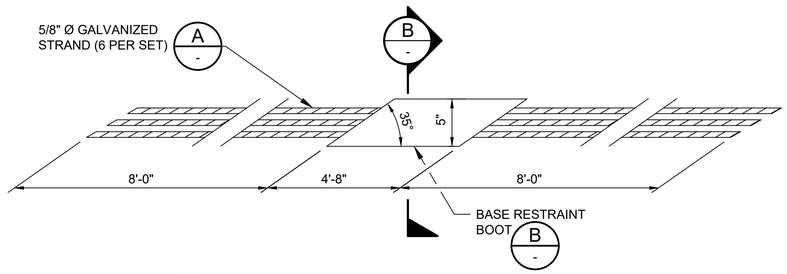
REGISTERED PROFESSIONAL ENGINEER RONALD LEE BARRAZA No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

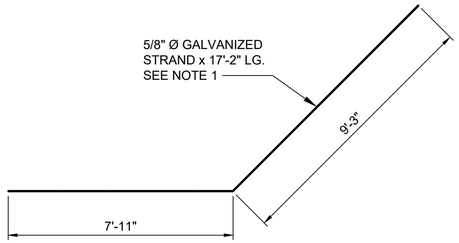
FOUNDATION SECTIONS AND ELEVATION

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 28 OF 57
S-13



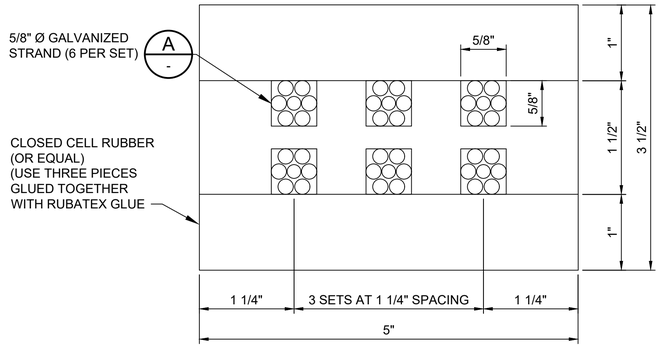
1 - SEISMIC BASE RESTRAINT CABLE SET

SCALE: 1 1/2"=1'-0" (240 REQUIRED)



A - SEISMIC BASE RESTRAINT CABLE

SCALE: 3/8"=1'-0" (1440 REQUIRED)



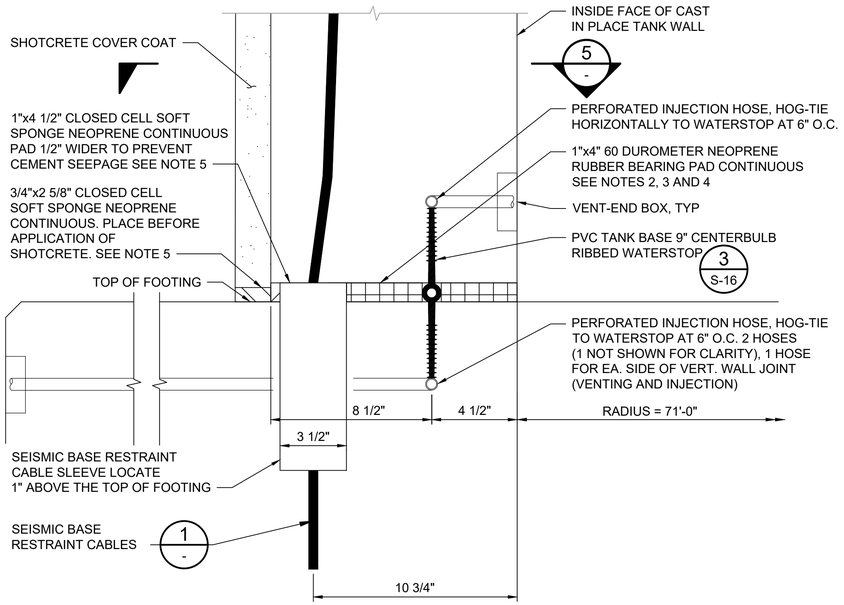
B - SEISMIC BASE RESTRAINT BOOT

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

GENERAL SHEET NOTES:

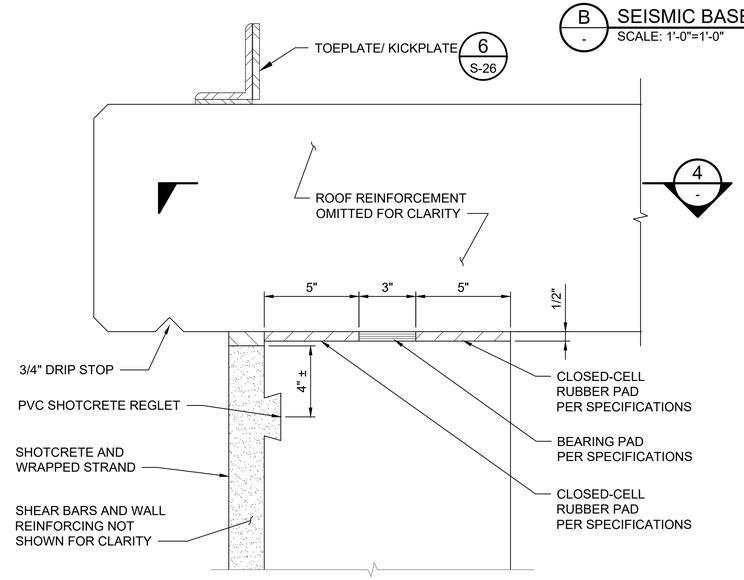
SEISMIC BASE RESTRAINT CABLE
1. CABLES MAY BE BENT AS SHOWN TO FACILITATE INSTALLATION.

WALL BASE
2. GLUE ALL PADS TO TOP OF WALL FOOTING WITH CONTACT CEMENT.
3. FILL ALL VOIDS BETWEEN BASE PADS, BASE RESTRAINT CABLE SLEEVE AND WATERSTOP WITH SOFT MASTIC.
4. BEARING PADS SHALL NOT BE CUT CIRCUMFERENTIALLY. THEY MAY HAVE RADIAL JOINTS.
5. SOFT NEOPRENE PADS MAY HAVE CIRCUMFERENTIAL AND/OR RADIAL JOINTS.



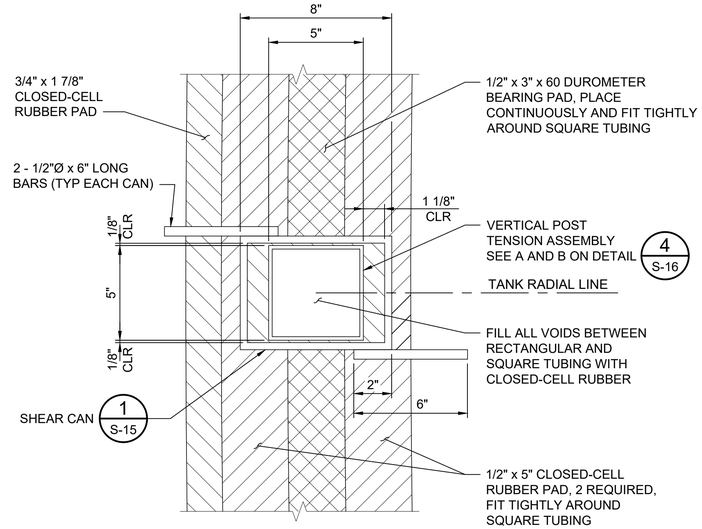
2 - WALL BASE CABLE, PAD AND WATERSTOP

SCALE: 3'-0"=1'-0"



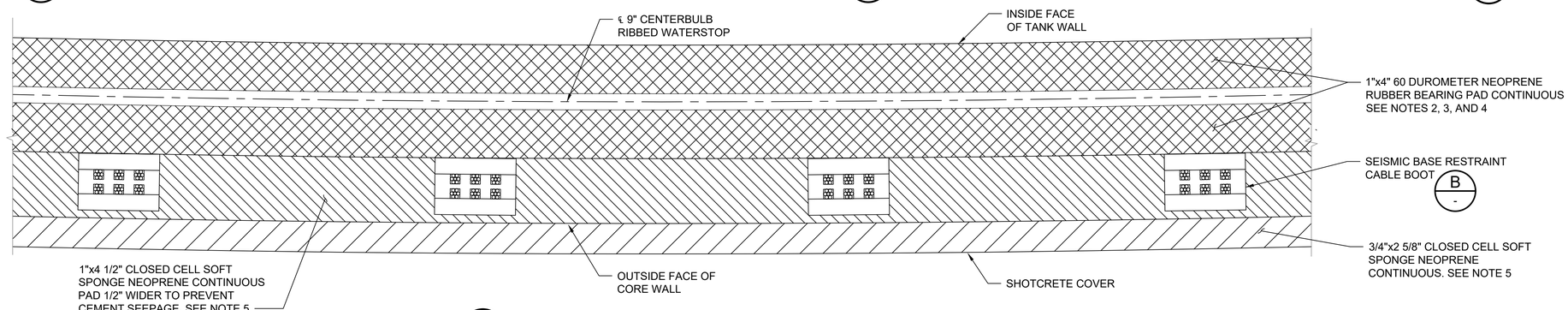
3 - WALL TO ROOF CONNECTION

SCALE: 3'-0"=1'-0"



4 - WALL TO ROOF CONNECTION PLAN

SCALE: 3'-0"=1'-0"



5 - WALL BASE CABLE, PAD AND WATERSTOP PLAN

SCALE: 3'-0"=1'-0"

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER
DONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED	DLB
DRAWN	NEB
CHECKED	PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

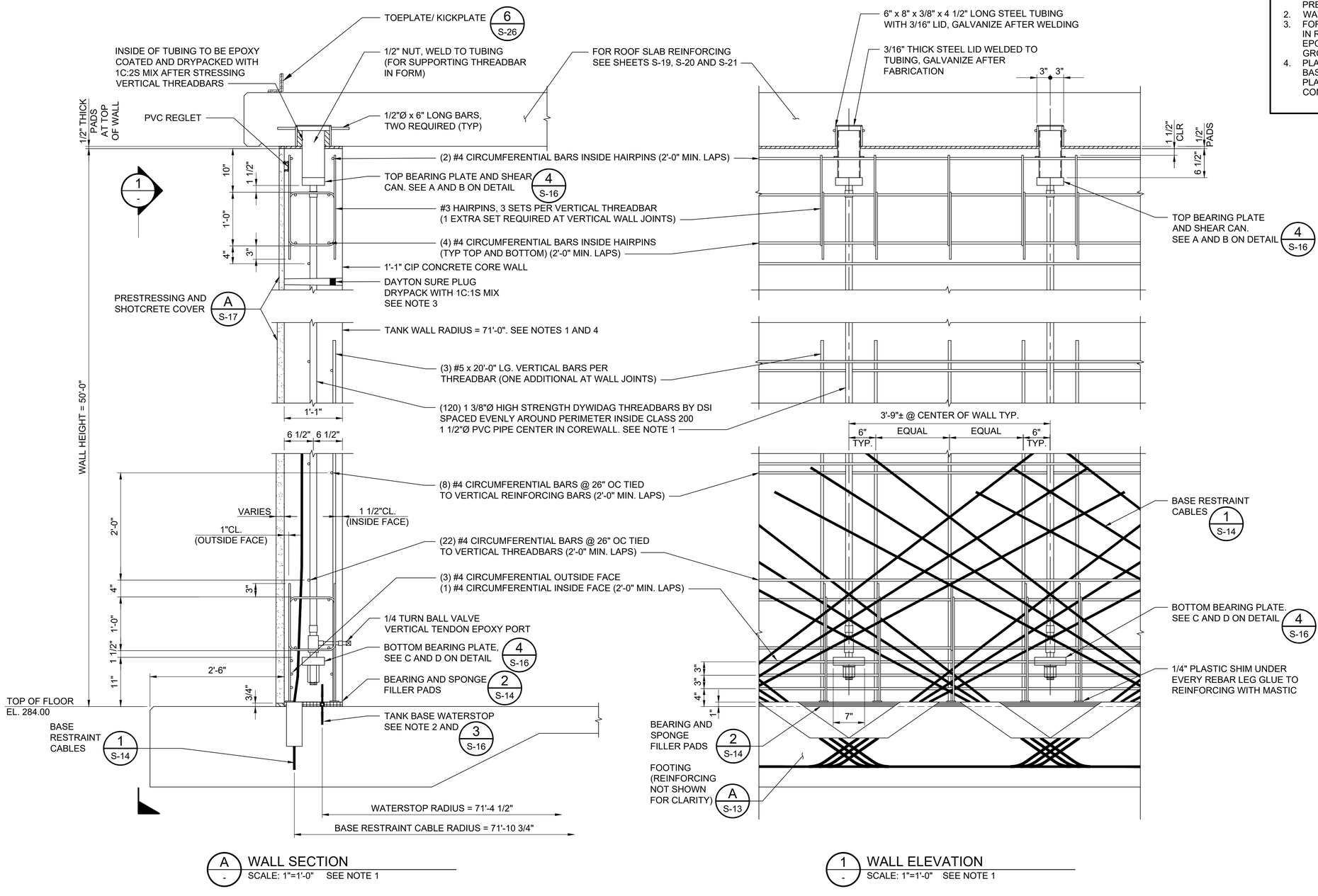
BASE RESTRAINT CABLE AND WALL BASE PAD SECTIONS AND DETAILS

SCALE	AS SHOWN
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	29 OF 57
	S-14

GENERAL SHEET NOTES:

WALL

1. WALL TO BE PLACED IN 12 SECTIONS WITH 10 THREADBARS PER SECTION. SEE DWG S-16 FOR WALL JOINT AND VERTICAL PRESTRESSING DETAILS.
2. WATERSTOP TO BE TIED OFF IN BOTH DIRECTIONS AT 12" O.C.
3. FORM TIE HOLES TO BE PLUGGED WITH DAYTON "SURE PLUG" IN ROUGHENED HOLE, COATED WITH SIKADUR 32 HI-MOD NS EPOXY, OR EQUAL, AND FILLED WITH CLASS A NON SHRINK GROUT.
4. PLACE A 1" THICK LAYER OF MODIFIED CONCRETE MIX AT THE BASE OF THE WALL PRIOR TO BEGINNING THE WALL CONCRETE PLACEMENT. SEE SPECIFICATION SECTION 03300 FOR MODIFIED CONCRETE MIX.



A - WALL SECTION
SCALE: 1"=1'-0" SEE NOTE 1

1 - WALL ELEVATION
SCALE: 1"=1'-0" SEE NOTE 1

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER RONALD LEE BARRETT No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

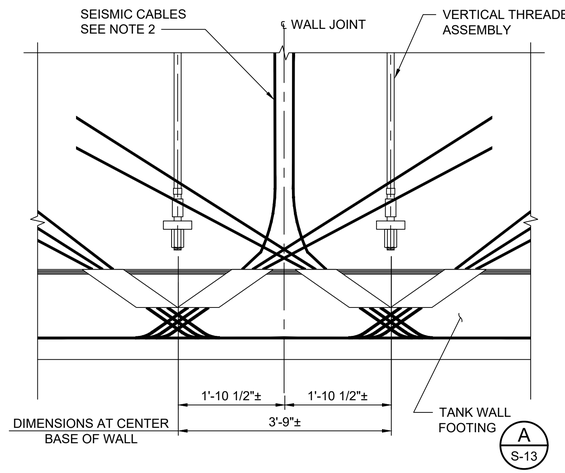
DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

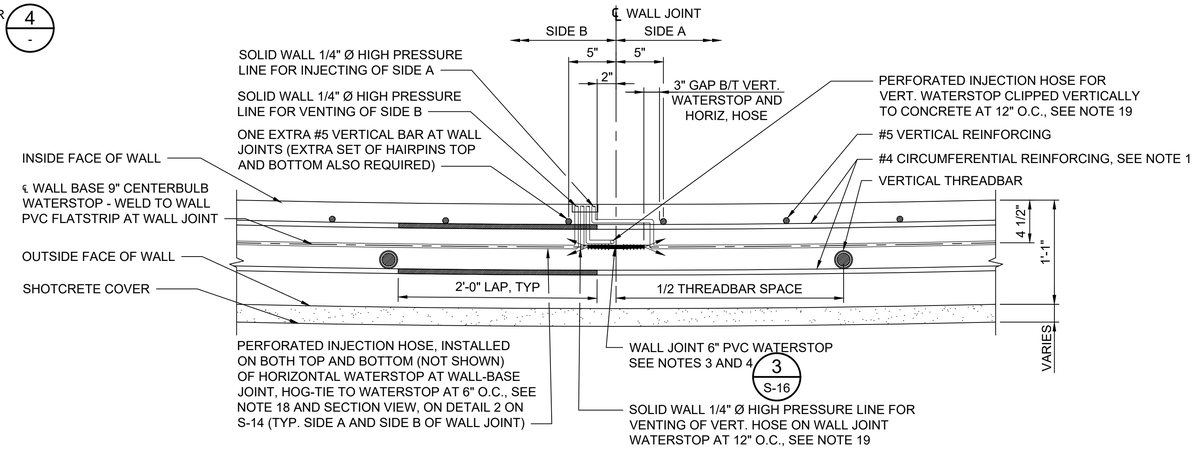
WALL SECTION AND ELEVATION

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 30 OF 57
S-15

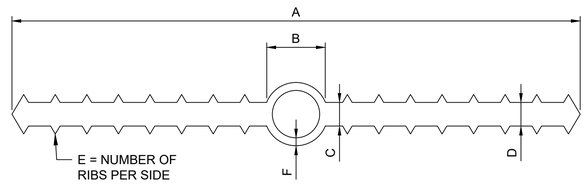
pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Structural\2076050.00-S-15



1 - BASE RESTRAINT CABLES AT WALL JOINT ELEVATION
SCALE:3/4"=1'-0" 12 JOINTS REQUIRED



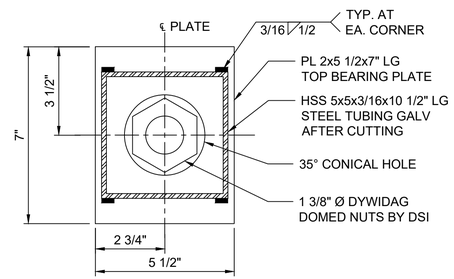
2 - VERTICAL WALL JOINT SECTION
SCALE: 1 1/2"=1'-0" 12 JOINTS REQUIRED



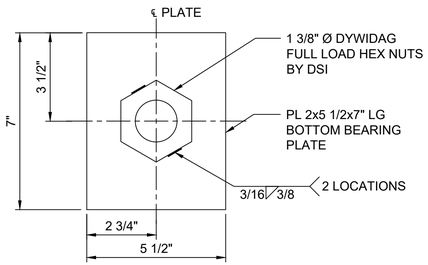
LOCATION	A	B	C	D	E	F	GREEN-STREAK	VINYLEX
WALL TO WALL FOOTING (RESERVOIRS 1 & 2)	9"	1" OR 1 1/2"	3/8"	1/4" OR 3/8"	8	1/4" OR 5/16"	735 OR 696	RB9-38H
VERTICAL WALL JOINTS	6"	-	3/8"	7/16" OR 3/8"	7	-	679	R6-38
FLOOR TO PIPE BLOCK	6"	1" OR 7/8"	3/8"	3/8"	7 OR 8	1/4" OR 9/32"	732	RB6-38H

NOTE: INSTALL EPOXY TUBING AT WATERSTOP PER SPECIFICATIONS.

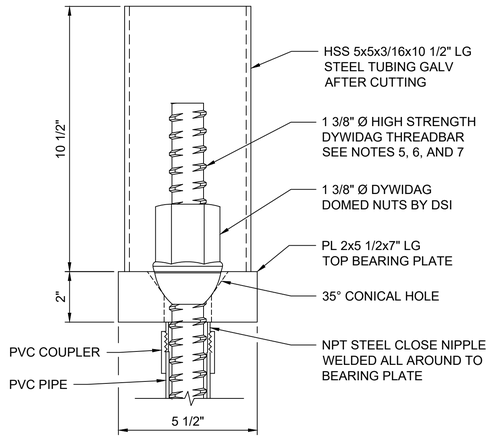
3 - WATERSTOP SCHEDULE
SCALE: 1" = 1'-0"



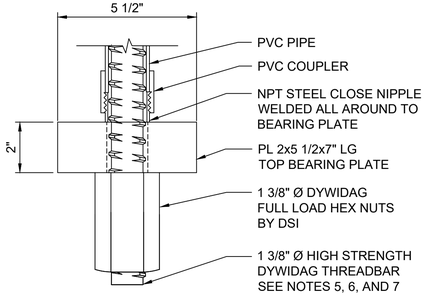
A - TOP BEARING PLATE AND SHEAR CAN SECTION
SCALE: 4"=1'-0"



C - BOTTOM BEARING PLATE SECTION
SCALE: 4"=1'-0"



B - TOP BEARING PLATE AND SHEAR CAN ELEVATION
SCALE: 4"=1'-0"



D - BOTTOM BEARING PLATE ELEVATION
SCALE: 4"=1'-0"

4 - VERTICAL THREADBAR, NUT, AND BEARING PLATE ASSEMBLY SECTIONS AND ELEVATIONS
SCALE: 4"=1'-0"

GENERAL SHEET NOTES:

WALL JOINT

1. CIRCUMFERENTIAL REINFORCING TIED TO VERTICAL BARS MUST EXTEND 2'-6"(±) PAST BOTH ENDS OF THE FIRST WALL SECTION AND ONE END OF ALL INTERMEDIATE WALL SECTIONS IN ORDER TO PROVIDE 2'-0" LAPS. CIRCUMFERENTIAL REINFORCING MAY NOT EXTEND PAST EITHER END OF THE LAST WALL SECTION. CIRCUMFERENTIAL REINFORCEMENT WITHIN THE WALL PANELS TO BE PROVIDED WITH 2'-0" LAPS.
2. AT THE CONTRACTOR'S OPTION SOME OR ALL OF THE SEISMIC CABLES AT THE WALL JOINT MAY BE BENT BACK SO THEY DO NOT INTERFERE WITH THE WALL JOINT. IF CABLES ARE TO BE BENT BACK, BOTTOM 18" (MIN) OF CABLE TO BE PLACED AT 45°
3. WALL JOINT WATERSTOP TO TERMINATE 2" FROM TOP OF WALL.
4. TIE OFF WATERSTOP AT 12" OC EVERY DIRECTION.

VERTICAL PRESTRESSING

5. THREADBARS SHALL BE COATED WITH UNOCAL SOLUBLE OIL 10 RUSTBAN OR EQUAL PRIOR TO INSTALLATION INTO PVC PIPE.
6. DURING EACH WALL POUR, FLUSH THE VERTICAL THREADBARS WITH CLEAN WATER FROM A HOSE PLACED THROUGH AN OPENING IN THE WOODEN CAP OVER THE TOP SQUARE STEEL TUBE.
7. VERTICAL POST-TENSIONING OPERATION MAY COMMENCE ONCE TANK CONCRETE COREWALL HAS REACHED A MINIMUM CONCRETE COMPRESSIVE STRENGTH OF 4,000 PSI.
8. PUMP EACH VERTICAL THREADBAR FROM THE BOTTOM GROUT CONNECTION WITH A 2-PART WATER INSENSITIVE EPOXY UNTIL THE ENTIRE NUT AT THE TOP ANCHOR CONNECTION HAS BEEN COVERED. DRYPACK THE REMAINDER OF THE TUBING WITH A 1C:2S MIX IMMEDIATELY AFTER THE INSIDE OF THE WALL CAN TUBING HAS BEEN COATED WITH A BONDING AGENT. IN LIEU OF DRYPACKING, THE TUBING MAY BE FILLED WITH PEAGRAVEL PRIOR TO EPOXY GROUT PUMPING AND THE ENTIRE TUBING MAY BE PUMPED FULL OF EPOXY GROUT.
9. LOCATION OF THE VERTICAL THREADBARS IS SHOWN ON SHEET S-15.
10. EACH VERTICAL TENDON SHALL BE STRESSED PRIOR TO WRAPPING TO AN INITIAL FORCE OF 173.9 KIPS (± 3.50 KIPS):
11. ELONGATION OF BAR TO BE 2.17 IN.
12. VERTICAL PRESTRESSING TENDONS SHALL BE 1 1/4" Ø THREADBARS ASTM A-722 TYPE II.
13. THREADBARS WITH QUENCHED OR TEMPERED STEELS ARE NOT ALLOWED.
14. THREADBARS MAXIMUM CARBON CONTENT SHALL NOT EXCEED 0.55%

INJECTABLE HOSE:

15. REINFORCING, SEISMIC CABLES, AND VERTICAL THREADBARS ARE DETAILED ON SHEETS S-13 AND S-15.
16. PERFORATED INJECTION HOSE SHALL BE SIKAFUKO ECO BY SIKA GREENSTREAK OR APPROVED EQUAL. INJECTION SYSTEM SHALL INCLUDE 1 / 4" SOLID WALL HIGH PRESSURE LINES, PLUGS TO PROTECT ALL HOSES AND LINES DURING CONCRETE ACTIVITIES, AND VENT END BOXES AS REQUIRED FOR A COMPLETE AND USABLE SYSTEM. CONTRACTOR SHALL USE CABLE BINDERS (NOT TIE WIRES) TO ATTACH HOSES AND LINES. COLOR CODE THE HOSES AND LINES AS REQUIRED TO TRACK WHICH HOSES AND LINES ARE CONNECTED IN EACH SECTION. LENGTH OF HORIZONTAL INJECTION HOSE SECTIONS FOR WALL-BASE JOINT HOSE SHALL MATCH WALL SECTIONS, 40' MAX.
17. FOLLOWING RESERVOIR PRE-STRESSING THE CONTRACTOR SHALL INJECT ALL INJECTION HOSE SYSTEMS WITH PRODUCT SPECIFIED IN TECHNICAL SPECIFICATION SECTION 03150, PARAGRAPH 2.07, INJECTABLE WATERSTOP HOSE SYSTEM, INJECTION GROUTS AND EQUIPMENT.
18. PERFORATED INJECTION HOSE ON TOP OF WALL-BASE JOINT WATERSTOP SHALL BE ROUTED TO VENT-END BOX LOCATED AT RESERVOIR INTERIOR (WITH VERTICAL WALL JOINT HOSES). PERFORATED INJECTION HOSE ON BOTTOM OF WALL-BASE JOINT WATERSTOP SHALL BE ROUTED TO VENT-END BOX LOCATED AT EXTERIOR OF RESERVOIR FOOTING.
19. TERMINATE INJECTION HOSE 6" MIN. BELOW TOP OF WALL AND 6" MIN. ABOVE OVERFLOW ELEVATION. CONNECT TO HIGH PRESSURE LINES AND ROUTE ALONG OUTSIDE OF VERTICAL WATERSTOP.
20. APPLY QUICK-DRYING ADHESIVE TO OUTSIDE FACE OF HIGH PRESSURE LINE IMMEDIATELY PRIOR TO INSERTION AT ENDS OF INJECTION HOSES.
21. FOLLOW PROCEDURES OUTLINED IN TECHNICAL SPECIFICATION SECTION 033150, PARAGRAPH 3.01.M INJECTABLE WATERSTOP HOSE SYSTEM INSTALLATION AND INJECTION.
22. AFTER INJECTION IS PERFORMED, GROUT PACK AND EPOXY SEAL ALL VENT-END BOXES.

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NO	REVISION	DATE	BY

SCALES
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0 25mm
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REGISTERED PROFESSIONAL ENGINEER
RONALD LEE BARRAZA
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

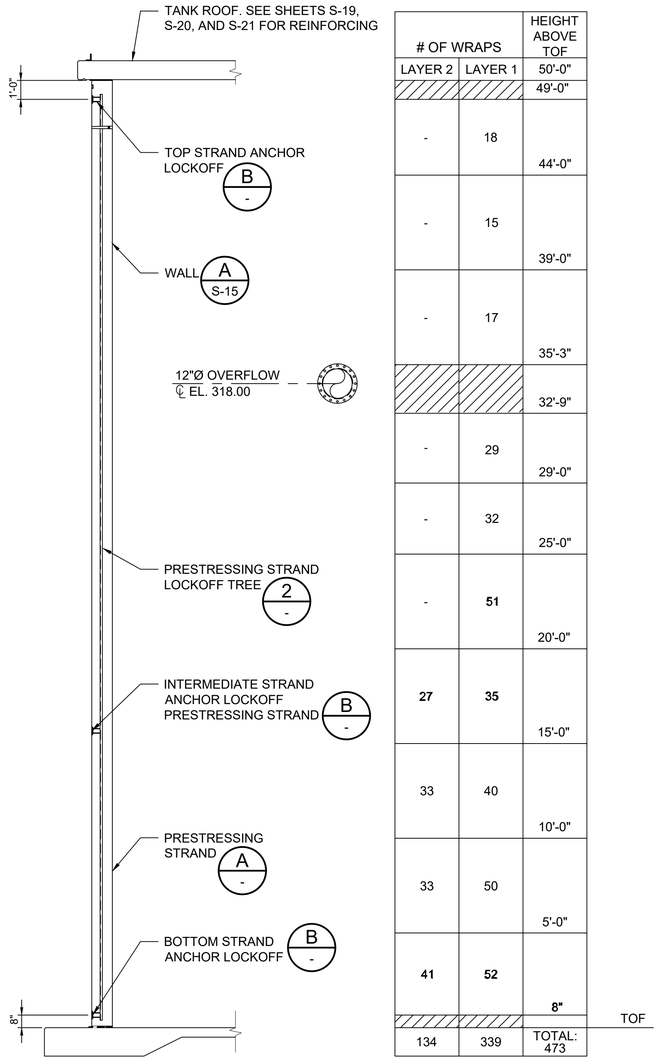
DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

WALL JOINT AND VERTICAL PRESTRESSING

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 31 OF 57
S-16

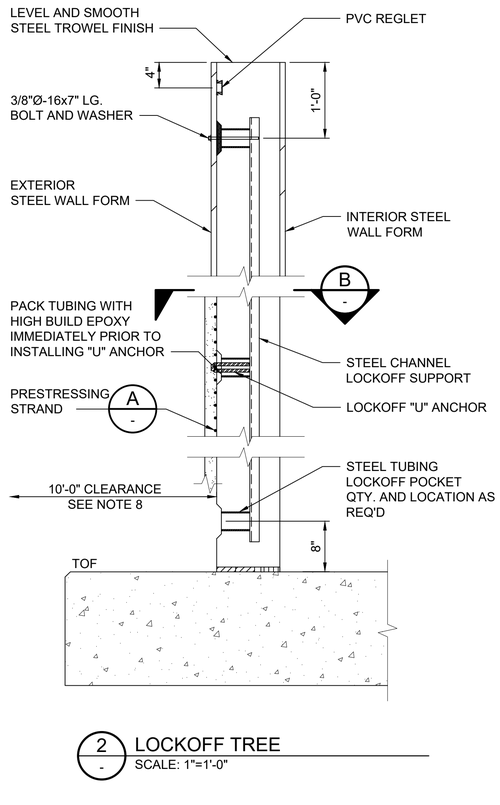
pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Design\Structural\2076050.00-S-16



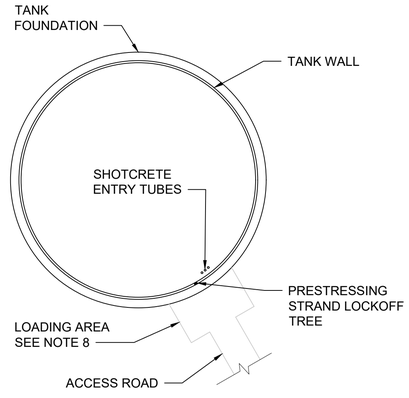
# OF WRAPS		HEIGHT ABOVE TOF
LAYER 2	LAYER 1	50'-0"
		49'-0"
-	18	44'-0"
-	15	39'-0"
-	17	35'-3"
		32'-9"
-	29	29'-0"
-	32	25'-0"
-	**51**	20'-0"
27	**35**	15'-0"
33	40	10'-0"
33	50	5'-0"
41	**52**	**8"** TOF
134	339	TOTAL: 473

= NO STRAND PLACED

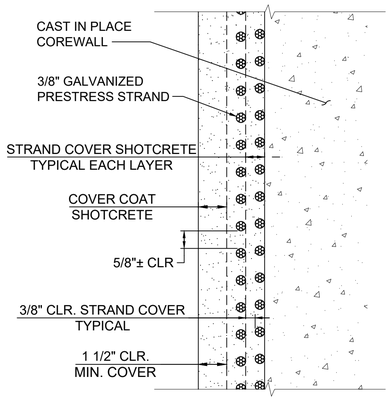
1 - CIRCUMFERENTIAL PRESTRESSING SCHEDULE
SCALE: 1/4"=1'-0" SEE NOTES 1 THROUGH 7



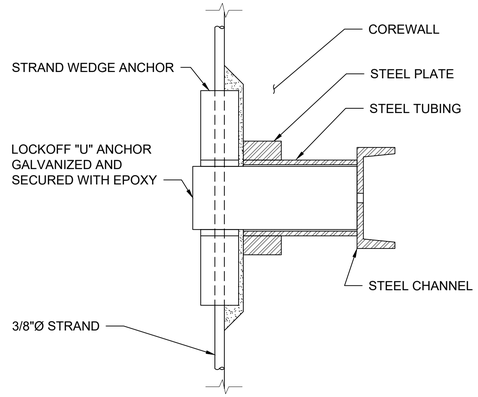
2 - LOCKOFF TREE
SCALE: 1"=1'-0"



3 - LOCKOFF TREE PLAN LOCATION
SCALE: NONE



A - PRESTRESSING
SCALE: 4"=1'-0" SEE NOTES 1 THROUGH 7



B - LOCKOFF POINT
SCALE: 4"=1'-0"

GENERAL SHEET NOTES:

CIRCUMFERENTIAL PRESTRESSING:

1. THE MAXIMUM STRESS TOLERANCE IN ANY STRAND AT ANY POINT AT ANY ELEVATION ON THE TANK WALL AT ANY TIME DURING THE WRAPPING OPERATION SHALL NOT EXCEED ± 320 POUNDS FROM THE AVERAGE FORCE SETTING OF 14,950 POUNDS.
2. THE CONTRACTOR SHALL PROVIDE A CONTINUOUSLY ELECTRONICALLY RECORDED FORCE APPLICATION GRAPH FOR THE FULL LENGTH OF ALL WRAPPED STRAND AS PERMANENT DOCUMENTED EVIDENCE THAT THE FORCE APPLICATION REQUIREMENTS HAVE BEEN MET. ALL SUCH FORCE READINGS MUST BE BASED ON CONTINUOUS SENSING OF THE STRAND BETWEEN THE TENSIONING DRUM AND THE WALL AS THE STRAND IS BEING LAID ON THE WALL.
3. THE STRAND SHALL BE 3/8"Ø BEFORE GALVANIZING OF 0.85 OUNCES PER SQUARE FOOT AND A MIN BREAKING STRENGTH OF 21,400 POUNDS AFTER GALVANIZING.
4. PRIOR TO PLACING ANY STRAND OR SHOTCRETE ON THE WALL, ALL EXTERIOR SURFACES OF THE CONCRETE COREWALL WHICH WILL RECEIVE STRAND SHALL BE ABRASIVELY BLASTED WITH A SELF-CONTAINED WATER-BLASTING SYSTEM TO REMOVE ALL LAITANCE, FORM OIL, OR OTHER TYPES OF COATINGS. THE SURFACE SHALL BE CUT TO A MINIMUM CSP5 PROFILE AS ESTABLISHED BY ICRI OVER A MINIMUM OF 90% OF THE SURFACE BEING PREPARED. ONCE THE ABRASIVE BLASTING IS COMPLETE THE TANK WALL SURFACE SHALL BE PRESSURE WASHED TO REMOVE ALL DUST RESIDUE ON THE WALL SURFACE.
5. IF MULTIPLE LAYERS OF STRAND ARE REQUIRED, PROVIDE 3/8" MINIMUM OF SHOTCRETE COVERAGE BETWEEN LAYERS.
6. PROVIDE 1 1/2" MINIMUM OF SHOTCRETE COVERAGE OVER THE OUTER LAYER OF STRAND.
7. ALL SHOTCRETE TO BE APPLIED WITH AN AUTOMATED PROCESS KEEPING THE NOZZLE AT A CONSTANT DISTANCE AND ANGLE AS IT TRAVELS AT A UNIFORM BI-DIRECTIONAL SPEED. FINAL SHOTCRETE COVER TO HAVE A NATURAL GUN FINISH.
8. CLEARANCE AROUND TANK TO BE UNOBSTRUCTED FOR 360 DEGREES AROUND CIRCUMFERENCE OF TANK FOR PRESTRESSING MACHINE OPERATION.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER
RONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

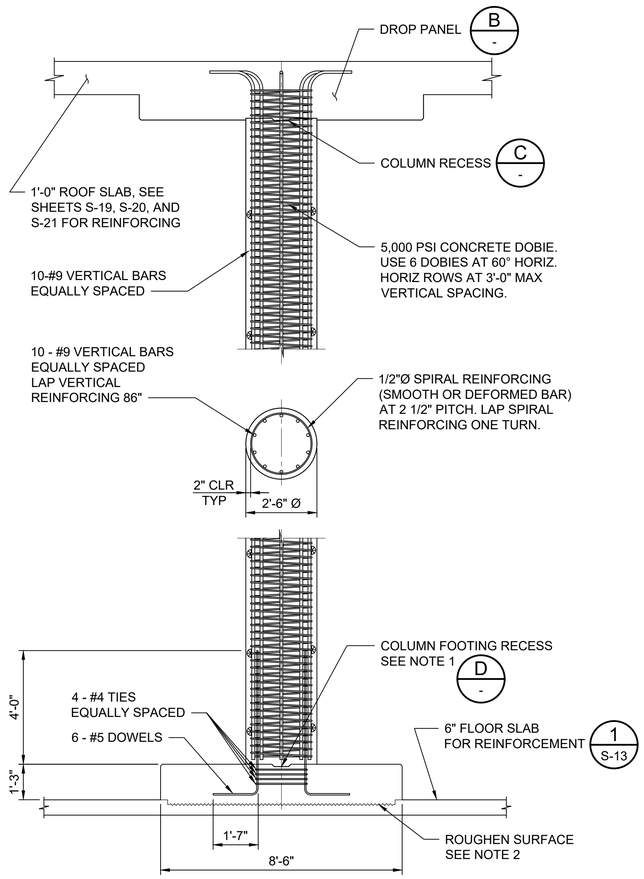
DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

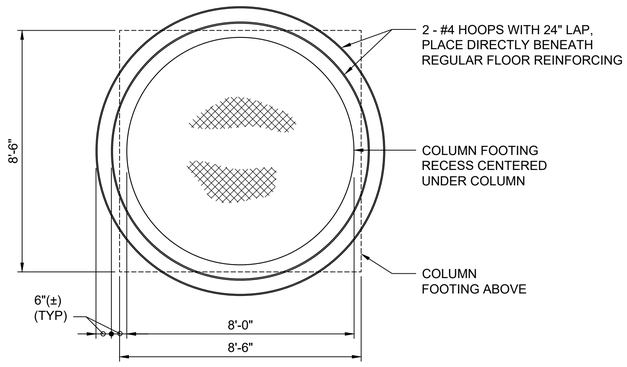
CIRCUMFERENTIAL PRESTRESSING SCHEDULE AND DETAILS

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 32 OF 57
S-17

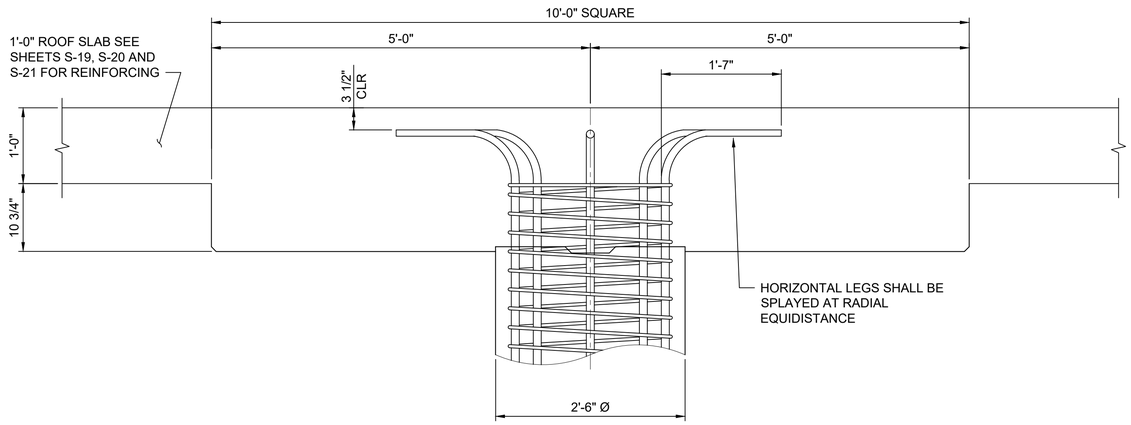
pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Structural\2076050.00-S-17



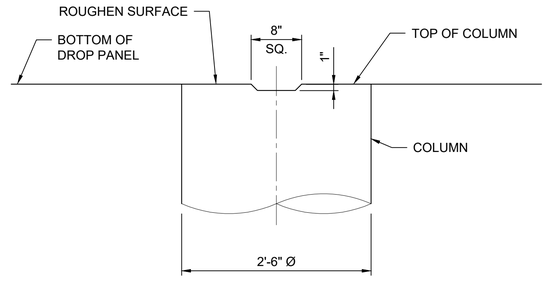
A - TYPICAL COLUMN SECTION
SCALE: 3/8"=1'-0" SEE NOTES 1 AND 2



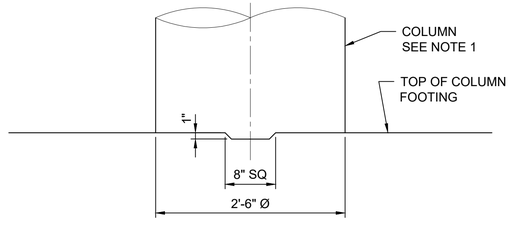
1 - PLAN OF COLUMN FOOTING RECESS
SCALE: 3/8"=1'-0" SEE NOTES 2 AND 3



B - TYPICAL DROP PANEL SECTION
SCALE: 1"=1'-0"



C - TOP OF COLUMN RECESS
SCALE: 1"=1'-0"



D - TOP OF COLUMN FOOTING RECESS
SCALE: 1"=1'-0"

GENERAL SHEET NOTES:

COLUMN NOTES:
1. PLACE A 1" THICK LAYER OF (1C:1S) MODIFIED CONCRETE SLURRY MIX AT THE BASE OF THE COLUMNS IMMEDIATELY PRIOR TO BEGINNING THE COLUMN POUR.
2. PLACE A 1/2" THICK LAYER OF (1C:1S) MODIFIED CONCRETE SLURRY MIX AT THE COLUMN FOOTING RECESS IMMEDIATELY PRIOR TO BEGINNING THE COLUMN FOOTING PLACEMENT.
3. COLUMN FOOTING RECESSES SHALL BE ADEQUATELY ROUGHENED AND CLEANED OF CURING COMPOUNDS BY SANDBLASTING, OR EQUAL, PRIOR TO PLACING THE COLUMN FOOTING.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER RICHARD LEE BARRETT No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

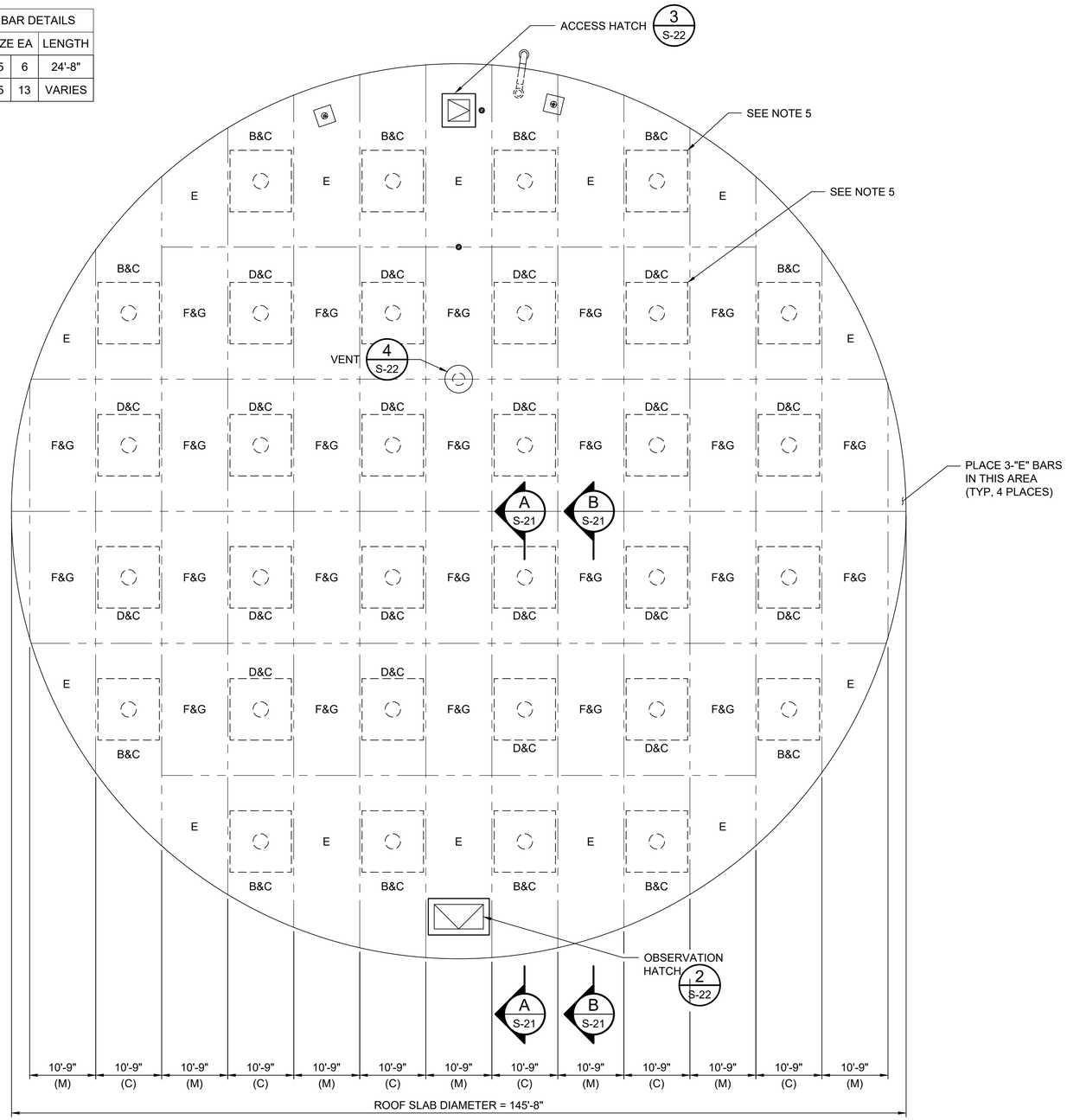
TYPICAL COLUMN SECTIONS AND DETAIL

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 33 OF 57
S-18

pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Design\Structural\2076050.00-S-18

CODE	BAR DETAILS			CODE	BAR DETAILS			CODE	BAR DETAILS			CODE	BAR DETAILS		
	SIZE EA		LENGTH		SIZE EA		LENGTH		SIZE EA		LENGTH		SIZE EA		LENGTH
A	#4	SEE DETAIL SHEET S-21		B	#5	6	VARIES	C	#5	6	12'-0"	D	#5	6	24'-8"
E	#4	11	VARIES	F	#4	6	24'-8"	G	#4	5	12'-0"	H	#5	13	VARIES
J	#5	13	24'-8"	K	#4	13	VARIES	L	#4	13	24'-8"				

2 / - ROOF REINFORCING SCHEDULE



1 / - PLAN OF ROOF REINFORCEMENT IN TOP MAT IN ONE DIRECTION

SCALE: 3/32"=1'-0"

REINFORCING IN TRANSVERSE DIRECTION SIMILAR

GENERAL SHEET NOTES:

ROOF REINFORCING NOTES:

1. SPLICES SHALL ONLY BE ALLOWED AT LOCATIONS SHOWN ON SHEET S-21.
2. AT THE CONTRACTOR'S OPTION, WITHIN ANY BAY, THE BARS FROM ONE SPAN MAY BE EXTENDED TO PROVIDE THE STEEL FOR THE NEXT ADJACENT SPAN. IF BARS OF DIFFERENT SIZES ARE USED IN ADJACENT SPANS AND THE CONTRACTOR ELECTS TO EXTEND THE STEEL FROM ONE SPAN TO THE NEXT, THE LARGER SIZE BAR SHALL BE USED.
3. GALVANIZED OR EPOXY COATED #4 BARS WITH 1 1/2" COVER MAY BE USED AS BURY OR CARRIER BARS FOR THE BOTTOM MAT OF REINFORCING.
4. REGULAR ROOF REINFORCEMENT MAY NOT BE USED AS BURY OR CARRIER BARS.
5. THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT SHALL BE PLACED IN THE SAME DIRECTION AS THE UPPER LAYER OF REINFORCING IN THE TOP MAT. PROVIDE 2" OF COVER FOR THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT AND 2" OF COVER FOR THE UPPER LAYER OF REINFORCING IN THE TOP MAT.

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER — RONALD LEE BARRETT — No. C45483 Exp. 12/31/24 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

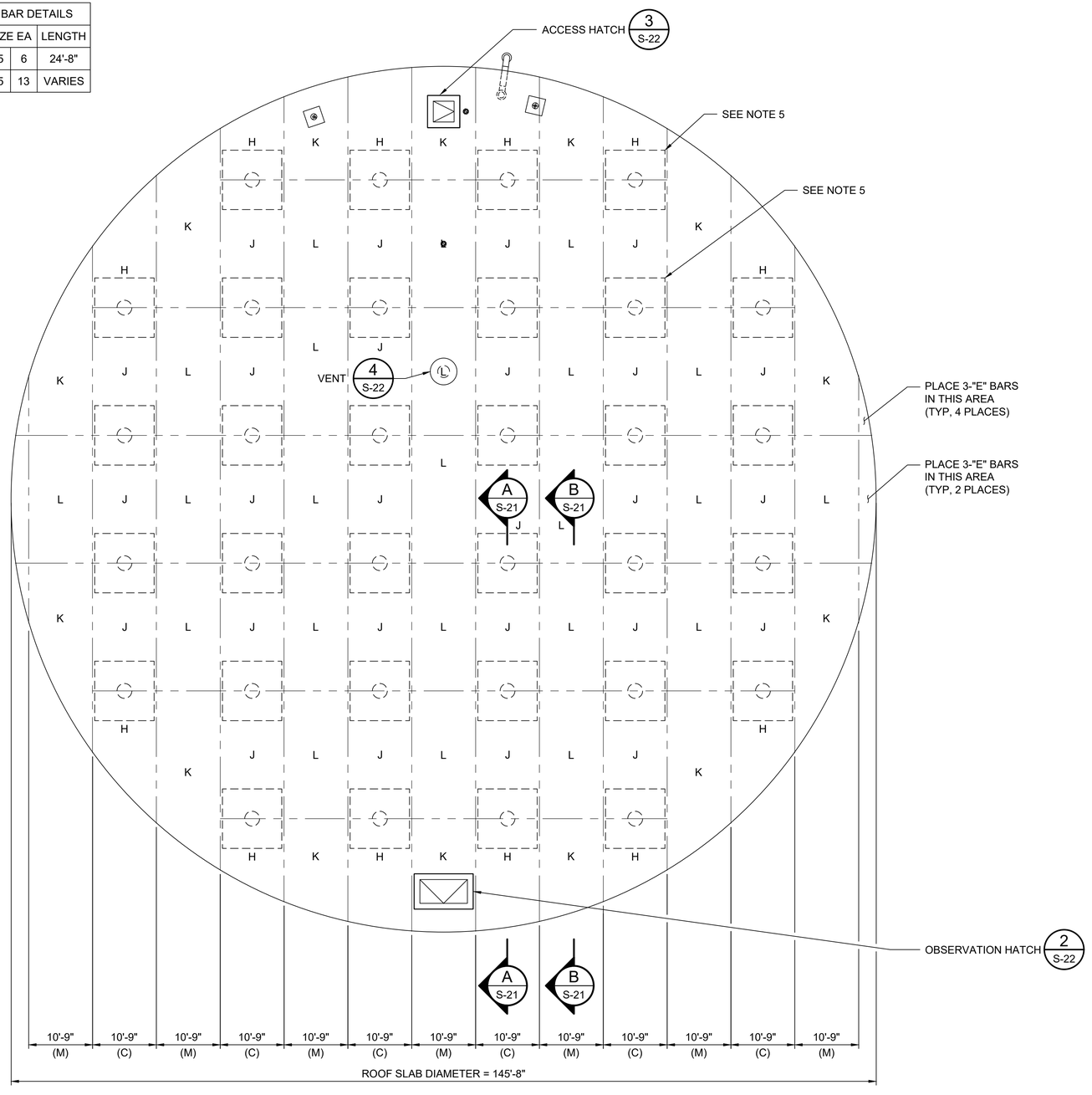
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

ROOF REINFORCING IN TOP MAT

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 34 OF 57
S-19

CODE	BAR DETAILS		CODE	BAR DETAILS		CODE	BAR DETAILS		CODE	BAR DETAILS	
	SIZE EA	LENGTH		SIZE EA	LENGTH		SIZE EA	LENGTH		SIZE EA	LENGTH
A	#4	SEE DETAIL SHEET S-21	B	#5 6	VARIES	C	#5 6	12'-0"	D	#5 6	24'-8"
E	#4 11	VARIES	F	#4 6	24'-8"	G	#4 5	12'-0"	H	#5 13	VARIES
J	#5 13	24'-8"	K	#4 13	VARIES	L	#4 13	24'-8"			

2 - ROOF REINFORCING SCHEDULE



1 - PLAN OF ROOF REINFORCEMENT IN BOTTOM MAT IN ONE DIRECTION

SCALE: 3/32"=1'-0" REINFORCING IN TRANSVERSE DIRECTION SIMILAR

GENERAL SHEET NOTES:

ROOF REINFORCING NOTES:

1. SPLICES SHALL ONLY BE ALLOWED AT LOCATIONS SHOWN ON SHEET S-21.
2. AT THE CONTRACTOR'S OPTION, WITHIN ANY BAY, THE BARS FROM ONE SPAN MAY BE EXTENDED TO PROVIDE THE STEEL FOR THE NEXT ADJACENT SPAN. IF BARS OF DIFFERENT SIZES ARE USED IN ADJACENT SPANS AND THE CONTRACTOR ELECTS TO EXTEND THE STEEL FROM ONE SPAN TO THE NEXT, THE LARGER SIZE BAR SHALL BE USED.
3. GALVANIZED OR EPOXY COATED #4 BARS WITH 1 1/2" COVER MAY BE USED AS BURY OR CARRIER BARS FOR THE BOTTOM MAT OF REINFORCING.
4. REGULAR ROOF REINFORCEMENT MAY NOT BE USED AS BURY OR CARRIER BARS.
5. THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT SHALL BE PLACED IN THE SAME DIRECTION AS THE UPPER LAYER OF REINFORCING IN THE TOP MAT. PROVIDE 2" OF COVER FOR THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT AND 2" OF COVER FOR THE UPPER LAYER OF REINFORCING IN THE TOP MAT.

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

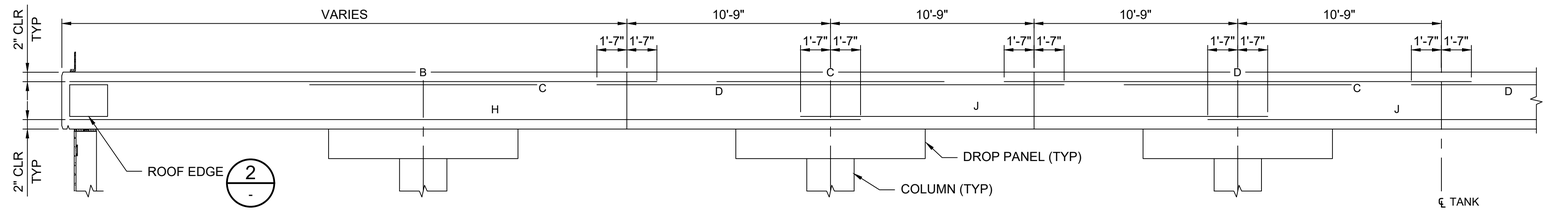
REGISTERED PROFESSIONAL ENGINEER RONALD LEE BARRETT No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

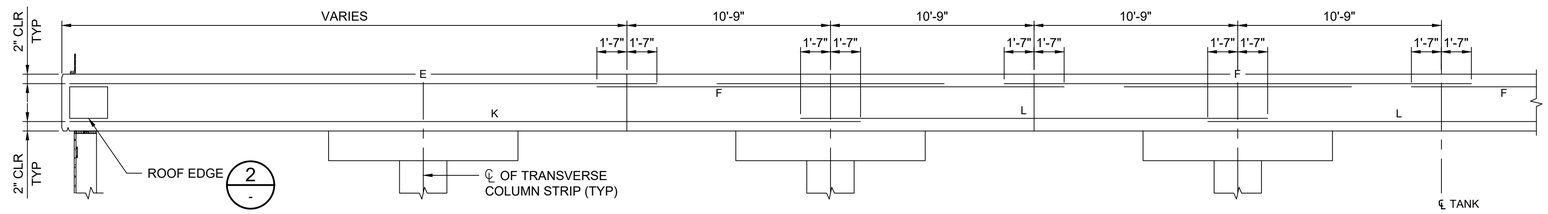
ROOF REINFORCING IN BOTTOM MAT

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 35 OF 57
S-20



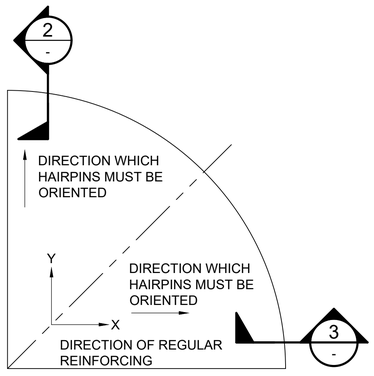
A - TYPICAL SECTION OF REINFORCING IN COLUMN STRIPS

SCALE: 1/4"=1'-0" (VERTICAL SCALE EXAGGERATED, REINFORCING IN TRANSVERSE DIRECTION SIMILAR, BUT OMITTED FOR CLARITY)



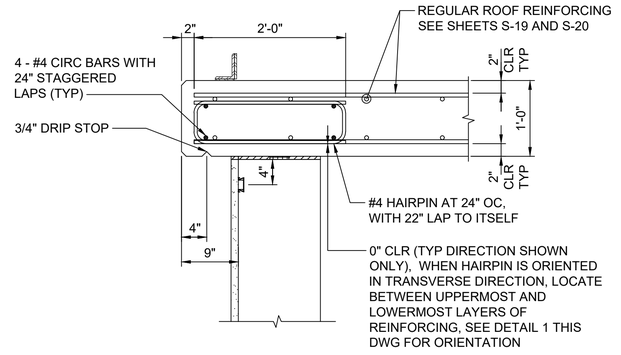
B - TYPICAL SECTION OF REINFORCING IN MIDDLE STRIPS

SCALE: 1/4"=1'-0" (VERTICAL SCALE EXAGGERATED, REINFORCING IN TRANSVERSE DIRECTION SIMILAR, BUT OMITTED FOR CLARITY)



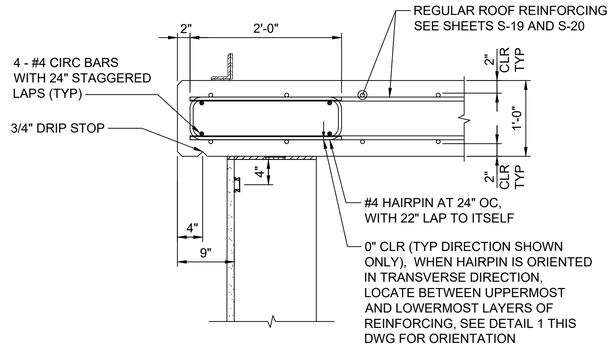
1 - PLAN OF HAIRPIN ORIENTATION

SCALE: NONE SEE NOTE 1



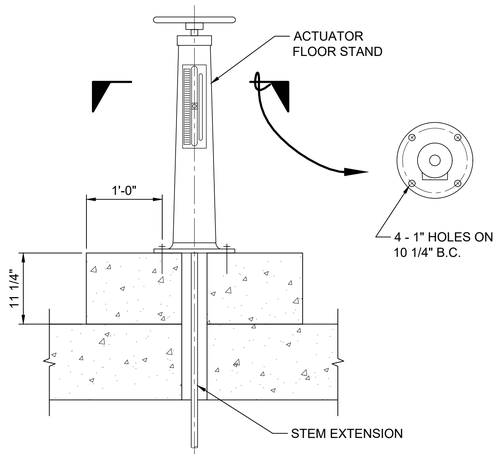
2 - ROOF EDGE REINFORCING AND "A" BAR

SCALE: 1"=1'-0"



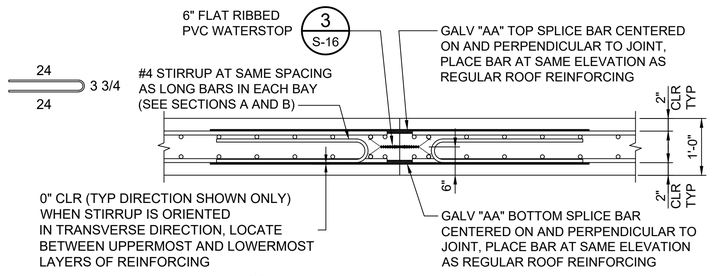
3 - ROOF EDGE REINFORCING AND "A" BAR

SCALE: 1"=1'-0"



6 - ACTUATOR FLOOR STAND

S-11 SCALE: 1"=1'-0"



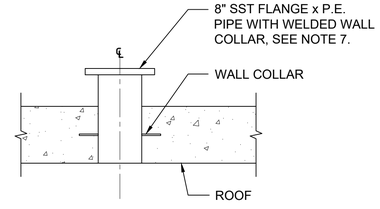
C - ROOF JOINT SECTION

SCALE: 1"=1'-0"

CODE	BAR DETAILS			CODE	BAR DETAILS			CODE	BAR DETAILS			CODE	BAR DETAILS		
	SIZE	EA	LENGTH		SIZE	EA	LENGTH		SIZE	EA	LENGTH		SIZE	EA	LENGTH
A	#4	SEE DETAIL THIS SHEET		B	#5	6	VARIES	C	#5	6	12'-0"	D	#5	6	24'-8"
E	#4	11	VARIES	F	#4	6	24'-8"	G	#4	5	12'-0"	H	#5	13	VARIES
J	#5	13	24'-8"	K	#4	13	VARIES	L	#4	13	24'-8"				

4 - ROOF REINFORCING SCHEDULE

SCALE: NONE SEE NOTE 1



5 - ROOF PIPE SLEEVE

SCALE: 1"=1'-0"

GENERAL SHEET NOTES:

ROOF REINFORCING NOTES:

1. SPLICES SHALL ONLY BE ALLOWED AT LOCATIONS SHOWN ON THIS DRAWING.
2. AT THE CONTRACTOR'S OPTION, WITHIN ANY BAY, THE BARS FROM ONE SPAN MAY BE EXTENDED TO PROVIDE THE STEEL FOR THE NEXT ADJACENT SPAN. IF BARS OF DIFFERENT SIZES ARE USED IN ADJACENT SPANS AND THE CONTRACTOR ELECTS TO EXTEND THE STEEL FROM ONE SPAN TO THE NEXT, THE LARGER SIZE BAR SHALL BE USED.
3. GALVANIZED OR EPOXY COATED #4 BARS WITH 1 1/2" COVER MAY BE USED AS BURY OR CARRIER BARS FOR THE BOTTOM MAT OF REINFORCING.
4. REGULAR ROOF REINFORCEMENT MAY NOT BE USED AS BURY OR CARRIER BARS.
5. THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT SHALL BE PLACED IN THE SAME DIRECTION AS THE UPPER LAYER OF REINFORCING IN THE TOP MAT. PROVIDE 2" OF COVER FOR THE LOWER LAYER OF REINFORCING IN THE BOTTOM MAT AND 2" OF COVER FOR THE UPPER LAYER OF REINFORCING IN THE TOP MAT.
6. REINFORCING STEEL CALLED OUT AS GALVANIZED SHALL HAVE A CLASS 1 COATING IN ACCORDANCE WITH ASTM A767, WITHOUT CHROMATE.
7. THE PIPE WITH WELDED COLLAR MAY BE LESS THAN 8" DEPENDING ON EQUIPMENT. COORDINATE PIPE SIZE WITH APPROVED SUBMITTAL.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER
RICHARD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

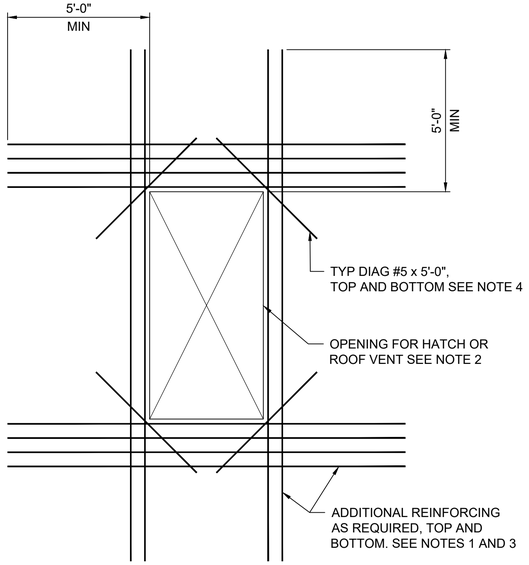
DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

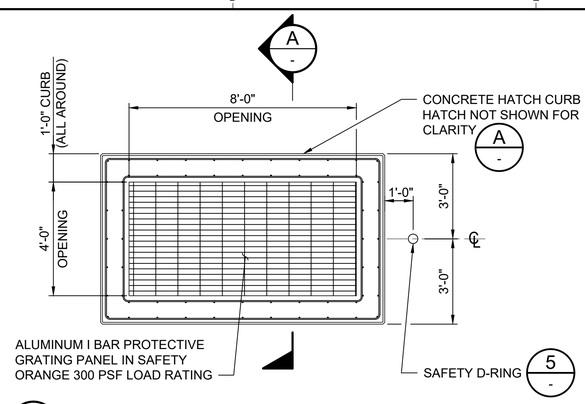
ROOF REINFORCEMENT DETAILS

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 36 OF 57
S-21

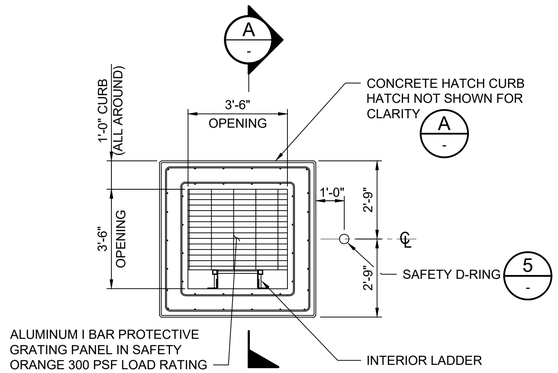
pw:\\kjce-pw.bentley.com:\kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076060.00\10-Design\10.06-Drawings\Structural\2076050.00-S-21



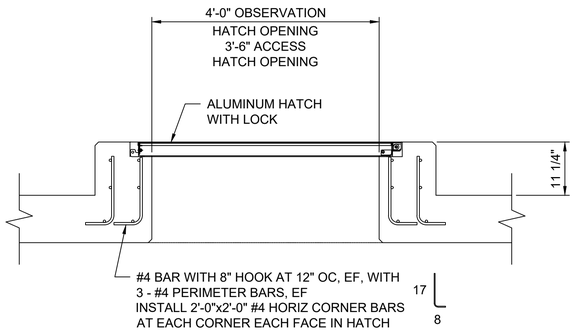
1 - REINFORCING AT ROOF OPENINGS
SCALE: 3/8"=1'-0" SEE NOTES 1 THRU 5



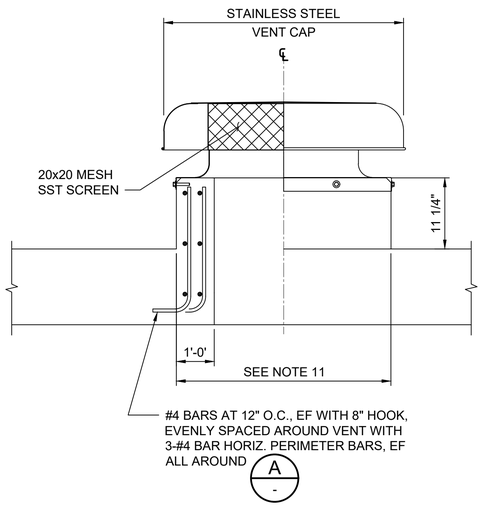
2 - 4'-0"x8'-0" OBSERVATION EQUIPMENT HATCH
SCALE: 3/8"=1'-0" 1 REQ'D, SEE NOTE 7



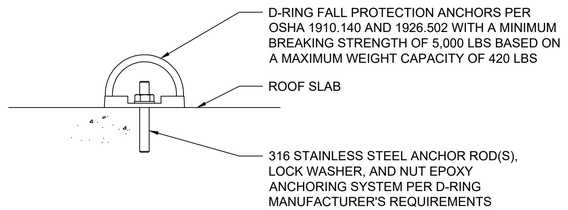
3 - 3'-6" SQ. ACCESS HATCH
SCALE: 3/8"=1'-0" 1 REQ'D, SEE NOTE 7



A - HATCH CURB
SCALE: 1"=1'-0"



4 - ROOF VENT
SCALE: 1"=1'-0" 1 REQ'D, SEE NOTE 11



5 - SAFETY D-RING
SCALE: 3"=1'-0" 1 REQ'D AT EACH HATCH
1 AT CENTER OF ROOF

GENERAL SHEET NOTES:

ROOF OPENING NOTES:

1. ADD REINFORCING EQUAL TO REGULAR REINFORCING THAT INTERSECTS THE OPENING AND PLACE HALF OF THE ADDED REINFORCING ON EACH SIDE OF THE OPENING. LENGTH OF REINFORCING SHALL MATCH THAT OF ADJACENT REINFORCEMENT.
2. STOP ALL REGULAR REINFORCING WHICH INTERSECTS THE OPENING 2" CLEAR OF THE OPENING ON ALL SIDES.
3. ADDED REINFORCING SHALL BE SPACED BETWEEN REGULAR ROOF REINFORCING BARS AT 3" MINIMUM SPACING.
4. LOCATE THE ADDED REINFORCING AT THE SAME ELEVATION AS REINFORCING THAT IS CUT TO AVOID OPENING. LOCATE ONE LAYER OF DIAGONAL BARS DIRECTLY BELOW THE TOP MAT AND ONE LAYER DIRECTLY ABOVE THE BOTTOM MAT.
5. FIELD BEND REINFORCING THAT INTERFERES WITH ROOF EDGE. TOTAL REINFORCING LENGTH PAST THE OPENINGS SHALL BE AS SHOWN ABOVE.

ROOF HATCHES NOTES:

6. HATCHES TO BE SINGLE LEAF ALUMINUM HATCHES.
7. ALL ALUMINUM IN CONTACT WITH CONCRETE MUST BE COATED WITH AN ALUMINUM PIGMENTED ASPHALT, EPOXY PAINT OR SHIMMED USING PVC.
8. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.
9. WHERE SST BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.
10. HATCHES TO BE LOCKABLE. SEE SECTION 08307 FOR ADDITIONAL HATCH REQUIREMENTS.

ROOF VENT NOTES:

11. VENT TO BE STAINLESS STEEL.
12. SIZE PER PROJECT VENTING RATES.
13. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

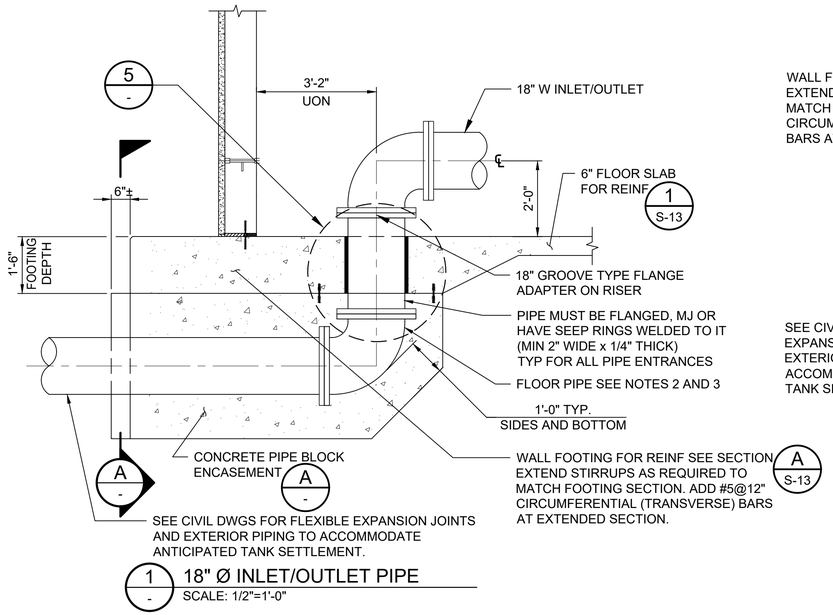
REGISTERED PROFESSIONAL ENGINEER
RONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED	DLB
DRAWN	NEB
CHECKED	PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

ROOF OPENINGS

SCALE	AS SHOWN
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	37 OF 57
	S-22



1 - 18" Ø INLET/OUTLET PIPE
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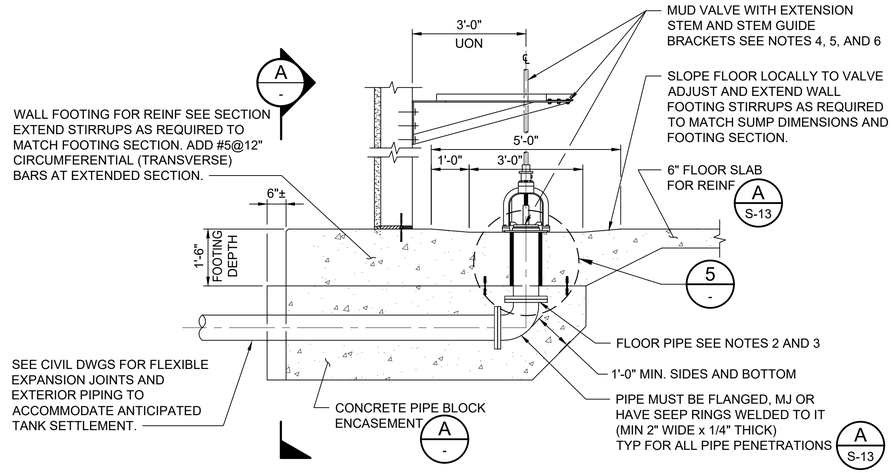
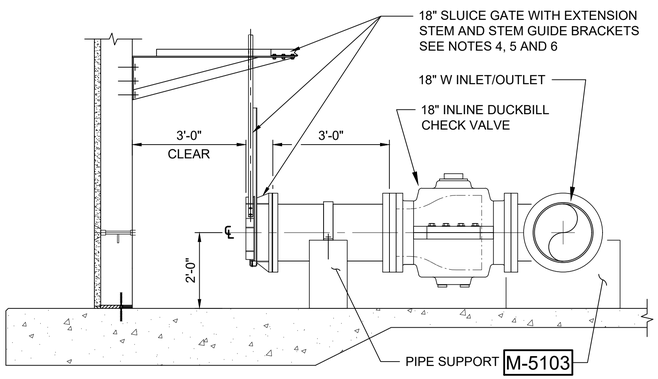
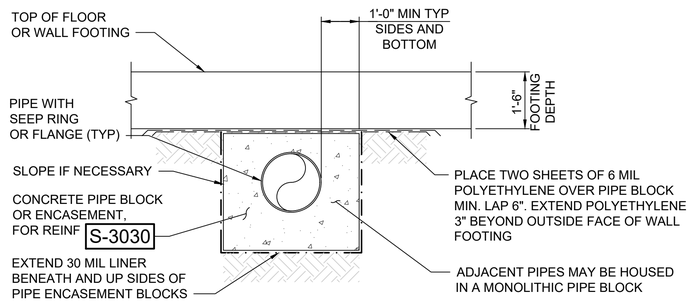


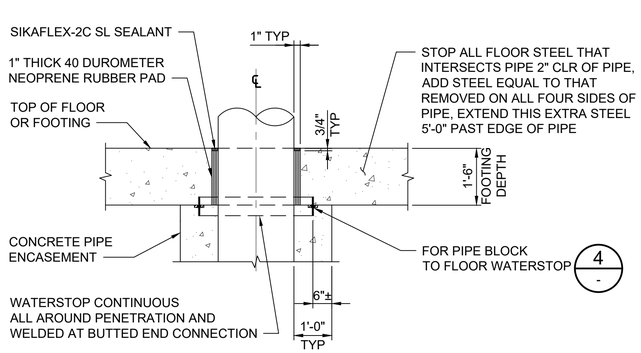
2 - 8" Ø DRAIN PIPE
SCALE: 1/2"=1'-0"

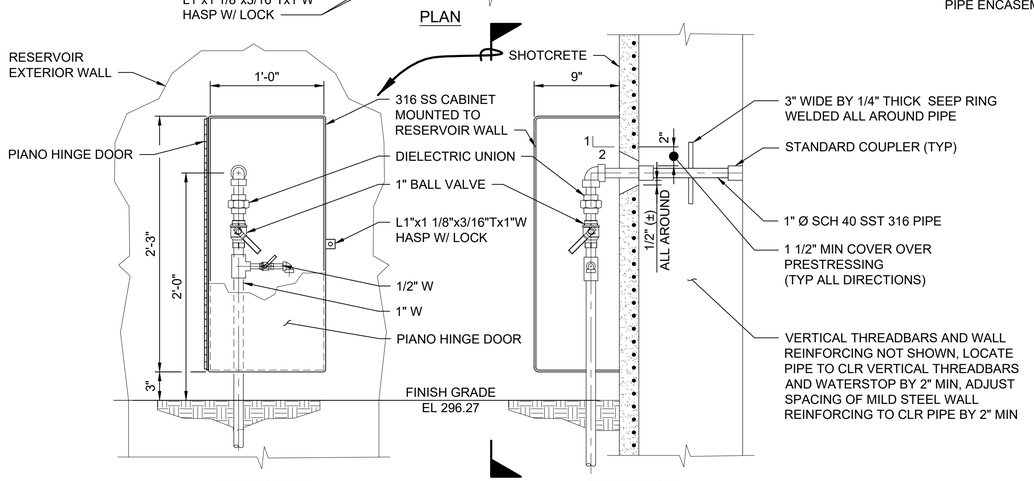


B - PIPE SECTION
S-11
SCALE: 1/2"=1'-0"

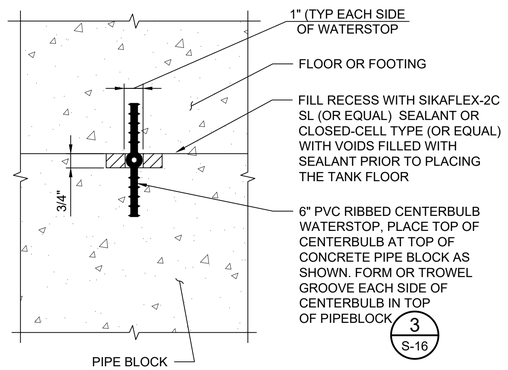


A - PIPE SECTION
SCALE: 1/2"=1'-0"





3 - 1" Ø ALTITUDE VALVE SENSING PIPE
SCALE: 1 1/2"=1'-0"



4 - PIPE BLOCK TO FLOOR WATERSTOP
SCALE: 3"=1'-0"

5 - TYPICAL FLOOR OR WALL FOOTING PIPE PENETRATION
SCALE: 1/2"=1'-0"

GENERAL SHEET NOTES:

FLOOR PIPE:

1. SEE SHEET S-12 FOR SUBBASE INSTALLATION AND PREPARATION.
2. SEE SHEET G-04 AND SECTION 02510 FOR PIPE MATERIAL.
3. COAT EXTERIOR OF PIPING INSIDE TANK PER SECTIONS 02510 AND 09960. NO COATING ON PIPE IN CONTACT WITH CONCRETE.

GUIDE BRACKETS:

4. MATERIAL PER SPECIFICATION
5. ANCHOR BRACKET TO WALL UTILIZING 1/2"Ø x 3 3/4" LG. 316 SST WEDGE ANCHORS. (2 1/4" MIN. EMBEDMENT).

VALVE ACTUATORS:

6. PROVIDE ACTUATOR FLOOR STAND PER DETAIL 6 SHEET S-21.

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REGISTERED PROFESSIONAL ENGINEER
DONALD LEE BARRETT
No. C45483
Exp. 12/31/24
CIVIL
STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

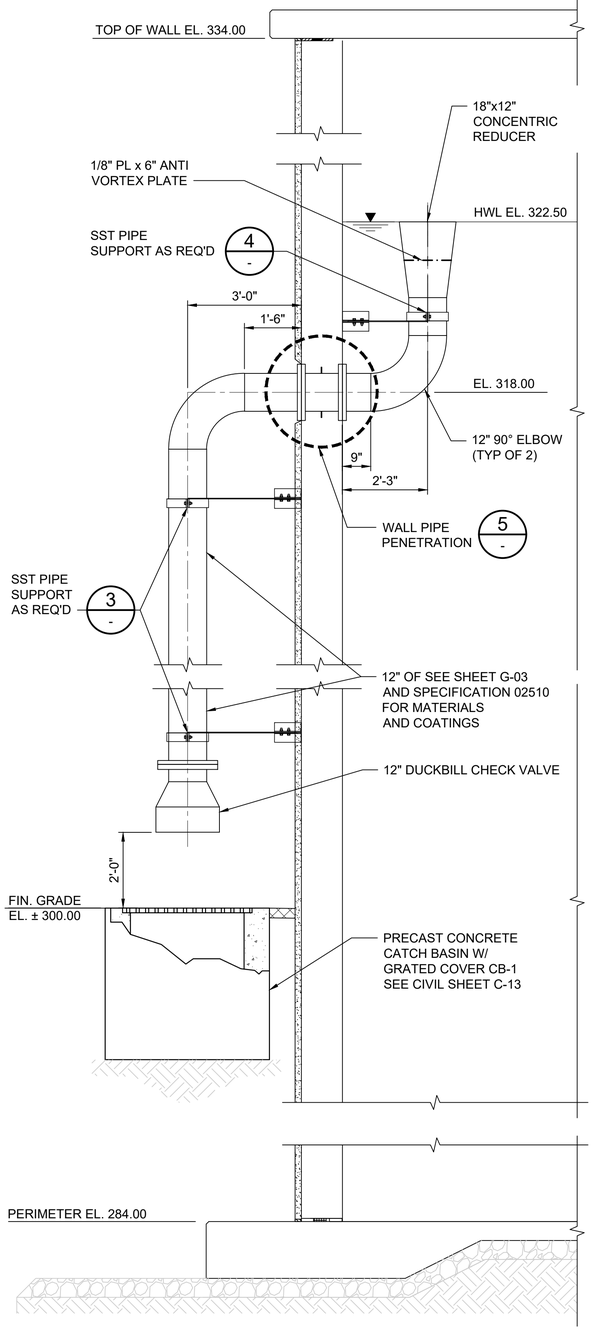
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

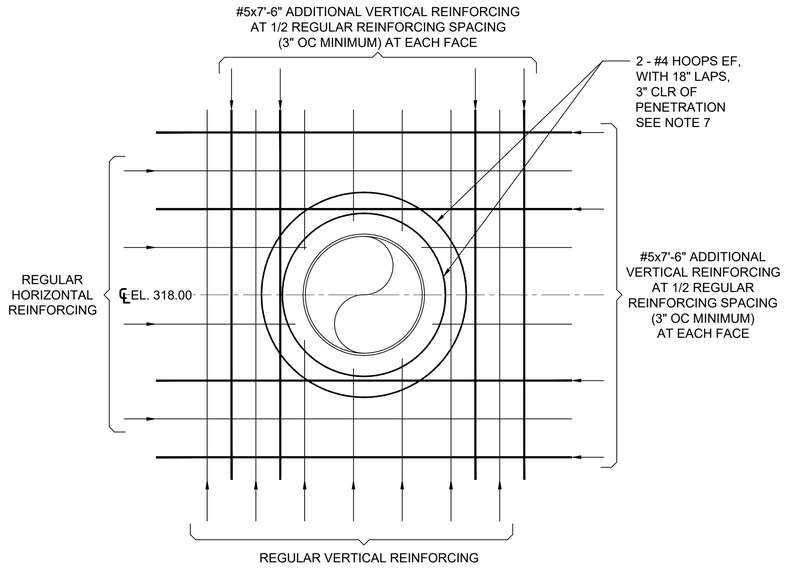
Kennedy Jenks

GENERAL PIPING

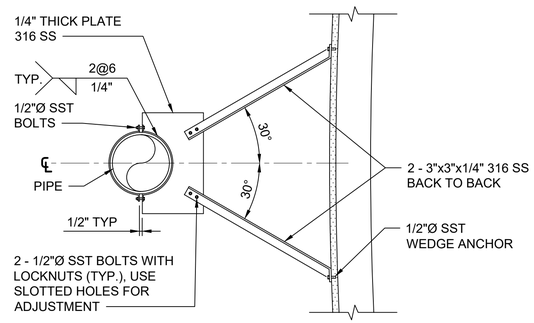
SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 38 OF 57
S-23



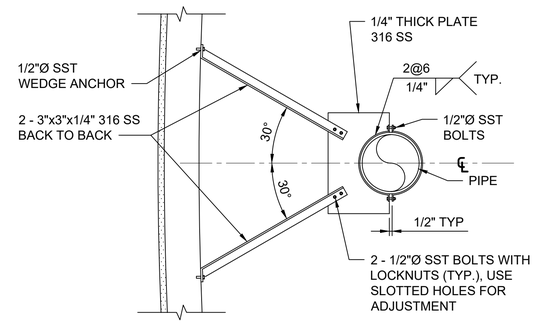
1 - 12" Ø OVERFLOW PIPE
SCALE: 1/2" =1'-0"



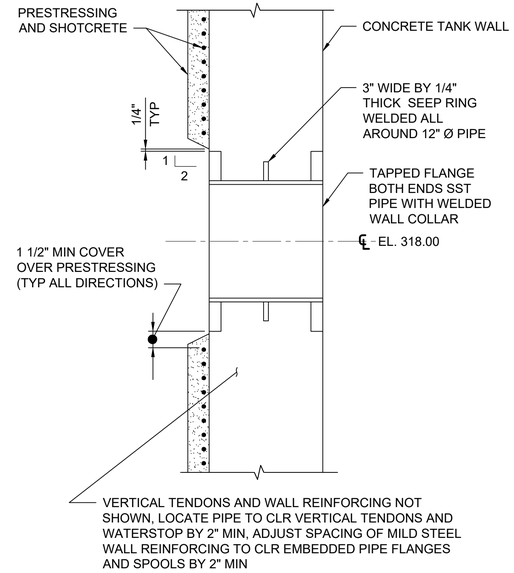
2 - ADDITIONAL REINFORCING AT 12" Ø OVERFLOW PIPE WALL PENETRATION
SCALE: NONE



3 - EXTERIOR PIPE BRACKET
SCALE: 1/2" =1'-0"



4 - INTERIOR PIPE BRACKET
SCALE: 1/2" =1'-0"



5 - 12" Ø OVERFLOW PIPE WALL PENETRATION
SCALE: 1 1/2"=1'-0"

GENERAL SHEET NOTES:

PIPE:

1. MINIMUM NUMBER OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING SHALL BE EQUAL TO 1/2 THE NUMBER OF INTERRUPTED BARS IN EACH LAYER OF REINFORCING.
2. MINIMUM SIZE OF ADDITONAL REINFORCING BARS TO EQUAL SIZE OF INTERRUPTED REINFORCING BARS.
3. PROVIDE STANDARD HOOKS ON BARS IF LAP LENGTH EXTENSION CAN NOT BE OBTAINED OR AT JOINTS OR OTHER OBSTRUCTIONS. PLACE ADDITIONAL REINFORCING IN THE SAME PLANES AS THE INTERRUPTED REINFORCING.
4. SPECIAL OPENING CONDITIONS SHALL BE AS INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
5. ALL REINFORCING TO CLEAR OPENING, PIPE OR FLANGE COLLARS BY 2" MINIMUM.
6. WHEN THE DISTANCE BETWEEN THE OUTSIDE DIAMETER OF A PIPE OR SLEEVE TO AN INTERSECTING WALL/SLAB, ADJACENT PIPE OR SLEEVE IS LESS THAN THE SUM OF SPACES NECESSARY TO ACCOMMODATE THE REPLACEMENT REINFORCING AT THE MINIMUM SPACING, ONE OF THE FOLLOWING SHALL BE DONE:
   a) INCREASE BAR SIZE BY ONE SIZE.
   b) ADD ONLY ADDTIONAL REINFORCING NECESSARY TO MAINTAIN A MINIMUM OF 3" SPACING BETWEEN ADJACENT WALL/SLAB, PIPE OR SLEEVE.
7. IF NECESSARY, CENTER ON PIPE PENETRATION PRESTRESSING WRAPS @ 6" O.C.
8. IF NECESSARY, LOW WRAP STRAND LOCK TREE SHALL BE DESIGNED AND PROVIDED ALL MATERIALS GALVANIZED, TYP. EACH SIDE OF PENETRATION.

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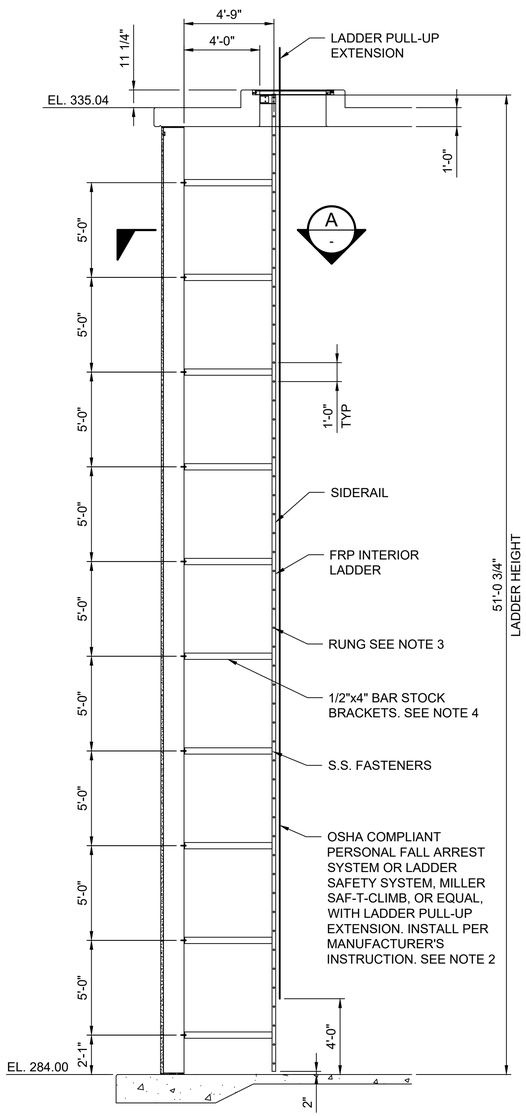
REGISTERED PROFESSIONAL ENGINEER — JOSHUA D. LEE BARRETT — No. C45483 Exp. 12/31/24 — CIVIL — STATE OF CALIFORNIA
02/10/23

DESIGNED DLB
DRAWN NEB
CHECKED PDS

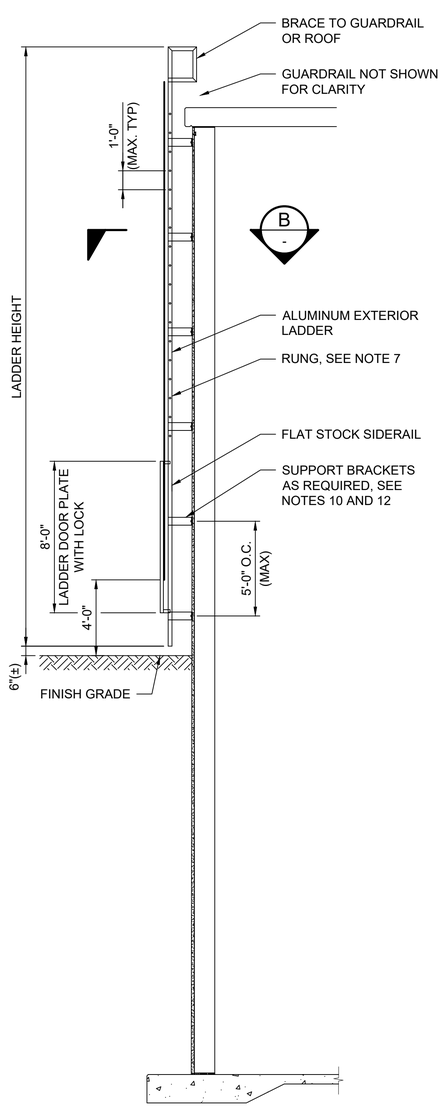
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

OVERFLOW DETAILS

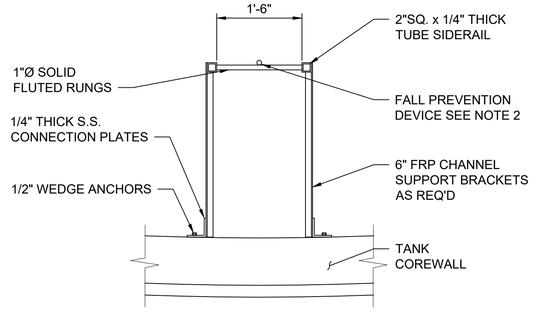
SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 39 OF 57
S-24



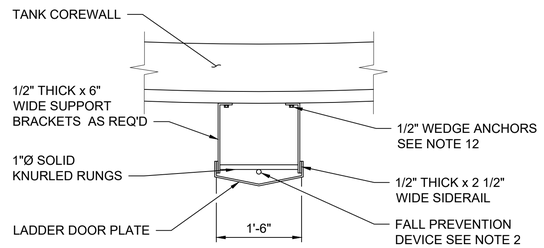
1 INTERIOR LADDER
SCALE: 1/4"=1'-0" 1 REQ'D. SEE NOTES 1 AND 2



2 EXTERIOR LADDER
SCALE: 1/4"=1'-0" 1 REQ'D. SEE NOTES 5 AND 6



A SECTION
SCALE: 3/4"=1'-0" SEE NOTES 1 AND 2



B SECTION
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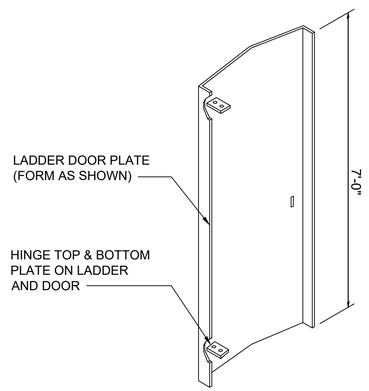

C SECTION
SCALE: 1/2"=1'-0"

GENERAL SHEET NOTES:

INTERIOR LADDER NOTES:

1. LADDER MATERIAL SHALL BE FRP.
2. OSHA COMPLIANT FALL PREVENTION DEVICE SHALL BE INSTALLED (SST SAF-T-CLIMB, OR EQUAL).
3. LADDER RUNGS TO BE SOLID BARS AND FLUTED.
4. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.

EXTERIOR LADDER NOTES:

5. ALL MATERIAL FOR EXTERIOR LADDER, SIDERAILS, RUNGS AND BRACKETS TO BE 6061-T6 ALUMINUM.
6. OSHA COMPLIANT FALL PREVENTION DEVICE SHALL BE INSTALLED (SST SAF-T-CLIMB, OR EQUAL).
7. LADDER RUNGS TO BE SOLID BARS AND KNURLED.
8. ALL WELDS TO BE 3/16" MINIMUM.
9. ALL ALUMINUM IN CONTACT WITH CONCRETE MUST BE COATED WITH A HEAVY BITUMASTIC COATING, EPOXY PAINT OR SHIMMED USING PVC.
10. USE SST WEDGE ANCHORS FOR ALL CONNECTIONS TO CONCRETE UNLESS NOTED OTHERWISE.
11. WHERE SST BOLTS ARE IN CONTACT WITH DISSIMILAR METALS, USE INSULATING SLEEVES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.
12. WHERE SST BOLTS ARE PLACED IN THE WALL EXTERIOR, DRILL AND PLACE AFTER WRAPPING AND BEFORE FINAL SHOTCRETING. TAKE EXTREME CARE TO AVOID DAMAGING PRESTRESSING STRAND. PLACE A STEEL PIPE AROUND THE DRILL BIT TO KEEP BIT FROM COMING IN CONTACT WITH THE STRAND, INSERT BOLTS BEFORE SHOTCRETING TO MARK HOLE LOCATION. PACK HOLE IN SHOTCRETE WITH EPOXY BEFORE FINAL INSTALLATION OF BOLTS TO INSURE COMPLETE COVERAGE OF STRAND.
13. EXTERIOR LADDER DOOR TO BE LOCKABLE. SEE SECTION 05500 FOR ADDITIONAL LADDER REQUIREMENTS.

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REGISTERED PROFESSIONAL ENGINEER JOSHUA LEE BARRERA No. C45483 Exp. 12/31/24 CIVIL STATE OF CALIFORNIA
02/10/23

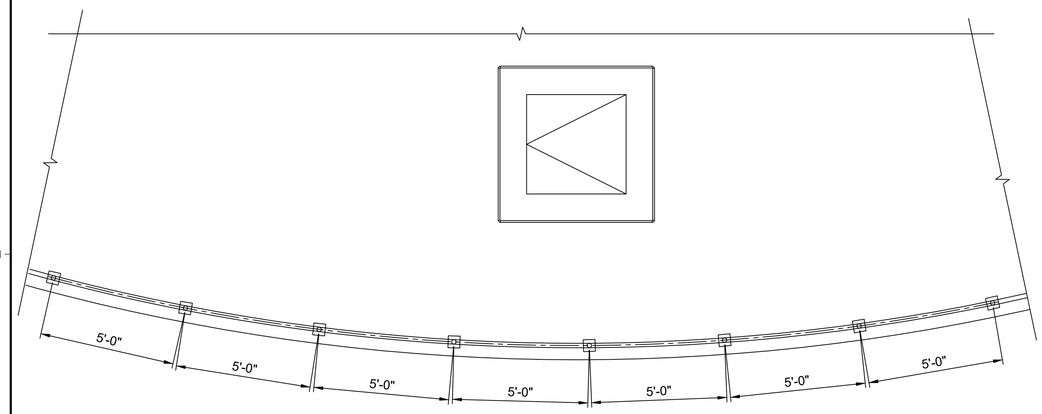
DESIGNED DLB
DRAWN NEB
CHECKED PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

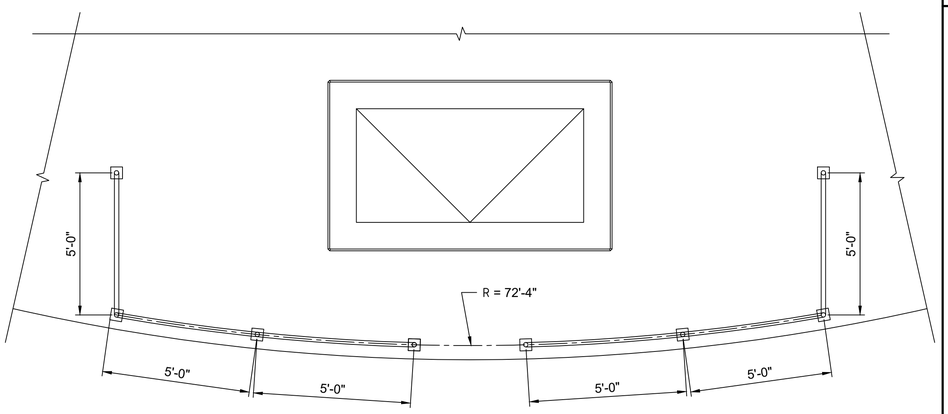
INTERIOR AND EXTERIOR LADDER DETAILS

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 40 OF 57
S-25

pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Design\Structural\2076050.00-S-25



1 PLAN OF ROOF GUARDRAIL AT ACCESS HATCH
SCALE: 3/8"=1'-0"



2 PLAN OF ROOF GUARDRAIL AT OBSERVATION HATCH
SCALE: 3/8"=1'-0"

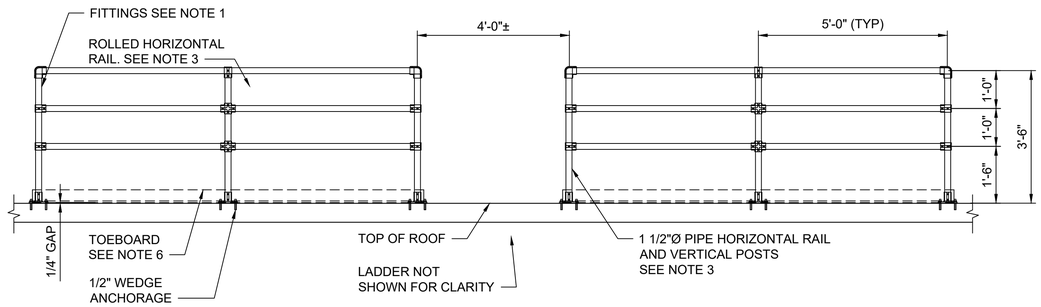
GENERAL SHEET NOTES:

GUARDRAIL:

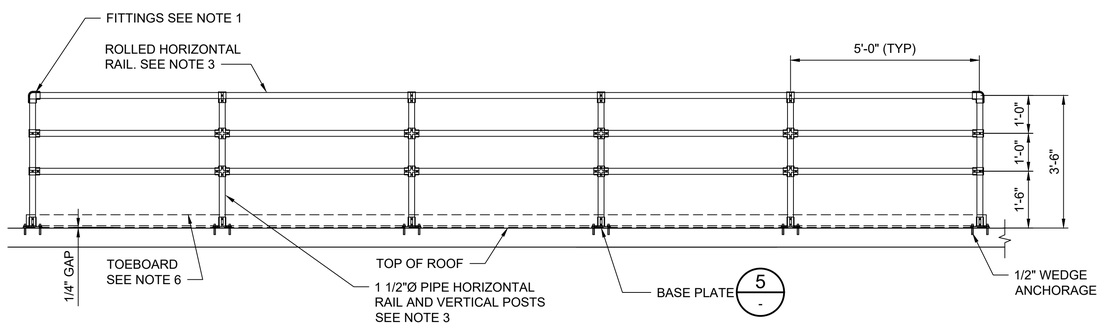
1. GUARDRAIL FITTINGS SHALL BE SPEED-RAIL BY HOLLAENDER, INC OR EQUAL. ALL JOINTS SHALL BE FIXED FITTINGS.
2. GUARDRAIL SHALL BE LOCATED AS SHOWN ON THIS SHEET AND ROOF PLAN ON SHEET S-11.
3. GUARDRAIL SHALL BE 1 1/2"Ø SCH. 80 6061-T6 OR 6005-T5 ANODIZED ALUMINUM PIPE GUARDRAIL.
4. ISOLATE ALUMINUM FROM THE CONCRETE WITH 1/8" THICK NEOPRENE GASKETS.
5. BASEPLATES SHALL BE SQUARE FIXED NO. 45 SBC FLOOR FLANGE OR EQUAL. SECURE TO ROOF WITH 1/2"x3 3/4" 316 S.S. WEDGE ANCHORS. (4 REQUIRED PER PLATE) (2 1/4" MIN. EMBEDMENT)
6. HOLLAENDER BEVELLED TOE BOARD SHALL BE ATTACHED TO FRONT ONLY USING #49C HOLLAENDER CLIPS.
7. ALL SET SCREWS SHALL BE S.S.

TOEPLATE:

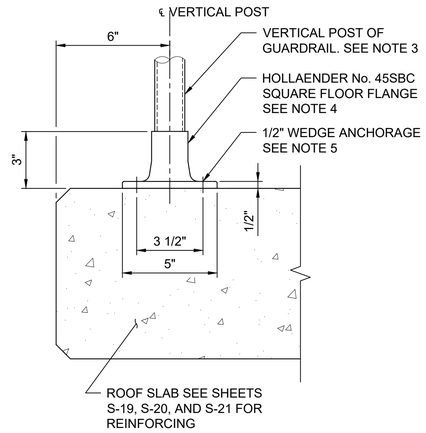
8. TOEPLATE/KICKPLATE SHALL BE BY HOLLAENDER, INC. OR EQUAL. ATTACH TOEPLATE BRACKETS #49D TO CONCRETE ROOF OF RESERVOIR WITH A 1/4-INCH SPACER PLATE. POSITION ASSEMBLY TO PROVIDE 1/4" GAP FROM TOEPLATE TO WALKING SURFACE.
9. SECURE TOEBOARD BRACKETS TO ROOF WITH 1/2" x 3 3/4" 316 S.S. WEDGE ANCHORS (2 1/4" MIN. EMBEDMENT) (1 REQUIRED PER BRACKET).
10. TOEPLATE SHALL BE LOCATED AS SHOWN ON THIS SHEET. RADIUS OR CURVE ALUMNIUM TOE PLATE, IF AVAILABLE, IF NOT LAYOUT STRAIGHT SECTIONS TO FOLLOW RESERVOIR PERIMETER.
11. INSERT 1/4" - 20 x 3/4" LG. CARRIAGE BOLTS INTO SLOT ON TOEPLATE. INSERT THRU HOLES IN BRACKETS. ATTACH WITH 1/4" - 20 LOCKNUT. HAND TIGHTEN ONLY.
12. ISOLATE ALUMINUM FROM CONCRETE WITH 1/8" THICK NEOPRENE GASKETS.
13. TOEPLATE SHALL BE ALUMINUM WITH A YELLOW POWER COAT FINISH.



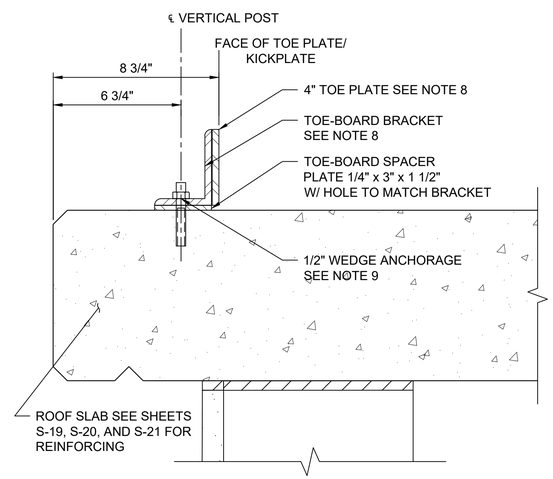
3 ROOF GUARDRAIL AT ACCESS HATCH
SCALE: 1/2"=1'-0"



4 ROOF GUARDRAIL AT OBSERVATION HATCH
SCALE: 1/2"=1'-0"



5 BASE PLATE
SCALE: 3"=1'-0"



6 TOE PLATE / KICK PLATE
SCALE: 3"=1'-0"

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RONALD LEE BARRAZA
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CIVIL
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02/10/23

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CHECKED	PDS

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA

4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

ROOF GUARDRAIL AND SAFETY CATCH

SCALE	AS SHOWN
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	41 OF 57
	S-26

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ABBREVIATIONS

a	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSED
A	AMMETER, AMPERES
AC	ALTERNATING CURRENT
A/D	ANALOG TO DIGITAL
ADJ	ADJUSTABLE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
ALT	ALTERNATOR
A/M	AUTO/MANUAL CONTROLLER
ANN	ANNUNCIATOR
APPROX	APPROXIMATE
AS	AMMETER SWITCH
ASD	ADJUSTABLE SPEED DRIVE (DC)
AT	AMMETER TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
b	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN
BCG	BARE COPPER GROUND
BLDG	BUILDING
C	CONDUIT, CONTACTOR
CAB	CABINET
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CC	CONTROL CABLE, CLOSING COIL
CHH	COMMUNICATION HANDHOLE
CL	CHLORINE
CKT	CIRCUIT
CMH	COMMUNICATION MANHOLE
CO	CONDUIT ONLY
COMM	COMMUNICATION
COND	CONDUCTOR
CONT	CONTINUED, CONTINUATION
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CWP	COLD WATER PIPE
DC	DIRECT CURRENT
DIA	DIAMETER
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EHH	ELECTRICAL HANDHOLE
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELEM	ELEMENTARY
EMERG	EMERGENCY
ENCL	ENCLOSURE
EFFL	EFFLUENT
EQ	EQUAL
EQPT	EQUIPMENT
ETM	ELAPSED TIME METER
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FF	FINISHED FLOOR
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FO	FIBER OPTIC
FREQ	FREQUENCY
FT	FEET, FOOT
FU	FUSE
(F)	FUTURE
FVNR	FULL VOLTAGE, NON REVERSING
FVR	FULL VOLTAGE, REVERSING
FWD	FORWARD
GA	GAUGE
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
H_2O_2	HYDROGEN PEROXIDE
HH	HANDHOLE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ (CYCLES PER SECOND)
IND LT	INDICATING LIGHT
INCAND	INCANDESCENT
INSTR	INSTRUMENT, INSTRUMENTATION
I/O	INPUT/OUTPUT
JB	JUNCTION BOX
KA	KILOAMPERES
KCMIL	THOUSANDS OF CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KVARH	KILOVOLT AMPERES REACTIVE HOURS
KW	KILOWATTS
KWH	KILOWATT HOURS
LCP	LOCAL CONTROL PANEL
LOR	LOCAL-OFF-REMOTE
LP	LIGHTING PANEL
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
LT(S)	LIGHT(S)
(M)	MODIFIED
mA	MILLIAMPERES
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUG ONLY
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NTS	NOT TO SCALE
OH	OVERHEAD
OT	OVER TEMPERATURE
OL	THERMAL OVERLOAD RELAY
PB	PULLBOX, PUSHBUTTON
PD	POSITIVE DISPLACEMENT
PE	PHOTOELECTRIC
PEC	PHOTOELECTRIC CELL
PF	POWER FACTOR
PFR	POWER FACTOR RELAY
pH	MEASURE OF ACIDITY OR ALKALINITY
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PNLBD	PANELBOARD
PRI	PRIMARY
PS	PRESSURE SWITCH
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWR	POWER
(RL)	RELOCATE
(RLD)	RELOCATED
RCPT	RECEPTACLE
RCT	REPEAT CYCLE TIMER
REQD	REQUIRED
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RT	RESET TIMER
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SEC	SECONDS, SECONDARY
SECT	SECTION
SF	SUPPLY FAN
SHH	SIGNAL HANDHOLE
SHT	SHEET
SIG	SIGNAL
SPECS	SPECIFICATIONS
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE, DOUBLE THROW
SS	STAINLESS STEEL, SOLID STATE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYNC	SYNCHRONIZING
TB	TERMINAL BLOCK
TC	TELEPHONE CABINET
TEL	TELEPHONE
TEMP	TEMPERATURE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UV	ULTRA VIOLET
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE (AC)
VAR	VOLT AMPERES REACTIVE
VERT	VERTICAL
VH	VAR-HOUR
VS	VOLTMETER SWITCH
W	WIRE, WATTS
WHM	WATTHOUR METER
WHDM	WATTHOUR DEMAND METER
WR	WEATHER RESISTANT
WT	WATERTIGHT
WTP	WATER TREATMENT PLANT
XFMR	TRANSFORMER

GENERAL NOTES:

G1. THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.

G2. THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.

G3. NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN FAVORABLY REVIEWED BY THE ENGINEER.

G4. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ANSI C37.2, Y1.1, Y32.2, AND Y32.9.

G5. VERIFY ALL COLOR REQUIREMENTS BEFORE ORDERING MATERIALS.

G6. REFER TO THE MECHANICAL DRAWINGS FOR CERTAIN CONTROL DIAGRAMS AND EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND FOR CERTAIN CONNECTIONS TO BE MADE TO ELECTRICAL CIRCUITS.

PLAN NOTES:

P1. CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, THE FILL SHALL BE 2#12. PROVIDE 3/16 INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.

P2. LOWER CASE LETTERS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT. FOR FOUR LAMP FIXTURES WIRED IN PAIRS WITHIN EACH FIXTURE, THE "a" SWITCH CONTROLS THE OUTER LAMPS AND THE "b" SWITCH CONTROLS THE INNER LAMPS; WIRE 3 LAMP FIXTURES SIMILARLY.

P3. CONDUIT AND WIRE LAYOUT FOR LIGHTING AND RECEPTACLES NOT SHOWN. PROVIDE PER NEC.

PLAN SYMBOLS

- OVERHEAD POWER LINE (OH)
- CONDUIT - MULTIPLE IN DUCT BANK
- MULTIPLE CONDUIT RUN
- CONDUIT - ENCASED OR UNDERGROUND
- CONDUIT - EXPOSED OR CONCEALED
- CONDUIT EXPOSED
- INTERCEPTION OF CONDUIT
- CALLOUT INDICATING CONDUIT SIZE, NUMBER OF WIRES AND WIRE SIZE (3/4"C-3#12)
- CALLOUT INDICATING CONDUIT PER SCHEDULE (P-012)
- CONDUIT RUN, HATCH MARKS INDICATE NO. OF #12 CONDUCTORS NO HATCH MARKS IS 2#12 UNLESS OTHERWISE NOTED
- HOME RUN TO PANELBOARD OR AS INDICATED
- FLEXIBLE CONDUIT
- CONDUIT RUN, BROKEN AND CONTINUED ON SAME SHEET OR AS NOTED
- CAP ON CONDUIT STUB
- OPEN CIRCLE DENOTES UPWARD CONDUIT RISER
- SEMI CIRCLE DENOTES DOWNWARD CONDUIT RISER
- INDICATES REMOVAL
- FA — FIRE ALARM CONDUIT
- T — TELEPHONE CONDUIT
- S — SECURITY SYSTEM CONDUIT
- 120V SURFACE MOUNTED PANELBOARD
- 120V FLUSH MOUNTED PANELBOARD
- 480V SURFACE MOUNTED PANELBOARD
- 480V FLUSH MOUNTED PANELBOARD
- MOTOR (M)
- DISCONNECT SAFETY SWITCH
- COMBINATION MOTOR STARTER
- S_{MS} MANUAL MOTOR STARTER
- CONTROL STATION
- EQUIPMENT MOUNTING STAND
- GROUND ROD AND BOX
- GROUND ROD AND TEST WELL
- INSTRUMENT
- PB SB POWER PULLBOX, SIGNAL PULLBOX
- K INTRUSION REMOTE KEY PAD
- D INTRUSION DOOR SWITCH
- SAP SECURITY ALARM PANEL
- EQUIPMENT CONNECTION
- S_* SINGLE POLE SWITCH
  2 = 2 POLE, 3 = 3 WAY, 4 = 4 WAY,
  K = KEY OPERATED
  WR = WEATHER RESISTANT
  D = DIMMER
  P = SWITCH WITH PILOT LIGHT
- S^{ab} SINGLE POLE SWITCH (NOTE P2)
- FIXTURE (NOTE P2) SEE FIXTURE SCHEDULE
- FIXTURE WITH NIGHT LIGHTING (UNSWITCHED) OR FIXTURE WITH SELF-CONTAINED EMERGENCY BALLAST/BATTERY
- WALL/CEILING MOUNTED FIXTURE
- WALL/CEILING MOUNTED FIXTURE NIGHT LIGHTING (UNSWITCHED)
- POLE MOUNTED FIXTURE
- WALL/CEILING MOUNTED EXIT LIGHT - DIRECTIONAL ARROW WHERE INDICATED, SHADED AREA INDICATES ILLUMINATED FACE
- EMERGENCY LIGHT/EXIT COMBO
- EMERGENCY LIGHT WITH SELF CONTAINED BATTERY
- PC PHOTOCELL
- A / * LUMINAIRE CALLOUT
  A = LUMINAIRE TYPE
  * = APPROX BOTTOM OF FIXTURE MOUNTING HEIGHT AFF
  CLG = CEILING MOUNT
  (SEE LUMINAIRE SCHEDULE FOR MORE DETAILS)
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, 240V
- DUPLEX WALL RECEPTACLE, 120V
  WR = WEATHER RESISTANT
  G = GROUNDED
  IG = ISOLATED GROUND
  GF = GROUND FAULT INTERRUPTER
- DOUBLE DUPLEX WALL RECEPTACLE, 120V
- DUPLEX FLOOR RECEPTACLE, 120V
- RECEPTACLE, 480V
- WALL/CEILING MOUNTED JUNCTION BOX (J)
- FLOOR RECESS MOUNTED JUNCTION BOX (J)
- THERMOSTAT, WALL MOUNTED (T)
- WALL TELEPHONE OUTLET (+12")
- DATA WALL OUTLET
- TELE-DATA WALL OUTLET
- F FIRE ALARM PULL STATION
- F FIRE ALARM FLASHING LIGHT
- F FIRE ALARM HORN
- B BELL
- BUZZER
- H HEAT DETECTOR
- S SMOKE DETECTOR
- FACP FIRE ALARM CONTROL PANEL
- VC * VIDEO CAMERA
  * = TYPE
  F FIXED
  PTZ PAN-TILT-ZOOM
  360 360 DEGREE FIXED

SINGLE LINE SYMBOLS

- GROUND CONNECTION
- SWITCH, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED
- AUTOMATIC TRANSFER SWITCH 3 POLE, RATING AS NOTED
- ST SHUNT TRIP
- TB-# / #A / 1 FUSE
- FUSE CUTOUT
- 100AF / 100AT CIRCUIT BREAKER, 3-POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED, TOP INDICATION IS FRAME SIZE, BOTTOM IS TRIP RATING.
- 100A / MCP MCP CIRCUIT BREAKER, 3-POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED. TOP INDICATION IS CONTINUOUS CURRENT RATING.
- TM / 100AT THERMAL-MAGNETIC CIRCUIT BREAKER, 3-POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED. BOTTOM INDICATION IS INSTANTANEOUS TRIP RATING.
- POWER CIRCUIT BREAKER DRAWOUT ABOVE 1500V RATING AS NOTED
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- POWER OR DISTRIBUTION TRANSFORMER RATING AS NOTED
- 100 MOTOR. NUMBER INDICATES HORSEPOWER
- GEN GENERATOR
- CONTROL PACKAGE PROVIDED WITH THE DRIVEN EQUIPMENT
- BUS STAB ON MCC OR SWITCHGEAR, CORD & PLUG CONNECTION FOR MOTORS
- OL THERMAL OVERLOAD
- * A - AMMETER
  V - VOLTMETER
  WH - WATTHOUR METER
  GS - GROUND FAULT SENSOR
- AS AMMETER SWITCH
- VS VOLTMETER SWITCH
- 2 ELEMENTARY DIAGRAM REFERENCE NUMBER
- K KIRK KEY INTERLOCK
- POWER RECEPTACLE FOR PORTABLE EQUIPMENT
- # RELAY DEVICE FUNCTION, # PER ANSI NUMBER C37.2
- TERMINATOR / POTHEAD
- SPLICE, TERMINATION
- MS MOTOR STARTER CONTACT
- 1 MOTOR STARTER NUMBER INDICATES NEMA SIZE
- 5 CAPACITOR - KVAR INDICATED
- VFD VFD - VARIABLE FREQUENCY DRIVE SS - SOLID STATE STARTER
- SS SS STARTER WITH BUILT-IN FULL SPEED CONTACTOR
- SPD SURGE PROTECTIVE DEVICE
- MOTOR HEATER MOTOR HEATER

WIRING SCHEMATIC SYMBOLS

- M MOTOR
- ETM ELAPSED TIME METER
- ** CONTROL DEVICE COIL. PREFIX NUMBER, WHEN USED, DISTINGUISHES BETWEEN DEVICES OF THE SAME TYPE.

** ALT - ALTERNATOR; CR - CONTROL RELAY; GR - GENERAL RELAY; ISR - INTRINSICALLY SAFE RELAY; LR - LATCH RELAY; PR - PROBE RELAY; SV - SOLENOID VALVE; TD - TIME DELAY RELAY; TR - TIMING RELAY

- 1 CR — 2-2, 3, 0, 0 CROSS REFERENCE TO ANOTHER DIAGRAM; NORMALLY OPEN CONTACT ON THE OTHER DIAGRAM; SPARE CONTACTS ON RELAY. IF OMITTED, THEN THE SPEC. REQUIREMENTS REGARDING SPARE CONTACTS APPLY.; NORMALLY CLOSED CONTACT ON THIS DIAGRAM
- TERMINAL
- FUSE. RATING IN AMPERES
- INDICATING LIGHT
- PUSH-TO-TEST INDICATING LIGHT
  * COLORS:
  A - AMBER; B - BLUE; C - CLEAR; G - GREEN; R - RED; N - NEON; W - WHITE; Y - YELLOW
- ON OFF — SINGLE POLE SWITCH NORMALLY OPEN / CLOSED
- START STOP — EMERGENCY PUSHBUTTON NORMALLY OPEN / CLOSED
- START STOP — PUSHBUTTON NORMALLY OPEN / CLOSED
- SWITCH 1-POLE / 3-POLE
- MULTI-POSITION SELECTOR SWITCH
- H O A — HAND-OFF-AUTOMATIC SWITCH X-INDICATES CONTACTS CLOSED
- H O R — HAND-OFF-REMOTE SWITCH X-INDICATES CONTACTS CLOSED
- H1 H3 H2 H4 / X1 X2 CONTROL POWER TRANSFORMER
- AMP/FRAME — AMPS / POLES CIRCUIT BREAKER, MCP 1-POLE / 3-POLE
- GROUND CONNECTION
- INSTRUMENT
- NO CR NC CR CONTACT NORMALLY OPEN / CLOSED
- BUS STAB ON MCC; CORD & PLUG CONNECTION FOR MOTORS
- SCR
- OL THERMAL OVERLOAD
- BUZZER; BELL; HORN

SENSING SWITCHES		
CLOSE ON		SENSED VARIABLE
RISING	FALLING	
FS	FS	FLOW
LS	LS	LEVEL
PS	PS	PRESSURE
TS	TS	TEMPERATURE
LIMIT SWITCHES		
ZS		CLOSE ON REACHING LIMIT
ZS		CLOSE ON LEAVING LIMIT

TIMED CONTACTS			
SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
TR	OPEN	DELAYED	INSTANTANEOUS
TR	CLOSED	INSTANTANEOUS	DELAYED
TR	OPEN	INSTANTANEOUS	DELAYED
TR	CLOSED	DELAYED	INSTANTANEOUS

ELEMENTARY DIAGRAMS

E1 UNDERLINED WORDS SHOWN AT A PUSHBUTTON, LIGHT, SELECTOR SWITCH, ETC. INDICATE THE LEGEND PLATE REQUIREMENT FOR THAT PARTICULAR DEVICE. ANY ADDITIONAL NAMEPLATES ARE INDICATED ON ELEVATIONS WITH THE REQUIRED NAMEPLATE INSCRIPTIONS.

E2 "NORMAL" STATUS OF SWITCHES OR CONTACTS IS THE SHELF POSITION.

E3 NUMBERS AND LETTERS IDENTIFY DEVICE.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — SANDY SCHUTTER — No. E15453 — Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED	SLS
DRAWN	JL
CHECKED	JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

ELECTRICAL LEGEND AND ABBREVIATIONS

SCALE	NTS
JOB NO	2076050.00
DATE	FEBRUARY 2023
SHEET	42 OF 57
	E-01

(E) FLOW MONITOR
DATA INDUSTRIAL
TO BE RELOCATED

EXISTING ELECTRICAL EQUIPMENT DEMOLITION

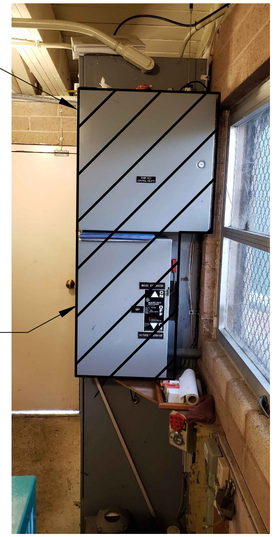
PANELBOARD LP-C1						FED FROM: XFMR-C1					
208	/120 VOLTS, THREE PHASE, 4 WIRE		BUS: 125A		AIC: 10KA	MAIN: 125A/3P		MOUNTING: SURFACE			
CKT. NO.	DESCRIPTION	CONNECTED KVA			TRIP AMPS/ POLES	CKT. NO.	DESCRIPTION	CONNECTED KVA			TRIP AMPS/ POLES
		A	B	C				A	B	C	
1	LIGHTING - PUMP ROOM	0.1			20/1	2	RECPTACLES - ELECTRICAL ROOM	0.4			20/1
3	LIGHTING - ELECTRICAL ROOM		0.1		20/1	4	RECPTACLES - PUMP ROOM		0.7		20/1
5	LIGHTING - EXTERIOR SITE			0.2	20/1	6	SPACE HEATER 1 (PUMP ROOM)			1.5	20/2
7	LIGHTING - EXTERIOR BUILDING	0.1			20/1	8		1.5			
9	LGT-CP		0.2		20/1	10	SPACE HEATER 2 (ELEC ROOM)		1.5		20/2
11	LCP-001A (MIXER 1)			2.4	40/1	12				1.5	
13	LCP-001B (MIXER 2)	2.4			40/1	14	GENERATOR BATTERY CHARGER	1.0			20/1
15	LCP-001CB (MIXER 3)		2.4		40/1	16	GENERATOR BLOCK HEATER		1.2		20/2
17	LCP-001CA (SEISMIC VALVE 3)			0.2	20/1	18				1.2	
19	LCP-001 (SEISMIC VALVE 1)	0.2			20/1	20	PLC (RTU)	0.5			20/1
21	LCP-002 (SEISMIC VALVE 2)		0.2		20/1	22	CAMERA PoE SWITCH		0.1		20/1
23	LSHH-001C (LEVEL PROBE)			0.1	20/1	24	VIDEO STORAGE			0.3	20/1
25	SPARE	0.0			20/1	26	SPARE	0.0			20/1
27	SPARE		0.0		20/1	28	SPARE		0.0		20/1
29	SPARE			0.0	20/1	30	SPARE			0.0	20/1
31	SPARE	0.0			20/1	32	SPARE	0.0			20/1
33	SPACE					34	SPACE				
35	SPACE					36	SPACE				
37	SPACE					38	SPACE				
39	SPACE					40	SPACE				
41	SPACE				20/1	42	SPACE				
PHASE SUBTOTALS (KVA):		2.8	2.9	2.9				3.4	3.5	4.5	
PHASE TOTALS (KVA):								6.2	6.4	7.4	
PHASE TOTALS (AMPS):								51.6	53.3	61.8	
TOTAL (KVA):										20.0	KVA
MAX PHASE AMPS										61.8	A
PERCENT LOAD MAX PHASE:										#DIV/0!	%
TOTAL (AMPERES):										56	A

RTU/PLC LOCATED IN THIS SECTION.
PRIOR TO REMOVING MCC SECTIONS, CONTRACTOR SHALL COORDINATE WITH OWNER'S SYSTEM INTEGRATOR, SEE SECTION 17010 FOR CONTACT INFO. OWNER'S SYSTEM INTEGRATOR SHALL COME TO THE SITE, TAG WIRES, SET UP TEMPORARY CONTROLS FOR THE BOOSTER PUMPS, DISCONNECT WIRES FROM EQUIPMENT/DEVICES BEING REUSED IN THE REBUILT RTU. OWNER'S SYSTEM INTEGRATOR SHALL LET ELECTRICAL CONTRACTOR KNOW WHEN RTU CAN BE DEMOLISHED. SEE SECTION 01010 FOR SEQUENCING.

EXISTING MCC AND RTU/PLC DEMOLITION

BOOSTER PUMP 3
CONTROLS TO BE REBUILT
IN NEW RTU BY ICAD.

MANUAL TRANSFER
SWITCH



EXISTING PUMP NO. 3 CONTROLS
AND SAFETY SWITCH DEMOLITION

(LOCATED ON SIDE OF RTU/PLC SECTION)

LUMINAIRE SCHEDULE					
TYPE	DESCRIPTION	LAMPS	WATTS/ FIXTURE	MANUFACTURER CATALOG NUMBER	MOUNTING
A	LINEAR SUSPENDED, HIGH EFFICIENCY LED, 4000 LUMENS, 4000K COLOR TEMPERATURE, 0-10V DIMMING CAPABLE	(2) 29W LED	58	LITHONIA MSL 400LM SBL MVOLT GZ10 40K 80CRI (E10WLCP) OR EQUAL	PENDANT
A1	LINEAR SURFACE MOUNT, HIGH EFFICIENCY LED, 4000 LUMENS, 4000K, 0-10V DIMMING	(2) 32W LED	64	LITHONIA CLX L48 4000LM HEF SBLW FDL MVOLT GZ10 40K 80CRI (E10WLCP) OR EQUAL	SURFACE CEILING
B	EMERGENCY LIGHT/EXIT COMBO, SINGLE FACE, GREEN LETTERING, NICKLE-CADMIUM BATTERY OPERATED, TWO 12V, 1W LED LAMPS, FUSED 120 VOLT INPUT, W/TEST SWITCH	(2) 1.8W LED	3.6	LITHONIA #ECRG SQ M6 OR EQUAL	SURFACE WALL
C	WALLPACK, LED WITH TAMPER PROOF SCREWS	LED	25	LITHONIA #WST LED P2 30K VF MVOLT BBW PIR DBLXR OR EQUAL	SURFACE WALL
D	EMERGENCY LIGHT, NICKLE-CADMIUM BATTERY OPERATED TWO 12V, 1W LED LAMPS, FUSED 120 VOLT INPUT W/TEST SWITCH	(2) 1.8W LED	3.6	LITHONIA #EU2L LED M12 OR EQUAL	SURFACE WALL
N	AREA LUMINAIRE, TYPE 2 OPTICS POLE MOUNTED LED WITH NEMA TWIST LOCK	LED	75	LITHONIA #AS1 LED 42C 530 40K SR2 MVOLT SPA PER DBLXD DLL 127F 1.5JU OR EQUAL	POLE
P	POLE, STEEL 4" SQUARE, 16'			LITHONIA #SSS 16 4C DM19AS DBLXD OR EQUAL	

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER SANDY SCHUELLER No. E15453 Exp. 6/30/23 ELECTRICAL STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN TANK
ELECTRICAL
PHOTOS AND SCHEDULES

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 43 OF 57
E-02

LEGEND:

⊠ INTERCEPTION OF CONDUIT

SHEET KEYNOTES

A. REWIRE EXISTING DUAL VOLTAGE BOOSTER PUMPS FROM 240V, 3 PHASE TO 480V, 3 PHASE. SEE SPECIFICATION SECTION 01010 FOR SEQUENCING.

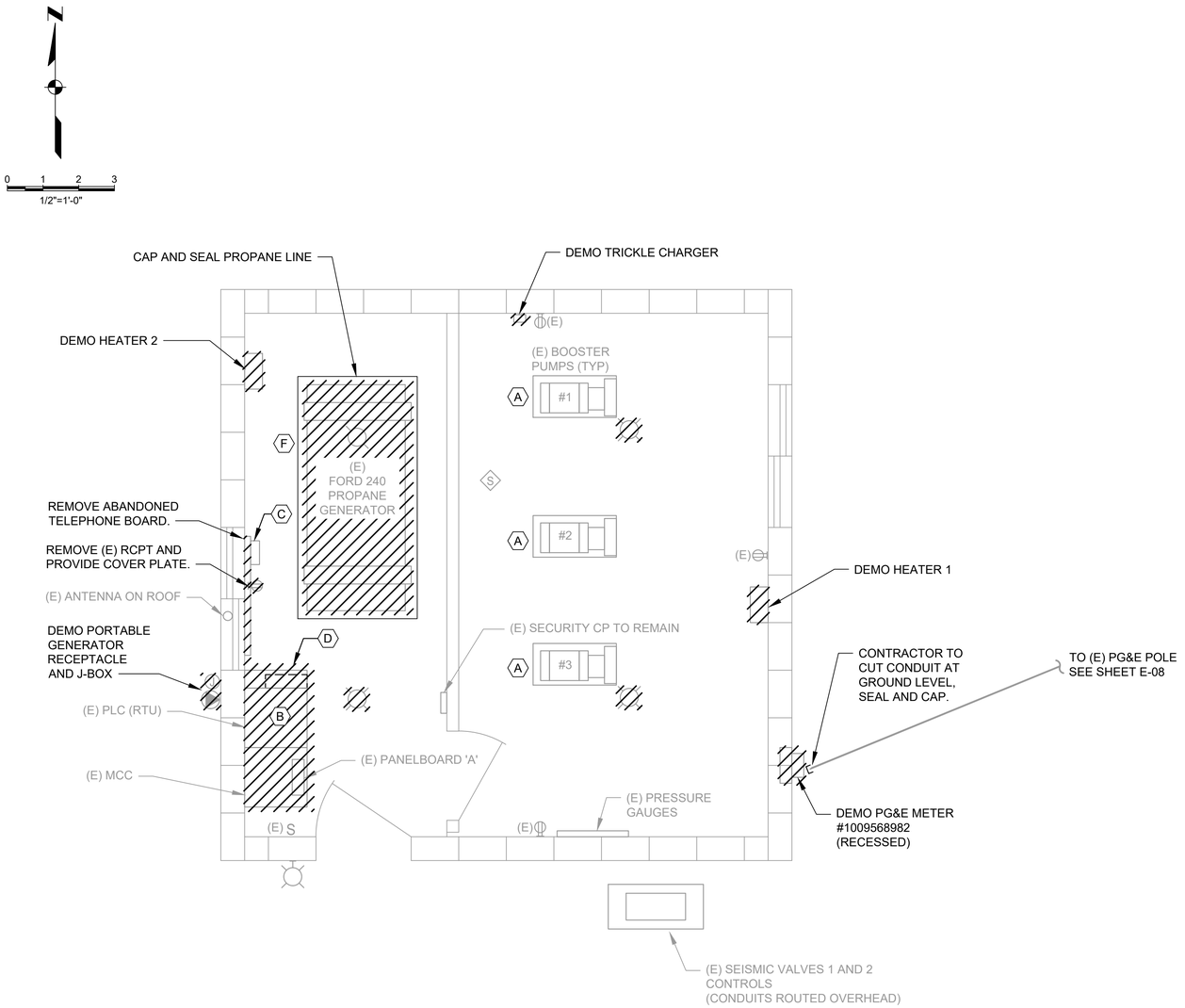
B. RTU SHALL BE REBUILT BY OWNER'S SYSTEM INTEGRATOR AS WELL AS USED AS TEMPORARY CONTROLS. SEE SECTIONS 17010 AND 01010 FOR SEQUENCING AND LINES OF RESPONSIBILITY BETWEEN CONTRACTOR AND OWNER'S SYSTEM INTEGRATOR . COORDINATE WITH OWNER'S SYSTEM INTEGRATOR FOR ALL CONTROLS.

C. DATA INDUSTRIAL FLOW MONITOR SHALL BE MOUNTED IN RTU.

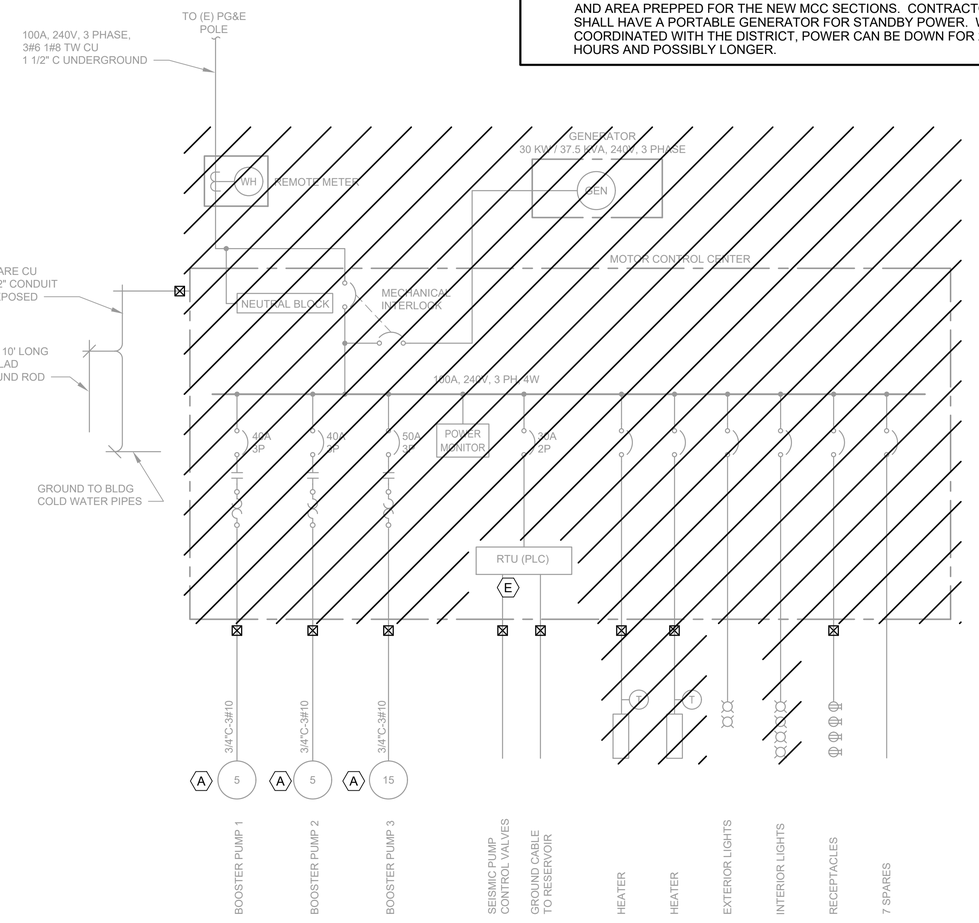
D. BOOSTER PUMP #3 CONTROLS (ABOVE). DOUBLE THROW SAFETY SWITCH (BELOW) FOR INSIDE GENERATOR AND PORTABLE GENERATOR.

E. SINGLE LINE IS BASED ON 1972 RECORD DRAWINGS. CONTRACTOR SHALL PROTECT CONTROL PANEL AND FIELD-VERIFY POWER AND CONTROL CONNECTIONS PRIOR DEMOLISHING EXISTING MCC. NOT ALL CONTROL WIRES ARE SHOWN TO THE RTU, SEE SHEET I-04.

F. IN ORDER TO KEEP THE TANK SITE UP AND OPERATIONAL, IT IS PREFERRED THAT THE PROPANE GENERATOR IS REMOVED FIRST AND AREA PREPPED FOR THE NEW MCC SECTIONS. CONTRACTOR SHALL HAVE A PORTABLE GENERATOR FOR STANDBY POWER. WHEN COORDINATED WITH THE DISTRICT, POWER CAN BE DOWN FOR 24 HOURS AND POSSIBLY LONGER.



COCHRAN BOOSTER PUMP STATION FLOOR PLAN - DEMOLITION
SCALE: 1/2"=1'-0"



COCHRAN BOOSTER PUMP STATION SINGLE LINE DIAGRAM - DEMOLITION
SCALE: NTS

ISSUED FOR BID

ANY PRINTS NOT BEARING THIS STAMP MAY HAVE BEEN PRINTED PRIOR TO ADVERTISING AND CANNOT BE CONSIDERED AS BID DOCUMENTS. USERS OF THIS DOCUMENT IN EDITABLE ELECTRONIC FORMATS ARE CAUTIONED AGAINST USE WITHOUT FIRST DETERMINING WHETHER CHANGES MAY HAVE BEEN MADE SUBSEQUENT TO ITS PREPARATION.

NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

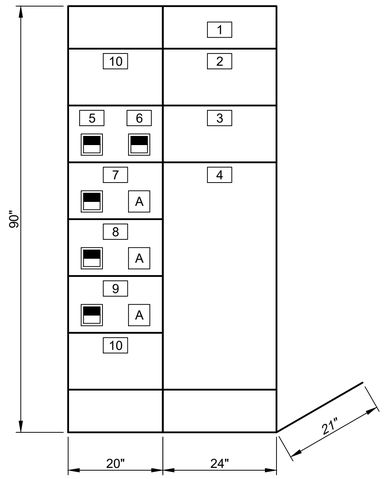
REGISTERED PROFESSIONAL ENGINEER SANDY SCHULTE No. E15453 Exp. 6/30/23 ELECTRICAL STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

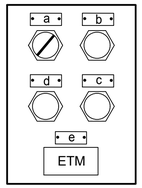
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN BOOSTER PUMP STATION
DEMOLITION
PLAN AND SINGLE LINE DIAGRAM

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 44 OF 57
E-03



COCHRAN TANK MCC ELEVATION
SCALE: 3/4"=1-0"



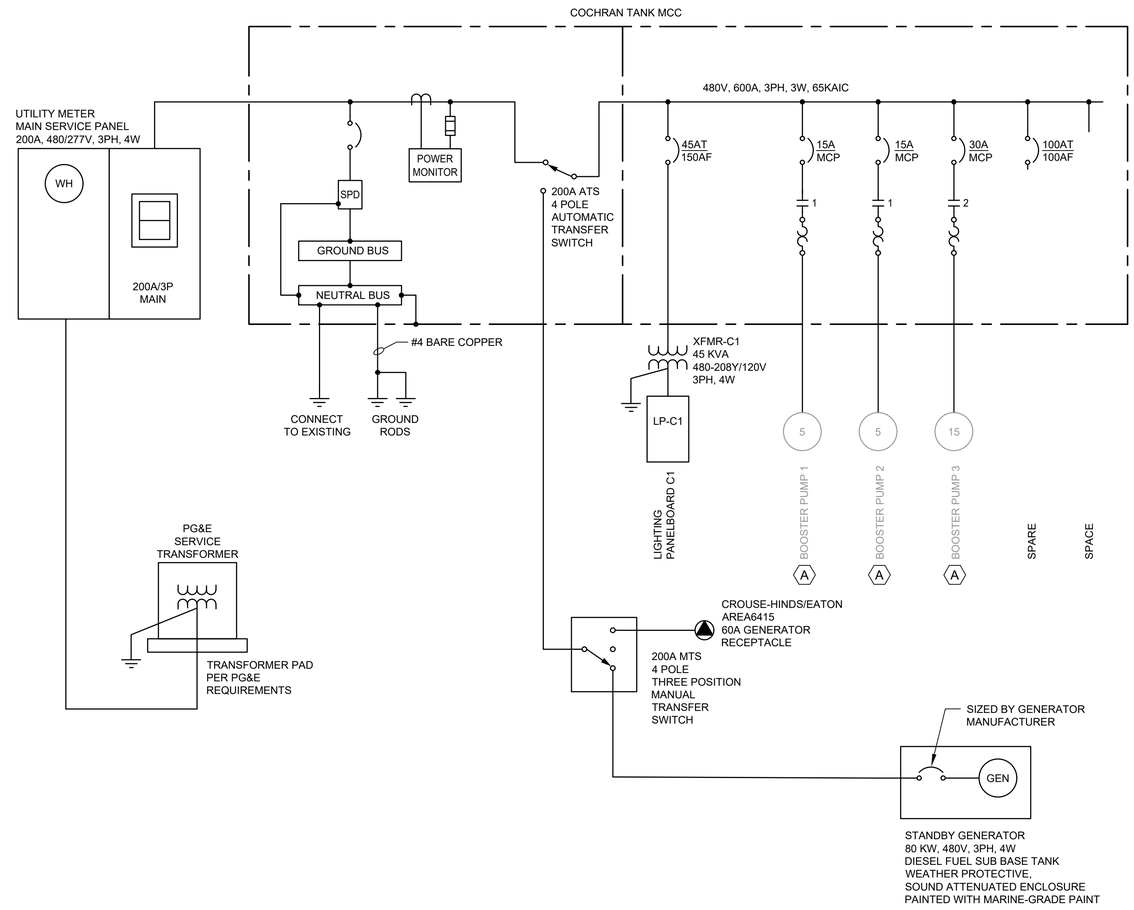
MCC BUCKET CONTROLS "A"
SCALE: NTS

COCHRAN TANK MCC NAMEPLATE SCHEDULE		
NO.	LETTER SIZE	DESCRIPTION
1	1/2"	COCHRAN TANK MCC, 200A SERVICE
2	1/4"	POWER MONITOR
3	1/4"	SURGE PROTECTIVE DEVICE
4	1/4"	ATS
5	1/4"	TRANSFORMER 'XFMR-C1' FEEDER
6	1/4"	100A SPARE
7	1/4"	BOOSTER PUMP 1
8	1/4"	BOOSTER PUMP 2
9	1/4"	BOOSTER PUMP 3
10	1/4"	SPACE
a	3/16"	HOA
b	3/16"	RESET
c	3/16"	RUNNING
d	3/16"	FAULT
e	3/16"	ETM

MCSD COCHRAN LOAD ANALYSIS	
DESCRIPTION	KVA
BOOSTER PUMPS 2 AT 5 HP, 1 AT 15 HP	42.7
FUTURE BOOSTER PUMP	10.0
MIXERS 3 AT 1.5 HP	7.2
MISC HEATERS, VALVES, LIGHTS, RECEPTACLES, RTU, SECURITY	20.0
CONTINUOUS LOAD	17.5
TOTAL KVA	90.2
AMPS	109A

SHEET KEYNOTES

A. EXISTING DUAL VOLTAGE BOOSTER PUMPS TO BE REWIRED FROM 240V, 3 PHASE TO 480V, 3 PHASE.



COCHRAN BOOSTER PUMP STATION SINGLE LINE DIAGRAM
SCALE: NTS

ISSUED FOR BID

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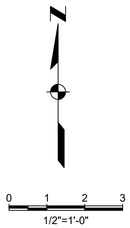
No. E15453
Exp. 6/30/23
02/10/23

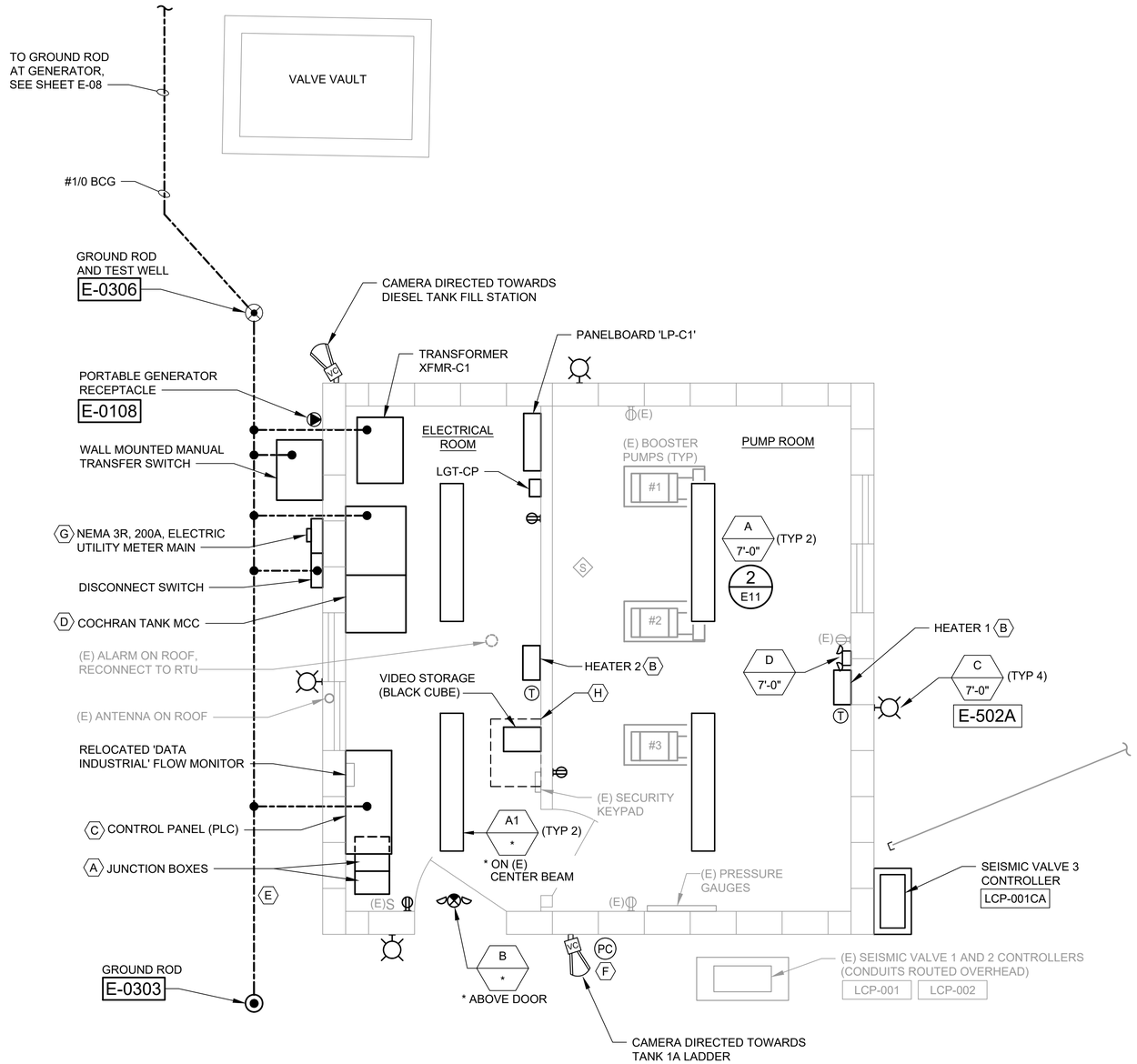
DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN BOOSTER PUMP STATION
SINGLE LINE DIAGRAM AND MCC ELEVATION

SCALE AS SHOWN
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 45 OF 57
E-04





COCHRAN BOOSTER PUMP STATION - FLOOR PLAN

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

SHEET KEYNOTES

A. CONTRACTOR SHALL FIELD DETERMINE EXACT SIZE REQUIRED OF JUNCTION BOXES TO INTERCEPT CONDUITS/WIRE UPON REMOVAL OF EXISTING MCC. FOR BID PURPOSES, ASSUME 12"x12"x12" BOX FOR POWER, 12"Wx8"Dx12"H BOX FOR CONTROLS.

B. INDUSTRIAL GRADE HEATER SHALL BE WALL MOUNTED, RATED AT 3 KW, 208V. WALL BRACKETS SHALL ALLOW HEATER TO BE DIRECTED. MANUFACTURER QMARK TYPE MUH WITH THERMOSTAT AND WALL BRACKET OR EQUAL, SEE SPECIFICATIONS 15800.

C. CONTROL PANEL, RELOCATED FROM EXISTING MCC/PLC ENCLOSURE. WORK TO BE PERFORMED BY OWNER'S SYSTEM INTEGRATOR . CONTRACTOR TO MAINTAIN SPACE FOR NEW RTU ENCLOSURE, SIZE 36"Wx16"Dx60"H. OWNER'S SYSTEM INTEGRATOR SHALL PROVIDE AND BRING TO THE SITE FOR THE ELECTRICAL CONTRACTOR TO INSTALL THE NEW RTU ENCLOSURE WHEN OWNER'S SYSTEM INTEGRATOR PERFORMS TEMPORARY PUMPS CONTROLS.

D. ADD TOP HAT/GUTTER ON TOP OF MCC TO TIE IN GENERATOR, MTS AND UTILITY CABLES. CONTRACTOR CAN SHIFT MCC NORTH OR SOUTH, FOR CABLE BENDING PURPOSES, BUT PREFERENCE IS TO NOT COVER THE WINDOW.

E. TIE GROUND INTO EXISTING GROUND AT EXISTING MCC.

F. MOUNT PHOTOCELL ON NORTH FACING WALL AT 7'+ TO TIE INTO LIGHTING CONTROL PANEL, LGT-CP.

G. NEMA 3R ENCLOSURE SHALL BE PAINTED TO PROTECT AGAINST COASTAL AIR.

H. INSTALL CAMERA PoE SWITCH ABOVE BLACK CUBE AND (E) SECURITY KEY PAD ON A LOW PROFILE RACK, 23.5"Wx17.5"Dx14.5"H MAXIMUM.

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REGISTERED PROFESSIONAL ENGINEER — SANDY SCHULTZ — No. E15451 — Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN BOOSTER PUMP STATION PLAN

SCALE 1/2"=1'-0"
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 46 OF 57
E-05

GENERAL SHEET NOTES

1. LIGHTING AND RECEPTACLES CONDUITS ARE NOT SHOWN. CONTRACTOR TO ADD CONDUIT AND WIRE PER DIVISION 16.

SHEET KEYNOTES

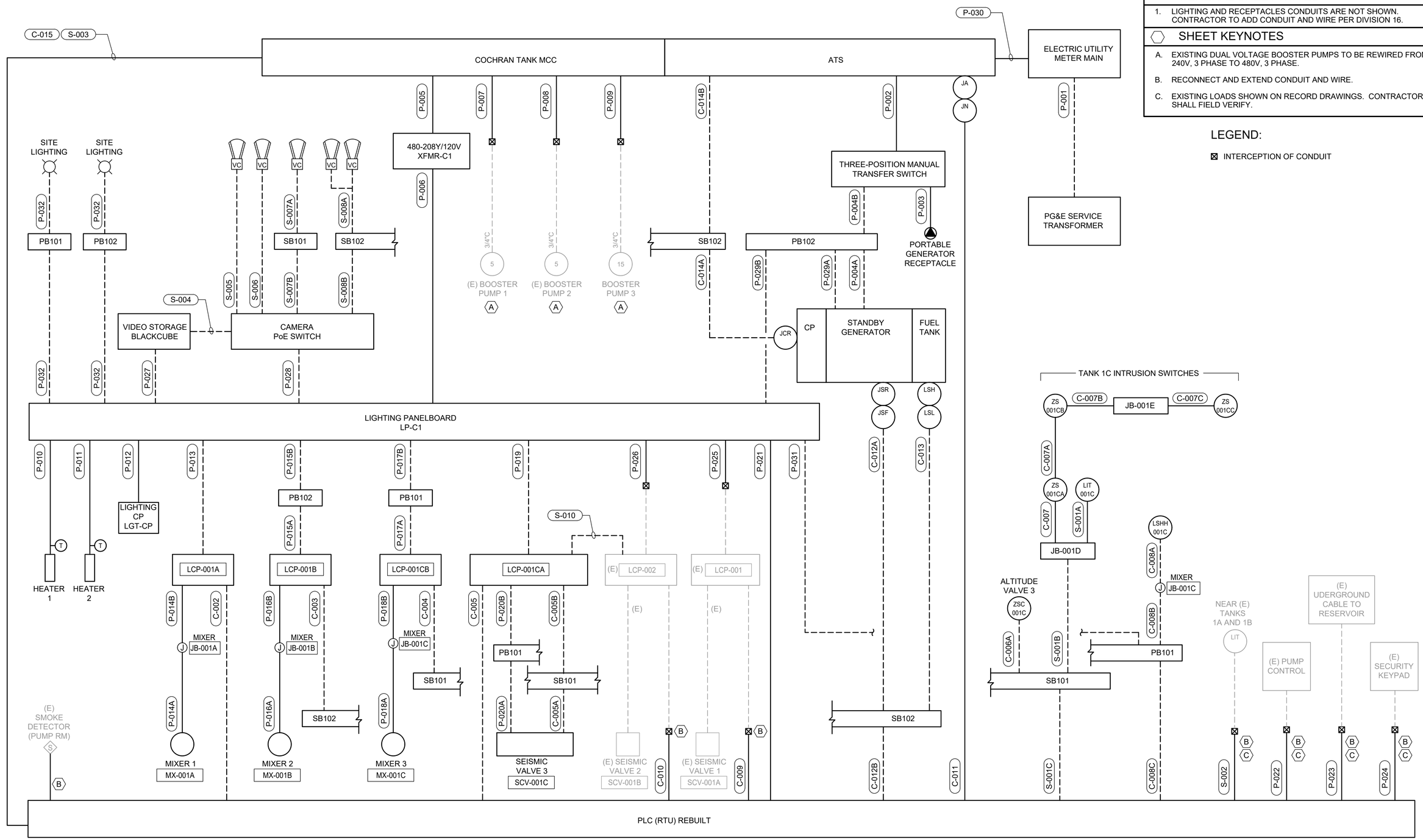
A. EXISTING DUAL VOLTAGE BOOSTER PUMPS TO BE REWIRED FROM 240V, 3 PHASE TO 480V, 3 PHASE.

B. RECONNECT AND EXTEND CONDUIT AND WIRE.

C. EXISTING LOADS SHOWN ON RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY.

LEGEND:

⊠ INTERCEPTION OF CONDUIT



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REGISTERED PROFESSIONAL ENGINEER — SANDY SCHULTZ — No. E15453 Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN TANK
CONDUIT ROUTING DIAGRAM

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 47 OF 57
E-06

CONDUIT AND WIRE SCHEDULE

NUMBER	FROM	TO	SIZE (")	POWER	CONTROL	SIGNAL	COMMENTS
COCHRAN WATER RESERVOIRS							
P-001	PG&E TRANSFORMER	METER MAIN SERVICE PANEL	4"				FEEDERS BY PG&E
P-002	ATS	3-POSITION MANUAL TRANSFER SWITCH	2"	3-#1/0, #4G			
P-003	3-POSITION MANUAL TRANSFER SWITCH	PORTABLE GENERATOR RECEPTACLE	2"	3-#6, #10G			
P-004A	PB102	STANDBY GENERATOR	2"	3-#1/0, #4G			
P-004B	3-POSITION MANUAL TRANSFER SWITCH	PB102	2"	3-#1/0, #4G			
P-005	COCHRAN TANK MCC	XFMR-C1	1"	3-#6, #8G			TRANSFORMER C1
P-006	XFMR-C1	PANEL LP-C1	2"	4-#1/0, #6G			208/120V PANELBOARD
P-007	COCHRAN TANK MCC	(E) BOOSTER PUMP 1	(E) & 3/4"	3-#12, #12G			
P-008	COCHRAN TANK MCC	(E) BOOSTER PUMP 2	(E) & 3/4"	3-#12, #12G			
P-009	COCHRAN TANK MCC	(E) BOOSTER PUMP 3	(E) & 3/4"	3-#10, #10G			
P-010	PANEL LP-C1	HEATER 1	3/4"	2-#10, #10G			
P-011	PANEL LP-C1	HEATER 2	3/4"	2-#10, #10G			
P-012	PANEL LP-C1	LGT-CP	3/4"	2-#12, #12G			
P-013	PANEL LP-C1	LCP-001A	3/4"	2-#8, #10G			MIXER CP 1
P-014A	MX-001A	JB-001A	3/4"	2-#8, #10G			MIXER 1 AT TANK 1A
P-014B	JB-001A	LCP-001A	3/4"	2-#8, #10G			MIXER 1 AT TANK 1A
P-015A	PB102	LCP-001B	3/4"	2-#8, #10G			MIXER CP 2
P-015B	PANEL LP-C1	PB102	3/4"	2-#8, #10G			MIXER CP 2
P-016A	MX-001B	JB-001B	3/4"	2-#8, #10G			MIXER 2 AT TANK 1B
P-016B	JB-001B	LCP-001B	3/4"	2-#8, #10G			MIXER 2 AT TANK 1B
P-017A	PB101	LCP-001CB	3/4"	2-#8, #10G			MIXER CP 3
P-017B	PANEL LP-C1	PB101	3/4"	2-#8, #10G			MIXER CP 3
P-018A	MX-001C	JB-001C	3/4"	2-#8, #10G			MIXER 3 AT TANK 1C
P-018B	JB-001C	LCP-001CB	3/4"	2-#8, #10G			MIXER 3 AT TANK 1C
P-019	PANEL LP-C1	LCP-001CA	3/4"	2-#12, #12G			SEISMIC VALVE 3 CP
P-020A	PB101	SCV-001C	3/4"	2-#8, #10G			SEISMIC VALVE 3, 24 VDC
P-020B	LCP-001CA	PB101	3/4"	2-#8, #10G			SEISMIC VALVE 3, 24 VDC
P-021	PANEL LP-C1	PLC (RTU) REBUILT	3/4"	4-#12,#12G			
P-022	PLC (RTU) REBUILT	(E) PUMP CONTROL VALVES	3/4"	2-#12, #12G			FIELD VERIFY
P-023	PLC (RTU) REBUILT	(E) UNDERGROUND CABLE TO RESERVOIR	3/4"	2-#12, #12G			FIELD VERIFY
P-024	PLC (RTU) REBUILT	(E) SECURITY KEYPAD	3/4"	2-#12, #12G			
P-025	PANEL LP-C1	(E) LCP-001	3/4"	2-#12, #12G			(E) SEISMIC VALVE 1 CP
P-026	PANEL LP-C1	(E) LCP-002	3/4"	2-#12, #12G			(E) SEISMIC VALVE 2 CP
P-027	PANEL LP-C1	VIDEO STORAGE BLACKCUBE	3/4"	2-#12, #12G			
P-028	PANEL LP-C1	CAMERA PoE SWITCH	3/4"	2-#12, #12G			
P-029A	PB102	STANDBY GENERATOR CP	3/4"	4-#12, #12G			BLOCK HTR, BATTERY CHARGER
P-029B	PANEL LP-C1	PB102	3/4"	4-#12, #12G			
P-030	ELECTRIC UTILITY METER MAIN	ATS	2"	3-#3/0, #4G			
P-031	PANEL LP-C1	LEVEL PROBE, LSHH-001C	3/4"	2-#12, #12G			
P-032	PANEL LP-C1	POLE FIXTURES (VIA PB101, PB102)	3/4"	2-#12, #12G			TYPICAL FOR SITE FIXTURES
C-001	NOT USED						
C-002	PLC (RTU) REBUILT	LCP-001A	3/4"		4-#14, #14G		MIXER 1 CP AT TANK 1A
C-003	SB102	LCP-001B	3/4"		4-#14, #14G		MIXER 2 CP AT TANK 1B
C-004	SB101	LCP-001CB	3/4"		4-#14, #14G		MIXER 3 CP AT TANK 1C
C-005	PLC (RTU) REBUILT	LCP-001CA	1"		12-#16		SEISMIC VALVE 3 CP
C-005A	SCV-001C	SB101	1"		12-#16, #16G		SEISMIC VALVE 3
C-005B	SB101	LCP-001CA	1"		12-#16, #16G		SEISMIC VALVE 3
C-006A	SB101	ZSC001C	3/4"		2-#14, #14G		ALTITUDE VALVE 3
C-007	JB-001D	ZS001CA, ZS001CB, ZS001CC	3/4"		2-#14, #14G		INTRUSION SWITCHES
C-007A	ZS001CA	ZS001CB, ZS001CC	3/4"		2-#14, #14G		INTRUSION SWITCHES
C-007B	ZS001CB	JB-001E	3/4"		2-#14, #14G		INTRUSION SWITCHES
C-007C	JB-001E	ZS001CC	3/4"		2-#14, #14G		LADDER INTRUSION SWITCH
C-008A	JB-001C	LSHH-001C	3/4"	2-#12, #12G	2-#14, #14G		120VAC POWER AND STATUS
C-008B	PB101	JB-001C	3/4"	2-#12, #12G	2-#14, #14G		120VAC POWER AND STATUS
C-008C	PLC (RTU) REBUILT	PB101	3/4"		2-#14, #14G		120VAC
C-009	PLC (RTU) REBUILT	(E) LCP-001	(E) & 1"		12-#14, #14G		(E) SEISMIC VALVE 1 CP
C-010	PLC (RTU) REBUILT	(E) LCP-002	(E) & 1"		12-#14, #14G		(E) SEISMIC VALVE 2 CP
C-011	PLC (RTU) REBUILT	ATS	3/4"		4-#14, #14G		JA, JN
C-012A	SB102	STANDBY GENERATOR	3/4"		4-#14, #14G		JSF, JSR
C-012B	PLC (RTU) REBUILT	SB102	1"		12-#14, #14G		JSR,JSF, LSH, LSL, MIXER 2 CP STATUS
C-013	SB102	STANDBY GENERATOR	3/4"		4-#14, #14G		LSL, LSH
C-014A	SB102	STANDBY GENERATOR	3/4"		2-#14, #14G		JCR
C-014B	ATS	SB102	3/4"		2-#14, #14G		JCR
C-015	COCHRAN TANK MCC	PLC (RTU) REBUILT	2"		24-#24, #14G		
S-001A	JB-001D	LIT-001C	1"			2/C#16(SH)	TANK 1C LIT
S-001B	JB-001D	SB101	1"		2-#14, #14G	2/C#16(SH)	TANK 1C LIT, INSTRUSION SWITCH
S-001C	PLC (RTU) REBUILT	SB101	2"		8-#14, #14G	2/C#16(SH)	TANK 1C LIT, INTRUSION SW, ALT VALVE 3, MIXER 3 CP STATUS
S-002	PLC (RTU) REBUILT	(E) LIT	(E) & 1"			2/C#16(SH)	AT (E) TANKS 1A AND 1B
S-003	COCHRAN TANK MCC	PLC (RTU) REBUILT	1"			CAT6	POWER MONITOR
S-004	CAMERA PoE SWITCH	VIDEO STORAGE BLACKCUBE	1"			CAT6	
S-005	CAMERA PoE SWITCH	VIDEO CAMERA	1"			CAT6	
S-006	CAMERA PoE SWITCH	VIDEO CAMERA	1"			CAT6	
S-007A	SB101	VIDEO CAMERA	1"			CAT6	
S-007B	CAMERA PoE SWITCH	SB101	1"			CAT6	
S-008A	SB102	VIDEO CAMERAS	1"			2 - CAT6	
S-008B	CAMERA PoE SWITCH	SB102	1"			2 - CAT6	
S-010	SEISMIC CONTROLLER 3, LCP-001CA	(E) SEISMIC CONTROLLER 2, LCP-002	2"			VENDOR CABLES	SEISMIC PROBE

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02/10/23

DESIGNED SLS
DRAWN JMO/JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

COCHRAN TANK CONDUIT SCHEDULE

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 48 OF 57
E-07

PULLBOX SCHEDULE (A)	
PULLBOX #	SIZE
PB101	2' X 3'
PB102	2' X 3'
SB101	2' X 3'
SB102	2' X 3'

GENERAL SHEET NOTES

1. SEE CIVIL SHEET C-13 FOR GENERATOR AND TRANSFORMER PAD LOCATIONS.
2. SEE CIVIL SHEET C-11 FOR DEMO AND NEW PAVING AROUND CONDUIT TRENCHING.
3. ALL OPENINGS IN CONCRETE WATER TANK MUST BE COORDINATED WITH TANK MANUFACTURER PRIOR TO AN APPROVED WATER TANK SUBMITTAL.

SHEET KEYNOTES

A. MINIMUM SIZE PULLBOX

B. PROVIDE PULLBOX WITH TRAFFIC-RATED COVERS.

C. ROUTE MIXER CABLE THROUGH TANK PENETRATION AND INTO JUNCTION BOX. LAND MIXER POWER CABLE ON END LINE TERMINATION CONNECTOR TO ASSURE QUICK DISCONNECTING OF PORTABLE MIXER AND FOR MAINTENANCE.

D. INSTALL MIXER JUNCTION BOX ON EXTERIOR TANK FOR MIXER AND LEVEL PROBE. ROUTE MIXER FLEXIBLE CABLE THROUGH OPENING. SEAL OPENING WITH FLEXIBLE SEALANT OR EQUAL.

E. TERMINATE LEVEL PROBE VENDOR CABLE IN MIXER JUNCTION BOX FOR QUICK DISCONNECTING OF LEVEL PROBE.

F. INSTALL SIGNAL JUNCTION BOX ON EXTERIOR CONCRETE FOR 24VDC LEVEL TRANSMITTER AND HATCH/GATE ALARMS. TERMINATE VENDOR CABLES IN JUNCTION BOX FOR QUICK DISCONNECTING OF EQUIPMENT.

G. ROUTE CONDUIT DOWN TANK NEAR LADDER. USE EXISTING MOUNTS WHERE POSSIBLE. SEE DETAIL 1 ON SHEET E-10.

H. INSTALL MIXER JUNCTION BOX ON (E) RAILING PER DETAIL 3 ON SHEET E-11. ROUTE MIXER CABLE FROM MOTOR PER MANUFACTURER RECOMMENDATIONS, THROUGH HATCH CURB, THEN EXTEND CONDUIT TO RAILING MOUNTED JUNCTION BOX FOR CABLE TERMINATION.

I. SEE DETAIL 3 ON SHEET E-10. SEAL PENETRATION THROUGH HATCH CURB.

J. ROOF PIPE SLEEVE SHALL BE MOUNTED BETWEEN COLUMNS TO ASSURE ULTRASONIC WAVE DOS NOT BOUNCE OFF OF THE COLUMNS. COORDINATE WITH CONTRACTOR PRIOR TO CONCRETE TANK SUBMITTAL.

0 10 20 30
1"=20'

(E) GATES
CATV
FUEL TANK PAD
STANDBY GENERATOR
PG&E TRANSFORMER PAD
PER PG&E GREENBOOK REQUIREMENTS
(E) PG&E POLE
(oh)
P-004A
P-029A
C-012A
C-013
C-014A
P-004B
P-015B
P-029B
P-032
C-014B
P-032
S-008A
B PB102
CAMERA DIRECTED
TOWARDS GATE
CAMERA DIRECTED AT
(E) TANK 1B LADDER
2 E10
N 16'-0"
P-015A C-003
(E) MCSD BOOSTER PUMP STATION
SEE SHEET E-05
PB101
ALTITUDE VALVE 3
FCV-001C
ZSC 001C
SEISMIC VALVE 3
SCV-001C
SB101
P-020A
C-005A
C-006A
P-020B
C-005B
P-032
S-007A
CAMERA DIRECTED AT
TANK 1C LADDER
2 E10
MIXER CP2
LCP-001B
B SB102
S-008B
C-012B
MIXER CP 3 LCP-001CB
G (E) LADDER
3 E10
J
H JB-001B
M
I
MIXER 2
MX-001B
(E) HATCH
P-013
C-002
MIXER CP 1
LCP-001A
H JB-001A
J
M
I
MIXER 1
MX-001A
(E) HATCH
G (E) LADDER
3 E10
P-017B
P-020B
P-031
P-032
S-001C
S-007B
C-005B
C-008C
N 16'-0"
1 E10
P-020B
P-017A
S-001B
C-004
C-008B
HATCH
ZS 001CA
MIXER 3 (BELOW) C
MX-001C
M
E
J
J
J
LSHH 001C
LIT 001C
F JB-001D
JB-001C D
3 E11
ANCHOR CONDUIT 12" FROM EACH END AND THEN EVERY 10" MAXIMUM. INSTALL SINGLE HOLE ANCHOR STRAPS AND ATTACH WITH 1/2" DIA CONCRETE ANCHOR WEDGES.
TANK 1C
ZS 001CB
HATCH
JB-001E
J
LADDER
ZS 001CC
(E) TANK 1B
(E) TANK 1A
60'± CONIFEROUS

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

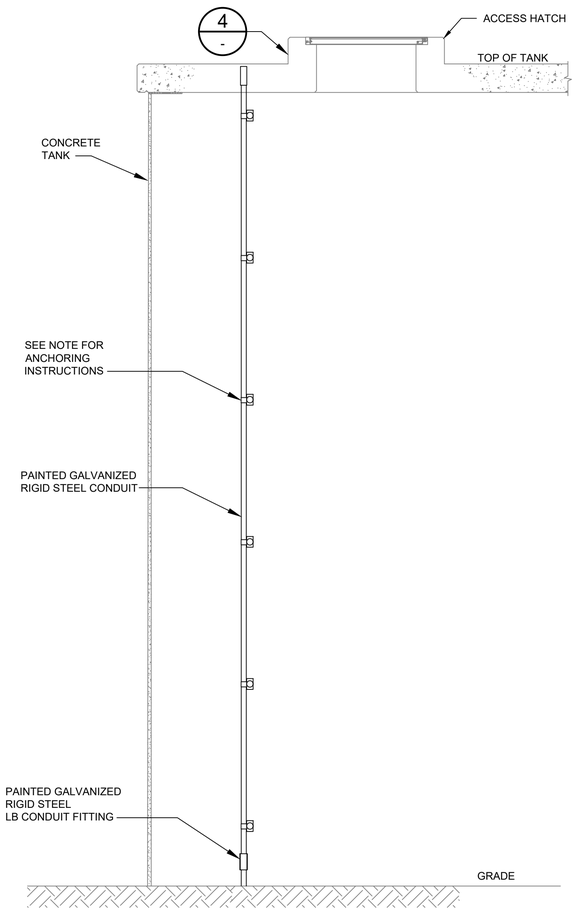
REGISTERED PROFESSIONAL ENGINEER SANDY SCHUBERT No. E15453 Exp. 6/30/23 ELECTRICAL STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

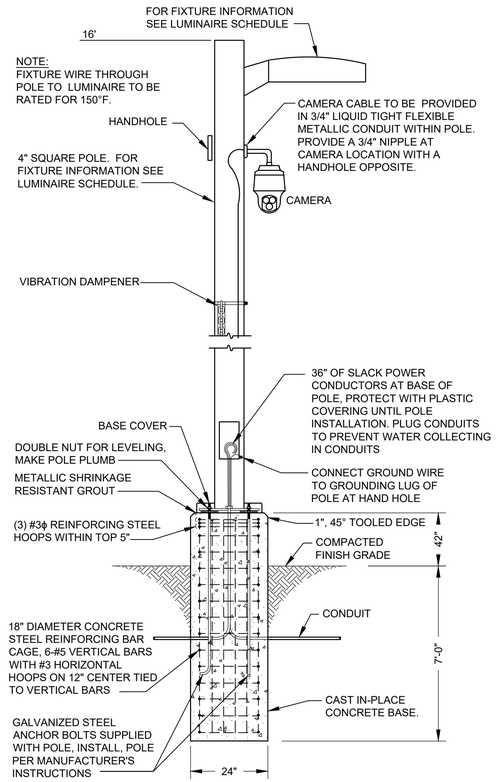
COCHRAN
ELECTRICAL SITE PLAN

SCALE 1" = 20'
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 49 OF 57
E-08

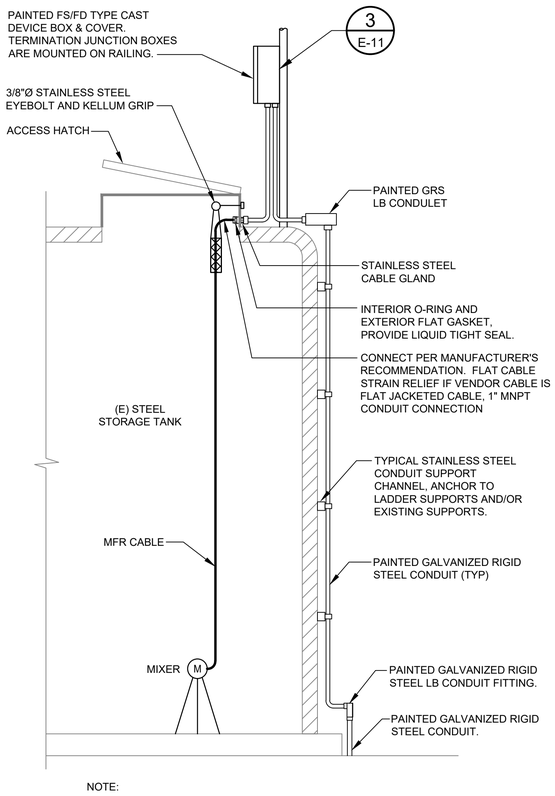


NOTE:
WHERE SS BOLTS ARE PLACED IN THE WALL EXTERIOR, DRILL AND PLACE AFTER WRAPPING AND BEFORE FINAL SHOTCRETING. TAKE EXTREME CARE TO AVOID DAMAGING PRESTRESSING STRAND. PLACE A STEEL PIPE AROUND THE DRILL BIT TO KEEP BIT FROM COMING IN CONTACT WITH THE STRAND. INSERT BOLTS BEFORE SHOTCRETING TO MARK HOLE LOCATION. PACK HOLE IN SHOTCRETE WITH EPOXY BEFORE FINAL INSTALLATION OF BOLTS TO INSURE COMPLETE COVERAGE OF STRAND.

1 E-08 CONDUITS AND SUPPORTS MOUNTING ON CONCRETE TANK
SCALE: NTS

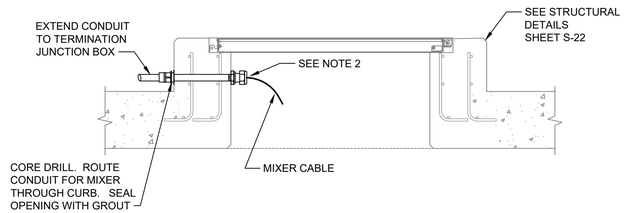


2 E-08 POLE - FIXTURE AND CAMERA MOUNTING
SCALE: NTS



NOTE:
1. CONTRACTOR TO REPAIR COATING IN ACCORDANCE WITH SECTION 09960.

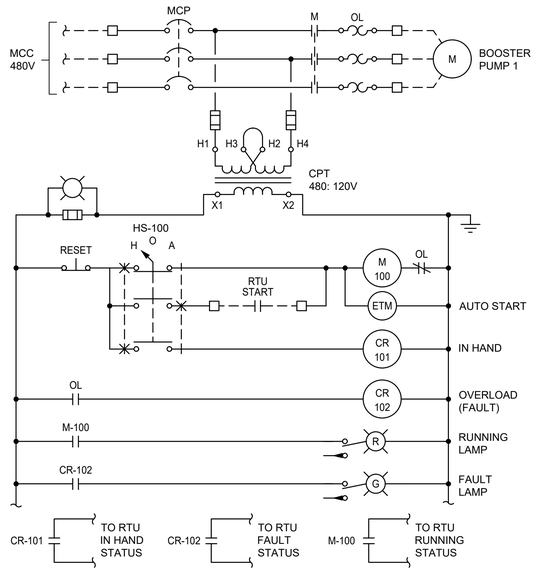
3 E-08, E-20 CONDUIT SUPPORTS AT (E) LADDER AND CONDUIT STUB-UPS AT (E) TANK
SCALE: NTS



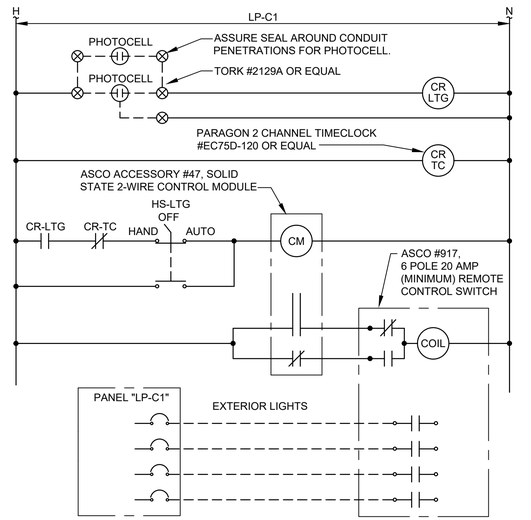
NOTES:
1. MOUNT 316 SS HOOK CABLE BRACKET ON NON-HINGE SIDE FOR MIXER CABLE. COIL EXCESS AROUND HOOK BRACKET AND EXTEND TO MIXER CABLE OPENING IN HATCH CONCRETE CURB. USE SS CONCRETE ANCHORS FOR MOUNTING BRACKET.
2. INSTALL PER MANUFACTURER'S RECOMMENDATION. IF MIXER CABLE IS FLAT JACKETED CABLE, PROVIDE FLAT CABLE STRAIN RELIEF, 1" MNPT CONDUIT CONNECTION, OTHERWISE INSTALL STAINLESS STEEL GLAND WITH WIRE MESH.

4 - MIXER CABLE DETAIL
SCALE: NTS

GENERAL SHEET NOTES
1. ALL INTERIOR AND EXTERIOR CONDUITS SHALL BE PAINTED PER SPECIFICATION SECTION 09960 INCLUDING FITTINGS, CONNECTORS AND SUPPORTS.



WIRING DIAGRAM
TYPICAL:
BOOSTER PUMP 2, P-200
BOOSTER PUMP 3, P-300



RELAYS AND TIMECLOCKS SHALL BE MOUNTED IN A 24"Hx20"Wx6"D NEMA 12 ENCLOSURE, HOFFMAN #A-242006LP OR EQUAL. PROVIDE WITH PADLOCKING HANDLE #A-L1A AND MOUNTING PANEL.

PHOTOCELL-TIMER CONTROL DIAGRAM

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 1"
0 25mm
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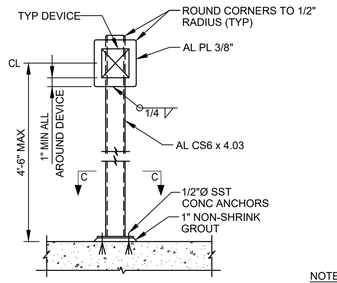
REGISTERED PROFESSIONAL ENGINEER — SANDY SCHUMER — No. E15453 — Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

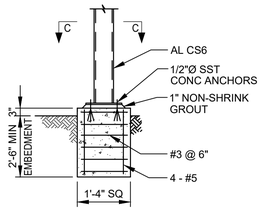
McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

ELECTRICAL DETAILS AND WIRING DIAGRAMS

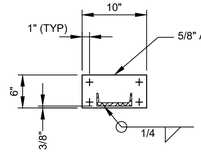
SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 50 OF 57
E-10



ELEVATION A



ELEVATION B

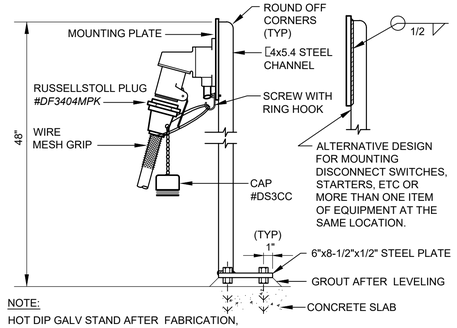


SECTION C-C

NOTES:
1. WHERE SEPARATE FOUNDATION IS REQD, SEE ELEVATION B.
2. COAT ALUMINUM SURFACES IN CONTACT W/CONCRETE PER SPECS.
3. USE SST FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.

DEVICE SUPPORT AND MOUNTING — E-0103

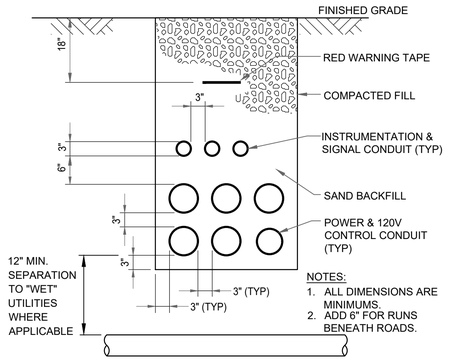
SCALE: NTS
REV 00



NOTE:
HOT DIP GALV STAND AFTER FABRICATION, DRILLING AND WELDING. ALL MOUNTING HARDWARE SHALL BE GALV STEEL.

WEATHERPROOF RECEPTACLE — E-0108

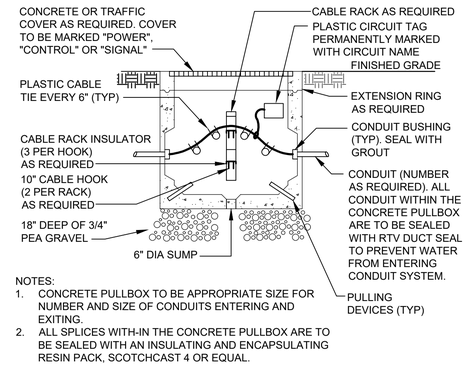
SCALE: NTS
REV 00



NOTES:
1. ALL DIMENSIONS ARE MINIMUMS.
2. ADD 6" FOR RUNS BENEATH ROADS.

TYPICAL TRENCH — E-0202

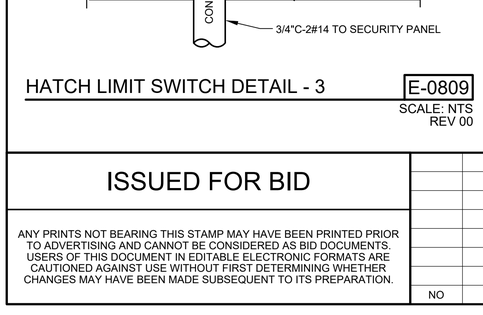
SCALE: NTS
REV 00



NOTES:
1. CONCRETE PULLBOX TO BE APPROPRIATE SIZE FOR NUMBER AND SIZE OF CONDUITS ENTERING AND EXITING.
2. ALL SPLICES WITH-IN THE CONCRETE PULLBOX ARE TO BE SEALED WITH AN INSULATING AND ENCAPSULATING RESIN PACK, SCOTCHCAST 4 OR EQUAL.

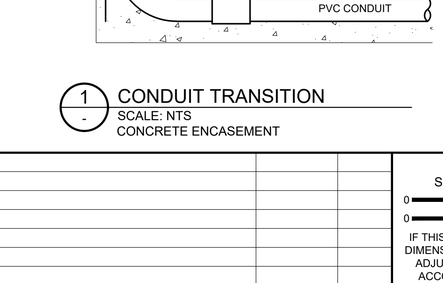
HANDHOLE/PULLBOX INSTALLATION — E-0207

PRECAST CONCRETE
SCALE: NTS
REV 00



GROUND ROD AND BOX — E-0303

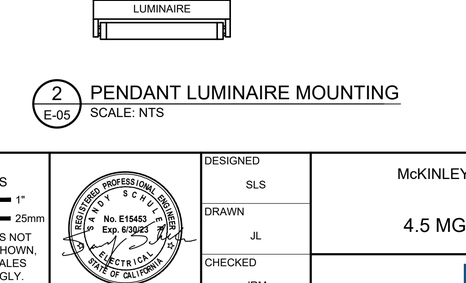
WITH BARE COPPER CONNECTION
SCALE: NTS
REV 00



NOTE: THE GROUND RODS SHALL BE DRIVEN INTO THE SOIL WITHOUT EXCAVATION.

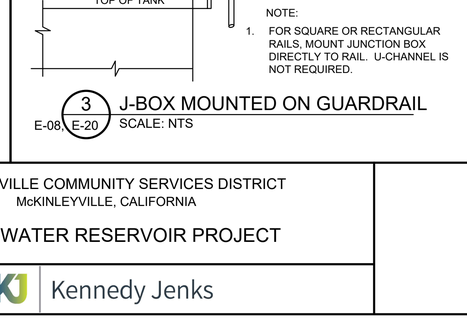
GROUND TEST WELL — E-0306

SCALE: NTS
REV 00



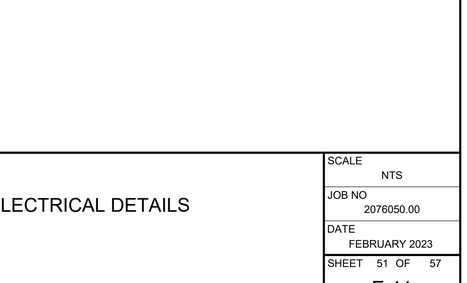
EXT. WALL LUMINAIRE MOUNTING — E-0502A

SCALE: NTS
REV 00



FIELD MOUNTED DISCONNECT SWITCH — E-0803

SCALE: NTS
REV 00



SIDE VIEW

ENCLOSURE SUPPORT — E-0804

SCALE: NTS
REV 00

HATCH LIMIT SWITCH DETAIL - 3 — E-0809

SCALE: NTS
REV 00

1 / - CONDUIT TRANSITION
SCALE: NTS
CONCRETE ENCASEMENT

2 / E-05 PENDANT LUMINAIRE MOUNTING
SCALE: NTS

NOTE:
1. FOR SQUARE OR RECTANGULAR RAILS, MOUNT JUNCTION BOX DIRECTLY TO RAIL. U-CHANNEL IS NOT REQUIRED.

3 / E-08, E-20 J-BOX MOUNTED ON GUARDRAIL
SCALE: NTS

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NO	REVISION	DATE	BY

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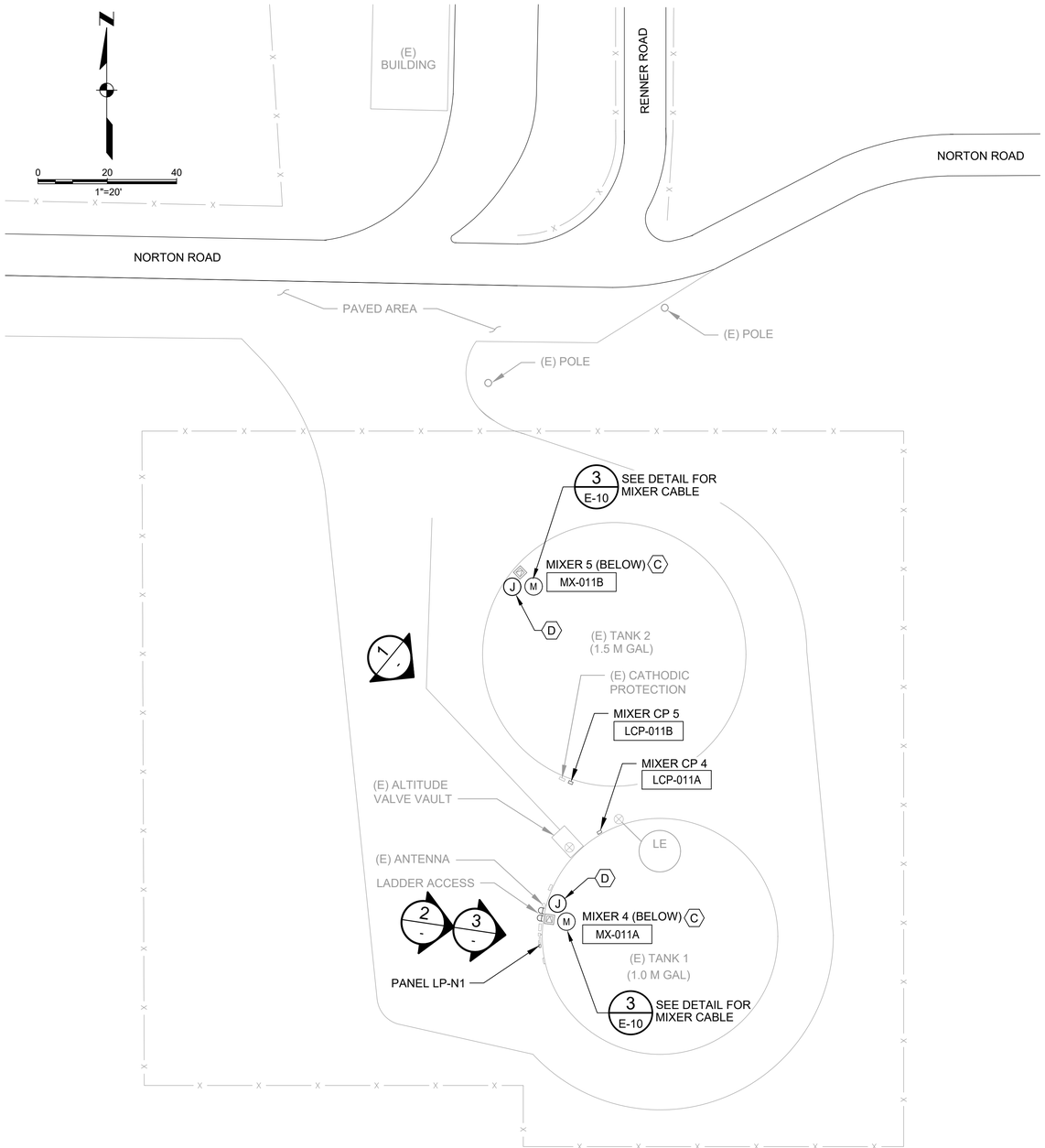
REGISTERED PROFESSIONAL ENGINEER — SANDY SCHUETTER — No. E15453 Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

ELECTRICAL DETAILS

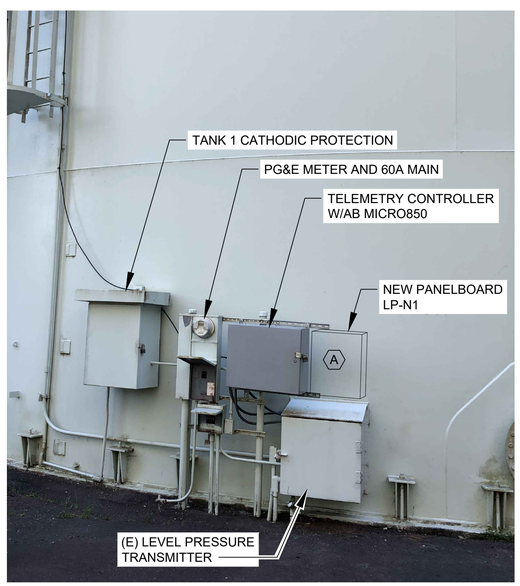
SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 51 OF 57
E-11



ELECTRICAL PLAN
SCALE: 1" = 20'-0"

1 - PHOTO DETAIL 1

2 - PHOTO DETAIL 2



3 - PHOTO DETAIL 3

GENERAL SHEET NOTES

1. SEE CIVIL SHEET C-19 FOR DEMO AND NEW PAVING AROUND CONDUIT TRENCHING.

SHEET KEYNOTES

A. INSTALL PANELBOARD SUCH THAT IT LINES UP WITH LEVEL/PRESSURE TRANSMITTER ENCLOSURE BELOW AND TO MEET NEC 110.26 WORKING SPACE CLEARANCE.

B. FIELD VERIFY. FOR BID PURPOSES ASSUME 2#12, #12G FOR 300'.

C. ROUTE MIXER CABLE FROM MOTOR PER MANUFACTURER RECOMMENDATIONS, THROUGH (E) HATCH CURB, THEN EXTEND CONDUIT TO RAILING MOUNTED JUNCTION BOX FOR CABLE TERMINATION. LAND MIXER POWER CABLE ON END LINE TERMINATION CONNECTOR TO ASSURE QUICK DISCONNECTING OF PORTABLE MIXER AND FOR MAINTENANCE.

D. INSTALL MIXER JUNCTION BOX ON (E) RAILING PER DETAIL 3 ON SHEET E-11. SEAL OPENING WITH FLEXIBLE SEALANT OR EQUAL.

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REGISTERED PROFESSIONAL ENGINEER — SANDY SCHULTZ — No. E15453 Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

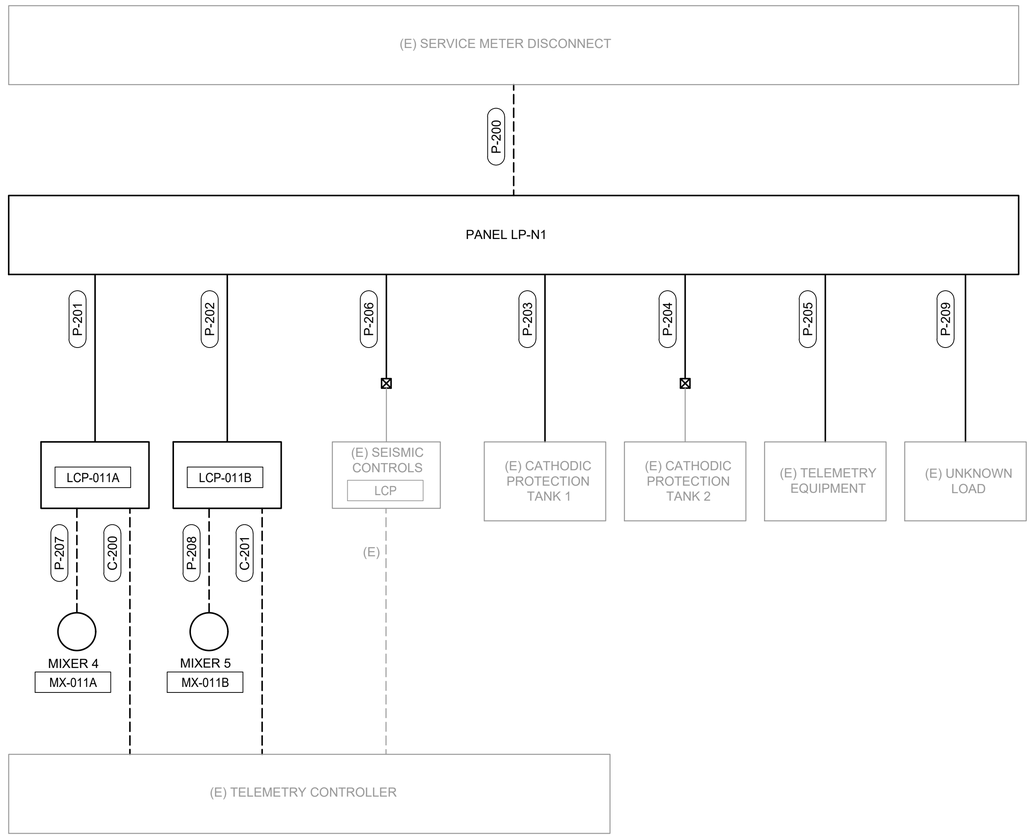
DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

NORTON ELECTRICAL PLAN

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 52 OF 57
E-20

Plot Date: 2/7/2023 1:46 PM
User: JEAN LEIPZIG
pw:\\kjce-pw.bentley.com:kjce-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Electrical\2076050.00-E-20



NORTON ROAD - CONDUIT BLOCK DIAGRAM

LEGEND:

⊠ INTERCEPTION OF CONDUIT

PANELBOARD LP-N1					FED FROM: (E) SERVICE DISCONNECT				
240	/120 VOLTS, SINGLE PHASE, 3 WIRE	BUS: 100A		AIC: 10KA		MAIN: 60A/2P	MOUNTING: SURFACE		
CKT. NO.	DESCRIPTION	CONNECTED KVA		TRIP AMPS/ POLES	CKT. NO.	DESCRIPTION	CONNECTED KVA		TRIP AMPS/ POLES
		A	B				A	B	
1	SEISMIC CONTROLS - LCP	0.2		20/1	2	LCP-011A (MIXER 4) 1.5 HP	2.4		40/1
3	CATHODIC PROTECTION TANK 1		0.2	20/1	4	LCP-011B (MIXER 5) 1.5 HP		2.4	40/1
5	CATHODIC PROTECTION TANK 2	0.2		20/1	6	TELEMETRY EQUIPMENT	0.1		20/1
7	SPARE		0.0	20/1	8	UNKNOWN LOAD		0.0	20/1
9	SPARE	0.0		20/1	10	SPARE	0.0		20/1
11	SPARE		0.0	20/1	12	SPARE		0.0	20/1
13	SPARE	0.0		20/1	14	SPARE	0.0		20/1
15	SPARE		0.0	20/1	16	SPARE		0.0	20/1
17	SPARE	0.0		20/1	18	SPARE	0.0		20/1
19	SPARE		0.0	20/1	20	SPARE		0.0	20/1
21	SPARE	0.0		20/1	22	SPARE	0.0		20/1
23	SPARE		0.0	20/1	24	SPARE		0.0	20/1
PHASE SUBTOTALS (KVA):		0.4	0.2				2.5	2.4	
PHASE TOTALS (KVA):							2.9	2.6	
TOTAL KVA:								5.5	KVA
TOTAL AMPERES:								23	A

CONDUIT AND WIRE SCHEDULE

NUMBER	FROM	TO	SIZE (")	POWER	CONTROL	SIGNAL	COMMENTS
NORTON ROAD WATER RESERVOIRS							
P-200	(E) SERVICE METER DISCONNECT	PANEL LP-N1	1"	2-#6, #6G			
P-201	PANEL LP-N1	LCP-011A	3/4"	2-#8, #10G			MIXER 4 LCP
P-202	PANEL LP-N1	LCP-011B	3/4"	2-#8, #10G			MIXER 5 LCP
P-203	PANEL LP-N1	(E) CATHODIC PROTECTION TANK 1	3/4"	2-#12, #12G			
P-204	PANEL LP-N1	(E) CATHODIC PROTECTION TANK 2	3/4"	2-#12, #12G			
P-205	PANEL LP-N1	(E) TELEMETRY EQUIPMENT	3/4"	2-#12, #12G			
P-206	PANEL LP-N1	(E) LCP	(E) & 3/4"	2-#12, #12G			(E) SEISMIC VALVE 4 CP
P-207	LCP-011A	MX-011A	3/4"	2-#8, #10G			MIXER 4 AT (E) TANK 1
P-208	LCP-011B	MX-011B	3/4"	2-#8, #10G			MIXER 5 AT (E) TANK 2
P-209	PANEL LP-N1	(E) UNKNOWN LOAD	3/4"	2#12, #12G			
C-200	(E) TELEMETRY CONTROLLER	LCP-011A	1"		4-#14, #14G		MIXER 4 LCP
C-201	(E) TELEMETRY CONTROLLER	LCP-011B	1"		4-#14, #14G		MIXER 5 LCP

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0 25mm
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REGISTERED PROFESSIONAL ENGINEER SANDY SCHULTZ No. E15451 Exp. 6/30/25 ELECTRICAL STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

NORTON
CONDUIT ROUTING DIAGRAM AND SCHEDULES

SCALE NTS
JOB NO 2076050.00
DATE FEBRUARY 2023
SHEET 53 OF 57
E-21

Plot Date: 2/7/2023 1:47 PM
User: JEAN LEIPZIG
pw:\\kjoe-pw.bentley.com:kjoe-pw\Documents\Clients\McKinleyville Community Svcs Dist (CA)\Projects\4.5 MG Water Reservoir Project_2076050.00\10-Design\10.06-Drawings\Electrical\2076050.00-E-21

INSTRUMENT SYMBOL IDENTIFIERS

J-1: IDENTIFICATION LETTERS (SEE TABLE BELOW)
J-2: LOOP NUMBER
J-3: VENDOR DESIGNATOR (NOTE 3)
J-4: FUNCTION BLOCK (SEE TABLE BELOW)
J-5: PANEL NUMBER
J-6: HANDSWITCH DESIGNATOR (SEE BELOW)

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL	DAMPER		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER		SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, OR LOUVER	
W	WEIGHT, FORCE		WELL PROBE		
X	UNCLASSIFIED	X AXIS	ACCESSORY DEVICES UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

GENERAL INSTRUMENT OR FUNCTION SYMBOLS	FIELD MOUNTED	PRIMARY LOCATION ACCESSIBLE TO OPERATOR	AUXILIARY LOCATION ACCESSIBLE TO OPERATOR	NORMALLY INACCESSIBLE OR BEHIND THE PANEL
DISCRETE INSTRUMENTS	- -	- -	X X	X X
SHARED DISPLAY, SHARED CONTROL	- -	- -	X X	X X
COMPUTER FUNCTION	- -	- -	X X	X X
PROGRAMMABLE LOGIC CONTROL	- -	- -	X X	X X

J-4 FUNCTION BLOCK DESIGNATORS

Σ	SUMMING	√	ROOT EXTRACTION
△	DIFFERENCE	√	SQUARE ROOT
∫	INTEGRAL	x^n	EXPONENTIAL
d/dt	DERIVATIVE	>	HIGH SELECTING
×	MULTIPLYING	<	LOW SELECTING
÷	DIVIDING	±	BIAS
f(x)	CONVERT:	F(X)	NONLINEAR OR UNSPECIFIED FUNCTION

* E - VOLTAGE
I - CURRENT
P - PNEUMATIC
A - ANALOG
B - BINARY
H - HYDRAULIC
O - ELECTROMAGNETIC, SONIC
R - RESISTANCE (ELECT)
D - DIGITAL

J-6 HANDSWITCH DESIGNATORS

HOA	HAND-OFF-AUTO	LR	LOCAL-REMOTE
HOR	HAND-OFF-REMOTE	OC	OPEN-CLOSE
F-R	FORWARD-REVERSE	OCA	OPEN-CLOSE-AUTO
1-0	ON-OFF	A/M	AUTO-MANUAL

INSTRUMENT SERVICES

AS — INSTRUMENT AIR SUPPLY (NOTE 4)

ES — 120 VAC ELECTRICAL SERVICE (DIFFERENT VOLTAGES ARE SPECIFICALLY NOTED)

FLOW PRIMARY ELEMENTS

- ORIFICE PLATE
- SINGLE PORT PITOT TUBE OR PITOT-VENTURI TUBE
- VENTURI TUBE
- AVERAGING PITOT TUBE
- FLUME
- WEIR
- TURBINE OR PROPELLER-TYPE PRIMARY ELEMENT
- THERMAL MASS FLOWMETER
- POSITIVE DISPLACEMENT TYPE FLOW TOTALIZING INDICATOR
- VORTEX SENSOR
- TARGET TYPE SENSOR
- FLOW NOZZLE
- MAGNETIC FLOWMETER
- SONIC FLOWMETER
- ROTAMETER
- ROTAMETER WITH INTEGRAL VALVE
- EDUCTOR

LINES

- MAIN PROCESS
- SECONDARY PROCESS
- INSTRUMENT CONNECTION
- EQUIPMENT ENCLOSURE
- EQUIP ID — EQUIPMENT TO/FROM IDENTIFIER
- SH (#) — REFERENCE SHEET/GRID NUMBER
- SYSTEM — SYSTEM DESCRIPTOR
- TOP / MIDDLE / BOTTOM — AAABBBCCC — EQUIPMENT TAG (SEE EQUIPMENT ASSET TAGGING STANDARD)
  - THREE DIGIT ITEM NUMBER
  - THREE DIGIT EQUIPMENT CODE
  - THREE DIGIT SYSTEM SERVICE CODE
  - THREE DIGIT PLANT ZONE NUMBER
- 24" BW
  - PIPE SYSTEM
  - PIPE SIZE IN INCHES
- ELECTRICAL SIGNAL
- SOFTWARE OR DATALINK
- PNEUMATIC
- HYDRAULIC
- CAPILLARY TUBE
- ELECTROMAGNETIC OR SONIC (GUIDED)

MECHANICAL — OR — CONNECTED
NOT CONNECTED
ELECTRICAL

VALVES

- GATE VALVE / GATE VALVE CLOSED
- GLOBE VALVE
- PLUG VALVE / PLUG VALVE CLOSED
- CHECK VALVE
- DUCKBILL CHECK VALVE
- PINCH VALVE
- DIAPHRAGM VALVE
- BUTTERFLY VALVE
- BALL VALVE / BALL VALVE CLOSED
- BALL-CHECK VALVE
- MUD VALVE
- NEEDLE VALVE
- PLUG (COCK)
- PRESSURE REDUCING REGULATING VALVE, SELF-CONTAINED
- BACK PRESSURE REGULATING VALVE, SELF-CONTAINED
- PRESSURE REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
- 3-WAY VALVE
- 4-WAY VALVE
- ANGLE VALVE
- PRESSURE RELIEF VALVE
- * FC = FAIL CLOSED, FO = FAIL OPEN, LC = LOCKED CLOSED, LO = LOCKED OPEN
- SHADING INDICATES PORT TO BE CLOSED DURING NORMAL OPERATION. DOT INDICATES PORT TO BE CLOSED DURING ALTERNATE OPERATION.
- AIR AND VACUUM RELIEF VALVE (AVRV)
- BACKFLOW PREVENTER

VALVE OPERATORS

- DIAPHRAGM
- CYLINDER OPERATOR
- DIAPHRAGM PRESSURE BALANCED
- S — SOLENOID
- M — MOTOR
- SV — SOLENOID VALVE

PLC INPUT/OUTPUT

- DISCRETE INPUT
- ANALOG INPUT
- DISCRETE OUTPUT
- ANALOG OUTPUT

MISCELLANEOUS

- FLANGE
- UNION
- Y STRAINER
- FLOW STRAIGHTENING VANE
- TEE
- SCREWED CAP
- WELDED CAP
- BLIND FLANGE
- REDUCER
- HB — HOSE BIBB CONNECTION
- EXPANSION JOINT
- FLEXIBLE COUPLING
- FLANGED COUPLING ADAPTER
- SLUICE GATE OR SLIDE GATE
- DRAIN
- INSTRUMENT
- DIAPHRAGM SEAL
- RUPTURE DISK, PRESSURE
- RUPTURE DISK, VACUUM
- P — PURGE
- THERMOMETER WELL
- CALIBRATION CYLINDER
- PULSATION DAMPER
- AIR RELIEF VALVE
- AIR RELEASE
- LEVEL PROBE
- CHEMICAL DIFFUSER
- STATIC MIXER
- INJECTOR
- EDUCTOR
- INTERLOCK. NUMBER IS THE CROSS REFERENCE TO A SPECIFIC ELEMENTARY DIAGRAM OR TO A SPECIFIC CONTROL STRATEGY DESCRIBED IN THE SPECS
- * AV - AIR VALVE, F - FILTER, T - TRAP, FH - FIRE HYDRANT
- WATER LINE
- GRAVITY FLOW

EQUIPMENT

- M — MIXER
- M — VERTICAL TURBINE PUMP
- M — SUBMERSIBLE PUMP
- PUMP BLOWER
- PUMP
- METERING PUMP
- PUMP PROGRESSIVE CAVITY
- ROTARY PUMP
- PERISTALTIC PUMP

TYPICAL CONNECTION

- IN-LINE DEVICE
- DIRECT CONNECTION TO PROCESS
- TEMPERATURE ELEMENT WITH WELL
- RADIATION OR SONIC SENSING
- FILLED SYSTEM, DIAPHRAGM SEAL CONNECTION

NOTES:

1. THIS IS A GENERALIZED LEGEND SHEET.
2. SEE ALSO ISA S5.1, S5.3 AND S7.3.
3. INSTRUMENTS MARKED WITH AN ASTERISK ON THE PID ARE FURNISHED WITH THE EQUIPMENT.
4. REFER TO ISA RP7.7 FOR INSTRUMENT AIR QUALITY STANDARDS.

ISSUED FOR BID

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NO	REVISION	DATE	BY

SCALES
0 — 1"
0 — 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

REGISTERED PROFESSIONAL ENGINEER — RANDY SCHULZ — No. E15453 — Exp. 6/30/23 — ELECTRICAL — STATE OF CALIFORNIA
02/10/23

DESIGNED JL
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

P&ID LEGEND AND ABBREVIATIONS

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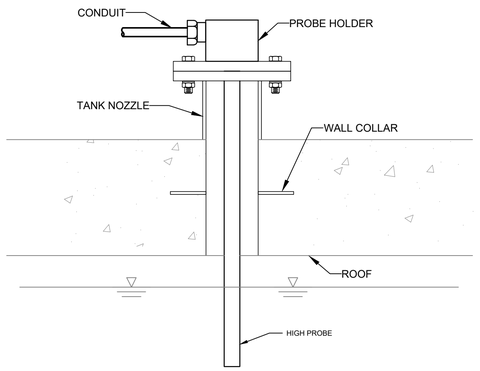
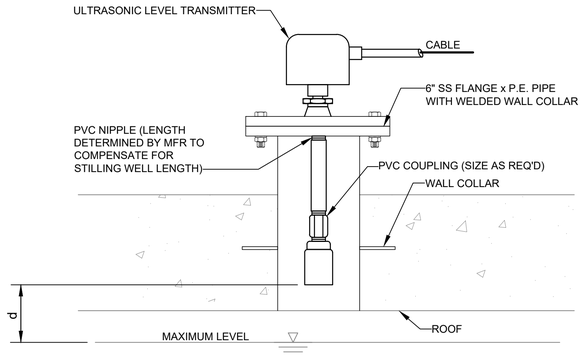
SHEET 54 OF 57
I-01



1 - CONDUCTIVITY LEVEL SWITCH
SCALE: NTS



NOTES:

1. DISTANCE FROM TRANSDUCER SENSOR HEAD TO MAXIMUM LIQUID LEVEL (d) AS REQUIRED BY TRANSDUCER MANUFACTURER FOR PROPER LEVEL MEASUREMENT, MINIMUM 10 INCHES.
2. PROVIDE AN UNOBSTRUCTED SOUND PATH PERPENDICULAR TO THE LIQUID SURFACE, PER TRANSDUCER MANUFACTURER INSTRUCTIONS.

2 - ULTRASONIC LEVEL TRANSMITTER - FLANGED
SCALE: NTS

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0 1"
0 25mm
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REGISTERED PROFESSIONAL ENGINEER SANDY SCHULTZ No. E15453 Exp. 6/30/23 ELECTRICAL STATE OF CALIFORNIA
02/10/23

DESIGNED SLS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

INSTRUMENTATION DETAILS AND NETWORK OVERVIEW

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I-02

(E) SCADA

REBUILT PLC

GEN RUN (YJ) — GEN FAIL (YA)

UTILITY POWER FAILURE (JA) — ATS STANDBY (YJ) — LOW FUEL (YLL) — GEN RUN (YJ) — GEN FAIL (YA) — FUEL LEAK (YLH)

ATS: JA, JN, I

GENERATOR: JCR GEN START, JSR GEN RUN, JSF GEN FAIL

BELLY TANK: LSL FUEL LOW, LSH FUEL LEAK

STANDBY GENERATOR

24 VDC

(E) SEISMIC VALVE 1
TYPICAL FOR (E) SEISMIC VALVE 2

SEISMIC: FAIL YA 001A, CLOSE ZIC 001A, OPEN ZIO 001A, ALARM YA 001A, CLOSE ZCC 001A, OPEN ZCO 001A

SEISMIC SENSOR AIT 001

120 VAC (E) LCP-001

120 VAC (E) LCP-002

MIXER 1: RUN XI 001A, FAULT YA 001A

LCP-001A: VFD, SS 001A SPEED POT, 120V, YLR 001A G, YLS 001A R, HS 001A ON/OFF

MIXER 2: RUN XI 001B, FAULT YA 001B

LCP-001B: VFD, SS 001B SPEED POT, 120V, YLR 001B G, YLS 001B R, HS 001B ON/OFF

MIXER 1 MX-001A — TANK 1A — (E) 8" OF

MIXER 2 MX-001B — TANK 1B — (E) 8" OF

LIT

(E) 6" TD — (E) 8" TD — (E) 8" TD

LEVEL LI 001A

ALTITUDE VALVE 3 CLOSED ZIC 001C

SEISMIC VALVE 3: CLOSE CALL ZCC 001C, OPEN CALL ZCO 001C, OPEN ZIO 001C, CLOSE ZIC 001C, FAIL YA 001C, SEISMIC ALARM YA 001C

LEVEL LI 001C — LIT (DISPLAY ON FACE)

MIXER 3: RUN XI 001C, FAULT YA 001C, INTRUSION ALARM ZA 001C, OVER FLOW ALARM LAHH 001C

LCP-001CB: 120V, VFD, SS 001C SPEED POT, YLR 001C G, YLS 001C R, HS 001C ON/OFF

FI 001C — (E) DATA INDUSTRIAL FLOW MONITOR

LADDER ACCESS

ZS 001CC — ZS 001CB — LIT 001C — HATCH

ZS 001CA — HATCH

LSHH 001C 120V

MIXER 3 MX-001C — TANK 1C

18" W — GATE-001C — 12" OF

1" W — 1/2" W (SAMPLE TAP)

LCP-001CA 120V

YLO 001C, HS 001C, LOR; YLC 001C, HS 001C, OC

ZSC 001C

ALTITUDE VALVE 3 FCV-001C

SEISMIC VALVE 3 SCV-001C

8" W

18" W — 12" W — 18" W — 12" W — 18" W

8" UD — 8" UD

CB #1 — 8" TD

NEUTRALIZATION MANHOLE — 18" TD — TO STORM WATER DISCHARGE

TO / FROM DISTRIBUTION SYSTEM — (E) 18" W

(E) 12" W — (E) ALTITUDE VALVE 1 FCV-001A — (E) 8" W

(E) 12" W — (E) SEISMIC VALVE 1 SCV-001A — (E) 18" W

(E) SEISMIC VALVE 2 SCV-001B — (E) 18" W

(E) 8" TD — (E) 8" TD

(E) 6" W — (E) 6" W — TO (E) BOOSTER STATION

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02/10/23

DESIGNED CLW/SS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT
Kennedy Jenks

P&ID
COCHRAN WATER RESERVOIRS

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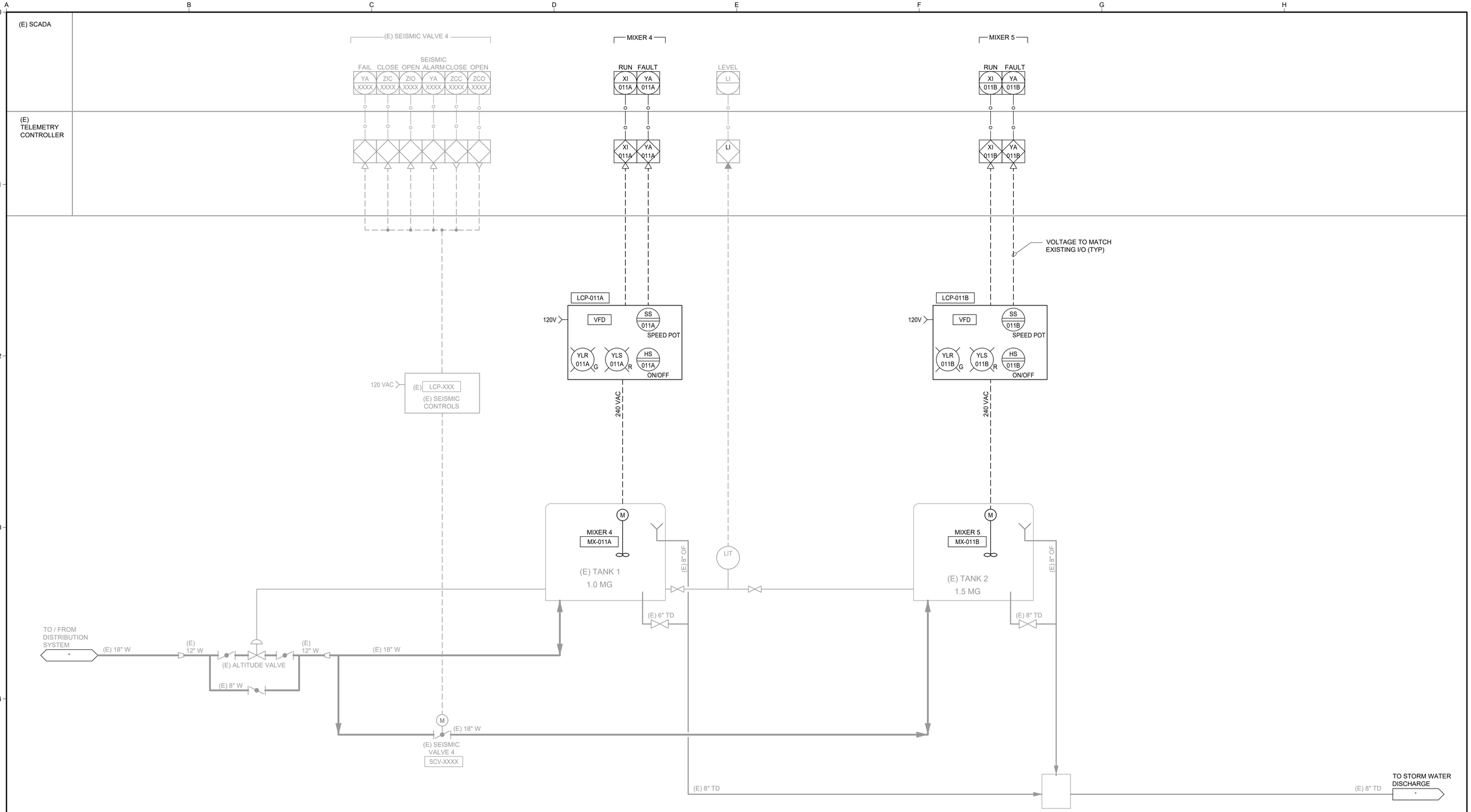

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02/10/23

DESIGNED CLW/SS
DRAWN JL
CHECKED JRM

McKINLEYVILLE COMMUNITY SERVICES DISTRICT
McKINLEYVILLE, CALIFORNIA
4.5 MG WATER RESERVOIR PROJECT

Kennedy Jenks

P&ID
NORTON ROAD WATER RESERVOIRS

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