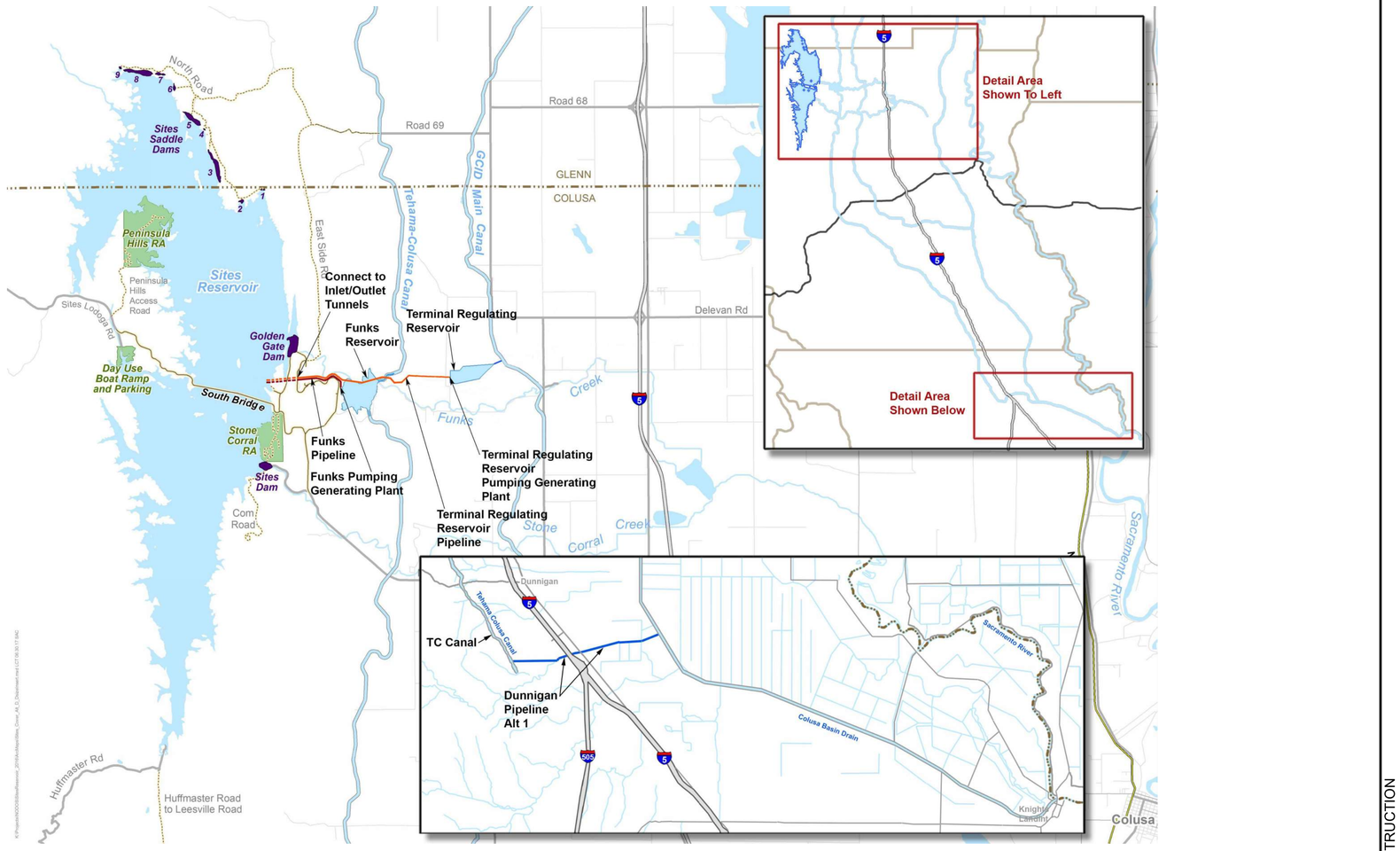
SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PROJECT
FUNKS, TRR AND ENVIRONMENTAL WATER PIPELINES

30% DESIGN - CLIENT REVIEW

OCTOBER 6, 2023

PROJECT LOCATION MAP



OVERALL PROJECT SITE MAP - DUNNIGAN PIPELINE NOT INCLUDED IN THIS PACKAGE

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: D. CAVE
DRAWN BY: D. CAVE
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
COVER SHEET,
LOCATION MAP AND SITE MAP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0001
SHT 1 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/26/2023 8:37 AM
Saved By: DCAVE
File: C:\pwworking\hdr_sites_reservoir\dms017111\MPG-0001-G-0001_PPL.dwg

INDEX OF DRAWINGS

SHT NO	DRAWING NO	DESCRIPTION
1	MPG-0001-G-0001	COVER SHEET, LOCATION MAP AND SITE MAP
2	MPG-0001-G-0002	INDEX OF DRAWINGS 1
3	MPG-0001-G-0010	ABBREVIATIONS
4	MPG-0001-G-0020	GENERAL SYMBOLS AND DRAWING NUMBERING LEGEND
5	MPG-0001-G-0101	CIVIL LEGEND
6	MPG-0001-G-0301	STRUCTURAL NOTES 1
7	MPG-0001-G-0302	STRUCTURAL NOTES 2
8	MPG-0001-G-0401	PROCESS MECHANICAL LEGEND AND NOTES
9	MPG-0001-G-0502	HVAC LEGEND
10	MPG-0001-G-0601	ELECTRICAL LEGEND 1
11	MPG-0001-G-0602	ELECTRICAL LEGEND 2
12	MPG-0001-G-0603	ELECTRICAL LEGEND 3
13	MPG-0001-G-0701	INSTRUMENTATION AND CONTROLS - LEGEND 1
14	MPG-0001-G-0702	INSTRUMENTATION AND CONTROLS - LEGEND 2
15	MPG-0001-G-0801	PROCESS FLOW DIAGRAM
16	MPG-0001-G-1001	HYDRAULIC PROFILE - FUNKS PIPELINE
17	MPG-0001-G-1002	HYDRAULIC PROFILE - TERMINAL REGULATING RESERVOIR PIPELINE
18	MPG-0001-G-1003	HYDRAULIC PROFILE - ENVIRONMENTAL WATER PIPELINE
19	MPG-0045-C-2001	OVERALL LOCATION AND SURVEY CONTROL - PLAN
20	MPG-0065-N-6000	OVERALL PROGRAM - P&ID
21	MPG-0065-N-6130	OVERALL PROGRAM - P&ID - VALVE VAULT
22	MPG-0065-N-6140	OVERALL PROGRAM - P&ID - ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE
23	MPG-0065-N-6200	OVERALL PROGRAM - NETWORK BLOCK DIAGRAM
24	MPG-2030-G-0001	VALVE VAULT - RENDERING
25	MPG-2030-S-2001	VALVE VAULT - FOUNDATION PLAN
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28	MPG-2030-S-3001	VALVE VAULT - SECTION
29	MPG-2030-D-2001	VALVE VAULT - LOWER PLAN
30	MPG-2030-D-3001	VALVE VAULT - SECTIONS
31	MPG-2030-H-2201	VALVE VAULT - GROUND LEVEL PLAN
32	MPG-2030-E-2001	VALVE VAULT - PLAN
33	MPG-2040-G-0001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - RENDERING
34	MPG-2040-C-2001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - SITE PLAN
35	MPG-2040-S-2001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - PLAN
36	MPG-2040-S-3001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - SECTION
37	MPG-2040-S-3002	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - SECTION
38	MPG-2040-D-2001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - PLAN
39	MPG-2040-D-3001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - SECTION
40	MPG-2040-E-2001	ENVIRONMENTAL WATER PIPELINE - DISSIPATION STRUCTURE - PLAN

SHT NO	DRAWING NO	DESCRIPTION
41	MPG-2120-P-2000	FUNKS PIPELINE - KEY PLAN AND HORIZONTAL ALIGNMENT DATA
42	MPG-2120-P-2001	FUNKS PIPELINE - PLAN AND PROFILE - STA 299+95.67 TO 325+00
43	MPG-2120-P-2002	FUNKS PIPELINE - PLAN AND PROFILE - STA 325+00 TO STA 347+38.01
44	MPG-2120-P-2101	FUNKS AND TRR PIPELINES - CONNECTION MANIFOLD - PLAN
45	MPG-2135-N-6150	FUNKS RESERVOIR - P&ID - FLOW METER VAULT
46	MPG-2190-G-0001	FUNKS RESERVOIR - FLOW METER VAULT - RENDERING
47	MPG-2190-S-2001	FUNKS RESERVOIR - FLOW METER VAULT - FOUNDATION PLAN
48	MPG-2190-S-2101	FUNKS RESERVOIR - FLOW METER VAULT - WALKWAY PLAN
49	MPG-2190-S-2201	FUNKS RESERVOIR - FLOW METER VAULT - GROUND LEVEL PLAN
50	MPG-2190-S-3001	FUNKS RESERVOIR - FLOW METER VAULT - SECTION
51	MPG-2190-D-2001	FUNKS RESERVOIR - FLOW METER VAULT - LOWER PLAN
52	MPG-2190-D-3001	FUNKS RESERVOIR - FLOW METER VAULT - SECTIONS
53	MPG-2190-H-2201	FUNKS RESERVOIR - FLOW METER VAULT - GROUND LEVEL PLAN
54	MPG-2190-E-2001	FUNKS RESERVOIR - FLOW METER VAULT - PLAN
55	MPG-2220-P-2000	TRR PIPELINE - KEY PLAN AND HORIZONTAL ALIGNMENT DATA -
56	MPG-2220-P-2001	TRR PIPELINE - PLAN AND PROFILE - STA 400+00 TO 425+00
57	MPG-2220-P-2002	TRR PIPELINE - PLAN AND PROFILE - STA 425+00 TO 450+00
58	MPG-2220-P-2003	TRR PIPELINE - PLAN AND PROFILE - STA 450+00 TO 475+00
59	MPG-2220-P-2004	TRR PIPELINE - PLAN AND PROFILE - STA 475+00 TO 500+00
60	MPG-2220-P-2005	TRR PIPELINE - PLAN AND PROFILE - STA 500+00 TO 525+00
61	MPG-2220-P-2006	TRR PIPELINE - PLAN AND PROFILE - STA 525+00 TO 550+00.00
62	MPG-2220-P-2007	TRR PIPELINE - PLAN AND PROFILE - STA 550+00 TO 561+01.83
63	MPG-2220-P-2201	ENVIRONMENTAL WATER PIPELINE - PLAN AND PROFILE - STA 600+00 TO 624+30.50
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66	MPG-2900-C-5002	STANDARD DETAILS
67	MPG-2900-C-5003	STANDARD DETAILS
68	MPG-2900-C-5004	STANDARD DETAILS
69	MPG-2900-C-5005	STANDARD DETAILS
70	MPG-2900-C-5006	STANDARD DETAILS

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SHT 2 OF 70

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Plot Date: 10/5/2023 4:39 PM
Saved By: DCAVE
File: C:\pwworking\hdr_sites_reservoir\dms01711\MPG-0001-G-0002_PPL.dwg

@	AT
L	ANGLE
A/C	AIR CONDITIONING
A/C UNIT	AIR CONDITIONING UNIT
AB	ANCHOR BOLT, AGGREGATE BASE
ABUT	ABUTMENT
ABV	ABOVE
AC	ALTERNATING CURRENT, ASPHALT CONCRETE BASE
ACC	ACCESSIBLE
ACI	AMERICAN CONCRETE INSTITUTE
ACR	ACRYLIC PLASTIC
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACSR	ALUMINUM CABLE STEEL REINFORCED
ACST	ACOUSTIC
ACT	ACOUSTICAL CEILING TILE
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJACENT, ADJOINING, ADJUSTABLE, ADJUST
ADO	AUTOMATIC DOOR OPERATOR
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPERE INTERRUPTING CAPACITY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.L.	ACTIVE LEAF
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMP	AMPERE
ANOD	ANODIZE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECT
ARFCD	AMERICAN RIVER FLOOD CONTROL DISTRICT
ARI	AMERICAN REFRIGERATION INSTITUTE
ARN	ARCADE CREEK NORTH
ARS	ARCADE CREEK SOUTH
ARV	AIR RELEASE VALVE
ASB	ASBESTOS
ASC	ABOVE SUSPENDED CEILING
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATC	ACOUSTICAL TILE CEILING
AUTO	AUTOMATIC
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
AWT	ACOUSTICAL WALL TREATMENT
BB	BEGINNING OF BRIDGE, BULLETIN BOARD
B-B	BACK-TO-BACK
BC	BEGIN HORIZONTAL CURVE, BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BEG	BEGIN
BEJ	BRICK EXPANSION JOINT
BEV	BEVEL
BFV	BUTTERFLY VALVE
BITUM	BITUMINOUS
BJT	BED JOINT
BK	BACK
BKF	BACKFILL
BL	BUILDING LINE
BLDG	BUILDING
BLVD	BOULEVARD
BLW	BELOW
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BO	BOTTOM OF
BOT	BOTTOM
BP	BEGINNING POINT, BACK PLASTER(ED)
BR	BRIDGE
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRG PL	BEARING PLATE
BRK	BRICK
BRKT	BRACKET
BRZ	BRONZE
BS	BOTH SIDES
BSMT	BASEMENT
Btu	BRITISH THERMAL UNIT
BtuH	BTU PER HOUR
BTWN	BETWEEN
BV	BALL VALVE
BUR	BUILT-UP ROOFING
BVC	BEGIN VERTICAL CURVE
BW	BOTH WAYS, BARBED WIRE
CAB	CABINET
CAP	CAPACITY
CARV	COMBINATION AIR RELEASE VALVE
CB	CATCH BASIN, CEMENT BENTONITE
C-C	CENTER-TO-CENTER
CCS	CALIFORNIA COORDINATE SYSTEM
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CE	COVER ELEVATION
CEM	CEMENT
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CFI	CONDUCTIVE FLOORING
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CH BD	CHALKBOARD
CHFR	CHAMFER
CHIM	CHIMNEY
CHK	CHECK
CHNL	CHANNEL
CHR PL	CHROME PLATED
CI	CAST IRON, CURB INLET
CIP	CAST-IN-PLACE
CIRC	CIRCULAR
CJ	CONTROL JOINT
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CL	CONTROL LINE
CLR	CENTER LINE
CL-6	CHAIN LINK FENCE (6 FT)
CLG	CEILING
CLG HT	CEILING HEIGHT
CLGL	CLEAR GLASS
CLL	CONTRACT LIMIT LINE
CLO	CLOSET
CLOS	CLOSURE
CLR	CLEAR, CLEARANCE
CLS	CLASS
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLWG	CLEAR WIRED GLASS
cm	CENTIMETER(S)
CM	CORRUGATED METAL
CMP	CORRUGATED METAL PIPE
CMPST	COMPOSITE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CNL	CONDUCTIVE NEOPRENE LATEX
CNR	CORNER
CNTR	COUNTER
CO	COUNTY, CLEANOUT
CO2	CARBON DIOXIDE
COL	COLUMN
COM	COMMON
COMB	COMBUSTION
COMPT	COMPARTMENT
CONC	CONCRETE
COND	CONDUIT
CONN	CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE
CONTR	CONTRACTOR
CONV	CONVENTIONAL
COORD	COORDINATE
CORR	CORRIDOR
COV	COVER
CPRS	COMPRESSIBLE
CP	CATCH POINT
CPT	CONE PENETRATION TEXT, CARPET
CR	CREEK
CRCMF	CIRCUMFERENCE
CRES	CORROSIVE RESISTANT STEEL
CRG	CROSS GRAIN
CRS	COURSE(S)
CS	CAST STONE
CSK	COUNTERSUNK
CSMT	CASEMENT
CT	COURT, CERAMIC TILE, CURRENT TRANSFORMER
C TO C	CENTER TO CENTER
CTR	CENTER
CU	CONDENSING UNIT
Cu	COPPER
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CU YD	CUBIC YARDS
CUFPB	CENTRAL VALLEY FLOOD PROTECTION BOARD
CULV	CULVERT
CV	CEILING VENT
CVH	CONDUCTIVE VINYL HOMOGENEOUS (SHEET TYPE)
CVHS	CENTRAL VALLEY HYDROLOGY STUDY
CW	COLD WATER
CYL	CYLINDER
D	DEPTH
d	PENNY (AS IN NAIL - 10D)
D.O.T.	DEPARTMENT OF TRANSPORTATION
DAT	DATUM
DB	DRY BULB
DBL	DOUBLE
DBL ACT DR	DOUBLE ACTING DOOR
DCJ	DOWELED CONTROL JOINT
DCJT	DUMMY CONTROL JOINT
DEG	DEGREE
DEMO	DEMOLITION
DEPR	DEPRESSION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DH	DUCT HEATER
DI	DRAINAGE INLET, DROP INLET
DIA, Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISC	DISCONNECT
DISP	DISPENSER
DIST	DISTANCE
DISTR PNL	DISTRIBUTION PANEL
DIV	DIVISION
DL	DEAD LOAD
DMPF	DAMPPROOFING
DMPR	DAMPER
DMT	DEMOUNTABLE
DN	DOWN
DNP	DUNNIGAN PIPELINE
DR	DOOR, DRAIN, DRIVE
DRB	DRAINBOARD
DR CL	DOOR CLOSER
DS	DOWNSPOUT, DOUBLE STRENGTH (GLASS)
DSM	DEEP SOIL MIX
DTL	DETAIL
DT	DRAIN TILE
DVTL	DOVETAIL
DWG	DRAWING
DWLS	DOWELS
DWR	DEPARTMENT OF WATER RESOURCES, DRAWER
DX	DIRECT EXPANSION
DWY	DRIVEWAY
E	EAST, EASTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EB	END OF BRIDGE
EC	END HORIZONTAL CURVE
ECR	END CURB RETURN
EF, E.F.	EACH FACE
EG	EXISTING GRADE
EJ	EXPANSION JOINT
EL	ELEVATION - GRADE OR BUILDING
ELECT	ELECTRIC
ELEV, EL	ELEVATION
ELV	ELECTRIC VAULT
EM	EXPANDED METAL
EMB	EMBANKMENT
EMD	ESTIMATED MAXIMUM DEMAND
EMER	EMERGENCY
ENCL	ENCLOSE(URE)
ENGR	ENGINEER
ENTR	ENTRANCE, ENTERING
EOD	EDGE OF DECK
EP	END POINT, ELECTRICAL PANELBOARD
EPRF	EXPLOSION PROOF
EPY	EPOXY COATING
ESA	ENVIRONMENTALLY SENSITIVE AREA
EQ	EQUAL
EQUIP	EQUIPMENT
ESCAL	ESCALATOR
EST	ESTIMATE(D)
EVC	END VERTICAL CURVE
E.W.	EACH WAY
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXC	EXCAVATE, EXCAVATION
EXH	EXHAUST
EXH A	EXHAUST AIR
EXST, (E)	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXP BT	EXPANSION BOLT
EXT	EXTERIOR
F	FAHRENHEIT
FA	FIRE ALARM
FA	FRESH AIR
FAC	FIRE APPARATUS CLOSET
FAI	FRESH AIR INTAKE
F BRK	FIRE BRICK
FC	FOOT CANDLE
FC BRK	FACE BRICK
FCG	FACING
FCJ	FLOOR CONSTRUCTION JOINT
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH
FF EL	FINISH FLOOR ELEAVATION
FG	FINISHED GRADE
FGL	FIBERGLASS
FH	FIRE HYDRANT
FH	FLAT HEAD
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHR	FIRE HOSE RACK
FHS	FIRE HOSE STATION
FHWS	FLAT HEAD WOOD SCREW
FIG	FIGURE
FIN	FINISH
FIN FLR	FINISH FLOOR
FIXT	FIXTURE
FJT	FLUSH JOINT
FL	FLOW LINE
FLASH	FLASHING
FLR	FLOOR
FLEX	FLEXIBLE
FLG	FLOORING
FLR PL	FLOOR PLATE
FLUOR	FLUORESCENT
FN	FENCE
FNK	FUNKS
FO	FIBER OPTIC
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIRE PARTITION
FP	FIREPROOF
FPM	FEET PER MINUTE
FR	FIRE RESISTANT
FR	FRAME
FRG	FORGED
FRMG	FRAMING
FRT	FIRE-RETARDANT
FS	FULL SIZE
FSTNR	FASTEN(ER)
FT	FEET, FOOT
FTG	FOOTING
FURG	FURRING
FUT	FUTURE
FW	FIRE WATER
FWC	FABRIC WALL COVERING
G	NATURAL GAS
GA	GAGE
GAL	GALLON(S)
GALV	GALVANIZED
GALV STL	GALVANIZED STEEL
GB	GRADE BREAK, GRAB BAR
GC	GENERAL CONTRACTOR
GCID	GLENN-COLUSA IRRIGATION DISTRICT
GEN	GENERAL
GF	GROUND FACE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFE	GOVERNMENT-FURNISHED EQUIPMENT
GFE/CI	GOVERNMENT-FURNISHED EQUIPMENT CONTRACTOR INSTALLED
GG	GOLDEN GATE DAM
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GKT	GASKET(ED)
GL	GLASS
GL BLK	GLASS BLOCK
GLF	GLASS FIBER
GLZ	GLAZING
GLZ CMU	GLAZED CONCRETE MASONRY UNITS
GND	GROUND
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GPT	GYPSUM TILE
GRAN	GRANITE
GR LN	GRADE LINE
GRTG	GRATING
GST	GLAZED STRUCTURAL TILE
GSU	GLAZED STRUCTURAL UNITS
GT	GROUT
GWT	GLAZED WALL TILE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	HEIGHT
HB	HOSE BIBB
HC	HOLLOW CORE
HCD	HALON CONTAINMENT DAMPER
HCP	HANDICAPPED
HD	HEAD
HD	HEAVY DUTY
HDBD	HARDBOARD
HD JT	HEAD JOINT
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HES	HIGH EARLY-STRENGTH CEMENT
HEX	HEXAGON
HH	HANDHOLE
HK	HOOK(S)
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ, HOR	HORIZONTAL
HP	HINGE POINT, HIGH PRESSURE, HORSEPOWER
HPT	HIGH POINT
HPU	HYDRAULIC POWER UNIT
HR	HOUR
HS	HIGH STRENGTH
HSGYP	HIGH-STRENGTH GYPSUM PLASTER
HSKPG	HOUSEKEEPING
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HEADWALL, HIGH WATER
HWM	HIGH WATER MARK
HWY	HIGHWAY
HYDR	HYDRAULIC
Hz	HERTZ
I-80	INTERSTATE 80
IB	IMPORTED BORROW
IC	INTERCOM
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
ILK	INTERLOCK
IN	INCH, INCHES
INCIN	INCINERATOR
INCL	INCLUDED
INSF	INSULATING FILL
INSUL	INSULATION
INT	INTERIOR
INTM	INTERMEDIATE
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE
I.P.S.	INSIDE PIPE SIZE
IR	IRRIGATION
JAN CLO	JANITOR'S CLOSET
J-BOX	JUNCTION BOX
JCT	JUNCTION
JST	JOIST
JT	JOINT
KIP	KILOPOUND (1000 POUNDS)
KIT	KITCHEN
KOP	KNOCKOUT PANEL
KPL	KICKPLATE
kV	KILOVOLTS
kVA	KILOVOLT AMPERES
kVAR	KILOVOLT AMPERES REACTIVE
kW	KILOWATT
KWY	KEYWAY
L	LENGTH
LAB	LABORATORY
LAD	LADDER
LAM	LAMINATE
LAT	LEAVING AIR TEMPERATURE
LAU	LAUNDRY
LAV	LAVATORY
LB	LAG BOLT
LB	POUND
LBL	LABEL
LBR	LUMBER
LC	LIGHT CONTROL
LD	LOAD
LDG	LOADING
LF	LINEAR FOOT (FEET)
LG	LENGTH
LH	LEFT HAND(ED)
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LLD	LEAD-LINED DOOR
LM	LUMEN
LMST	LIMESTONE
LNTL	LINTEL
LOL	LAYOUT LINE
LONG	LONGITUDINAL
LP	LIGHTPROOF
LPD	LIGHTPROOF DOOR
LPL	LIGHTPROOF LOUVER
LPT	LOW POINT
LR	LONG RADIUS, LIVING ROOM
LS	LANDSIDE, LAWN SPRINKLER
LT	LEFT, LIGHT
LT WT	LIGHTWEIGHT
LTG	LIGHTING
LTNG	LIGHTNING
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
LWT	LEAVING WATER TEMPERATURE
m	METER(S)
M&B	MATCHED AND BEADED
MAINT	MAINTENANCE
MACH	MACHINE
MAS	MASONRY
MATL	MATERIAL(S)
MAX	MAXIMUM
MB	MACHINE BOLTS
MBR	MEMBER
MC	MEDICINE CABINET
MCJ	MASONRY CONTROL JOINT
MCO	METAL-CASED OPENING
MDS	METAL DIVIDER STRIP
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MED	MEDIUM
MEMB	MEMBRANE
MES	METAL EDGE STRIP
MFD	METAL FLOOR DECKING
MFG	MANUFACTURING
MFR	MANUFACTURER
MG	MOTOR GENERATOR
MGT	MATTE-GLAZED TILE
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MIRR	MIRROR
MISC	MISCELLANEOUS
ML	METAL LATH
ML	MONOLITHIC
MLDG	MOULDING
MLWK	MILLWORK
mm	MILLIMETER(S)
MNIC	MATERIAL NOT IN CONTRACT (INSTALLATION BY CONTRACTOR)
MO	MASONRY OPENING
MOD	MODULAR
MOD.	MODIFIED, MODIFY
MON	MONUMENT
MOT	MOTOR
MP	MOVABLE PARTITION
MPG	MAXWELL / SITES PUMPING AND GENERATING
MR	MOP RECEPTOR
MRB	MARBLE BASE
MRD	METAL ROOF DECKING
MS	MACHINE SCREWS
MT	METAL THRESHOLD
MT	MOUNT
MTD	MOUNTED
MTFR	METAL FURRING
MTL	METAL
MVBL	MOVABLE
MULL	MULLION
MUTD	MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES
MW	MONITORING WELL
N	NORTH
N/A	NOT APPLICABLE
NAD83	NORTH AMERICAN DATUM OF 1983
NAS	NORTH AREA STREAMS
NAT	NATURAL
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEMDC	NATOMAS EAST MAIN DRAINAGE CANAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NGS	NATIONAL GEODETIC SURVEY
NGVD	NATIONAL GEODETIC VERTICAL DATUM
Ni	NICKEL
NIC	NOT IN CONTRACT
NL	NAILABLE
N.L.	NEOPRENE LATEX
NM	NONMETALLIC
NO	NUMBER, NORMALLY OPEN
NOM	NOMINAL
NR	NOISE REDUCTION
NRC	NOISE REDUCTION COEFFICIENT
N"REQD	NOT REQUIRED
NTS	NOT TO SCALE
NWSE	NEW WATER SURFACE ELEVATION
O-O	OUT-TO-OUT
OA	OUTSIDE AIR
OBSC	OBSCURE
OBW	OBSERVATION WINDOW
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
OFC	OFFICE
OG	ORIGINAL GROUND
OGL	OBSCURE GLASS
OH	OVERHEAD
OHW	OVERHEAD WIRE
OHWM	ORDINARY HIGH WATER MARK
OHMS	OVALHEAD MACHINE SCREW
OHWS	OVALHEAD WOOD SCREW
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OPS	OPERATIONS
OPT	ONE PASS TRENCH METHOD
OS & Y	OUTSIDE SCREW AND YOKE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OWGL	OBSCURE WIRED GLASS
P	POLE
PA	PUBLIC ADDRESS
PAR	PARALLEL
PB	PANIC BAR
PBD	PARTICLE BOARD
PBS	PUSH BUTTON STATION
PC	POINT OF CURVATURE, PIECE
PCC	POINT OF COMPOUND CURVE, PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCP	CEMENT PLASTER (PORTLAND)
PCVC	POINT OF COMPOUND VERTICAL CURVE
PD	PAVEMENT DRAIN
PED	PEDESTAL
PERF	PERFORATE(D)
PERIM	PERIMETER
PG	PROFILE GRADE
PG&E	PACIFIC GAS & ELECTRIC
PGP	PUMPING AND GENERATING PLANT
PH	PILOT HOLE, PHASE
PHAR	PHARMACY
PI	POINT OF INTERSECTION
PIPU	PREFAB ISOLATION POWER UNIT
PIV	POST INDICATING VALVE
PL	PROPERTY LINE, PLATE
P/L	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLG	PILING
PL GL	PLATE GLASS
PLYWD	PLYWOOD
PNL	PANEL
PT	PAINT(ED)
POB	POINT OF BEGINNING
POC	POINT OF HORIZONTAL CURVE
POE	POINT OF ENDING
POL	POLISHED
PORC	PORCELAIN
PORT	PORTABLE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	POWER POLE
PPGL	POLISHED PLATE GLASS
PPM	PARTS PER MILLION
PR	PAIR
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATE(D)
PREFIN	PREFINISHED
PREFMD	PREFORMED
PRKG	PARKING
PROJ	PROJECT
PRV	PRESSURE-REGULATING VALVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PS	PUMP STATION, PIPE SPACE
P.S.	PRESSED STEEL
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY, PNEUMATIC TUBE
PT.	POINT
PT CONC	POST-TENSIONED CONCRETE
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PV	PAVED
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PVMT	PAVEMENT
PW	PASS WINDOW
PWS	PIPELINE WARNING SIGN
QT	QUARRY TILE
QTR	QUARTER
1/4 RND	QUARTER ROUND
QTY	QUANTITY
R	RADIUS, RANGE, RISER
RA	RETURN AIR
RAB	RABBETED
RA GR	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RB	RUBBER BASE, RESILIENT BASE
RBL	RUBBLE STONE
RBR	RUBBER
RC	REMOTE CONTROL
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	ROAD, ROOF DRAIN
RDG INS	RIGID INSULATION
RDY	ROADWAY
RECPT	RECEPTACLE
REC ROOM	RECREATION ROOM
RECT	RECTIFIER
REF	REFERENCE
REFL	REFLECT
REFR	REFRIGERATION
REG	REGISTER
REG	REGLET
REINF	REINFORCE
REL	RELOCATE
REM	REMOVE(ABLE)
REPL	REPLACEMENT
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISED, REVISION
RFG	ROOFING
RH	RELATIVE HUMIDITY
RH	RIGHT HAND
RH	ROOF HATCH
RK	RACK
RLG	RAILING
RM	RIVER MILE, ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RP	RADIUS POINT, RETRACTABLE PARTITION
RPM	REVOLUTIONS PER MINUTE
RPRT	RAISED PATTERN RUBBER TILE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RTE	ROUTE
RTF	RUBBER TILE FLOOR
RVS	REVERSE
RVT	RIVET
R/W, ROW	RIGHT-OF-WAY
RW	RELIEF WELL, RAW WATER
RWC	RAINWATER CONDUCTOR
S	SOUTH
SA	SUPPLY AIR
SAFCA	SACRAMENTO AREA FLOOD CONTROL AGENCY
S.B.	SECURITY BARS
SB	SOIL BENTONITE, SPLASH BLOCK
SBF	SOUTH BAY FOUNDRY
SC	SOLID CORE
SCB	SOIL-CEMENT-BENTONITE
SCCB	SLAG CEMENT-CEMENT-BENTONITE
SCH, SCHED	SCHEDULE
SCRN	SCREEN
SCT	STRUCTURAL CLAY TILE
SD	SADDLE DAM, STORM DRAIN
SDI	STEEL DOOR INSTITUTE
SECT	SECTION
SEQ	SEQUENCE
SFGL	SAFETY GLASS
SFTU	STRUCTURAL FACING TILE UNIT
SFU	STRUCTURAL FACING UNIT
SG	SHEET GLASS
SHLDR	SHOULDER
SHT	SHEET
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SKLT	SKYLIGHT
SLO	SLOPE
SLNT	SEALANT
SLV	SLEEVE
SM	SHEET METAL
SMS	SHEET METAL SCREWS
SOV	SHUT OFF VALVE
SPC	SPACER
SPCL	SPECIAL
SPD	SOUNDPROOF DOOR
SPEC	SPECIFICATION, SPECIAL
SPF	SOUNDPROOF
SP FIN	SPECIAL FINISH
SPH	SPACE HEATER
SPKR	SPEAKER
SQ	SQUARE
SQHD	SQUARE HEAD
S&R	SHELF AND ROD
SS	SANITARY SEWER, SERVICE SINK, STANDING SEAM (ROOF)
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STG	SEATING
STL	STEEL
STOR	STORAGE
ST PR	STATIC PRESSURE
STR	STRINGER
STRUCT	STRUCTURAL
STWY	STAIRWAY
SUB FL	SUBFLOOR
SUSP	SUSPENDED
SV	SHEET VINYL
SW	SWITCH
SWBD	SWITCHBOARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
SWR	SEWER
SYM	SYMBOL
SYMM	SYMMETRICAL
SYNTH	SYNTHETIC
SYS	SYSTEM
T	TREAD
TAN	TANGENT
TB	TOWEL BAR
TC	TERRA COTTA/ TEHAMA-COLUSA
TCCA	TEHAMA-COLUSA CANAL AUTHORITY
TCP	TRAFFIC CONTROL PLAN
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TER	TERRAZZO
TERM	TERMINAL
T&G	TONGUE AND GROOVE
TG	TOP OF GRADE
TGL	TOGGLE
TH	TRUSS HEAD
THK	THICK(NESS)
THRES	THRESHOLD
THW	TOP OF HEADWALL
TK BD	TACKBOARD
TKS	TACKSTRIP
TO	TOP OF
TOC	TOP OF CONCRETE
TOL	TOP OF LEVY, TOLERANCE
TOP	TOP OF PIPE
TOPO	TOPOGRAPHY
TOS	TOP OF SLOPE, TOP OF SLAB, TOP OF STEEL
TOT	TOTAL
TOW	TOP OF WALL
TP	TELEPHONE POLE
TPD	TOILET PAPER DISPENSER
TPTN	TOILET PARTITION
TRANS	TRANSITION, TRANSOM, TRANSVERSE
TRR	TERMINAL REGULATING RESERVOIR
TRW	TERMINAL REGULATING RESERVOIR WEST
TSTAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
UC	UNIT COOLER
UG, UGND	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
ULDC	URBAN LEVEE DESIGN CRITERIA
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
U.P.R.R.	UNION PACIFIC RAILROAD
UPS	UNINTERRUPTIBLE POWER SUPPLY
UR	URINAL
USACE	U.S. ARMY CORPS OF ENGINEERS
USBR	UNITED STATES BUREAU OF RECLAMATION
UTIL	UTILITY
UV	UNIT VENTILATOR
V	VOLT
VAC	VACUUM
VAR	VARIES, VARNISH
VB	VINYL BASE
VC	VERTICAL CURVE
VCT	VINYL COMPOSITION TILE
VCT	VITRIFIED CLAY TILE
VD	VAULT DOOR
VENT	VENTILATOR(TION)
VERT	VERTICAL
VEST	VESTIBULE
VF	VINYL FABRIC
VFD	VARIABLE FREQUENCY DRIVE
VG	VERTICAL GRAIN
VH	VINYL HOMOGENEOUS
V.I	V-JOINT(ED)
VNR	VENEER
VOL	VOLUME
VR	VAPOR RETARDER
VRM	VERMICULITE
VS	VENT STACK
V.T.	VOLTAGE TRANSFORMER
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST, WATER
W/	WITH
W/OUT	WITHOUT
WB	WET BULB
WBL	WOOD BLOCKING
WC	WATER CLOSET
W/C	WHEELCHAIR
WCO	WOOD-CASED OPENING
WD	WIDTH, WOOD, WOOD DOOR
WDSP	WASTE DISPOSER
WDW	WINDOW
WF	WIDE FLANGE
WGL	WIRED GLASS
WH	WALL HUNG
WH	WATER HEATER
WHB	WHEEL BUMPER
WHM	WATT-HOUR METER
WI	WROUGHT IRON
WKSH	WORK SHOP
WM	WATER METER, WIRE MESH
WO	WITHOUT
WP	WATERPROOF(ING)
WP	WEATHERPROOF
WP	WORKING POINT
WR	WASTE RECEPTACLE
WRB	WARDROBE
WS	WATER SURFACE, WATERSTOP
W.S.	WASTE STACK
WSCT	WAINSCOT
WSD	WATERSIDE
WSE	WATER SURFACE ELEVATION
WSP	WELDED STEEL PIPE
WT	WEIGHT
WTH	WIDTH
WV	WATER VALVE
W/W	WALL TO WALL
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWR	WELDED WIRE REINFORCEMENT
WY	WAY
XFMR	TRANSFORMER
XSEC	CROSS SECTION
YD	YARD
YD	YARD DRAIN
YR	YEAR
YRS	YEARS

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Plot Date: 9/29/2023 7:27 AM
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REV	DATE	BY	CHK.	APPR.	DESCRIPTION
				P.RU	

DESIGNED BY: D. CAVE
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Sites

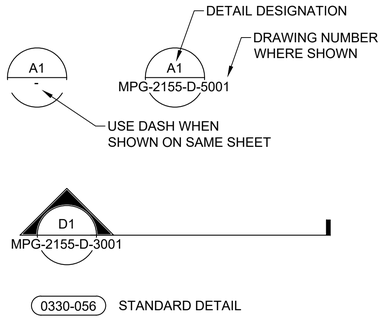
SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING GENERAL ABBREVIATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0010
SHT 3 OF 70

GENERAL SYMBOLS



0330-056 STANDARD DETAIL

ON DRAWING WHERE DETAIL OR SECTION IS CALLED OUT

A1 DETAIL
SCALE
MPG-2155-D-2001

D1 SECTION
SCALE
MPG-2155-D-2001

STANDARD DETAIL NUMBER

STANDARD DETAIL NAME 0330-056
NTS

ON DRAWING WHERE DETAIL OR SECTION IS SHOWN

DRAWING NUMBERING LEGEND

MPG-2155-S-2001

LOCATION / PACKAGE CODE
FACILITY / AREA NUMBER
DRAWING TYPE CODE
DISCIPLINE DESIGNATOR

LOCATION / PACKAGE NUMBER AND CODE

1 - STS - SITES RESERVOIR
2 - MPG - MAXWELL / SITES PUMPING AND GENERATING
3 - SCD - RESERVOIR CLEARING AND DEMOLITION
4 - HFR - HUFFMASTER ROAD
5 - DNP - DUNNIGAN PIPELINE
6 - CCA - TEHAMA-COLUSA CANAL AUTHORITY
7 - CID - GLENN-COLUSA IRRIGATION DISTRICT
8 - REC - SITES RECREATION
9 - MIT - SITES MITIGATION

FACILITY / AREA NUMBER

0001 - GENERAL
0010 - GEOTECH
0045 - OVERALL SITE CIVIL
0060 - OVERALL SITE ELECTRICAL
0065 - INSTRUMENTATION AND CONTROLS
2005 - ACCESS ROADS
2010 - TRANSMISSION
2015 - PGE SUBSTATION
2030 - VALVE VAULT
2040 - ENVIRONMENTAL WATER PIPELINE DISSIPATION STRUCTURE
2100 - FNK - TEMPORARY CONSTRUCTION
2105 - FNK - SITE CIVIL
2107 - FNK - RETAINING WALL
2110 - FNK - YARD PIPING
2115 - FNK - RESERVOIR
2120 - FNK - PIPELINE
2125 - FNK - SITE AND GENERAL ELECTRICAL
2130 - FNK - SUBSTATION
2135 - FNK - INSTRUMENTATION AND CONTROLS
2140 - FNK - TRANSMISSION
2145 - FNK - ADMINISTRATION AND OPERATIONS BUILDING
2150 - FNK - MAINTENANCE AND STORAGE BUILDING
2155 - FNK - PUMPING PLANT
2160 - FNK - SWITCHGEAR BUILDING
2161 - FNK - EMERGENCY GENERATOR
2165 - FNK - GENERATING PLANT
2170 - FNK - CHILLER YARD
2171 - FNK - HVAC BUILDING
2175 - FNK - EMERGENCY DISSIPATION STRUCTURE
2180 - FNK - FIRE WATER TANK
2181 - FNK - FIRE WATER PUMPING PLANT
2185 - FNK - SURGE CONTROL SYSTEM
2190 - FNK - FLOW METER VAULT
2200 - TRR -TEMPORARY CONSTRUCTION
2205 - TRR - SITE CIVIL
2207 - TRR - SHEET PILE WALL
2210 - TRR - YARD PIPING
2215 - TRR - RESERVOIR
2220 - TRR - PIPELINE
2225 - TRR - SITE ELECTRICAL
2230 - TRR - SUBSTATION
2235 - TRR - INSTRUMENTATION AND CONTROL
2240 - TRR - TRANSMISSION
2255 - TRR - PUMPING PLANT
2260 - TRR - SWITCHGEAR BUILDING
2261 - TRR - EMERGENCY GENERATOR
2265 - TRR - GENERATING PLANT
2270 - TRR - CHILLER YARD
2271 - TRR - HVAC BUILDING
2275 - TRR - ENERGY DISSIPATION STRUCTURE
2280 - TRR - FIRE WATER TANK
2281 - TRR - FIRE WATER PUMPING PLANT
2285 - TRR - SURGE CONTROL SYSTEM
2290 - TRR - SPARE
2291 - TRR - CHECK STRUCTURE 1
2292 - TRR - CHECK STRUCTURE 2
2293 - TRR - CHECK STRUCTURE 3
2294 - TRR - CHECK STRUCTURE 4

DISCIPLINE DESIGNATOR

A - ARCHITECTURAL
B - GEOTECHNICAL
C - CIVIL
D - PROCESS MECHANICAL
E - ELECTRICAL
F - FIRE PROTECTION
FET - FOUNDATION EXCAVATION AND TREATMENT
G - GENERAL
H - HVAC
I - INTERIORS
J - PLUMBING
K - TRANSMISSION
L - LANDSCAPE
M - BUILDING MECHANICAL
N - INSTRUMENTATION AND CONTROLS
P - PIPELINE
Q - EQUIPMENT
R - ROADWAY
S - STRUCTURAL
T - TELECOMMUNICATIONS
V - SURVEY MAPPING
Y - YARD PIPING

DRAWING TYPE CODE

0000 - GENERAL AND 3D RENDERINGS
1000 - DEMOLITION
2000 - PLANS AND PLAN AND PROFILE
3000 - SECTIONS, ELEVATIONS AND PROFILES
4000 - ENLARGED PLANS
5000 - DETAILS
6000 - SCHEDULES AND DIAGRAMS
7000 - USER DEFINED
8000 - USER DEFINED
9000 - STD DETAILS

REV	DATE	BY	CHK.	APPR.	DESCRIPTION
				P.RU	

DESIGNED BY: D. CAVE
DRAWN BY: D. CAVE
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
GENERAL SYMBOLS
AND DRAWING NUMBERING LEGEND

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0020
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LEGEND AND SYMBOLS

EXISTING FEATURES	PROPOSED FEATURES
DRAIN ROCK	
FENCE	
SUBSTATION FENCE	
GATE	
MAJOR CONTOURS	
MINOR CONTOURS	
SILO(S), TANK(S)	
TRAFFIC SIGN	
FIRE HYDRANT	
POST	
TREE	
PALM TREE	
BUSH	
POLE	
SURVEY CONTROL POINT	
MANHOLE	
MISC UTILITY	
UTILITY BOX	
TRAFFIC LIGHT	
UTILITY JUNCTION	
BILLBOARD	
CATCH BASIN, RECT	
VA-TRAF-BARR-POST	
COMMUNICATION ANTENNA	
UTILITY VALVE	
SIGN, REFLECTIVE	
MAILBOX	
STORM DRAIN INLET	
ROAD, CENTER	
ROAD, ALIGNMENT	
ROAD	
DRIVEWAY	
BUILDING OUTLINE	
WALL, RETAINING WALL	
PIPE, UNIDENTIFIED	
HEADWALL	
CULVERT	
SANITARY SEWER UNDERGROUND PIPE	
SANITARY SEWER MANHOLE	
WATER UNDERGROUND PIPE	
NATURAL GAS UNDERGROUND PIPE	
FIBER OPTIC LINE	
ELEC UNDERGROUND	
ELEC OVERHEAD	
POWER POLE	
GUY WIRE	
GUY ANCHOR	
TRANSMISSION TOWER, METAL	
CANAL	
RAILROAD	
DITCH/FLOW LINE	
STORM DRAIN UNDERGROUND PIPE	
STORM DRAIN MANHOLE	
SLOPE BANK, CUT	
SLOPE BANK, FILL	
SPOT ELEVATION	
BORING LOCATION AND NUMBER	
TEST PIT LOCATION AND NUMBER	
DWR AUGER HOLE	
DWR CORE HOLE	
USBR CORE HOLE	
GEOTECHNICAL BORING	
STRUCTURE, BUILDING OR FACILITY	
LOCATION POINT - COORDINATES	

EXISTING FEATURES	PROPOSED FEATURES
SLOPE PERCENT OR RISE:RUN	
FLOW ARROW	
DIRECTION ARROW	
WATER SURFACE	
PIEZOMETER	
EARTH SLOPE	
STEEL CHECKER PLATE	
BENTONITE CEMENT GROUT	
BENTONITE PELLET SEAL	
CUTOFF WALL (DETAILS/SECTIONS)	
ORIGINAL GROUND	
AGGREGATE BASE	
DAM/LEVEE FILL	
DAM/LEVEE EMBANKMENT FILL	
FINE SAND	
CONCRETE	
CLSM	
ROCK SLOPE PROTECTION	
ASPHALT CONCRETE PAVEMENT	
GRAVEL SURFACING	
CUTOFF WALL (PLANS)	
LIMITS OF WORK	
BREAK LINE	
PIPE BREAK LINE	
CENTERLINE	
SPRING LINE CENTERLINE	
DEMOLITION	
STRUCTURE, BUILDING OR FACILITY	
EXISTING PIPE TO BE ABANDONED	
EXISTING PIPE TO BE DEMOLISHED	
CONSTRUCTION CONTRACT LIMIT	
CONSTRUCTION EASEMENT	
CABLE TV	
COMMUNICATION	
FIRE PROTECTION WATER SUPPLY	
GUARD RAIL	
PROPERTY LINE	
RIGHT OF WAY	
SILT FENCE	
TELEPHONE OVERHEAD	
TELEPHONE UNDERGROUND	
TEMPORARY CONSTRUCTION EASEMENT	
PERMANENT EASEMENT	

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: B. CHELONIS
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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
CIVIL LEGEND

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0101
SHT 5 OF 70

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DESIGN CRITERIA

1. APPLICABLE CODE: 2022 CALIFORNIA BUILDING CODE (CBC) INCLUDING REFERENCED CODES AND STANDARDS.
2. REFER TO FACILITY DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
3. ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.
4. DEAD LOADS: SELF WEIGHT
5. ROOF LOADS:
   - GROUND SNOW LOAD, Pg = 0 PSF
   - ROOF LIVE LOAD = 20 PSF
6. FLOOR LIVE LOADS:
   - PROCESS AREAS = 200 PSF
   - ELECTRICAL AREAS = 300 PSF
   - CORRIDORS, STAIRWAYS, ACCESS WAYS = 100 PSF
   - WALKWAYS AND ELEVATED PLATFORMS = 100 PSF
   - VEHICLE DRIVE AREAS = AASHTO DESIGN TRUCK OR DESIGN TANDEM
7. WIND LOADS:
   - ASCE 7-16 METHOD = MWFRS DIRECTIONAL PROCEDURE, UNO
   - BASIC WIND SPEED (3-SECOND GUST) = 104 MPH, RISK CATEGORY IV
   - BASIC WIND SPEED (3-SECOND GUST) = 100 MPH, RISK CATEGORY III
   - BASIC WIND SPEED (3-SECOND GUST) = 93 MPH, RISK CATEGORY II
   - EXPOSURE CATEGORY = C
8. FUNKS RESERVOIR SEISMIC LOADS:
   - MAPPED SPECTRAL RESPONSE ACCELERATIONS
     - S_S = 0.867g
     - S_1 = 0.359g
   - SITE-SPECIFIC DESIGN SPECTRAL RESPONSE ACCELERATIONS
     - S_{DS} =0.TBDg
     - S_{D1} =0.TBDg
   - SITE CLASS = D
   - SEISMIC DESIGN CATEGORY = D
9. TERMINAL REGULATING RESERVOIR SEISMIC LOADS:
   - MAPPED SPECTRAL RESPONSE ACCELERATIONS
     - S_S = 0.841g
     - S_1 = 0.350g
   - SITE-SPECIFIC DESIGN SPECTRAL RESPONSE ACCELERATIONS
     - S_{DS} =0.TBDg
     - S_{D1} =0.TBDg
   - SITE CLASS = D
   - SEISMIC DESIGN CATEGORY = D
10. RISK CATEGORY = SEE FACILITY DRAWINGS
11. IMPORTANCE FACTOR = SEE FACILITY DRAWINGS
12. LATERAL FORCE-RESISTING SYSTEM = SEE FACILITY DRAWINGS
13. FUNKS RESERVOIR SOIL DESIGN PARAMETERS:
    - NET ALLOWABLE SOIL BEARING PRESSURES: = TBD PSF (SHALLOW FOUNDATIONS)
    - GROUNDWATER (GW) ELEVATION:
      - MAXIMUM HIGH GW = EL 205.0
    - EQUIVALENT DRAINED FLUID PRESSURES:
      - ACTIVE: = TBD PCF
      - AT REST: = TBD PCF
      - PASSIVE: = TBD PCF
    - EQUIVALENT UNDRAINED FLUID PRESSURES:
      - ACTIVE: = TBD PCF
      - AT REST: = TBD PCF
      - PASSIVE: = TBD PCF
    - DYNAMIC FLUID PRESSURES:
      - YIELDING WALLS LATERAL FORCE: = TBD H LBS (APPLIED AT 0.6H)
      - NON-YIELDING WALLS: = TBD H PSF
      - WHERE H IS HEIGHT OF SOIL ADJACENT TO THE WALL
    - VERTICAL SURCHARGE: = EQUIVALENT 2 FT OF SOIL
    - COEFFICIENT OF FRICTION: = 0.TBD
    - MODULUS OF SUBGRADE REACTION = TBD PCI (1 FT SQUARE PLATE)
    - NATIVE SOIL UNIT WEIGHT = TBD PCF
    - MINIMUM FOOTING EMBEDMENT DEPTH: = TBD IN
14. TERMINAL REGULATING RESERVOIR SOIL DESIGN PARAMETERS:
    - NET ALLOWABLE SOIL BEARING PRESSURES: = TBD PSF (SHALLOW FOUNDATIONS)
    - GROUNDWATER (GW) ELEVATION:
      - MAXIMUM HIGH GW = EL 124.0
    - EQUIVALENT DRAINED FLUID PRESSURES:
      - ACTIVE: = TBD PCF
      - AT REST: = TBD PCF
      - PASSIVE: = TBD PCF
    - EQUIVALENT UNDRAINED FLUID PRESSURES:
      - ACTIVE: = TBD PCF
      - AT REST: = TBD PCF
      - PASSIVE: = TBD PCF
    - DYNAMIC FLUID PRESSURES:
      - YIELDING WALLS LATERAL FORCE: = TBD H^2 LBS (APPLIED AT 0.6H)
      - NON-YIELDING WALLS: = TBD H PSF
      - WHERE H IS HEIGHT OF SOIL ADJACENT TO THE WALL
    - VERTICAL SURCHARGE: = EQUIVALENT 2 FT OF SOIL
    - COEFFICIENT OF FRICTION: = 0.TBD
    - MODULUS OF SUBGRADE REACTION = TBD PCI (1 FT SQUARE PLATE)
    - NATIVE SOIL UNIT WEIGHT = TBD PCF
    - MINIMUM FOOTING EMBEDMENT DEPTH: = TBD IN
15. FACTOR OF SAFETY FOR BOUYANCY UPLIFT RESISTANCE:
    - NORMAL OPERATION FOS = 1.5 MINIMUM
    - SCHEDULED MAINTENANCE FOS = 1.25 MINIMUM
    - EXTREME MAINTENANCE FOS = 1.1 MINIMUM

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 “ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

INSPECTION AND TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.
2. SPECIFIED CONCRETE AND MASONRY AND OTHER MATERIAL TESTING RELATED TO SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED.
3. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. SPECIAL INSPECTION AND TESTS AND STRUCTURAL OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH CBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS. REFER TO DRAWINGS [xxx] TO [xxx].

FOUNDATIONS

1. REFER TO GEOTECHNICAL DATA REPORT NO. TBD.
2. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE AND DAMAGE TO ADJACENT EXISTING STRUCTURES, ROADS, UTILITIES, ETC.
3. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS, TEST PITS AND DATA REPORTS.
4. NO BACKFILL SHALL BE PLACED BEHIND WALLS UNTIL THE WALL'S CONCRETE HAS ATTAINED 100 PERCENT AND TOP SUPPORTING SLAB'S CONCRETE HAS ATTAINED 80 PERCENT OF THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH, OR UNTIL TOP-OF-WALL FRAMING SYSTEMS, INCLUDING STEEL DIAPHRAGMS, HAVE BEEN COMPLETED.
5. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP, WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
6. USE OF EXPLOSIVES IS ONLY ALLOWED WITH WRITTEN PERMISSION FROM ENGINEER.

FORMWORK, SHORING, AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.
3. “BURY” BARS OR “CARRIER” BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   - TYPICAL: ASTM A615, GRADE 60
   - WELDED: ASTM A706, GRADE 60
2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI “MANUAL OF STANDARD PRACTICE”AND ACI 301 “SPECIFICATIONS FOR STRUCTURAL CONCRETE”.
3. CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN CAST AGAINST EARTH: 3”
   - INTERIOR, DRY, HUMIDITY CONTROLLED AREAS:
     - WALLS AND SLABS: 3/4"
     - BEAM STIRRUPS AND COLUMN TIES: 1 1/2"
   - OTHER CONCRETE SURFACES: 2”
4. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING STANDARD DETAIL. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.
5. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.
6. WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS. ALL WALL FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS OR PILASTERS FOOTINGS.
7. LAP VERTICAL WALL BARS WITH DOWELS FROM BASE SLABS AND EXTEND INTO TOP FACE OF ROOF SLABS AND LAP WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF FOUR FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
8. LOCATE ELEVATED SLAB AND BEAM TOP BAR SPLICES AT MIDSPAN AND BOTTOM BAR SPLICES AT SUPPORTS.
9. REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
10. REFER TO OPENING REINFORCING STANDARD DETAILS.
11. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI **		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH ***										
SPACING = 3"	TOP BAR *	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-6"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR *	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR *	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR *	1'-0"	1'-3"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR *	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR *	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

** WHERE 3,000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16%.

*** LAP LENGTHS ARE BASED ON MINIMUM CONCRETE COVER OF 2". LONGER LENGTHS ARE REQUIRED FOR CONCRETE COVER LESS THAN 2".

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: S. METCALF
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED PROFESSIONAL ENGINEER
JEREMY KELLOGG
5698
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
STRUCTURAL NOTES 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0301
SHT 6 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS (TO MEET STRUCTURAL STRENGTH REQUIREMENTS):
   HYDRAULIC STRUCTURES: 4,500 PSI
   BUILDING STRUCTURES: 4,000 PSI
   CONCRETE FILL: 3,500 PSI
   CURBS AND SIDEWALKS: 3,500 PSI
   DUCT BANKS AND PIPE ENCASEMENTS NOT INTEGRAL WITH FOUNDATIONS: 3,500 PSI

2. 56-DAY COMPRESSIVE STRENGTHS (TO MEET DURABILITY REQUIREMENTS FOR ACI 318 AND ACI 350):
   HYDRAULIC STRUCTURES: 5,000 PSI
   BUILDING STRUCTURES: 4,500 PSI
   CONCRETE FILL: 4,000 PSI
   CURBS AND SIDEWALKS: 4,000 PSI
   DUCT BANKS AND PIPE ENCASEMENTS NOT INTEGRAL WITH FOUNDATIONS: 4,000 PSI

3. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN ALL CONSTRUCTION JOINTS IN WALLS AND SLABS OF WATER HOLDING BASINS AND BELOW GRADE STRUCTURES UNLESS SPECIFICALLY NOTED OTHERWISE.

4. CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS. LAYOUT SHOWING ALL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.

5. ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE, EXPOSING CLEAN AGGREGATE OF 1/4" AMPLITUDE SOLIDLY EMBEDDED IN MORTAR MIX.

6. COORDINATE PLACEMENT OF OPENINGS, PIPE PENETRATIONS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.

7. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

8. CONDUIT SHALL NOT BE PLACED PARALLEL WITH BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.

9. PATCH FORM TIE HOLES IN ACCORDANCE WITH STANDARD DETAILS.

CONCRETE UNIT MASONRY

1. MASONRY WALL TYPE: SPECIAL REINFORCED WALLS.

2. DESIGN COMPRESSIVE STRENGTH, f'm, OF THE FINISHED ASSEMBLY AND MATERIAL PROPERTIES SHALL BE PER THE TABLE BELOW.

3. MORTAR: ASTM C270, TYPE S, HYDRATED.

4. GROUT: ASTM C476 COARSE GROUT. USE OF WATER REDUCERS OR SUPERPLASTICIZERS IS NOT PERMITTED.

5. CONCRETE MASONRY UNITS: ASTM C90, MEDIUM WEIGHT, LINEAR SHRINKAGE SHALL NOT EXCEED 0.065 PERCENT.

6.

DESIGN COMPRESSIVE STRENGTH f 'm (PSI)	UNIT STRENGTH (PSI)	GROUT STRENGTH (PSI) MIN / MAX	MORTAR PROPERTIES
2,000	1,900	2,000 / 3500	Type S

7. PLACE COURSES IN WALLS, COLUMNS, AND PILASTERS IN RUNNING BOND PATTERN.

8. PROVIDE MATCHING FOUNDATION DOWELS FOR ALL TYPICAL AND ADDITIONAL VERTICAL BARS.

9. PROVIDE VERTICAL BARS AND DOWELS WITH LAP LENGTHS AS SHOWN IN DETAIL 0422-004.

10. STAGGER ADJACENT LAP SPLICES BY 24 INCHES WHEN SEPARATED BY 3 INCHES OR LESS.

11. PROVIDE NUMBER OF FULL HEIGHT VERTICAL BARS AT EDGES OF OPENINGS AS SHOWN IN DETAIL 0422-004.

12. PROVIDE FULL HEIGHT VERTICAL BARS IN 3 CELLS AT WALL CORNERS AND INTERSECTIONS AS SHOWN IN DETAIL 0422-001.

13. PROVIDE HORIZONTAL CORNER AND INTERSECTION BARS WITH LAP LENGTHS AS SHOWN IN DETAIL 0422-001.

14. PROVIDE REINFORCED LINTELS ABOVE AND REINFORCED BOND BEAMS BELOW OPENINGS AS SHOWN IN DETAIL 0422-002.

15. PROVIDE FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS IN CELLS ADJACENT TO OPENINGS AS SHOWN IN DETAIL 0422-002.

16. GROUTING: SOLID GROUT ALL CMU WALLS.

17. DO NOT PLACE CONDUIT IN CELLS CONTAINING PARALLEL REINFORCEMENT.

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS), LATEST EDITION:
   D1.1, STRUCTURAL WELDING CODE – STEEL
   D1.2, STRUCTURAL WELDING CODE – ALUMINUM
   D1.3, STRUCTURAL WELDING CODE – SHEET STEEL
   D1.4, STRUCUTRAL WELDING CODE – REINFORCING STEEL
   D1.6, STRUCTURAL WELDING CODE – STAINLESS STEEL

2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 CLAUSE 7.25.

3. USE INTERMITTENT WELDS AND A LOW HEAT INPUT WELDING PROCESS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.

4. BUTT JOINT AND GROOVE WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
   W-SHAPES A992
   MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC. A36
   SQUARE OR RECTANGULAR STEEL TUBING A500, GRADE C
   STEEL PIPE A53, GRADE B
   STAINLESS STEEL SHAPES A276

2. ALUMINUM SHALL CONFORM TO THE FOLLOWING STANDARDS:
   STRUCTURAL SHAPES B308
   PLATES B209

3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.

4. FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:
   UNLESS SHOWN OTHERWISE F3125, GRADE A325, TYPE1
   ANCHOR BOLTS (AB)
   STAINLESS STEEL F593, AISI TYPE 304 OR 316, CONDITION CW
   STEEL F1554, GR 36
   GALVANIZED STEEL F1554, GR 36 / A153
   MACHINE BOLTS (MB) A307, GRADE B

5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.

6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE WRITTEN APPROVAL OF JACOBS.

7. ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED TO ASTM A123 UNLESS NOTED OTHERWISE. MEMBERS THAT ARE WELDED AFTER GALVANIZING SHALL BE TOUCHED UP WITH A ZINC RICH COATING AFTER COMPLETIONS AND INSPECTION OF THE WELD.

OPEN WEB METAL JOIST FRAMING

1. JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AISC AND THE STEEL JOIST INSTITUTE (SJI).

2. SEE ROOF FRAMING PLANS FOR DESIGN LOADS.

3. LOADS INDICATED ON THE DRAWINGS ARE MINIMUM DESIGN LOADS AND SHALL NOT BE CONSTRUED TO BE ALL LOADS APPLICABLE TO THE DESIGN OF THE JOISTS. DEAD LOADS INFERRED BY THE DRAWINGS WHICH WOULD BE INCLUDED IN COMMON PRACTICE, INCLUDING EQUIPMENT LOADS AND CONSTRUCTION LOADS, SHALL BE INCLUDED IN THE DESIGN.

4. VERIFY AND COORDINATE EQUIPMENT WEIGHTS, LOCATIONS, AND ATTACHMENT REQUIREMENTS PRIOR TO JOIST FABRICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE VERTICAL AND LATERAL SUPPORT OF EQUIPMENT AS SPECIFIED IN SECTION 01 88 15, ANCHORAGE AND BRACING. JOIST MANUFACTURER SHALL COORDINATE AND SUPPLY ADDITIONAL DIAGONAL WEB MEMBERS AT CONCENTRATED LOAD LOCATIONS.

5. JOIST SIZES AND CHORD SIZES INDICATED ON THE PLANS ARE MINIMUM ONLY. DESIGN BY THE JOIST MANUFACTURER MAY RESULT IN A LARGER SIZE. JOISTS SHALL HAVE DOUBLE ANGLE CHORDS.

6. DESIGN JOIST TOP CHORD AT END OF ROOF SUB-DIAPHRAGMS AND JOISTS DESIGNATED AS DRAG STRUTS FOR ADDITIONAL AXIAL LOAD (BOTH TENSION AND COMPRESSION) AS INDICATED ON THE ROOF FRAMING PLANS.

7. PROVIDE CALCULATIONS, PRODUCT DATA, MATERIAL PROPERTIES, CONNECTION DETAILS, ETC FOR ALL TYPES OF JOISTS. CALCULATIONS SHALL BE STAMPED AND SIGNED BY AN ENGINEER REGISTERED IN THE STATE OF CA.

8. JOIST BRIDGING, BOTTOM CHORD BRACING, AND OTHER ACCESSORIES SHALL BE PER THE MANUFACTURER'S STANDARDS AND AS INDICATED ON THE DRAWINGS. BRACING SHALL EXTEND TO WALLS, SEE DETAIL 0521-022.

9. JOISTS SHALL BE CAMBERED FOR DEAD LOAD AS REQUIRED BY SJI. PROVIDE STANDARD SJI CAMBER UNLESS NOTED OTHERWISE. JOIST CAMBER SHALL BE SHOWN ON SHOP DRAWINGS.

STEEL DECKING

1. FOR DECK SIZE, GAGE, AND FASTENING CONFIGURATIONS, SEE FRAMING PLANS. FASTENING CONFIGURATIONS SHOWN ARE SPECIFIC TO THE DECK PRODUCT USED AS BASIS OF DESIGN. CONTRACTOR SHALL FASTEN THE DECKING IN ACCORDANCE WITH INSTALLED DECK MANUFACTURER'S RECOMMENDATIONS TO MEET SPECIFIED CAPACITY REQUIREMENTS.

2. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE SHEET STEEL".

3. DECKING SHALL HAVE A MINIMUM 1 1/2 INCHES BEARING ON SUPPORTS.

4. DECKING SHALL BE CONTINUOUS OVER THREE SPANS MINIMUM, EXCEPT WHERE SHOWN OTHERWISE.

5. LOCATE OPENINGS FOR EQUIPMENT PER OTHER DISCIPLINE DRAWINGS.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK.

2. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE.

SPECIFICATION SECTION	ITEM
01 88 15	ANCHORAGE AND BRACING
05 21 19	OPEN WEB STEEL JOIST FRAMING
33 16 13.12	BOLTED STEEL STORAGE TANK
40 05 15	PIPING SUPPORT SYSTEMS
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: S. METCALF
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED PROFESSIONAL ENGINEER
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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
STRUCTURAL NOTES 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0302
SHT 7 OF 70

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PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT & PROPRIETARY RESTRAINED JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		DISMANTLING JOINT (DMJ)
		FLANGED COUPLING ADAPTER (FCA)
		FLEXIBLE COUPLING
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN

DOUBLE LINE	SINGLE LINE	
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		REDUCING BUSHING
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

NOTES:

1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

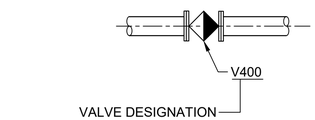
VALVE SYMBOLS

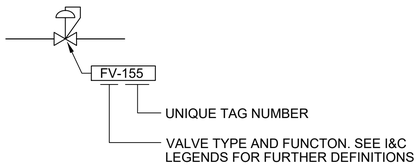
SINGLE LINE	DOUBLE LINE
	GATE
K	KNIFE GATE
	BUTTERFLY
	GLOBE
	BALL
	SEATING PORT ECCENTRIC PLUG
	PLUG OR COCK
	NEEDLE
	DIAPHRAGM
	PINCH
	SWING CHECK
	BALL CHECK
	HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS
S	SAMPLE
	MUD
	PRESSURE RELIEF
	AIR AND/OR VACUUM RELEASE
	REGULATED SIDE PRESSURE CONTROL (INTERNAL PILOT)
	REGULATED SIDE PRESSURE CONTROL (EXTERNAL PILOT)
	MULTI-PORT VALVE, ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
	TELESCOPING SCUM VALVE

OR

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES



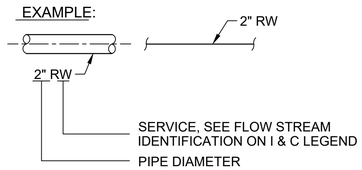


ACTUATOR SYMBOLS

PNEUMATIC DIAPHRAGM	H HYDRAULIC
PNEUMATIC CYLINDER	MANUAL
	S SOLENOID
M ELECTRIC MOTOR	E/H ELECTRO HYDRAULIC

PIPING DESIGNATION

EXAMPLE:



GENERAL PIPING NOTES

1. LAY GRAVITY-FLOW PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. CONTRACTOR SHALL DESIGN PIPE SUPPORTS AS SPECIFIED. THE ABSENCE OF PIPE SUPPORTS AND DETAILS ON CONTRACT DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF SIZING AND PROVIDING SUPPORTS THROUGHOUT THE FACILITY.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST RESTRAINT AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST RESTRAINT SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
7. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
8. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
9. ALL EXISTING PIPE SHALL BE FIELD VERIFIED FOR LOCATION, SIZE AND MATERIAL. PROVIDE THRUST RESTRAINT AT ALL CONNECTIONS TO EXISTING PIPES.
10. THRUST RESTRAINT OF BURIED PIPING SHALL BE ACCOMPLISHED USING MECHANICALLY RESTRAINED JOINTS. THRUST BLOCKS SHALL NOT BE USED, UNLESS SPECIFICALLY IDENTIFIED ON THE DRAWINGS.
11. FLOW STREAM IDENTIFICATIONS ARE SHOWN ON THE INSTRUMENTATION AND CONTROL LEGENDS.
12. FOR PIPE SCHEDULE, SEE 40 05 13.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION
				P.RU	

DESIGNED BY: A. LAWHON
DRAWN BY: D. CAVE
CHECKED BY: M. RIESS
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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
PROCESS MECHANICAL LEGEND AND NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0401
SHT 8 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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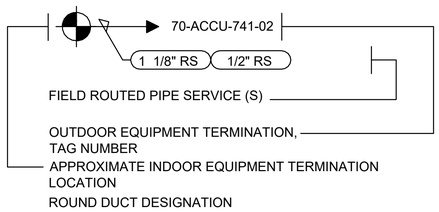
DUCTWORK AND FITTINGS SYMBOLS LEGEND

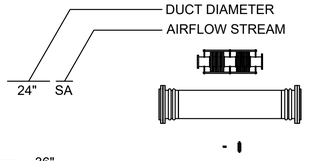
SYMBOL	DESCRIPTION
	DUCT SECTION SUPPLY UP/DOWN
	DUCT SECTION RETURN & EXHAUST UP/DOWN
24"x12" SG1 (300)	GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM, FLOW DIRECTION BY SHEET KEY NOTE
24"x12" EG1 (300)	GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM
12"x12" CD1 (250)	CEILING DIFFUSER NECK SIZE, SPECIFICATION NUMBER, CFM, FLOW DIRECTION BY SHEET KEY NOTE
12"x12" EG2 (100)	CEILING GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM
24"x12" SA	RECTANGULAR DUCT DESIGNATION DUCT SIZE IN INCHES, FLOW STREAM
24"x12" SA	DUCT SIZE IN INCHES, FLOW STREAM
	INCLINED DROP IN DIRECTION OF AIR FLOW
	INCLINED RISE IN DIRECTION OF AIR FLOW
	DUCT FLEXIBLE CONNECTION
	ACCESS DOOR
70-DMP-XXX-YY	DAMPER, TAG NUMBER
	FIRE DAMPER
	VOLUME DAMPER
	SMOKE DAMPER
	COMBINATION FIRE AND SMOKE DAMPER
	GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM, FLOW DIRECTION BY SHEET KEY NOTE
	GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM, FLOW DIRECTION BY SHEET KEY NOTE
	GRILLE NECK SIZE, SPECIFICATION NUMBER, CFM, FLOW DIRECTION BY SHEET KEY NOTE

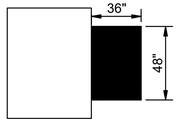
SYMBOL	DESCRIPTION
	LOUVER DUCT CONNECTION SIZE, ARROW INDICATES INTAKE OR EXHAUST, CFM
	45 DEGREE ENTRY
	CONICAL TEE
	BELLMOUTH
	FLEXIBLE DUCTWORK

HVAC FIELD ROUTING SYMBOLS



ROUND DUCT DESIGNATION





MINIMUM CLEAR ACCESS AREA

ABBREVIATIONS

EF	EXHAUST FAN
GRV	GRAVITY VENT
SF	SUPPLY FAN

GENERAL HVAC NOTES

1. ALL DIMENSIONS ARE INCHES UNLESS OTHERWISE NOTED.
2. VERIFY AND COORDINATE EQUIPMENT LAYOUT, SIZE, AND CONNECTING SERVICES WITH EQUIPMENT ACTUALLY SELECTED FOR INSTALLATION.
3. DO NOT SCALE DUCTWORK AND EQUIPMENT FOR SIZE.
4. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEMS WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION.
5. COORDINATE LOCATION AND SIZE OF OPENINGS AND SUPPORTS BASED ON APPROVED HVAC EQUIPMENT, DUCT AND PIPING SHOP DRAWINGS.
6. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.
7. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
8. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES OR MATERIAL EXPOSED TO THE WEATHER SHALL BE SEALED WATERTIGHT.
9. ALL VALVES, CONTROLS, DAMPERS, FANS, ETC. SHALL BE INSTALLED IN ACCESSIBLE LOCATION. PROVIDE HINGED ACCESS DOOR WHERE REQUIRED.
10. THE LOCATION OF CEILING AIR INLETS AND OUTLETS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLANS.
11. PROVIDE VALVED DRAINS AT LOW POINTS, ALL AIR VENTS, WHERE SPECIFIED AND WHERE SHOWN ON DRAWINGS AND STANDARD DETAILS.
12. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
13. CONTRACT DOCUMENT DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
14. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UP-OR DOWN STREAM AS RECOMMENDED BY MANUFACTURER TO ACHIEVE PUBLISHED ACCURACY.
15. ALL CONTROL WIRING SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND DIVISION 26 SPECIFICATIONS.
16. CONCRETE HOUSEKEEPING PADS SHALL BE SIZED APPROPRIATELY FOR ACTUAL EQUIPMENT APPROVED FOR INSTALLATION.
17. PROVIDE MAINTENANCE AND SAFETY CLEARANCES AROUND EACH TYPE OF HVAC EQUIPMENT AS SHOWN. SPECIFIED OR OTHERWISE RECOMMENDED BY THE MANUFACTURER.
18. DUCTWORK LAYOUT IS DIAGRAMMATIC ONLY. IN THE PROCESS TO COORDINATE THE DUCT INSTALLATION WITH OTHER TRADES. THE CONTRACTOR MAY REARRANGE THE DUCTWORK DOWNSTREAM OF VAV TERMINAL UNIT FOR AN OPTIMAL LAYOUT. THE FOLLOWING RULES SHALL FOLLOWED.
    A. MAXIMUM OF FIVE DUCTS CAN BE CONNECTED TO THE VAV DISCHARGE PLENUM.
    B. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED LENGTH SPECIFIED IN SECTION 23 31 13, PART 3.
    C. ROUND DUCT SIZE FOR THE TOTAL FLOW THROUGH THE BRANCH SHALL BE AS FOLLOWS:

0-60 CFM	5 INCH	605-900 CFM	14 INCH
65-95 CFM	6 INCH	905-1300 CFM	16 INCH
100-210 CFM	8 INCH	1305-1800 CFM	18 INCH
215-380 CFM	10 INCH	1805-2300 CFM	20 INCH
385-600 CFM	12 INCH		

19. DUCTS SHALL NOT BE REINFORCED WITH TIE RODS OR OTHER INTERNAL REINFORCEMENT EXCEPT FOR DUCT DIMENSIONS GREATER THAN 85 INCH AND STATIC PRESSURE IN EXCESS OF 6 INCHES WG, AS REQUIRED BY SMACNA "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE", THIRD EDITION.
20. THIS IS A GENERAL LEGEND SHEET FOR HVAC DRAWINGS. SOME ITEMS CONTAINED ON THIS SHEET MAY NOT BE USED ON THIS SPECIFIC PROJECT.
21. ROOFTOP EQUIPMENT CURBS ARE SPECIFIED IN SECTION 23 31 13. SEE ARCHITECTURAL DETAILS FOR FLASHING REQUIREMENTS.
22. "SCREENED" DELINEATION DENOTES EXISTING AND NEW FACILITIES AND IS FOR REFERENCE ONLY. "LIGHT" LINE DELINEATION DENOTES EXISTING MECHANICAL EQUIPMENT AND SYSTEMS. EXISTING FACILITY AND MECHANICAL SYSTEMS INFORMATION WAS TAKEN FROM PREVIOUS DRAWINGS, CONSTRUCTION RECORDS, DATA, AND FIELD SURVEY INFORMATION. ACTUAL LOCATION, ARRANGEMENT, AND DIMENSIONS SHALL BE FIELD VERIFIED AND WORK INSTALLED TO MEET ACTUAL CONDITIONS AND LOCATIONS ENCOUNTERED. "BOLD" (DARK) DELINEATION IS NEW WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.
24. ALL MATERIALS, FITTINGS, COVERS, AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NONCOMBUSTIBLE AND UL LISTED FOR USE IN RETURN AIR PLENUMS.
25. ALL PIPE AND DUCT PENETRATIONS THROUGH FIRE RESISTANCE RATED ASSEMBLIES SHALL BE PROVIDED WITH FIRESTOP SYSTEMS, EQUIPMENT AND ACCESSORIES TO RESIST THE PASSAGE OF FIRE, SMOKE AND OTHER GASES. THE ORIGINAL FIRE RESISTANCE RATING OF THE ASSEMBLY PENETRATED SHALL BE MAINTAINED FOR ALL TYPES OF PENETRATIONS. SEE ARCHITECTURAL DRAWINGS FOR RATED ASSEMBLY LOCATIONS.
26. METAL ROOF DECKING OR BOTTOM CHORD OF BAR JOISTS SHALL NOT BE USED FOR THE SUPPORT OF EQUIPMENT, PIPING, OR DUCTWORK UNLESS APPROVED BY THE REGISTERED STRUCTURAL DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
27. ALL HANGERS, BRACKETS, OR BRACES FOR DUCTWORK, EQUIPMENT, AND PIPING ARE GENERALLY NOT INDICATED ON THE DRAWINGS. REFER TO SECTION 23 31 13 AND STANDARD DETAILS FOR SUPPORT REQUIREMENTS NOT SHOWN ON THE PLANS.
28. FIELD ROUTED PIPING AND CONDUIT INCLUDING BUT NOT LIMITED TO CONDENSATE, REFRIGERANT AND WIRING FOR H VAC EQUIPMENT AND CONTROLS SHALL NOT CAUSE A TRIPPING HAZARD OR HEAD KNOCKING HAZARD.
29. ALL PIPING AND DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE WITH A MINIMUM HEIGHT OF 8'-0" ABOVE THE WALKING SURFACE UNLESS OTHERWISE INDICATED BY A CENTERLINE, INVERT, OR BOTTOM OF DUCT ELEVATION.
30. PIPING AND DUCTWORK INSTALLED ABOVE SUSPENDED CEILINGS SHALL BE INSTALLED TO ALLOW A MINIMUM 6 INCH CLEARANCE BETWEEN THE TOP OF CEILING ASSEMBLY AND PIPING, BOTTOM OF THE DUCT, OR BOTTOM OF SUSPENDED EQUIPMENT.
31. DUCTWORK SHALL BE FABRICATED, REINFORCED, SUPPORTED AND SEALED FOR OPERATING PRESSURES INDICATED IN THE SPECIFICATIONS FOR THE EQUIPMENT IT SERVES. ALL DUCTWORK SHALL HAVE A MINIMUM SMACNA PRESSURE CLASSIFICATION OF 1 INCH.
32. DUCT SIZES INDICATED ARE CLEAR DIMENSIONS INSIDE THE DUCT OR DUCT LINING. SHEET METAL SIZES ARE LARGER FOR INTERNALLY LINED DUCTWORK.
33. MINIMUM INSULATION THICKNESSES FOR DUCTWORK SHALL BE AS INDICATED IN THE SPECIFICATIONS.
34. DUCT CONNECTIONS TO EQUIPMENT, PIPING SIZES TO EQUIPMENT, AND EQUIPMENT SUPPORTS SHALL BE VERIFIED AND ADJUSTED TO MATCH ACTUAL EQUIPMENT SELECTED FOR INSTALLATION.
35. THE LOCATION OF PIPING AND VALVES TO THE AIR HANDLING AND AIR CONDITIONING EQUIPMENT SHALL NOT INTERFERE WITH FILTER REMOVAL, AIR HANDLING EQUIPMENT SERVICING, OR ELECTRICAL PANEL CLEARANCES.
36. ROOFTOP EQUIPMENT SHALL NOT BE LOCATED SUCH THAT ACCESS TO CONTROLS AND TO PERFORM SERVICE FOR EQUIPMENT IS LOCATED WITHIN 10 FEET OF THE BUILDING EDGE UNLESS THE PARAPET IS 42 INCHES HIGH OR HIGHER.
37. CONTROL DAMPER SIZES SHALL MATCH DIMENSIONS OF ASSOCIATED LOUVER OR DUCT UNLESS OTHERWISE INDICATED.
38. SEISMIC RESTRAINTS/BRACING SHALL BE PROVIDED FOR ALL EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES IN ACCORDANCE WITH THE MOST STRINGENT REQUIREMENTS OF THE LATEST SMACNA "SEISMIC RESTRAINT MANUAL", PROJECT SPECIFIC SEISMIC REQUIREMENTS, OR THE LATEST EDITION OF "GENERAL SEISMIC REQUIREMENTS FOR DESIGN OF NEW FACILITIES AND UPGRADE OF EXISTING FACILITIES", AS PUBLISHED BY SFPUC ENGINEERING MANAGEMENT BUREAU. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEISMIC SUPPORTS AND ADDITIONAL/MISCELLANEOUS STEEL REQUIRED FOR PROPER INSTALLATION OF SUPPORTS. SUPPORTS AND SEISMIC RESTRAINTS DESIGN SUBMITTALS SHALL BEAR THE STAMP AND SIGNATURE OF A STATE OF CALIFORNIA LICENSED STRUCTURAL ENGINEER.
39. INSULATION SHALL BE PROVIDED FOR EQUIPMENT, PIPING, AND DUCT SYSTEMS AS INDICATED IN SECTIONS 23 07 00 AND 40 42 00 AND STANDARD DETAILS.
40. BOTTOM OF DUCT (BOD) ELEVATIONS ARE MEASURED FROM FINISHED FLOOR TO THE BOTTOM OF THE DUCT BEFORE APPLYING INSULATION.
41. INSULATED STEAM, STEAM CONDENSATE, HEATING WATER SUPPLY AND RETURN PIPING PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS M1020 AND M1021 RESPECTIVELY.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: S. SHRIEF
DRAWN BY: S. HOSTETLER
CHECKED BY: T. PRICE
IN CHARGE: P. RUDE
DATE:

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
HVAC LEGEND

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0502
SHT 9 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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ONE-LINE DIAGRAM

SYMBOL	DESCRIPTION
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
AS/AF or AT/AF	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO
100/M	CIRCUIT BREAKER, MAGNETIC TRIP SHOWN, TRIP RATING SHOWN, 3 POLE, UNO
400 400	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED
1	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
ASD	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE
	CABLE OR BUS CONNECTION POINT
K	KEY INTERLOCK
	SURGE ARRESTER (GAS TYPE)
10	CAPACITOR - KVAR INDICATED, 3 PHASE
3	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
G 500/625	GENERATOR, KW/KVA RATING SHOWN
VS V 0-600V	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR
DPM	DIGITAL POWER METER (MULTIFUNCTION)
	UTILITY REVENUE METER
	GROUND
15 KVA 480-120/240V 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS AND PHASE INDICATED
	SHIELDED ISOLATION TRANSFORMER
480-120V (3)	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
SPD	SURGE PROTECTIVE DEVICE
	DRAWOUT POWER CIRCUIT BREAKER, MEDIUM VOLTAGE
	NON DRAWOUT FUSED SWITCH, MEDIUM VOLTAGE
	DRAWOUT FUSED SWITCH AND CONTACTOR, MEDIUM VOLTAGE

SYMBOL	DESCRIPTION
	DRAWOUT FUSED SWITCH AND VACUUM CONTACTOR, MEDIUM VOLTAGE
	DRAWOUT VACUUM CONTACTOR, MEDIUM VOLTAGE
	MEDIUM VOLTAGE CABLE STRESS CONE TYPE TERMINATION, OPEN TERMINATOR OR BELOW
	SWITCH - LOAD BREAK, GROUP OPERATED, MEDIUM VOLTAGE
	SWITCH W/ARCING HORNS, MEDIUM VOLTAGE
	DISCONNECTING FUSE - SOLID MATERIAL, MEDIUM VOLTAGE
	SWITCH - HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE
	FUSE - EXPULSION, HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE
	GROUND SWITCH, GANG OPERATED
	TERMINAL BLOCK LUG
△	DELTA CONNECTION
Y	WYE GROUNDED CONNECTION, SOLID GROUND
R or Z	WYE NEUTRAL GROUND RESISTOR OR IMPEDANCE CONNECTION
86	RELAY OR DEVICE, FUNCTION NUMBER AS INDICATED
50:5 (1)	CURRENT TRANSFORMER, ZERO SEQUENCE, RATIO AND QUANTITY INDICATED
800/1200:5 (3)	BUSHING CURRENT TRANSFORMER, MULTI-RATIO AND QUANTITY INDICATED
SPD	MOTOR OPERATOR, BREAKER OR SWITCH
EMU	ENERGY MOTORING UNIT
MPR	MULTI-FUNCTION DIGITAL RELAY MPR = MOTOR PROTECTION RELAY FMR = FEEDER MANAGEMENT RELAY MMR = MAIN MANAGEMENT RELAY GPR = GENERATOR PROTECTIVE RELAY

CONTROL DIAGRAM

SYMBOL	DESCRIPTION
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH-BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	3 POSITION SELECTOR SWITCH MAINTAINED CONTACT
HAND OFF REMOTE	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY

POSITION			
CKT	HAND	OFF	REMOTE
1	X	O	O
2	O	O	X

X - CLOSED CONTACT
O - OPEN CONTACT

SYMBOL	DESCRIPTION
	TOGGLE SWITCH, ON-OFF TYPE
ON OFF	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD PUSHBUTTON SWITCH
A	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR
A	INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE
ETM	ELAPSED TIME METER
M	MOTOR STARTER CONTACTOR COIL
CRX	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
TDR X	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
SV X	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT
	MOTOR SPACE HEATER
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSED TERMINAL BLOCK
	FUSE RATING INDICATED
CPT 120V	TRANSFORMER, CONTROL POWER
	THERMOCOUPLE
	CAPACITOR
+ −	BATTERY

SYMBOL	DESCRIPTION
	LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL
	LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL
	TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE
	TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON DESCENDING LEVEL
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL
	PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE
	PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE
	FLOW SWITCH, CLOSES ON INCREASED FLOW
	FLOW SWITCH, OPENS ON INCREASED FLOW
NGR	NEUTRAL GROUND CURRENT LIMITING RESISTOR
RES	CALIBRATING RESISTOR
T GEN	TACHOMETER GENERATOR
GFS	GROUND FAULT SENSOR
	FLASHER
	SEALED CONTACT
	BUZZER
	POTENTIOMETER
	RESISTOR
	BLOWN FUSE INDICATOR
	COAXIAL CABLE
	DUPLEX RECEPTACLE
L U	RELAY, WITH MECHANICAL LATCH
	FULLWAVE DIODE BRIDGE (AC TO DC)

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: C. CUSWORTH
DRAWN BY: E. GARCIA
CHECKED BY: J. LANDMAN
IN CHARGE: P. RUDE
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CRAIG M. CUSWORTH
19120
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
ELECTRICAL LEGEND 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0601
SHT 10 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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POWER SYSTEM PLAN

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION
MCC-A	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN
	PANELBOARD - SURFACE MOUNTED
LPXXA	PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
M	MOTOR, SQUIRREL CAGE INDUCTION
G	GENERATOR, VOLTAGE AND SIZE AS INDICATED
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

G	CROSSHATCHES WITH BAR INDICATE NO. 10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
EX	EXISTING CONDUIT / DUCT BANK
BD	BUS DUCT - SEE SPECIFICATIONS
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
FO	FIBER OPTIC CONDUIT
XXXX	CONCRETE ENCASED DUCT BANK WHERE XXXX IS THE DUCT BANK NAME. SEE CIRCUIT AND RACEWAY CODING DEFINITION
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
	CABLE TRAY
T	TRANSFORMER
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
60/40	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60 = SWITCH RATING / 40 = FUSE RATING) 3 POLE
2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED
100/40	BREAKER SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
C 2	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED
L 30	LIGHTING CONTACTOR, CURRENT RATING INDICATED
2	STARTER, MAGNETIC NEMA SIZE INDICATED

SYMBOL	DESCRIPTION
XX 2	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
	240V RECEPTACLE
	CONVENIENCE RECEPTACLE - QUADRUPLEX
	MULTI OUTLET ASSEMBLY
	DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
	CONVENIENCE RECEPTACLE, PEDESTAL, DUPLEX SINGLE FACE UNLESS INDICATED OTHERWISE
L20R 20	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
T	THERMOSTAT
	UTILITY REVENUE METERING FACILITY
EUH	ELECTRIC UNIT HEATER
AC	ELECTRIC AIR CONDITIONER (SELF CONTAINED UNIT)
	UTILITY POLE

LIGHTING SYSTEM PLAN

1 or 1	LUMINAIRE, SEE SCHEDULE
1	LUMINAIRE, SEE SCHEDULE
1 or	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE
1	STRIP LUMINAIRE, SEE SCHEDULE
4 or 4	LUMINAIRE AND POLE, SEE SCHEDULE
5 or 5	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
1	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE
XX or	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
$3a or 2a	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
$3	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP- WEATHERPROOF CRE- CORROSION RESISTANT EX- EXPLOSIONPROOF L- MOMENTARY 3-WAY M - MOTOR RATED MS- MANUAL STARTER WITH OVERLOADS LV- ON/OFF/DIMMING (0-10V)
OS	OCCUPANCY SENSOR
LC	LIGHTING CONTACTOR
MD	MOTION DETECTOR
PC	PHOTOCELL

FIRE ALARM SYSTEM PLAN AND RISER

FP	FIRE ALARM STATION, MANUAL
	FIRE ALARM SYSTEM, AUTOMATIC SMOKE DETECTOR
HD	FIRE ALARM SYSTEM, AUTOMATIC, HEAT DETECTOR
F	FIRE ALARM BELL

FIRE ALARM SYSTEM PLAN AND RISER

SYMBOL	DESCRIPTION
F	FIRE ALARM HORN
	FIRE ALARM HORN / STROBE LIGHT
	FIRE ALARM STROBE LIGHT
	AIR DUCT DETECTOR
FS	FIRE SPRINKLER FLOW SWITCH
TS	FIRE SPRINKLER TAMPER SWITCH
D	DOOR HOLDER

TELEPHONE SYSTEM PLAN AND RISER

TTC	TELEPHONE TERMINAL CABINET
	TELEPHONE RECEPTACLE FLOOR BOX
	TELEPHONE RECEPTACLE
T	TELEPHONE SYSTEM RACEWAY

COMPUTER SYSTEM (DATA) PLAN AND RISER

CTC	COMPUTER SYSTEM TERMINAL CABINET
	COMPUTER NETWORK CONNECTION
	COMPUTER NETWORK CONNECTION, FLUSH IN FLOOR
D	DATA SYSTEM RACEWAY

COMBINED TELEPHONE/COMPUTER SYSTEM PLAN AND RISER

4	COMBINATION TELEPHONE/DATA RECEPTACLE. WALL MOUNTED, NUMBER OF PORTS INDICATED
4	COMBINATION TELEPHONE/DATA RECEPTACLE. FLOOR BOX, NUMBER OF PORTS INDICATED

CLOSED CIRCUIT/TELEVISION CABLE PLAN AND RISER

	COMBINATION CLOSED CIRCUIT TELEVISION RECEPTACLE (CCTV) AND DUPLEX CONVENIENCE RECEPTACLE IN TWO GANG BOX WITH BARRIER, 12" DOWN FROM CEILING
	COMBINATION TELEVISION CABLE RECEPTACLE (TV) AND DUPLEX CONVENIENCE RECEPTACLE IN TWO GANG BOX WITH BARRIER, 12" DOWN FROM CEILING
	CLOSED CIRCUIT TELEVISION RECEPTACLE, FLOOR BOX
	TELEVISION CABLE RECEPTACLE, FLOOR BOX

SOUND SYSTEM PLAN AND RISER

S	SPEAKER, CONE TYPE, RECESSED IN CEILING, SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPE
S	SPEAKER, CONE TYPE, WALL MOUNTED
S	SPEAKER, CONE TYPE, SURFACE MOUNTED
V	VOLUME CONTROL, WALL MOUNT 5'-0" AFF
S	INTERIOR PAGING TRUMPET SOUND REPRODUCER WITH REMOTE AMPLIFIER, SURFACE MOUNTED
M	MICROPHONE OUTLET
S	SOUND SYSTEM RACEWAY
S	COMMUNICATION STATION

SECURITY SYSTEM PLAN AND RISER

SYMBOL	DESCRIPTION
CR	CARD KEY ACCESS
CS	CONTROL STATION
DS	DOOR SWITCH
EP	EGRESS PUSHBUTTON
	ELECTRONIC LOCK M = MAGNETIC S = STRIKE
	INTERCOM
	MONITOR
	MOTION SENSOR
	VIDEO CAMERA PTZ = PAN/TILT/ZOOM F = FIXED

GROUND SYSTEM PLAN

	GROUND ROD
	GROUND ROD IN TEST WELL
G	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: C. CUSWORTH
DRAWN BY: E. GARCIA
CHECKED BY: J. LANDMAN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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ONE LINE PROTECTION RELAYING AND ELEMENTARY DIAGRAMS - 1

SYMBOL	DESCRIPTION
(51) or —□— 52	DEVICE FUNCTION NUMBER INDICATED, SEE DEVICE TABLE
(CS T)	CONTROL SWITCH TRIP
(CS C)	CONTROL SWITCH CLOSE
43/CS	43 - DEVICE FUNCTION NUMBER, SEE DEVICE TABLE
□VS	VOLTMETER SWITCH
□AS	AMMETER SWITCH
(A)	INDICATING LAMP - SWITCHBOARD TYPE INDICATING LAMP LENS COLORS INDICATED AS FOLLOWS: A - AMBER R- RED B - BLUE W - WHITE G - GREEN
(V)	VOLTMETER
(A)	AMMETER
(W)	WATTMETER
(F)	FREQUENCY METER
(PF)	POWER FACTOR METER
(WH)	WATT-HOUR METER
(ETM)	ELAPSED TIME METER
	TACHOMETER
(W XD)	WATTS TRANSDUCER
(PF XD)	POWER FACTOR TRANSDUCER
(TD)	TIME DELAY
(4)	RELAY COIL, DEVICE FUNCTION NUMBER PER ANSI 37.2 - AMERICAN STANDARD MANUAL AND AUTOMATIC STATION CONTROL, SUPERVISORY AND ASSOCIATED TELEMETRY EQUIPMENT
7 8	NORMALLY OPEN CONTACT
3 4	NORMALLY CLOSED CONTACT
	REMOTE DEVICE
	TEST SWITCH CURRENT ELEMENT
	TEST SWITCH POTENTIAL ELEMENT
	NEUTRAL CONNECTION
	DIODE
	INSTRUMENTATION CABLE, SHIELDED
NGR	NEUTRAL GROUNDING RESISTOR
PST	PHASE SHIFTING TRANSFORMER

ONE LINE PROTECTION RELAYING AND ELEMENTARY DIAGRAMS - 2

DEVICE FUNCTION NO.	DEVICE DESCRIPTION
21	IMPEDANCE/DISTANCE RELAY
25A	AUTOMATIC SYNCHRONIZER
25C	SYNCH CHECK RELAY
27	UNDERVOLTAGE RELAY
32	REVERSE POWER RELAY
40	GENERATOR LOSS OF EXCITATION RELAY
43CSE	AUTOMATIC POWER TRANSFER AND LOAD CONTROL MODE SEL. SWITCH
43CSX	MODE SEL. SWITCH
46	GENERATOR CURRENT UNBALANCE RELAY
49	THERMAL RELAY
50GS	INSTANTANEOUS OVERCURRENT DEVICE, GROUND SENSOR
50	INSTANTANEOUS OVERCURRENT DEVICE,
51	TIME OVERCURRENT RELAY
51G	TIME OVERCURRENT RELAY, GROUND FAULT
51V	TIME OVERCURRENT, VOLTAGE RESTRAINED
52	POWER CIRCUIT BREAKER
52CSX	POWER CIRCUIT BREAKER CONTROL SWITCH
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
65A	ENGINE GOVERNOR, SPEED CONTROL
65A, MOP	ENGINE GOVERNOR, SPEED CONTROL MOTOR OPERATED POTENTIOMETER
65A, RL	ENGINE GOVERNOR, SPEED CONTROL RAISE/LOWER SWITCH
65B	ENGINE GOVERNOR, LOAD CONTROL
65B, MOP	ENGINE GOVERNOR, LOAD CONTROL MOTOR OPERATED POTENTIOMETER
65B, RL	ENGINE GOVERNOR, % LOAD RAISE/LOWER SWITCH
65E	AUTOMATIC POWER TRANSFER AND LOAD CONTROL, WOODWARD APTL
65F	AUTOMATIC GENERATOR LOADING CONTROL, WOODWARD AGLC
67	DIRECTIONAL TIME OVERCURRENT RELAY
74	ALARM RELAY
81O/U	FREQUENCY RELAY, OVER/UNDER
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
90	VOLTAGE REGULATOR
90, MOP	ENGINE EXCITATION, POWER OPERATED POTENTIOMETER
90PF	ENGINE EXCITATION, POWER FACTOR CONTROL
90RL	ENGINE EXCITATION, RAISE/ LOWER SWITCH

X = DEVICE NUMBER, WHEN THERE ARE MULTIPLE UNITS

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

POWER CIRCUIT CALLOUTS			
[P1]	[1/2"FLEX, 2#12,#12G]	[P24]	[1"C,3#8,3#14,1#10G]
[P2]	[3/4"C,2#12,1#12G]	[P25]	[1"C,3#8,4#14,1#10G]
[P3]	[3/4"C,3#12,1#12G]	[P26]	[1"C,3#8,5#14,1#10G]
[P4]	[3/4"C,4#12,1#12G]	[P27]	[1"C,2#6, 1#10G]
[P5]	[3/4"C,5#12,1#12G]	[P28]	[1"C,3#6, 1#8G]
[P6]	[3/4"C,6#12,1#12G]	[P29]	[1"C,3#6, 2#14,1#8G]
[P7]	[3/4"C,7#12,1#12G]	[P30]	[1 1/4"C,3#6, 3#14,1#8G]
[P8]	[3/4"C,8#12,1#12G]	[P31]	[1 1/4"C,3#6, 4#14,1#8G]
[P9]	[3/4"C,3#12,2#14,1#12G]	[P32]	[1 1/4"C,3#6, 5#14,1#8G]
[P10]	[3/4"C,3#12,3#14,1#12G]	[P33]	[1 1/4"C,3#4,1#8G]
[P11]	[3/4"C,3#12,4#14,1#12G]	[P34]	[1 1/4"C,3#4,3#14,1#8G]
[P12]	[3/4"C,3#12,5#14,1#12G]	[P35]	[1 1/4"C,3#4,5#14,1#8G]
[P13]	[3/4"C,3#12,6#14,1#12G]	[P36]	[1 1/4"C,3#3, 1#6G]
[P14]	[1"C,3#12,7#14,1#12G]	[P37]	[1 1/4"C,3#3, 3#14,1#6G]
[P15]	[3/4"C,2#10,1#10G]	[P38]	[1 1/4"C,3#2, 1#6G]
[P16]	[3/4"C,3#10,1#10G]	[P39]	[1 1/2"C,3#1, 1#6G]
[P17]	[3/4"C,3#10,2#14,1#10G]	[P40]	[2"C,3#1, 3#14,1#6G]
[P18]	[3/4"C,3#10,3#14,1#10G]	[P41]	[2"C,3#2/0, 1#4G]
[P19]	[3/4"C,3#10,4#14,1#10G]	[P42]	[2"C,3#3/0, 1#4G]
[P20]	[1"C,3#10,5#14,1#10G]	[P43]	[2"C,3#4/0, 1#3G]
[P21]	[1"C,2#8,1#10G]		
[P22]	[1"C,3#8,1#10G]		
[P23]	[1"C,3#8,2#14,1#10G]		

ANALOG CIRCUIT CALLOUTS	
[A1]	[3/4"C,1 TYPE 3]
[A2]	[3/4"C,2 TYPE 3]
[A3]	[1"C,3 TYPE 3]
[A4]	[1 1/4"C,4 TYPE 3]
[A5]	[1 1/4"C,5 TYPE 3]
[A6]	[1 1/4"C,6 TYPE 3]
[A7]	[1 1/2"C,7 TYPE 3]
[A8]	[1 1/2"C,8 TYPE 3]
[A9]	[1 1/2"C,9 TYPE 3]
[A10]	[2"C,10 TYPE 3]
[A11]	[2"C,11 TYPE 3]
[A12]	[2"C,12 TYPE 3]
[A13]	[2"C,13 TYPE 3]
[A14]	[2"C,14 TYPE 3]
[A15]	[3/4"C,1 TYPE 4]
[A16]	[3/4"C,2 TYPE 4]
[A17]	[1"C,3 TYPE 4]
[A18]	[1 1/4"C,4 TYPE 4]
[A19]	[1 1/4"C,5 TYPE 4]
[A20]	[1 1/4"C,6 TYPE 4]
[A21]	[1 1/2"C,7 TYPE 4]
[A22]	[1 1/2"C,8 TYPE 4]
[A23]	[2"C,9 TYPE 4]
[A24]	[3/4"C,1-4 pr. TYPE 5]
[A25]	[1"C,2-4 pr. TYPE 5]

CONTROL CIRCUIT CALLOUTS	
[C1]	[3/4"C,MSC]
[C2]	[3/4"C,2#14,1#14G]
[C3]	[3/4"C,3#14,1#14G]
[C4]	[3/4"C,4#14,1#14G]
[C5]	[3/4"C,5#14,1#14G]
[C6]	[3/4"C,6#14,1#14G]
[C7]	[3/4"C,7#14,1#14G]
[C8]	[3/4"C,8#14,1#14G]
[C9]	[3/4"C,9#14,1#14G]
[C10]	[3/4"C,10#14,1#14G]
[C11]	[3/4"C,11#14,1#14G]
[C12]	[3/4"C,12#14,1#14G]
[C13]	[3/4"C,13#14,1#14G]
[C14]	[1"C,14#14,1#14G]
[C15]	[1"C,15#14,1#14G]
[C16]	[1"C,16#14,1#14G]
[C17]	[1"C,17#14,1#14G]
[C18]	[1"C,18#14,1#14G]
[C19]	[1"C,19#14,1#14G]
[C20]	[1"C,20#14,1#14G]
[C21]	[1"C,21#14,1#14G]
[C22]	[1"C,22#14,1#14G]
[C23]	[1"C,23#14,1#14G]
[C24]	[1 1/4"C,24#14,1#14G]
[C25]	[1 1/4"C,25#14,1#14G]

MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS	
[PC1]	[3/4"C,1 (3C#12,1#12G) TYPE 2]
[PC2]	[3/4"C,1 (3C#10,1#10G) TYPE 2]
[PC3]	[3/4"C,1 (3C#8,1#10G) TYPE 2]
[PC4]	[3/4"C,2 (3C#12,1#12G) TYPE 2]
[PC5]	[1"C,2 (3C#10,1#10G) TYPE 2]
[PC1A]	[3/4"C,1 (2C#12,1#12G) TYPE 2]
[PC2A]	[3/4"C,1 (2C#10,1#10G) TYPE 2]

EMPTY CONDUIT	
[EC-1]	[3/4"C,WITH PULL STRING]
[EC-2]	[1"C,WITH PULL STRING]
[EC-3]	[1 1/4"C,WITH PULL STRING]
[EC-4]	[1 1/2"C,WITH PULL STRING]
[EC-5]	[2"C,WITH PULL STRING]
[EC-6]	[3"C,WITH PULL STRING]
[EC-7]	[4"C,WITH PULL STRING]
[EC-8]	[5"C,WITH PULL STRING]

MULTICONDUCTOR CONTROL CABLE CIRCUIT CALLOUTS	
[CC3]	[3/4"C,1-3C TYPE 1]
[CC5]	[3/4"C,1-5C TYPE 1]
[CC7]	[3/4"C,1-7C TYPE 1]
[CC9]	[1"C,1-9C TYPE 1]
[CC12]	[1"C,1-12C TYPE 1]
[CC19]	[1 1/2"C, 1-19C TYPE 1]
[CC25]	[1 1/2"C,1-25C TYPE 1]
[CC37]	[2"C,1-37C TYPE 1]
[CCC1]	[1-7C #12 TYPE 1]

NOTES:

1. FOR CABLE TYPES, SEE SPECIFICATIONS.
2. POWER CIRCUIT CALLOUTS ARE BASED ON THE AREA OF THW CONDUCTORS. CONTROL CIRCUIT CALLOUTS ARE BASED ON THE AREAS OF SCHEDULE 40 PVC CONDUIT AND TYPES XHHW & XHHW-2 INSULATION.
3. SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
4. WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".
5. FOR METRIC CONDUIT SIZES USE THE FOLLOWING CONVERSION:

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: C. CUSWORTH
DRAWN BY: E. GARCIA
CHECKED BY: J. LANDMAN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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ELECTRICAL LEGEND 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

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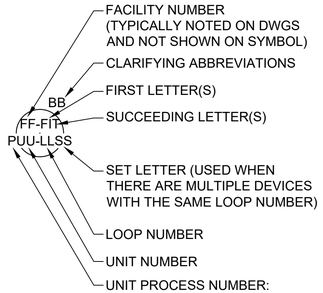
INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS



1 = PRIMARY PROCESS
2 = SECONDARY PROCESS
3 = TERTIARY PROCESS
4 = CONTROL/SAFETY SYSTEMS
5 = ELECTRICAL
6 = HVAC
7 = FIRE/SECURITY/ACCESS
8 = BUSINESS
9 = OTHER

INSTRUMENT IDENTIFICATION LETTERS TABLE

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

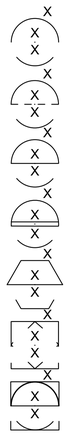
TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- $\triangle_X$ DISCRETE INPUT
- ∇_X DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



FIELD MOUNTED

REAR-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)

PANEL MOUNTED (OPERATOR ACCESSIBLE)

MCC MOUNTED

COMPUTER FUNCTION

PLC FUNCTION

SHARED DISPLAY, SHARED CONTROL

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

EXAMPLE

TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

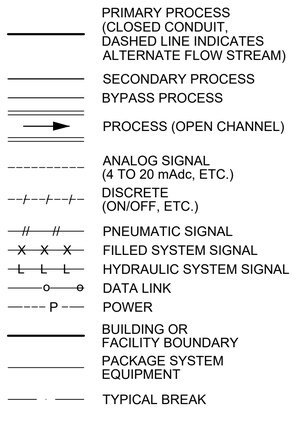
SPECIAL CASES

ON AND OFF EVENT LIGHTS

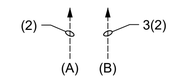
ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

LINE LEGEND



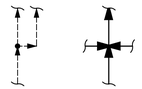
PARALLELING LINES



(A) TOTAL OF 2 SIGNALS

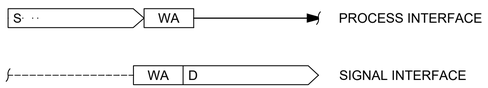
(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.

CONNECTING LINES



NON-CONNECTING LINES

INTERFACE SYMBOLS

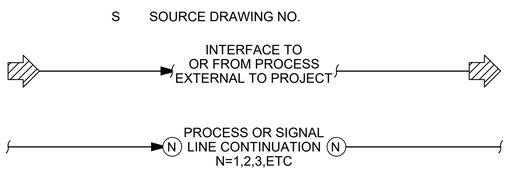


W SOURCE UNIT PROCESS NO. (1 OR 2 DIGITS)

A INTERFACE NO. (2 DIGITS)

D DESTINATION DRAWING NO.

S SOURCE DRAWING NO.



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

WWWW-DDDD-XNN-YY

W		FACILITY NUMBER
D	ARV	AIR RELEASE VALVE
	AVRV	AIR AND VACUUM RELEASE VALVE
	E	EJECTOR
	G	GATE
	M	MECHANICAL EQUIPMENT
	P	PUMP
	T	TANK
X		UNIT PROCESS NUMBER
N		UNIT NUMBER
Y		LOOP NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL_2	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL_2	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
$\triangle$	DIFFERENCE
Σ	SUM
$\times$	MULTIPLY
$\div$	DIVIDE
F(X)	CHARACTERIZED
X^n	RAISED TO THE Nth POWER
$\sqrt{\ }$	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (✳) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (✳✳) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: D. JOHNSON
DRAWN BY: E. GARCIA
CHECKED BY: M. JOHNSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
INSTRUMENTATION AND CONTROLS
LEGEND 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0701
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VALVE SYMBOLS

- GATE
- KNIFE GATE
- BUTTERFLY
- GLOBE
- BALL
- VEE-BALL
- PLUG
- SEAT PORT ECCENTRIC PLUG
- DIAPHRAGM
- PINCH
- NEEDLE
- SWING CHECK
- BALL CHECK
- BACKFLOW PREVENTER
- ROTARY
- TELESCOPE
- SAMPLE
- MUD
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE PRESSURE CONTROL
- PRESSURE REGULATION (CLAY-TYPE)
- MULTI-PORT VALVE (GATE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- ANGLE GATE

GATE SYMBOLS

- SLUICE
- BUTTERFLY
- FABRICATED SLIDE
- FLAP
- STOP LOG
- SHEAR

ACTUATOR SYMBOLS

- PNEUMATIC DIAPHRAGM SPRING-OPPOSED, SINGLE OR DOUBLE ACTING
- PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
- ELECTRIC MOTOR
- SOLENOID
- VALVE POSITIONER
- HYDRAULIC
- DIAPHRAGM, DIFFERENTIAL PRESSURE
- ELECTROHYDRAULIC
- MANUAL

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX: FO FAIL OPEN
FC FAIL CLOSED
FLP FAIL TO LAST POSITION

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- WEIR
- ORFICE PLATE
- FLOW TUBE
- PITOT-STATIC
- VORTEX METER
- ULTRASONIC FLOWMETER
- ELECTROMAGNETIC FLOWMETER
- PROPELLER OR TURBINE METER
- THERMAL FLOWMETER
- LEVEL (BUBBLER TUBE)
- LEVEL (FLOAT)
- ROTAMETER
- DENSITY METER
- GENERIC
- LEVEL

MISCELLANEOUS SYMBOLS

- VENT TO ATMOSPHERE
- AIR GAP
- DRIP TRAP
- PIG INSERT POINT
- PIG CATCH POINT
- SELF CONTAINED AIR SUPPLY
- AIR PURGE SET
- FLUSHING CONNECTION
- SEAL WATER SET
- WATER PURGE SET
- FLEXIBLE CONNECTION
- AERATOR
- DIAPHRAGM SEAL
- ANNULAR DIAPHRAGM SEAL
- COMPOSITE SAMPLER
- FLAME TRAP
- CALIBRATION COLUMN
- INLINE SILENCER
- BLIND FLANGE
- PIPE CAP
- STRAINER
- BASKET STRAINER
- FILTER
- PULSATION DAMPENER
- EXPANSION CHAMBER

PANEL OUTLINE
FFLCPLLLX
PANEL CONTINUED ON SAME OR OTHER DRAWING
PANEL NAME

- 120V — 120 VOLT, 60 HZ POWER
- 480V — 480 VOLT, 60 HZ POWER
- XX — AIR SET XX = SUPPLY PRESSURE IN PSIG.
- PLUG
- RECEPTACLE
- RUPTURE DISK (VACUUM)
- RUPTURE DISK (PRESSURE)
- A, B → AND → C — LOGIC ELEMENT: IF A AND NOT B THEN C
- A, B → OR → C — LOGIC ELEMENT: IF A OR B THEN C
- I — INTERLOCK, SEE CONTROL DIAGRAMS

OR

I

- VOICE COMMUNICATION POINT
- SKIMMING MECHANISM
- SCREW CONVEYOR
- MIXER
- ELECTRIC MOTOR

PUMP AND COMPRESSOR SYMBOLS

- CENTRIFUGAL PUMP (DRY PIT)
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP
- RECIPROCATING OR METERING PUMP (POSITIVE DISPLACEMENT)
- DIAPHRAGM PUMP
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- PROGESSING CAVITY PUMP
- COMPRESSOR (CENTRIFUGAL)
- COMPRESSOR (PISTON)
- BLOWER OR FAN (CENTRIFUGAL)
- EJECTOR
- PISTON PUMP
- SUBMERSIBLE SUMP PUMP
- ROTARY PUMP
- VACUUM PUMP
- SCREW PUMP
- TURBINE GENERATOR

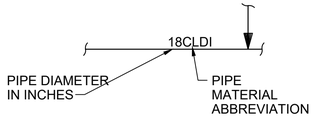
XX:
AS ADJUSTABLE SPEED
CS-1 CONSTANT SPEED (SINGLE SPEED)
CS-2 CONSTANT SPEED (TWO SPEED)

SCADA COMPONENT SYMBOLS

- FO — FIBER OPTIC CABLE OVERHEAD
- FO — FIBER OPTIC CABLE BURIED
- RADIO CONNECTION
- RADIO ANTENNA OMNI
- RADIO ANTENNA YAGI
- PLC CHASSIS
- SC — SECURITY CAMERA
- FIREWALL
- SWITCH, CORE RACK MOUNT
- SWITCH RACK MOUNT
- SWITCH, DIN RAIL MOUNT
- SERVER
- WORKSTATION
- MONITOR WALL MOUNT
- MONITOR DESK MOUNT
- PRINTER
- NETWORK ATTACHED STORAGE

LINE SIZE AND MATERIAL IDENTIFICATION

(FOR REFERENCE ONLY. SEE SITE AND MECHANICAL DRAWINGS)



CISP	CAST IRON SOIL PIPE
CLDI	CEMENT LINED DUCTILE IRON
CLSTL	CEMENT LINED STEEL
CU	COPPER
FRP	FIBERGLASS REINFORCED PLASTIC
PVC	POLYVINYL CHLORIDE
SST	STAINLESS STEEL
STL	STEEL

FLOW STREAM IDENTIFICATION

AHP	HIGH PRESSURE AIR
BCWD	BEARING COOLING WATER DRAIN
BCWS	BEARING COOLING WATER SUPPLY
CWS	COOLING WATER SUPPLY
CWR	COOLING WATER RETURN
DR	DRAIN
GD	GENERATOR DRAIN
PD	PENSTOCK DRAIN
RW	RAW WATER
SSWD	SHAFT SEAL WATER DRAIN
SSWS	SHAFT SEAL WATER SUPPLY
SW	SERVICE WATER

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: D. JOHNSON
DRAWN BY: E. GARCIA
CHECKED BY: M. JOHNSON
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Sites

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MAXWELL / SITES PUMPING AND GENERATING
GENERAL
INSTRUMENTATION AND CONTROLS
LEGEND 2

VERIFY SCALES
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0 1"

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MPG-0001-G-0702
SHT 14 OF 70

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SACRAMENTO RIVER

SACRAMENTO RIVER

P

TCCA RED BLUFF PUMPING PLANT

TCCA RED BANK CREEK SIPHON

Q

P

GCID HAMILTON CITY PUMPING PLANT

GCID STONEY CREEK SIPHON

Q

5-200 CFS

Q

E

ENVIRONMENTAL WATER PIPELINE DISSIPATION STRUCTURE

FUNKS CREEK

TEHAMA-COLUSA CANAL 2,100 CFS

GCID MAIN CANAL 1,800 CFS

CHECK STRUCTURE

ENVRONMENTAL WATER PIPELINE 42" ID

SITES RESERVOIR HGL EL (FT) 500± MAX 340± MIN

SITES I/O TUNNEL 18.5' ID

MAXWELL INTERTIE

TRR PIPELINES (2) - 144" ID

INLET/ OUTLET WORKS

CONNECTION MANIFOLD

VALVE VAULT

Q

FLOW METER VAULT

300-1,200 CFS

300-1,800 CFS

P

TERMINAL REGULATING RESERVOIR (TRR)

HGL EL (FT)

124± MAX

113± MIN

GCID CANAL RELEASE MAX FLOW: 900 CFS
PUMPED STORAGE SCHEME
MAX FLOW: 1,200 CFS

G

900 CFS
450 CFS
IN EACH PIPE

E

CHECK STRUCTURE

FUNKS PIPELINES (2) - 144" ID

300-2,100 CFS

P

FUNKS RESERVOIR

TC CANAL RELEASE MAX FLOW: 1,000 CFS
PUMPED STORAGE SCHEME
MAX FLOW: 2,400 CFS

G

HGL EL (FT)

205± MAX

198± MIN

1,000 CFS

E

FUNKS EMERGENCY DRAWDOWN CONDITIONS ONLY:
8,200 CFS TOTAL
4,100 CFS IN EACH PIPE, NOTE 1

TC CANAL

TC CANAL

TERMINAL REGULATING RESERVOIR PUMPING AND GENERATING PLANT AND ENERGY DISSIPATION STRUCTURE

GCID MAIN CANAL

900 CFS

FUNKS RESERVOIR PUMPING GENERATING PLANT AND EMERGENCY DISCHARGE STRUCTURES

1,000 CFS

TC CANAL

INLET STRUCTURE

DUNNIGAN PIPELINE 126" ID

MAXIMUM 1,000 CFS

Q

COLUSA BASIN DRAIN

TO SACRAMENTO RIVER

INLET STRUCTURE

COLUSA BASIN DRAIN DISCHARGE STRUCTURE

LEGEND:

- Q FLOW MEASUREMENT
- P PUMPING PLANT
- G GENERATING PLANT
- E ENERGY DISSIPATION STRUCTURE, EMERGENCY DISCHARGE STRUCTURES

NOTE:

1. FLOWS SHOWN FOR EMERGENCY DRAWDOWN CONDITIONS ARE PRELIMINARY AND SUBJECT TO CHANGE.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: K. PARIS
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CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING GENERAL PROCESS FLOW DIAGRAM

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-0801
SHT 15 OF 70

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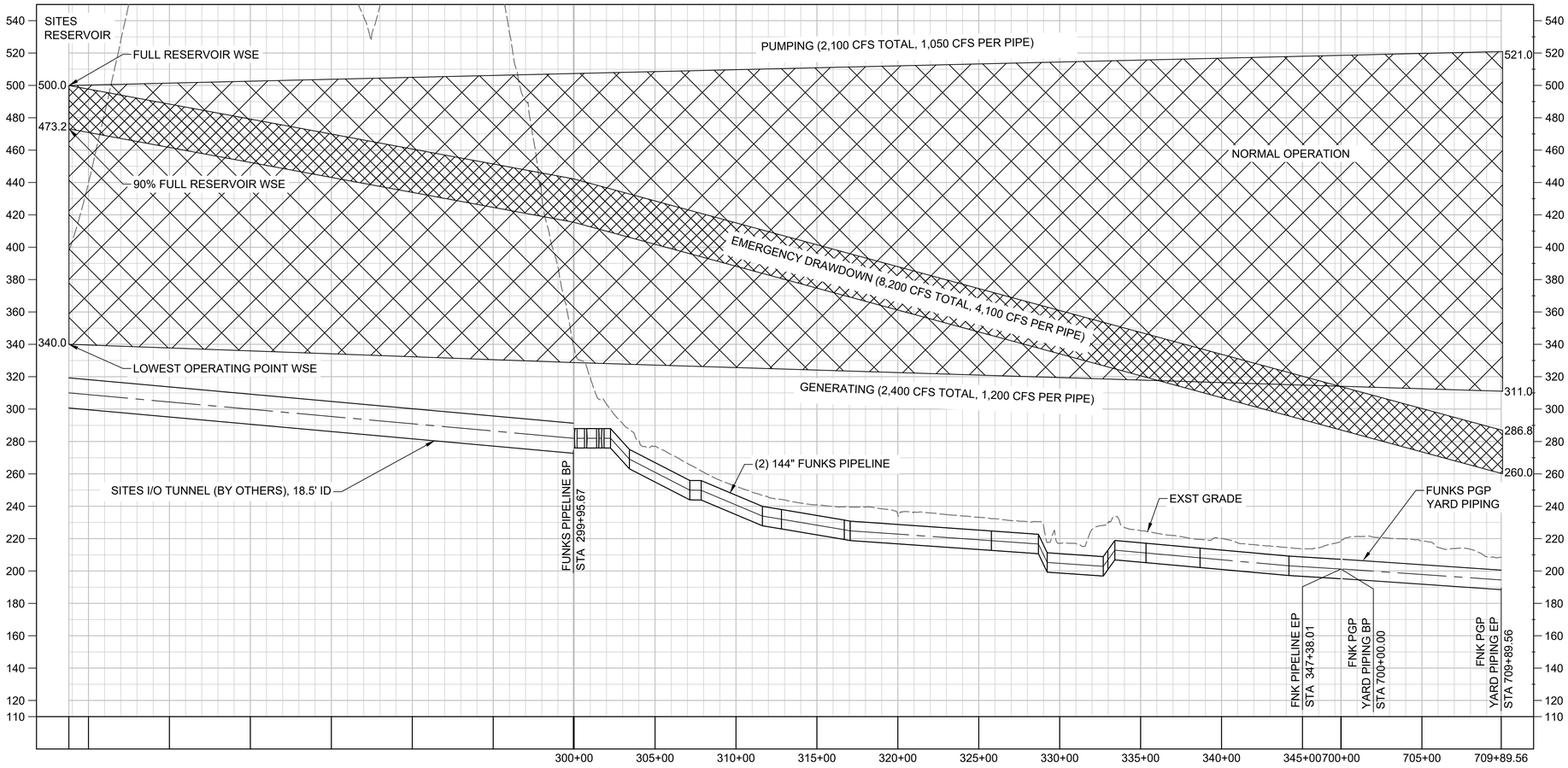

PROFILE

HORIZ SCALE: 1" = 400'
VERT SCALE: 1" = 40'

0 400' 800'

0 40' 80'
VERT SCALE: 1"=40'

NOTE:

1. HYDRAULIC GRADE LINES SHOWN ARE BASED ON OLD PIPE ROUGHNESS VALUES.

GENERAL NOTES

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM
DRAWN BY: E. HADIDI
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
HYDRAULIC PROFILE
FUNKS PIPELINE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-1001
SHT 16 OF 70

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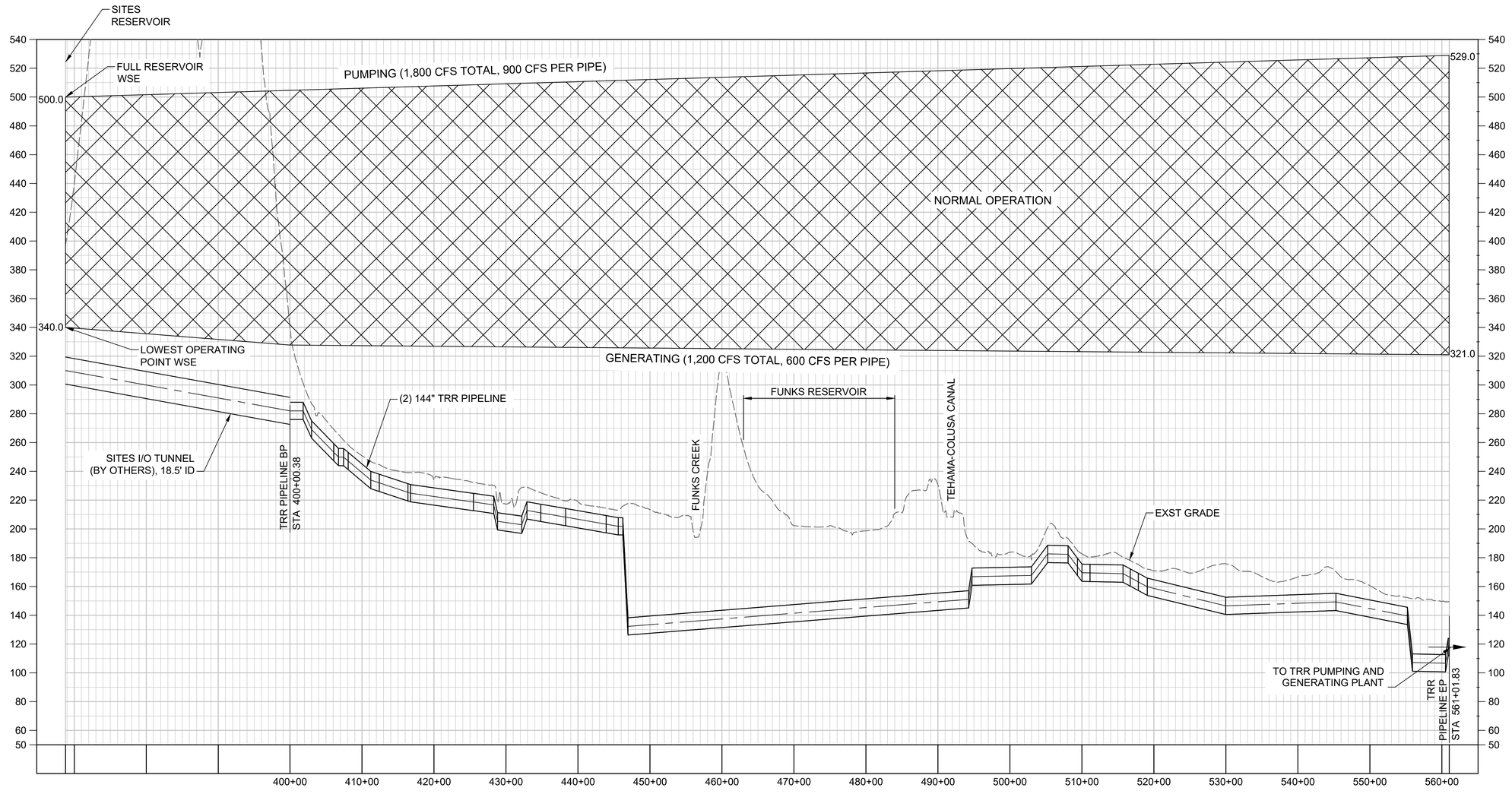


NOTE:

1. HYDRAULIC GRADE LINES SHOWN ARE BASED ON OLD PIPE ROUGHNESS VALUES.

PROFILE

HORIZ SCALE: 1" = 800'
VERT SCALE: 1" = 40'

0 800' 1600'

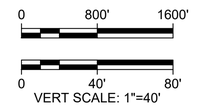
0 40' 80'

VERT SCALE: 1"=40'

GENERAL NOTES

SHEET KEY NOTES

KEY MAP



PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION
				P.RU	

DESIGNED BY: J. BLUM
DRAWN BY: E. HADIDI
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
HYDRAULIC PROFILE
TERMINAL REGULATING RESERVOIR PIPELINE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-1002
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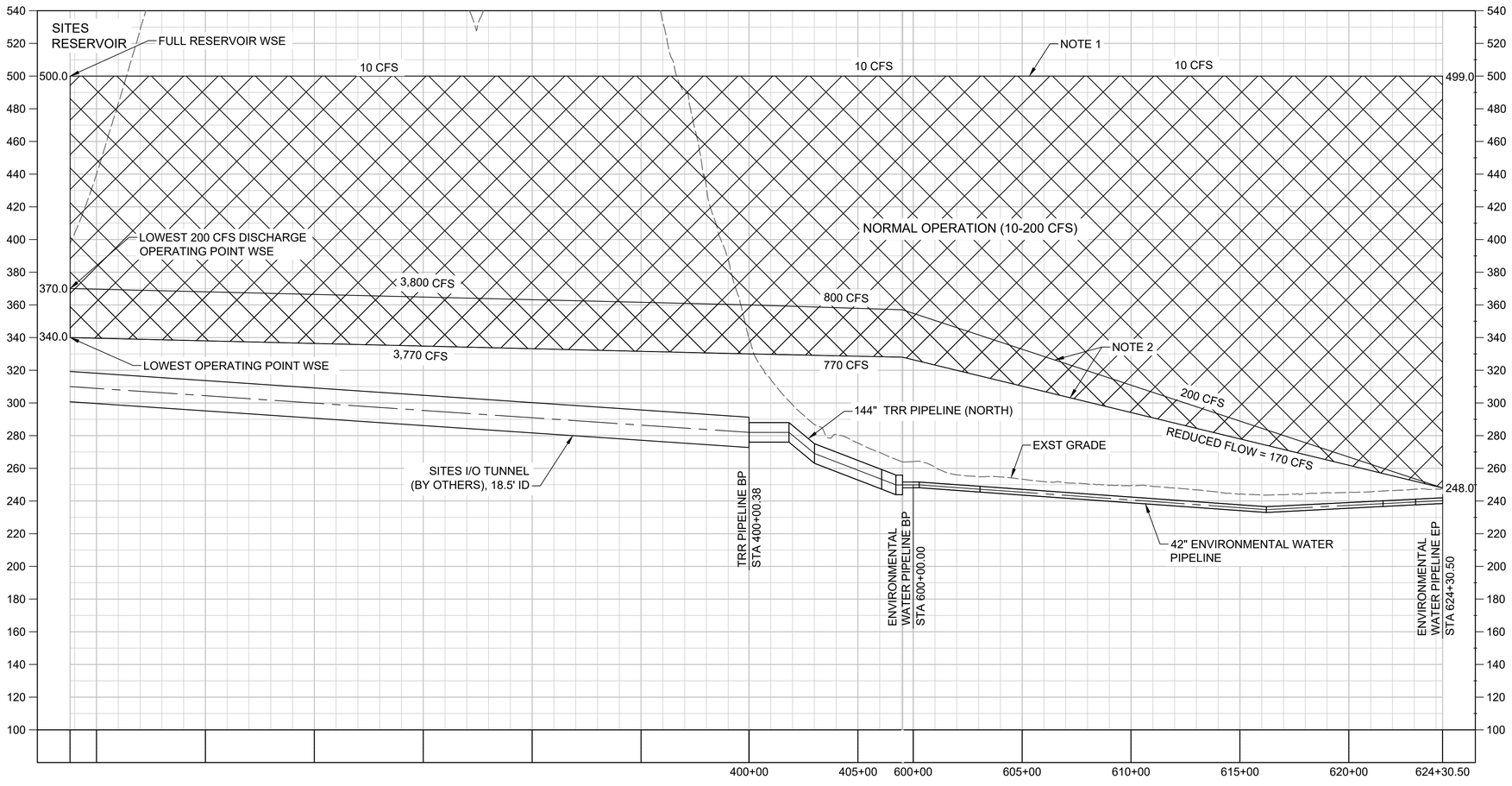

NOTES:

1. HYDRAULIC GRADE LINE ASSUMES NO FLOWS TO FUNKS RESERVOIR OR TRR.
2. HYDRAULIC GRADE LINES ASSUMES MAX GENERATING FLOWS TO FUNKS RESERVOIR (2,400 CFS TOTAL, 1,200 CFS PER PIPE) AND TRR (1,200 CFS TOTAL, 600 CFS PER PIPE).
3. HYDRAULIC GRADE LINES SHOWN ARE BASED ON OLD PIPE ROUGHNESS VALUES.
4. BELOW SITES RESERVOIR WSE 370, ENVIRONMENTAL WATER PIPELINE FLOWS ARE LESS THAN 200 CFS.

PROFILE

HORIZ SCALE: 1" = 300'
VERT SCALE: 1" = 40'

0 300' 600'

0 40' 80'

VERT SCALE: 1"=40'

GENERAL NOTES

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM
DRAWN BY: E. HADIDI
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
HYDRAULIC PROFILE
ENVIRONMENTAL WATER PIPELINE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0001-G-1003
SHT 18 OF 70

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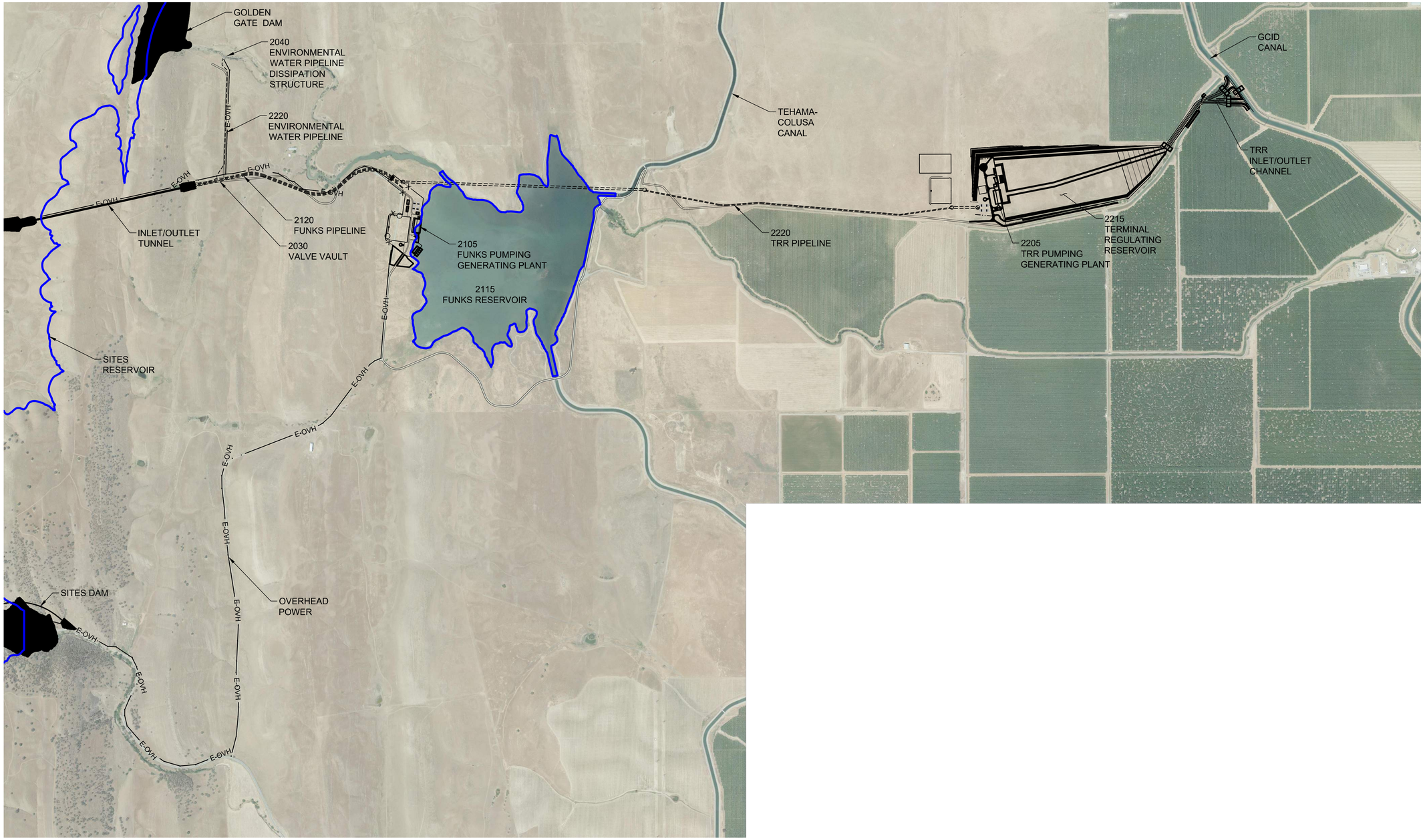

PLAN
HORIZ SCALE: 1" = 1000'

0 1000' 2000' N

GENERAL NOTES

1. AERIAL PHOTOGRAPHY WAS FLOWN ON MAY 13 AND 14, 2022 BY GEOTERRA, INC. AND WAS DELIVERED TO JACOBS IN SEPTEMBER 2022.
2. MAPPING WAS COMPILED BY R.E.Y. ENGINEERS, INC. FROM AERIAL LIDAR DATA, COLLECTED BY GEOTERRA, INC. ON FEBRUARY 8 AND 9, 2022, AND SUPPLEMENTAL GROUND SURVEY AND BATHYMETRY PERFORMED BY R.E.Y ENGINEERS.
3. HORIZONTAL DATUM: 2011 REALIZATION OF THE NORTH AMERICAN DATUM OF 1983 (NAD83(2011)), EPOCH 2017.50. MAPPING PROJECTION IS US STATE PLANES COORDINATES, CALIFORNIA ZONE 2, SURVEY FEET.
4. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID18.
5. SOURCE OF BATHYMETRY IN FUNKS RESERVOIR: R.E.Y. ENGINEERS, INC CONDUCTED THE BATHYMETRIC SURVEY IN SEPTEMBER OF 2020. DATA COLLECTION WAS BY EXTENDED RANGE-POLE WITH GPS RTK ROVER FROM A RAFT. DENSE VEGETATION IN THE RESERVOIR PREVENTED USE OF SONAR.
6. CONTOUR INTERVAL IS 1 FOOT UNLESS OTHERWISE SHOWN
7. SITES PROJECT JOINT POWERS AUTHORITY GPS CONTROL NETWORK ESTABLISHED IN JANUARY 2023 RECORD OF SURVEY IS RECORDED WITH COLUSA COUNTY RECORDS, DOCUMENT NUMBER 2023-0001608 AND WAS FILED JUNE 27, 2023..

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: B. CHELONIS
DRAWN BY: B. CHELONIS
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED PROFESSIONAL ENGINEEER
BECKY K CHELONIS
C 59851
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
CIVIL
OVERALL LOCATION AND SURVEY CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0045-C-2001
SHT 19 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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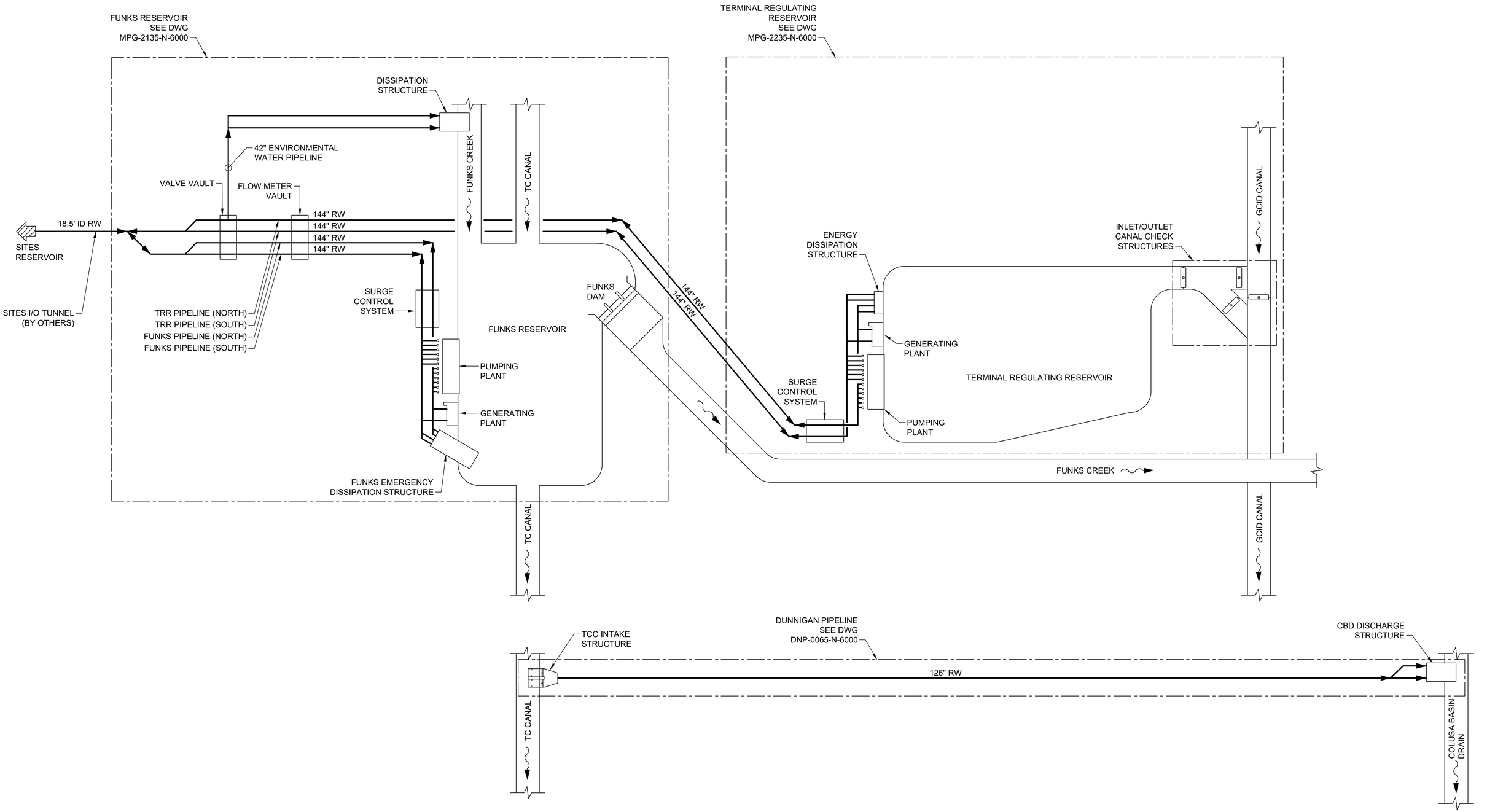

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: D. JOHNSON
DRAWN BY: E. GARCIA
CHECKED BY: J. HISE
IN CHARGE: P. RUDE
DATE: 10-06-2023

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DEREK S JOHNSON
CS 7671
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING INSTRUMENTATION AND CONTROLS OVERALL PROGRAM P&ID

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-0065-N-6000
SHT 20 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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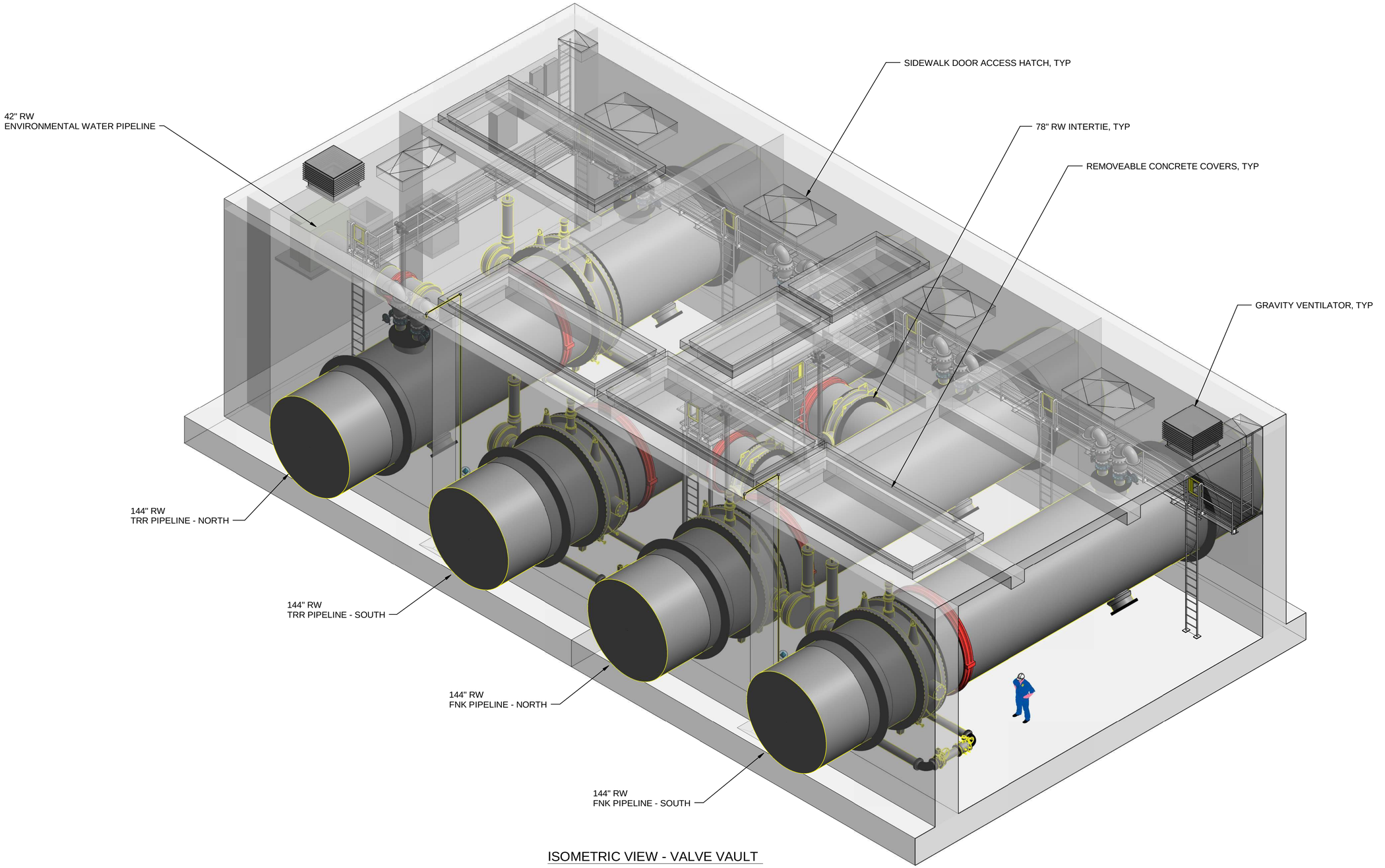

ISOMETRIC VIEW - VALVE VAULT

GENERAL NOTES

SHEET KEY NOTES

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM
DRAWN BY: D. CAVE
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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P.E. REG No. 72287
CALIFORNIA

Sites

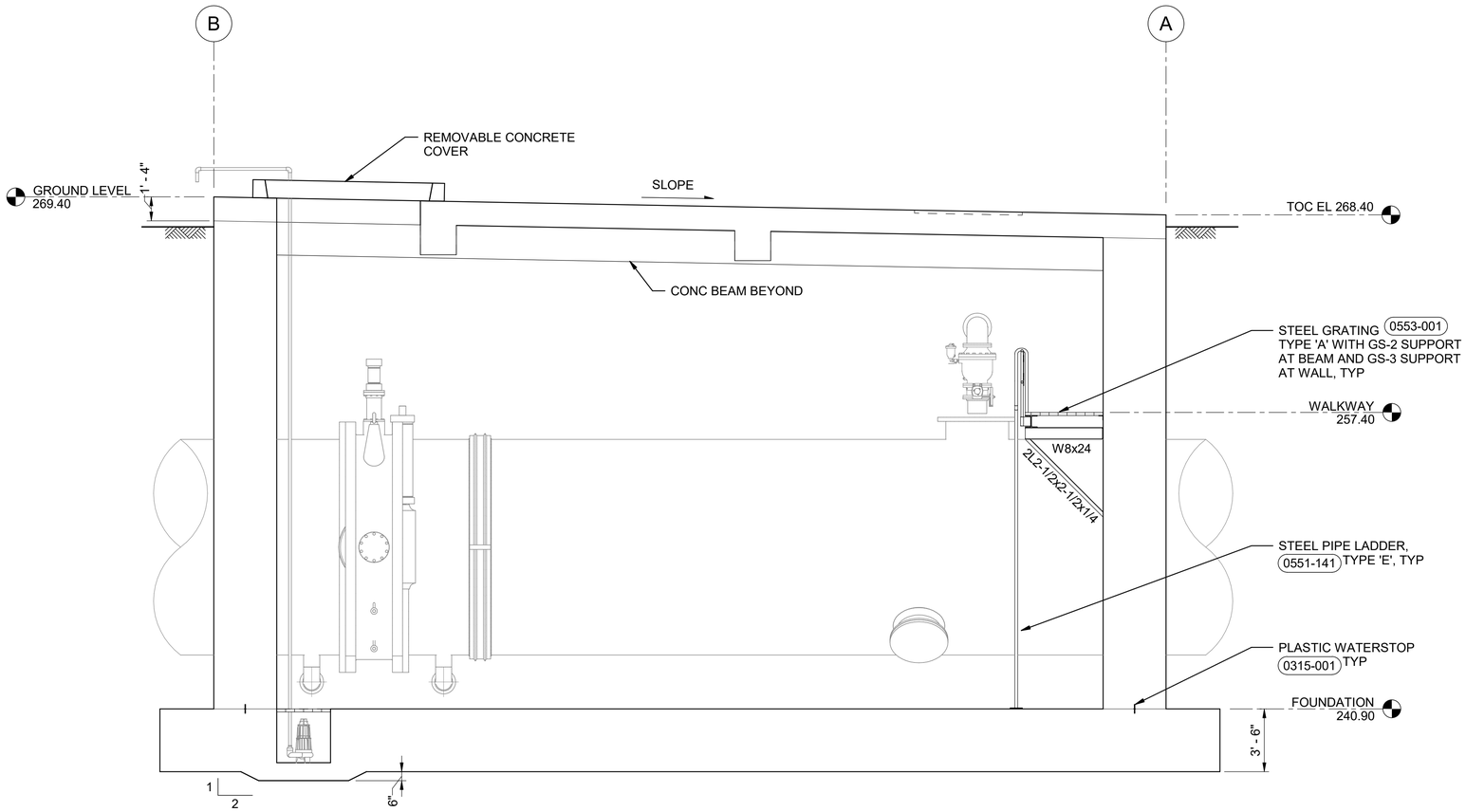
SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
VALVE VAULT
RENDERING

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2030-G-0001
SHT 24 OF 70

BIM 360://10333221_Site Reservoir Project_2022/MPG-2030_Container.rvt
10/3/2023 3:29:02 PM



C3 SECTION
1/4" = 1'-0"
MPG-2030-S-2001

GENERAL NOTES

SHEET KEY NOTES

PRELIMINARY - NOT FOR CONSTRUCTION

BIM 360://10333221_Site Reservoir Project_2022/MPG-2030-S-z3Dn01.rvt
9/28/2023 7:09:36 AM

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: K. SCHWALK
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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JEREMY KELLOGG
P.E. REG No. 5698
CALIFORNIA

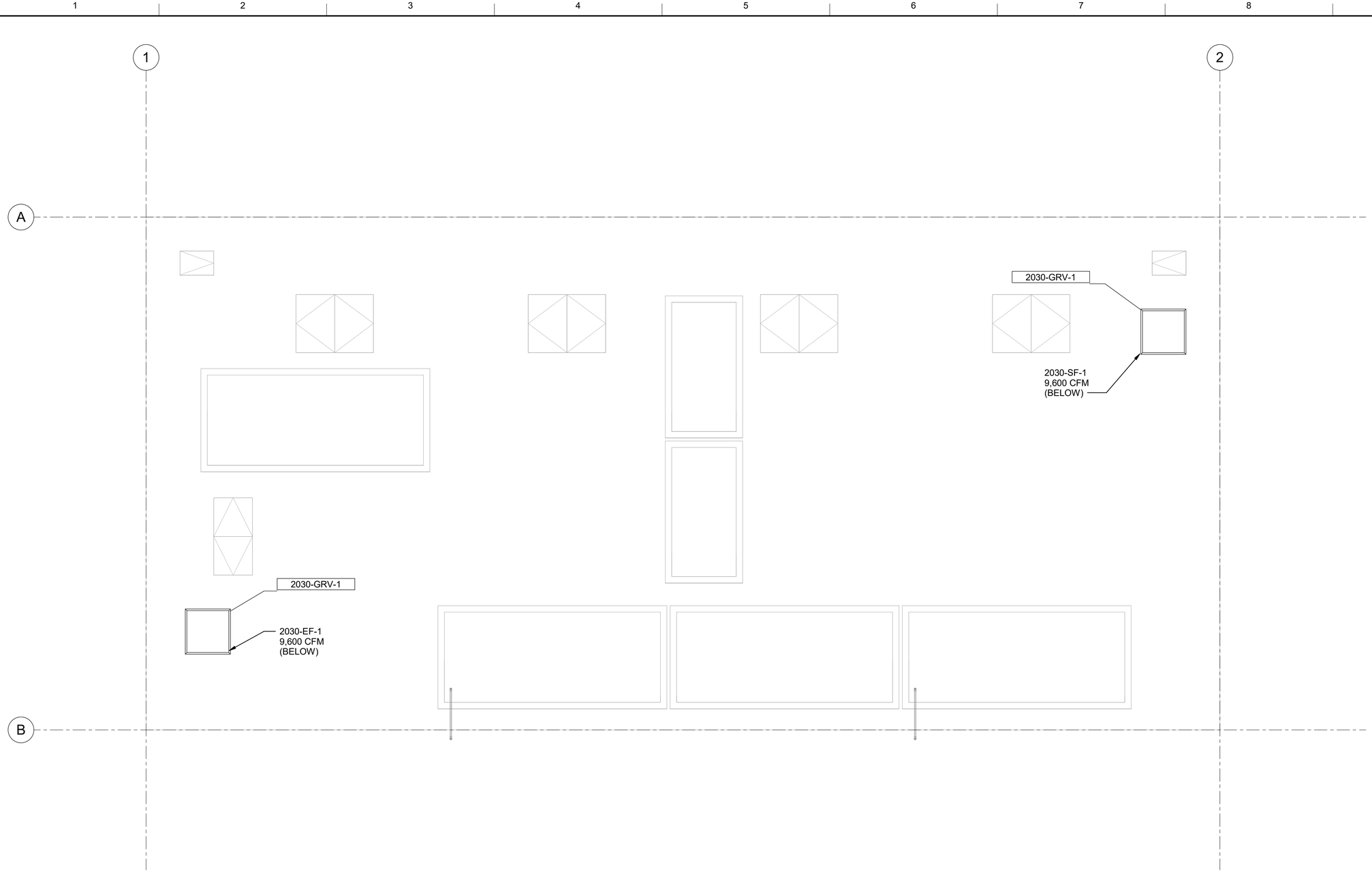
Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
VALVE VAULT
SECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2030-S-3001
SHT 28 OF 70



GROUND LEVEL PLAN
3/16" = 1'-0"

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: S. SHRIEF
DRAWN BY: S. HOSTETLER
CHECKED BY: T. PRICE
IN CHARGE: P. RUDE
DATE: 10-06-2023

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SHRIEF E SHRIEF
P.E. REG No. 39122
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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
HVAC
VALVE VAULT
GROUND LEVEL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2030-H-2201
SHT 31 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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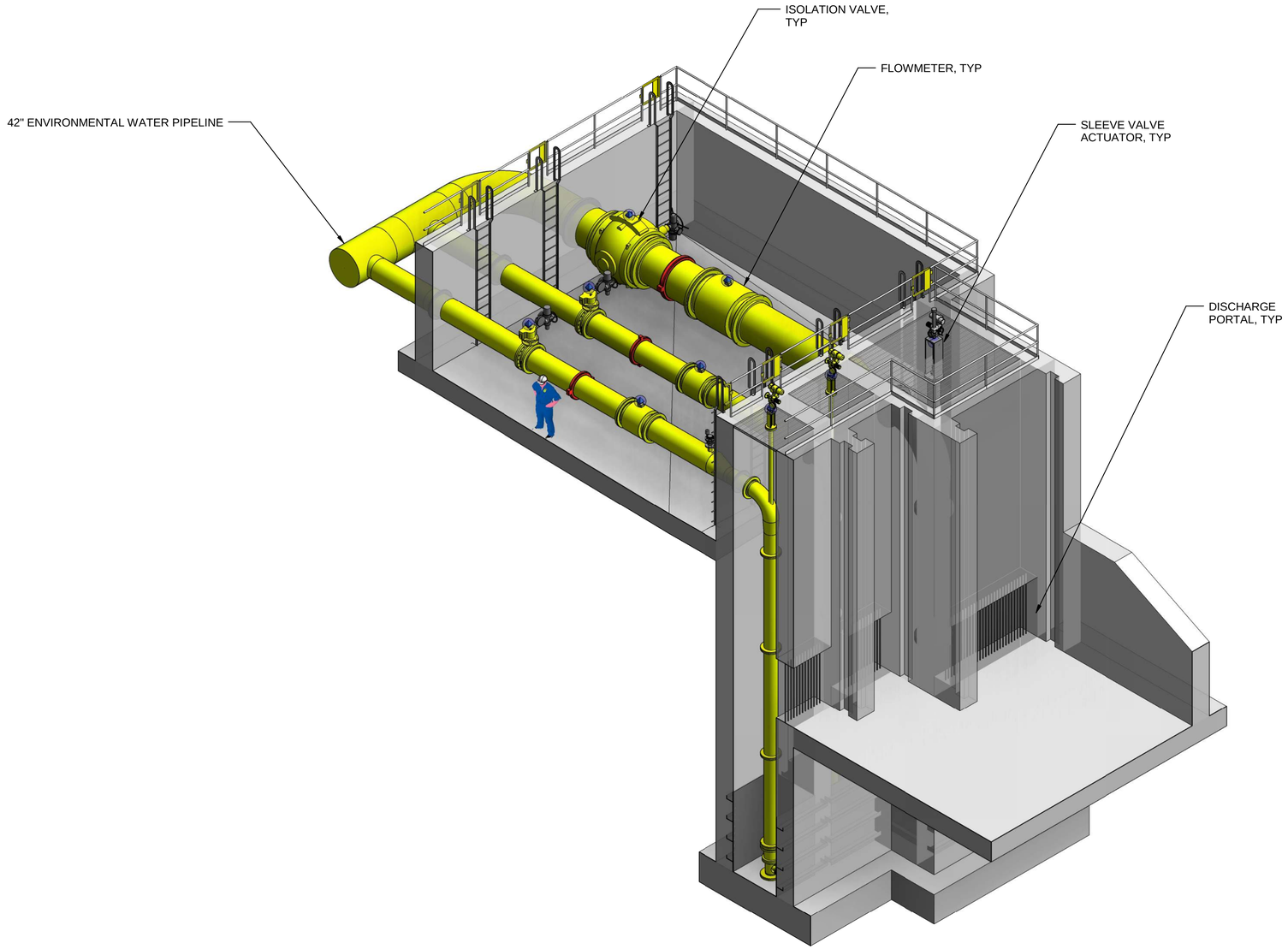

ISOMETRIC VIEW - ENVIRONMENTAL WATER PIPELINE DISSIPATION STRUCTURE

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM
DRAWN BY: D. CAVE
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
ENVIRONMENTAL WATER PIPELINE
DISSIPATION STRUCTURE
RENDERING

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2040-G-0001
SHT 33 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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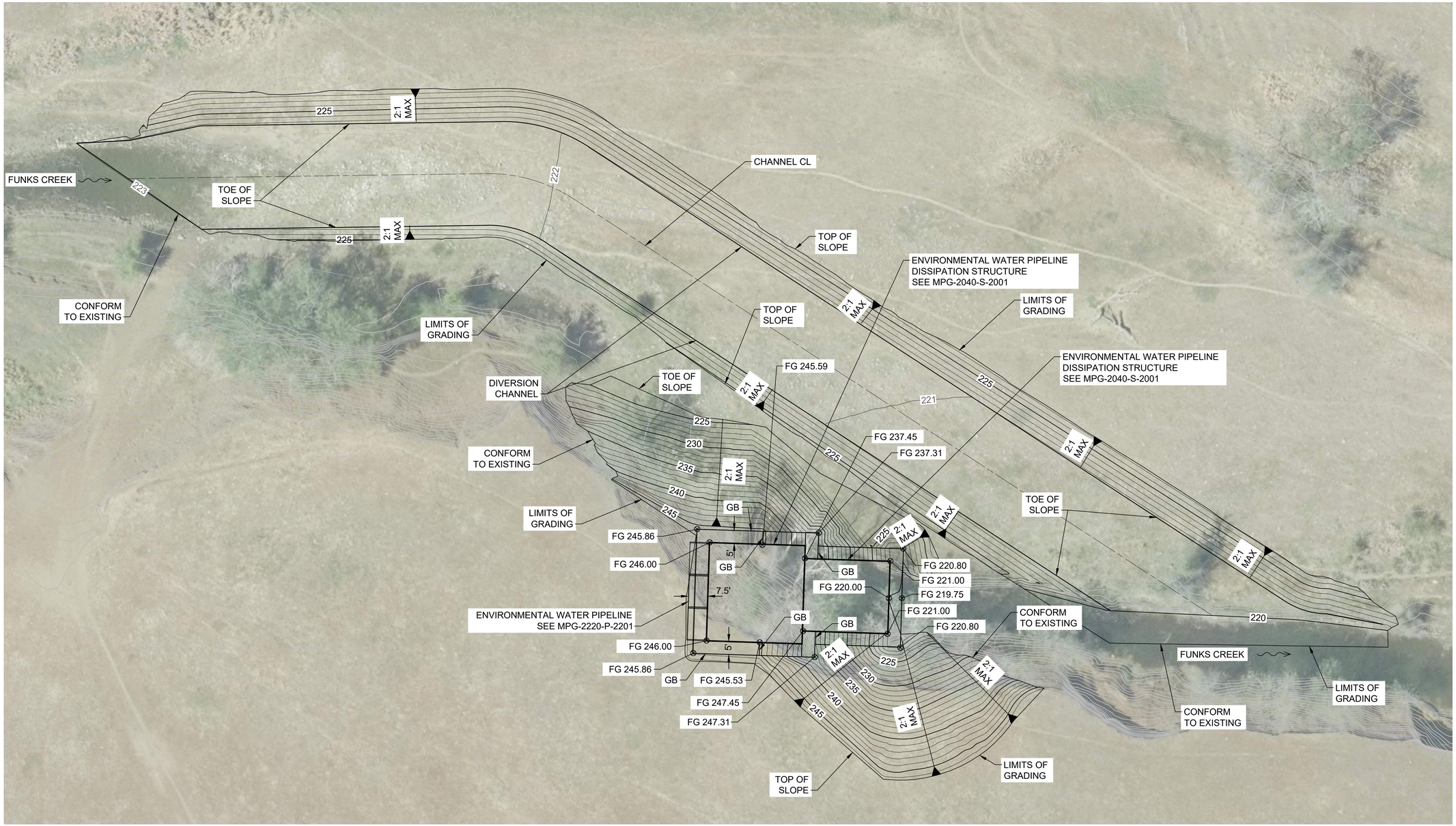

PLAN
HORIZ SCALE: 1" = 20'

0 20' 40'
HORIZ SCALE: 1" = 20'

GENERAL NOTES

SHEET KEY NOTES

KEY MAP

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM
DRAWN BY: M. LAVA
CHECKED BY: W . OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
CIVIL
ENVIRONMENTAL WATER PIPELINE
DISSIPATION STRUCTURE
SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2040-C-2001
SHT 34 OF 70

Plot Date: 9/28/2023 4:14 PM
Saved By: HADIDE
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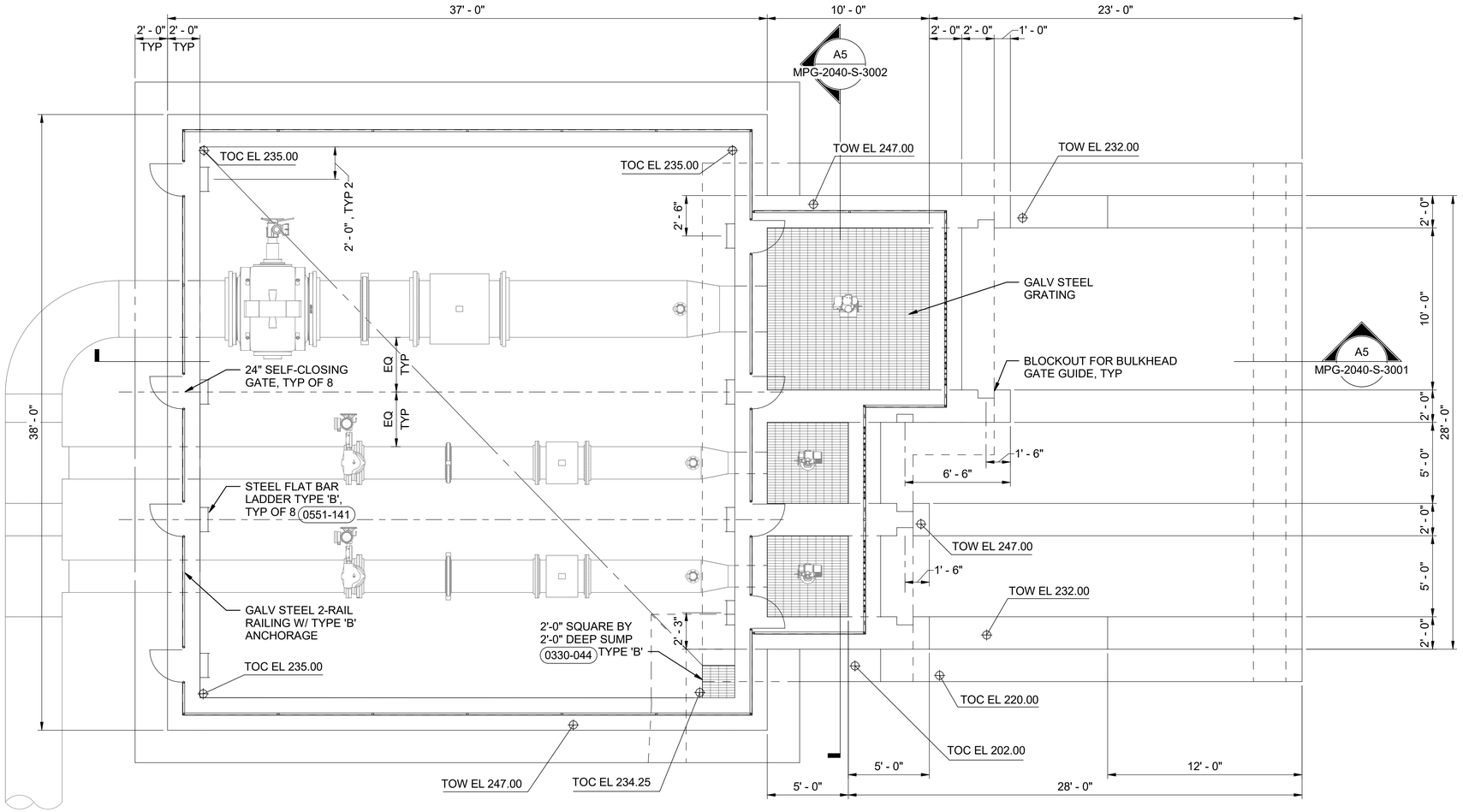
GENERAL NOTES

1. FACILITY SPECIFIC STRUCTURAL DESIGN CRITERIA:
   - A. LATERAL FORCE RESISTING SYSTEM: FLAT-BOTTOM GROUND-SUPPORTED TANK WITH REINFORCED CONCRETE NONSLIDING BASE
   - B. RESPONSE MODIFICATION FACTOR, R = 2
   - C. RISK CATEGORY = II
   - D. SEISMIC IMPORTANCE FACTOR, Ie = 1.0
   - E. SEISMIC RESPONSE COEFFICIENT, Cs = 0.347

SHEET KEY NOTES



PLAN
1/4" = 1'-0"

N

PRELIMINARY - NOT FOR CONSTRUCTION

BIM 360://10333221_Site Reservoir Project_2022/MPG-2040-S-23Dh01.rvt
9/29/2023 3:12:48 PM

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: F. GARBIEN
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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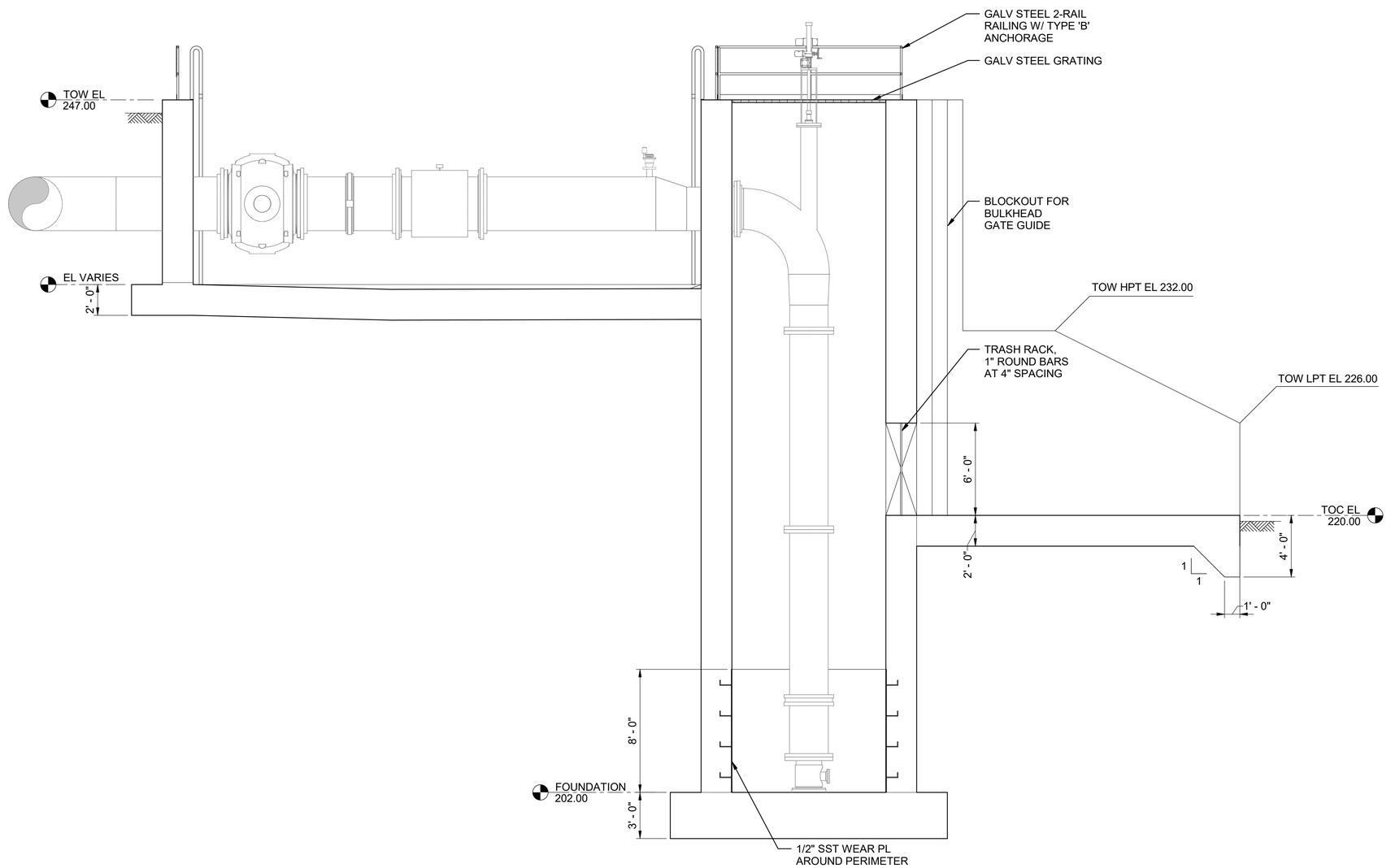
Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
ENVIRONMENTAL WATER PIPELINE
DISSIPATION STRUCTURE
PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2040-S-2001
SHT 35 OF 70



A5 SECTION
1/4" = 1'-0"
MPG-2040-S-2001

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: F. GARBIEN
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
ENVIRONMENTAL WATER PIPELINE
DISSIPATION STRUCTURE
SECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2040-S-3001
SHT 36 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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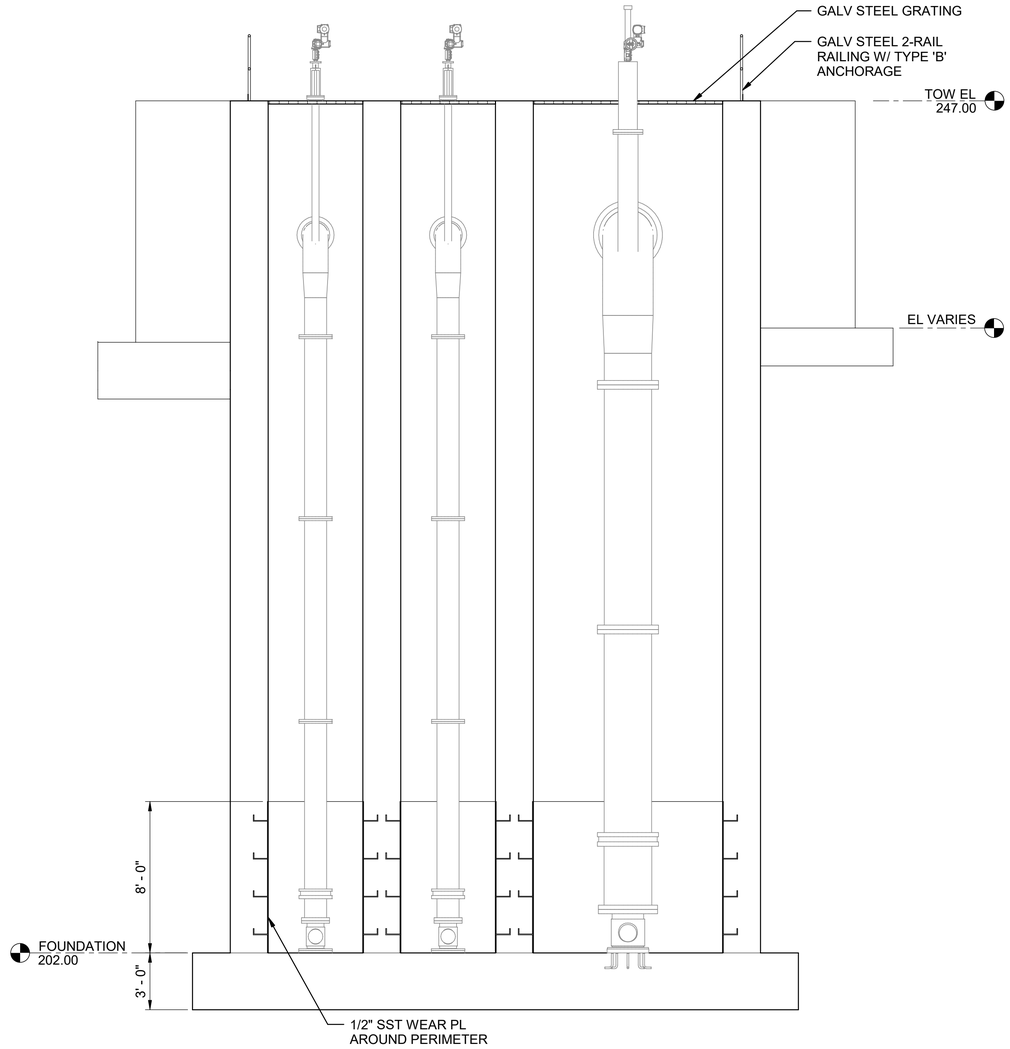

A5 SECTION
1/4" = 1'-0"
MPG-2040-S-2001

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: F. GARBIEN
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
ENVIRONMENTAL WATER PIPELINE
DISSIPATION STRUCTURE
SECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2040-S-3002
SHT 37 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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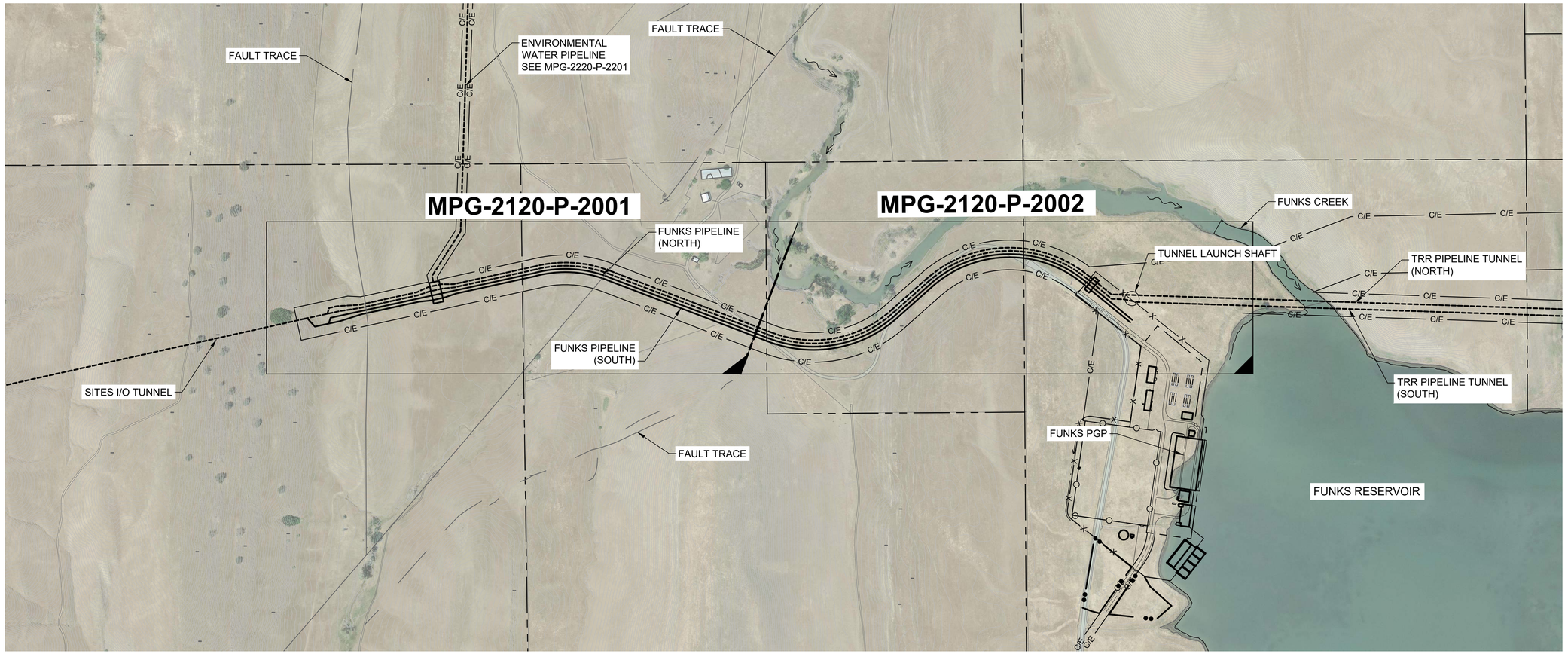

KEY PLAN
HORIZ CALE: 1"=300'

0 300' 600'
1" = 300'
N

FUNKS PIPELINE (NORTH) HORIZONTAL ALIGNMENT DATA					
POINT TYPE	STA	NORTHING	EASTING	DISTANCE TO NEXT POINT (FEET)	BEARING TO NEXT POINT
BP	299+95.67	2246932.99	6471952.51	15.67	N 77° 37' 19" E
PI	300+11.34	2246936.35	6471967.82	60.04	S 42° 21' 40" E
PI	300+71.38	2246891.98	6472008.28	74.49	N 77° 38' 08" E
PI	301+45.87	2246907.93	6472081.04	32.33	N 17° 38' 41" E
PI	301+78.21	2246938.74	6472090.84	1102.68	N 77° 38' 11" E
PC	312+80.88	2247174.84	6473167.94	-	-
C1	SEE CURVE TABLE				
PT	316+69.69	2247153.07	6473549.95	908.68	S 69° 07' 17" E
PC	325+78.37	2246829.23	6474398.96	-	-
C2	SEE CURVE TABLE				
PT	332+97.88	2246960.42	6475069.03	235.16	N 48° 18' 54" E
PC	335+33.04	2247116.80	6475244.65	-	-
C3	SEE CURVE TABLE				
PT	344+16.86	2247130.94	6476057.19	321.15	S 50° 45' 03" E
EP	347+38.01	2246927.75	6476305.89	-	-

FUNKS PIPELINE (NORTH) CURVE DATA			
CURVE #	RADUIS (FEET)	DELTA	TANGENT (FEET)
C1	628	35° 28' 22"	200.86
C2	645	63° 54' 54"	402.38
C3	628	80° 38' 06"	532.91

PLAN AND PROFILE DRAWING NUMBER

MPG–2120–P–2001

INDICATES LOWER RIGHT CORNER OF PLAN VIEW

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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BRAD L. MEMEO
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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
FUNKS PIPELINE
KEY PLAN AND HORIZONTAL ALIGNMENT DATA

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2120-P-2000
SHT 41 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 10/3/2023 12:43 PM File: C:\pwworking\hdr_sites_reservoir\dms01123\MPG-2120-P-2000.dwg
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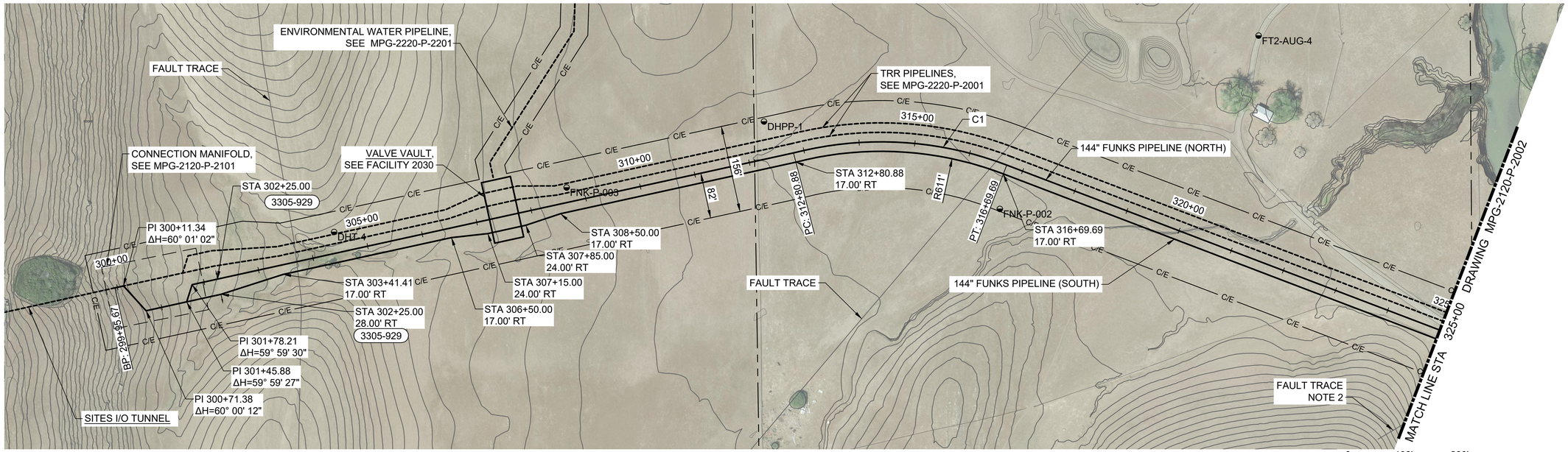
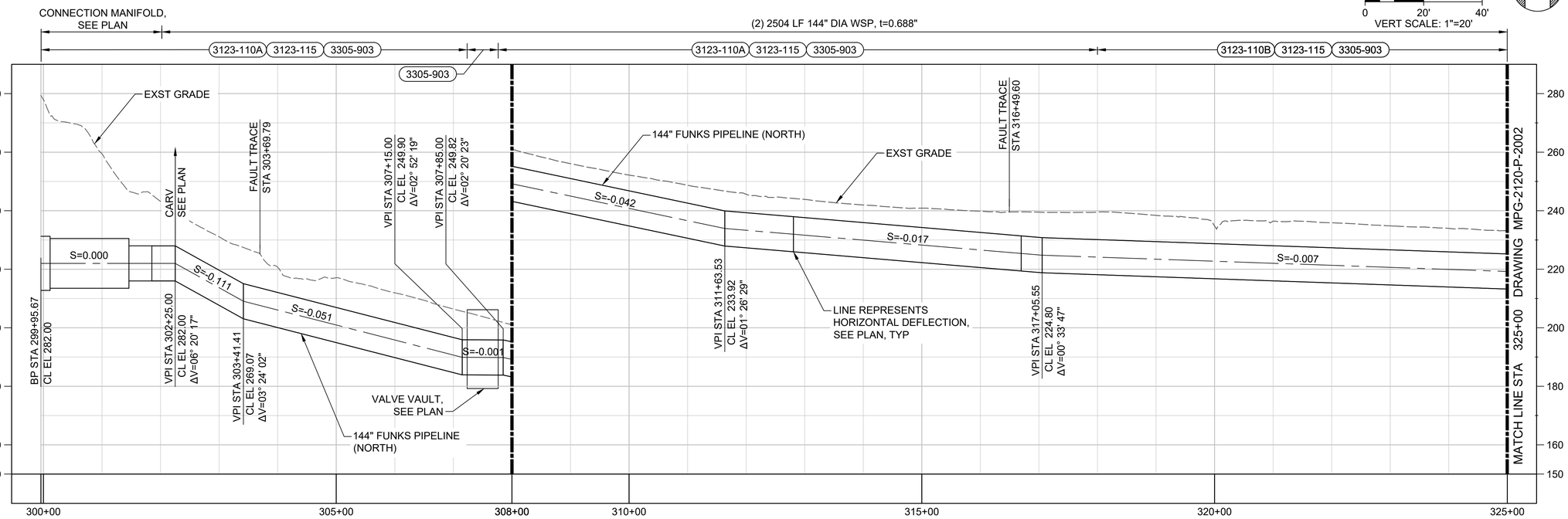


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" FUNKS PIPELINE (NORTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" FUNKS PIPELINE (NORTH), ARE FOR LAYOUT OF 144" FUNKS PIPELINE (SOUTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" FUNKS PIPELINE (NORTH) AND MAY VARY AT CENTERLINE OF 144" FUNKS PIPELINE (SOUTH).
2. FAULT TRACE TERMINATES BEFORE CROSSING PIPELINE ALIGNMENTS.

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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BRAD L. MEMEO
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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
FUNKS PIPELINE
PLAN AND PROFILE - STA 299+95.67 TO 325+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2120-P-2001
SHT 42 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 10/9/2023 3:23 PM File: C:\pwworking\hdr_sites_reservoir\dms01123\MPG-2120-P-2001.dwg
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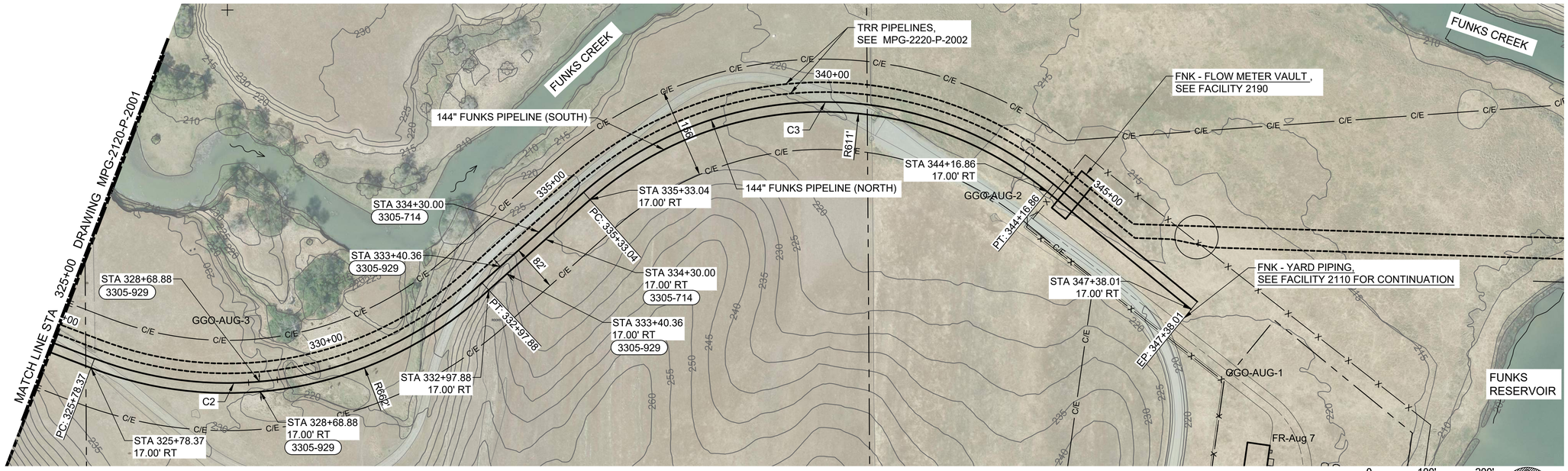
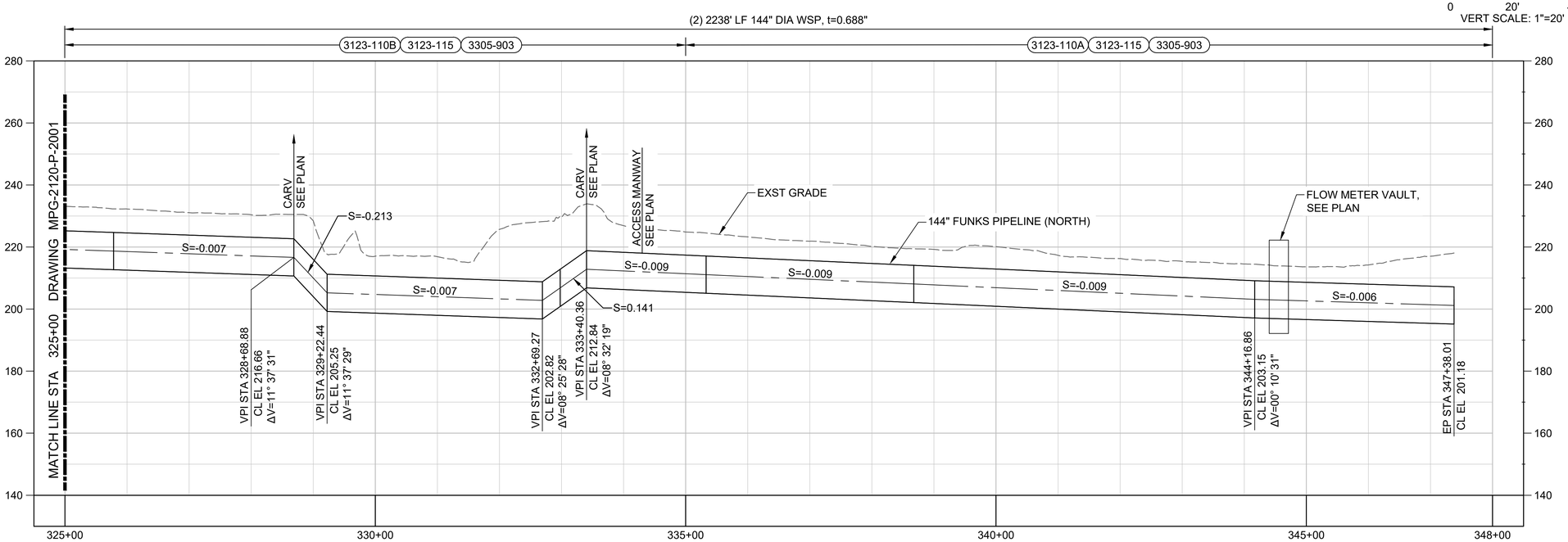


PLAN
HORIZ SCALE: 1" = 100'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" FUNKS PIPELINE (NORTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" FUNKS PIPELINE (NORTH), ARE FOR LAYOUT OF 144" FUNKS PIPELINE (SOUTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" FUNKS PIPELINE (NORTH) AND MAY VARY AT CENTERLINE OF 144" FUNKS PIPELINE (SOUTH).

SHEET KEY NOTES

KEY MAP

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
FUNKS PIPELINE
PLAN AND PROFILE - STA 325+00 TO STA 347+38.01

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2120-P-2002
SHT 43 OF 70

Plot Date: 9/26/2023 2:31 PM
Saved By: HADIDE
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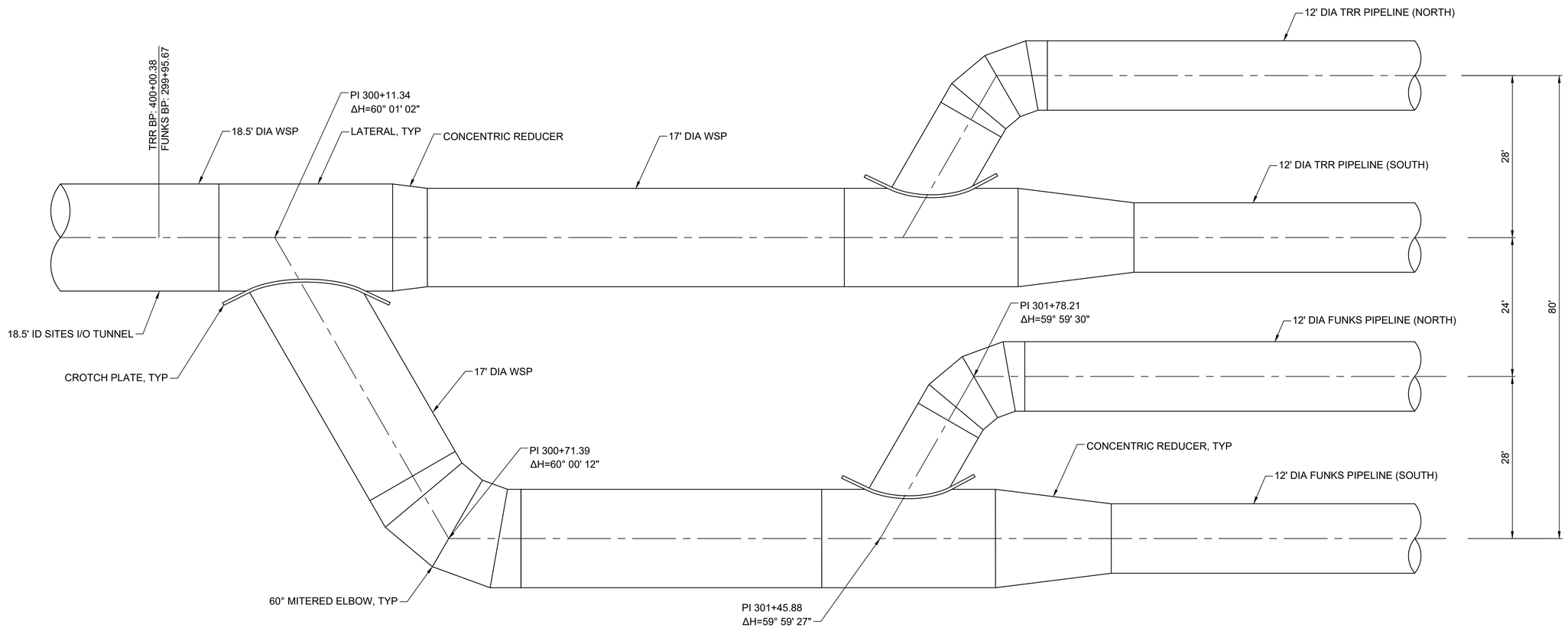

PLAN
HORIZ SCALE: 1" = 10'

0 10' 20'
HORIZ SCALE: 1" = 10'

GENERAL NOTES

1. SEE SHEETS MPG-2120-P-2001 FOR CONTINUATION OF FUNKS PIPELINES.
2. SEE SHEET MPG-2220-P-2001 FOR CONTINUATION OF TRR PIPELINES.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

Jacobs
2525 AIRPARK DR
REDDING, CA 96001
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REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
FUNKS AND TRR PIPELINES
CONNECTION MANIFOLD
PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2120-P-2101
SHT 44 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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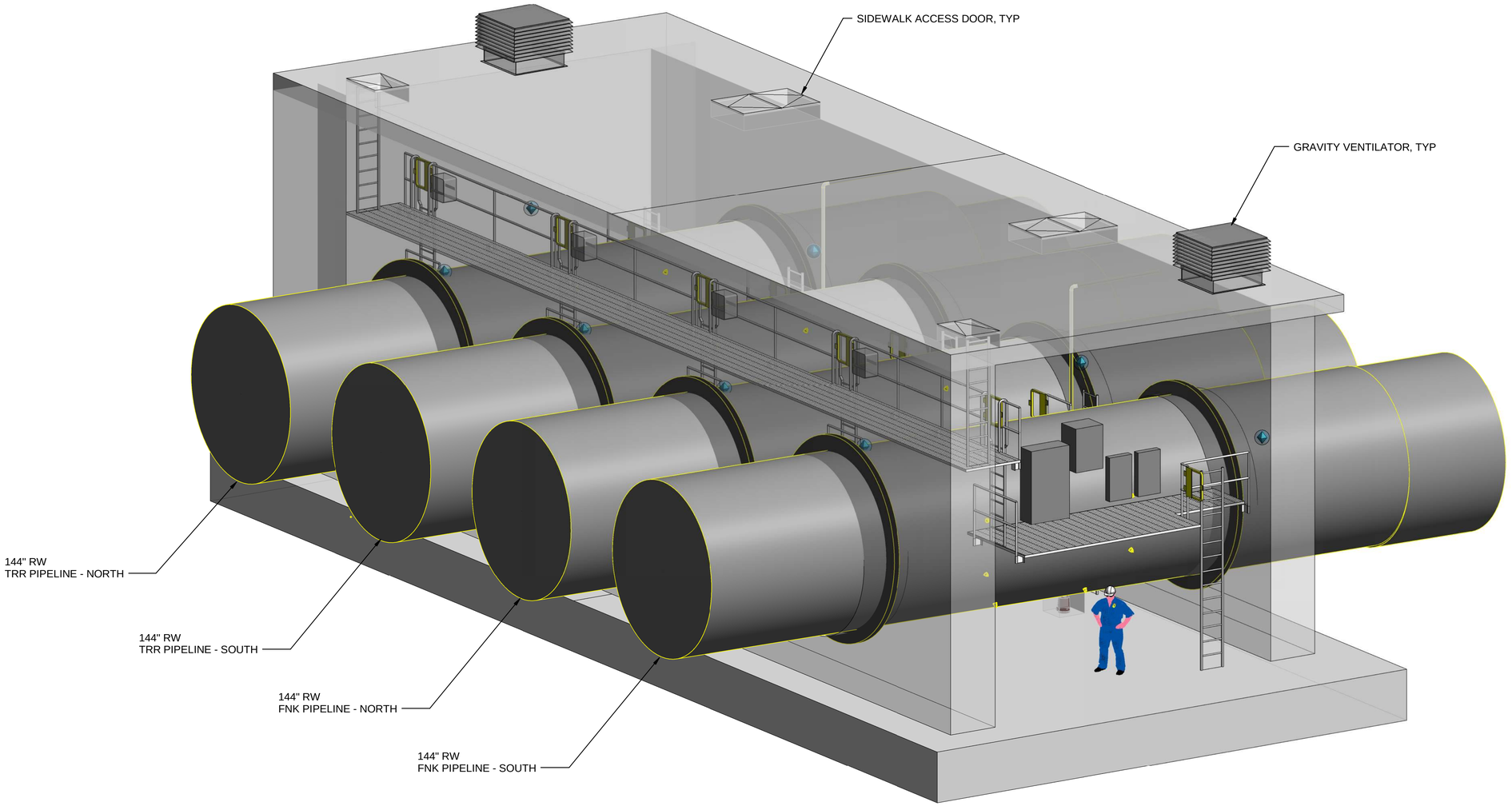

ISOMETRIC - FLOW METER VAULT

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: T. KUCZKOWSKI
DRAWN BY: D. CAVE
CHECKED BY: W. OHLIN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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PROFESSIONAL
ENGINEER
WAYNE J. OHLIN
P.E. REG No. 72287
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
GENERAL
FUNKS RESERVOIR
FLOW METER VAULT
RENDERING

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2190-G-0001
SHT 46 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

BIM 360://10333221_Site Reservoir Project_2022/MPG-2100_FNK_Overall_Site_Container.rvt
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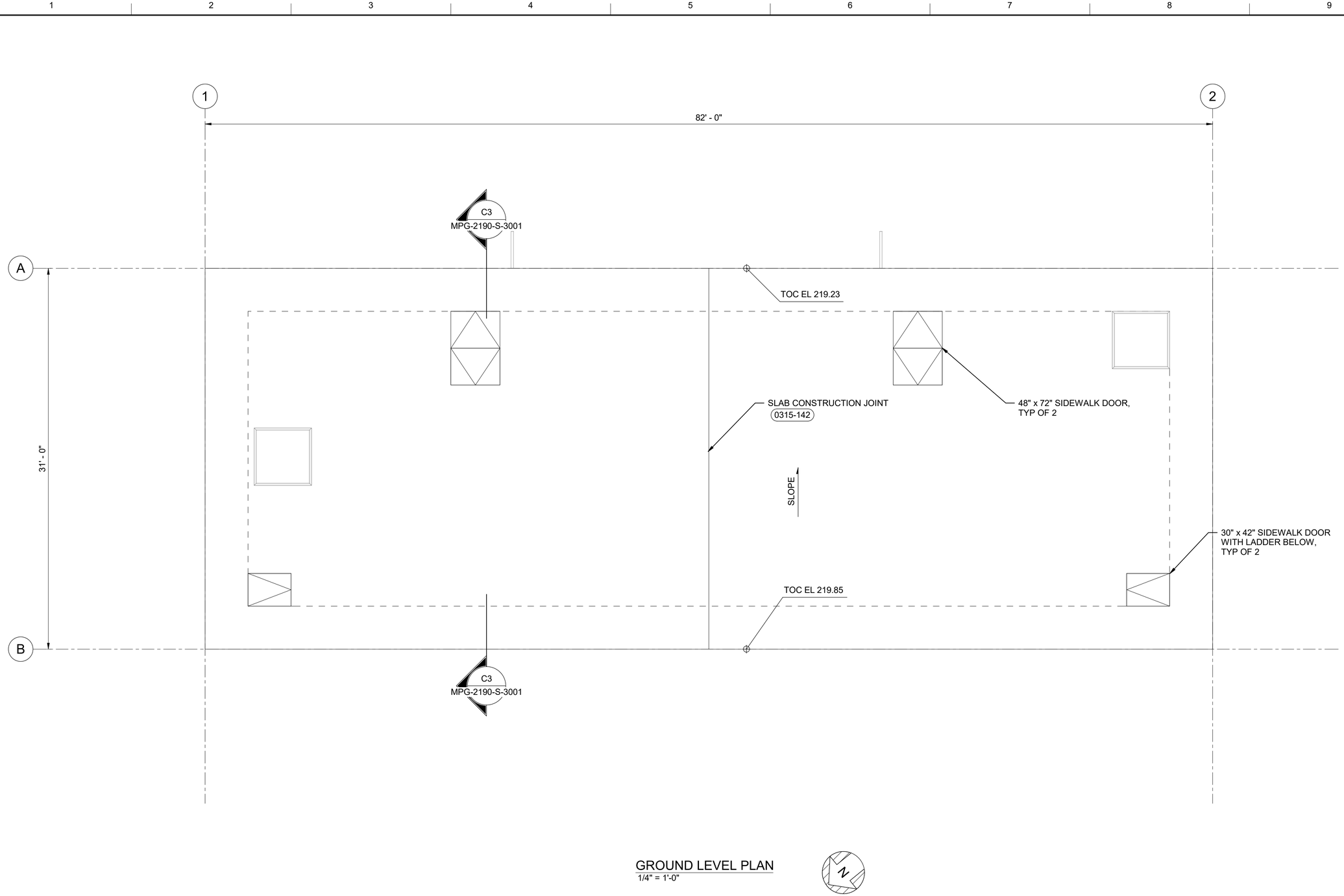

GROUND LEVEL PLAN
1/4" = 1'-0"

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: A. GAWOR
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED
PROFESSIONAL
ENGINEER
JEREMY KELLOGG
P.E. REG No. 5698
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
FUNKS RESERVOIR
FLOW METER VAULT
GROUND LEVEL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2190-S-2201
SHT 49 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

BIM 360://10333221_Site Reservoir Project_2022/MPG-2190-S-23Dh01.rvt
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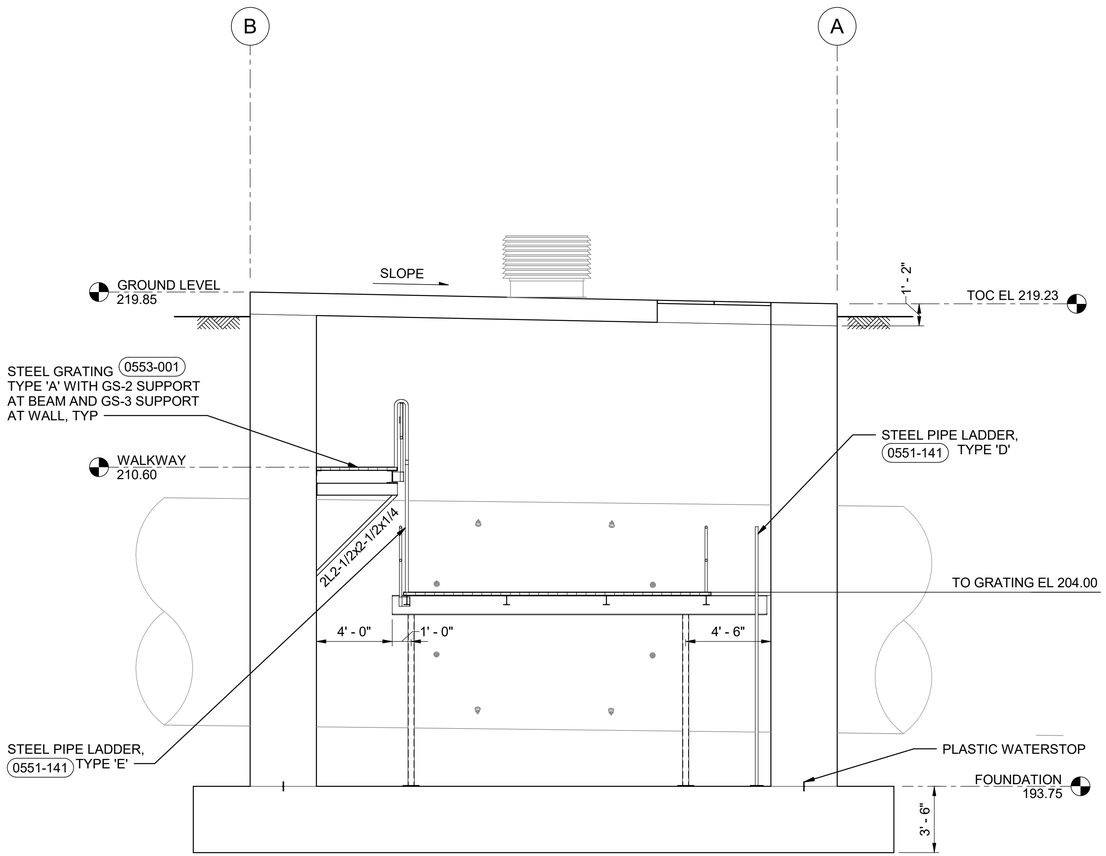

C3 SECTION
1/4" = 1'-0"
MPG-2190-S-2001

GENERAL NOTES

SHEET KEY NOTES

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. KELLOGG
DRAWN BY: A. GAWOR
CHECKED BY: H. HENRIKSON
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REDDING, CA 96001
(530) 2435831

REGISTERED
PROFESSIONAL
ENGINEER
JEREMY KELLOGG
P.E. REG No. 5698
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
STRUCTURAL
FUNKS RESERVOIR
FLOW METER VAULT
SECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2190-S-3001
SHT 50 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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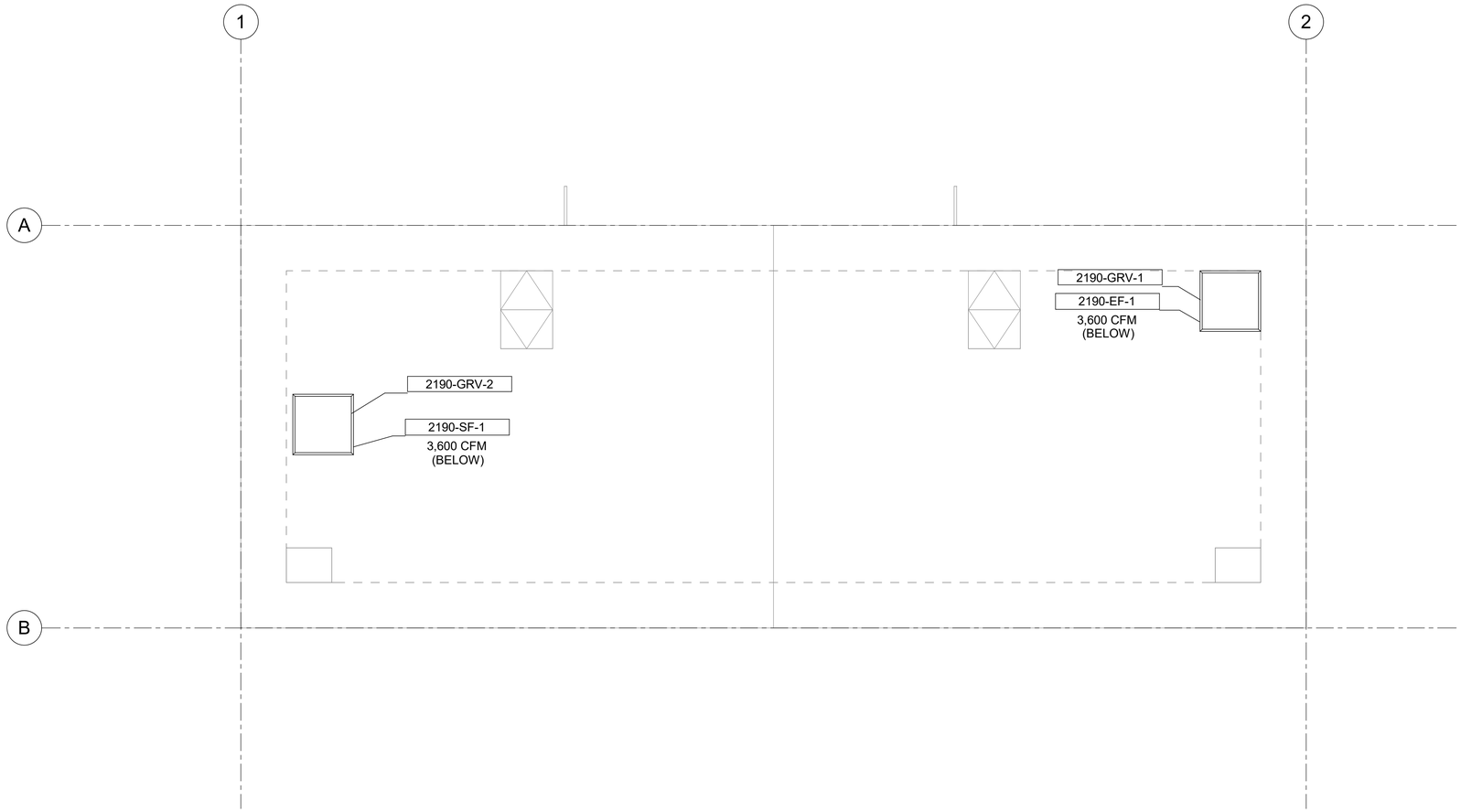

GROUND LEVEL PLAN
3/16" = 1'-0"

GENERAL NOTES

SHEET KEY NOTES

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: S. SHRIEF
DRAWN BY: S. HOSTETLER
CHECKED BY: T. PRICE
IN CHARGE: P. RUDE
DATE: 10-06-2023

Jacobs
2525 AIRPARK DR
REDDING, CA 96001
(530) 2435831

REGISTERED
PROFESSIONAL
ENGINEER
SHRIEF E SHRIEF
P.E. REG No. 39122
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
HVAC
FUNKS RESERVOIR
FLOW METER VAULT
GROUND LEVEL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2190-H-2201
SHT 53 OF 70

BIM 360://10333221_Site Reservoir Project_2022/MPG-2190-H-2Dh01.rvt
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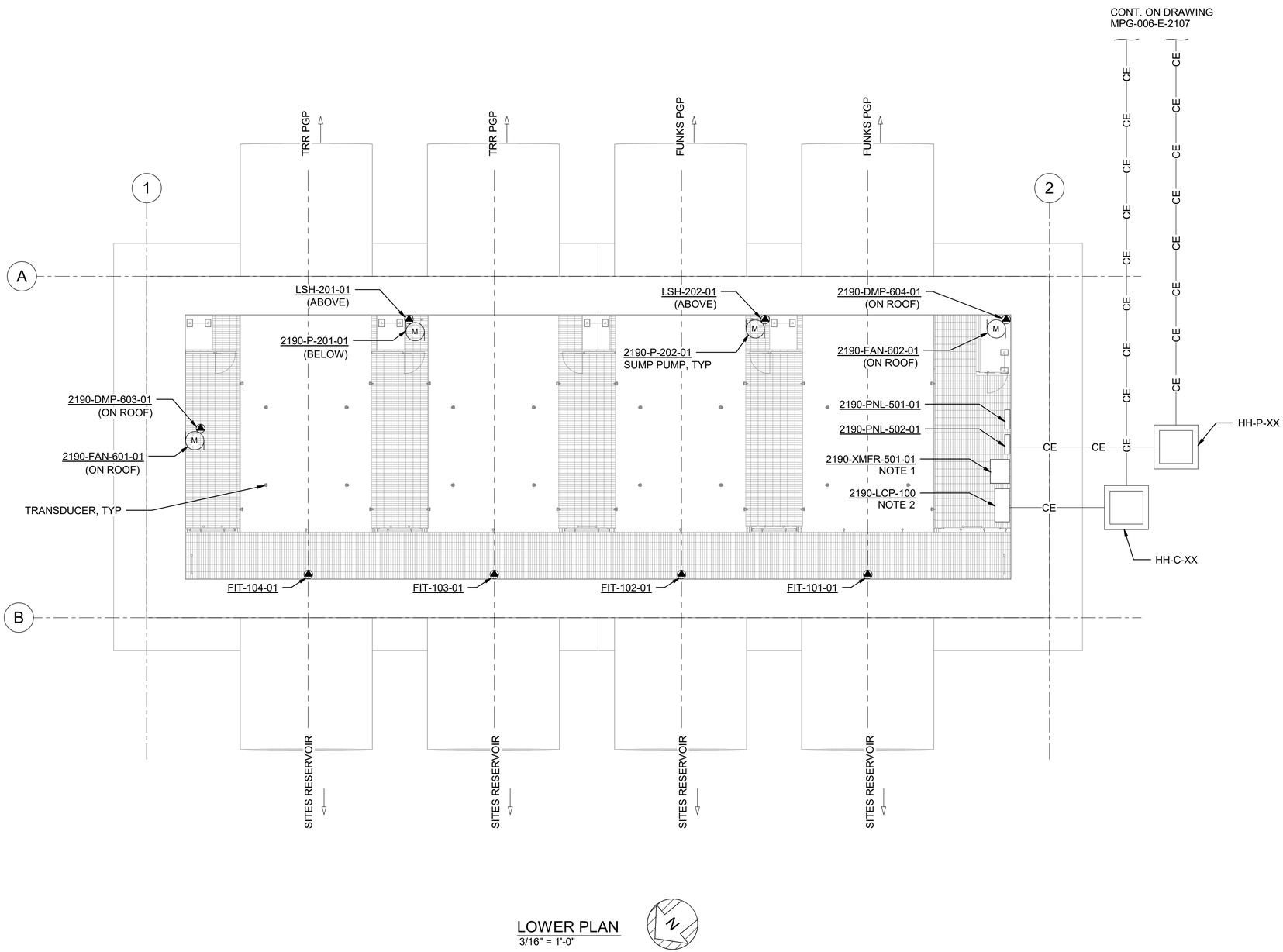

LOWER PLAN
3/16" = 1'-0"

GENERAL NOTES

SHEET KEY NOTES

1. WALL MOUNT TRANSFORMER 8 FEET ABOVE GRATING
2. WALL MOUNTED AT 7 FEET ABOVE GRATING TO TOP OF CONTROL PANEL

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: C. CUSWORTH
DRAWN BY: R. SHARMA
CHECKED BY: J. LANDMAN
IN CHARGE: P. RUDE
DATE: 10-06-2023

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2525 AIRPARK DR
REDDING, CA 96001
(530) 2435831

REGISTERED PROFESSIONAL ENGINEER
CRAIG M CUSWORTH
P.E. REG No. 19120
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL/SITES PUMPING AND GENERATING
ELECTRICAL
FUNKS RESERVOIR
FLOW METER VAULT
PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2190-E-2001
SHT 54 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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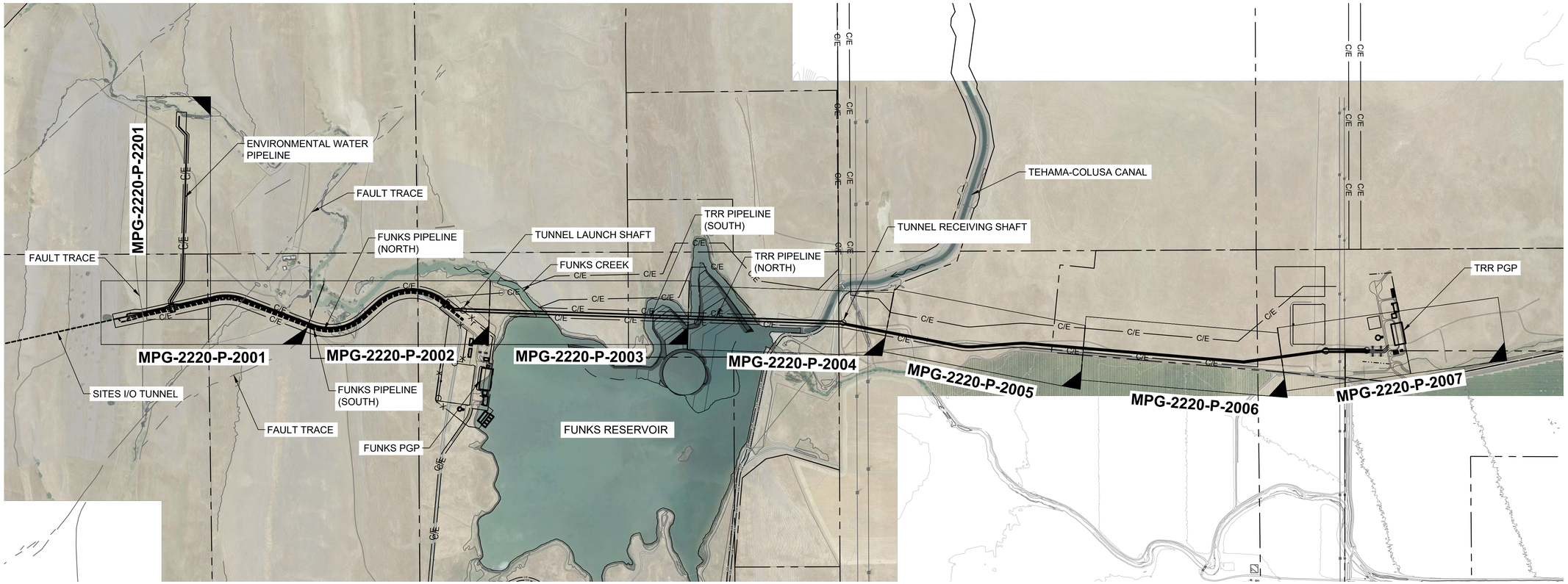

KEY PLAN
HORIZ SCALE: 1" = 600'

0 700' 1400'
1" = 700'

N

TRR PIPELINE (SOUTH) HORIZONTAL ALIGNMENT DATA

POINT TYPE	STA	NORTHING	EASTING	DISTANCE TO NEXT POINT (FEET)	BEARING TO NEXT POINT
BP	400+00.38	2246932.99	6471952.51	183.15	N 77° 38' 05" E
PI	401+83.53	2246972.21	6472131.41	116.62	N 81° 04' 53" E
PI	403+00.15	2246990.29	6472246.62	308.59	N 77° 38' 06" E
PI	406+08.74	2247056.37	6472548.05	65.37	N 71° 29' 35" E
PI	406+74.11	2247077.12	6472610.04	70.00	N 77° 38' 08" E
PI	407+44.11	2247092.11	6472678.42	65.37	N 83° 46' 58" E
PI	408+09.49	2247099.19	6472743.41	430.58	N 77° 38' 12" E
PC	412+40.06	2247191.38	6473164.00	-	-
C1	SEE CURVE TABLE				
PT	416+39.05	2247168.94	6473556.02	908.66	S 69° 07' 19" E
PC	425+47.71	2246845.11	6474405.02	-	-
C2	SEE CURVE TABLE				
PT	432+48.47	2246972.98	6475057.57	235.42	N 48° 18' 60" E
PC	434+83.89	2247129.54	6475233.39	-	-
C3	SEE CURVE TABLE				
PT	443+91.67	2247144.09	6476067.95	167.99	S 50° 45' 11" E
PI	445+59.66	2247037.81	6476198.05	63.01	S 88° 09' 46" E
PI	446+22.67	2247035.79	6476261.02	71.68	S 78° 28' 31" E
PI	446+94.34	2247021.47	6476331.25	4732.51	S 88° 07' 09" E
PI	494+26.84	2246866.14	6481061.20	1512.13	S 79° 08' 34" E
PC	509+38.98	2246581.32	6482546.27	-	-
C4	SEE CURVE TABLE				
PT	511+12.70	2246571.98	6482719.19	558.57	N 85° 35' 13" E
PC	516+71.27	2246614.96	6483276.10	-	-
C5	SEE CURVE TABLE				
PT	517+82.64	2246614.89	6483387.32	2745.10	S 85° 06' 36" E
PI	545+27.74	2246380.88	6486122.43	993.25	N 82° 09' 29" E
PI	555+20.99	2246516.40	6487106.39	580.84	N 90° 00' 00" E
EP	561+01.83	2246516.40	6487687.23	-	-

TRR PIPELINE (SOUTH) CURVE DATA

CURVE #	RADUIS (FEET)	DELTA	TANGENT (FEET)
C1	645	35° 26' 35"	206.11
C2	628	63° 55' 60"	391.91
C3	645	80° 38' 20"	547.38
C4	628	15° 50' 60"	87.42
C5	611	10° 26' 39"	55.84

ENVIRONMENTAL WATER PIPELINE HORIZONTAL ALIGNMENT DATA

POINT TYPE	STA	NORTHING	EASTING	DISTANCE TO NEXT POINT (FEET)	BEARING TO NEXT POINT
BP	600+00.00	2247131.13	6472629.94	27.51	N12° 21' 50"W
PI	600+27.51	2247158.00	6472624.05	279.43	N32° 38' 12"E
PI	603+06.94	2247393.31	6472774.75	1850.38	N01° 49' 58"E
PI	621+57.31	2249242.74	6472833.93	148.84	N43° 09' 54"W
PI	623+06.15	2249351.30	6472732.11	124.34	N01° 49' 47"E
EP	624+30.50	2249475.58	6472736.08	-	-

PLAN AND PROFILE DRAWING NUMBER

MPG–2220–P–2001

INDICATES LOWER RIGHT CORNER OF PLAN VIEW

GENERAL NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
TRR PIPELINE
KEY PLAN AND HORIZONTAL ALIGNMENT DATA

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2000
SHT 55 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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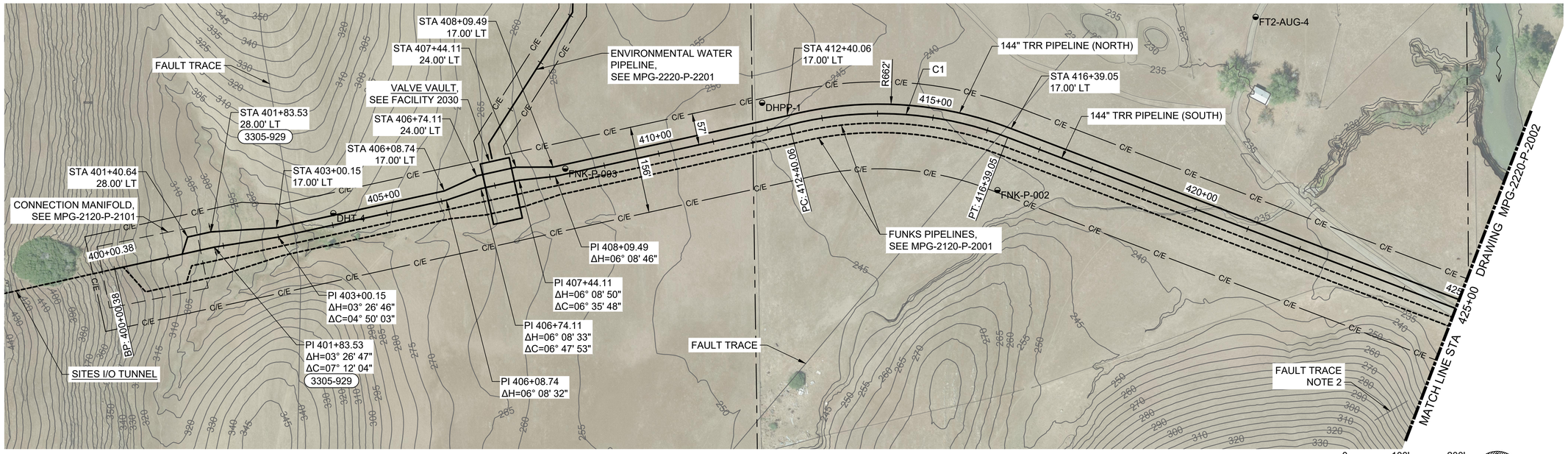
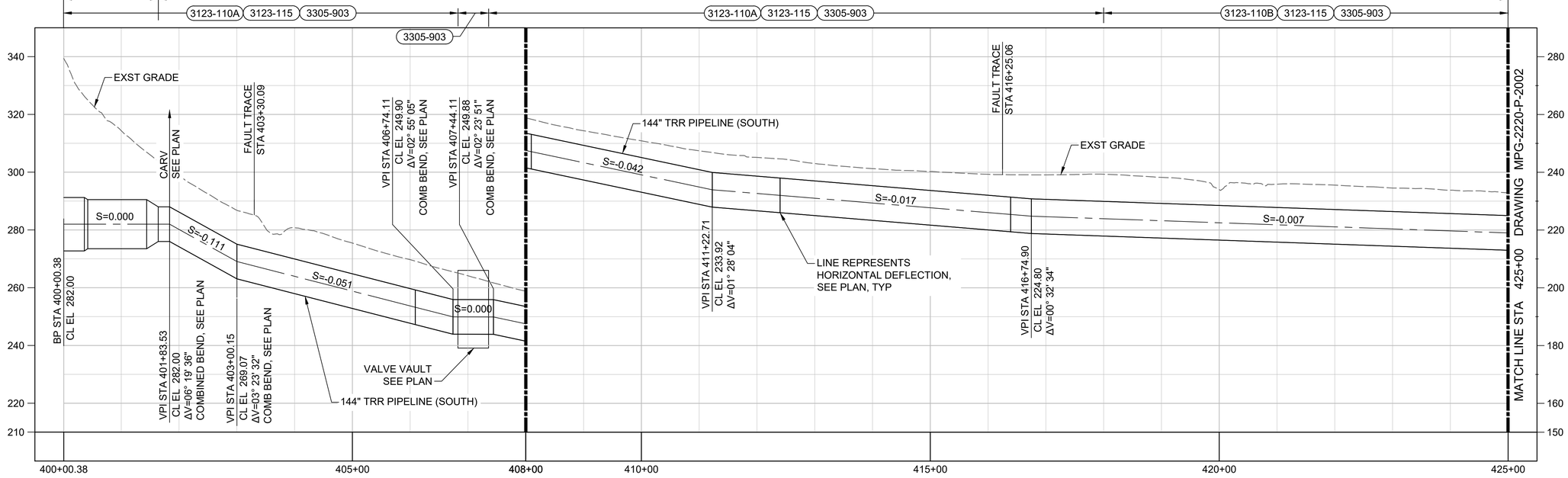


PLAN

HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE

HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).
2. FAULT TRACE TERMINATES BEFORE CROSSING PIPELINE ALIGNMENTS.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 400+00 TO 425+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2001
SHT 56 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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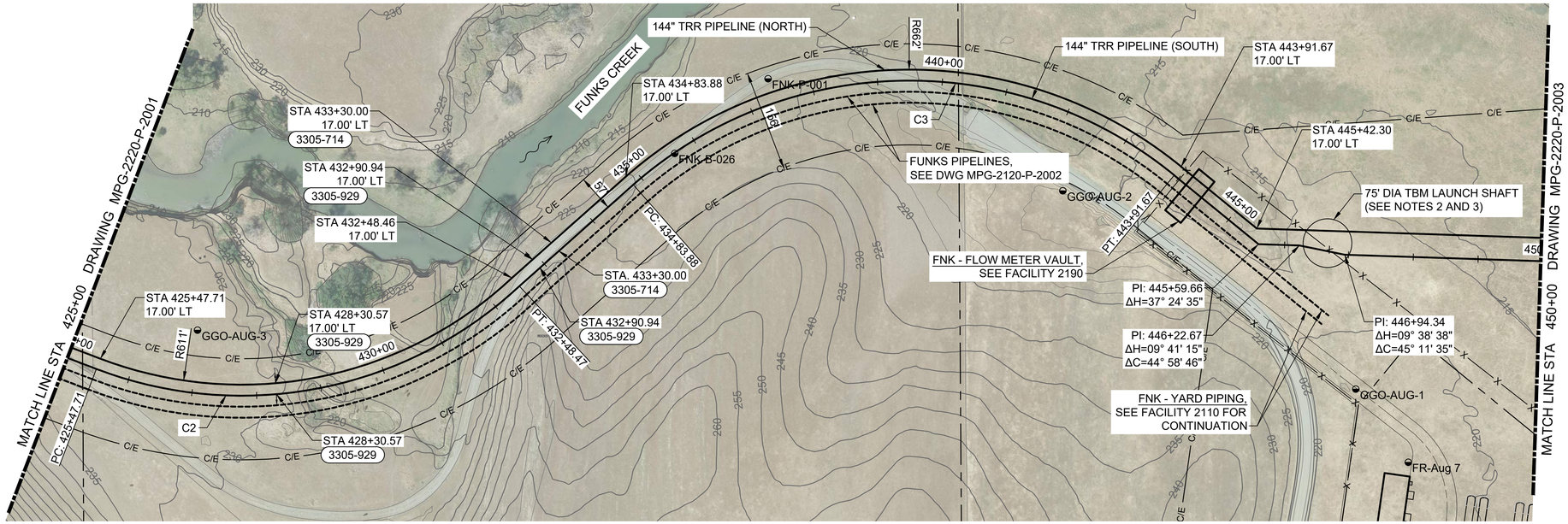
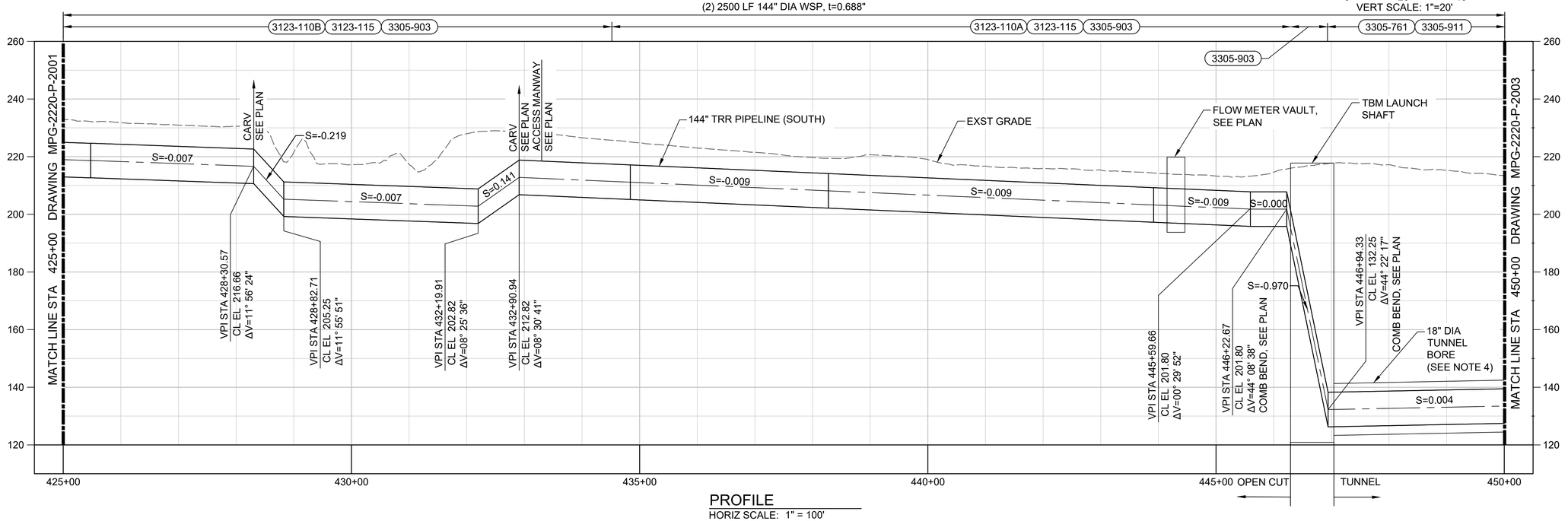


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).
2. SHAFT DIAMETER IS APPROXIMATE. DIAMETER REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.
3. BACKFILL SHAFT WITH ENGINEERED FILL DURING PIPE INSTALLATION.
4. APPROXIMATE TUNNEL EXCAVATION LIMITS SHOWN. EXCAVATION LIMIT REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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REDDING, CA 96001
(530) 243-5831

REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 425+00 TO 450+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2002
SHT 57 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/28/2023 4:01 PM
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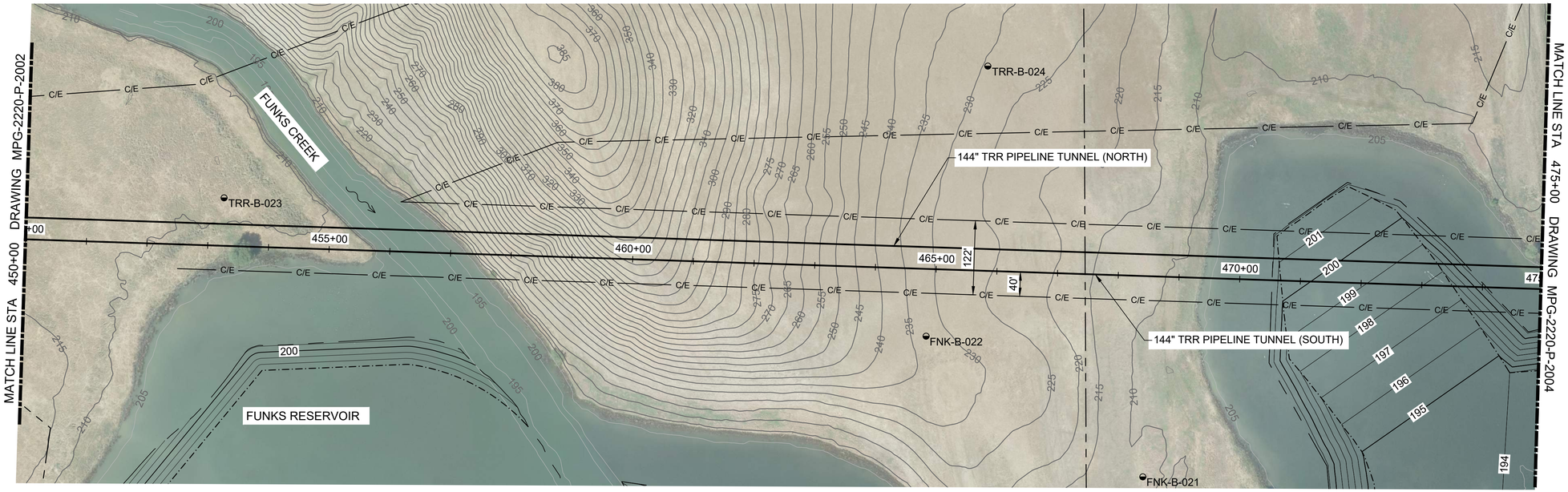
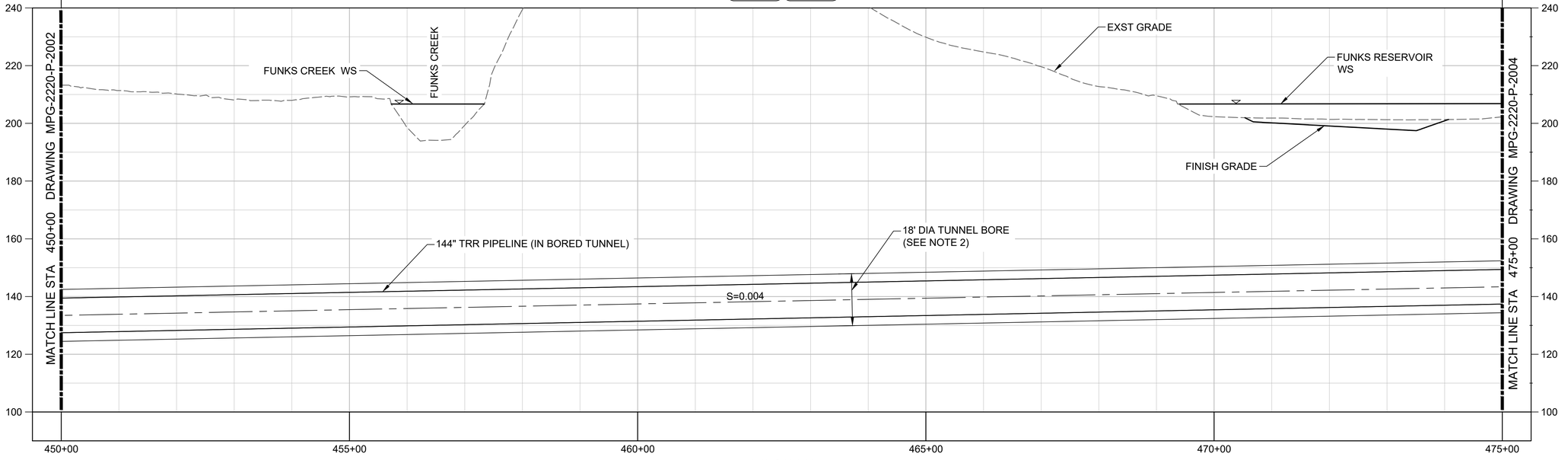


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'

N



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).
2. APPROXIMATE TUNNEL EXCAVATION LIMITS SHOWN. EXCAVATION LIMIT REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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(530) 243-5831

REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 450+00 TO 475+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2003
SHT 58 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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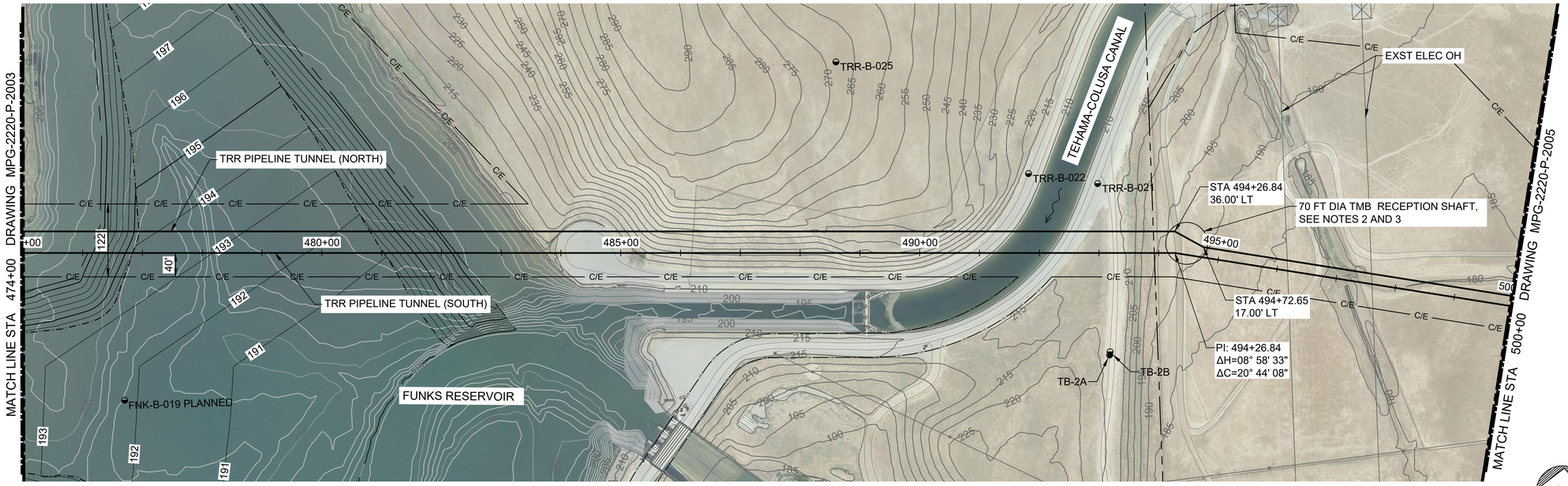
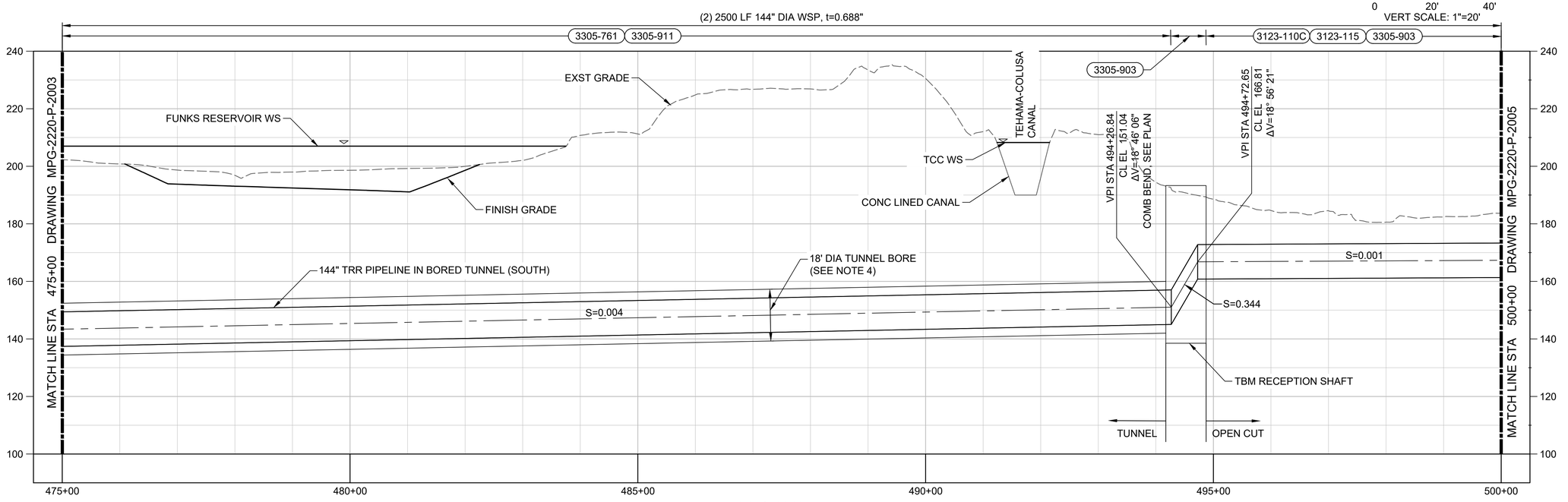


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).
2. SHAFT DIAMETER IS APPROXIMATE. DIAMETER REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.
3. BACKFILL SHAFT WITH ENGINEERED FILL DURING PIPE INSTALLATION.
4. APPROXIMATE TUNNEL EXCAVATION LIMITS SHOWN. EXCAVATION LIMIT REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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BRAD L. MEMEO
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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 475+00 TO 500+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2004
SHT 59 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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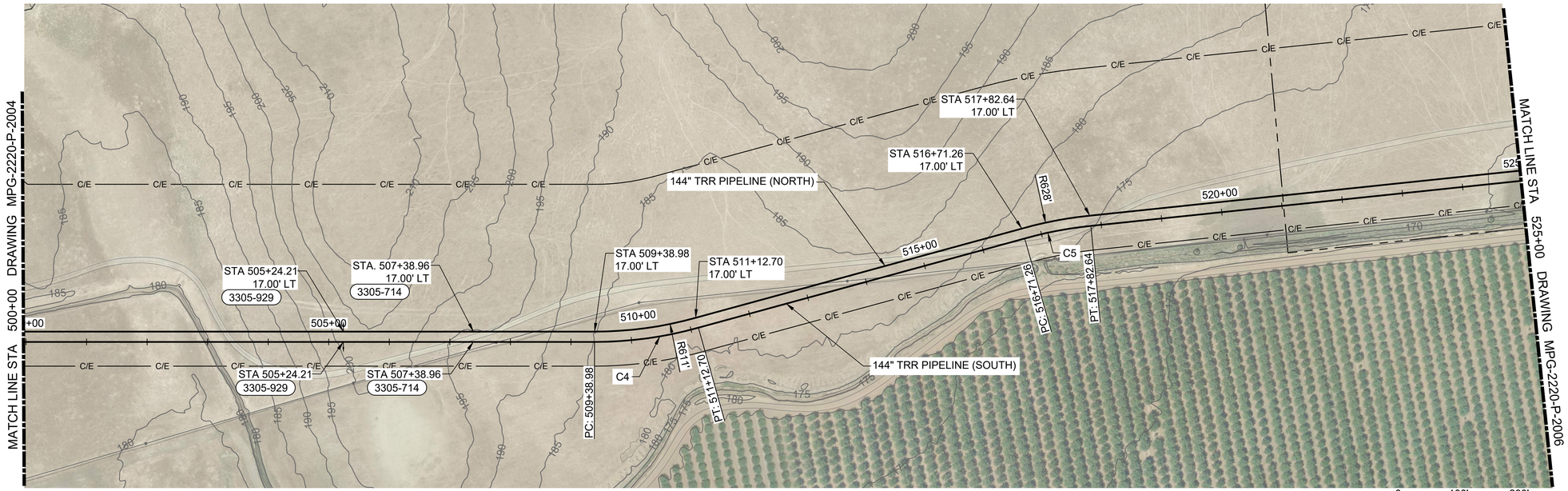


PLAN

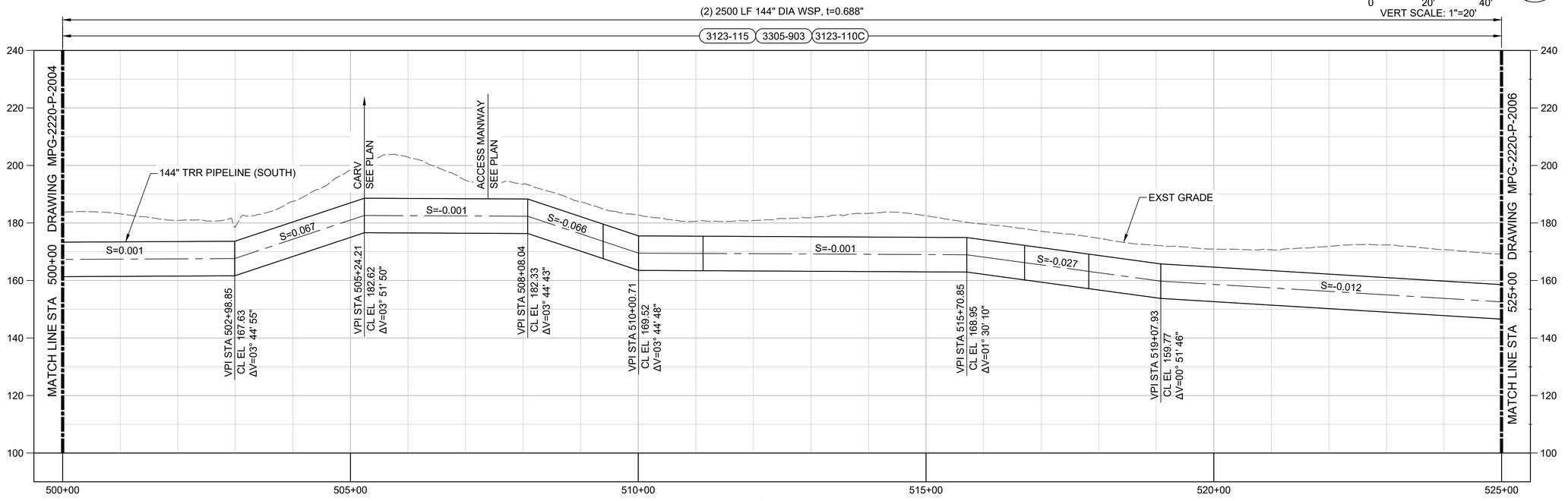
HORIZ SCALE: 1" = 100'

0 100' 200'

HORIZ SCALE: 1" = 100'

0 20' 40'

VERT SCALE: 1"=20'



PROFILE

HORIZ SCALE: 1" = 100'

VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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(530) 243-5831

REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 500+00 TO 525+00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2005
SHT 60 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/27/2023 1:10 PM File: C:\pwworking\hdr_sites_reservoir\dms01015\MPG-2220-P-2005.dwg
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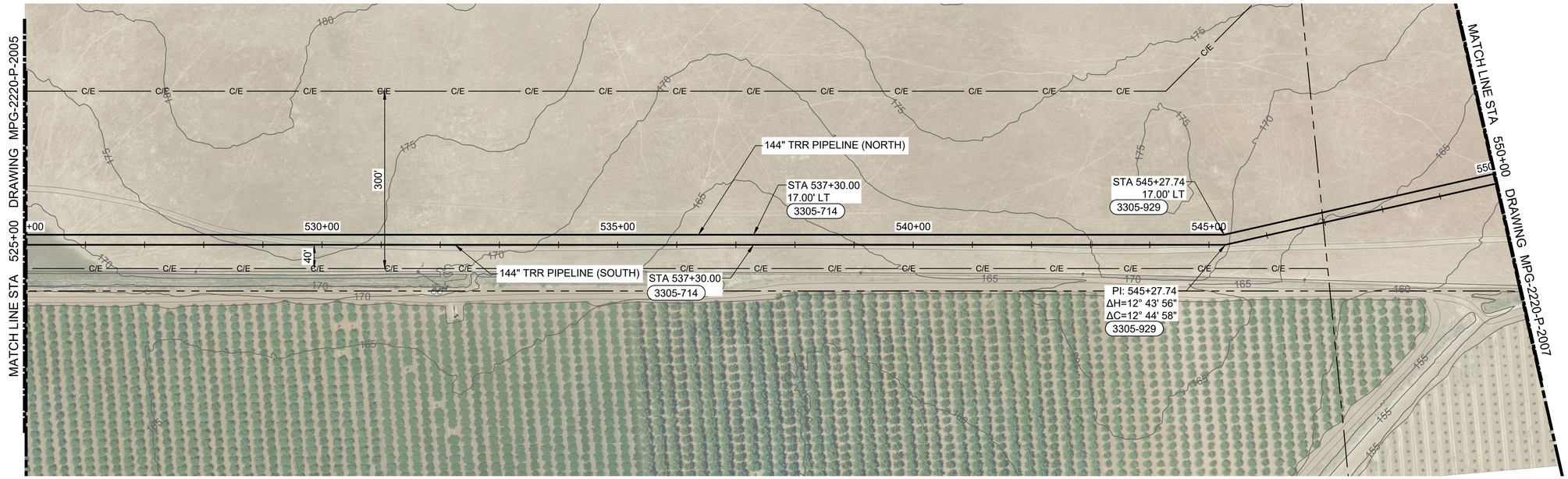
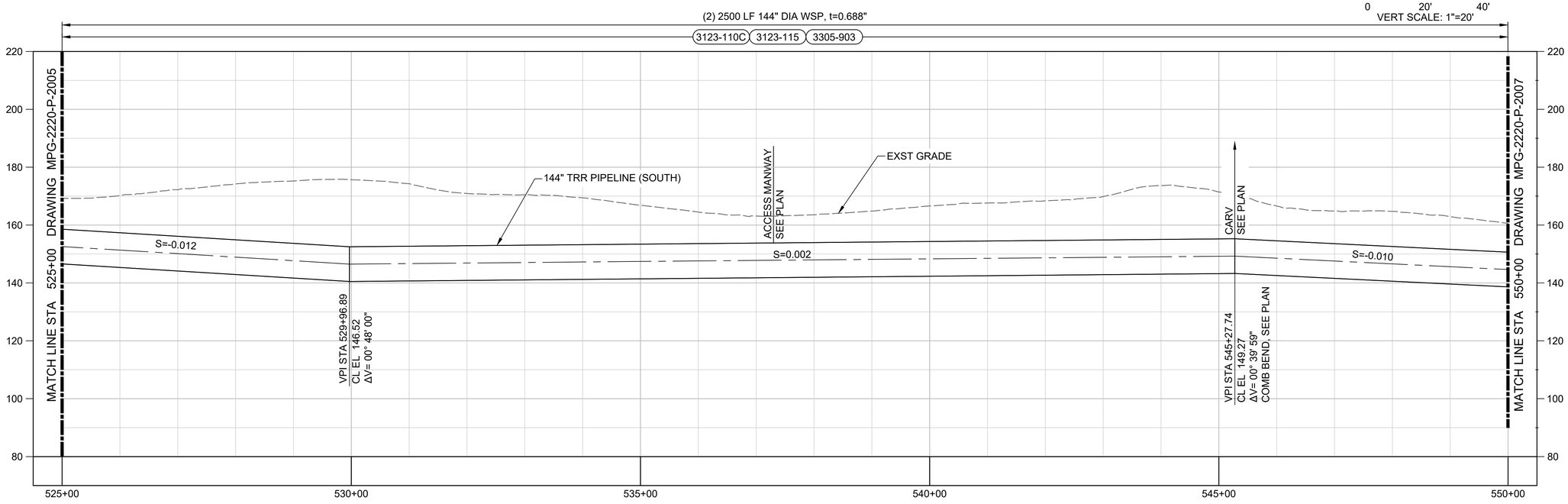


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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MAXWELL / SITES PUMPING AND GENERATING PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 525+00 TO 550+00.00

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2006
SHT 61 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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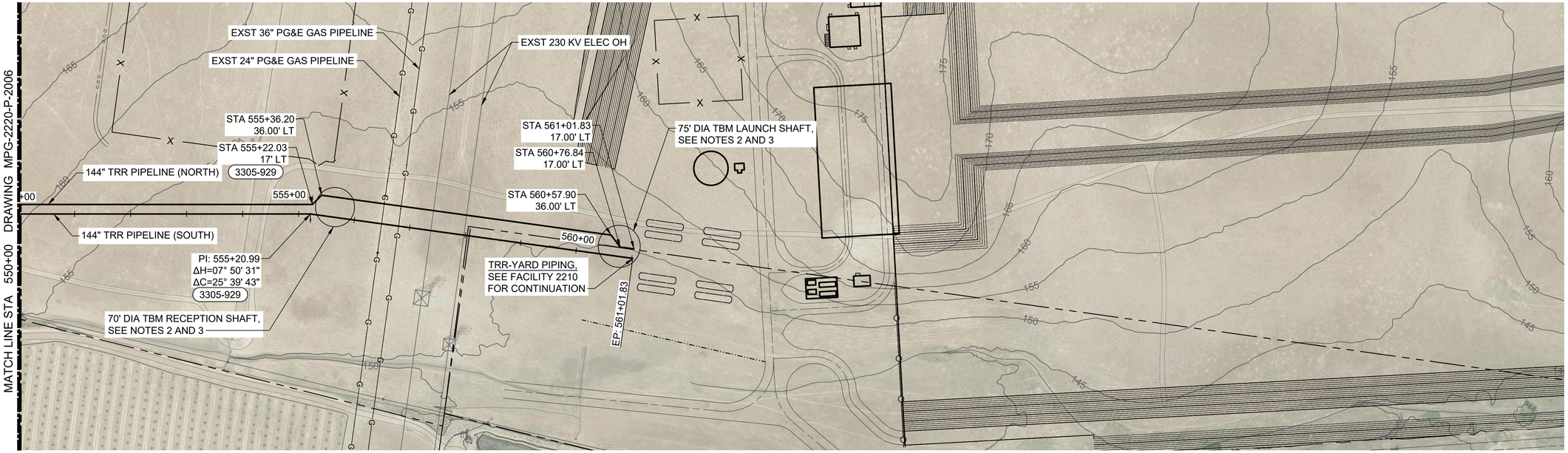


PLAN

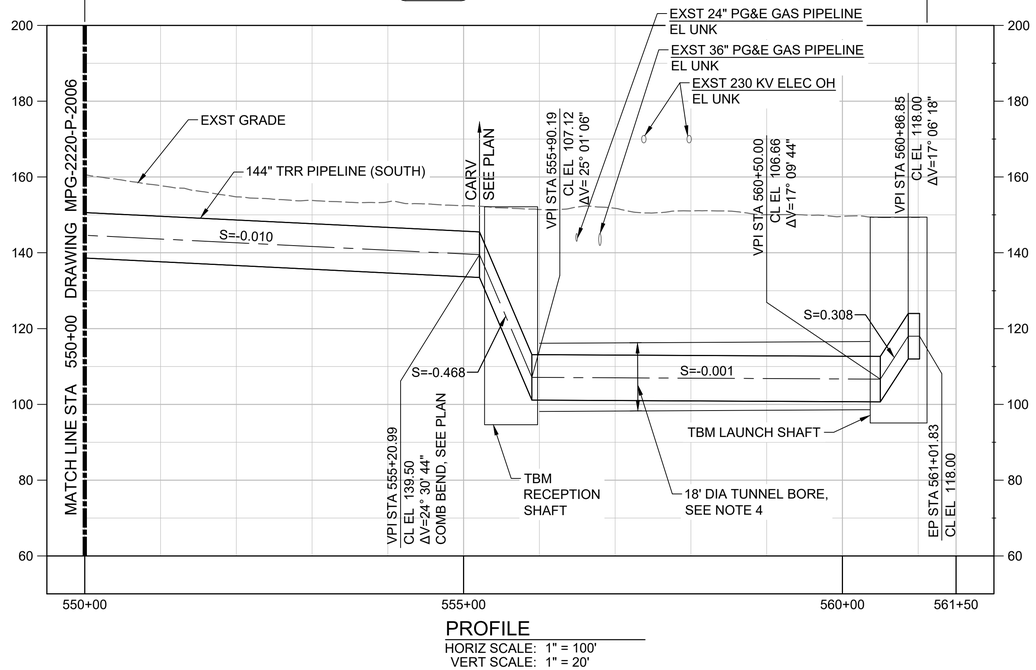
HORIZ SCALE: 1" = 100'

0 100' 200'

HORIZ SCALE: 1" = 100'

0 20' 40'

VERT SCALE: 1"=20'



PROFILE

HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

1. STATIONING SHOWN ALONG CENTERLINE OF 144" TRR PIPELINE (SOUTH) ALIGNMENT. STATION AND OFFSET, RELATIVE TO ALIGNMENT OF 144" TRR PIPELINE (SOUTH), ARE FOR LAYOUT OF 144" TRR PIPELINE (NORTH). EXISTING GRADE SHOWN IN PROFILE REPRESENTS CONDITIONS AT CENTERLINE OF 144" TRR PIPELINE (SOUTH) AND MAY VARY AT CENTERLINE OF 144" TRR PIPELINE (NORTH).
2. SHAFT DIAMETERS ARE APPROXIMATE. DIAMETER REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.
3. BACKFILL SHAFTS WITH ENGINEERED FILL DURING PIPE INSTALLATION.
4. APPROXIMATE TUNNEL EXCAVATION LIMITS SHOWN. EXCAVATION LIMIT REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
PIPELINE
TRR PIPELINE
PLAN AND PROFILE - STA 550+00 TO 561+01.83

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2007
SHT 62 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 10/3/2023 7:37 PM
Saved By: HADIDIE
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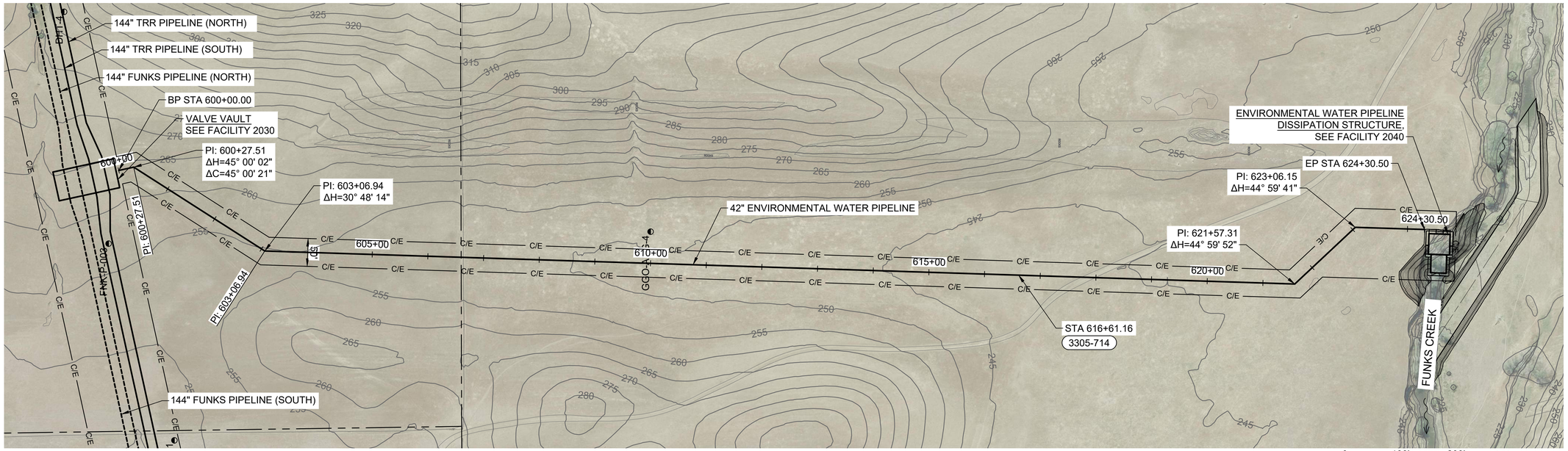
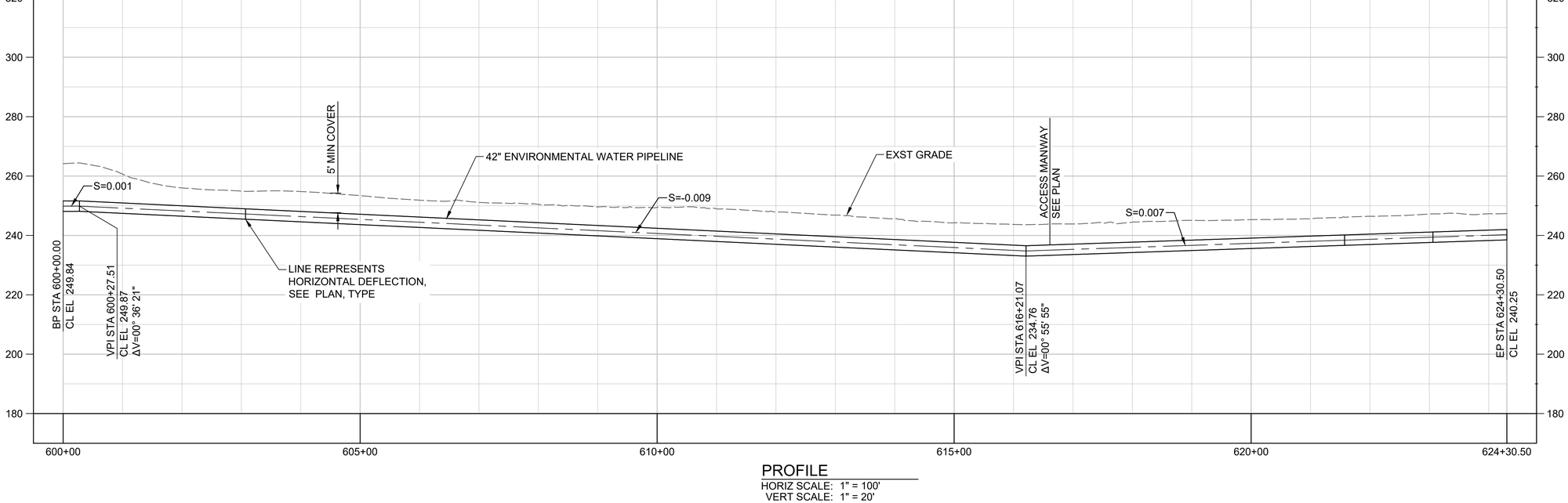


PLAN
HORIZ SCALE: 1" = 100'

0 100' 200'
HORIZ SCALE: 1" = 100'
0 20' 40'
VERT SCALE: 1"=20'



PROFILE
HORIZ SCALE: 1" = 100'
VERT SCALE: 1" = 20'

GENERAL NOTES

SHEET KEY NOTES

KEY MAP

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: J. BLUM/I. BARRIOS
DRAWN BY: E. HADIDI
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

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MAXWELL / SITES PUMPING AND GENERATING PIPELINE
ENVIRONMENTAL WATER PIPELINE
PLAN AND PROFILE - STA 600+00 TO 624+30.50

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-2201
SHT 63 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 10/3/2023 7:47 PM
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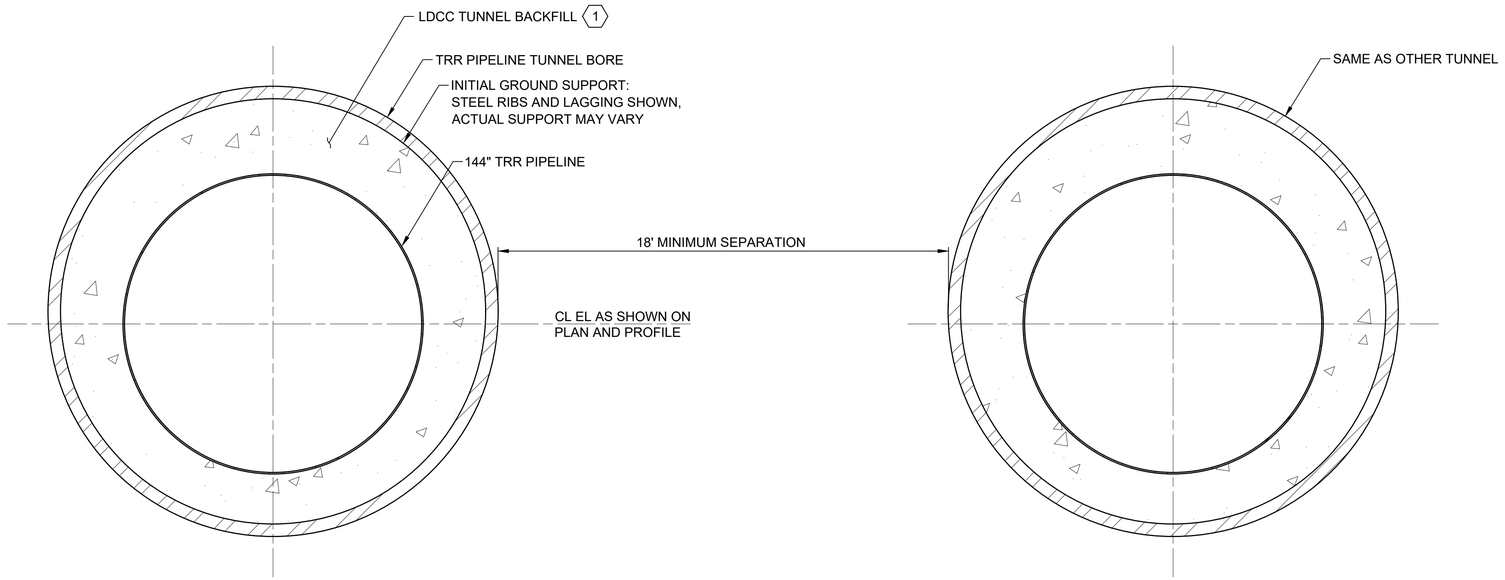

TRR PIPELINE TUNNEL SECTIONS 3305-761

NTS

GENERAL NOTES

SHEET KEY NOTES

1. APPROXIAMTE TUNNEL EXCAVATION LIMITS SHOWN. EXCAVATION LIMIT REQUIREMENTS TO BE DETERMINED DURING FINAL DESIGN.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: R. KURRE
DRAWN BY: T. OLIWA
CHECKED BY: A. FINNEY
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
PIPELINE
TRR PIPELINE
TUNNEL DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2220-P-5001
SHT 64 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

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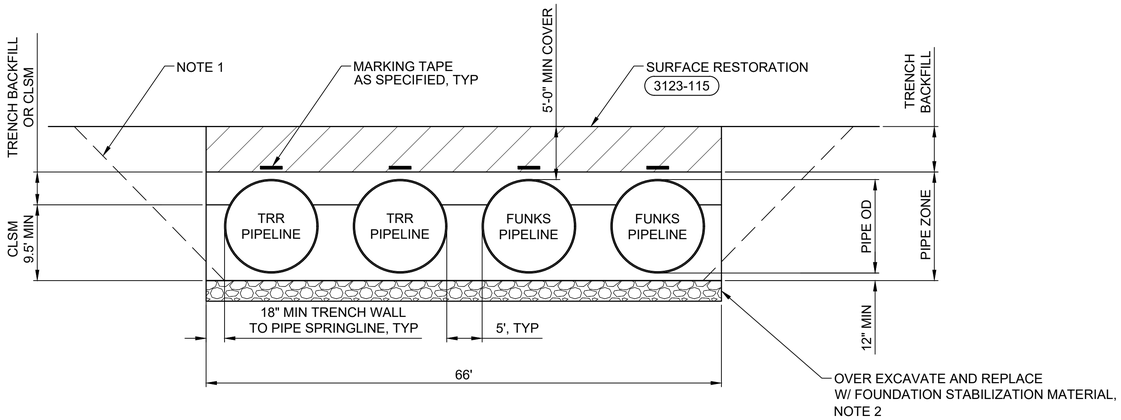
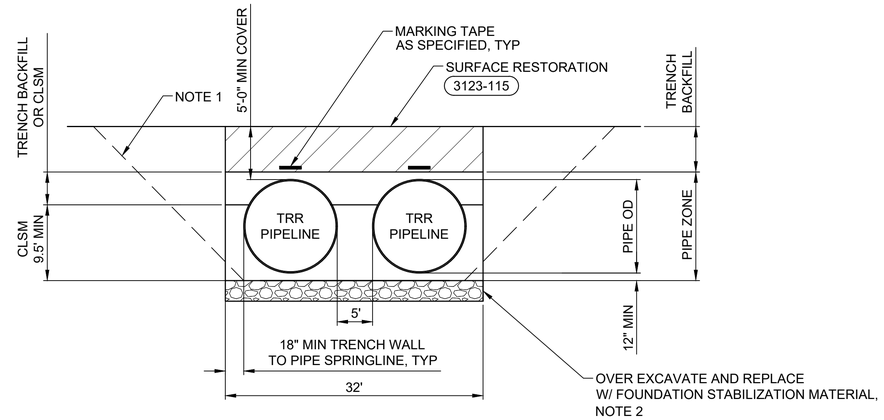
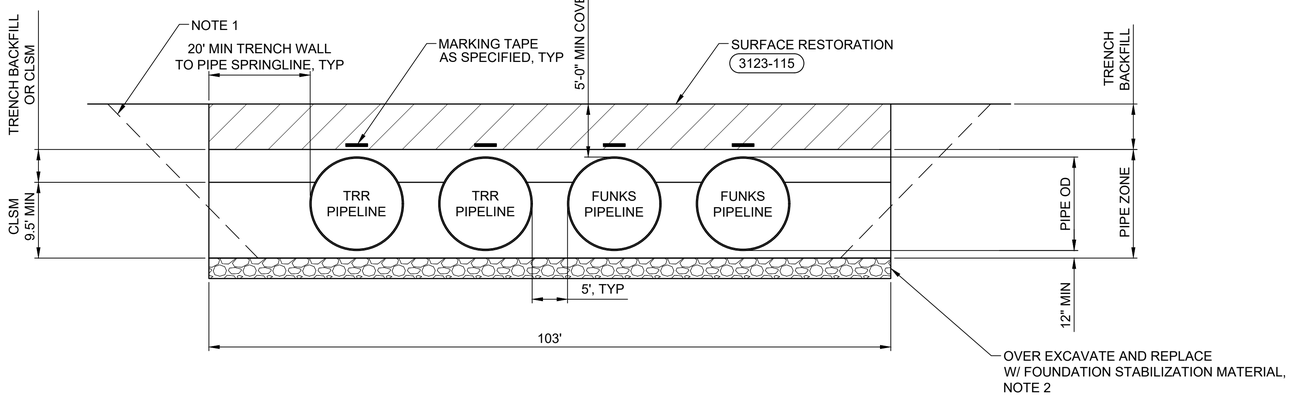


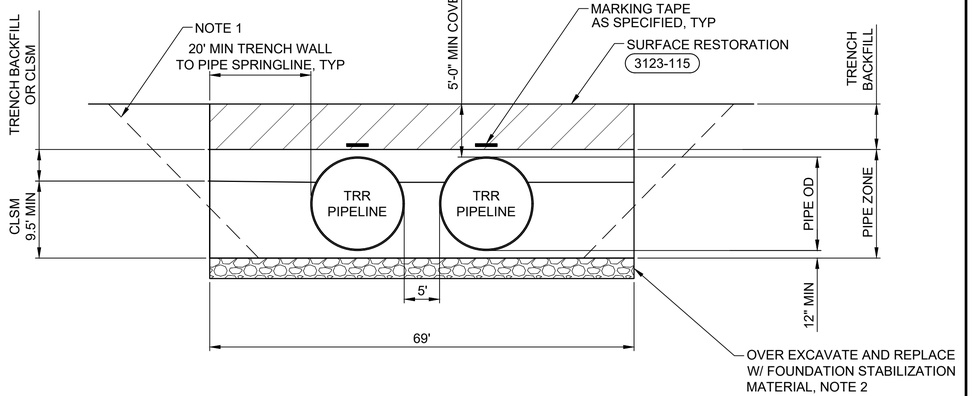
TRR/FUNKS PIPELINES TYPICAL TRENCH 3123-110A
NTS



TRR PIPELINES TYPICAL TRENCH 3123-110C
NTS



TRR/FUNKS PIPELINES WIDENED TRENCH 3123-110B
NTS



TRR PIPELINES WIDENED TRENCH 3123-110D
NTS

NOTES:

1. CONTRACTOR SHALL SLOPE TRENCH WALLS AND SHORE EXCAVATIONS FOR CONSTRUCTION AND SAFETY IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS AND SPECIFICATIONS.
2. FOUNDATION STABILIZATION SHALL BE INSTALLED ONLY AS APPROVED AND DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.
3. TRENCH SECTIONS AND DIMENSIONS ARE SHOWN PERPENDICULAR TO THE PIPELINE ALIGNMENT.

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: I. BARRIOS
DRAWN BY: T. OLIWA
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
CIVIL
STANDARD DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2900-C-5001
SHT 65 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/25/2023 10:31 AM File: C:\pwworking\hdr_sites_reservoir\dms01247\MPG-2900-C-5001.dwg
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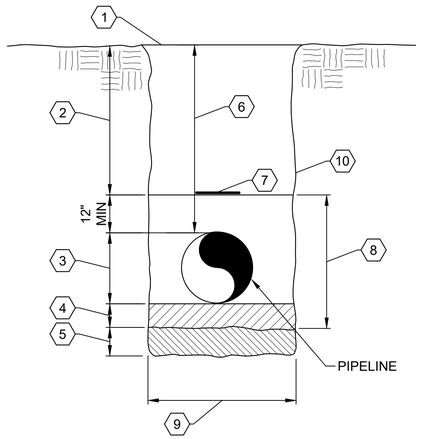


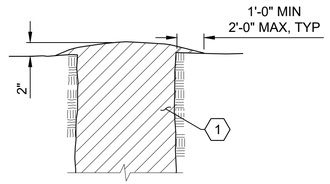
NOTES:

1. NEW SURFACING, OR SURFACE RESTORATION, SEE (3123-115) .
2. TRENCH BACKFILL ABOVE PIPE ZONE.
3. PIPE OUTSIDE DIAMETER.
4. PIPE BEDDING MATERIAL (t=6" MIN).
5. TRENCH STABILIZATION AS APPROVED AND DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS.
6. DEPTH OF COVER.
7. MARKING TAPE AS SPECIFIED.
8. PIPE ZONE - CLSM.
9. MINIMUM WIDTH = PIPE OD + 1'-6".
10. CONTRACTOR SHALL SLOPE TRENCH WALLS AND SHORE EXCAVATION FOR CONSTRUCTION AND SAFETY IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS AND SPECIFICATIONS

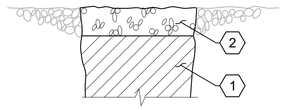
SINGLE PIPELINE TRENCH

NTS

3123-110



TYPE A - UNIMPROVED SURFACING



TYPE B - GRAVEL SURFACING

NOTES:

1. TRENCH BACKFILL ABOVE PIPE ZONE.
2. AGGREGATE BASE COURSE.

SURFACE RESTORATION

NTS

3123-115

TITLE

NTS

XXXX-XXX

TITLE

NTS

XXXX-XXX

TITLE

NTS

XXXX-XXX

TITLE

NTS

XXXX-XXX

TITLE

NTS

XXXX-XXX

TITLE

NTS

XXXX-XXX

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: I. BARRIOS
DRAWN BY: T. OLIWA
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

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CALIFORNIA

Sites

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MAXWELL / SITES PUMPING AND GENERATING
CIVIL
STANDARD DETAILS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS

0 1"

DRAWING NO.
MPG-2900-C-5002
SHT 66 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/25/2023 10:30 AM File: C:\pwworking\hdr_sites_reservoir\dms01247\MPG-2900-C-5002.dwg
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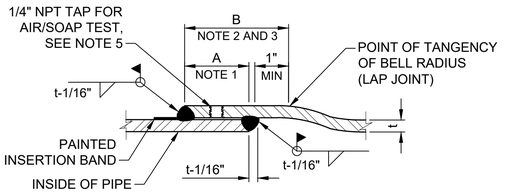


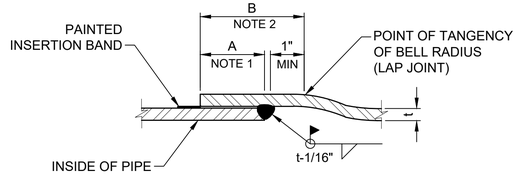
NOTES:

1. DIMENSION "A" CORRESPONDS TO THE COMPLETED JOINT OVERLAP AFTER WELDING. DIMENSION "A" IS THE GREATER OF 3 INCHES OR 5t, MINIMUM FOR STANDARD JOINTS. INCREASE DIMENSION "A" FOR SPECIAL TEMPERATURE CONTROL JOINTS AS FURTHER DISCUSSED IN NOTE 3.
2. PROVIDE THE MINIMUM OVERLAP DIMENSION "A" AND MAINTAIN THE INDICATED HOLDBACK FOR THE WELD AS REQUIRED FOR THE MINIMUM DIMENSION "B" FOR STANDARD JOINTS.
3. INCREASE DIMENSION "B" BY 3 INCHES FOR SPECIAL TEMPERATURE CONTROL JOINTS AS FURTHER DISCUSSED. AT THE TIME OF INSTALLATION AND PRIOR TO WELDING, INSERT THE SPIGOT INTO THE LENGTHENED BELL TO PROVIDE "A" +3 INCHES MINIMUM OVERLAP. SEE SPECIFICATIONS FOR SPECIAL TEMPERATURE CONTROL JOINT WELDING REQUIREMENTS.
4. CONFIGURATION FOR BELL AND SPIGOT LAP JOINTS SHOWN. CONFIGURATION ON BUTT STRAP JOINTS ARE SIMILAR.
5. INSTALL TAP ON BELL. PERFORM AIR/SOAP TEST AND OTHER WELD TESTS AS REQUIRED IN ACCORDANCE WITH SPECIFICATIONS. PLUG TAP WITH WELDED PLUG AFTER COMPLETION OF SUCCESSFUL AIR/SOAP TEST.
6. FABRICATE AND INSTALL JOINTS WITHIN THE TOLERANCES INDICATED. TOLERANCE REQUIREMENTS APPLY TO BOTH WELDS AND TO BOTH STRAIGHT AND DEFLECTED JOINTS.
7. LININGS AND COATINGS ARE NOT SHOWN FOR CLARITY.

DOUBLE LAP JOINT WELD

NTS

3305-903



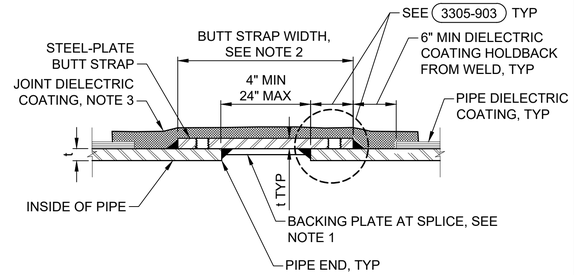
NOTES:

1. DIMENSION "A" CORRESPONDS TO THE COMPLETED JOINT OVERLAP AFTER WELDING. DIMENSION "A" IS THE GREATER OF 3 INCHES OR 5t.
2. PROVIDE THE MINIMUM OVERLAP DIMENSION "A" AND MAINTAIN THE INDICATED HOLDBACK FOR THE WELD AS REQUIRED FOR THE MINIMUM DIMENSION "B".
3. CONFIGURATION FOR BELL AND SPIGOT LAP JOINTS SHOWN. CONFIGURATION ON BUTT STRAP JOINTS ARE SIMILAR.
4. FABRICATE AND INSTALL JOINTS WITHIN THE TOLERANCES INDICATED. TOLERANCE REQUIREMENTS APPLY TO BOTH WELDS AND TO BOTH STRAIGHT AND DEFLECTED JOINTS.
5. SINGLE LAP WELD CONSISTS OF ONE SINGLE STRUCTURAL WELD ON THE INSIDE OF THE JOINT.
6. USE SINGLE LAP FILLET WELDS ONLY WHERE SPECIFICALLY SHOWN ON DRAWINGS.
7. LININGS AND COATINGS ARE NOT SHOWN FOR CLARITY.

SINGLE LAP JOINT WELD

NTS

3305-904



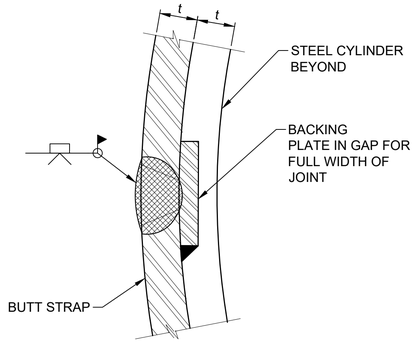
NOTES:

1. FOR FIELD WELDING OF INDIVIDUAL BUTT STRAP PIECES TO EACH OTHER, SEE 3305-910
2. UNLESS OTHERWISE NOTED, CONFORM BUTT STRAP WIDTH TO THE LIMITATIONS SHOWN FOR PIPE END SEPARATION AND STEEL OVERLAP REQUIREMENTS. THIS INCLUDES THE ADDITIONAL 3-INCH INCREASE IF A TEMPERATURE CONTROL JOINT IS REQUIRED AT A BUTT STRAP JOINT IF INDICICATED.
3. HOLIDAY TEST AFTER INSTALLATION AS SPECIFIED.

BUTT STRAP JOINT

NTS

3305-908



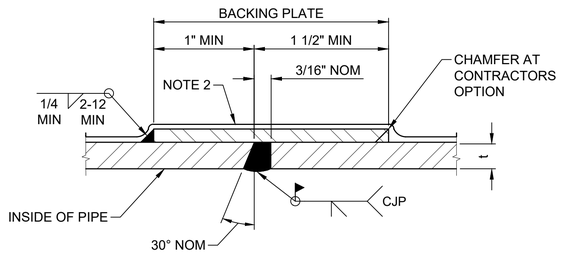
NOTES:

1. LININGS AND COATINGS ARE NOT SHOWN FOR CLARITY.
2. BEVEL ENDS OF BACKING PLATE AT BUTT STRAP PRIOR TO WELDING OR BACK GOUGE AT CONTACT WITH ADJACENT CYLINDER PRIOR TO COMPLETING INSIDE FILLET WELD.

BUTT STRAP SPLICE

NTS

3305-910



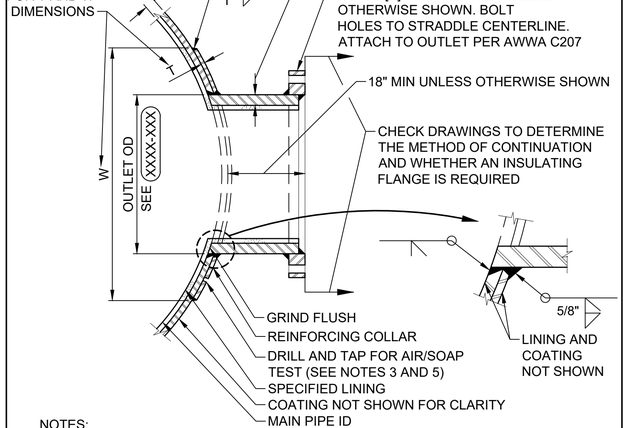
NOTES:

1. LINING AND COATING ARE NOT SHOWN FOR CLARITY.
2. AFTER FIELD WELDING INTERIOR JOINT AND PRIOR TO BACKFILL GROUTING THE TUNNEL INSTALL HEAT SHRINK SLEEVE ON EXTERIOR OF JOINT. HOLIDAY TEST AFTER INSTALLATION AS SPECIFIED.
3. ROOT OPENING MAY BE 3/4" MAX PER AWS D1.1 PARAGRAPH 5.22.4.3 WITH FIELD BUTTERING OF BEVELED JOINT WITH WELDMENT.

BUTT WELD JOINT WITH BACKING PLATE FOR TUNNEL PIPE

NTS

3305-911



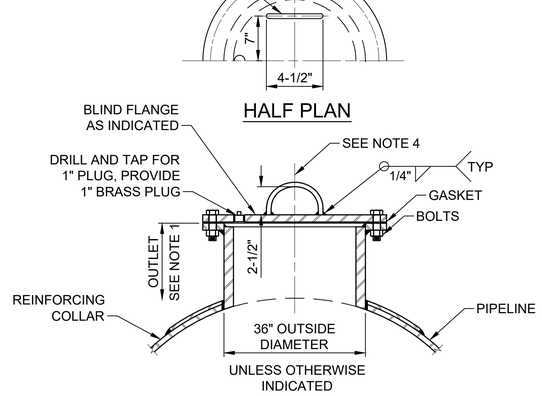
NOTES:

1. COAT ALL EXPOSED SURFACES AS SPECIFIED.
2. "t" INDICATES THE THICKNESS OF THE WSP AT THE STATION WHERE USED.
3. TEST WELDS IN ACCORDANCE WITH SPECIFICATIONS.
4. USE SAME MATERIAL FOR CONSTRUCTION OF REINFORCING COLLARS AS THE ADJOINING PIPING (MAIN PIPE).
5. PLUG TAP WITH WELDED PLUG AFTER COMPLETION OF AIR/SOAP TEST.
6. DESIGN REINFORCED OUTLETS IN ACCORDANCE WITH AWWA M11 4TH EDITION.

3-INCH AND LARGER COLLARED OUTLETS

NTS

3305-937



NOTES:

1. FABRICATE OUTLET PER 3305-937.
2. LINE AND COAT AS SPECIFIED.
3. AFTER COMPLETION OF BACKFILLING PROVIDE A PERMANENT MARKER DIRECTLY ABOVE MANWAY AS INDICATED.

ACCESS MANWAY

NTS

3305-940

DETAIL

NTS

XXXX-XXX

REV	DATE	BY	CHK.	APPR.	DESCRIPTION

DESIGNED BY: I. BARRIOS
DRAWN BY: T. OLIWA
CHECKED BY: B. MEMEO
IN CHARGE: P. RUDE
DATE: 10-06-2023

Jacobs
2525 AIRPARK DR
REDDING, CA 96001
(530) 243-5831

REGISTERED PROFESSIONAL ENGINEER
BRAD L. MEMEO
C81778
CALIFORNIA

Sites

SITES RESERVOIR

MAXWELL / SITES PUMPING AND GENERATING
CIVIL
STANDARD DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

DRAWING NO.
MPG-2900-C-5006
SHT 70 OF 70

PRELIMINARY - NOT FOR CONSTRUCTION

Plot Date: 9/25/2023 10:28 AM
Saved By: OLIWAT
File: C:\pwworking\hdr_sites_reservoir\dms01247\MPG-2900-C-5006.dwg