CONTRACT DOCUMENTS
FOR CONSTRUCTION OF THE

ROSECREST PIPELINE CAPACITY UPGRADES

Volume 1 of 2
DRAWINGS

60% REVIEW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER
CONSERVANCY DISTRICT

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BOWEN COLLINS & ASSOCIATES

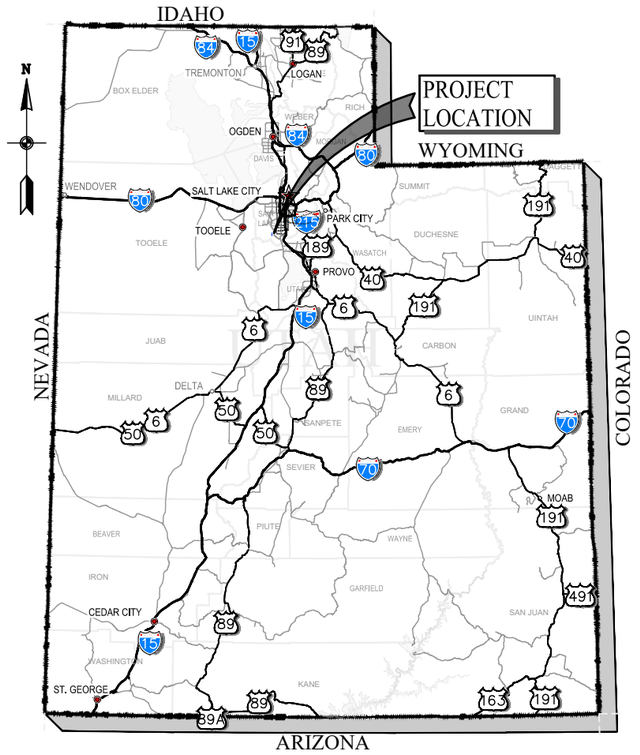
MARCH 2025

DRAWINGS FOR CONSTRUCTION OF THE

ROSECREST PIPELINE CAPACITY UPGRADES

JORDAN VALLEY WATER CONSERVANCY DISTRICT

HERRIMAN AND RIVERTON CITY, UT



PROJECT LOCATION MAP

60% REVIEW

PROJECT VICINITY MAP

CIVIL/MECHANICAL | CATHODIC PROTECTION | STRUCTURAL | ELECTRICAL/INSTRUMENTATION

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

DESIGN
DESIGN L. MINCK
DRAWN J. BLACK

GENERAL
TITLE PAGE
PROJECT LOCATION MAP AND VICINITY MAP

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
G-01

SHEET 01 OF 78

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GENERAL

INDEX OF DRAWINGS

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DRAWING NO.
G-02

SHEET 02 OF 78

@	AT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT
ABBR	ABBREVIATION
ABS	ACRYLONITRILE–BUTADIENE–STYRENE
AC	ASPHALTIC CONCRETE OR ALTERNATING CURRENT OR ACTIVATED CARBON
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASPHALTIC CONCRETE PAVEMENT
ADDL	ADDITIONAL
ADJ	ADJACENT OR ADJUSTABLE
AER	AERATION
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AH	AIR HANDLER
AIR CONT	AIR CONDITIONING
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM, ALUM
ALTN	ALTERNATIVE, ALTERNATE
ANOD	ANODIZED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIAL
ASSY	ASSEMBLY
AUTO	AUTOMATIC
AUX	AUXILIARY
AVAR	AIR VACUUM AND AIR RELEASE VALVE
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOCIATION
B & S	BELL & SPIGOT
BC	BEGIN CURVE, BOLT CIRCLE
BF	BLIND FLANGE, BUTTERFLY VALVE
BFG	BELOW FINISH GRADE
BFP	BACK FLOW PREVENTER
BFV	BUTTERFLY VALVE
BH	BORE HOLE
BHD	BULKHEAD
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLK	BLACK OR BLOCK
BLKG	BLOCKING
BLT	BOLT
BM	BEAM, BENCH MARK
BO	BLOW–OFF ASSEMBLY, BLOW–OFF
BOR	BUREAU OF RECLAMATION
BOT	BOTTOM
BPS	BOOSTER PUMPING STATION
BPV	BACK PRESSURE VALVE
BRK	BRICK
BTU	BRITISH THERMAL UNIT
BTWN	BETWEEN
BUR	BUILT–UP ROOFING
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BACK WASH, FILTER BACKWASH
C	CENTIGRADE OR CELSIUS
CAB	CABINET
CAP	CAPACITY
CARV	COMBINATION AIR RELEASE VALVE
CB	CATCH BASIN
CC	CENTER TO CENTER
CCP	CONCRETE CYLINDER PIPE
CD	CEILING DIFFUSER CHEMICAL DRAIN AND VENT
CER	CERAMIC
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFR	CODE OF FEDERAL REGULATIONS
CFS	CUBIC FEET PER SECOND
CG	CHLORINE GAS
CGB	CORD GRIP BUSHING
CHBD	CHALKBOARD
CHEM	CHEMICAL
CHG	CHANGE
CHKD PL	CHECKERED PLATE
CI	CAST IRON
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION

CL	CHLORINATOR, CHAIN LINK, CENTERLINE OR CHLORINE
CLR	CLEAR, CLEARANCE
CLST	CEMENT LINED STEEL PIPE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CM	CENTIMETER
CML & C	CEMENT MORTAR LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMM	COMMUNICATION
COMB	COMBINED
CONC	CONCRETE, CONCENTRIC
COND	CONDENSER, CONDENSATE
CONN	CONNECTION
CONST	CONSTRUCTION, CONSTRUCT
CONT	CONTINUED, CONTINUOUS, CONTINUATION
COORD	COORDINATE
COP	COPPER
COTG	CLEAN–OUT TO GRADE
CPLG	COUPLING
CPS	CULINARY PUMP STATION
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CAST STEEL OR CAUSTIC SODA
CTRD	CENTERED
CTR	CENTER
CTSK	COUNTERSUNK
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CU YD	CUBIC YARD
CULV	CULVERT
CV	CHECK VALVE
CW	COLD WATER
CWO	CHAIN WHEEL OPERATOR
CYL	CYLINDER
d	PENNY
DBA	DEFORMED ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEMO	DEMOLITION, DEMOLISH
DEQ	DEPARTMENT OF ENVIRONMENTAL QUALITY
DET	DETAIL
DI	DUCTILE IRON, DROP INLET
DIA	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIFF	DIFFUSER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DIST	DISTANCE
DIV	DIVISION
D–LOAD	LOADING CONDITION FOR RCP
DMPR	DAMPER
DN	DOWN, DECANT
DOT	DEPARTMENT OF TRANSPORTATION
DP	DAMP PROOFING
DR	DOOR, DRAIN
DS	DRENCH SHOWER & EYE WASH, DOWNSPOUT
DWG	DRAWING
DWL	DOWEL
E(UG)	ELECTRICAL (UNDERGROUND)
E(OH)	ELECTRICAL (OVERHEAD POWER)
E	EAST
EA	EACH
EB	EXPANSION BOLT
EC	END CURVE
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EFF	EFFLUENT
EG	EXISTING GRADE
EL	ELEVATION
ELB	ELBOW
ELEV	ELEVATION
ELEC	ELECTRICAL, ELECTRONIC
EMB	EMBEDMENT
EMER	EMERGENCY
ENCL	ENCLOSURE
ENG	ENGINE
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
EPDM	ETHYL PROPYLENE DIENE MONOMER
EPS	EXPANDED POLYSTYRENE
EQ	EQUAL

EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ETC	ETCETERA
EVAP	EVAPORATOR
EVC	END VERTICAL CURVE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EW	EACH WAY, EYE WASH
EXH	EXHAUST
EXIST	EXISTING
EXP ANR	EXPANSION BOLT, ANCHOR
EXP JT	EXPANSION JOINT
EXT	EXTERIOR, EXTENSION, EXTERNAL
F	FAHRENHEIT, FACE
F TO F	FACE TO FACE
FAB	FABRICATION, FABRICATE, OR FABRICATED
FB	FLAT BAR
FC	FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FDR	FEEDER
FEXT	FIRE EXTINGUISHER
FF	FLAT FACE, FAR FACE, FINISH FLOOR
FG	FINISH GRADE, FLOW GLASS
FH	FIRE HYDRANT
FLR	FLOOR
FL	FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FM	FORCE MAIN (SANITARY SEWER)
FND	FOUND
FNSH	FINISH
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED PLASTIC
FW	FINISH WATER
FWR	FINISH WATER RESERVOIR
G	GAS
GA	GAGE, GAUGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GI	GALVANIZED IRON
GIS	GEOGRAPHIC INFORMATION SYSTEM
GL	GLASS
GLAZ	GLAZING
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRADE
GR BRK	GRADE BREAK, GRADE CHANGE
GRTG	GRATING
GRV	GROOVED
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GYP	GYPSUM BOARD
H	HEIGHT
HAS	HEADED ANCHOR STUD
HB	HOSE BIBB
HD	HUB DRAIN
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER, HIGH PRESSURE, HEAT PUMP, HIGH POINT
HR	HEATING RETURN, HOUR, HOSE RACK
HS	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SECTION
HTG	HEATING
HTR	HEATER
HV	HOSE VALVE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWL	HIGH WATER LEVEL
HWO	HANDWHEEL OPERATED
HYD	HYDRANT, HYDRAULIC

ICFM	INLET CUBIC FEET PER MINUTE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
IN LB	INCH–POUND
INFL	INFLUENT
INSUL	INSULATING
INVT	INVERT
IOB	INLET OUTLET BYPASS
IPS	IRON PIPE SIZE
IRR	IRRIGATION
JA	JORDAN AQUEDUCT
JBID	JORDAN BASIN IMPROVEMENT DISTRICT
JT	JOINT
JTS	JOINTS
JVWCD	JORDAN VALLEY WATER CONSERVANCY DISTRICT
JVWTP	JORDAN VALLEY WATER TREATMENT PLANT
K	KELVIN, KILO OR THOUSAND POUNDS
KG	KILOGRAM
KV	KILOVOLT
KW	KILOWATT
KWH	KILOWATT HOUR
L	LEFT OR LITER
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LC	LENGTH OF CURVE
LF	LINEAR FEET
LG	LENGTH OR LONG
LH	LEFT HAND
LIP	LIP OF GUTTER
LL	LIVE LOAD
LLV	LONG LEG VERTICAL
LOL	LENGTH OF LINE
LP	LOW POINT
LR	LONG RADIUS
LT	LIGHT, LEFT
LVL	LEVEL
LWL	LOW WATER LEVEL
LWR	LOWER
M	METER, MALE (PIPE THREAD)
MACH	MACHINE
MAN	MAGNETIC, MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL, MECHANISM
MEMB	MEMBRANE
MET	METAL
MFR	MANUFACTURER
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE, MONORAIL HOIST
MI	MALLEABLE IRON
MID	MIDDLE
MIL	1/1,000 INCH
MIN	MINIMUM OR MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
MPH	MILES PER HOUR
MTG	MOUNTING
MTL	METAL OR MATERIAL
MTR	MOTOR
MWS	MAXIMUM WATER SURFACE
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NBS	NATIONAL BUREAU OF STANDARDS
NC	NORMALLY CLOSED
NE	NORTHEAST
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
NF	NEAR FACE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER OR NORMALLY OPEN
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE

NSF	NATIONAL SANITATION FOUNDATION
NTS	NOT TO SCALE
NW	NORTHWEST
O TO O	OUT TO OUT
OC	ON CENTER, OVER–CROSSING
OD	OUTSIDE DIAMETER, OVERALL DIMENSION
OF	OUTSIDE FACE, OVERFLOW
OFS	OVERFLOW STRUCTURE
OH	OVERHEAD
OPER	OPERATOR, OPERATING
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OVHD	OVERHEAD
OZ	OUNCE
PC	PORTLAND CEMENT, POINT OF CURVE OR PRIMARY CLARIFIER
PCC	PORTLAND CEMENT CONCRETE
PCF	POUNDS PER CUBIC FOOT
PE	PLAIN END, POLYELECTROLYTE POLYMER, POLYETHYLENE
PG	PRESSURE GAUGE
pH	HYDROGEN ION CONCENTRATION
PI	PLANT INFLUENT, POINT OF INTERSECTION
PJF	PREMOLDED JOINT FILLER
PL	PLATE, PROPERTY LINE, PLACE
PLYWD	PLYWOOD
PM	PUMP, PROPELLER METER
POB	POINT OF BEGINNING
PP	POTASSIUM PERMANGANATE
PPD	POUNDS PER DAY
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATED
PRI	PRIMARY
PRV	PRESSURE REGULATING/REDUCING VALVE
PS	PRESSURE SWITCH, PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	POINT OF TANGENT, PRESSURE TREATED
PTDF	PRESSURE TREATED DOUGLAS FIR
PV	PAVEMENT
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PW	POTABLE WATER
RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN OR ROAD
RDCR	REDUCER, REDUCING
RECIRC	RECIRCULATION
RED	REDUCING
REF	REFERENCE, REFER
REG	REGULATING, REGISTER
REINF	REINFORCE, REINFORCED
REQD	REQUIRED
REV	REVISION
RF	ROOF, RAISED FACE
RND	ROUND
RPM	REVOLUTIONS PER MINUTE
RP	RADIUS POINT
RS	RAW SEWAGE
RST	REINFORCING STEEL, RESET
RT	REGULATING TANK, RADIOGRAPHIC, RIGHT
RV	ROOF VENT
R/W	RIGHT OF WAY
RW	RAW WATER
S	SOUTH, SECOND, SLOPE
SA	SAMPLE, SAMPLE LINE
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SLP	SLOPE

SP	SPACING, STATIC PRESSURE
SPA	SPACED
SPEC	SPECIFIED, SPECIFICATION
SPECS	SPECIFICATIONS
SPG	SPACING
SPKR	SPEAKER
SPLY	SUPPLY
SPRT	SUPPORT
SQ	SQUARE
SQ FT	SQUARE FOOT
SR	SUPPLY REGISTER
SS	SANITARY SEWER, SERVICE SINK
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRL	STRUCTURAL
SUC	STRUCTURAL UNDERDRAIN COLLECTOR
SWA	SOUTHWEST AQUEDUCT
SYM	SYMBOL
SYMM	SYMMETRICAL
SYS	SYSTEM
T, t	THICKNESS, TOP, TOILET
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
THK	THICK
THR'D	THREADED
TK	TANK
TO	TOP OF
TOC	TOP OF CONCRETE
TOG	TOP OF GRADE
TP	TELEPHONE POLE, TURNING POINT
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UD	UNDERDRAIN
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
USBR	U.S. BUREAU OF RECLAMATION
V	VALVE, VENT, VOLT, VACUUM
VAR	VARIES, OR VARIABLE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VIC	VICTAULIC COUPLING
VOL	VOLUME
VPI	VERTICAL POINT OF INFLECTION
VSS	VOLATILE SUSPENDED SOLIDS
VTC	VENT THROUGH CEILING
VTR	VENT THROUGH ROOF
W	WEST, WASTE, WIDE FLANGE (BEAM)
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN OR WATER CLOSET
WCO	WALL CLEANOUT
WD	WOOD
WH	WATER HEATER
WS	WATER STOP, WATER SURFACE
WSP	WELDED STEEL PIPE
WSTP	WATER STOP
WT	WEIGHT
WWM	WELDED WIRE MESH
XMFR	TRANSFORMER
XMTR	TRANSMITTER
XS	EXTRA STRONG
YD	YARD
YP	YARD PIPING
YR	YEAR

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ABBREVIATIONS

PROJECT NUMBER 010-24-03
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DRAWING NO.
G-03
SHEET 03 OF 78

SECTION IDENTIFICATION

(1) SECTION CUT SHOWN ON DRAWING AS:

SECTION LETTER — A / C-10 — DRAWING NUMBER WHERE THE SECTION IS SHOWN (SEE NOTE A)

(2) THIS SECTION IS IDENTIFIED AS:

SECTION A — SCALE: AS DESIGNATED — M-01,C-01... — SECTION LETTER — DRAWING NUMBER WHERE THE SECTION CUT IS SHOWN (SEE NOTE A)

DETAIL IDENTIFICATION

(1) DETAIL IDENTIFICATION SHOWN ON DRAWING AS:

DETAIL NUMBER 3 / C-10 — DRAWING NUMBER WHERE THE DETAIL IS SHOWN — THE DETAIL NAME IS OPTIONAL AND LOCATED HERE, FOLLOWING DETAIL CALLOUT

(2) THIS DETAIL IS IDENTIFIED AS:

DETAIL 1 — SCALE: AS DESIGNATED — M-01,C-01... — DETAIL NUMBER — DRAWING NUMBER WHERE THE DETAIL IS SHOWN (SEE NOTE A)

TYPICAL DETAIL IDENTIFICATION

TYPICAL DETAIL C / 2000 — NTS — TYPICAL DETAIL NUMBER, SEE INDEX OF DRAWINGS FOR LOCATION OF GENERAL DRAWINGS

HC / XX-XX — HERRIMAN CITY

DRAWING IDENTIFICATION SYSTEM

LETTER	DISCIPLINE
G	GENERAL
PP	PLAN AND PROFILE
C	CIVIL
CP	CATHODIC PROTECTION
GC	GENERAL CIVIL
S	STRUCTURAL
GS	GENERAL STRUCTURAL
M	MECHANICAL
GM	GENERAL MECHANICAL
E	ELECTRICAL
GE	GENERAL ELECTRICAL DETAILS

C-02
- C — DISCIPLINE
- 02 — INDIVIDUAL DRAWING NUMBER

NOTES:

A. IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A HORIZONTAL LINE.

B. ELECTRICAL SYMBOLS SHOWN ON ELECTRICAL DRAWINGS. FOR WELDING SYMBOLS USE AMERICAN WELDING SOCIETY STANDARD SYMBOLS. SEE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

- 1 — COORDINATE IDENTIFICATION
- ELEVATION INDICATOR
- SECTION CORNER
- CONTROL POINT
- MONUMENT INDICATOR
- POTHOLE
- TEST HOLE
- BORING HOLE
- R/W L/A — RIGHT-OF-WAY LIMITED ACCESS
- R/W — RIGHT-OF-WAY
- PL — PROPERTY LINE
- EASEMENT
- PARCEL
- LIMITS OF CONSTRUCTION
- SILT FENCE
- FENCE
- RAILING
- DITCH
- CULVERT
- RIPRAP
- TREE LINE
- NEW STRUCTURE OR FACILITY
- FUTURE STRUCTURE OR FACILITY
- NEW PIPELINE (CIVIL SHEETS)
- NEW PIPELINE 10" DIA AND SMALLER (CIVIL SHEETS)
- EXISTING PIPELINE
- ATMS — ATMS
- CTV — CABLE
- C(ug) — COMMUNICATION BURIED
- COMM — COMMUNICATION OVERHEAD
- P(ug) — ELECTRICAL BURIED
- OHP — ELECTRICAL OVERHEAD
- FO — FIBER OPTICS OVERHEAD
- FO(ug) — FIBER OPTICS UNDERGROUND
- G — GAS
- IRR — IRRIGATION
- PETRO — PETROLEUM LINE
- SS — SANITARY SEWER
- SD — STORM DRAIN
- T(ug) — TELEPHONE BURIED
- TEL — TELEPHONE OVERHEAD
- W — WATERLINE
- TV — CABLE BOX
- CATCH BASIN
- EB — ELECTRICAL BOX
- HYDRANT
- G — GAS MANHOLE
- S — SEWER MANHOLE
- D — STORM DRAIN MANHOLE
- STREET LIGHT BOXES
- T — TELEPHONE MANHOLE
- W — WATER MANHOLE
- WM — WATER METER
- POWER POLE
- TB — TELEPHONE BOX
- TO BE REMOVED OR ABANDONED
- MASONRY
- STEEL
- INSULATION
- GRAVEL
- CONCRETE
- EARTH
- SAND
- ALUMINUM OR METAL DECKING
- CHECKERED PLATE
- SPAN — GRATING
- PLASTIC, RUBBER OR NEOPRENE
- WOOD (ROUGH FRAMING) OR, OPENING OR DEPRESSION IN SLAB OR WALL
- UNIT HEATER
- FLOOR DRAIN
- CHANGE IN PIPING MATERIAL
- 24" RCP-RW — PIPE SIZE AND TYPE/FLUID ABBREVIATION (USE FOR EXISTING PIPE CALLOUT)
- 10" PW (2) — PIPE CALLOUT (SEE PIPING SCHEDULE)
- ME-2 — EQUIPMENT NUMBER (SEE EQUIPMENT SCHEDULE)
- STOP GATE
- SLIDE GATE
- SLUICE GATE
- GATE VALVE
- REDUCER OR INCREASER
- LIQUID SURFACE EL
- 1 — REVISION WORK
- 3 — REFERENCE TO NOTE

DIP/PVC WATERLINE FITTING SCHEDULE

VALVES (SEE NOTE 2)

V8
- SIZE IN INCHES
- FITTING DESIGNATION (VALVE)

V8 (8" VALVE)

COUPLINGS & PLUGS

C8
- SIZE IN INCHES
- FITTING DESIGNATION (COUPLING)

COUPLING: C8 (8" COUPLING)

PLUG: P8 (8" PLUG)

REDUCERS

R86
- SIZE IN INCHES (SMALL END)
- SIZE IN INCHES (LARGE END)
- FITTING DESIGNATION (REDUCER)

R86 (8" X 6" REDUCER)

TEES, CROSSES & WYES

T86
- SIZE IN INCHES (BRANCH)
- SIZE IN INCHES
- FITTING DESIGNATION (TEE, CROSS, WYE)

	TEE	CROSS	WYE
	T86 (8" X 8" X 6" TEE)	X86 (8" X 8" X 6" X 6" CROSS)	W86 (8" X 8" X 6" WYE)
	T8 (8" X 8" X 8" TEE)	X8 (8" X 8" X 8" X 8" CROSS)	W8 (8" X 8" 8" WYE)

BENDS

B84
- TYPE OF BEND (SEE BEND LEGEND)
- SIZE IN INCHES
- FITTING DESIGNATION (BEND)

B84 (8" 90° BEND)

BEND LEGEND
1 11.25°
2 22.5°
3 45°
4 90°

* ALL BENDS SHALL BE 45° UNLESS OTHERWISE NOTED

NOTES

1. UNLESS NOTED OTHERWISE, FITTINGS WITH A CONNECTION TO ANOTHER FITTING OR VALVE SHALL HAVE FLANGED CONNECTIONS. ALL FITTINGS WITH A CONNECTION TO A STRAIGHT RUN OF PIPE SHALL HAVE MECHANICAL JOINTS. ALL FITTINGS TO BE CLASS 52 DUCTILE IRON.
2. ALL VALVES 12 INCHES AND SMALLER SHALL BE GATE VALVES, VALVES LARGER THAN 12 INCHES TO BE BUTTERFLY VALVES WITH VALVE BOX AND COVER. BUTTERFLY VALVES TO BE PER SPEC SECTION 40 05 64. C 2662 OR HC CW-08
3. ALL FITTINGS AND APPURTENANCES SHALL BE EQUIPPED WITH THRUST BLOCKS PER THE SPECIFICATIONS AND STANDARD DRAWINGS. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT AS NECESSARY DURING CONSTRUCTION. C 2231
4. NOT ALL FITTINGS ARE SHOWN. CONTRACTOR SHALL INSTALL ALL FITTINGS REQUIRED TO FOLLOW THE ALIGNMENT SHOWN IN THE DRAWINGS, REGARDLESS OF WHETHER SUCH FITTINGS ARE CALLED OUT. WHERE POSSIBLE, THE CONTRACTOR MAY DEFLECT PIPE JOINTS AS ALLOWED BY THE PIPE MANUFACTURER, BUT NO MORE THAN 2 DEGREES, TO ACHIEVE THE DESIRED ALIGNMENT. WHERE THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL INSTALL THE REQUIRED FITTINGS AT NO ADDITIONAL COST TO THE OWNER.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

DESIGN
DESIGN L. MINCK
DRAWN J. BLACK

GENERAL
SYMBOLS

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
G-04
SHEET 04 OF 78

GENERAL NOTES

1. SYMBOLS FOR STRUCTURES, PIPE, ETC. USED FOR IDENTIFICATION ARE SHOWN IN LEGENDS AND SHALL BE FOLLOWED THROUGHOUT THE PLANS WHENEVER APPLICABLE. NOT ALL OF THE VARIOUS COMPONENTS SHOWN IN THESE LEGENDS ARE NECESSARILY USED IN THE PROJECT.

2. SCALE OF THE DRAWINGS OR DETAILS ARE SHOWN IN TITLE BLOCK OR DIRECTLY UNDER THE PLAN OR DETAIL. THE SIZE OF THE ORIGINAL PLOTTED DRAWINGS IS 22"X34". CARE SHOULD BE TAKEN TO VERIFY THE SCALE BAR IN THE TITLE BLOCK AREA TO DETERMINE THE SCALE OF REDUCED REPRODUCTIONS.

3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PERFORM CONSTRUCTION ACTIVITIES PER THE CONTRACT DOCUMENTS AND IN A WORKMANLIKE SAFE MANNER IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND JOB-SITE RELATED CONSTRUCTION CONDITIONS AND REQUIREMENTS. ANY ADDITIONS, DELETIONS, OR MODIFICATIONS SHALL FIRST MEET WITH THE WRITTEN APPROVAL OF THE ENGINEER AND THE OWNER.

4. CONTRACTOR SHALL OBTAIN ALL NECESSARY AND REQUIRED PERMIT(S), INSPECTIONS AND APPROVALS, AND COMPLY WITH ALL REQUIREMENTS OF GOVERNING AGENCIES.

5. THE CONTRACTOR SHALL PREPARE AND SUBMIT TRAFFIC CONTROL PLANS FOR REVIEW AND APPROVAL BY HERRIMAN CITY AND RIVERTON CITY. WORK WILL NOT BEGIN UNTIL THE PLANS HAVE BEEN APPROVED.

6. THE CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE ESTABLISHED RIGHTS-OF-WAY, EASEMENTS AND DESIGNATED STAGING AREAS. THIS SHALL INCLUDE BUT NOT BE LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATION, AND EXCAVATED MATERIAL AND BACKFILL STORAGE. IF THE CONTRACTOR REQUIRES ADDITIONAL CONSTRUCTION EASEMENTS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN SUCH EASEMENTS FROM INDIVIDUAL PROPERTY OWNERS.

7. UTILITY LOCATIONS:
   - CONTRACTOR SHALL CONTACT BLUE STAKES TO LOCATE EXISTING UTILITIES.
   - ALL UTILITY LOCATIONS, SHOWN ON DRAWINGS, ARE APPROXIMATE AND ARE NOT INCLUSIVE OF ALL EXISTING UTILITIES.
   - CONTRACTOR TO VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POT HOLING A MINIMUM OF TWO WEEKS TIME OR 200-FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR NEGLECTING TO POT HOLE UTILITIES, THE CONTRACTOR TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER.
   - CONTRACTOR SHALL POT HOLE CRITICAL LOCATIONS AND OBTAIN ALL EXISTING PIPE O.D. PRIOR TO ORDERING OR OBTAINING MATERIALS REQUIRED FOR CONNECTIONS TO EXISTING PIPING. UTILITY SHUT-DOWNS AND OTHER WORK WILL NOT BE SCHEDULED OR ALLOWED UNTIL THIS IS ACCOMPLISHED AND MATERIALS ARE ON SITE AND APPROVED FOR USE BY OWNER.

8. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE WHICH ARE TO REMAIN IN PLACE. ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTORS OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED TO ORIGINAL OR BETTER CONDITION TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.

9. UTILITY SERVICE LATERALS ARE NOT SHOWN ON THESE PLANS, CONTRACTOR SHALL ANTICIPATE THAT THERE ARE NO LESS SERVICE LATERALS THAN THERE ARE HOMES WHERE PROJECT TRENCHES ARE LOCATED IN OR WITHIN 100 FEET OF A STREET BETWEEN A HOME AND THE UTILITY MAIN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT IN PLACE, OR REMOVE AND REPLACE TO THE SATISFACTION OF THE UTILITY OWNER, ALL UTILITY SERVICE LATERALS ENCOUNTERED DURING CONSTRUCTION. DURATION OF UTILITY OUTAGES AND PUBLIC NOTIFICATION PROCEDURES SHALL CONFORM TO THE STANDARDS OF THE CONTROLLING AGENCY.

10. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMANCE WITH LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE PUBLIC AND PROTECTION OF PERSONNEL AND WORKERS.

11. IF THE CONTRACTOR CHOOSES TO WORK ON THE PROJECT WHEN HOT MIX ASPHALT IS NOT AVAILABLE, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE GOVERNING AGENCY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY ASPHALT SURFACING MATERIAL. WHEN PERMANENT ASPHALT BECOMES AVAILABLE, THE CONTRACTOR SHALL REMOVE THE TEMPORARY ASPHALT, FURNISH AND INSTALL THE PERMANENT ASPHALT AT NO ADDITIONAL COST TO THE OWNER.

12. CONTRACTOR SHALL NOT DESTROY, REMOVE, OR DISTURB ANY EXISTING SURVEY MONUMENTS WITHOUT AUTHORIZATION OF CONTROLLING AGENCY. NO PAVEMENT CUTTING OR REMOVAL SHALL BEGIN UNTIL ALL SURVEY MARKERS OR MONUMENT POINTS THAT HAVE THE POTENTIAL OF BEING DISTURBED BY THE CONSTRUCTION OPERATIONS HAVE BEEN PROPERLY REFERENCED BY A REGISTERED LAND SURVEYOR. ALL SURVEY MONUMENTS OR POINTS DISTURBED BY THE CONTRACTOR SHALL BE ACCURATELY RESET BY A REGISTERED LAND SURVEYOR AFTER ALL RESTORATION AND RESURFACING HAS BEEN COMPLETED.

13. TRENCHING OPERATIONS SHALL BE PERFORMED SO AS TO PROTECT THE EXISTING CURB AND GUTTER, UNLESS IDENTIFIED FOR REMOVAL. DAMAGED CURB AND GUTTER SHALL BE REPLACED TO MATCH THE EXISTING AT THE CONTRACTOR'S EXPENSE, REPLACE PER APWA STANDARDS FOR RIVERTON CITY AND HERRIMAN CITY. TRENCH SUPPORTS AND DEWATERING SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR. MAXIMUM OPEN TRENCH DURING WORKING HOURS SHALL BE 300 FEET. ALL TRENCHES SHALL BE BACKFILLED AND/OR PLATED DURING NON-WORKING HOURS, PER EXCAVATION PERMIT REQUIREMENTS.

14. DEWATERING: GROUND WATER AND SURFACE WATER CONTROL SHALL BE PERFORMED AND RESPONSIBLY HANDLED BY THE CONTRACTOR ACCORDING TO, AND IN COMPLIANCE WITH, ALL LOCAL GOVERNING AUTHORITIES. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE POTENTIAL PUMPING NEEDS. THE CONTRACTOR SHALL NOT RELY ON OWNER SUPPLIED PROCTOR, GROUND WATER AND/OR SURFACE WATER DATA. CONTRACTOR SHALL OBTAIN DEWATERING PERMIT AS NECESSARY.

15. AERIAL PHOTOS IN DRAWINGS:
THE AERIAL PHOTOS PROVIDED AS BACKGROUND IN THESE DRAWINGS ARE PROVIDED TO HELP CLARIFY THE WORK SITE. HOWEVER, THE PHOTOS DEPICT CONDITIONS AS THEY EXISTED IN SEPTEMBER OF 2024. PRESENT DAY CONDITIONS MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. BID SHALL INCLUDE ALL WORK REQUIRED TO COMPLETE THE PROJECT.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY SETTLEMENT OF EXCAVATIONS, AND ANY DAMAGE OF UTILITIES RESULTING FROM SETTLEMENT.

17. CONTRACTOR SHALL PREVENT ANY GROUND WATER OR DEBRIS FROM ENTERING NEW PIPES DURING CONSTRUCTION. THE ENDS OF THE PIPES SHALL BE SEALED AT THE END OF EACH WORKDAY.

18. PROFILE DRAWINGS ARE HORIZONTAL PROJECTIONS OF THE PIPELINE CENTERLINE, UNLESS OTHERWISE NOTED. PLAN AND PROFILE SHEETS SHOW REPRESENTED HORIZONTAL, VERTICAL AND COMBINATION CURVES, TO BE MET BY THE FABRICATOR, SUBMIT SHOP DRAWINGS FOR REVIEW.

19. LAY PIPE TO DEPTH AND ALONG HORIZONTAL ALIGNMENT AS DEFINED IN THESE DRAWINGS. CONTRACTOR SHALL NOT DEVIATE FROM PROPOSED ALIGNMENT OR GRADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. AVOID HIGH AND LOW POINTS EXCEPT WHERE DESIGNED.

20. CONTRACTOR SHALL BACKFILL TRENCH AREAS WHERE NEW WATERLINES CROSS UNDER EXISTING BURIED UTILITIES WITH FLOWABLE FILL (SOIL CEMENT BACKFILL, CLSM), WHERE MECHANICAL COMPACTION CANNOT BE ADEQUATELY PERFORMED.

21. ALL BURIED REBAR, FITTINGS, COUPLINGS, VALVES AND MECHANICAL JOINT NUTS AND BOLTS ARE TO BE COATED WITH WAX TAPE COATING SYSTEM, PER SPECIFICATIONS.

22. CONTRACTOR SHALL MAINTAIN A 10-FOOT HORIZONTAL AND AN 18-INCH VERTICAL SEPARATION (OUTSIDE OF PIPE TO OUTSIDE OF PIPE/MANHOLE) BETWEEN ALL SEWER AND WATER LINES, UNLESS EXCEPTION IS NOTED.

23. CONTRACTOR SHALL RESTORE OR REPLACE ANY SPRINKLING SYSTEMS AND LANDSCAPING DAMAGED DURING CONSTRUCTION TO EQUAL OR BETTER CONDITION THAN WHAT EXISTED PRIOR TO CONSTRUCTION UNLESS OTHERWISE NOTED, AT NO ADDITIONAL COST TO THE OWNER.

24. CONTRACTOR SHALL PROTECT ADJACENT PRESSURE PIPELINES AND PROVIDE TEMPORARY THRUST RESTRAINT AS NECESSARY DURING CONSTRUCTION INCLUDING EXISTING VALVES, TEES, BENDS, ETC. ALL NEW PRESSURE PIPE AND FITTINGS SHALL HAVE THRUST RESTRAINED JOINTS, THRUST BLOCKS, THRUST TIES OR OTHER APPROVED THRUST RESTRAINT. THRUST PROTECTION SHALL BE ADEQUATE FOR THE TEST PRESSURE SPECIFIED.

25. MINIMUM DEPTH OF ROSECREST PIPELINE: 4 FEET TO TOP OF PIPE UNLESS OTHERWISE NOTED.

26. COORDINATE ANY RELOCATIONS OF EXISTING WATER MAINS WITH OWNER (JVWCD, RIVERTON CITY AND/OR HERRIMAN CITY).
   - OPERATION OF ALL EXISTING MAIN LINE VALVES TO BE COORDINATED THROUGH OWNER 48-HOURS IN ADVANCE OF SHUTDOWN. CONNECTIONS TO SOME WATERLINES SERVING MAY REQUIRE NIGHT OR WEEKEND SHUTDOWNS. CONTRACTOR TO PERFORM NIGHT OR WEEKEND WORK IN THESE AREAS AT NO ADDITIONAL COST TO OWNER.
   - OWNER DOES NOT GUARANTEE WATER SHUT-DOWNS. CONTRACTOR TO DEVISE PLANS TO AVOID WORK STOPPAGES IN THE EVENT A SHUT-DOWN DOES NOT GO AS PLANNED
   - CONTRACTOR SHALL SUBMIT FOR REVIEW A SEQUENTIAL PLAN FOR CONNECTION, TESTING, AND FLUSHING OF ALL NEW WATER MAINS, HYDRANTS, AND SERVICE CONNECTIONS.

28. CONTRACTOR SHALL PERFORM CHLORINATION TEST, PRESSURE TEST, AND BACTERIA TEST. ALL WATERLINES INSTALLED SHALL BE DISINFECTED IN ACCORDANCE WITH THE "AMERICAN WATER WORKS ASSOCIATION STANDARD FOR DISINFECTING WATER MAINS" (AWWA C651) AND SPECIFICATIONS. ALL CHLORINATED WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH THE UTAH DEPT OF ENVIRONMENTAL QUALITY RULES AND REQUIREMENTS FOR SURFACE DISCHARGE AND PROJECT SPECIFICATIONS.

29. PRESSURE TEST TO HYDROSTATIC TEST HGL AS SHOWN ON DRAWING #### FOR FOUR HOURS WITH ZERO LEAKAGE. IN THE CASE OF FAIL TO PASS THE LEAKAGE TEST, THE CONTRACTOR SHALL DETERMINE THE CAUSE OF THE LEAKAGE, SHALL TAKE CORRECTIVE MEASURES NECESSARY TO REPAIR THE LEAKS, AND SHALL AGAIN TEST THE PIPELINES, ALL AT NO COST TO THE OWNER.

30. WORKING PRESSURE FOR THIS PORTION OF THE SOUTHWEST AQUEDUCT PIPELINE SHOWN ON THE HYDRAULIC PROFILE ON DRAWING ####, ALL FLANGES, VALVES, FITTINGS, THRUST BLOCKS, ETC. SHALL BE RATED APPROPRIATELY.

31. ALL MATERIALS WHICH MAY CONTACT DRINKING WATER INCLUDING PIPES, GASKETS, FITTINGS, LUBRICANTS, LININGS, FIELD JOINT REPAIR MATERIALS, O-RINGS, AND VALVES SHALL BE NSF 61 COMPLIANT FOR CULINARY WATER USE. TO PERMIT FIELD VERIFICATION OF THIS CERTIFICATION, ALL SUCH COMPONENTS SHALL BE APPROPRIATELY STAMPED WITH THE NSF LOGO.

32. CONTRACTOR TO PROVIDE AND DISTRIBUTE APPROVED WRITTEN NOTICE OF CONSTRUCTION ACTIVITIES TO ALL RESIDENTS AND BUSINESSES LOCATED IN THE CONSTRUCTION AREA AT LEAST ## HOURS PRIOR TO CONSTRUCTION. WRITTEN NOTICE SHALL BE APPROVED BY THE ENGINEER PRIOR TO DISTRIBUTION.

33. CONTRACTOR SHALL PROVIDE AND UPDATE A CONSTRUCTION SCHEDULE FOR WORKING IN THE PUBLIC RIGHT-OF-WAY PRIOR TO CONSTRUCTION.

34. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTROL OF DRAINAGE AND EROSION DURING CONSTRUCTION AT CONSTRUCTION SITE, STAGING, AND SPOILS AREA. CONTRACTOR SHALL SUBMIT STORM RUNOFF CONTROL PLAN FOR APPROVAL BY ENGINEER AND OBTAIN A SWPPP PERMIT FROM THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY.

35. ALL ASBESTOS CEMENT PIPES REQUIRING REMOVAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS IN AN APPROVED LOCATION EQUIPPED TO HANDLE SUCH MATERIALS. ANY CUTTING REQUIRED SHALL BE PERFORMED IN ACCORDANCE WITH PROPER REGULATORY PROCEDURES. IN NO CASE SHALL THE PIPE AND FITTINGS BE BROKEN OR CRUSHED.

36. CONTRACTOR SHALL SAW CUT ASPHALT, CURB AND GUTTER AND SIDEWALK TO THE NEAREST JOINT AT THE LIMITS OF ALL TRENCH EXCAVATION, WHERE REQUIRED.

37. CONTRACTOR SHALL COORDINATE WITH DRIVEWAY OWNERS FOR ACCESS DURING WORKING HOURS. ALL TRENCHES SHALL BE BACKFILLED AND/OR PLATED DURING NON-WORKING HOURS.

38. WORKING HOURS IN RIVERTON CITY AND HERRIMAN CITY SHALL BE 8:00 AM TO 7:00 PM. IF ANY WORK IS DEEMED NECESSARY OUTSIDE OF THESE HOURS, COORDINATE WITH ENGINEER, OWNER, AND RIVERTON CITY OR HERRIMAN CITY AS PERTINENT.

39. INSTALL ALL MATERIALS ACCORDING TO MANUFACTURER RECOMMENDATIONS AND STATE AND LOCAL REQUIREMENTS. USE ONLY NEW AND UNUSED MATERIALS. ALL MATERIALS SHALL BE PROVIDED BY MANUFACTURERS REGULARLY ENGAGED IN PRODUCING SAID ITEMS, AND WHICH SHALL BE FIRST QUALITY, HEAVY DUTY, COMMERCIAL/INDUSTRIAL GRADE, SUITABLE FOR THE INTENDED USE.

40. ANY WORK RELATED TO NATURAL GAS LINES (RELOCATION, ABANDONMENT, ETC.) SHALL BE COORDINATED DIRECTLY WITH ENBRIDGE GAS, FORMERLY DOMINION ENERGY.

41. THE CONSTRUCTION AREA CONTAINS TREES THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES DUE TO BRANCHES OR ROOTS EXTENDING INTO THE CONSTRUCTION AREA. CONTRACTOR TO PRESERVE AND PROTECT TREES UNLESS IDENTIFIED TO BE REMOVED. CONTRACTOR TO COORDINATE WITH CITY FOR ANY TREE WORK PRIOR TO CONSTRUCTION.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN L. MINCK | REVIEW CHECKED J. LUETTINGER | CHECKED J. LUETTINGER
DRAWN J. BLACK | APPROVED J. LUETTINGER

GENERAL

GENERAL NOTES

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
G-05

SHEET 05 OF 78

SURVEY NOTES:

1. PROJECTION AND COORDINATE VALUES ARE BASED UPON NAD-83 UTAH STATE PLANE CENTRAL ZONE, US FT (GROUND). THE POINT OF ORIGINAL FOR THIS CONTROL SURVEY IS THE SALT LAKE COUNTY MONUMENT MARKING THE SECTION CORNER COMMON TO SECTION 01, 02, 11 & 12. GROUND SCALE FACTOR = 1.0002702676643; LAT 40°29'35.26342" LON 112°01'27.90325" HEIGHT 4937.755'; NORTH 7348785.875 EAST 1494562.571.
2. PROJECT ELEVATIONS ARE BASED ON NAVD-88 VERTICAL CONTROL. IT IS NOTED THAT EXISTING FEATURES MAY REFERENCE OTHER VERTICAL DATUM AND CARE SHOULD BE TAKEN IF CONVERTING TO NAD-88 IF REFERENCING BETWEEN DRAWINGS OF EXISTING FACILITIES.
3. CONTROL WAS MEASURED USING TRIMBLE R10 AND THE UGRC VIRTUAL REFERENCE NETWORK (VRS).

GEOTECHNICAL NOTES:

1. GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY:
   RB&G ENGINEERING, INC.
   CONTACT: ROB JOHNSON, P.E.
   1435 WEST 820 NORTH
   PROVO, UTAH 84601
   801-374-5771
2. GEOTECHNICAL BORINGS SHOWN ALONG ALIGNMENT ARE APPROXIMATE. REFER TO GEOTECHNICAL REPORT FOR INFORMATION REGARDING SUBSURFACE CONDITIONS THAT MAY BE PRESENT ALONG THE ALIGNMENT.

POTHOLE NOTES:

1. SEE PP SHEETS FOR UTILITY POTHOLE LOCATIONS.
2. SEE C-11 SHEET OK UTILITY POTHOLE INFORMATION.

N

75 0 150 300
SCALE IN FEET

LEGEND
- SURVEY CONTROL POINT
- BORE HOLE
- MONUMENT

BOREHOLE DATA

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
700	7347572.11	1494531.92	5056.64	BH-05
701	7350697.00	1494551.48	4931.88	BH-03
702	7352389.00	1494551.65	4932.42	BH-02
703	7354062.08	1494606.66	4896.73	BH-04
704	7354197.42	1494705.26	4892.84	BH-01
705	7346819.97	1494558.26	5121.16	BH-06

MONUMENT DATA

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
807	7347253.64	1494342.90	5096.93	FND 1" ROUND BRASS CAP
808	7353244.66	1494380.43	4914.91	FND FLAT BRASS CAP
809	7352458.78	1494376.59	4939.86	FND FLAT BRASS CAP
810	7348194.37	1494676.30	5018.74	FND MON LID
812	7346971.74	1494577.20	5106.74	FND 1/2 B/C NO MARKS

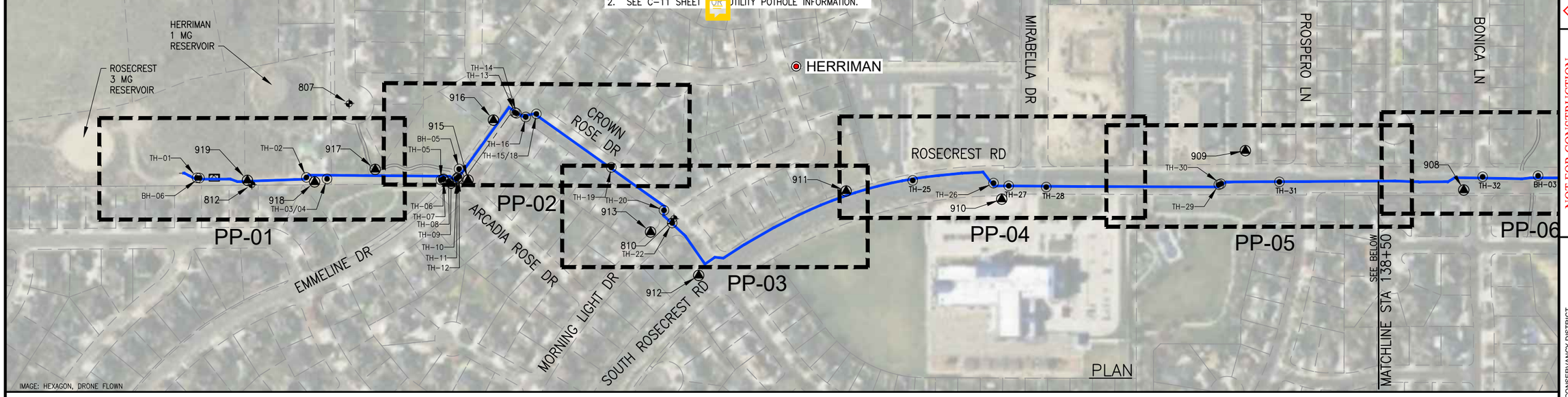
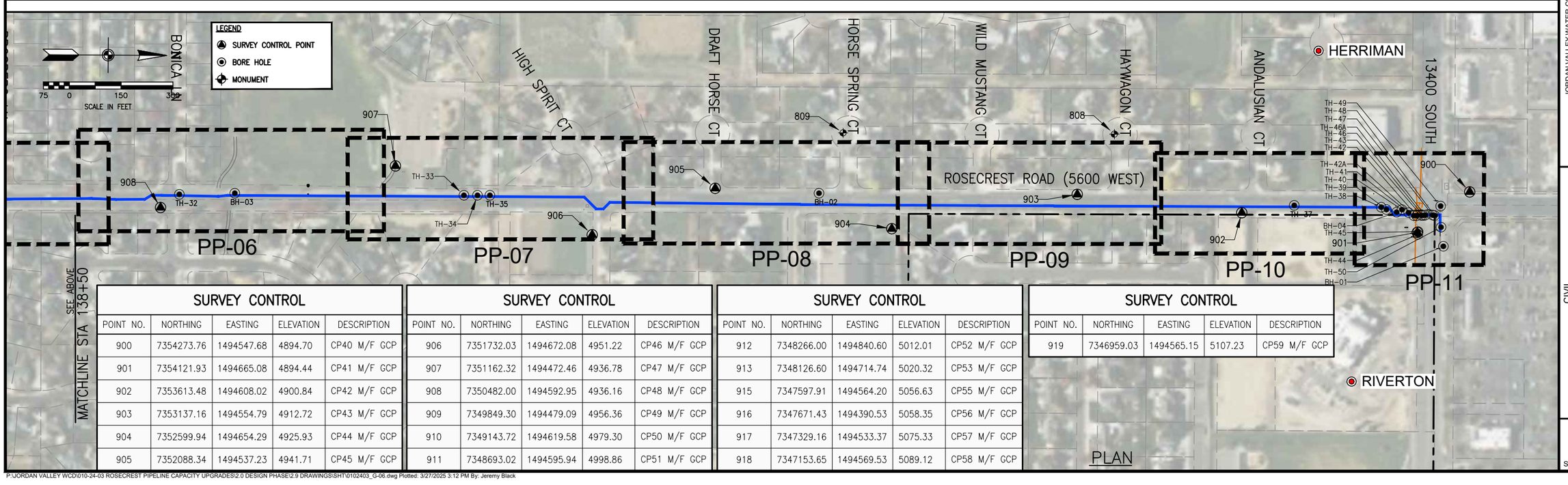


IMAGE: HEXAGON, DRONE FLOWN



SURVEY CONTROL

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
900	7354273.76	1494547.68	4894.70	CP40 M/F GCP
901	7354121.93	1494665.08	4894.44	CP41 M/F GCP
902	7353613.48	1494608.02	4900.84	CP42 M/F GCP
903	7353137.16	1494554.79	4912.72	CP43 M/F GCP
904	7352599.94	1494654.29	4925.93	CP44 M/F GCP
905	7352088.34	1494537.23	4941.71	CP45 M/F GCP

SURVEY CONTROL

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
906	7351732.03	1494672.08	4951.22	CP46 M/F GCP
907	7351162.32	1494472.46	4936.78	CP47 M/F GCP
908	7350482.00	1494592.95	4936.16	CP48 M/F GCP
909	7349849.30	1494479.09	4956.36	CP49 M/F GCP
910	7349143.72	1494619.58	4979.30	CP50 M/F GCP
911	7348693.02	1494595.94	4998.86	CP51 M/F GCP

SURVEY CONTROL

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
912	7348266.00	1494840.60	5012.01	CP52 M/F GCP
913	7348126.60	1494714.74	5020.32	CP53 M/F GCP
915	7347597.91	1494564.20	5056.63	CP55 M/F GCP
916	7347671.43	1494390.53	5058.35	CP56 M/F GCP
917	7347329.16	1494533.37	5075.33	CP57 M/F GCP
918	7347153.65	1494569.53	5089.12	CP58 M/F GCP

SURVEY CONTROL

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
919	7346959.03	1494565.15	5107.23	CP59 M/F GCP

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

DESIGN
DESIGN L. MINCK
DRAWN J. BLACK

CIVIL

OVERALL DRAWING INDEX MAP

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
G-06
SHEET 06 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_G-06.dwg Plotted: 3/27/2025 3:12 PM By: Jeremy Black

ROSECREST PIPELINE CAPACITY UPGRADES OVERALL LINE PROFILE AND HYDROSTATIC TEST DATA

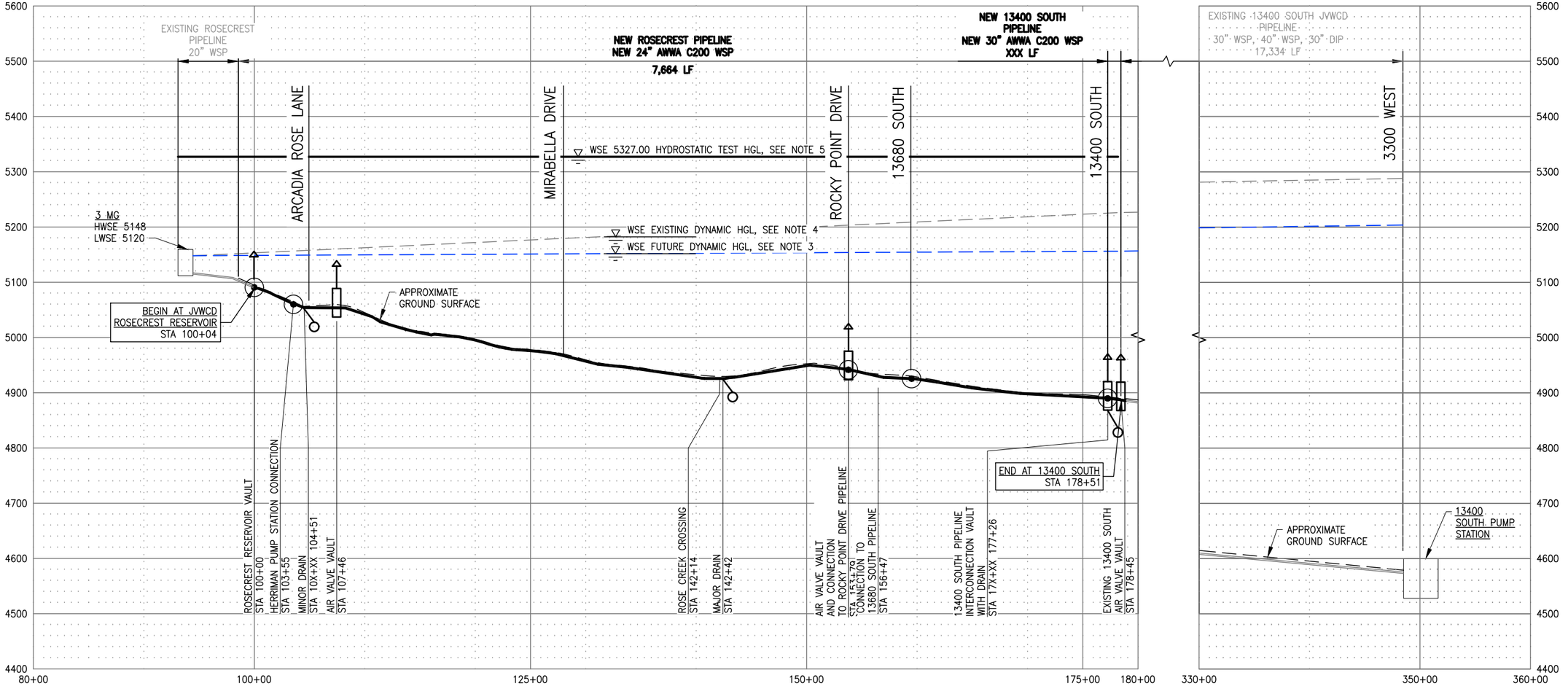

TABLE 1 HYDRAULIC CAPACITY	
2024 PEAK DAY DEMAND	10.5 mgd (16.2 cfs)
BUILDOUT PEAK DAY DEMAND	13.9 mgd (21.5 cfs)
PRESSURE AT 13400 SOUTH PUMP STATION PRE-CONSTRUCTION	303.0 psi
PRESSURE AT 13400 SOUTH PUMP STATION AFTER CONSTRUCTION (BOTH PIPELINES OPERATING)	272.4 psi

LEGEND:

CONNECTION	⊙	EXISTING DYNAMIC HGL	— — — —
AIR VALVE	↑	FUTURE DYNAMIC HGL	— — — —
BLOW-OFF	↓	WORKING HGL	———
VAULT	□	HYDROSTATIC TEST HGL	———
MAINLINE VALVE	⋈	MAX SURGE HGL	— — — —

TABLE 2 ROSECREST PIPELINE CONNECTIONS HYDRAULIC CRITERIA

CONNECTION LOCATION	NEW ROSECREST PIPELINE APPROX STATION	AGENCY RECEIVING WATER	EXPECTED PEAK DAY DEMANDS AT CONNECTIONS (SEE NOTE 2)		FUTURE DYNAMIC HGL
			(mgd)	(cfs)	(ft)
HERRIMAN TANK TURNOUT	STA 103+55	HERRIMAN CITY	8.2	12.7	5148.9
ROCKY POINT DRIVE TURNOUT (CONNECTION TO HERRIMAN 10" WATERLINE)	STA 153+80	JVWCD RETAIL	0.2	0.3	5153.8
13680 SOUTH TURNOUT (CONNECTION TO HERRIMAN 12" WATERLINE)	STA 159+50	JVWCD RETAIL	0.2	0.3	5154.4
RIVERTON COMMERCIAL CONNECTION – 13400 SOUTH	STA 177+25 INTERCONNECT VAULT	RIVERTON CITY	0.1	0.2	5156.1
HERRIMAN COMMERCIAL CONNECTION – 13400 SOUTH	STA 177+25 INTERCONNECT VAULT	HERRIMAN CITY	5.1	7.9	5156.1

TABLE 3 PROJECT TEST PRESSURES

LOCATION	WORKING	TEST
13400 S INTERCONNECT VAULT	130	150
13680 S CONNECTION	110	150
ROCKY POINT DR MAINLINE VALVE VAULT	100	150
ROSE CREEK DRAIN	105	150
EMMELINE DR	50	100
HERRIMAN PUMP STATION TURNOUT	30	100
ROSECREST RESERVOIR VAULT	15	100

NOTES:

1. ELEVATIONS REFERENCED TO NAVD 88 VERTICAL DATUM.
2. EXPECTED DEMANDS WERE OBTAINED FROM THE DISTRICT'S 2060 HYDRAULIC MODEL OR FROM EXISTING DEMANDS (WHICHEVER WAS GREATER).
3. FUTURE DYNAMIC HGL REPRESENTS BOTH ROSECREST PIPELINES IN OPERATION.
4. EXISTING DYNAMIC HGL REPRESENTS CONDITIONS PRIOR TO CONSTRUCTION OF THE NEW 24" ROSECREST PIPELINE (16"/20" ROSECREST PIPELINE ONLINE ONLY).
5. HYDROSTATIC TESTING IS FOR NEW PIPELINE AND APPURTENANCES ONLY.

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ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
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DESIGN L. MINCK
DRAWN J. BLACK

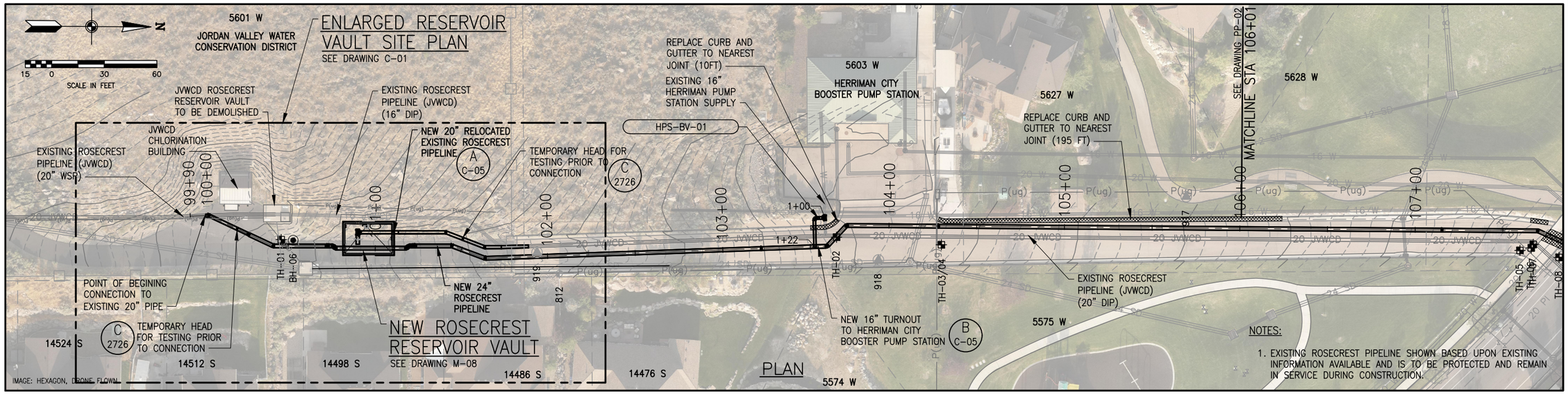
REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

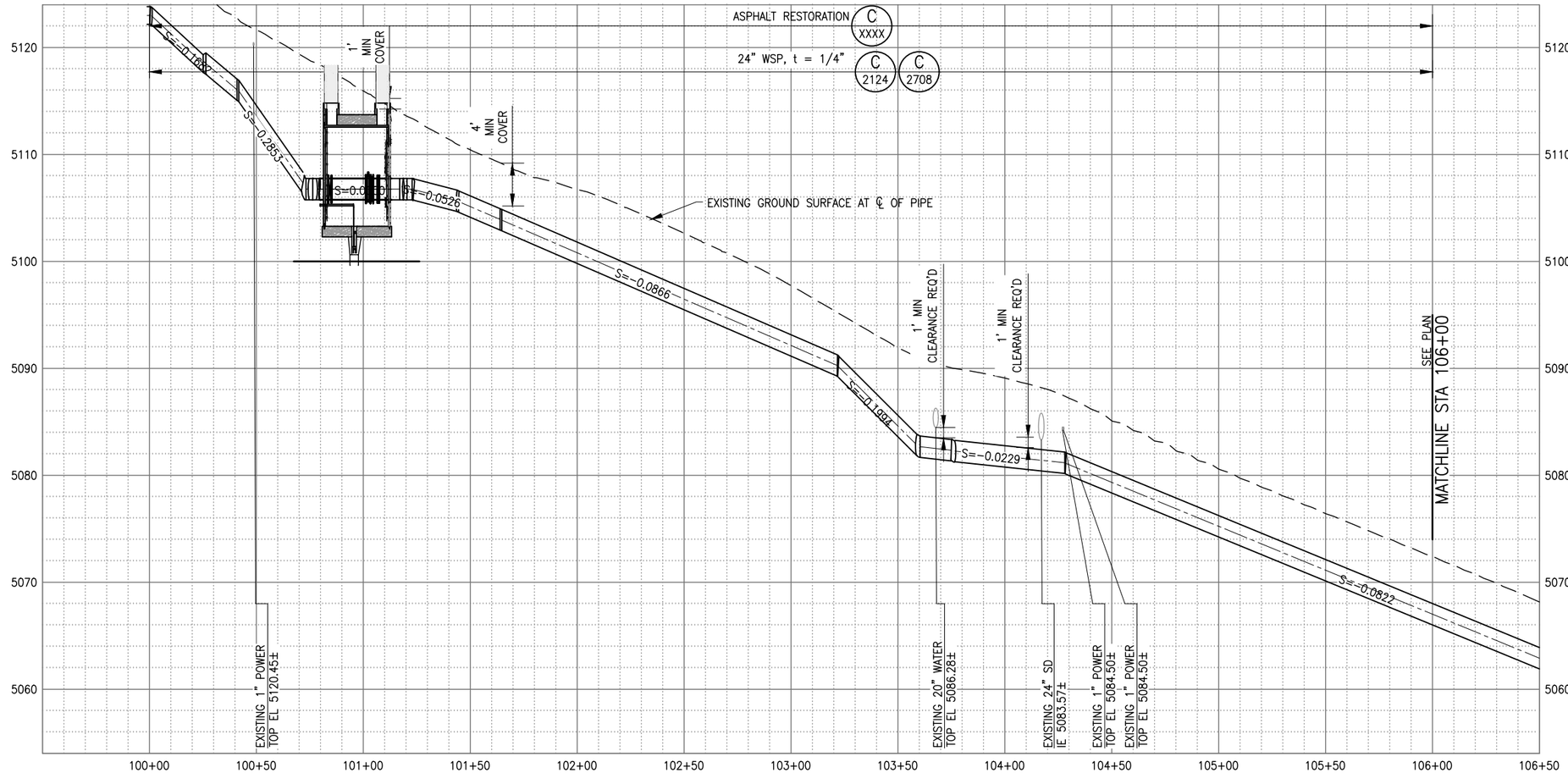
GENERAL
OVERALL ROSECREST HYDRAULIC PROFILE AND DESIGN CRITERIA

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
G-07

SHEET 07 OF 78





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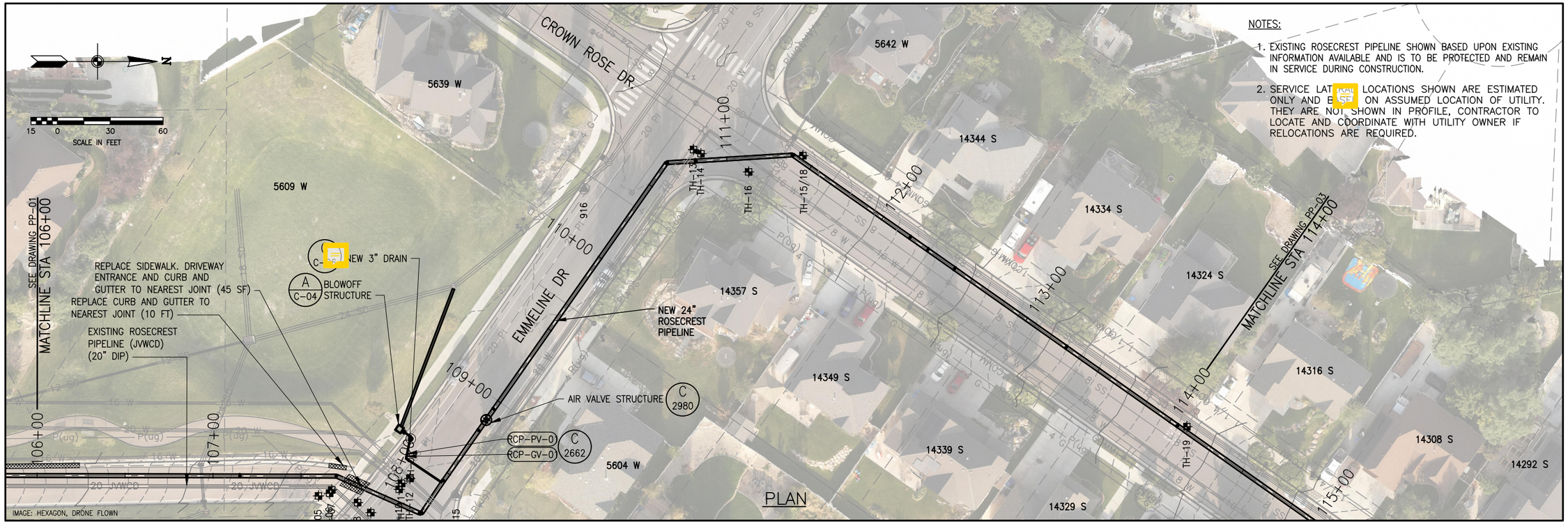
PLAN & PROFILE

PLAN & PROFILE - 1

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
PP-01
SHEET 08 OF 78

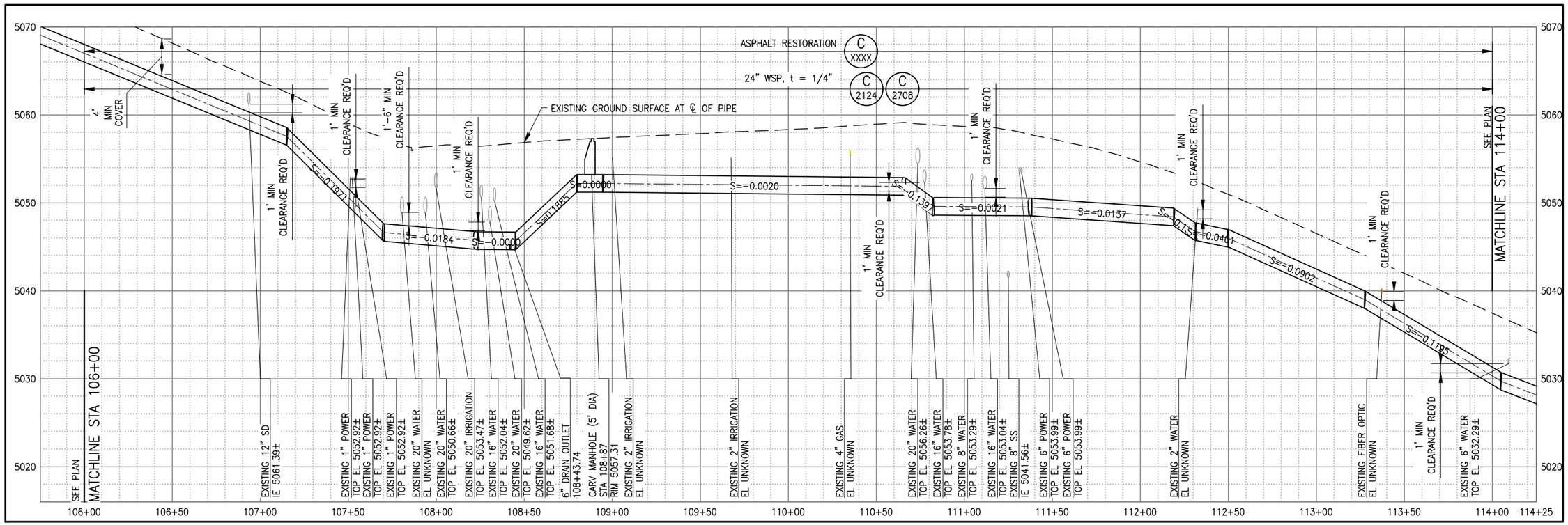
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-01.dwg Plotted: 3/27/2025 3:15 PM By: Jeremy Black



PLAN

NOTES:

1. EXISTING ROSECREST PIPELINE SHOWN BASED UPON EXISTING INFORMATION AVAILABLE AND IS TO BE PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION.
2. SERVICE LATERAL LOCATIONS SHOWN ARE ESTIMATED ONLY AND BASED ON ASSUMED LOCATION OF UTILITY. THEY ARE NOT SHOWN IN PROFILE, CONTRACTOR TO LOCATE AND COORDINATE WITH UTILITY OWNER IF RELOCATIONS ARE REQUIRED.



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ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

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DESIGN L. MINCK
DRAWN J. BLACK

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APPROVED J. LUETTINGER

PLAN & PROFILE

PLAN & PROFILE - 2

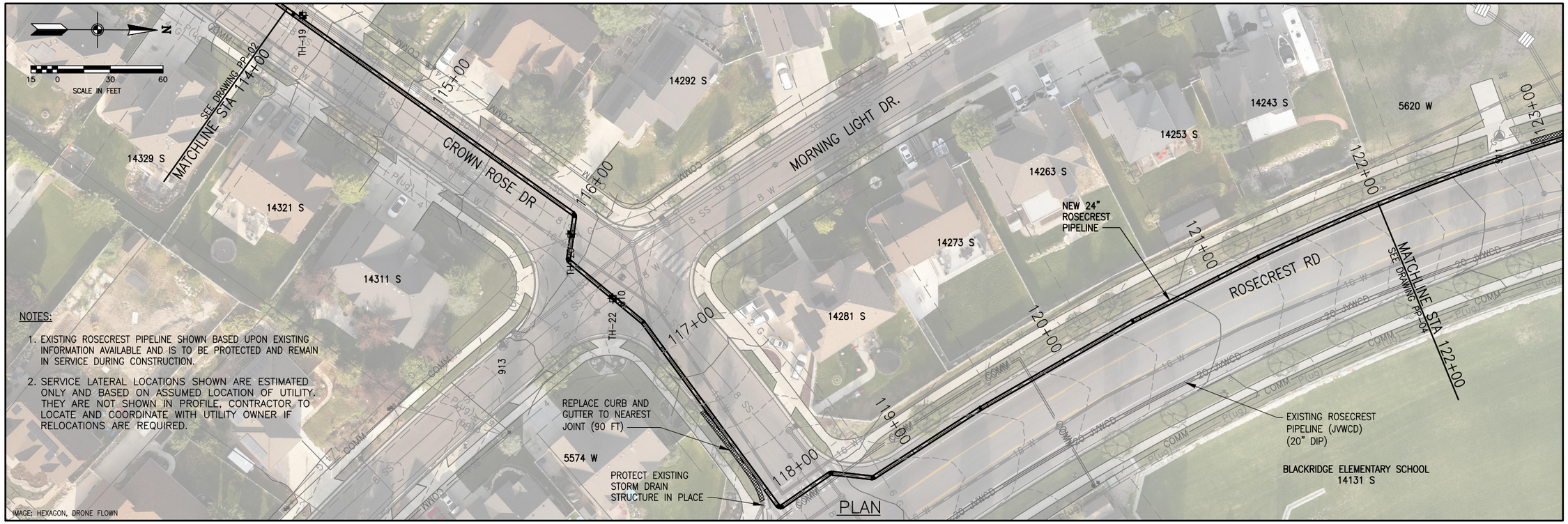
DATE: MARCH 2025

PROJECT NUMBER 010-24-03

DRAWING NO.
PP-02

SHEET 09 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-02.dwg Plotted: 3/27/2025 3:16 PM By: Jeremy Black



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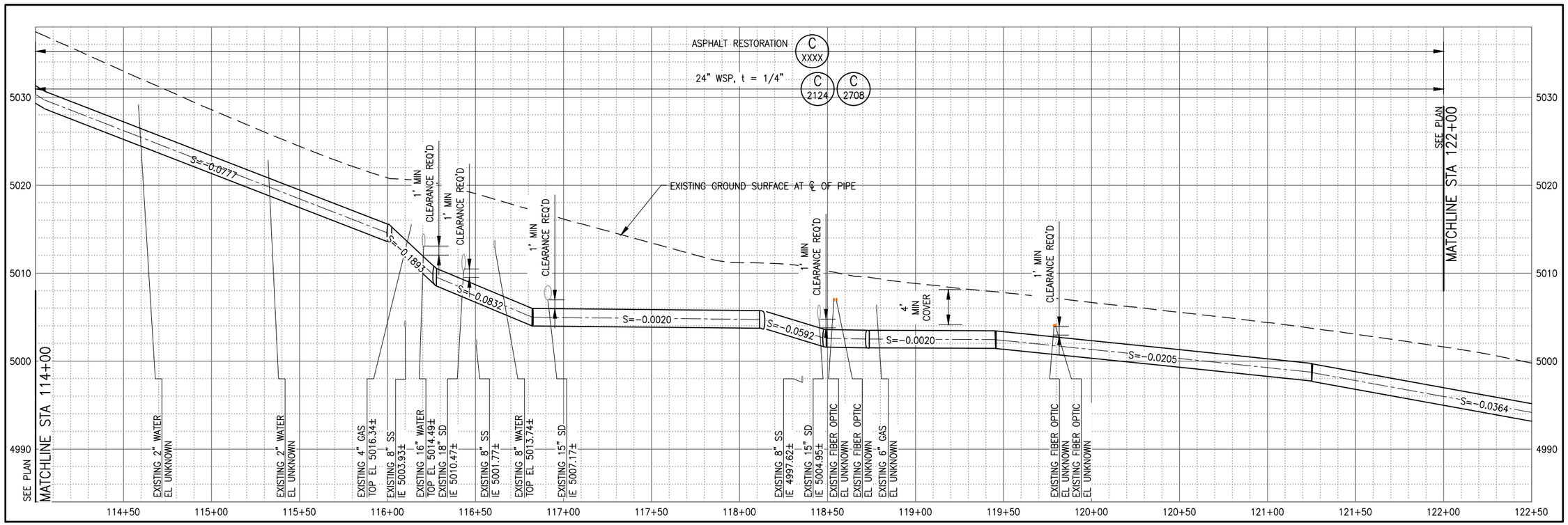
PLAN



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HERRIMAN AND RIVERTON CITY, UT

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DESIGN L. MINCK
DRAWN J. BLACK

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APPROVED J. LUETTINGER

PLAN & PROFILE

PLAN & PROFILE - 3

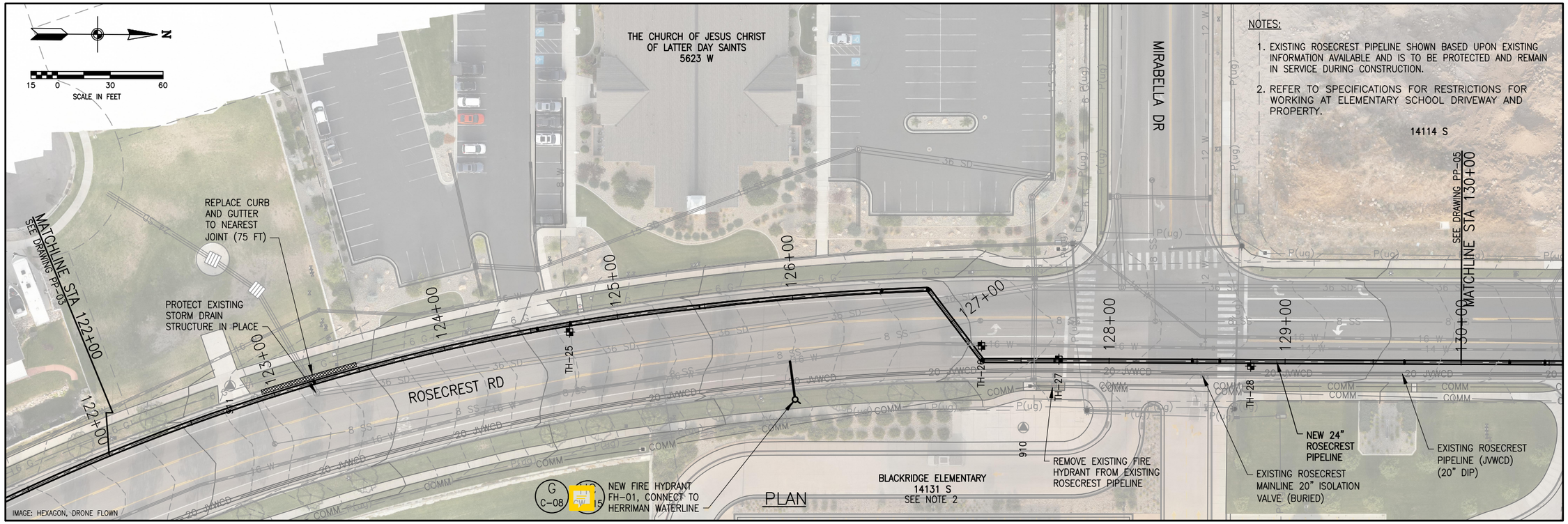
DATE: MARCH 2025

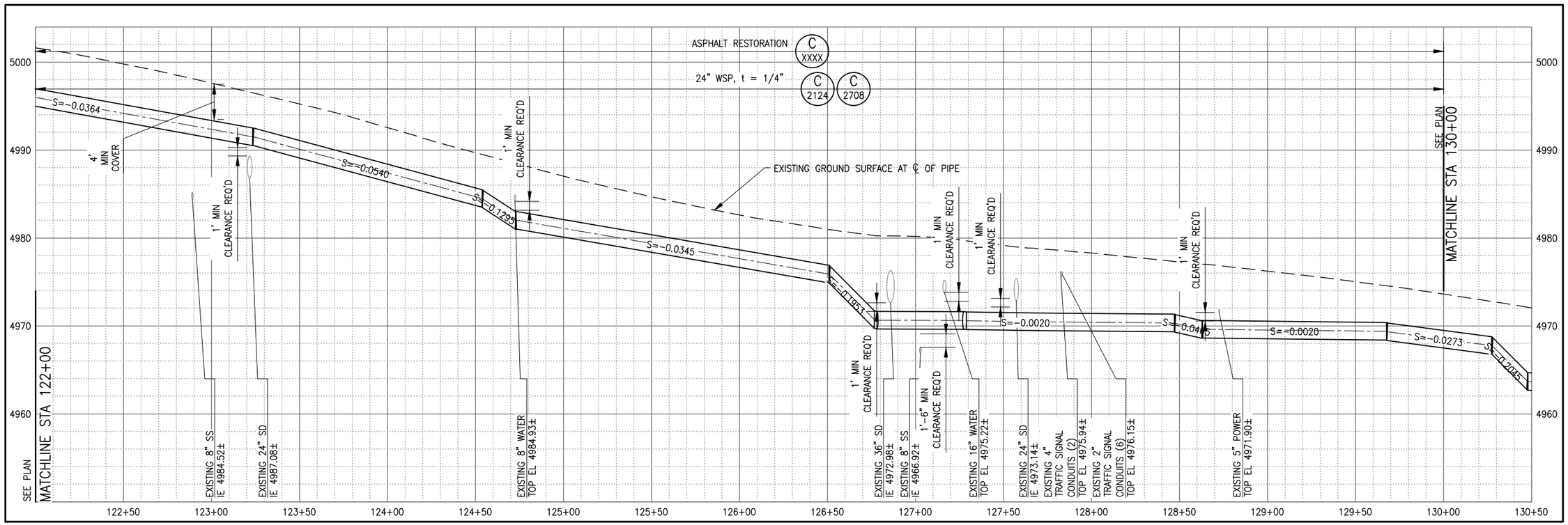
PROJECT NUMBER 010-24-03

DRAWING NO.
PP-03

SHEET 10 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-03.dwg Plotted: 3/27/2025 3:18 PM By: Jeremy Black





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ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

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DRAWN J. BLACK

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APPROVED J. LUETTINGER

PLAN & PROFILE

PLAN & PROFILE - 4

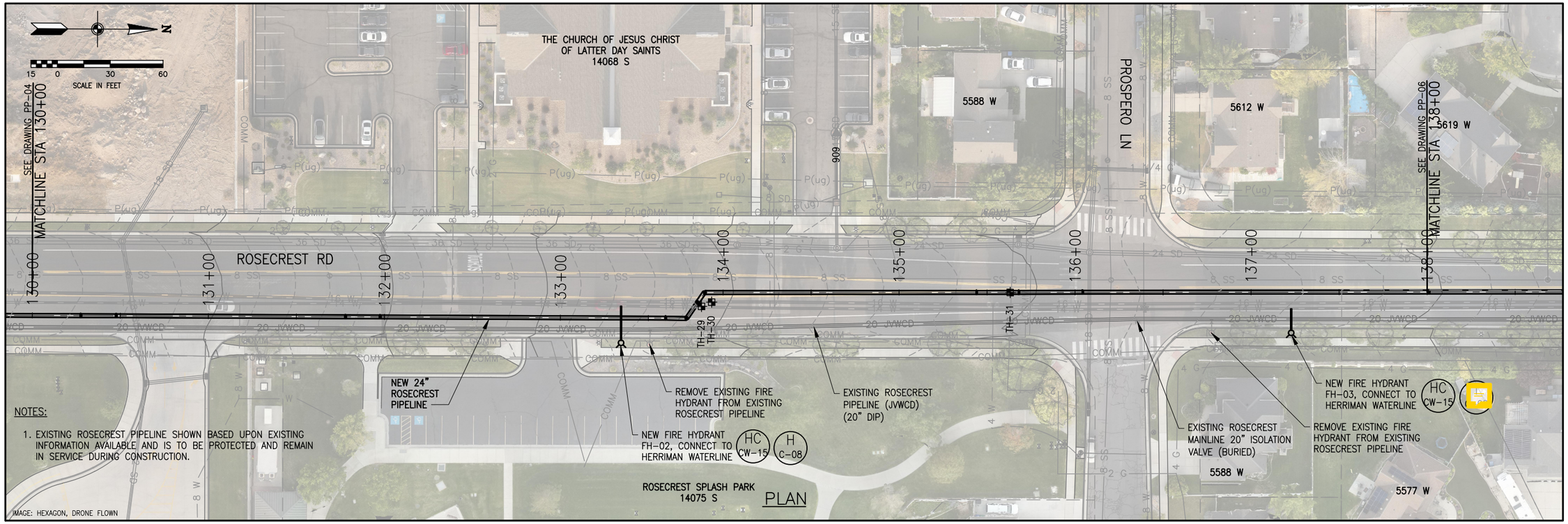
DATE: MARCH 2025

PROJECT NUMBER 010-24-03

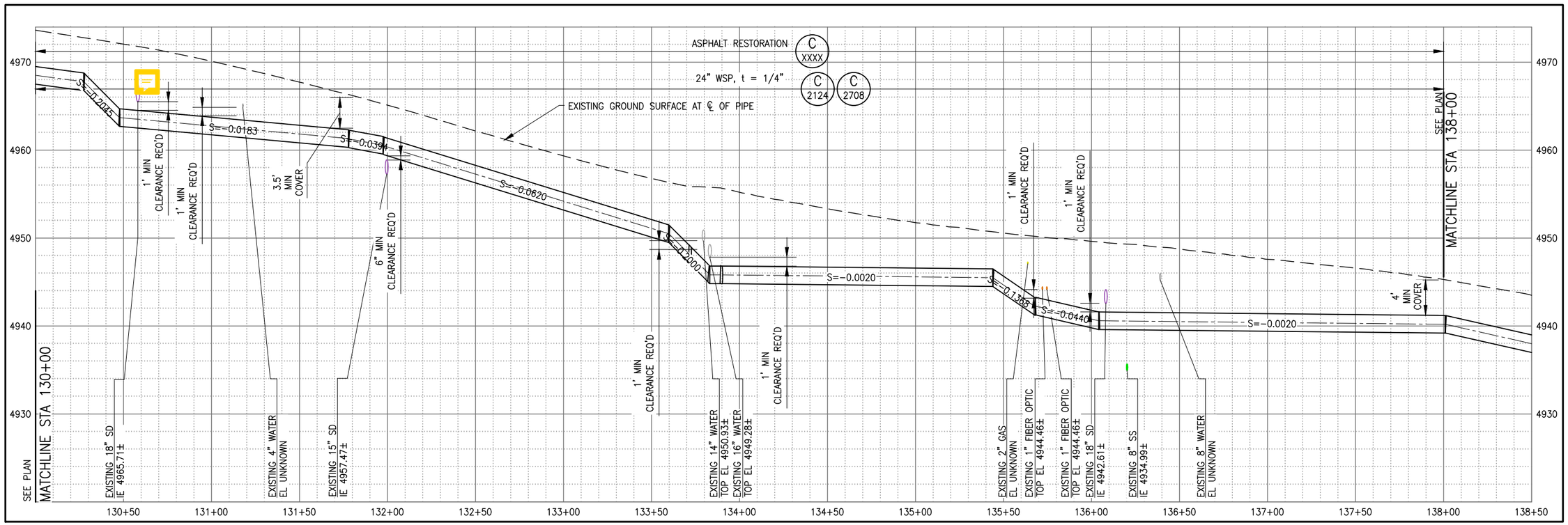
DRAWING NO.
PP-04

SHEET 11 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-04.dwg Plotted: 3/27/2025 3:19 PM By: Jeremy Black



PLAN



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DESIGN L. MINCK
DRAWN J. BLACK

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CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

PLAN & PROFILE

PLAN & PROFILE - 5

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

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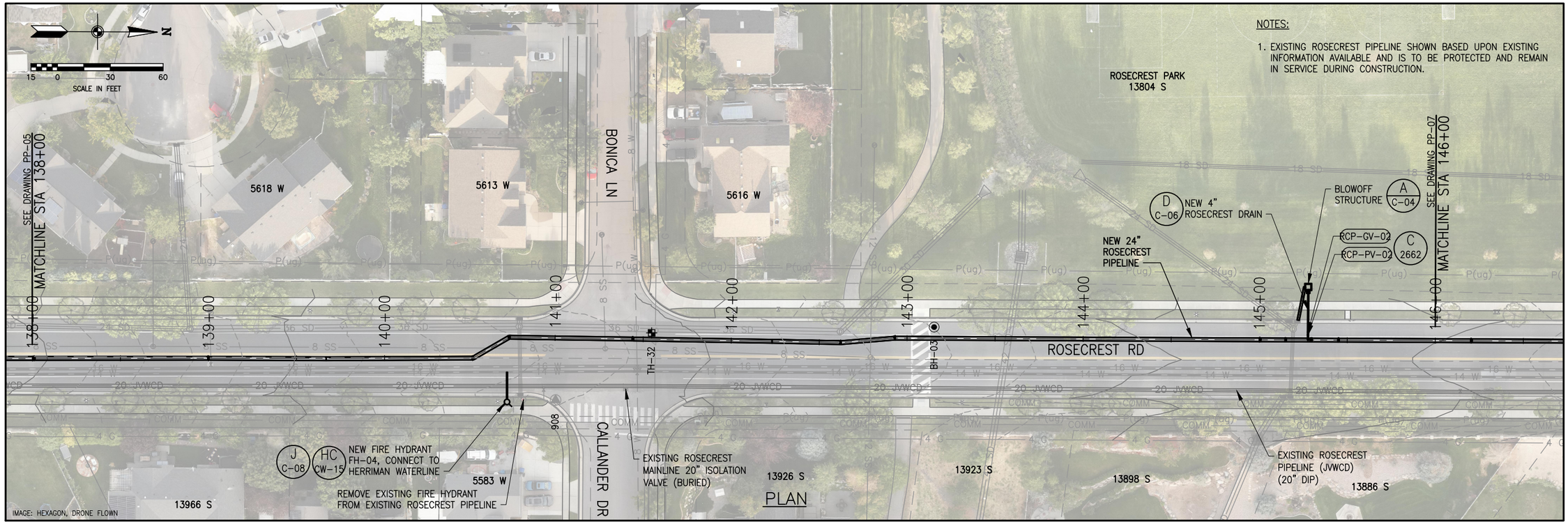
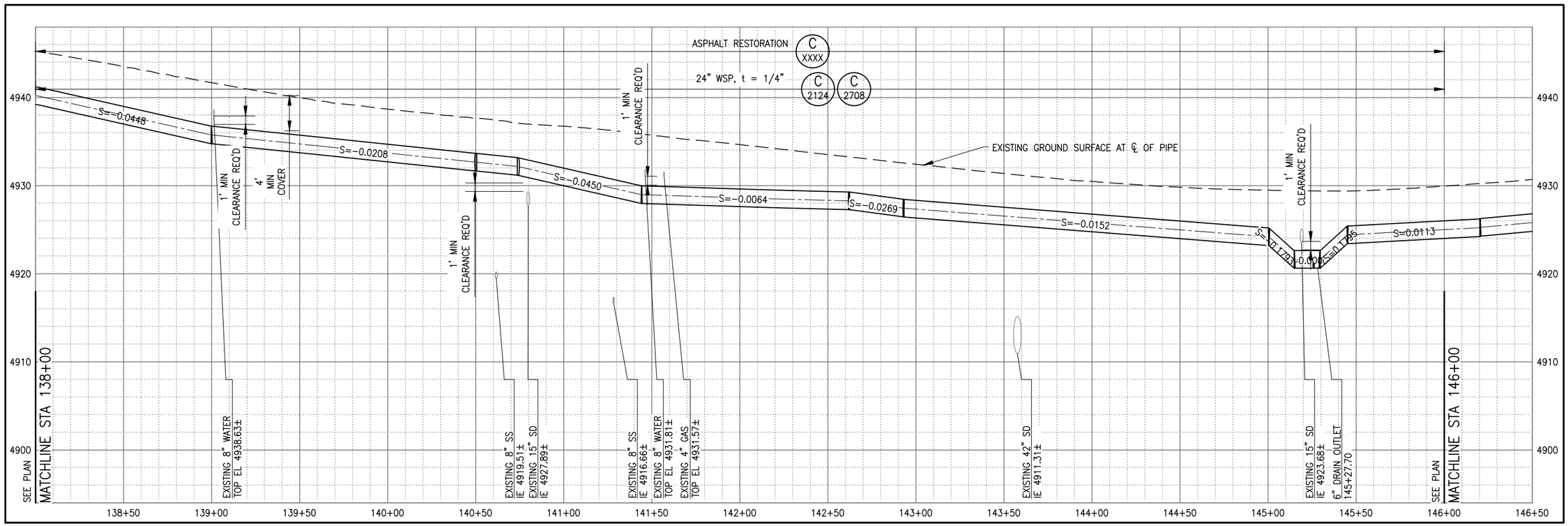
PP-05

SHEET 12 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-05.dwg Plotted: 3/27/2025 3:20 PM By: Jeremy Black





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ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

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DESIGN L. MINCK
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APPROVED J. LUETTINGER

PLAN & PROFILE

PLAN & PROFILE - 6

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

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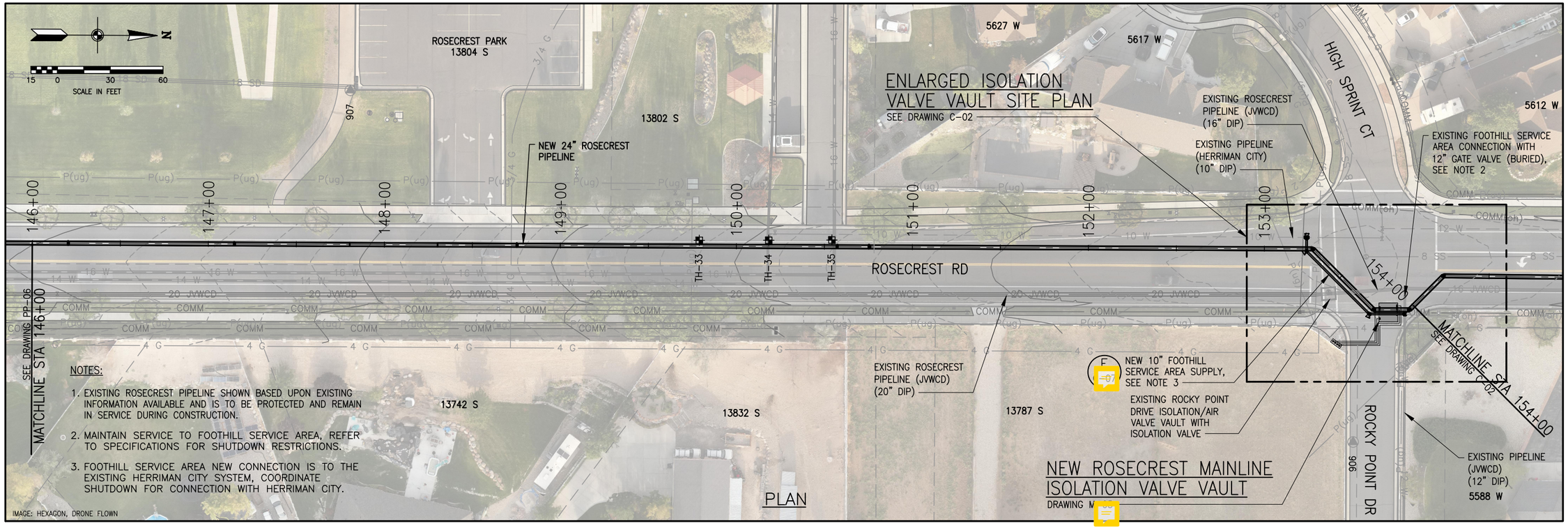
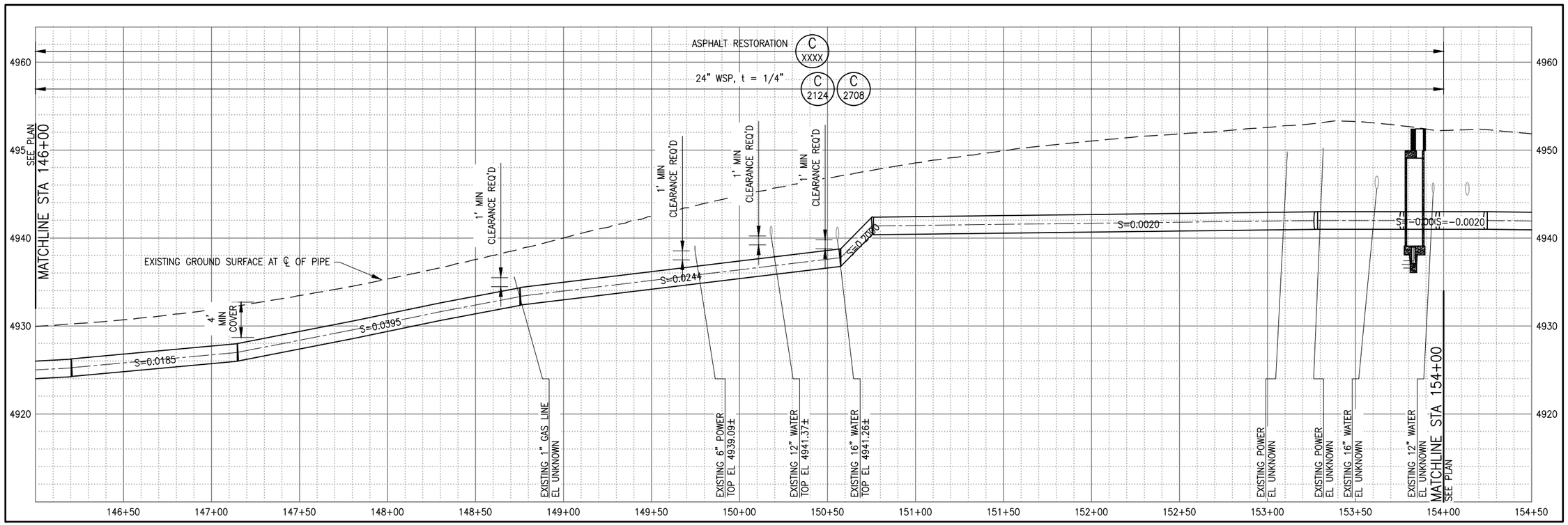
PP-06

SHEET 13 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-06.dwg Plotted: 3/27/2025 3:22 PM By: Jeremy Black





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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

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DRAWN J. BLACK
REVIEW CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

PLAN & PROFILE
PLAN & PROFILE - 7

PROJECT NUMBER 010-24-03
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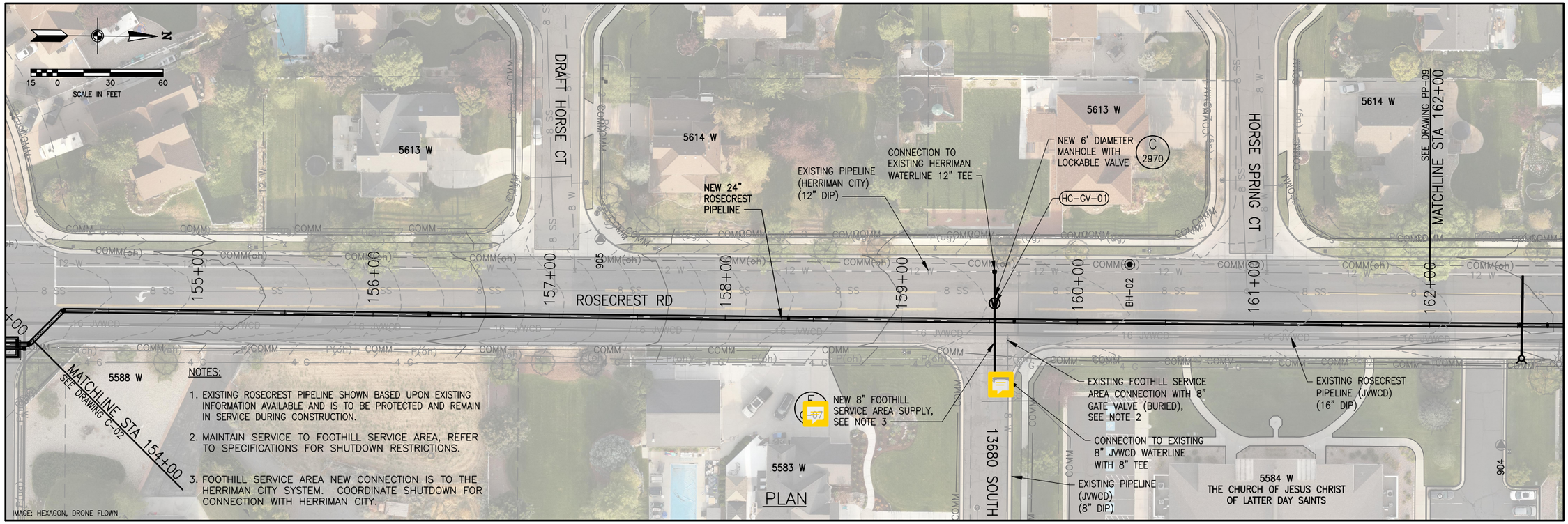
PP-07
SHEET 14 OF 78

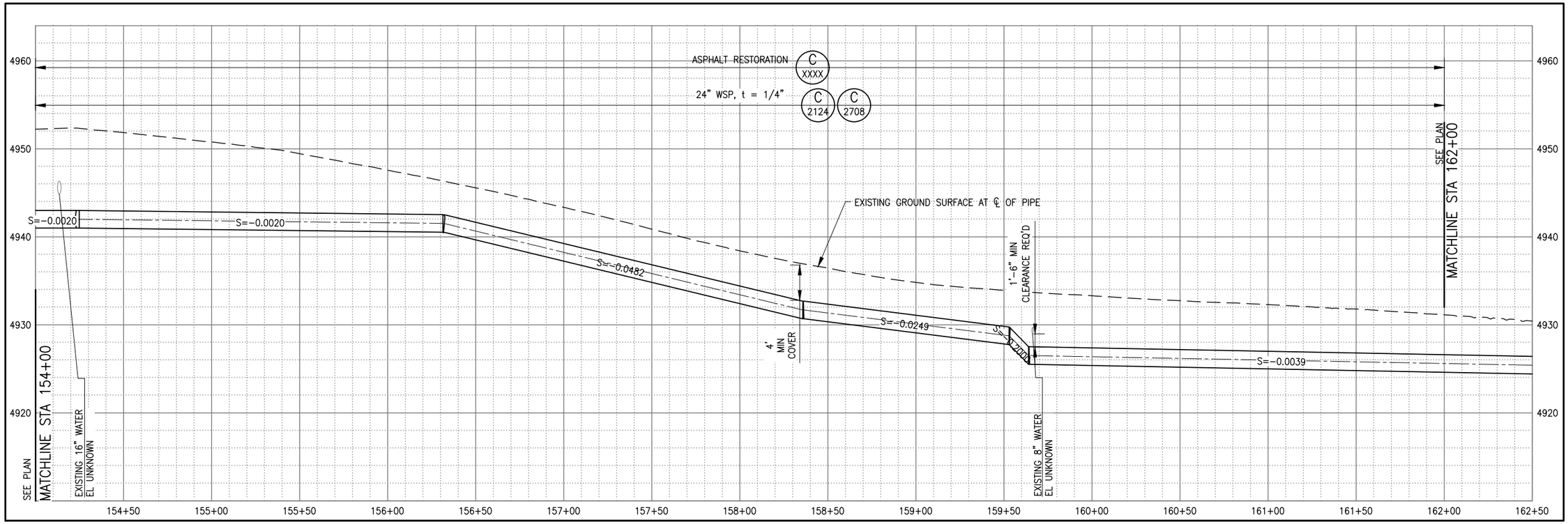
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-07.dwg Plotted: 3/27/2025 3:23 PM By: Jeremy Black



NOTES:

1. EXISTING ROSECREST PIPELINE SHOWN BASED UPON EXISTING INFORMATION AVAILABLE AND IS TO BE PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION.
2. MAINTAIN SERVICE TO FOOTHILL SERVICE AREA, REFER TO SPECIFICATIONS FOR SHUTDOWN RESTRICTIONS.
3. FOOTHILL SERVICE AREA NEW CONNECTION IS TO THE HERRIMAN CITY SYSTEM. COORDINATE SHUTDOWN FOR CONNECTION WITH HERRIMAN CITY.

PLAN



PROFILE

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ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

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PLAN & PROFILE

PLAN & PROFILE - 8

PROJECT NUMBER 010-24-03

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DRAWING NO.
PP-08

SHEET 15 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-08.dwg Plotted: 3/27/2025 3:24 PM By: Jeremy Black

NOTES:

1. EXISTING ROSECREST PIPELINE SHOWN BASED UPON EXISTING INFORMATION AVAILABLE AND IS TO BE PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION.

N

15 0 30 60
SCALE IN FEET

SEE DRAWING PP-08
MATCHLINE STA 162+00

5614 W
5613 W
WILD MUSTANG CT
5614 W
NEW 24" ROSECREST PIPELINE
5613 W
HAYWAGON CT
SEE DRAWING PP-10
MATCHLINE STA 169+00
5614 W

162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00

ROSECREST RD

REMOVE EXISTING FIRE HYDRANT FROM EXISTING ROSECREST PIPELINE

NEW FIRE HYDRANT FH-05, CONNECT TO HERRIMAN WATERLINE (K C-08) (HC CW-15)

EXISTING ROSECREST PIPELINE (JVWCD) (16" DIP)

5584 W
THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

13606 S
13592 S
13588 S
13576 S
13562 S
13546 S

IMAGE: HEXAGON, DRONE FLOWN

PLAN

ASPHALT RESTORATION (C XXXX)

24" WSP, t = 1/4" (C 2124) (C 2708)

4940
4930
4920
4910
4900

S=-0.1543
S=-0.0020
S=-0.0346
S=-0.0324
S=-0.0330

EXISTING GROUND SURFACE AT ℄ OF PIPE

4' MIN COVER

SEE PLAN
MATCHLINE STA 162+00

SEE PLAN
MATCHLINE STA 169+00

162+50 163+00 163+50 164+00 164+50 165+00 165+50 166+00 166+50 167+00 167+50 168+00 168+50 169+00 169+50

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PLAN & PROFILE

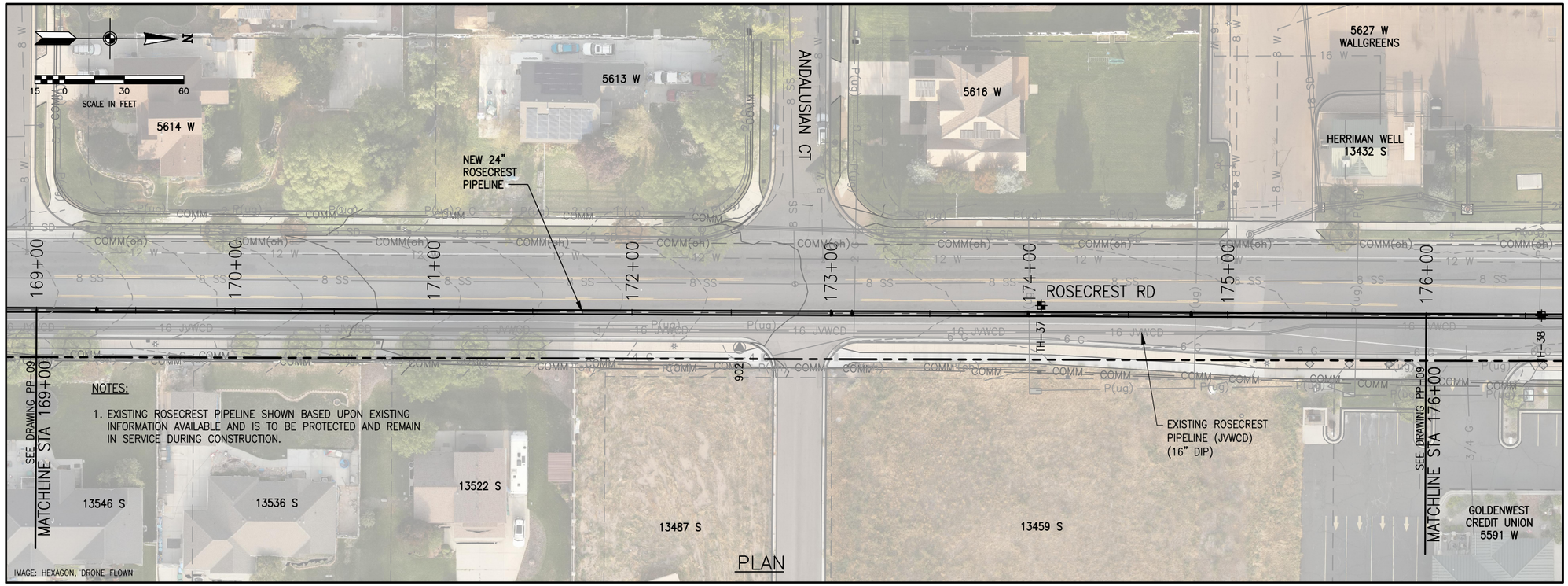
PLAN & PROFILE - 9

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

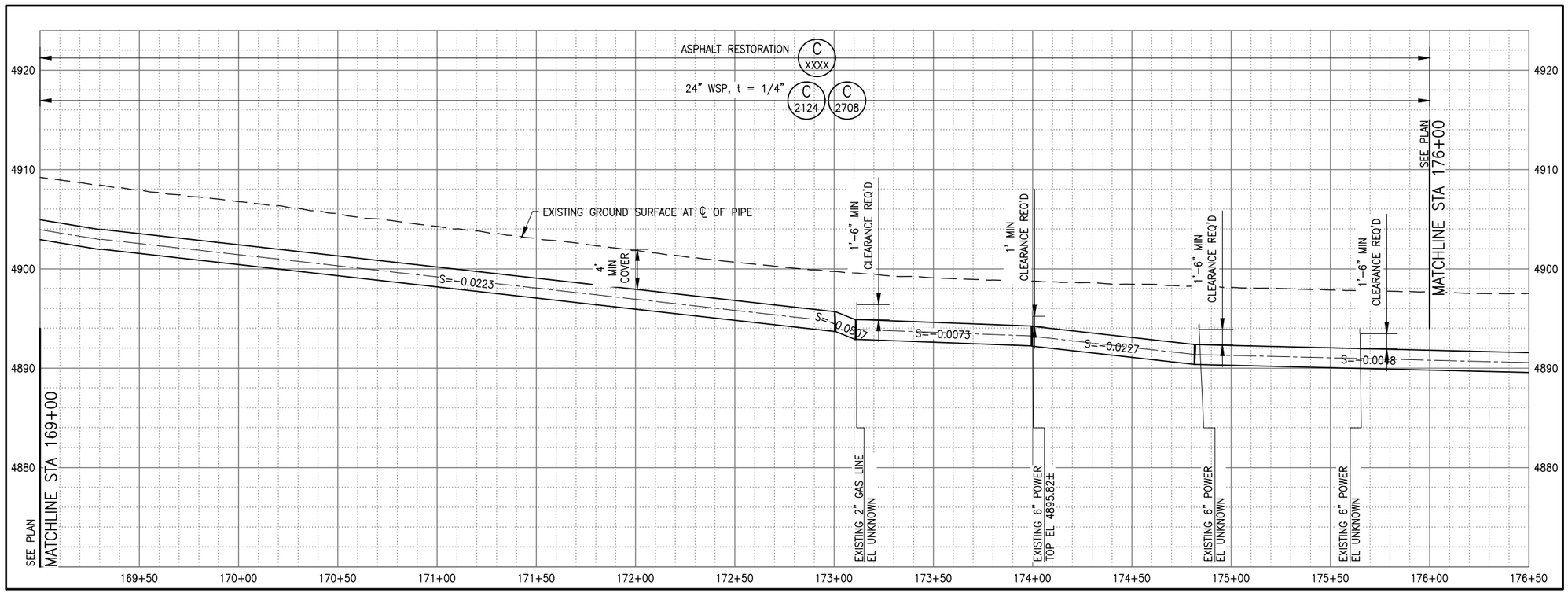
DRAWING NO.
PP-09

SHEET 16 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-09.dwg Plotted: 3/27/2025 3:26 PM By: Jeremy Black



PLAN



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DESIGN
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DRAWN J. BLACK

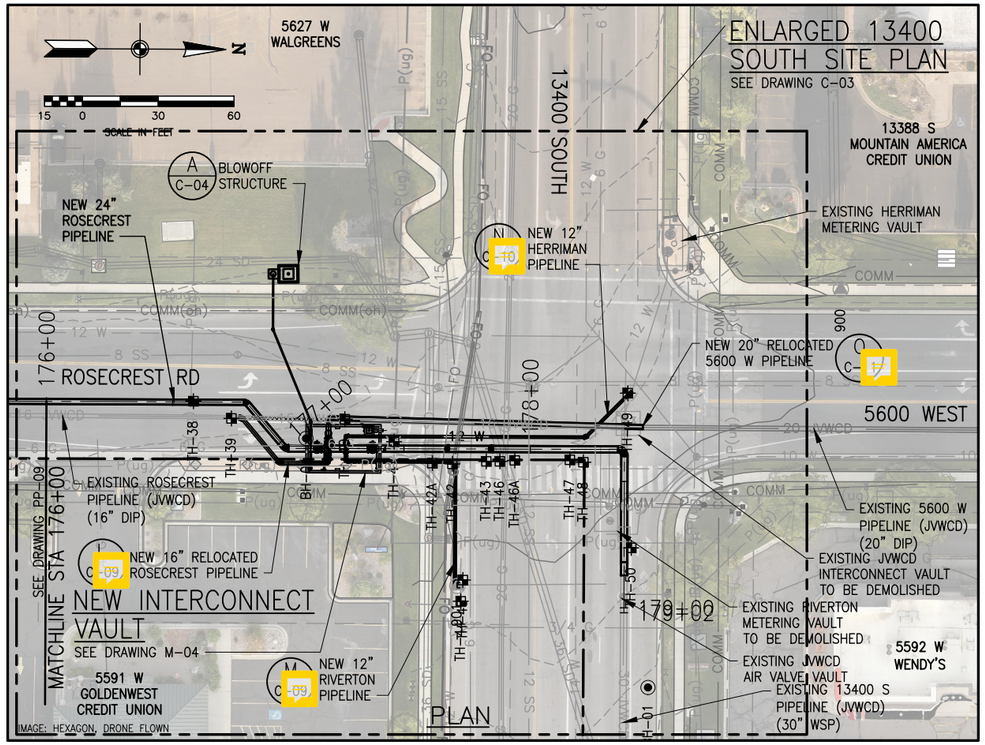
PLAN & PROFILE

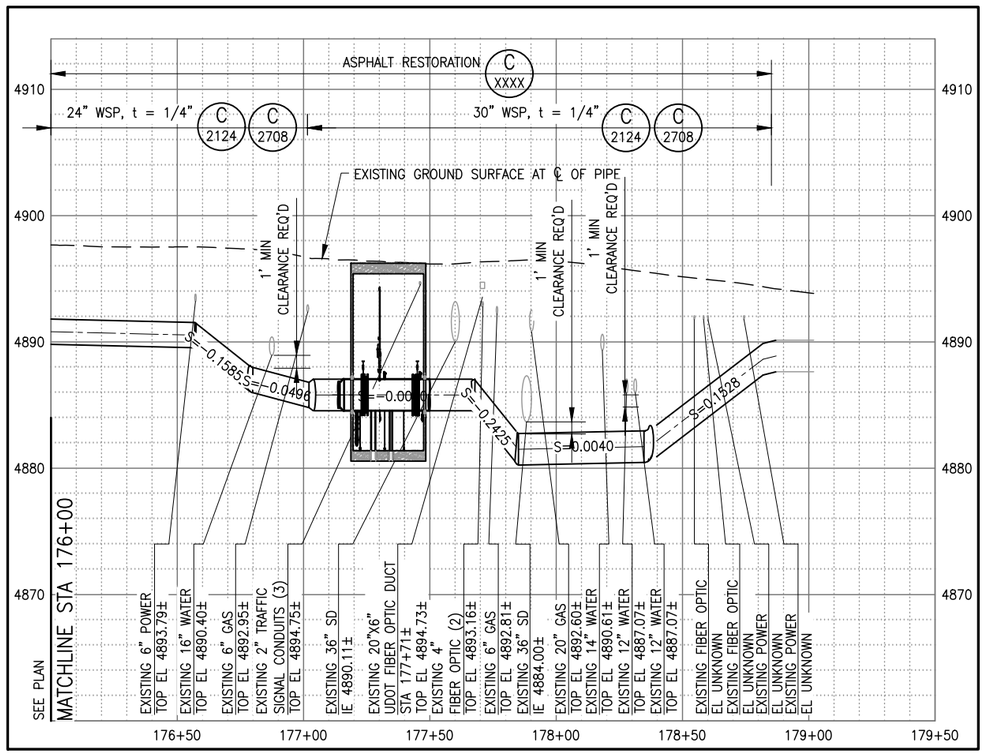
PLAN & PROFILE - 10

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
PP-10
SHEET 17 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-10.dwg Plotted: 3/27/2025 3:28 PM By: Jeremy Black





NOTES:

1. EXISTING ROSECREST PIPELINE SHOWN BASED UPON EXISTING INFORMATION AVAILABLE AND IS TO BE PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION. REFER TO SPECIFICATIONS FOR SHUTDOWN RESTRICTIONS.
2. THE PROJECT AT THIS LOCATION IS WITHIN RIVERTON CITY AND HERRIMAN CITY, THE BOUNDARY IS WITHIN 13400 SOUTH AND ROSECREST ROAD, COORDINATE TRAFFIC CONTROL, PERMITTING AND RESTORATION REQUIREMENTS AS REQUIRED FOR BOTH ENTITIES,
3. CONTRACTOR TO POTHOLE AND LOCATE EXISTING PIPELINE PRIOR TO FABRICATION OF SPECIAL FITTINGS FOR CONNECTIONS.
4. REFER TO SPECIFICATIONS FOR SHUTDOWN REQUIREMENTS AND COORDINATION FOR JVWCD, HERRIMAN CITY AND RIVERTON CITY. EXISTING ROSECREST PIPELINE TO BE PROTECTED IN PLACE AND PROVIDE SERVICE UNTIL THE NEW ROSECREST PIPELINE IS AVAILABLE TO PROVIDE SERVICE.
5. RESTORATION OF PARKSTRIPS TO INCLUDE GRADING BACK TO EXISTING SURFACE ELEVATION, REPLACING EXISTING SOD AND ANY IRRIGATION, STAMPED CONCRETE AND OTHER ITEMS NECESSARY TO BRING BACK TO ORIGINAL CONDITIONS.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN — DESIGN, DRAWN
REVIEW — CHECKED, APPROVED

PLAN & PROFILE

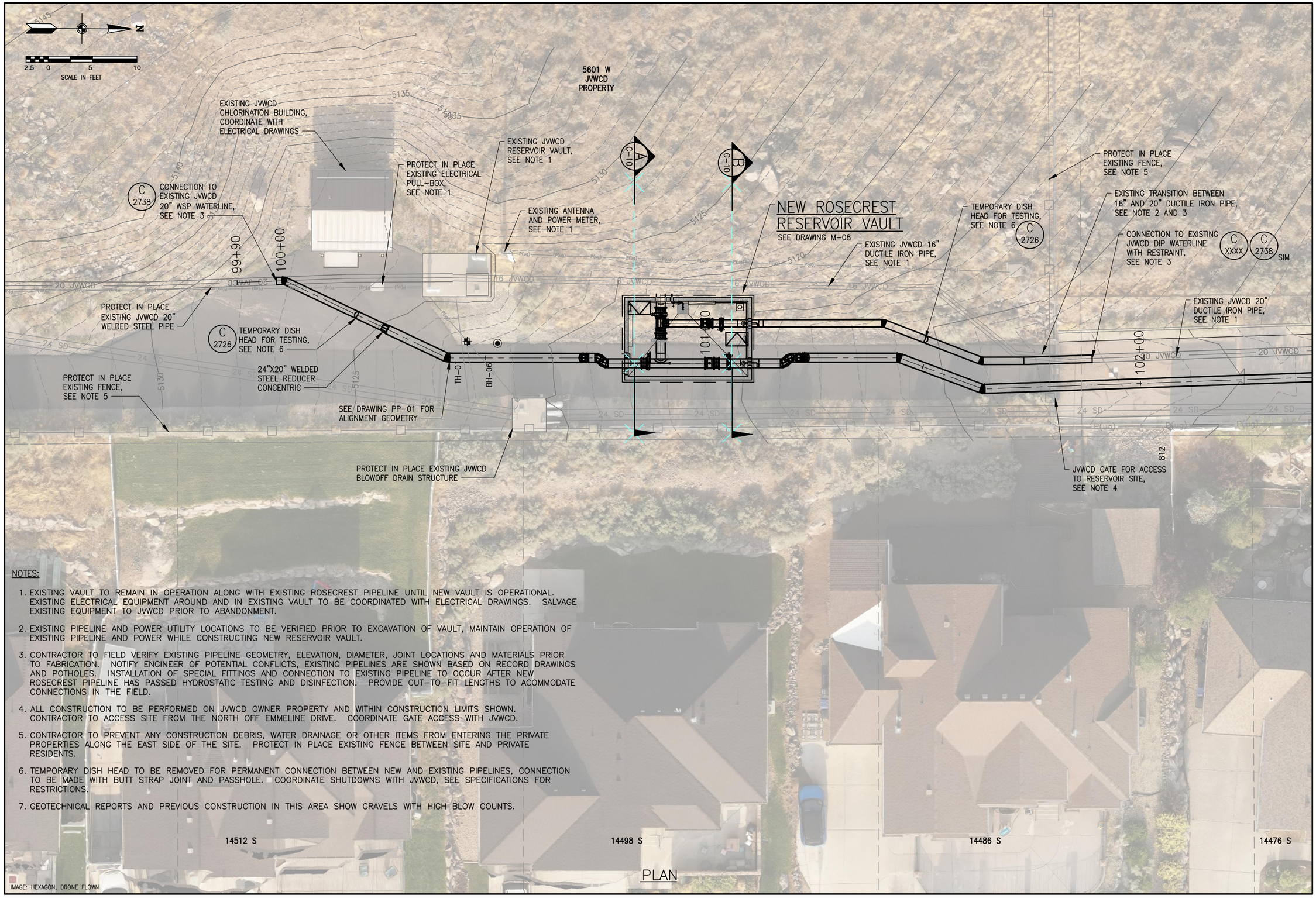
PLAN & PROFILE - 11

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
PP-11

SHEET 18 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_PP-11.dwg Plotted: 3/27/2025 3:30 PM By: Jeremy Black



NOTES:

1. EXISTING VAULT TO REMAIN IN OPERATION ALONG WITH EXISTING ROSECREST PIPELINE UNTIL NEW VAULT IS OPERATIONAL. EXISTING ELECTRICAL EQUIPMENT AROUND AND IN EXISTING VAULT TO BE COORDINATED WITH ELECTRICAL DRAWINGS. SALVAGE EXISTING EQUIPMENT TO JVWCD PRIOR TO ABANDONMENT.
2. EXISTING PIPELINE AND POWER UTILITY LOCATIONS TO BE VERIFIED PRIOR TO EXCAVATION OF VAULT, MAINTAIN OPERATION OF EXISTING PIPELINE AND POWER WHILE CONSTRUCTING NEW RESERVOIR VAULT.
3. CONTRACTOR TO FIELD VERIFY EXISTING PIPELINE GEOMETRY, ELEVATION, DIAMETER, JOINT LOCATIONS AND MATERIALS PRIOR TO FABRICATION. NOTIFY ENGINEER OF POTENTIAL CONFLICTS, EXISTING PIPELINES ARE SHOWN BASED ON RECORD DRAWINGS AND POTHOLES. INSTALLATION OF SPECIAL FITTINGS AND CONNECTION TO EXISTING PIPELINE TO OCCUR AFTER NEW ROSECREST PIPELINE HAS PASSED HYDROSTATIC TESTING AND DISINFECTION. PROVIDE CUT-TO-FIT LENGTHS TO ACOMMODATE CONNECTIONS IN THE FIELD.
4. ALL CONSTRUCTION TO BE PERFORMED ON JVWCD OWNER PROPERTY AND WITHIN CONSTRUCTION LIMITS SHOWN. CONTRACTOR TO ACCESS SITE FROM THE NORTH OFF EMMELINE DRIVE. COORDINATE GATE ACCESS WITH JVWCD.
5. CONTRACTOR TO PREVENT ANY CONSTRUCTION DEBRIS, WATER DRAINAGE OR OTHER ITEMS FROM ENTERING THE PRIVATE PROPERTIES ALONG THE EAST SIDE OF THE SITE. PROTECT IN PLACE EXISTING FENCE BETWEEN SITE AND PRIVATE RESIDENTS.
6. TEMPORARY DISH HEAD TO BE REMOVED FOR PERMANENT CONNECTION BETWEEN NEW AND EXISTING PIPELINES, CONNECTION TO BE MADE WITH BUTT STRAP JOINT AND PASSHOLE. COORDINATE SHUTDOWNS WITH JVWCD, SEE SPECIFICATIONS FOR RESTRICTIONS.
7. GEOTECHNICAL REPORTS AND PREVIOUS CONSTRUCTION IN THIS AREA SHOW GRAVELS WITH HIGH BLOW COUNTS.

PLAN

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN
DESIGN L. MINCK
DRAWN J. BLACK

REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING

CIVIL
JVWCD
CHLORINATION BUILDING
AND RESERVOIR VAULT

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
C-01
SHEET 19 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_C-01.dwg Plotted: 3/27/2025 3:32 PM By: Jeremy Black

NOTES:

1. EXISTING UTILITY LOCATIONS TO BE VERIFIED PRIOR TO EXCAVATION OF VAULT.
2. CONTRACTOR TO FIELD VERIFY EXISTING PIPELINE GEOMETRY, ELEVATION, DIAMETER, JOINT LOCATIONS AND MATERIALS PRIOR TO FABRICATION. NOTIFY ENGINEER OF POTENTIAL CONFLICTS, EXISTING PIPELINES ARE SHOWN BASED ON RECORD DRAWINGS AND POTHOLES.
3. ALL CONSTRUCTION TO BE PERFORMED WITHIN PUBLIC ROW AND WITHIN CONSTRUCTION LIMITS SHOWN.
4. COORDINATE SHUTDOWNS WITH HERRIMAN CITY AND JVWCD FOR CONNECTION TO EXISTING PIPELINES, SEE SPECIFICATIONS FOR RESTRICTIONS.

N

2.5 0 5 10
SCALE IN FEET

NEW ROCKY POINT DRIVE MAINLINE VALVE VAULT

SEE DRAWING M-04

HIGH SPRINT CT.

ROSECREST ROAD

ROCKY POINT DR.

153+00

154+00

154+18

CONNECT TO EXISTING 10" HERRIMAN CITY DUCTILE IRON WATERLINE WITH TEE (C 2231)

45° DIP BEND

NEW 10" DIP HERRIMAN CITY AND FOOTHILLS SERVICE AREA INTERCONNECTION (C-07)

NEW 24" ROSECREST PIPELINE

EXISTING ROSECREST PIPELINE MAINLINE VALVE VAULT, PROTECT IN PLACE

EXISTING 20" JVWCD ROSECREST PIPELINE

45° DIP BEND

CONNECT TO EXISTING 12" JVWCD DUCTILE IRON WATERLINE WITH TEE (C 2231)

EXISTING 16" JVWCD ROSECREST PIPELINE

EXISTING 12" JVWCD FOOTHILL SERVICE AREA LINE

PLAN

IMAGE: HEXAGON, DRONE FLOWN

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION

REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN
DESIGN
DRAWN
CHECKED
APPROVED
REVIEW

CIVIL
ROSECREST PIPELINE MAINLINE ISOLATION VALVE VAULT

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
C-02
SHEET 20 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_C-02.dwg Plotted: 3/27/2025 3:33 PM By: Jeremy Black

N

7.5 0 15 30
SCALE IN FEET

WALGREENS PHARMACY

HERRIMAN CITY WELL

EXISTING TRANSFORMER

10' PUE

BLOWOFF STRUCTURE

ROSECREST ROAD

NEW JVWCD ROSECREST PIPELINE (24" WSP)

EXISTING JVWCD ROSECREST PIPELINE (16" DIP)

176+00

177+00

178+00

179+09

179+02

TH-38 TH-39 TH-40 TH-41 TH-42A TH-42 TH-43 TH-46 TH-46A TH-47 TH-48 TH-49 TH-44 TH-45

BH-04

NEW INTERCONNECT VAULT
SEE DRAWING M-04

GOLDENWEST CREDIT UNION

CREDIT UNION SIGN PROTECT IN PLACE

CONNECT TO EXISTING 12" RIVERTON WATERLINE

ABANDON EXISTING 12" WATERLINE

13400 SOUTH

BH-01

EXISTING HERRIMAN CITY METERING VAULT

MOUNTAIN AMERICA CREDIT UNION

5600 WEST

EXISTING JVWCD INTERCONNECT VAULT TO BE DEMOLISHED SEE NOTE 1

EXISTING RIVERTON CITY METERING VAULT TO BE DEMOLISHED, SEE NOTE 2

REPLACE EXISTING 13400 SOUTH PIPELINE (JVWCD), 24" WSP WITH NEW 30" WSP, SEE NOTE 2

BURIED EXISTING 24" BFV – TO BE REMOVED DURING FINAL CONNECTION

BURIED EXISTING 30"X24" REDUCER – TO BE REMOVED

EXISTING AIR VALVE VAULT, AND VENTS, PROTECT IN PLACE

EXISTING JVWCD 13400 SOUTH PIPELINE

WENDY'S

NOTES:

1. EXISTING INTERCONNECTION VAULT TO REMAIN IN OPERATION ALONG WITH EXISTING ROSECREST PIPELINE UNTIL NEW INTERCONNECTION VAULT IS OPERATIONAL. SALVAGE EXISTING EQUIPMENT TO JVWCD PRIOR TO ABANDONMENT. SEE SPECIFICATIONS FOR SHUTDOWN REQUIREMENTS AND RESTRICTIONS.
2. EXISTING RIVERTON METERING VAULT TO BE DEMOLISHED. SALVAGE ITEMS IN EXISTING VAULT TO JVWCD PRIOR TO DEMOLITION. FILL VAULT WITH CLSM, CAP PIPES, REMOVE ALL WIRES BACK TO EXISTING RTU AND CAP CONDUIT, AS APPLICABLE. SEE SPECIFICATIONS FOR SHUTDOWN REQUIREMENTS AND RESTRICTIONS.
3. CONTRACTOR TO FIELD VERIFY EXISTING PIPELINE GEOMETRY, ELEVATION, DIAMETER, JOINT LOCATIONS AND MATERIALS PRIOR TO FABRICATION. NOTIFY ENGINEER OF POTENTIAL CONFLICTS, EXISTING PIPELINES ARE SHOWN BASED ON RECORD DRAWINGS AND POTHOLES. INSTALLATION OF SPECIAL FITTINGS AND CONNECTION TO EXISTING PIPELINE TO OCCUR AFTER NEW ROSECREST PIPELINE HAS PASSED HYDROSTATIC TESTING AND DISINFECTION. PROVIDE CUT-TO-FIT LENGTHS TO ACCOMMODATE CONNECTIONS IN THE FIELD.
4.
5.
6. TEMPORARY DISH HEAD TO BE REMOVED FOR PERMANENT CONNECTION BETWEEN NEW AND EXISTING PIPELINES, CONNECTION TO BE MADE WITH BUTT STRAP JOINT AND PASSHOLE. COORDINATE SHUTDOWNS WITH JVWCD, SEE SPECIFICATIONS FOR RESTRICTIONS.

IMAGE: HEXAGON, DRONE FLOWN

PLAN

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
HERRIMAN AND RIVERTON CITY, UT

ROSECREST PIPELINE CAPACITY UPGRADES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN L. MINCK
DRAWN J. BLACK
REVIEW CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

CIVIL

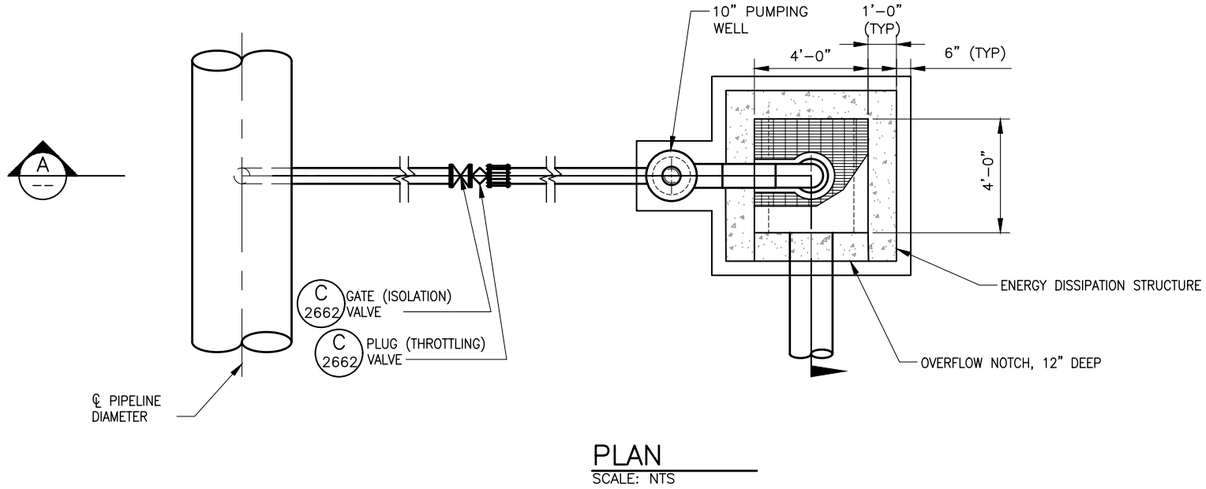
ROSECREST ROAD SITE PLAN
13400 SOUTH
INTERSECTION

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
C-03

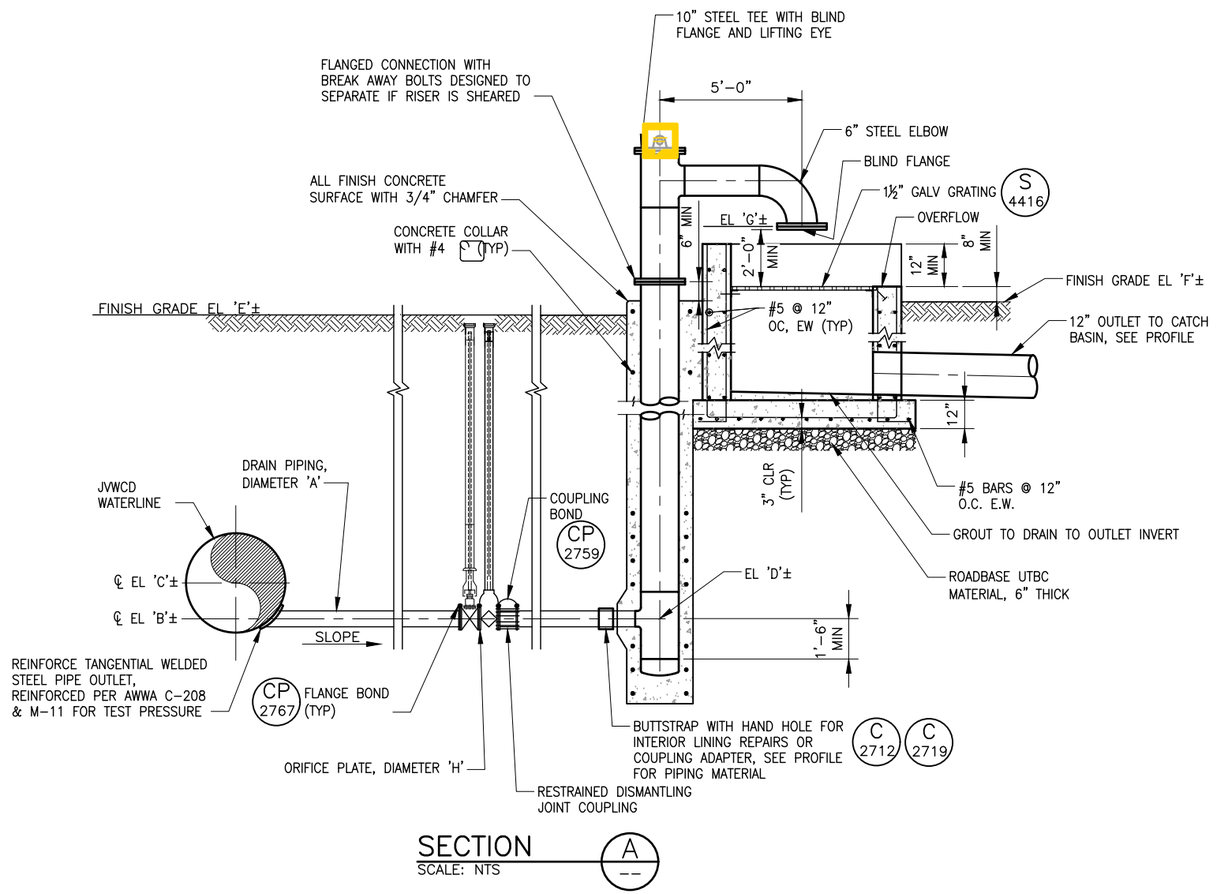
SHEET 21 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_C-03.dwg Plotted: 3/27/2025 3:34 PM By: Jeremy Black



PLAN
SCALE: NTS

TABLE 1											
STATION	SHEET(S)	PROFILE	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	NOTES
108+43	PP-02	C C-06	3"	5046.4	5045.6						
145+27	PP-06	D C-06	4"	4922.4	4921.6						
177+21	PP-11, C-01, M-04	P C-12	4"	SEE MECHANICAL DWGS	4885.8						VALVES FOR DRAIN IN VAULT, SEE MECHANICAL DRAWINGS



SECTION A
SCALE: NTS

NOTES:

1. SEE TABLE 1 FOR INDIVIDUAL DRAIN ELEVATIONS, SIZES, AND REQUIREMENTS.
2. ALL STEEL BLOWOFF PIPING TO BE STANDARD WEIGHT. COAT PER SPECIFICATIONS.
3. ENERGY DISSIPATION STRUCTURE DEPTH, INVERT PIPE ELEVATION, OUTLET PIPE SIZE AND DEPTH OF STRUCTURE TO BE COORDINATED WITH EXISTING STORM DRAIN SYSTEM. SEE PROFILE DRAWINGS FOR APPROXIMATE DEPTH.
4. FLANGE WITH BREAKAWAY BOLTS REQUIRED FOR BLOW-OFF. ALL FLANGES TO MEET THE PRESSURE REQUIREMENTS OF THE SYSTEM.
5. PROVIDE SMOOTH AND SLOPED CONCRETE TRANSITION SO THAT ALL WATER FLOWS AWAY FROM STRUCTURE.
6. SEE MECHANICAL SCHEDULE, SHEET M-03, FOR VALVE SIZES AND TYPES. VALVE LOCATIONS PER PLAN AND PROFILE DRAWINGS. FIELD VERIFY LOCATION ONSITE WITH OWNER REPRESENTATIVE.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

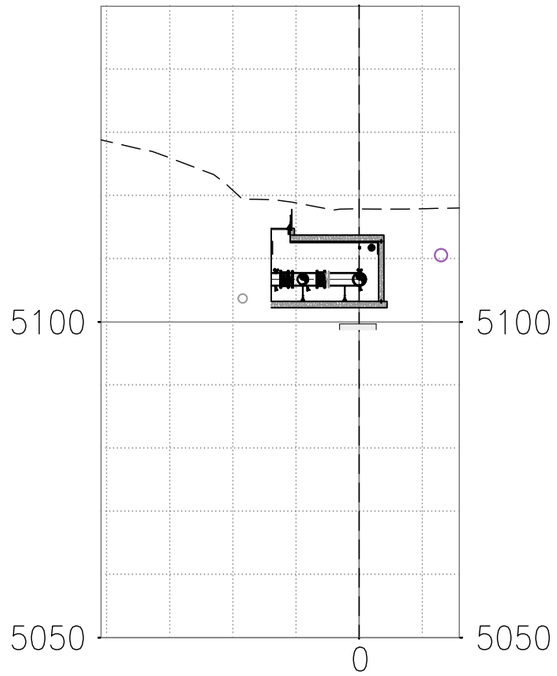
JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

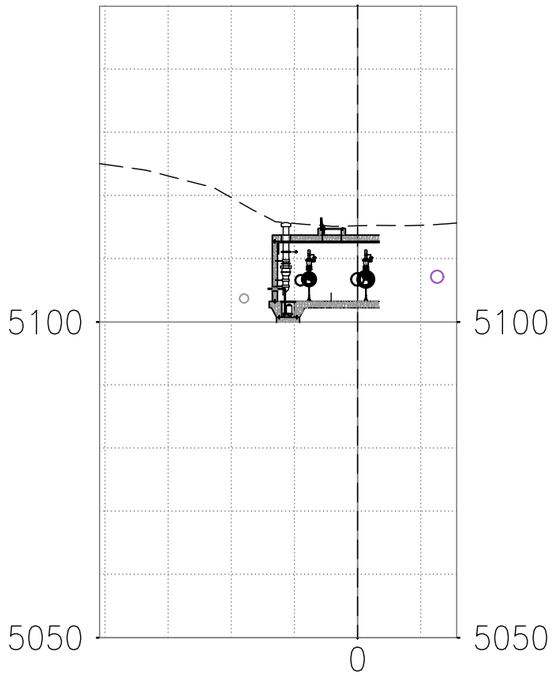
DESIGN L. MINCK
DRAWN J. HUNTER
REVIEW CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

CIVIL
BLOWOFF STRUCTURE
PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO. C-04
SHEET 22 OF 78



100+84 SAMPLE SECTION A
C-01



101+06 SAMPLE SECTION B
C-01

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN
DESIGN
DRAWN
REVIEW
CHECKED
APPROVED

CIVIL

RESERVOIR VAULT
CROSS SECTIONS

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
C-10
SHEET 23 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_C-10.dwg Plotted: 3/27/2025 3:36 PM By: Jeremy Black

POTHOLE DATA

TEST HOLE NO.	DATA	SIZE	TYPE	MATERIAL	OWNER	NORTHING	EASTING	GROUND ELEVATION	DEPTH (FEET)	TOP ELEVATION	SURFACE TYPE	PAVEMENT DEPTH	COMMENTS
1	1/15/2025	1"	ELECTRIC	PLASTIC	JVWCD	7346813.14	1494557.9	5120.9	1.18	5119.72	NATURAL GROUND	N/A	
2	1/15/2024	20" PER PLAN	WATER	METAL	JVWCD	7347129.79	1494556.5	5090.35	4.18	5086.17	ASPHALT	4"	UNABLE TO VISUALLY VERIFY ENTIRE PIPE TO OBTAIN SIZE MEASUREMENT. STANDBY CONFIRMED THE LINE. APPEARS TO BE POLYWRAP ON THE LINE.
3	1/10/2025	(2) 1"	ELECTRIC	DIRECT BURY	ROCKY MOUNTAIN POWER	7347189.55	1494560.8	5086.74	3.58	5083.16	ASPHALT	3"	
4	N/A	N/A	ELECTRIC	DIRECT BURY	ROCKY MOUNTAIN POWER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LOCATED IN TH-03.
5	12/31/2024	(3) 1"	ELECTRIC	DIRECT BURY	ROCKY MOUNTAIN POWER	7347519.45	1494564.1	5057.28	5.95	5051.33	ASPHALT	5"	
6	1/27/2025	20" PER PLAN	WATER	METAL	JVWCD	7347525.83	1494562.6	5056.7	3.16	5053.54	ASPHALT	5"	DUE TO THE PIPE BEING SHALLOW, IT WAS NOT POSSIBLE TO FULLY EXPOSE THE LINE WITHOUT CORING AN ADDITIONAL HOLE. PIPE HAD DAMAGED POLYWRAP.
7	N/A	20" PER PLAN	WATER	UNKNOWN	HERRIMAN CITY	N/A	N/A	N/A	N/A	N/A	SIDEWALK	N/A	UNABLE TO DIG IN SIDEWALK WITHOUT SIDEWALK PANEL REPLACEMENT PER HERRIMAN CITY.
8	1/17/2025	20" PER PLAN	WATER	METAL	HERRIMAN CITY	7347541.72	1494568	5056.04	5.73	5050.31	ASPHALT	5"	UNABLE TO FULLY EXPOSE THE LINE AND OBTAIN SIZE MEASUREMENT DUE TO THE WALLS COLLAPSING FROM THE SAND.
9	1/17/2025	20"	IRRIGATION	PLASTIC	HERRIMAN CITY	7347549.13	1494573.8	5056.28	2.19	5054.09	ASPHALT	3.5"	TEST HOLE REQUEST CALLED FOR 8". LINE WAS NOT TONABLE AND COMPLETED ON THE BLUE STAKES MARKS. UNABLE TO OBTAIN A GOOD PICTURE SHOWING AN ACCURATE SIZE MEASUREMENT DUE TO THE SHALLOW DEPTH OF THE LINE. VISUALLY VERIFIED THE LINE AT 20".
10	1/17/2025	16"	WATER	PLASTIC	HERRIMAN CITY	7347565.32	1494560.6	5056.47	4.63	5051.84	ASPHALT	3"	
11	1/18/2025	20" PER PLAN	WATER	METAL	HERRIMAN CITY	7347566.69	1494557.2	5056.56	7.08	5049.48	ASPHALT	5"	
12	1/27/2025	15"	WATER	PLASTIC	HERRIMAN CITY	7347571.47	1494554.5	5056.67	5.04	5051.63	ASPHALT	3"	
13	1/24/2025	15"	WATER	METAL	HERRIMAN CITY	7347733.73	1494368.6	5059.1	5.29	5053.81	ASPHALT	6"	
14	1/24/2025	12" WIDE	UNKNOWN	UNKNOWN	UNKNOWN	7347737.96	1494370.9	5058.96	5.42	5053.54	ASPHALT	6"	UNABLE TO DETERMINE IF THIS IS THE WATERLINE ENCASED IN FLOWABLE FILL. UNABLE TO DIG TO THE SIDES DUE TO LARGE ROCKS.
15	1/18/2025	(2) 5"	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	7347795.82	1494372.5	5057.36	4.04	5053.32	ASPHALT	5"	
16	1/23/2025	8"	WATER	PLASTIC	HERRIMAN CITY	7347764.94	1494381.4	5058.23	5.19	5053.04	ASPHALT	6"	
17	N/A	16" PER PLAN	WATER	UNKNOWN	HERRIMAN CITY	N/A	N/A	N/A	STOPPED AT 7 FT	N/A	N/A	N/A	UNABLE TO LOCATE WATER LINE AT THIS LOCATION DUE TO LARGE ROCKS. DUG TO APPROXIMATELY 7 FEET.
18	N/A	N/A	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LINE REQUESTED IN TEST HOLE 18 LOCATED IN TEST HOLE 15.
19	1/23/2025	6"	WATER	PLASTIC	HERRIMAN CITY	7348013.09	1494527.7	5036.42	4.34	5032.08	ASPHALT	5"	
20	1/9/2025	4"	GAS	PLASTIC	ENBRIDGE GAS	7348165.55	1494651.8	5020.63	4.32	5016.31	ASPHALT	4"	2" GAS LINE INSIDE A 4" CASING.
21	N/A	16" PER PLAN	WATER	UNKNOWN	HERRIMAN CITY	N/A	N/A	N/A	STOPPED AT 6 FT	N/A	N/A	N/A	UNABLE TO LOCATE WATER LINE AT THIS LOCATION DUE TO LARGE ROCKS. DUG TO APPROXIMATELY 6 FEET.
22	1/10/2025	8"	WATER	PLASTIC	HERRIMAN CITY	7348189.28	1494688.5	5018.41	4.71	5013.7	ASPHALT	4"	
23	N/A	N/A	COMMUNICATION	PLASTIC PER PLAN	LUMEN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO FIELD EVIDENCE OF LUMEN LINES AT THIS LOCATION.
24	N/A	N/A	COMMUNICATION	PLASTIC PER PLAN	LUMEN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NO FIELD EVIDENCE OF LUMEN LINES AT THIS LOCATION.
25	1/8/2025	8"	WATER	PLASTIC	HERRIMAN CITY	7348885.89	1494565.3	4988.65	3.6	4985.05	ASPHALT	5"	
26	1/23/2025	16"	WATER	PLASTIC	HERRIMAN CITY	7349119.94	1494573.2	4979.78	4.77	4975.01	ASPHALT	5"	
27	1/9/2025	(6) 2 / (2) 4"	TRAFFIC SIGNAL	PLASTIC	HERRIMAN CITY	7349163.87	1494580.8	4978.73	2.45	4976.28	ASPHALT	5.5"	UNABLE TO VISUALLY VERIFY BOTTOM CONDUITS TO OBTAIN SIZE MEASURE BUT APPEAR TO BE 4". DEPTH SHOWN IS TO TOP OF UTILITY. UTILITY BOTTOM AT 2.99'. UTILITY BOTTOM NOTED IS APPARENT BOTTOM UNLESS NOTED AS ACTUAL BOTTOM. ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT OR ACTUAL BOTTOM.
28	1/9/2025	5"	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	7349272.82	1494584.6	4976.57	4.96	4971.61	ASPHALT	5.5"	
29	1/13/2025	14"	WATER	METAL	JVWCD	7349772.6	1494577.5	4955.58	4.36	4951.22	ASPHALT	4"	PLAN CALLED FOR 12". OD MEASURED AT 14" INCLUDES THE POLY WRAP ON THE LINE.
30	1/23/2025	16" PER PLAN	WATER	PLASTIC	HERRIMAN CITY	7349778.37	1494575	4955.3	5.84	4949.46	ASPHALT	6"	UNABLE TO FULLY EXPOSE PIPE TO OBTAIN SIZE MEASUREMENT DUE TO PEA GRAVEL COLLAPSING.
31	1/13/2025	(2) 2"	FIBER OPTIC	PLASTIC	LUMEN	7349947.97	1494569.6	4950.27	5.65	4944.62	ASPHALT	5"	
32	1/8/2025	4"	GAS	PLASTIC	ENBRIDGE GAS	7350536.56	1494554.8	4935.47	4.01	4931.46	ASPHALT	6"	
33	1/6/2025	6"	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	7351360.57	1494557.6	4943.77	4.57	4939.2	ASPHALT	5"	
34	1/6/2025	12"	WATER	METAL	HERRIMAN CITY	7351399.99	1494557.6	4945.47	4.25	4941.22	ASPHALT	5"	
35	1/7/2025	16"	WATER	PLASTIC	HERRIMAN CITY	7351435.88	1494557.5	4946.83	5.75	4941.08	ASPHALT	4"	
36	N/A	16"	WATER	DIP PER PLAN	JVWCD	N/A	N/A	N/A	STOPPED AT 6 FT	N/A	N/A	N/A	UNABLE TO LOCATE WATER AT THIS LOCATION DUE TO GROUND COLLAPSING. DUG TO APPROXIMATELY 6 FEET.
37	1/13/2025	6"	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	7353765.46	1494586.9	4898.74	3	4895.74	ASPHALT	3"	
38	12/19/2024	6"	ELECTRIC	PLASTIC	ROCKY MOUNTAIN POWER	7354017.48	1494591.9	4897.48	3.76	4893.72	ASPHALT	6"	
39	12/19/2024	16"	WATER	METAL	JVWCD	7354032.54	1494598.7	4897.22	6.77	4890.45	ASPHALT	6"	
40	12/19/2024	16"	WATER	METAL	JVWCD	7354077.43	1494599	4896.89	7.58	4889.31	ASPHALT	6"	
41	1/10/2025	(3) 2"	TRAFFIC SIGNAL	PLASTIC	UDOT	7354096.92	1494607.9	4896.34	1.17	4895.17	ASPHALT	6.5"	
42	1/10/2025	(2) 4"	FIBER OPTIC	PLASTIC	LUMEN	7354119.99	1494616.7	4895.99	2.98	4893.01	ASPHALT	7"	
42A	1/10/2025	20" WIDE	FIBER OPTIC	CONCRETE DUCT	UDOT	7354112.07	1494616.4	4895.75	1.41	4894.34	ASPHALT	5.5"	DEPTH SHOWN IS TO TOP OF UTILITY. UTILITY BOTTOM AT 1.99'. UTILITY BOTTOM NOTED IS APPARENT BOTTOM UNLESS NOTED AS ACTUAL BOTTOM. ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT OR ACTUAL BOTTOM.
43	1/10/2025	6"	GAS	PLASTIC	ENBRIDGE GAS	7354133.42	1494615.7	4896.25	3.44	4892.81	ASPHALT	7"	
44	1/6/2025	2"/UNKNOWN	CABLE TV	PLASTIC	COMCAST	7354123.3	1494671.1	4894.12	4.8	4889.32	ASPHALT	5"	DEPTH SHOWN IS TO TOP OF UNKNOWN SIZE LINE. DEPTH TO TOP OF 2" FIBER LINE IS 4.80'.
45	1/6/2025	12"	WATER	METAL	RIVERTON CITY	7354124.15	1494662.7	4894.43	6.98	4887.45	ASPHALT	5"	NO VISUAL SIGNS OF ANY DAMAGE TO THE POLYWRAP.
46	1/10/2025	14"	GAS HP	METAL	ENBRIDGE GAS	7354138.79	1494615.7	4896.26	3.74	4892.52	ASPHALT	7"	PER STANDBY, THIS IS THE 14" ABANDONED HIGH PRESSURE LINE.
46A	1/24/2025	20" PER PLAN	GAS HP	METAL	ENBRIDGE GAS	7354144.69	1494615.4	4896.22	4.36	4891.86	ASPHALT	6"	UNABLE TO VISUALLY VERIFY ENTIRE PIPE TO OBTAIN SIZE MEASUREMENT AT STANDBY'S REQUEST TO PROTECT THE LINE FROM DAMAGE.
47	1/8/2025	14"	WATER	METAL	HERRIMAN CITY	7354166.51	1494615.2	4895.93	5.28	4890.65	ASPHALT	6"	NO VISUAL SIGNS OF ANY DAMAGE TO THE POLYWRAP.
48	1/8/2025	UNKNOWN	WATER	METAL	HERRIMAN CITY	7354171.83	1494616.1	4895.64	8.54	4887.1	ASPHALT	6"	UNABLE TO VISUALLY VERIFY PIPE DUE TO THE SOIL AND ROCKS COLLAPSING. FIELD EVIDENCE SUGGEST THAT CREWS WERE ABLE TO FEEL THE PIPE AT A DEPTH OF 8.54'.
49	1/27/2025	18"	WATER	METAL	JVWCD	7354189.42	1494588.7	4896.02	5.62	4890.4	ASPHALT	9"	WRAP APPEARS TO BE IN GOOD CONDITION. OD OF PIPE 19".
50	1/3/2025	30" PER PLAN	WATER	METAL	JVWCD	7354190.77	1494650	4894.45	6.41	4888.04	ASPHALT	7"	UNABLE TO VISUALLY VERIFY ENTIRE PIPE DUE TO THE LARGE PIPE SIZE.

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

CIVIL

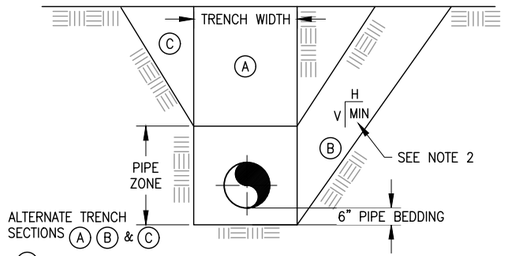
POTHOLE DATA

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
C-11

SHEET 24 OF 78



(A) VERTICAL TRENCH WALL
1. MAX UNSUPPORTED HEIGHT = 3.5 FT.
2. FOR DEPTH OVER 3.5 FT SHORING OR SHEATHING REQUIRED.

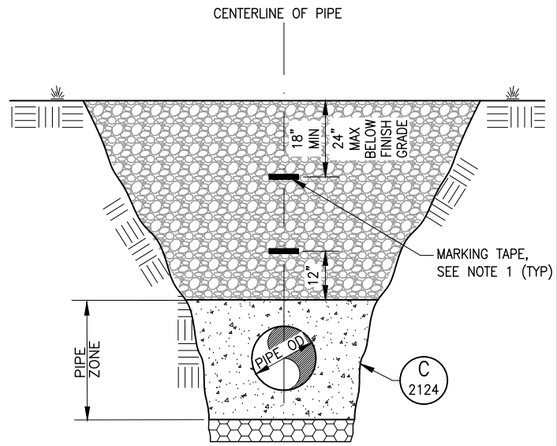
(B) SLOPING TRENCH WALL
1. NOT TO BE USED WITHOUT APPROVAL OF ENGINEER.
2. REQUIRES IMPROVED PIPE ZONE BACKFILL OR INCREASE IN PIPE CLASS.

(C) COMBINATION VERTICAL/SLOPING TRENCH
1. TRENCH IN PIPE ZONE SHALL HAVE VERTICAL WALLS WHERE STABLE SOIL EXISTS.

NOTES:

1. TRENCH EXCAVATIONS TO BE IN ACCORDANCE WITH OSHA SAFETY AND HEALTH STANDARDS FOR CONSTRUCTION. (29 CFR 1926).
2. CONTRACTOR TO PROVIDE SHORING OR TRENCH BOX IN ROADWAY AREAS TO MINIMIZE TRENCH WIDTH.
3. CONTRACTOR TO PROVIDE ALL DEWATERING MEASURES AS REQUIRED. GROUNDWATER ELEVATION SHALL BE MAINTAINED AT LEAST 2' BELOW BOTTOM OF TRENCH UNTIL BACKFILL IS COMPLETE.
4. SLIDE SLOPES SHALL MEET MINIMUM REQUIREMENTS OF THE GEOTECHNICAL INVESTIGATION.

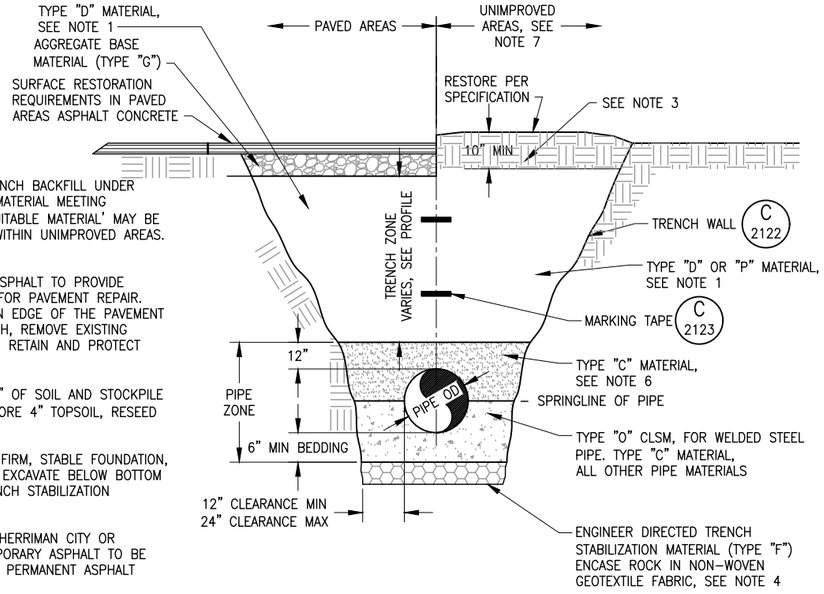
TYPICAL TRENCH EXCAVATION SECTION
NTS — C 2122



NOTES:

1. MARKING TAPE TO BE CUSTOM TO JVWCD, SEE SPECIFICATIONS.

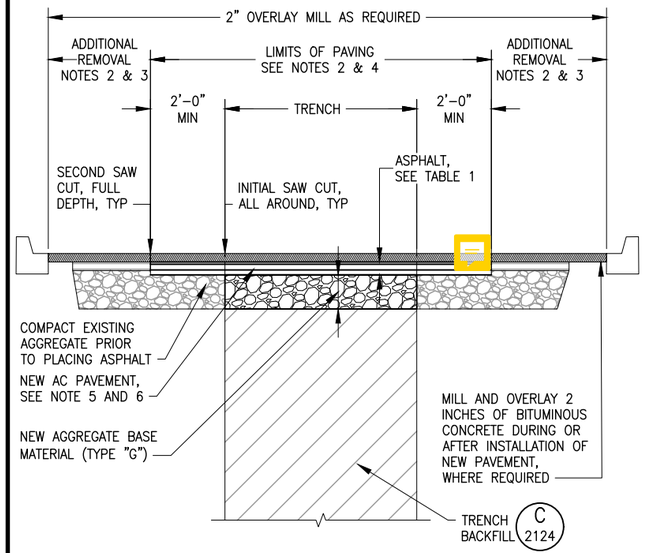
MARKING TAPE PLACEMENT
NTS — C 2123



NOTES:

1. IMPORT BACKFILL REQUIRED FOR TRENCH BACKFILL UNDER ROADWAY AREAS. SCREENED NATIVE MATERIAL MEETING SPECIFICATION REQUIREMENT FOR 'SUITABLE MATERIAL' MAY BE USED FOR TRENCH ZONE BACKFILL WITHIN UNIMPROVED AREAS.
2. ASPHALT PAVEMENT REMOVAL:
   A. MILL OR SAW CUT FULL DEPTH OF ASPHALT TO PROVIDE STRAIGHT VERTICAL PAVEMENT EDGE FOR PAVEMENT REPAIR.
   B. IF A LIP OF GUTTER, A CURB, OR AN EDGE OF THE PAVEMENT IS WITHIN 2-FEET OF THE NEW PATCH, REMOVE EXISTING PAVEMENT TO THE STREET FEATURE. RETAIN AND PROTECT EXISTING CURB AND GUTTER.
3. IN UNIMPROVED AREAS, STRIP TOP 8" OF SOIL AND STOCKPILE PRIOR TO TRENCH EXCAVATION. RESTORE 4" TOPSOIL, RESEED PER SPECIFICATIONS.
4. IF NATIVE SOILS DO NOT PROVIDE A FIRM, STABLE FOUNDATION, AS DETERMINED BY ENGINEER, OVER EXCAVATE BELOW BOTTOM OF TRENCH AND BACKFILL WITH TRENCH STABILIZATION MATERIAL AS SHOWN.
5. PAVEMENT RESTORATION TO BE PER HERRIMAN CITY OR RIVERTON CITY REQUIREMENTS. TEMPORARY ASPHALT TO BE INSTALLED WHEN TEMPERATURES FOR PERMANENT ASPHALT CANNOT BE MET.
6. PEA GRAVEL AND "SQUEEGEE" ARE NOT ALLOWED IN ANY PART OF THE PIPE ZONE.

TYPICAL TRENCH BACKFILL SECTION
NTS — C 2124



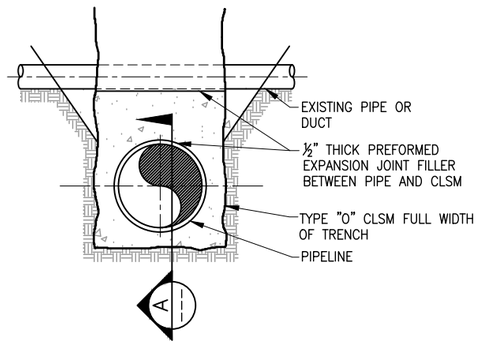
NOTES:

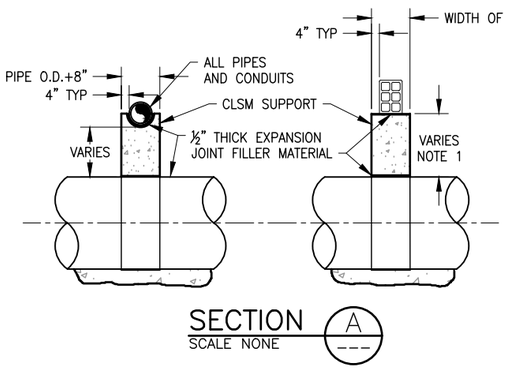
1. CONTRACTOR SHALL PERMANENTLY REPLACE ALL PAVEMENT SURFACES, STRIPING, AND TRAFFIC CONTROLS IN ACCORDANCE WITH STANDARDS FOR INDIVIDUAL JURISDICTIONS PRIOR TO REMOVING DETOURS.
2. REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF THE PAVEMENT IF SUCH A FEATURE IS WITHIN FIVE FEET OF THE SECOND SAW CUT. IN NO CASE SHALL ASPHALT SEAM BE PLACED IN WHEEL PATH. IF MORE THAN 50% OF THE PERMANENT SURFACING OF A TRAVELED LANE IS IMPACTED BY THE EXCAVATION, THE ENTIRE LANE WIDTH SHALL BE SAW CUT, REMOVED, AND REPLACED.
3. ALL CONTRACTOR DAMAGED PAVEMENT OUTSIDE OF THE LIMITS SHOWN SHALL BE REMOVED AND REPLACED AT CONTRACTORS EXPENSE.
4. AMBIENT TEMPERATURE MUST BE 45° F AND RISING IN ORDER TO PLACE ASPHALT. ASPHALT PLACEMENT SHALL BE PER THE GOVERNING AGENCIES REQUIREMENTS.
   a. RIVERTON CITY: ASPHALT PLACED BETWEEN OCTOBER 15 AND MARCH 1 WILL BE CONSIDERED TEMPORARY ONLY, AND MUST BE REPLACED ACCORDING TO APWA STANDARDS AND SPECIFICATIONS BETWEEN THE FOLLOWING APRIL 1 AND JUNE 1.
   b. HERRIMAN CITY: PROVIDE A COLD WEATHER PLAN WHEN PLACEMENT DURING WEATHER <70 DEGREES F AMBIENT OR EXISTING SURFACE.
5. HOT ASPHALTIC CONCRETE PAVEMENT SHALL BE PLACED IN A MINIMUM TWO LIFTS. A TACK COAT SHALL BE PLACED BETWEEN LIFTS AND ALONG ALL VERTICAL SURFACES OF EXISTING PAVEMENT.
6. ASPHALT MIX DESIGN SHALL MEET LATEST VERSION OF THE GOVERNING AGENCIES CONSTRUCTION SPECIFICATIONS, SEE TABLE. MIX DESIGN MUST BE SUBMITTED AND APPROVED PRIOR TO PLACEMENT.
7. SURVEY MONUMENTS MUST HAVE PERMIT THROUGH SALT LAKE COUNTY SURVEYOR PRIOR TO DISTURBANCE OR INSTALLATION OF ANY MONUMENT.

TABLE 1

LOCATION	UTBC THICKNESS	ASPHALT CONCRETE THICKNESS	ASPHALT TYPE	ROAD CATEGORY
13400 SOUTH	10" MIN – MATCH EXISTING	5" MIN – MATCH EXISTING	PG 64-34 DM 1/2"	HIGH TRAFFIC ROAD (CLASS III)
ROSECREST ROAD	10" MIN – MATCH EXISTING	6" MIN – MATCH EXISTING	PG 58-28 DM 1/2"	LOWER TRAFFIC ROAD (CLASS II)
LOCAL ROADS	8" MIN – MATCH EXISTING	4" MIN – MATCH EXISTING	PG 58-28 DM 1/2"	LOWER TRAFFIC ROAD (CLASS I)

TRENCH BACKFILL AND SURFACE RESTORATION IN PAVED AREAS
NTS — C 2125





SECTION A
SCALE NONE

NOTES:

1. BACKFILL TO BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF CLSM SUPPORT.
2. CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE TO DETERMINE THE REQUIREMENTS OF PROVIDING ALL TEMPORARY SUPPORTS TO SUSPEND EXISTING UTILITIES IN OR ACROSS TRENCH DURING THE CONSTRUCTION OF THE NEW PIPE AND PRIOR TO THE COMPLETION OF THIS NEW SUPPORT.

UNDERGROUND UTILITY SUPPORT
NTS — C 2128

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW: CHECKED / APPROVED
DESIGN: DESIGN / DRAWN

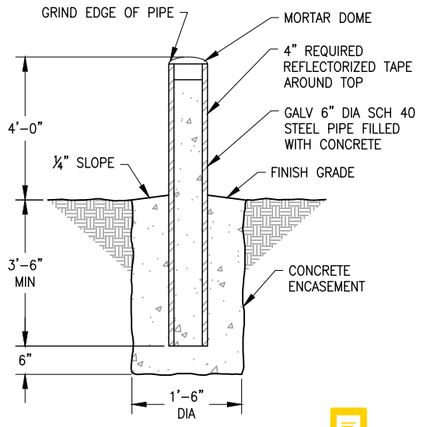
GENERAL CIVIL DETAILS

GENERAL CIVIL DETAILS - 1

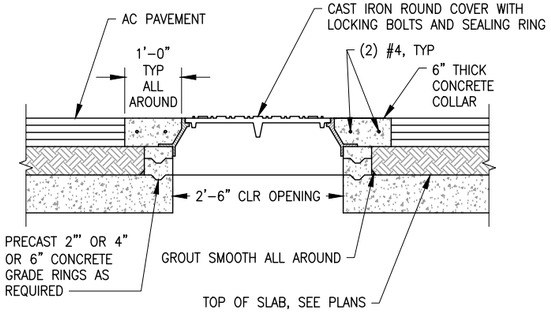
PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO. GC-01
SHEET 25 OF 78

P:\Jordan Valley WCD\010-24-03 Rosecrest Pipeline Capacity Upgrades\2.0 Design Phase\2.9 Drawings\sht\0102403_GC-01.dwg Plotted: 3/27/2025 3:36 PM By: Jeremy Black

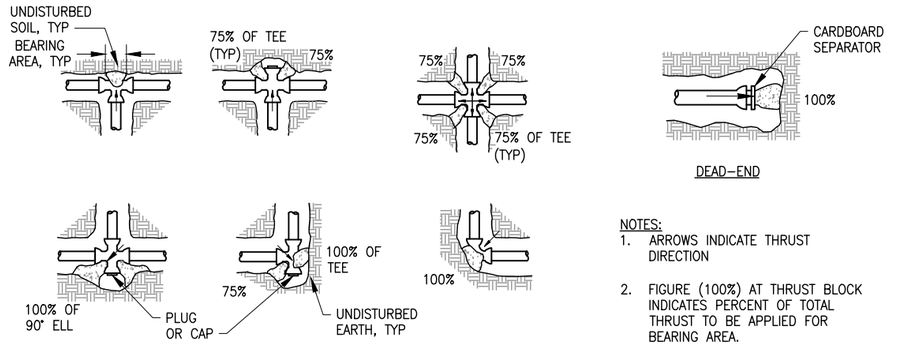


BOLLARD
NTS
C 2205



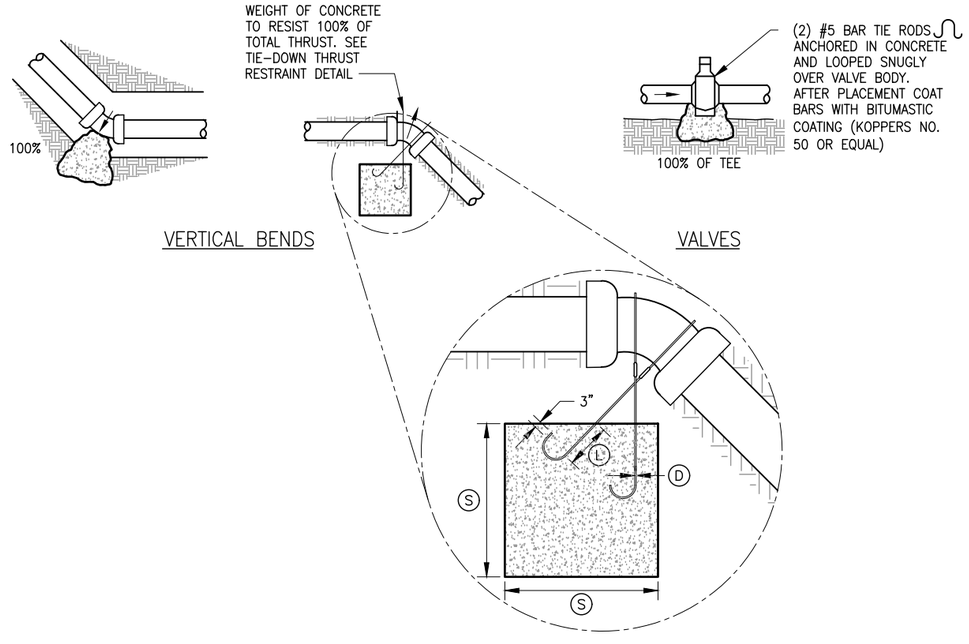
NOTES:
1. SET MANHOLE COVER AND CONCRETE COLLAR ⅛" BELOW GRADE IN PAVED AREAS AND FLUSH WITH FINISH GRADE ELSEWHERE.
2. MANHOLE TO INCLUDE CITY NAME CAST INTO COVER.

MANHOLE COVER AND GRADE RINGS
NTS
C 2206



HORIZONTAL FITTINGS

NOTES:
1. ARROWS INDICATE THRUST DIRECTION
2. FIGURE (100%) AT THRUST BLOCK INDICATES PERCENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
3. CONCRETE FOR THRUST BLOCKS SHALL BE 4,000 PSI.



VERTICAL BENDS

VALVES

NOTES:
1. THRUST BLOCKS TO BE INSTALLED IN ACCORDANCE WITH DETAIL SHOWN ABOVE.
2. CONCRETE MUST BE ALLOWED TO CURE IN THRUST RESTRAINTS FOR 5 DAYS PRIOR TO PRESSURIZING WATER LINES OR HAVE ADDITIONAL APPROVED THRUST RESTRAINTS INSTALLED PRIOR TO PRESSURIZING THE WATERLINE.
3. PRIOR TO POURING CONCRETE FOR THRUST BLOCKS, WRAP PIPE SYSTEM WITH 8 MILLIMETER THICK PLASTIC SHEET AND TAPE PER AWWA C105 TO PREVENT BONDING OF CONCRETE TO PIPE SYSTEM.
4. VALUES PROVIDED ASSUME AT LEAST 4' OF COVER SOIL BEARING STRENGTH OF 1,500 PSF, AND TEST PRESSURE OF 200 PSI.
5. RESTRAINED LENGTH GIVEN FOR BENDS REPRESENTS THE RESTRAINED LENGTH REQUIRED FOR EACH SIDE OF BEND.
6. CONTRACTOR SHALL INSTALL THRUST RESTRAINT AT ALL FITTINGS PRIOR TO PRESSURIZING THE WATER LINE. IN ALL AREAS WHERE THE PIPELINE WILL NOT BE PRESSURIZED FOR 5 DAYS, CONTRACTOR SHALL HAVE THE OPTION OF USING RESTRAINED PIPE LENGTHS OR CONCRETE THRUST BLOCKS IN ACCORDANCE WITH THE TABLES ABOVE. WHERE THE NEW LINES WILL CONNECT TO EXISTING WATER MAINS, MECHANICAL THRUST RESTRAINTS AND THRUST BLOCKS WILL BE REQUIRED TO ALLOW THE NEW PIPELINE TO BE PUT INTO SERVICE IMMEDIATELY AFTER ACCEPTANCE.

CONCRETE THRUST BLOCKS
NTS
C 2231

REQUIRED LENGTH OF RESTRAINED PIPE FOR VARIOUS FITTINGS (FT)

POLY-WRAPPED DUCTILE IRON

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22½° ELBOW
4"	46	18	27	4
6"	66	26	39	5
8"	84	32	49	7
10"	105	39	61	8
12"	122	45	71	9
14"	142	52	83	11
16"	160	58	93	12
18"	179	64	104	13
20"	196	69	113	14

MINIMUM BEARING AREA OF CONCRETE THRUST BLOCKS FOR VARIOUS FITTINGS (FT²)

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22½° ELBOW	11¼° ELBOW
4"	4	6	3	2	1
6"	8	11	6	3	2
8"	13	19	10	5	3
10"	20	28	15	8	4
12"	28	39	21	11	6
14"	37	52	29	15	8
16"	48	68	37	19	10
18"	60	85	46	24	12
20"	74	104	57	29	15
24"	105	148	80	41	21

TIE-DOWN (GRAVITY) THRUST RESTRAINT FOR 45° VERTICAL BENDS TABLE OF DIMENSIONS

PIPE SIZE	VOLUME OF BLOCK (CF)	DIA OF SHANK OR REBAR RODS	DEPTH OF ROD
	(S)	(D)	(L)
4"	29	⅝"	2.0
6"	60	⅝"	2.5
8"	102	⅝"	3.0
10"	153	⅝"	3.0
12"	217	⅝"	4.0
14"	292	¾"	4.0
16"	377	¾"	4.0
20"	581	¾"	4.0

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			REVISIONS

VERIFY SCALE
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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

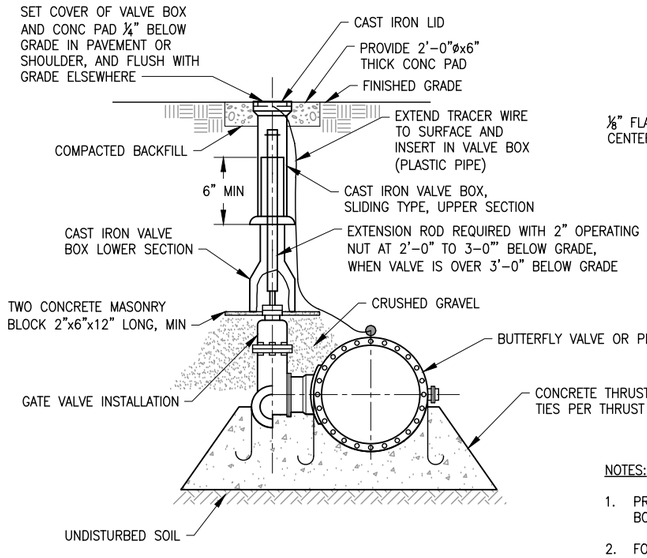
REVIEW
DESIGN CHECKED APPROVED
DESIGN DRAWN

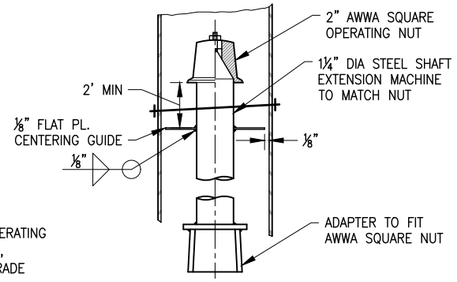
GENERAL CIVIL DETAILS

GENERAL CIVIL DETAILS - 2

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
GC-02
SHEET 26 OF 78





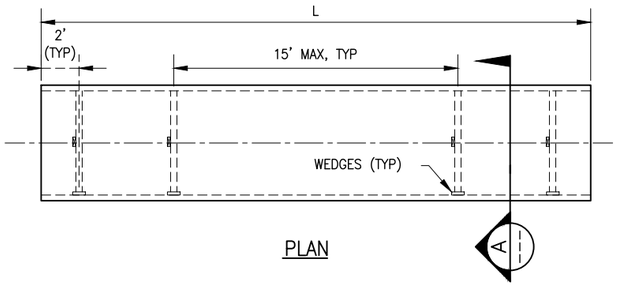
EXTENSION STEM

NOTES:

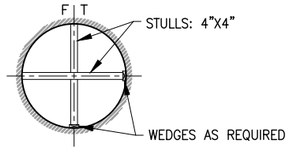
1. PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY IN ACCORDANCE WITH SPECS.
2. FOR LUBRICATED PLUG VALVE, EXTEND LUBRICATION LINE TO GRADE PER MANUFACTURES INSTRUCTIONS.
3. LOCK VALVE EXTENSION STEM TO NUT.
4. ALL BOLTS AND OTHER HARDWARE SHALL BE STAINLESS STEEL.

JVWCD BURIED VALVE INSTALLATION C 2662

NTS



PLAN



SECTION A
SCALE NONE

NOTES:

1. STULLING IS DESIGNED FOR HAULING PURPOSE ONLY. PERFORMANCE OF PIPE BRACING USED DURING INSTALLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

WSP TEMPORARY BRACING LOCATIONS C 2702

NTS

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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN: REVIEW
CHECKED
APPROVED
DESIGN
DRAWN

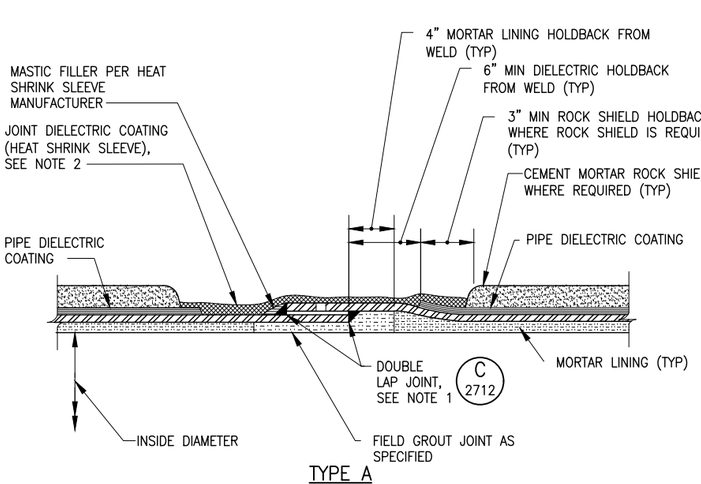
GENERAL CIVIL DETAILS

GENERAL CIVIL DETAILS - 3

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

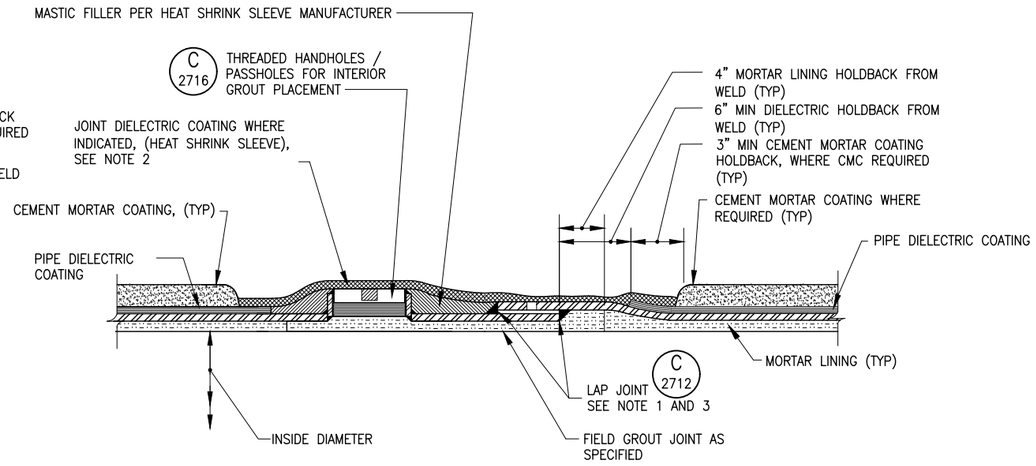
DRAWING NO.
GC-03

SHEET 27 OF 78



TYPE A

(USED FOR PIPE > 24" IN DIAMETER)



TYPE B

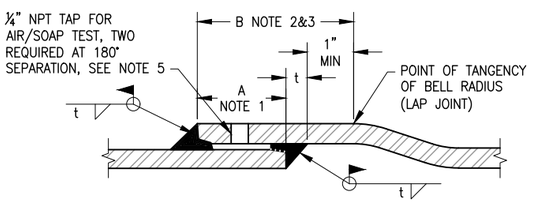
(USED FOR PIPE WHERE INTERIOR GROUT LINING PLACED VIA HANDHOLES) SEE NOTE 4

NOTES:

1. WHERE DOUBLE LAP WELDED JOINTS ARE REQUIRED, CONTRACTOR SHALL CONDUCT AN AIR/SOAP SOLUTION LEAK TEST AT 40 PSI AIR PRESSURE IN ADDITION TO DYE PENETRATE OR MAGNETIC PARTICLE TESTING AS REQUIRED BY SPECIFICATIONS. IF LEAKS ARE DETECTED, THE CONTRACTOR SHALL REPAIR AND RETEST THE WELDS UNTIL THERE ARE NO DEFECTS. PLUG TAPS WITH THREADED PLUG AND SEAL WELD PLUG AT COMPLETION OF TEST AND COAT AND LINE AS SHOWN OR SPECIFIED. TAP HOLES MAY BE ON INSIDE OR OUTSIDE OF JOINT.
2. AFTER INSTALLATION OF JOINT DIELECTRIC COATING, A HOLIDAY TEST SHALL BE COMPLETED AS SPECIFIED BY NACE CERTIFIED SPECIALIST.
3. WHERE SINGLE LAP WELDED JOINTS ARE REQUIRED, WELD MAY BE ON INSIDE OR OUTSIDE OF JOINT. AIR/SOAP LEAK TEST IS NOT REQUIRED AND WELD TO BE INSPECTED PER SPECIFICATIONS.
4. JOINTS ONLY FOR PIPE WITH LESS THAN 24" DIAMETER TO BE TYPE B TO ALLOW CONTRACTOR DIFFERENT METHODS OF INTERIOR LINING GROUT REPLACEMENT.

LAP WELDED STEEL PIPE JOINT C 2708

NTS

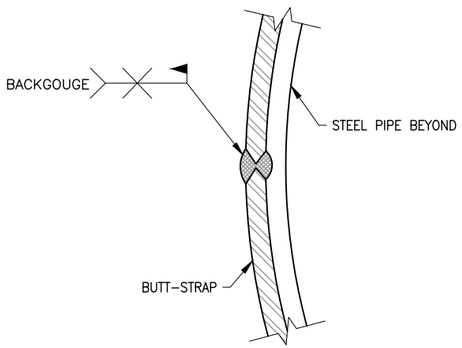


NOTES:

1. DIMENSION "A" CORRESPONDS TO THE COMPLETED JOINT OVERLAP AFTER WELDING. DIMENSION "A" SHALL BE 3" MINIMUM FOR STANDARD JOINTS. FOR SPECIAL TEMPERATURE CONTROL JOINTS, THE DIMENSION "A" JOINT OVERLAP SHALL BE INCREASED BY 3 INCHES AS FURTHER DISCUSSED IN NOTE 3.
2. FOR STANDARD JOINTS THE MINIMUM DIMENSION "B" SHALL BE AS REQUIRED TO PROVIDE THE MINIMUM OVERLAP DIMENSION "A" AND MAINTAIN THE INDICATED HOLDBACK FOR THE WELD.
3. FOR SPECIAL TEMPERATURE CONTROL JOINTS, THE MINIMUM DIMENSION "B" SHALL BE INCREASED BY AT LEAST 3 INCHES. AT THE TIME OF INSTALLATION AND PRIOR TO WELDING, THE SPIGOT SHALL BE INSERTED INTO THE LENGTHENED BELL TO PROVIDE "A" +3 INCHES MINIMUM JOINT OVERLAP. SEE SPECIFICATIONS FOR SPECIAL TEMPERATURE CONTROL JOINT WELDING REQUIREMENTS.
4. FILLET WELDS FOR BELL AND SPIGOT LAP JOINTS SHOWN. FILLET WELDS ON OTHER JOINTS SIMILAR.
5. CONTRACTOR SHALL CONDUCT AN AIR/SOAP SOLUTION LEAK TEST AT 40 PSI AIR PRESSURE IN ADDITION TO DYE PENETRATE OR MAGNETIC PARTICLE TESTING AS REQUIRED BY SPECIFICATIONS. IF LEAKS ARE DETECTED, REPAIR AND RETEST UNTIL THERE ARE NO DEFECTS. PLUG TAPS WITH THREADED PLUG AND SEAL WELD PLUG AT COMPLETION OF TEST AND COAT AND LINE AS SHOWN OR SPECIFIED. TAP HOLES MAY BE ON INSIDE OR OUTSIDE OF JOINT.
6. THE JOINTS SHALL BE FABRICATED AND INSTALLED TO BE WITHIN THE TOLERANCES INDICATED. THE TOLERANCE REQUIREMENTS SHALL APPLY TO BOTH WELDS AND TO BOTH STRAIGHT AND DEFLECTED JOINTS.
7. LAP JOINTS SHALL BE DOUBLE LAP, UNLESS NOTED OTHERWISE. SINGLE LAP JOINTS SHALL BE INSIDE OR OUTSIDE AT CONTRACTORS OPTION. REFER TO SPECIFICATIONS FOR SPECIAL REQUIREMENTS.

LAP JOINT WELD C 2712

NTS

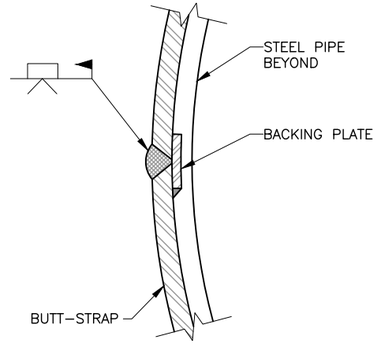


NOTES:

1. LININGS AND COATINGS ARE NOT SHOWN FOR CLARITY.

TYPE A

(USED FOR PIPE > 36"ø ACCESS TO BOTH INSIDE AND OUT)



NOTES:

1. LININGS AND COATINGS ARE NOT SHOWN FOR CLARITY.

TYPE B

(USED FOR PIPE ≤ 36"ø ACCESS TO OUTSIDE ONLY)

BUTT–STRAP WELD C 2714

NTS

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW — CHECKED — APPROVED

DESIGN — DESIGN — DRAWN

GENERAL CIVIL DETAILS

GENERAL CIVIL DETAILS - 4

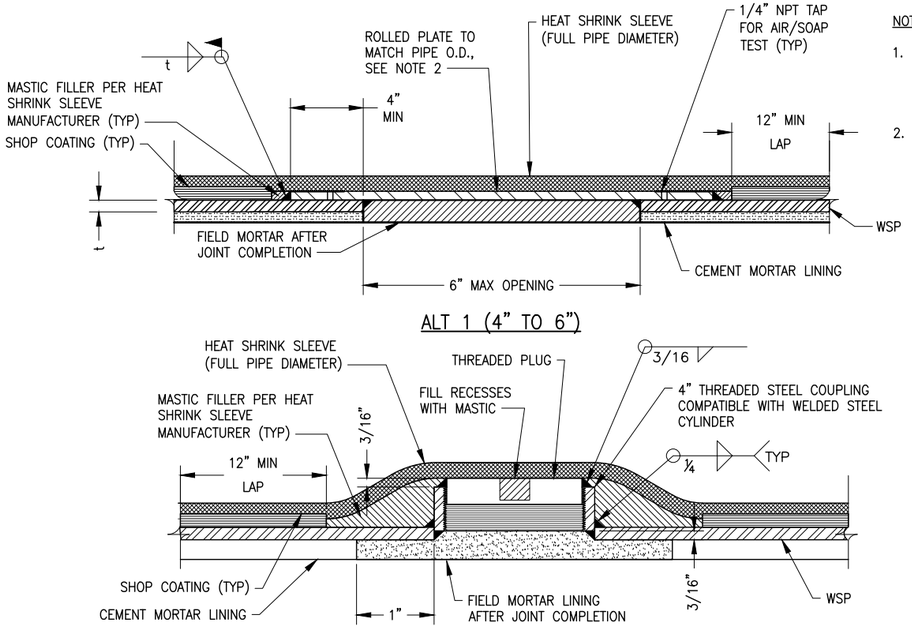
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO. GC-04

SHEET 28 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GC-04.dwg Plotted: 3/27/2025 3:36 PM By: Jeremy Black



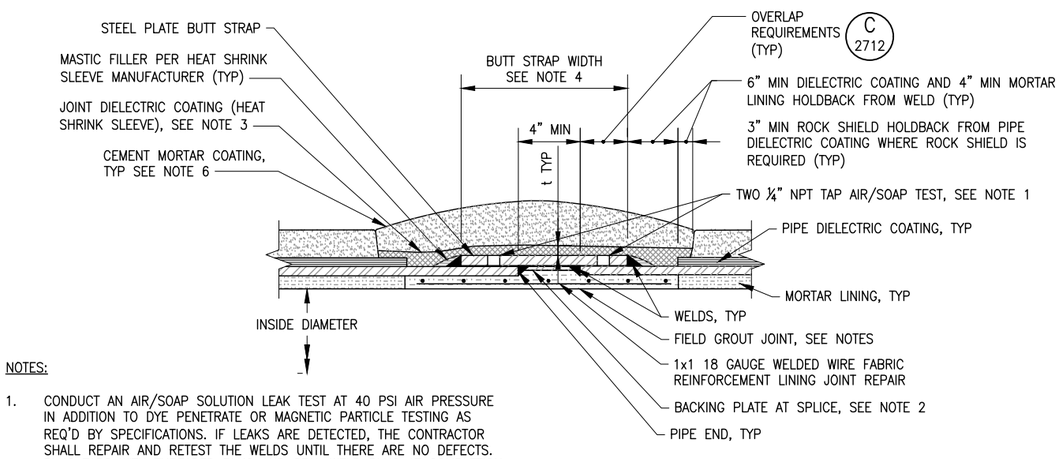
NOTES:

1. PASS THROUGH FOR WELD LEEDS MAY BE SPACED NO CLOSER THAN 500' FROM ACCESS MANWAY OUTLETS.
2. ROLLED PLATE THICKNESS SHALL BE MINIMUM OF 1/2" THICK OR EQUAL TO PIPE WALL THICKNESS. WHICHEVER IS GREATER.

PASSHOLE FOR WELD LEEDS

NTS

C 2716



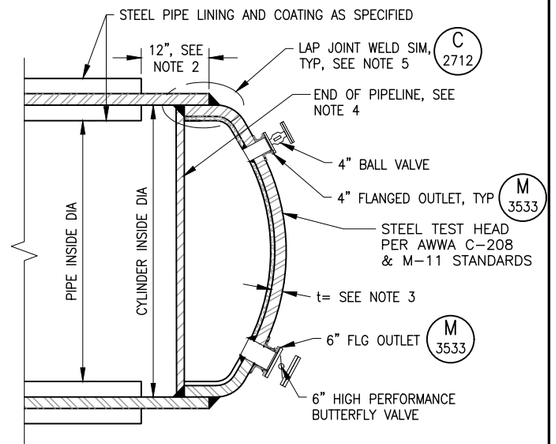
NOTES:

1. CONDUCT AN AIR/SOAP SOLUTION LEAK TEST AT 40 PSI AIR PRESSURE IN ADDITION TO DYE PENETRATE OR MAGNETIC PARTICLE TESTING AS REQ'D BY SPECIFICATIONS. IF LEAKS ARE DETECTED, THE CONTRACTOR SHALL REPAIR AND RETEST THE WELDS UNTIL THERE ARE NO DEFECTS. PLUG TAPS WITH THREADED PLUG AND SEAL WELD PLUG AT COMPLETION OF TEST AND COAT AS SHOWN OR SPECIFIED. TAP HOLES MAY BE ON INSIDE OR OUTSIDE OF JOINT.
2. FOR FIELD WELDING OF INDIVIDUAL BUTT STRAP PIECES TO EACH OTHER USING BUTT WELDS, SEE C 2714
3. AFTER INSTALLATION OF JOINT DIELECTRIC COATING, A HOLIDAY TEST SHALL BE COMPLETED AS SPECIFIED BY NACE CERTIFIED SPECIALIST.
4. UNLESS OTHERWISE NOTED, BUTT STRAP WIDTH SHALL CONFORM TO THE LIMITATIONS SHOWN FOR PIPE END SEPARATION AND STEEL OVERLAP REQUIREMENTS.
5. GROUT FOR JOINT LINING SHALL BE ONE PART CEMENT TO TWO PARTS SAND AND SUFFICIENT WATER FOR DRY-PACK CONSISTENCY.
6. CEMENT MORTAR COATING (GROUT DIAPERS) NOT REQUIRED ON DIELECTRICALLY COATED PIPE. UNLESS OTHERWISE NOTED ON PLANS.

EXTERIOR BUTT-STRAP JOINT

NTS

C 2719



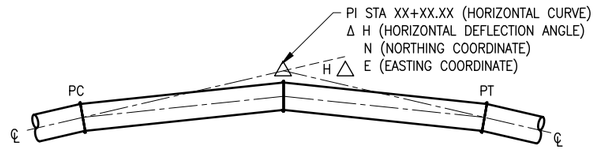
NOTES:

1. COAT TEMPORARY TEST HEAD AND PLAIN END WITH 3 MILS MIN RUST INHIBITING PRIMER. LINE AND COAT IN ACCORDANCE WITH SPECIFICATIONS WHERE PERMANENT END CAP IS SHOWN ON PLANS.
2. MINIMUM 8" HOLDBACK REQUIRED AFTER TEST HEAD IS CUT OFF.
3. WALL THICKNESS SHALL BE THE SAME AS THE ADJOINING PIPE.
4. FOR STATION AND LOCATION OF PIPELINE ENDS, SEE DRAWINGS.
5. BUTT STRAP CONNECTION, OR FULL PENETRATION BUTT WELDS MAY BE SUBSTITUTED FOR LAP JOINT SHOWN.

DISH HEAD END CAP

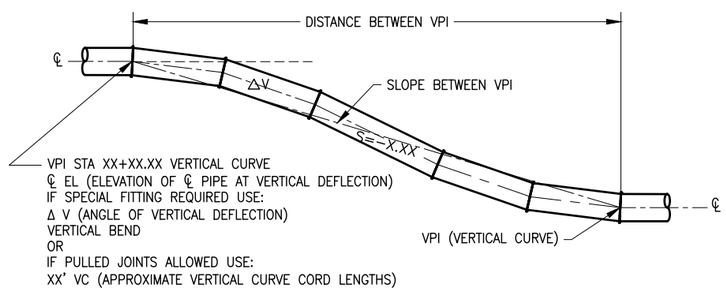
NTS

C 2726



HORIZONTAL CURVES

NTS



VERTICAL CURVES

NTS

NOTES:

1. ALL HORIZONTAL AND VERTICAL CURVES ARE CIRCULAR.
2. HORIZONTAL AND VERTICAL CURVES SHALL BE MADE USING BEVELED JOINTS AND/OR DEFLECTED JOINTS. DO NOT USE COMBINED BEVELED AND DEFLECTED JOINTS.
3. THE MAXIMUM BEVEL ANGLE FOR BEVELED PIPE ENDS SHALL BE 5 DEGREES. SEE SPECIFICATIONS FOR MAXIMUM (NON-BEVELED) JOINT DEFLECTIONS.
4. ALL BEVEL OR DEFLECTION ANGLES SHALL BE EQUALLY DIVIDED THROUGHOUT THE CURVE.
5. FOR COMBINATION VERTICAL AND HORIZONTAL CURVES THE REQUIREMENTS FOR BOTH CONDITIONS SHALL BE COMBINED.
6. REFER TO PLAN AND PROFILE DRAWINGS FOR VERTICAL AND HORIZONTAL CURVE LOCATIONS.
7. 50' PIPE LENGTHS WERE ASSUMED TO DEVELOP VERTICAL CURVE DATA SHOWN ON PLANS. COORDINATE WITH ENGINEER IF DIFFERENT.
8. ALL PROFILE ELEVATIONS ARE SHOWN TO CENTERLINE OF PIPE.
9. REDUCED PIPE SEGMENTS LENGTHS MAY BE USED IN LIEU OF BEVELED OR MITERED JOINTS THROUGH CURVES. COORDINATE SHOP DRAWINGS WITH ENGINEER.

PIPELINE CURVES

NTS

C 2728

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

GENERAL CIVIL DETAILS

GENERAL CIVIL DETAILS - 5

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
GC-05

SHEET 29 OF 78

NOTES:

1. SEQUENCE FOR TESTING NEW CONNECTIONS TO THE EXISTING PIPELINE:

   A) INSTALL TEST HEAD ON NEW PIPE.

   B) TEST AND DISINFECT NEW PIPE IN ACCORDANCE WITH SPECIFICATIONS.

   C) COORDINATE WITH JVWCD FOR SHUTDOWN REQUIREMENTS. DEWATER EXISTING PIPELINE AND REMOVE EXISTING DISHHEAD AT CONNECTION LOCATIONS WHERE REQUIRED BY PLAN. SEE SPECIFICATIONS.

   D) CONNECT THE EXISTING PIPE TO THE NEW PIPE USING CLOSURE SECTIONS AS SHOWN, PER PLAN.

   E) TEST JOINTS AS REQUIRED.

   F) INSTALL FIELD APPLIED LININGS AND COATINGS AT THE CLOSURE SECTION JOINTS.

   G) DISINFECT CONNECTION FITTING AND SURROUNDING PIPELINE. COORDINATE WITH JVWCD TO RETURN PIPELINE TO SERVICE.

   H) CONCRETE ANCHOR BLOCK TO CURE MINIMUM 48 HRS PRIOR TO RETURNING PIPELINE TO SERVICE

2. FIELD VERIFY OUTSIDE DIAMETER, GEOMETRY, MATERIAL, ALIGNMENT OF EXISTING PIPE AND FIELD VERIFY DIMENSIONS AND ANGLES OF FITTING PRIOR TO FABRICATION OF NEW CONNECTION FITTINGS.

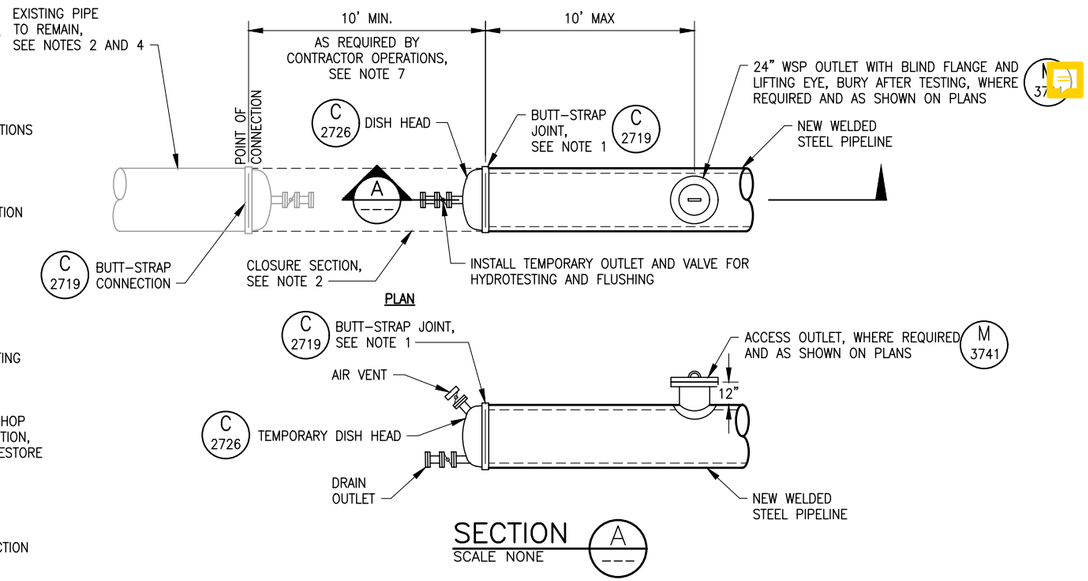
3. FIELD LOCATION AND CONNECTION DETAILS SHALL BE INCLUDED WITH THE SHOP DRAWINGS SUBMITTALS. FOLLOWING THE INSTALLATION OF THE CLOSURE SECTION, THE CONTRACTOR SHALL BACKFILL THE NEW AND EXISTING PIPELINE AND RESTORE THE GROUND SURFACE.

4. GENERAL CONFIGURATION SHOWN IN THIS DETAIL, SEE DRAWINGS FOR EACH SPECIFIC LOCATION.

5. REFER TO SPECIFICATIONS FOR SCHEDULE CONSTRAINTS REGARDING CONNECTION TO EXISTING PIPELINE.

6. REINFORCE CONNECTION PER AWWA C-208 & M-11.

7. INSTALL DISH HEAD A MINIMUM OF 10 FT AWAY FROM EXISTING PIPELINE FOR TESTING.



FINAL TIE-IN CONNECTION TO EXISTING PIPELINE C 2738

NTS

NOTES:

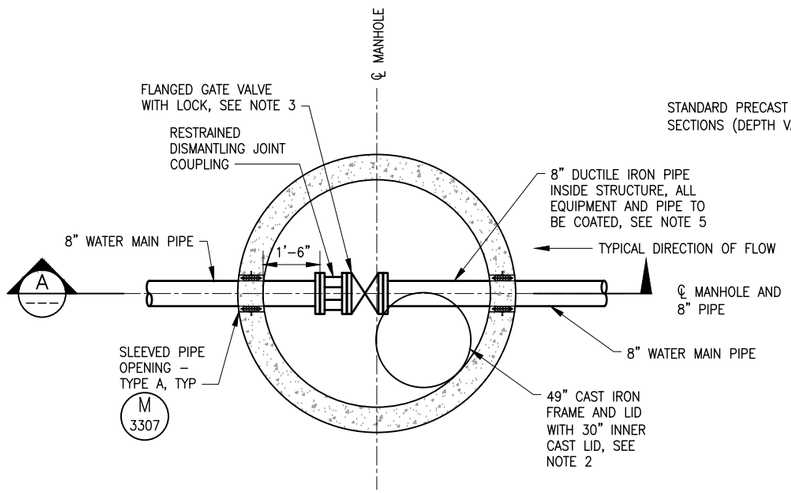
1. DIMENSION 'A' IS A MINIMUM DIMENSION ONLY. ACTUAL VAULT HEIGHTS VARY BY LOCATION, SEE PLAN AND PROFILE DRAWINGS. VAULT HEIGHTS FOR EACH VAULT TO BE THE GREATER OF MINIMUM DIMENSION 'A' OR THE HEIGHT NECESSARY TO RAISE VAULT TO FINISH GRADES SHOWN ON PLAN AND PROFILE DRAWINGS.

2. PROVIDE CAST IRON FRAMES FOR LID OPENINGS DESIGNED TO MEET HEAVY DUTY TRAFFIC LOADING WITH SMOOTH SURFACE WAFFLE PATTERN AND MARKED "WATER." CAST "JVWCD W/ TER VALVE" IN UPPER CASE FLUSH WITH FINISHED SURFACE. PROVIDE D&L SUPPLY DL A-1381 OR EQUAL.

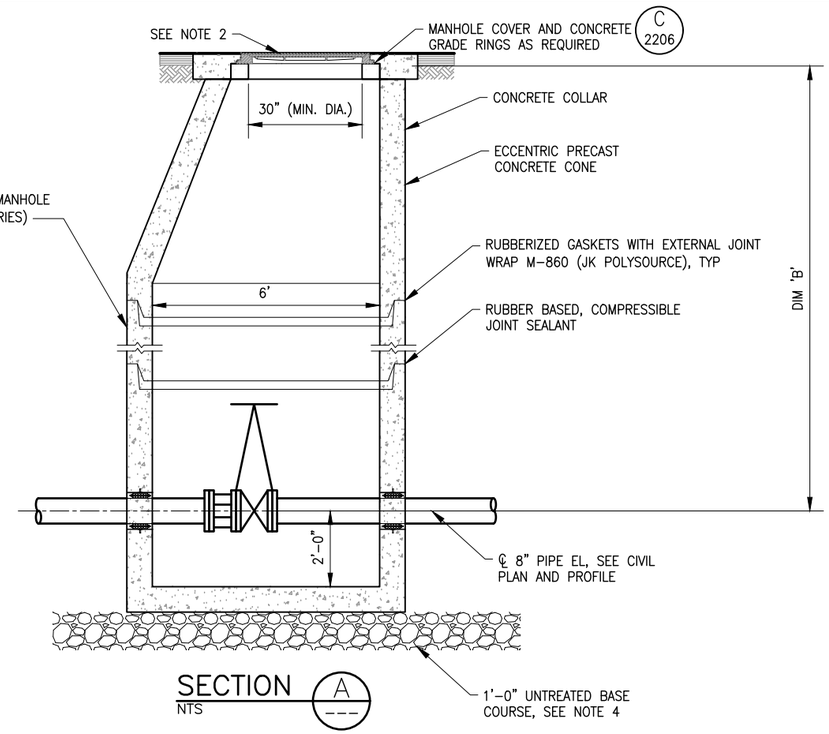
3. SEE PLAN AND PROFILE DRAWINGS FOR LOCATION OF MANHOLE AND VALVE IDENTIFICATION TO INDICATE VALVE REQUIREMENTS PER MECHANICAL SCHEDULE ON M-03.

4. CONCRETE: CLASS 4000.
   REINFORCEMENT: DEFORMED 60 KSI YIELD GRADE STEEL, ASTM A615.
   BACKFILL: COMMON FILL, MAXIMUM PARTICLE SIZE 2-INCHES.
   BASECOURSE: COMPACTION 95% OR GREATER, MODIFIED PROCTOR DENSITY.

5. COATING OF PIPE IN STRUCTURE TO BE TRENTON WAX TAPE, SYSTEM NO. 2 PER SPECIFICATIONS.



PLAN



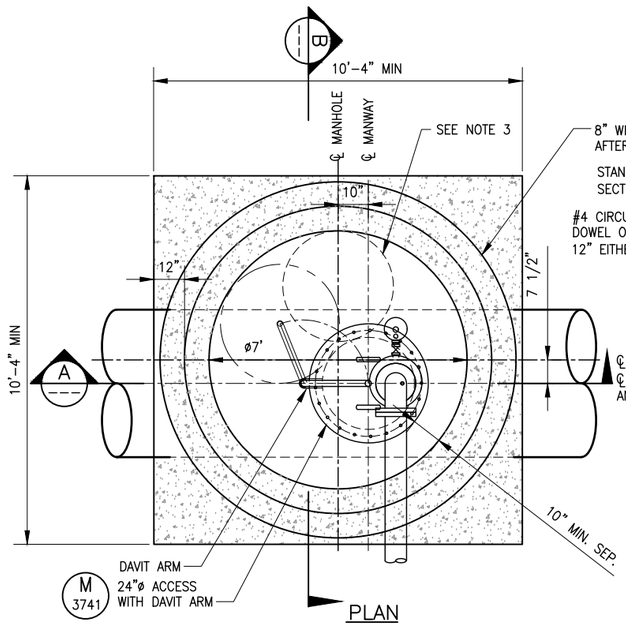
LOCKABLE VALVE STRUCTURE C 2970

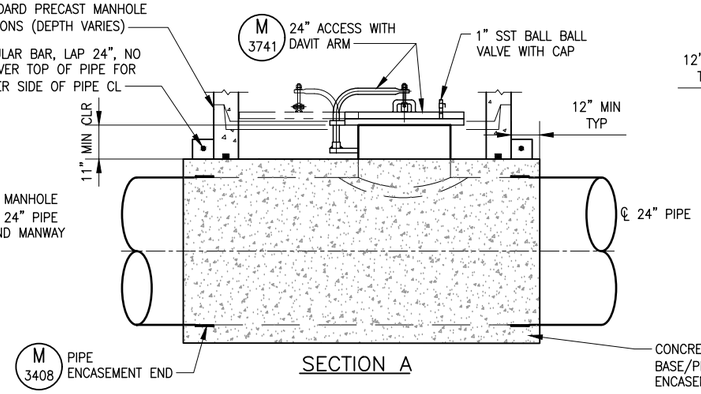
NTS

MAINTENANCE ACCESS SCHEDULE					
LOCATION	STATION	24" PIPE ℄ EL	DIMENSION 'A' (FT)	DIMENSION 'B' (FT)	COMMENTS
EMMELINE DR.	108+86	5052.2		5.11	FRAME A, NO AIR VALVE

NOTES:

1. FOR AIR VALVE SIZE BY VAULT LOCATION SEE AIR VALVE SCHEDULE.
2. DIMENSION 'A' IS A MINIMUM DIMENSION ONLY. ACTUAL VAULT HEIGHTS VARY BY LOCATION, SEE PLAN AND PROFILE DRAWINGS. VAULT HEIGHTS FOR EACH VAULT TO BE THE GREATER OF MINIMUM DIMENSION 'A' OR THE HEIGHT NECESSARY TO RAISE VAULT TO FINISH GRADES SHOWN ON PLAN AND PROFILE DRAWINGS.
3. PROVIDE CAST IRON FRAMES FOR LID OPENINGS DESIGNED TO MEET HEAVY DUTY TRAFFIC LOADING AS FOLLOWS:
   FRAME A: 38" HEAVY DUTY FRAME AND COVER (D&L A-1463 OR APPROVED EQUAL) WITH SMOOTH SURFACE WAFFLE PATTERN AND MARKED "WATER."
   FRAME B: 38" PIGGYBACK STYLE FRAME AND COVER (D&L A-1426 OR APPROVED EQUAL) MARKED "WATER".





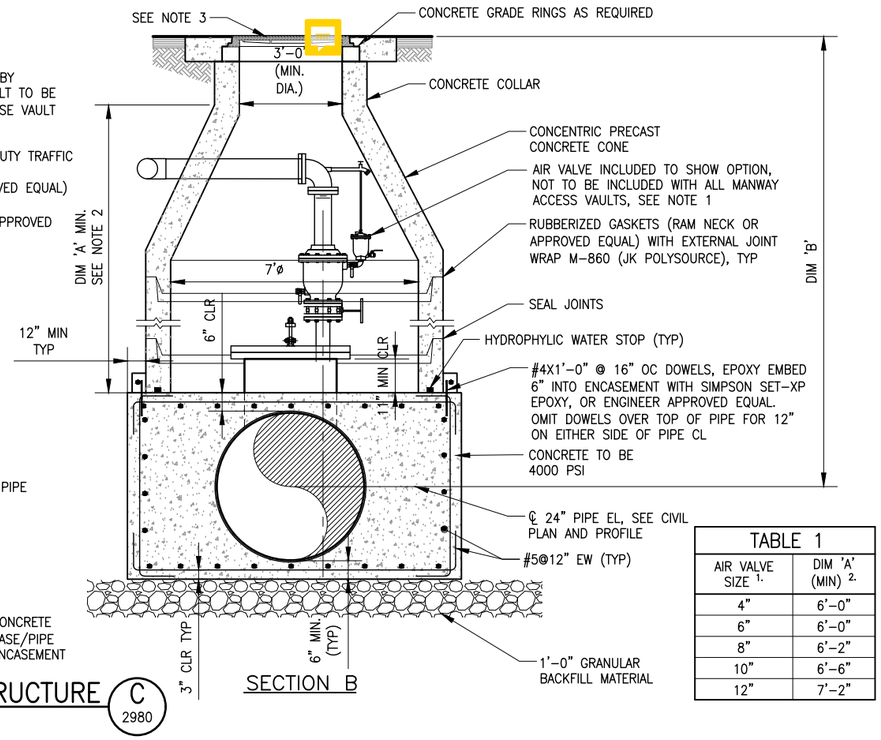


TABLE 1	
AIR VALVE SIZE 1.	DIM 'A' (MIN) 2.
4"	6'-0"
6"	6'-0"
8"	6'-2"
10"	6'-6"
12"	7'-2"

AIR VALVE MAINTENANCE ACCESS STRUCTURE

NTS

C 2980

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

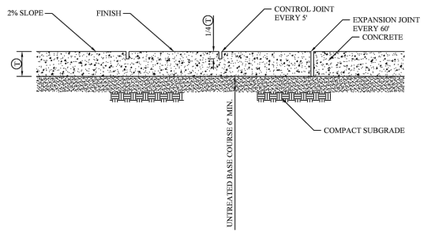
JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN: DESIGN, DRAWN
REVIEW: CHECKED, APPROVED

GENERAL CIVIL DETAILS
GENERAL CIVIL DETAILS - 7
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO. GC-07
SHEET 31 OF 78

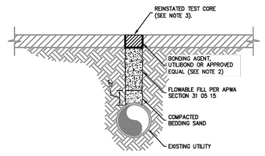
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GC-07.dwg Plotted: 3/27/2025 3:37 PM By: Jeremy Black



STREET TYPE	T
RESIDENTIAL (WITH PARK STRIP)	6"
RESIDENTIAL (NO PARK STRIP)	6"
OTHER	
REPLACEMENTS	MATCH EXISTING 6" MIN.

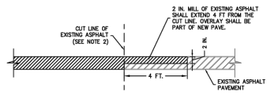
SEE DRIVEWAY APPROACH PLANS FOR SIDEWALK THICKNESS AT DRIVEWAYS FOLLOW APWA PLAN NO. 231

HERRIMAN CITY
ENGINEERING DEPARTMENT
ROADWAY
CONCRETE SIDEWALK
HC RD-08
RD-08



NOTES:
1. CONTRACTOR SHALL COMPLY WITH TEST HOLE REPAIR SPECIFICATIONS OUTLINED IN HERRIMAN CITY STANDARDS CHAPTER 5 SECTION 32 01 18.
2. SEE TABLE 1 IN TEST HOLE REPAIR SPECIFICATIONS FOR BONDING AGENT REQUIREMENTS.
3. TEST HOLE CORE DIAMETER SHALL BE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES.

TEST HOLE REPAIR
NTS

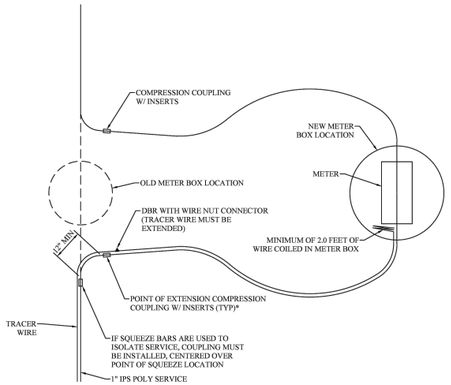


NOTES:
1. THIS DETAIL SHALL APPLY TO CONNECTION TO ALL EXISTING ASPHALT EDGES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, PHASE LINES, CURB CUTS ETC.
2. CUT LINE SHALL BE MADE WITH DIAMOND CUTTING 2 FT FROM THE EXISTING EDGE OF ASPHALT.
3. ADDITIONAL PAVEMENT REMOVAL: REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF PAVEMENT IF SUCH A FEATURE IS WITHIN 2' OF THE SECOND SAW-CUT. IF MORE THAN 50% OF THE PERMANENT SURFACING OF A TRAVELED LANE IS IMPACTED BY THE EXCAVATION, THE ENTIRE LANE WIDTH SHALL BE SAW-CUT, REMOVED, AND REPLACED.
4. TACK COAT: FULL TACK COAT COVERAGE ON ALL VERTICAL SURFACES PER SECTION 32 12 14.
5. ASPHALT PAVEMENT: USE ASPHALT H.M.A SPECIFIED IN SECTION 32 12 05 AND SECTION 32 12 03.
   A) INSTALL IN LIFTS NO GREATER THAN 3" AFTER COMPACTION.
   B) COMPACT EACH LIFT IN CONFORMANCE WITH SECTION 32 12 03.
   C) PLANE OFF SURFACE DISTORTIONS THAT EXCEED 1/4" DEVIATION IN 10'. COAT PLANED SURFACES WITH A CATIONIC OR ANIONIC EMULSION AS APPROVED BY CITY ENGINEER.
   E) USE 1/2" GRADATION PER SECTION 32 12 05.
6. CRACK SEAL TRENCH JOINTS
7. EQUIPMENT: ALL ASPHALT PAVEMENT SHALL BE INSTALLED WITH MECHANICAL PAVING EQUIPMENT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

CONNECTION TO EXISTING ASPHALT EDGE
NTS

HERRIMAN CITY
ENGINEERING DEPARTMENT
ROADWAY
ASPHALT CONNECTION & REPAIR DETAILS
HC RD-09
RD-09

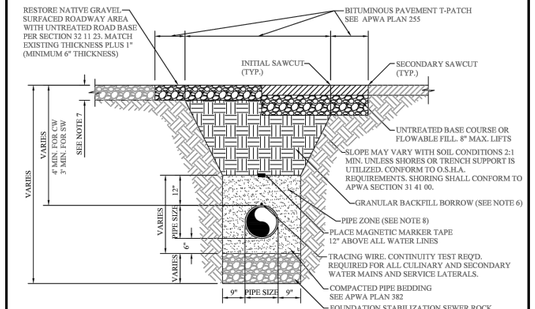
***REFER TO PARTS LIST ON CW-PL FOR APPROVED PARTS MODELS.**



NOTES:
1. POINT OF CONNECTION MUST BE FRESHLY CUT.
2. CRIMP LOCATION MUST BE MINIMUM OF 12" FROM POINT OF EXTENSION.
3. INSPECTION MUST BE SCHEDULED WITH ENGINEERING DEPARTMENT MINIMUM 48 HOURS IN ADVANCE. (INSPECTION MUST BE MADE BEFORE BACKFILL OF EXCAVATION)
4. ALL CONNECTIONS AND NEW FITTINGS MUST BE SHOT BY G.I.S. DEPARTMENT.

HERRIMAN CITY
ENGINEERING DEPARTMENT
CULINARY WATER
WATER SERVICE RELOCATION
HC CW-01
CW-01B

***REFER TO PARTS LIST ON CW-PL FOR APPROVED PARTS MODELS.**

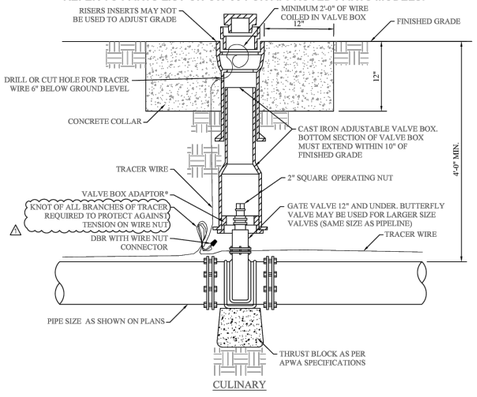


TYPICAL TRENCH

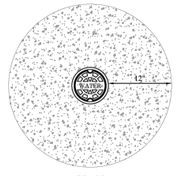
NOTES:
1. ADDITIONAL PAVEMENT REMOVAL: REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF PAVEMENT IF SUCH AFEATURE IS WITHIN 2' OF THE SECOND SAW-CUT. IF MORE THAN 50% OF THE PERMANENT SURFACING OF A TRAVELED LANE IS IMPACTED BY THE EXCAVATION, THE ENTIRE LANE WIDTH SHALL BE SAW-CUT, REMOVED, AND REPLACED.
2. TACK COAT: FULL TACK COAT COVERAGE ON ALL VERTICAL SURFACES PER SECTION 32 12 14.
3. ASPHALT PAVEMENT: USE ASPHALT H.M.A SPECIFIED IN SECTION 32 12 05 AND SECTION 32 12 03.
   A) INSTALL IN LIFTS NO GREATER THAN 3" AFTER COMPACTION.
   B) COMPACT EACH LIFT IN CONFORMANCE WITH SECTION 32 12 03.
   C) PLANE OFF SURFACE DISTORTIONS THAT EXCEED 1/4" DEVIATION IN 10'. COAT PLANED SURFACES WITH A CATIONIC OR ANIONIC EMULSION AS APPROVED BY CITY ENGINEER.
   D) USE 1/2" GRADATION PER SECTION 32 12 05.
4. CRACK SEAL TRENCH JOINTS, COORDINATE WITH CITY ENGINEERING.
5. EQUIPMENT: ALL ASPHALT PAVEMENT SHALL BE INSTALLED WITH MECHANICAL PAVING EQUIPMENT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
6. TRENCH BACKFILL SHALL CONFORM TO APWA SECTION 33 05 20 "BACKFILLING TRENCHES." SPECIFICALLY SUBSECTION 2.1, "BACKFILL MATERIALS." USE "GRANULAR BACKFILL BORROW" PER APWA SECTION 31 05 13 FOR ALL AREAS UNDER EXISTING, NEW OR FUTURE ROADWAYS OR TRAILS, OTHERWISE BACKFILL SHALL CONFORM TO GRANULAR BORROW (I.E. SUBSECTION 2.2 OF APWA SECTION 31 05 13)
7. ASPHALT AND UBC THICKNESS SHALL BE THE MINIMUM THICKNESS OUTLINED IN HERRIMAN CITY STANDARD, OR ASPHALT AND UBC THICKNESS SHALL BE 1 INCH THICKER THAN THE EXISTING SECTION, WHICHEVER IS MORE STRINGENT.
8. PIPE ZONE HAUNCHING AND BACKFILL MATERIAL SHALL BE SAND PER APWA SECTION 31 05 13. LIFTS AND COMPACTION SHALL BE PER APWA STANDARD PLAN 382.
9. JOINT TRENCHING NOT ALLOWED FOR ANY PUBLIC UTILITIES INCLUDING BUT NOT LIMITED TO WATER, SECONDARY WATER, SEWER OR STORM DRAIN.

HERRIMAN CITY
ENGINEERING DEPARTMENT
CULINARY WATER
CULINARY AND SECONDARY WATER TRENCH
HC CW-02
CW-02

***REFER TO PARTS LIST ON CW-00 FOR APPROVED PARTS MODELS.**



CULINARY

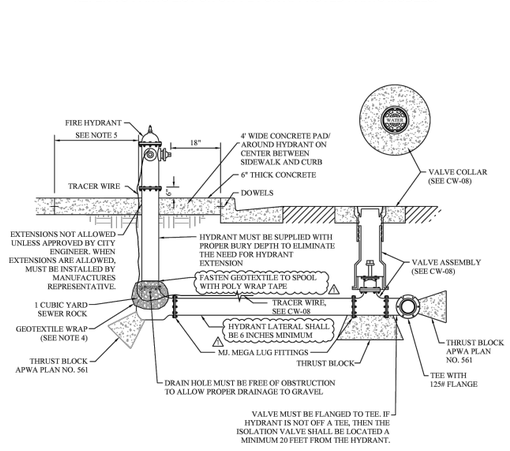


PLAN

NOTES:
1. VALVE BOX SHALL BE CLEAN, PLUMB AND PROPERLY ALIGNED ON THE VALVE.

HERRIMAN CITY
ENGINEERING DEPARTMENT
CULINARY WATER
WATER VALVE
HC CW-08
CW-08

***REFER TO PARTS LIST ON CW-PL FOR APPROVED PARTS MODELS.**



NOTES:
1. POLY WRAP HYDRANT TO BURY LINE.
2. DOWELS 6" CENTER OFF BACK OF SIDEWALK AND BACK OF CURB.
3. 3' MINIMUM AWAY, FROM DRIVE APPROACH, MAILBOX, TREE, METER BOX, UTILITY BOX, OR ANY OTHER OBSTRUCTION.
4. INSTALL A GEOTEXTILE WRAP AROUND THE SEWER ROCK TO PREVENT SILTING.
5. PLACEMENT:
   a) EDGE OF FIRE HYDRANT SHALL BE A MINIMUM DISTANCE OF 6 INCHES FROM THE SIDEWALK EDGE.
   b) FOR RESIDENTIAL: HYDRANT SHALL BE LOCATED WITHIN 2 FT OF A PROPERTY LINE AND SHALL NOT BE WITHIN 5 FT OF A STREETLIGHT, UTILITY BOX, APPURTENCE, OR ANY OBSTACLES.
   c) FOR COMMERCIAL/INDUSTRIAL: HYDRANT SHALL BE LOCATED IN ISLANDS OR MEDIANS SAFE FROM VEHICLE TRAVEL AND OR PEDESTRIAN TRAVEL WAY (SEE NOTE 5A).
   d) CITY OR PUBLIC HYDRANTS: HYDRANT SHALL BE PLACED WITHIN CITY ROW OR PROVIDE EASEMENT PER WATERLINE EASEMENT REQUIREMENTS (HERRIMAN CITY STANDARDS SECTION 3.04).

HERRIMAN CITY
ENGINEERING DEPARTMENT
CULINARY WATER
FIRE HYDRANT WITH VALVE
HC CW-15
CW-15

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN REVIEW
DESIGN CHECKED
DRAWN APPROVED

GENERAL CIVIL DETAILS
GENERAL CIVIL DETAILS - 8
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
GC-08
SHEET 32 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GC-08.dwg Plotted: 3/27/2025 3:37 PM By: Jeremy Black

CATHODIC PROTECTION GENERAL NOTES

CP 2724

TEST STATIONS:

1. USE POST MOUNT STYLE UNLESS OTHERWISE SPECIFIED.
2. MARK POST MOUNT STYLE STATIONS WITH UTILITY APPROVED LABEL MARKER ON POST, SEE SPECIFICATIONS.
3. PROVIDE WIRE LOOP AT BASE OF TEST STATION AND AT PIPE CONNECTIONS TO MINIMIZE SETTLEMENT STRESSES ON WIRE.
4. USE STANDARD COLOR CODE AS SHOWN ON DETAILS AND AS FOLLOWS:
   WHITE – DISTRICT PIPELINE
   GREEN – UNPROTECTED PIPELINE
   BLUE – INSULATION
   ORANGE – CASING
   RED – FOREIGN/GAS CROSSING
   YELLOW – REFERENCE ELECTRODE
   BLACK – ANODES
5. ALL TEST STATION WIRES TO BE INSTALLED SPLICE FREE.
6. IN UNDEVELOPED OR CULTIVATED AREAS, BURY WIRES A MINIMUM OF 30–INCHES OR PLACE IN RIGID CONDUIT, SEE OFFSET TEST STATION DETAIL FOR CONDUIT REQUIREMENTS.
7. ALL TEST WIRE CONNECTIONS TO PIPE SHALL BE THERMITE WELDED CONNECTIONS, INDIVIDUAL WIRES SHALL BE CONNECTED TO PIPE WITH A MINIMUM OF 6–INCHES SEPARATION.
8. QUANTITY OF TERMINALS AND WIRING CONNECTIONS VARIES, SEE APPLICABLE TEST STATION TYPE.
9. ALL WIRES UNDER ROADWAY MUST BE PROTECTED BY PVC COATED STEEL CONDUIT AS SHOWN IN DETAIL, SEAL ENDS OF PIPE DUCT COMPOUND OR URETHANE FOAM, PROVIDE 2" CONDUIT FOR WIRES ONLY, DO NOT CONNECT ROADWAY CONDUIT TO TEST STATION CONDUIT.
10. CONFIRM LOCATION OF TEST STATIONS WITH OWNER AND ENGINEER IN THE FIELD PRIOR TO INSTALLATION. TEST STATIONS PLACED IN UNAPPROVED LOCATIONS WILL BE MOVED AT THE CONTRACTOR'S EXPENSE.

ELECTRICAL CONTINUITY

1. ALL BURIED OR VAULT JOINTS SHALL BE BONDED FOR ELECTRICAL CONTINUITY.
2. PROVIDE TWO BONDS, MINIMUM, ON EACH JOINT UNLESS SPECIFIED OTHERWISE FOR PIPE DIAMETER. SEE SPECIFICATIONS.
3. FLEXIBLE COUPLINGS, FLANGE COUPLING ADAPTERS, OR DEPEND–O–LOC JOINTS SHALL BE BONDED SIMILAR TO FLEXIBLE JOINT.
4. BURIED OR VAULT FLANGE JOINTS SHALL BE BONDED.

ELECTRICAL ISOLATION:

1. PROVIDE INSULATING JOINTS IN PIPELINE WHERE INDICATED ON THE DRAWINGS.
2. TEST ALL INSULATING JOINTS FOR ELECTRICAL ISOLATION BEFORE PIPE IS BACKFILLED AS SPECIFIED.
3. ALL MISCELLANEOUS PIPING AND ELECTRICAL CONDUITS TO BE ELECTRICALLY ISOLATED FROM PIPES.
4. MAINTAIN AND VERIFY ELECTRICAL ISOLATION BETWEEN PIPING AND STEEL VAULT REINFORCEMENT.

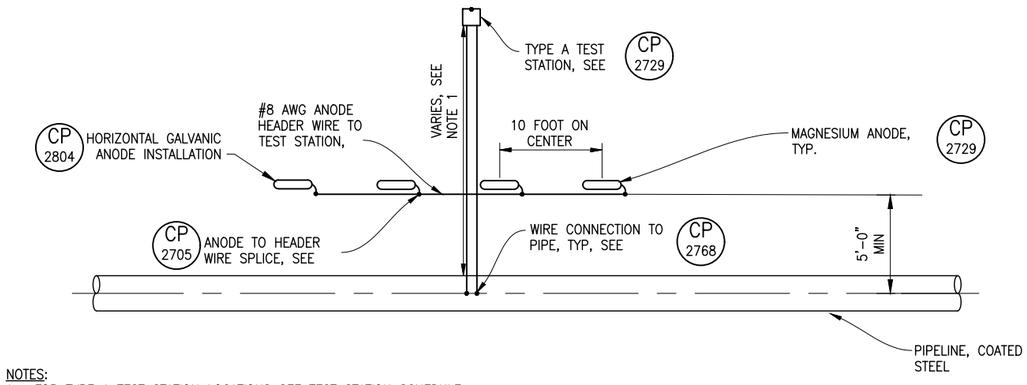
PIPE LINE PLAN AND PROFILE TEST STATION LEGEND

X — EXST TEST STATION
X=TYPE

X — NEW TEST STATION
X=TYPE

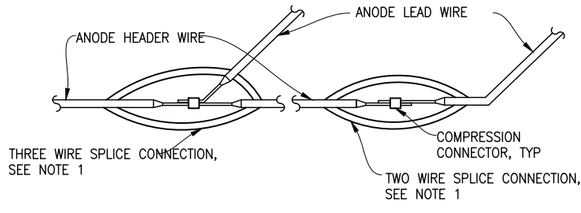
TEST STATION SCHEDULE

PIPE	STATION	STYLE	TYPE	OFFSET	COMMENTS	SHEET



NOTES:
1. FOR TYPE A TEST STATION LOCATIONS SEE TEST STATION SCHEDULE.
2. PLACE TEST STATION OVER PIPE CENTERLINE, OFFSET ONLY IF SHOWN OTHERWISE IN TEST STATION SCHEDULE.
3. BURY HEADER WIRE 2.5–FEET DEEP MINIMUM, 36–INCHES IN CULTIVATED FIELDS.
4. WATER ANODES AFTER BACKFILLING TO 12–INCHES ABOVE ANODE

GALVANIC ANODE GROUNDBED PLAN
NTS — CP 2704



NOTES:
1. FOR THREE WIRE SPLICE CONNECTION, USE 3M SCOTCHCAST WYE RESIN SPLICE KIT. FOLLOW PRODUCT MIXING AND APPLICATION PROCEDURES.
2. FOR TWO WIRE SPLICE CONNECTION, USE 3M SCOTCHCAST INLINE RESIN SPLICE KIT. FOLLOW PRODUCT MIXING AND APPLICATION PROCEDURES.
3. DETAIL SIMILAR FOR ANODE HEADER WIRE SPLICES, SIZE COMPRESSION CONNECTORS AS REQUIRED.

GALVANIC ANODE WIRE SPLICES
NTS — CP 2705

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

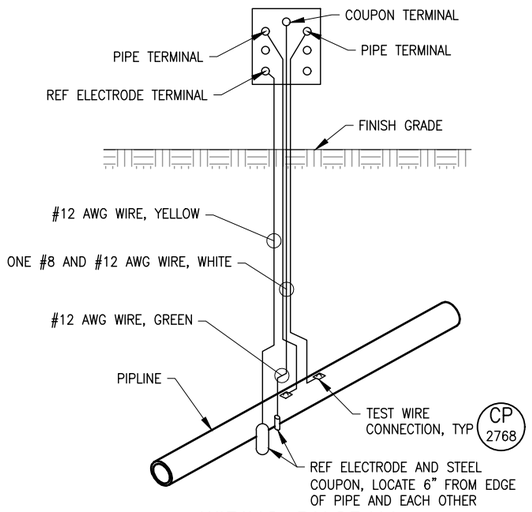
JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN J. HUNTER
DRAWN J. BLACK
CHECKED R. EGBERT
APPROVED J. LUETTINGER
REVIEW

CATHODIC PROTECTION
CATHODIC PROTECTION SCHEDULES, GENERAL NOTES, AND DETAILS - 1

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
CP-01
SHEET 33 OF 78



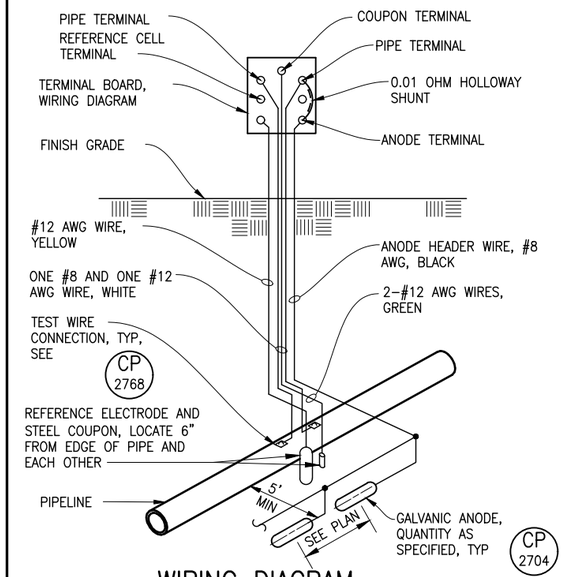
WIRING DIAGRAM

NTS

NOTES:
1. SEE TEST STATION STYLE DETAIL AS REQUIRED BY TEST STATION SCHEDULE.
2. WHERE TEST STATION OFFSET IS REQUIRED, SEE CP 2750

TYPE T TEST STATION

NTS — CP 2724



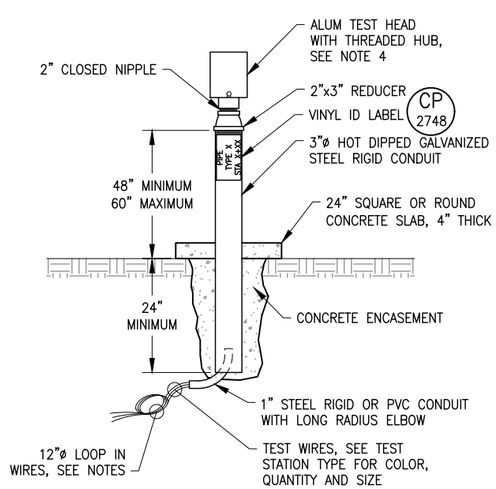
WIRING DIAGRAM

NTS NTS

NOTES:
1. SEE TEST STATION STYLE DETAIL AS REQUIRED BY TEST STATION SCHEDULE.
2. WHERE TEST STATION OFFSET IS REQUIRED, SEE CP 2750

TYPE A TEST STATION

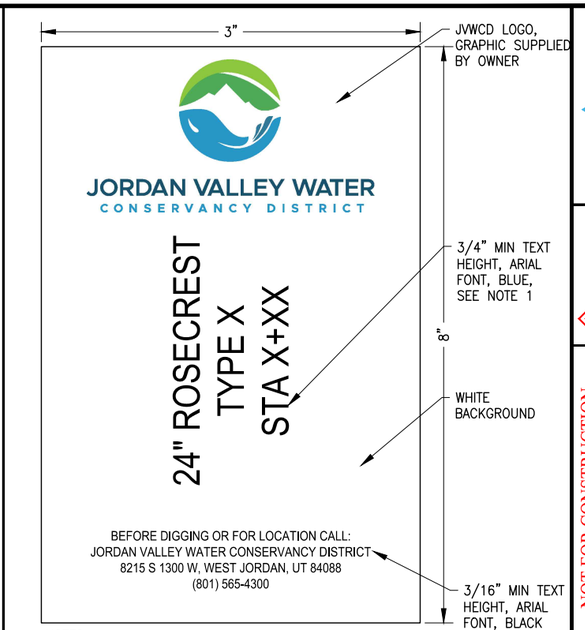
NTS — CP 2729



NOTES:
1. TERMINAL QUANTITY AND WIRE CONNECTIONS VARY, SEE TEST STATION TYPE DETAIL.
2. LOOP WIRE AT BASE OF POST TO MINIMIZE WIRE STRESS
3. COAT THREADS WITH INORGANIC ZINC PRIMER OR COLD GALVANIZING REPAIR COATING.
4. TESTOX SERIES 700 TEST STATION FOR TYPE T, C, AND I TEST STATIONS OR TESTOX SERIES 2000 TEST STATION FOR TYPE F AND A TEST STATIONS WITH THREADED HUBS.
5. SLIP FIT HUBS WILL NOT BE PERMITTED.

POST STYLE, STEEL CONDUIT

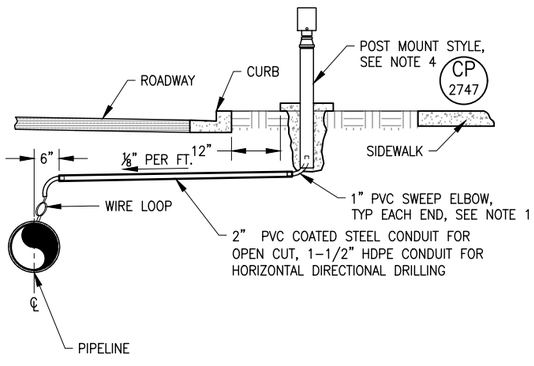
NTS — CP 2747



NOTES:
1. LABELS SHALL DISPLAY PIPE, TEST STATION TYPE, AND PIPE STATION OF TEST STATION CONNECTION PER TEST STATION SCHEDULE ON CP–01.

CATHODIC TEST STATION VINYL ID LABEL

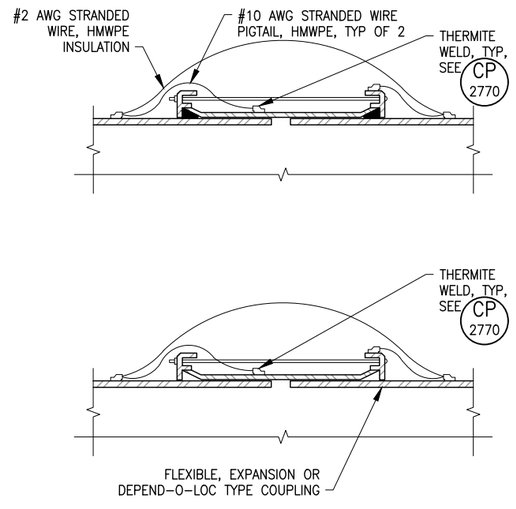
NTS — CP 2748



NOTES:
1. DO NOT CONNECT CONDUIT TO POST STYLE TEST STATION.
2. BURIED CONDUIT TO BE RIGID PVC COATED STEEL.
3. SEAL BOTH ENDS OF CONDUIT WITH DUCT COMPOUND OR POLYURETHANE FOAM.
4. SEE PLANS FOR LOCATIONS OF TEST STATIONS. VERIFY LOCATION WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.

TEST STATION ROADWAY OFFSET

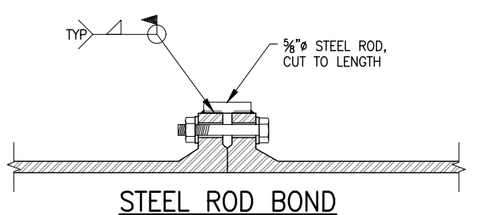
NTS — CP 2750



NOTES:
1. COUPLING JOINT SHOWN, SIMILAR FOR RESTRAINED JOINTS, DEPEND–O–LOC, FLANGED ADAPTERS, AND OTHER TYPE DISMANTLING JOINTS.
2. INSTALL TWO BONDS AT EACH JOINT, MINIMUM, SEE SPECS FOR QUANTITY REQUIRED FOR PIPEØMETER.
3. SEE THERMITE WELD DETAIL FOR COATING REQUIREMENTS.

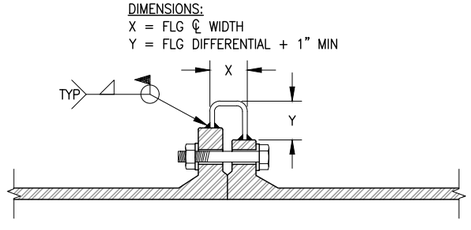
COUPLING JOINT BOND

NTS NTS — CP 2759



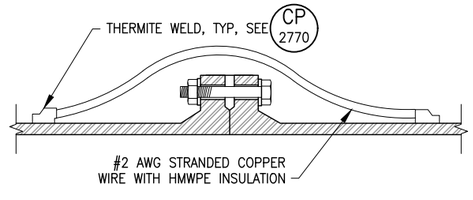
STEEL ROD BOND

NTS NTS



STEEL FLAT BAT BOND

NTS NTS



WIRE BOND

NTS NTS

NOTES:
1. CONTRACTOR MAY INSTALL EITHER STEEL ROD, STEEL FLAT BAR, OR BOND WIRE AS SHOWN, EXCEPT WHERE ARC WELDING TO FLANGE IS NOT PERMITTED.
2. INSTALL TWO BONDS AT EACH JOINT, MINIMUM, SEE SPECS FOR QUANTITY REQUIRED FOR PIPE DIAMETER.
3. COAT STEEL ROD OR FLAT BAR AND WELDS WITH FAST CURE EPOXY (BURIED) OR WITH COATING SYSTEM TO MATCH PIPE (VAULT).
4. FOR WIRE BONDS, SEE THERMITE WELD DETAIL FOR COATING REQUIREMENTS.
5. PROVIDE SST FLAT BAR IN LIEU OF STEEL WHERE COATING CANNOT BE PROPERLY APPLIED TO INTERIOR SURFACES.

BURIED FLANGE JOINT BOND

NTS NTS — CP 2767

BOWEN COLLINS & ASSOCIATES

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VERIFY SCALE
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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW — CHECKED R. EGBERT — APPROVED J. LUETTINGER
DESIGN — DESIGN J. HUNTER — DRAWN J. BLACK

CATHODIC PROTECTION

CATHODIC PROTECTION DETAILS - 2

DATE: MARCH 2025 — PROJECT NUMBER 010-24-03

DRAWING NO.
CP-02
SHEET 34 OF 78

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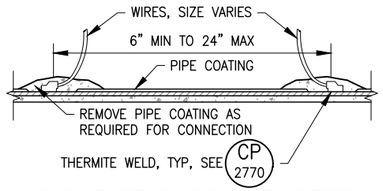
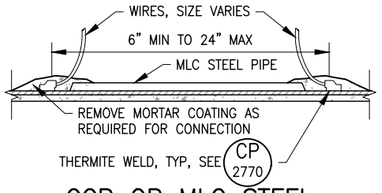
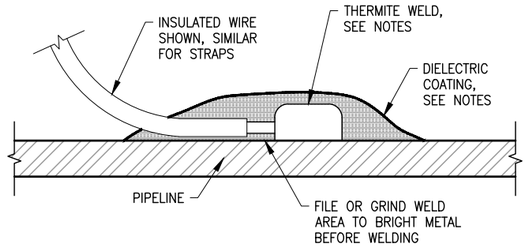


DIELECTRIC COATED STEEL
NTS



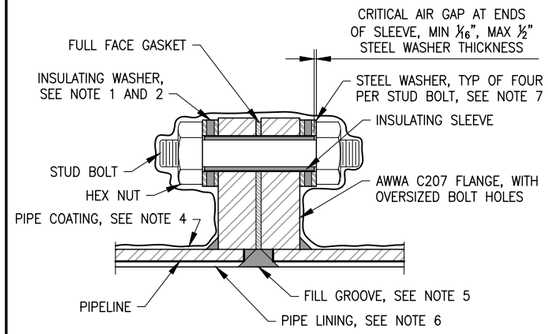
CCP OR MLC STEEL
NTS

TEST WIRE CONNECTION
NTS — CP 2768



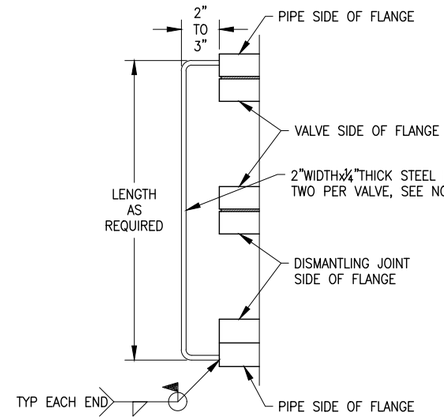
NOTES:
1. MAKE WIRE CONNECTION TO PIPE AT FIELD JOINT WHERE HOLDBACK OCCURS ON PIPELINE COATING, WHERE POSSIBLE.
2. COPPER SLEEVE REQUIRED FOR #2 AWG JOINT BONDS OR FOR #12 AWG OR SMALLER TEST WIRES.
3. WELDER AND CARTRIDGE SIZE VARIES ACCORDING TO PIPE AND WIRE SIZE AND PIPE MATERIAL, CONSULT WELDER MANUFACTURER FOR RECOMMENDED WELDER AND CARTRIDGE
4. COAT COMPLETED WELDS, EXPOSED COPPER, AND EXPOSED METAL WITH DIELECTRIC COATING AS SPECIFIED FOR PIPELINE MATERIAL ALTERNATIVE.
5. AFTER COATING WELDS, OVERCOAT WITH CEMENT MORTAR WHEN PIPE HAS CEMENT MORTAR COATING OR OVERCOAT.

THERMITE WELD CONNECTION
NTS — CP 2770



NOTES:
1. DOUBLE INSULATING WASHER SET FOR VAULT OR EXPOSED FLANGES.
2. SINGLE INSULATING WASHER SET FOR BURIED OR SUBMERGED FLANGES, PLACE INSULATORS ON UNPROTECTED SIDE OF FLANGE.
3. TEST COMPLETED JOINT FOR ELECTRICAL ISOLATION AS SPECIFIED AND REPAIR AS REQUIRED.
4. COAT BURIED OR IMMERSED INSULATING FLANGES FOR 12–INCHES MINIMUM ON EACH SIDE OF FLANGE WITH PIPELINE DIELECTRIC JOINT COATING OR HEAT SHRINK SLEEVE, INCLUSIVE OF OVERCOATING CEMENT MORTAR.
5. FILL INTERIOR GAP BETWEEN FLANGES WITH DIELECTRIC FILLER OR SEALANT COMPATIBLE WITH SPECIFIED PIPE LINING.
6. EXTEND SPECIFIED PIPE LINING TO FACE OF FLANGE AND COAT INTERIOR OF MORTAR LINED PIPE FOR TWO PIPEØMETERS WITH NSF APPROVED EPOXY AT 20 MILS DFT.
7. FOR PIPE LESS THAN 36–INCHES WELDED, SLEEVE INNER STEEL WASHERS.

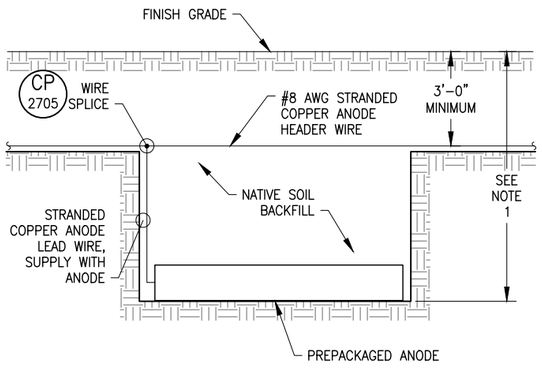
INSULATING FLANGE
NTS — CP 2777



SECTION A
SCALE: NTS

NOTES:
1. PROVIDE TWO BONDS PER LOCATION. LOCATE PER PLAN.
2. SURFACE PREPARE AND COAT ALL WELDS AND STEEL BONDS AS SPECIFIED FOR THE PIPE.

STEEL FLAT BAR BOND
NTS — CP 2783



NOTES:
1. BURY ANODE AT SPRINGLINE OF PIPE OR LOWER, 5' MIN. DEPTH.

HORIZONTAL GALVANIC ANODE INSTALLATION
NTS — CP 2804

BOWEN COLLINS & ASSOCIATES

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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN J. HUNTER
DRAWN J. BLACK
REVIEW
CHECKED R. EGBERT
APPROVED J. LUETTINGER

CATHODIC PROTECTION
CATHODIC PROTECTION DETAILS - 3
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
CP-03
SHEET 35 OF 78

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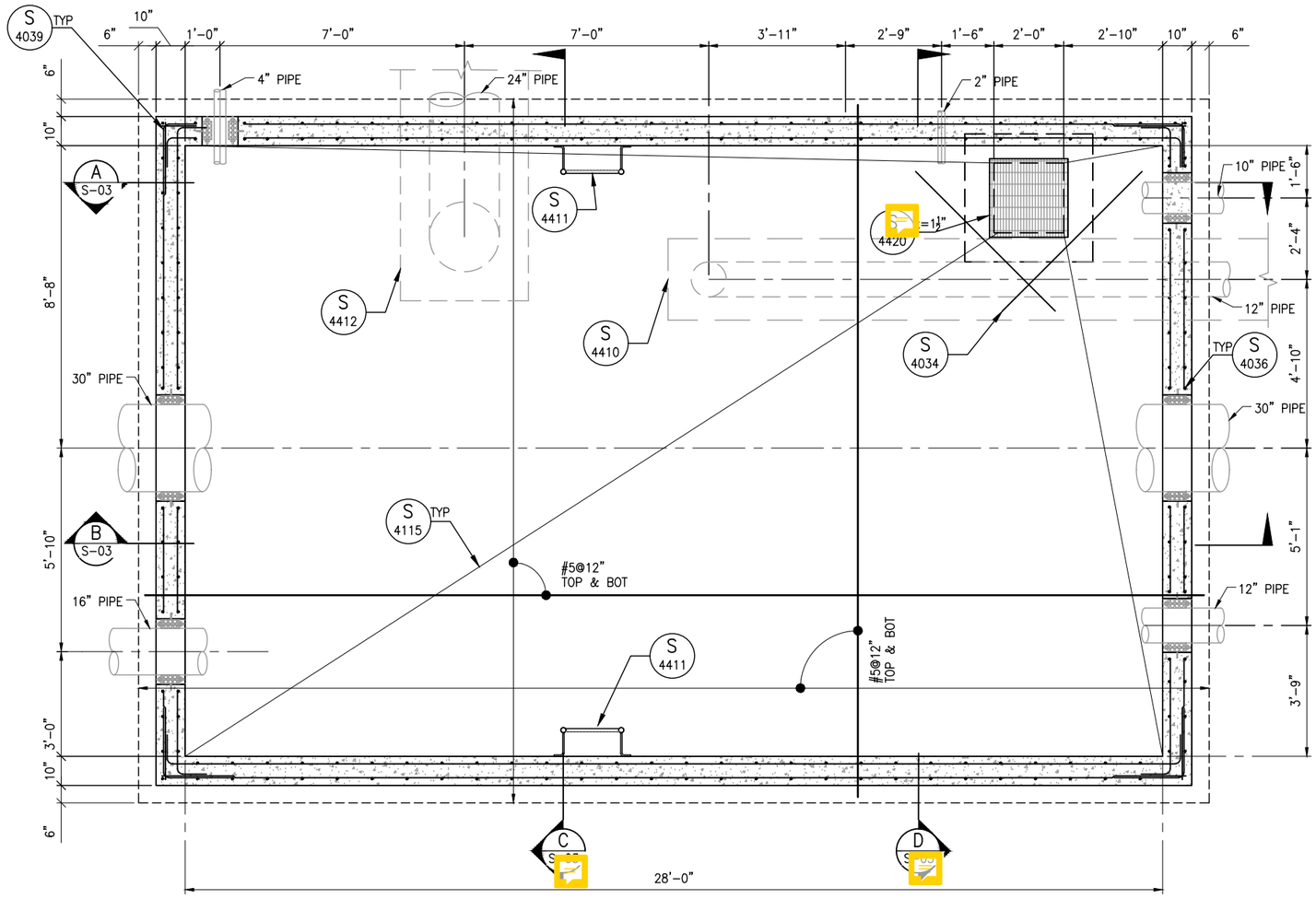

BASE PLAN

SCALE: 1/2"=1'–0"

DRAWING NOTES

1. FOR GENERAL STRUCTURAL NOTES, REFER TO DRAWING GS–01.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL MECHANICAL AND ELECTRICAL PENETRATIONS AND ROUTINGS.
3. OVER EXCAVATE BENEATH BASE SLAB AND PLACE 1'–0" MINIMUM COMPACTED THICKNESS OF GRANULAR STRUCTURAL FILL. EXTEND MINIMUM OF 2' BEYOND EDGE OF BASE SLAB.
4. THE EXPOSED INTERIOR FACES OF THE CONCRETE WALLS AND TOP SLAB SHALL BE GIVEN A RUBBED FINISH. TOPS SURFACES OF BOTH SLABS SHALL BE GIVEN A FLOATED SURFACE FINISH CONSISTENT WITH REQUIREMENTS FOR A PAINTED COATING.
5. APPLY FLUID–APPLIED WATERPROOFING TO ALL EXTERIOR BURIED CONCRETE SURFACES OF THIS VAULT.
6. UNLESS SPECIFICALLY NOTED OTHERWISE, MISCELLANEOUS METAL ITEMS WITHIN THIS STRUCTURE ARE TO BE STAINLESS STEEL.
7. ALL REBAR SHALL BE EPOXY COATED PER UDOT SPECIFICATIONS.
8. UNO, HATCH SHALL HAVE A CONCEALED RECESSED PADLOCK HASP AND SHALL BE INSULATED WITH RIGID FOAM BOARD.
9. WALLS AND ROOF SLAB SHALL BE INSULATED WITH RIGID FOAM BOARD.

BOWEN COLLINS & ASSOCIATES

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			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
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REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL

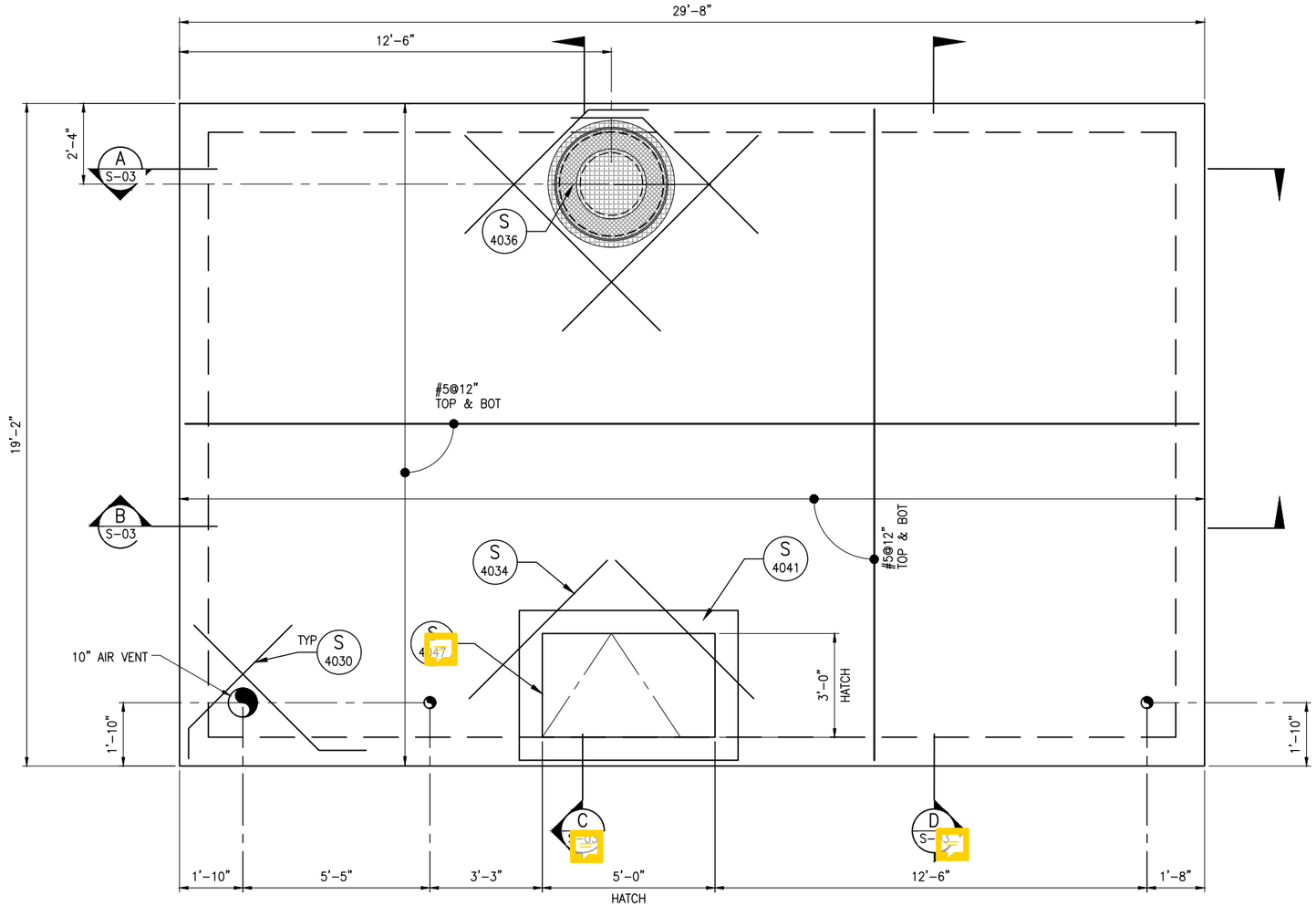
ROSECRESTS ROAD VAULT FOUNDATION PLAN

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
S-01

SHEET 36 OF 78



ROOF PLAN

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

DRAWING NOTES

1. FOR GENERAL STRUCTURAL NOTES, REFER TO DRAWING GS-01.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL MECHANICAL AND ELECTRICAL PENETRATIONS AND ROUTINGS.
3. OVER EXCAVATE BENEATH BASE SLAB AND PLACE 1'-0" MINIMUM COMPACTED THICKNESS OF GRANULAR STRUCTURAL FILL. EXTEND MINIMUM OF 2' BEYOND EDGE OF BASE SLAB.
4. THE EXPOSED INTERIOR FACES OF THE CONCRETE WALLS AND TOP SLAB SHALL BE GIVEN A RUBBED FINISH. TOPS SURFACES OF BOTH SLABS SHALL BE GIVEN A FLOATED SURFACE FINISH CONSISTENT WITH REQUIREMENTS FOR A PAINTED COATING.
5. APPLY FLUID-APPLIED WATERPROOFING TO ALL EXTERIOR BURIED CONCRETE SURFACES OF THIS VAULT.
6. UNLESS SPECIFICALLY NOTED OTHERWISE, MISCELLANEOUS METAL ITEMS WITHIN THIS STRUCTURE ARE TO BE STAINLESS STEEL.
7. ALL REBAR SHALL BE EPOXY COATED PER UDOT SPECIFICATIONS.
8. UNO, HATCH SHALL HAVE A CONCEALED RECESSED PADLOCK HASP AND SHALL BE INSULATED WITH RIGID FOAM BOARD.
9. WALLS AND ROOF SLAB SHALL BE INSULATED WITH RIGID FOAM BOARD.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S.PUGH
DRAWN S. PUGH

STRUCTURAL

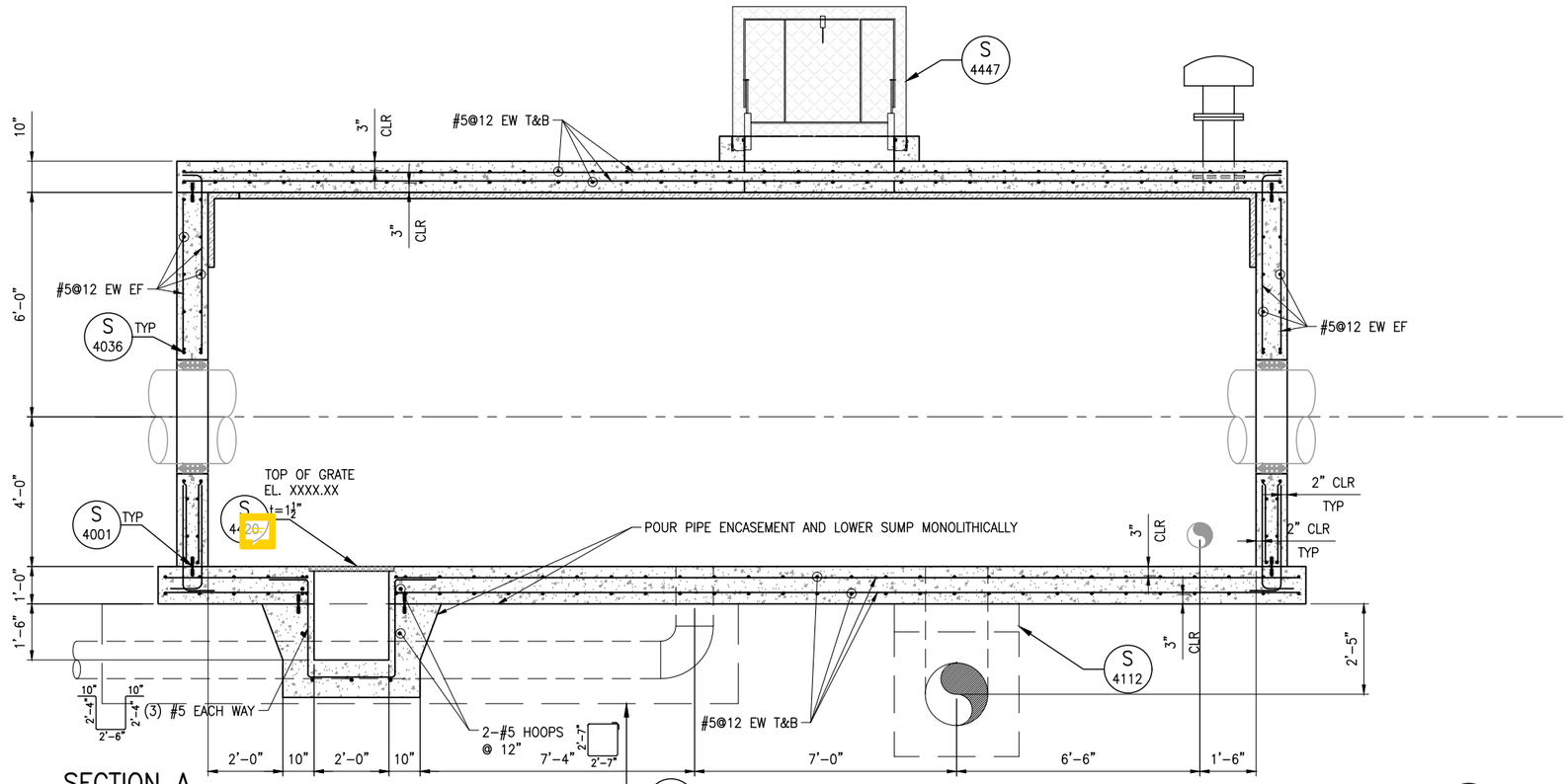
ROSECREST ROAD VAULT
ROOF PLAN

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

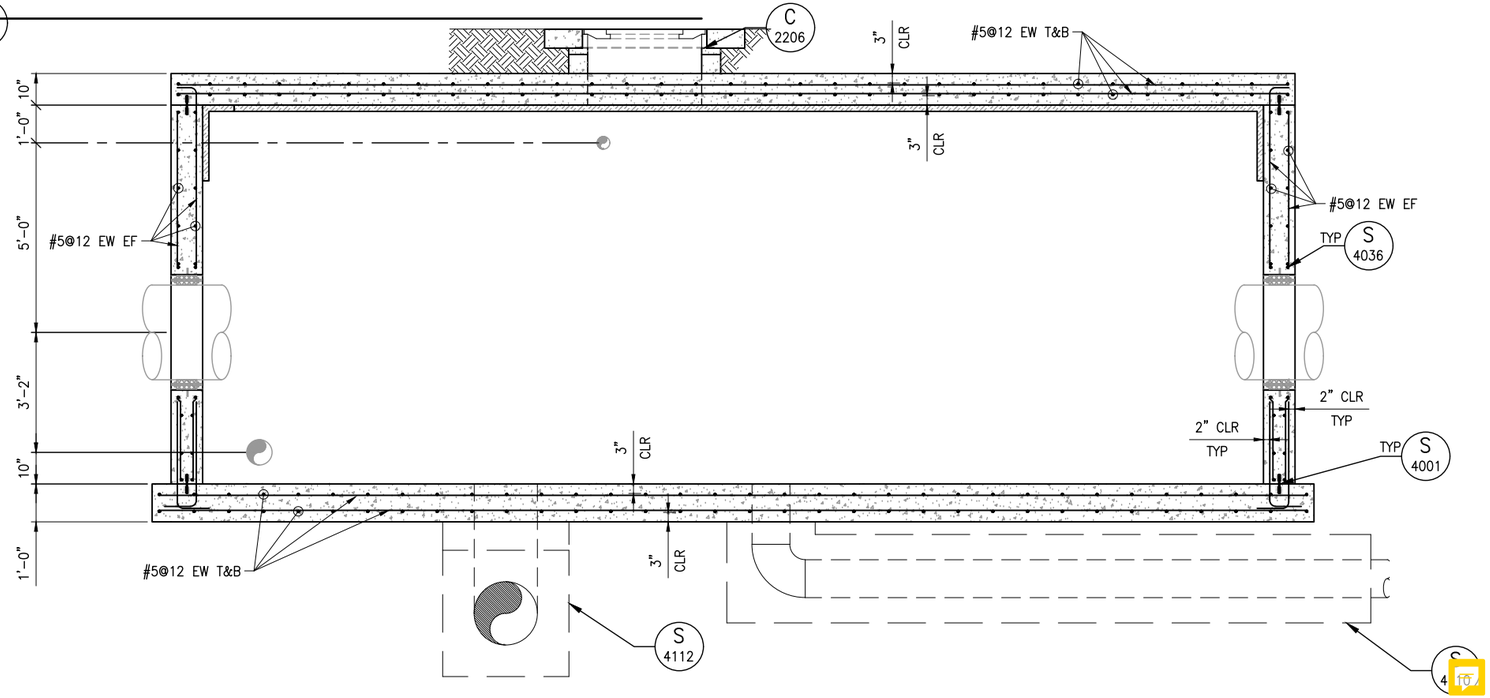
DRAWING NO.
S-02

SHEET 37 OF 78



SECTION A

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



SECTION B

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

DRAWING NOTES

1. FOR GENERAL STRUCTURAL NOTES, REFER TO DRAWING GS-01.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL MECHANICAL AND ELECTRICAL PENETRATIONS AND ROUTINGS.
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BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

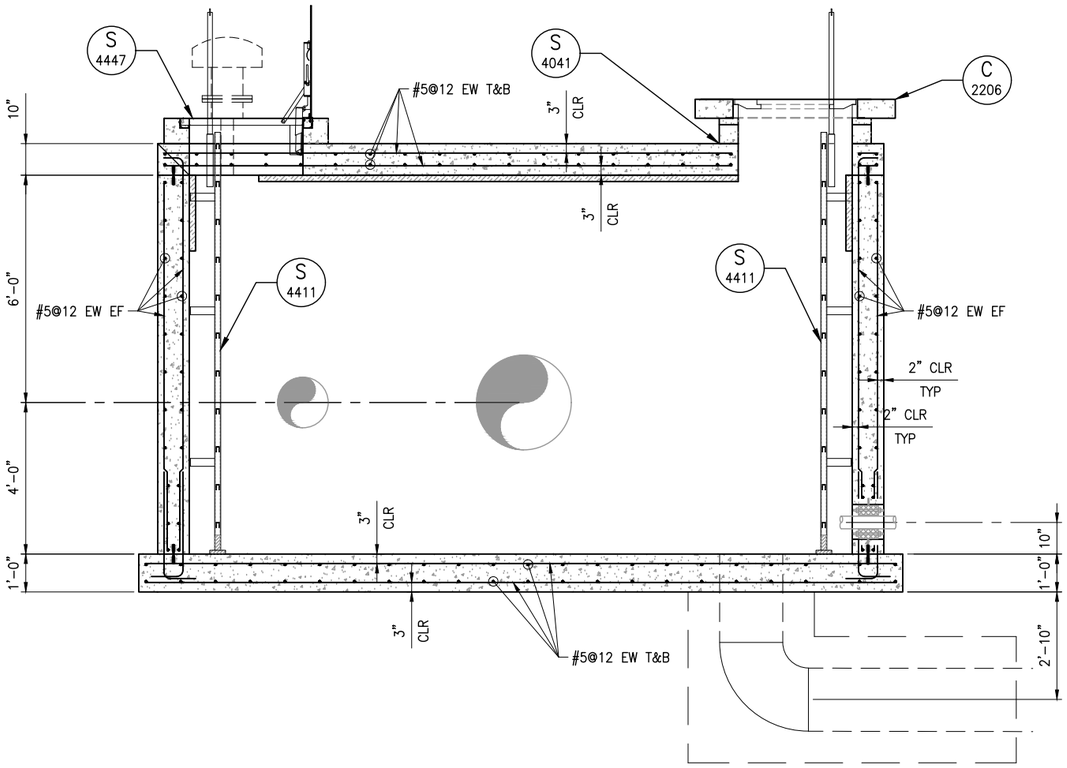
STRUCTURAL

ROSECREST ROAD VAULT
STRUCTURAL SECTION

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

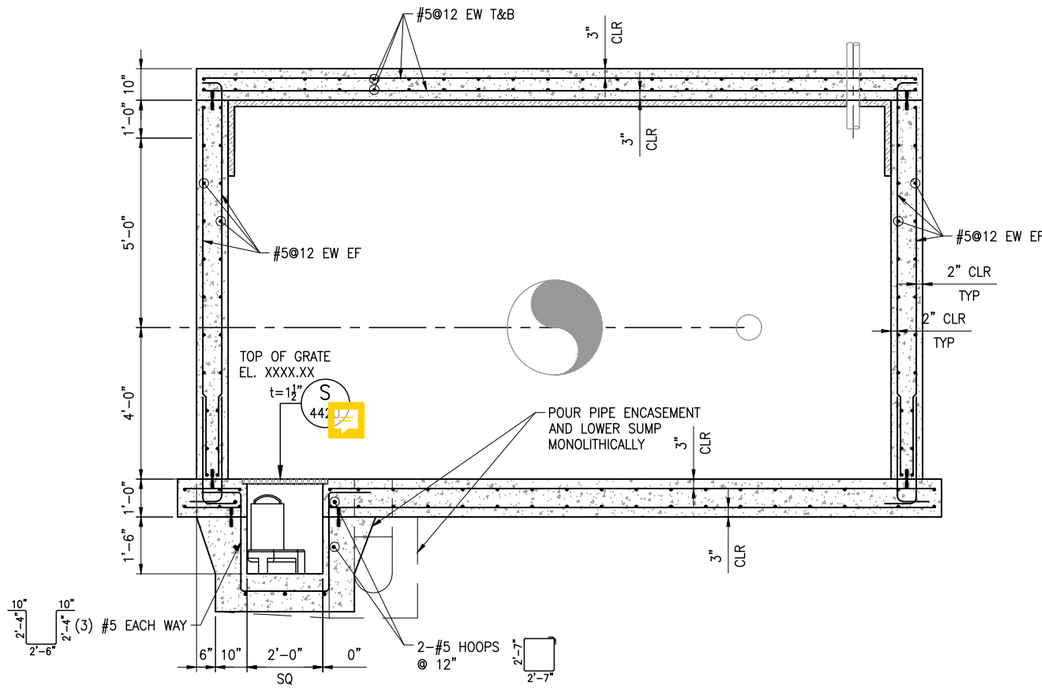
DRAWING NO.
S-03

SHEET 38 OF 78



SECTION C

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



SECTION D

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

DRAWING NOTES

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BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW: CHECKED, APPROVED

DESIGN: DESIGN, DRAWN

STRUCTURAL

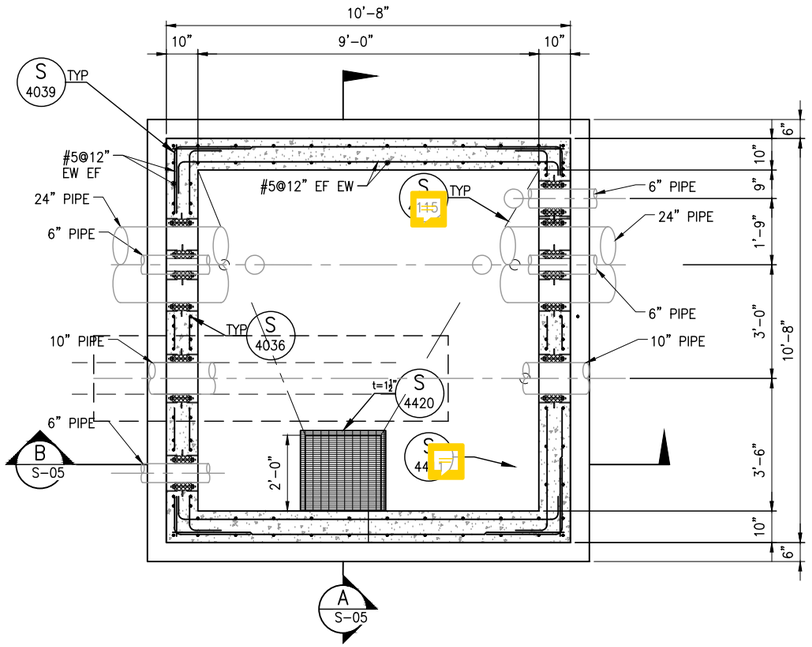
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO. S-04

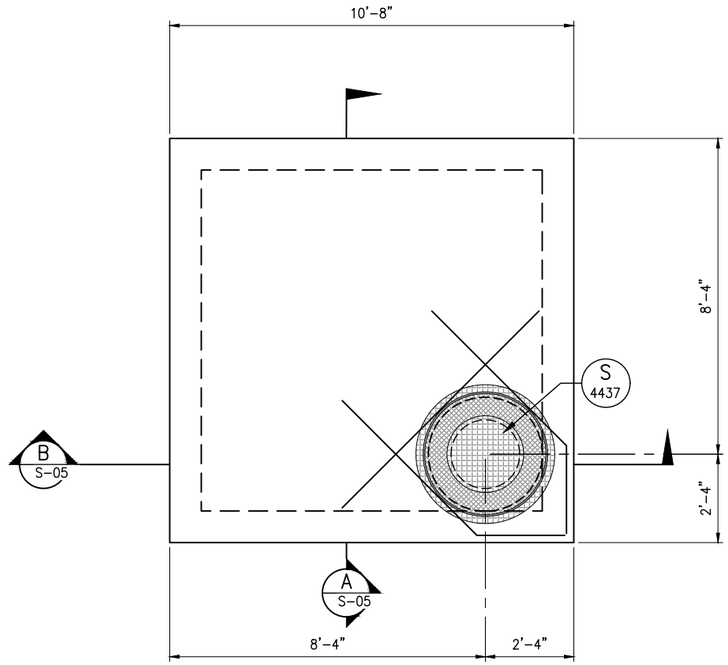
SHEET 39 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_S-04.dwg Plotted: 3/27/2025 3:38 PM By: Jeremy Black



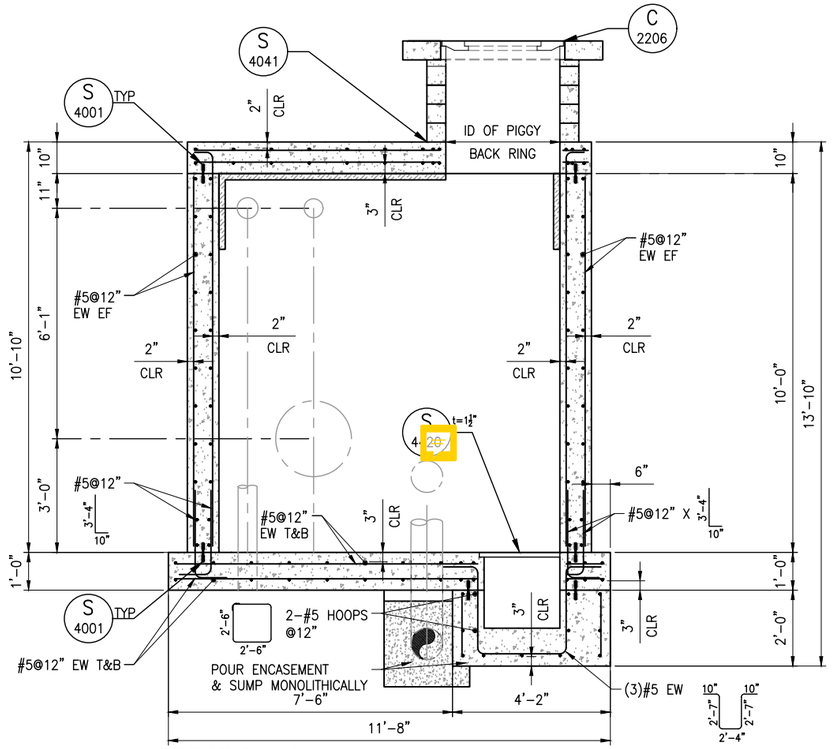
BASE PLAN

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



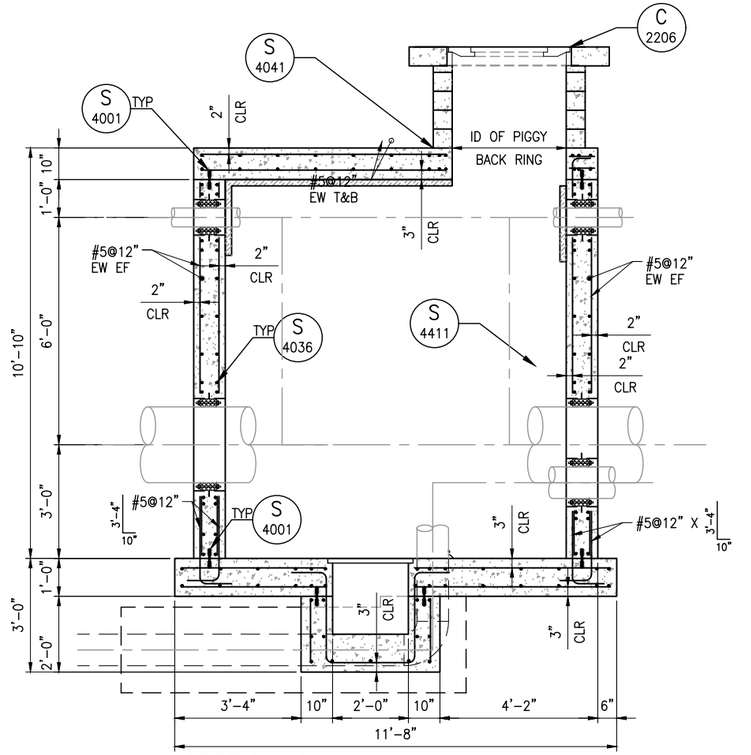
ROOF PLAN

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



SECTION A

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



SECTION B

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

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

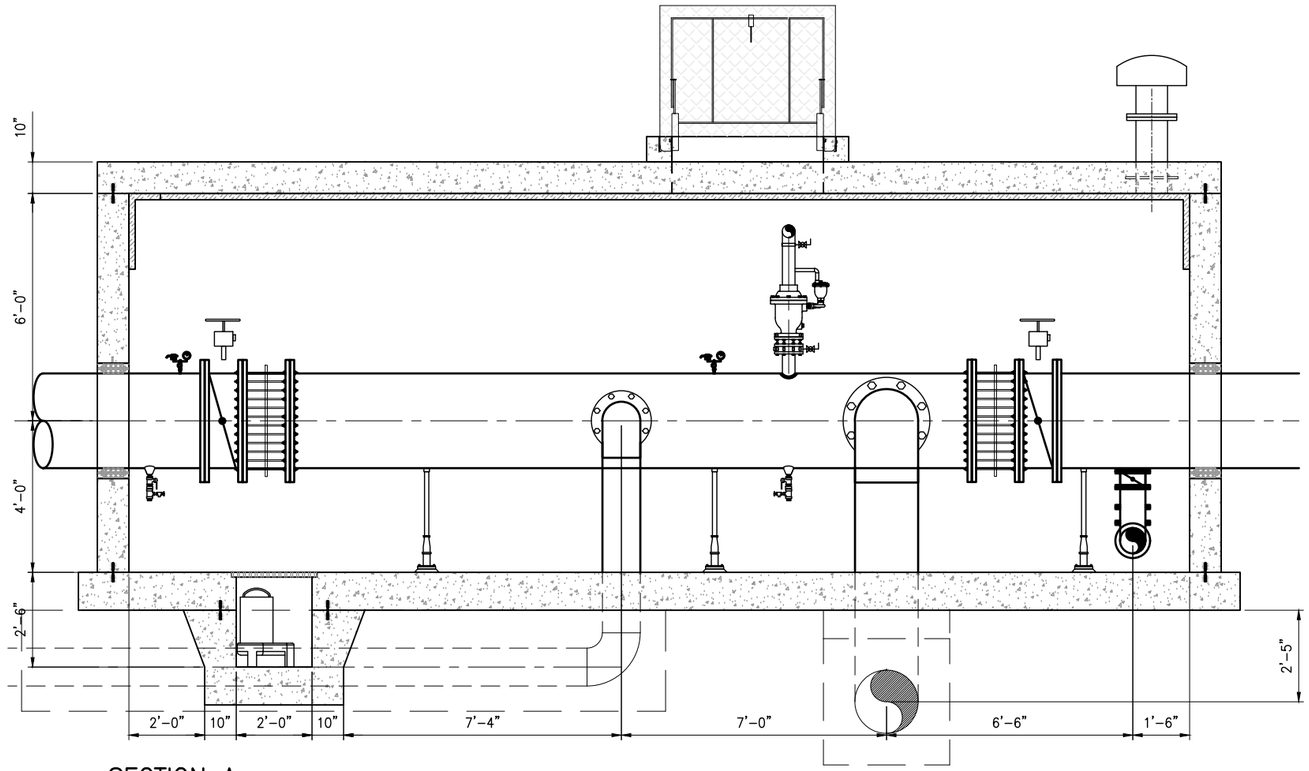
DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL

ROCKY POINT DRIVE VAULT STRUCTURAL PLAN AND SECTIONS

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
S-05
SHEET 40 OF 78



SECTION A

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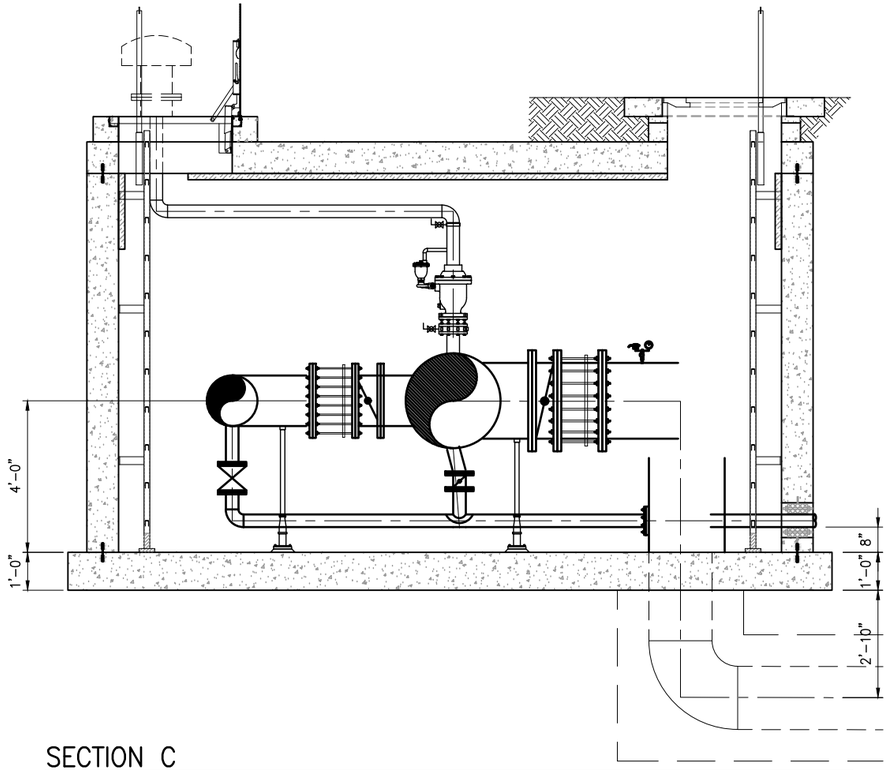
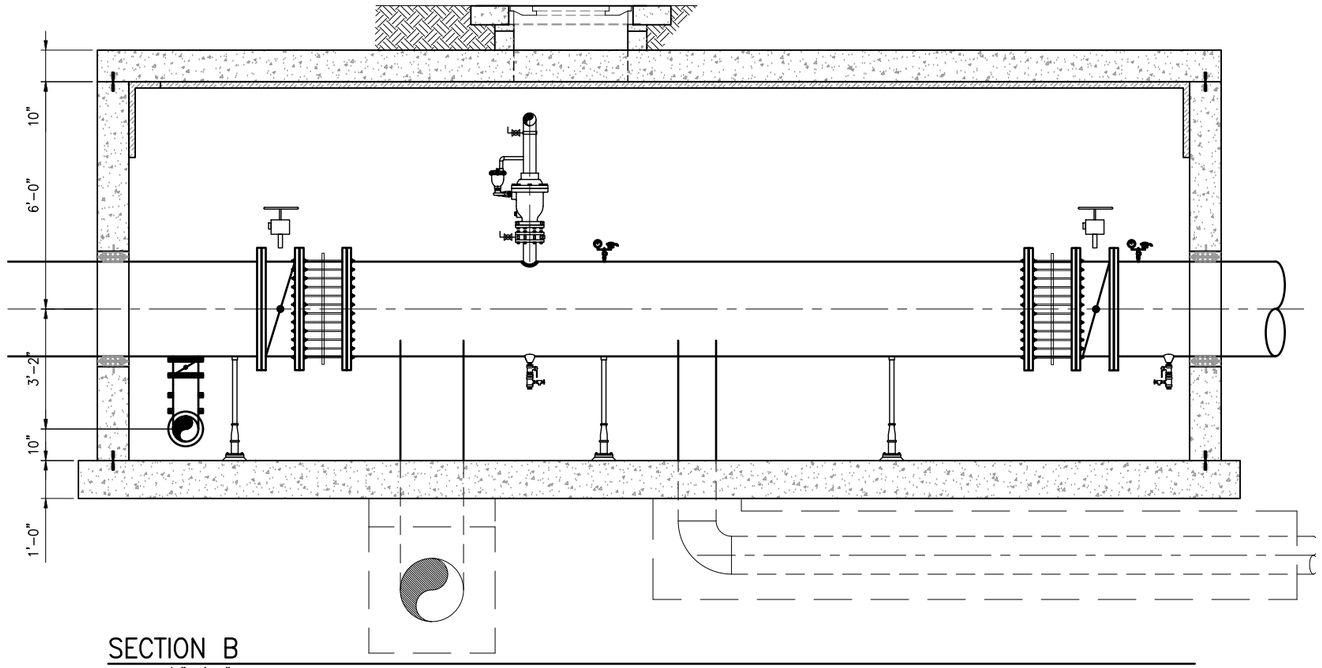


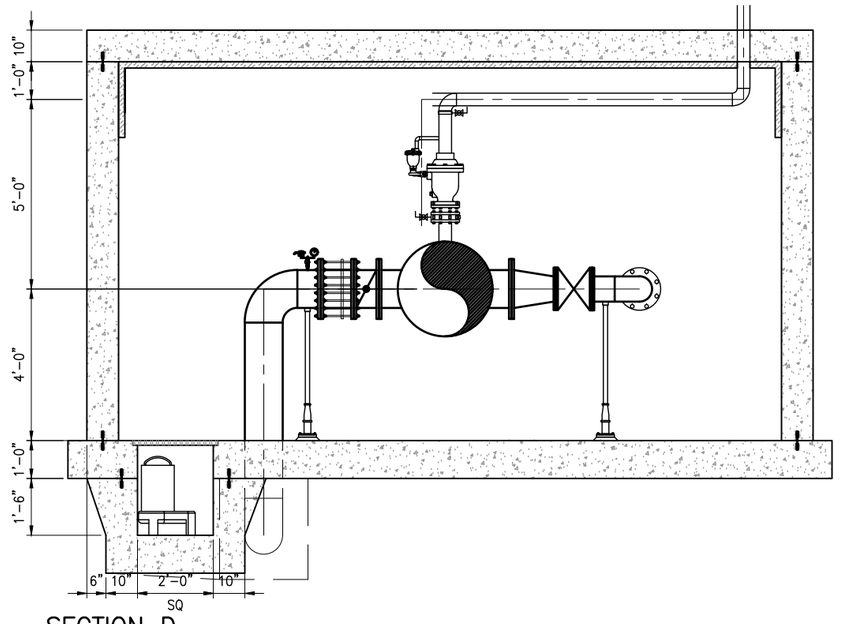
SECTION C

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



SECTION B

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



SECTION D

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

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

STRUCTURAL

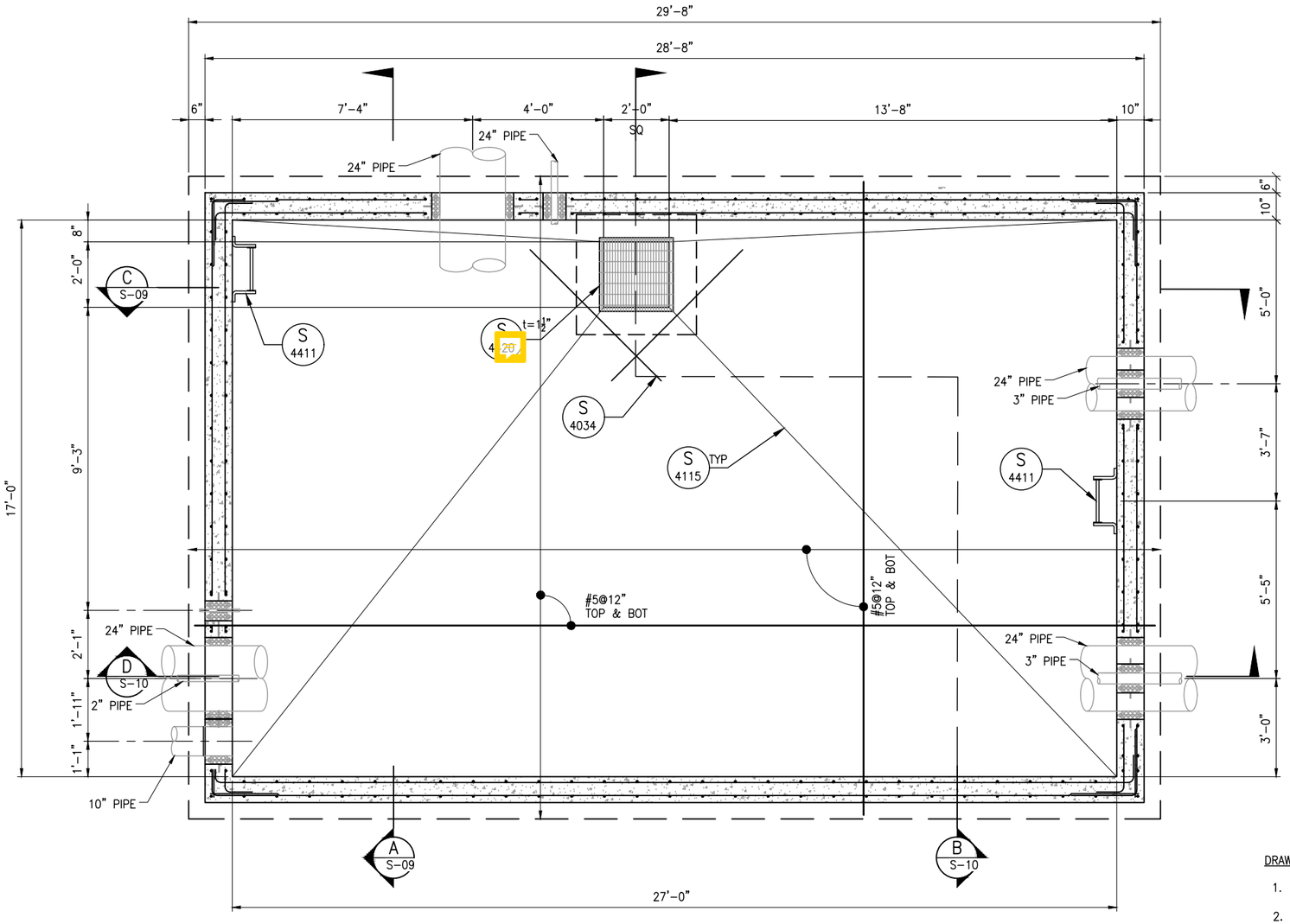
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
S-06

SHEET 41 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_S-06.dwg Plotted: 3/27/2025 3:39 PM By: Jeremy Black



BASE PLAN

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

DRAWING NOTES

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2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONTRACT DOCUMENTS. STRUCTURAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL MECHANICAL AND ELECTRICAL PENETRATIONS AND ROUTINGS.
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8. UNO, HATCH SHALL HAVE A CONCEALED RECESSED PADLOCK HASP AND SHALL BE INSULATED WITH RIGID FOAM BOARD.
9. WALLS AND ROOF SLAB SHALL BE INSULATED WITH RIGID FOAM BOARD.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
HERRIMAN AND RIVERTON CITY, UT
ROSECREST PIPELINE CAPACITY UPGRADES

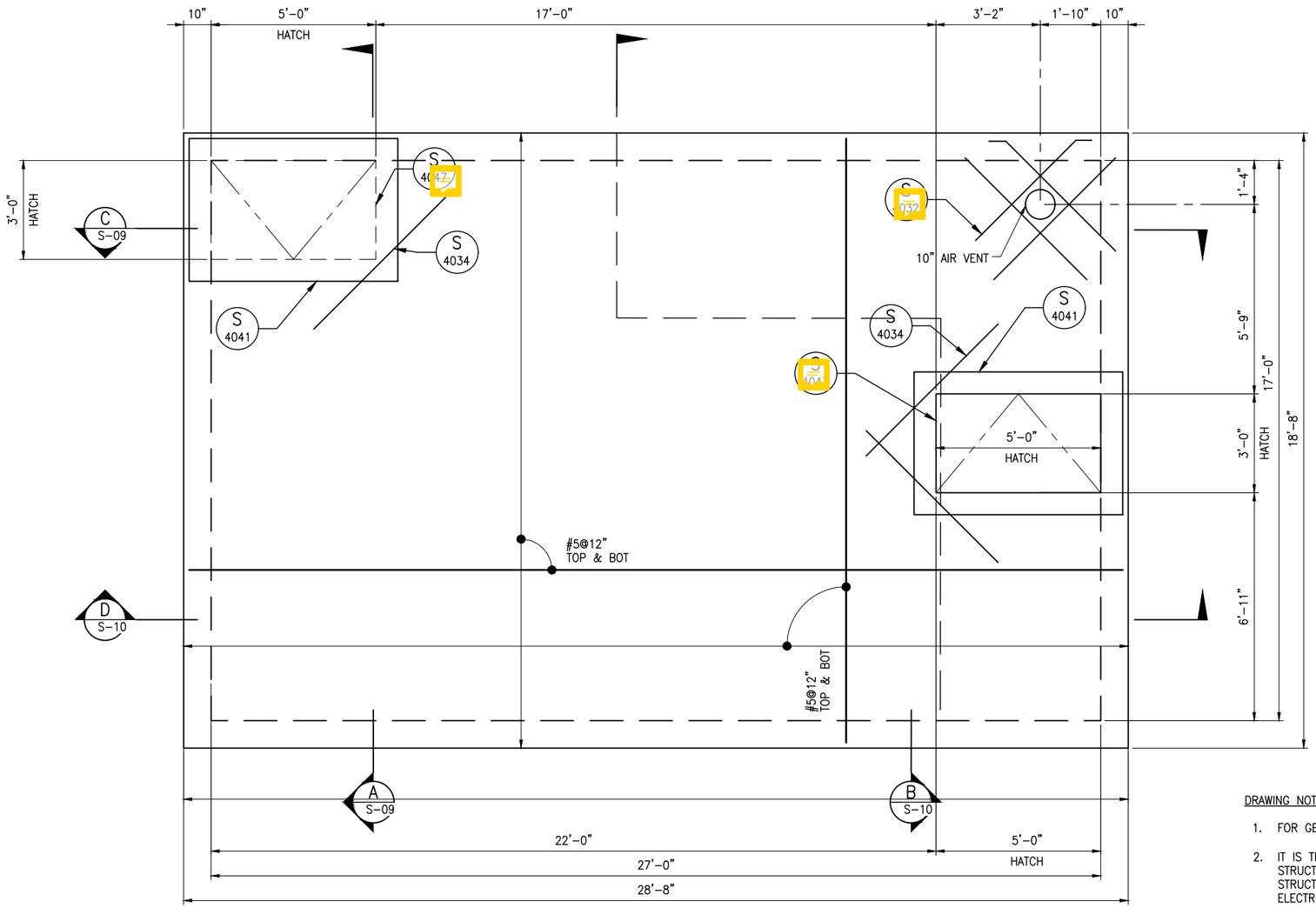
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL
ROSECREST RESERVOIR VAULT
STRUCTURAL BASE PLAN
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
S-07
SHEET 42 OF 78



ROOF PLAN

SCALE: 1/2"=1'–0"

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BOWEN COLLINS & ASSOCIATES

60% REVIEW

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REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL

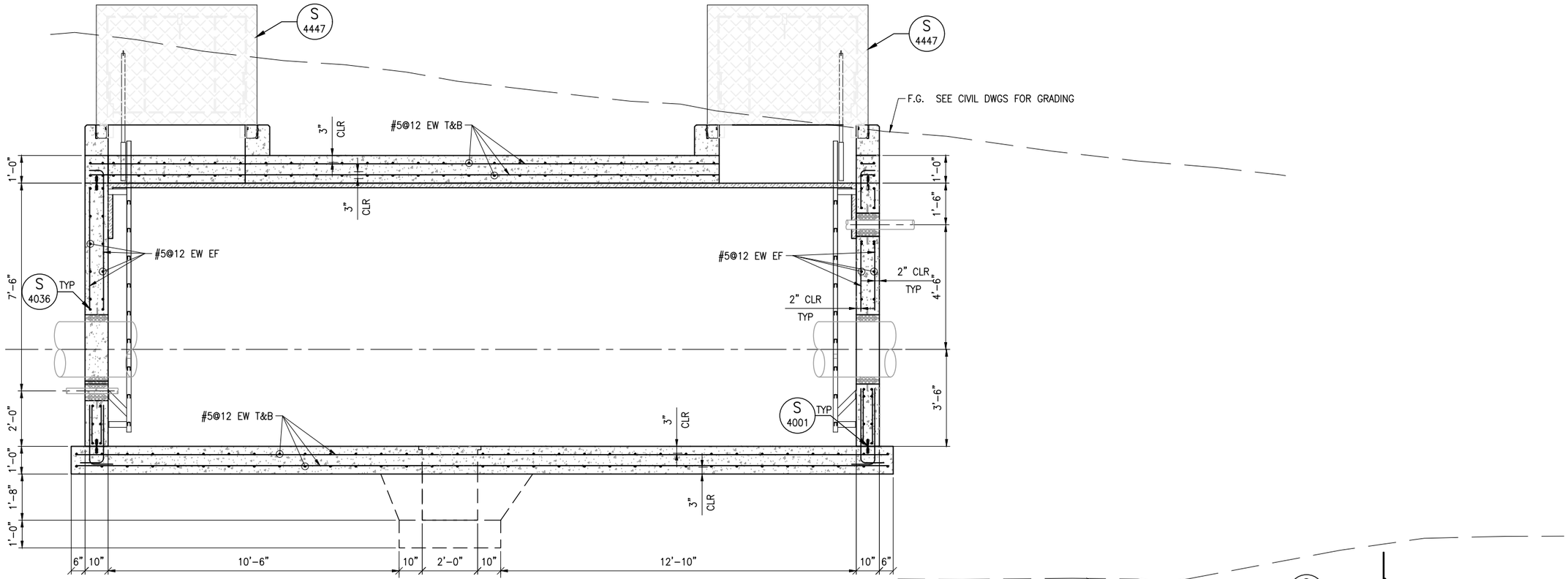
ROSECREST RESERVOIR VAULT
STRUCTURAL ROOF PLAN

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
S-08

SHEET 43 OF 78



SECTION C

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

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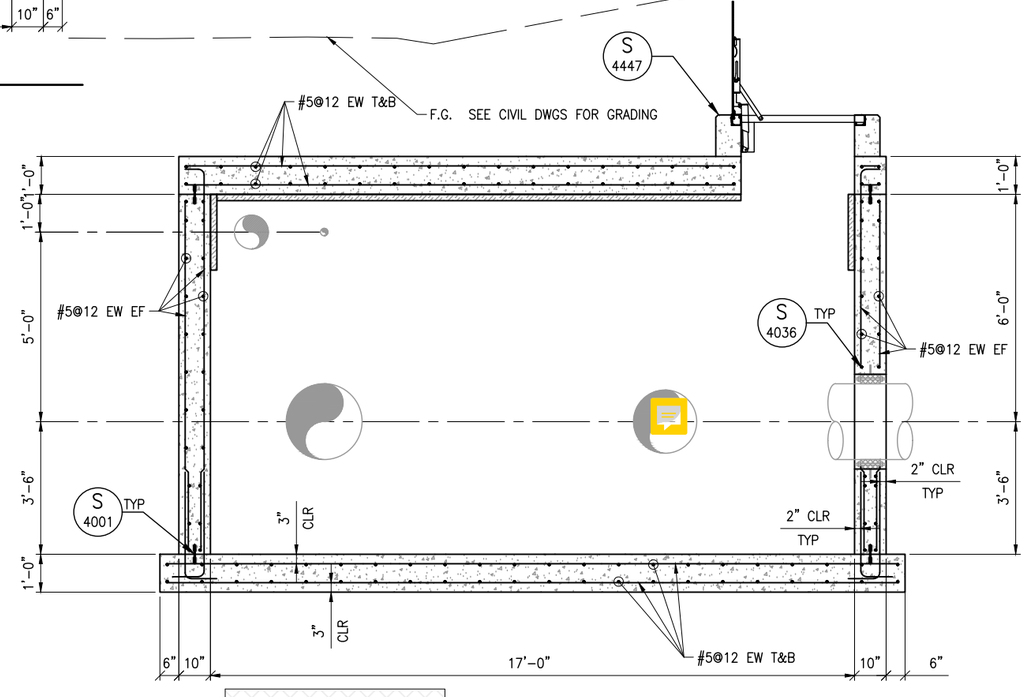

SECTION A

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

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
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			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

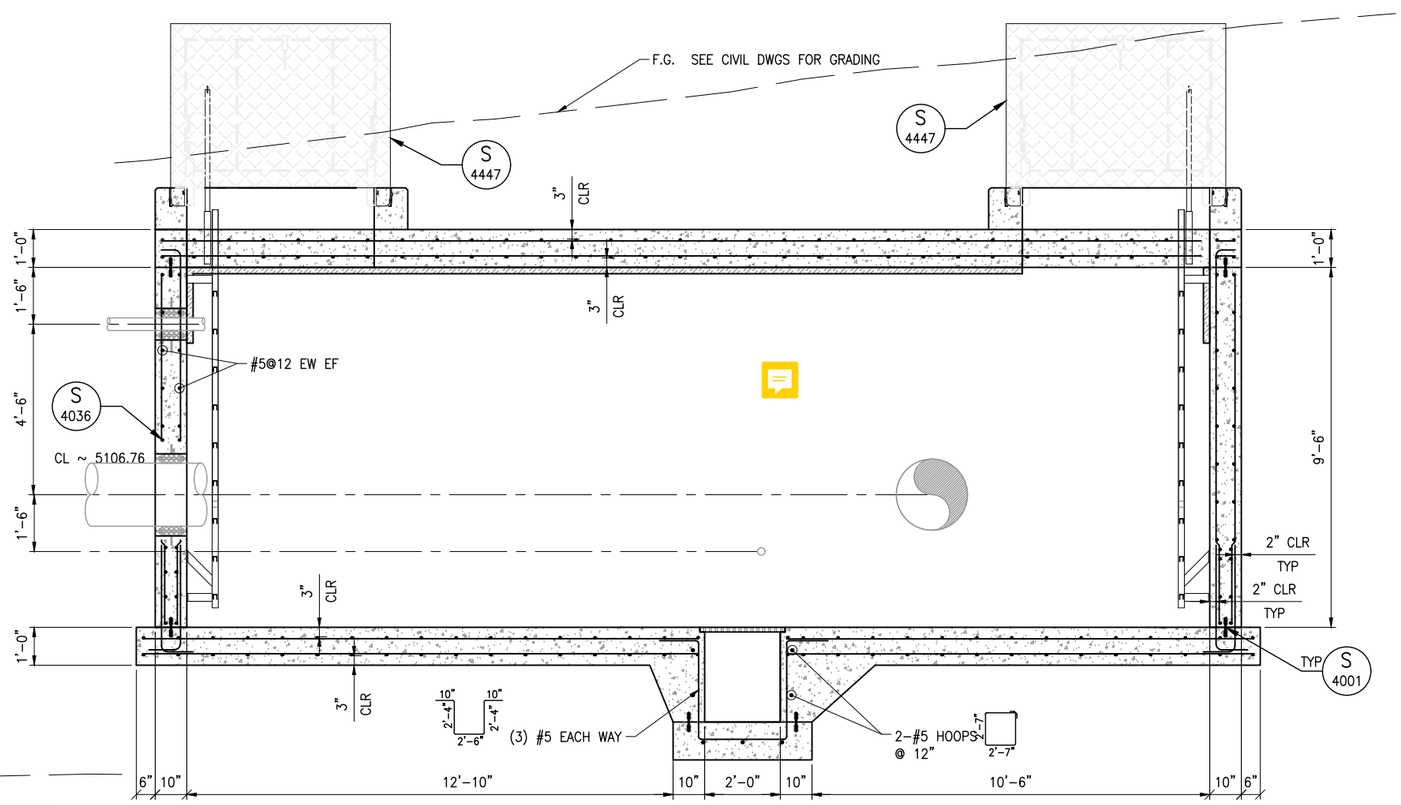
STRUCTURAL

ROSECREST RESERVOIR VAULT
STRUCTURAL SECTIONS 1

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

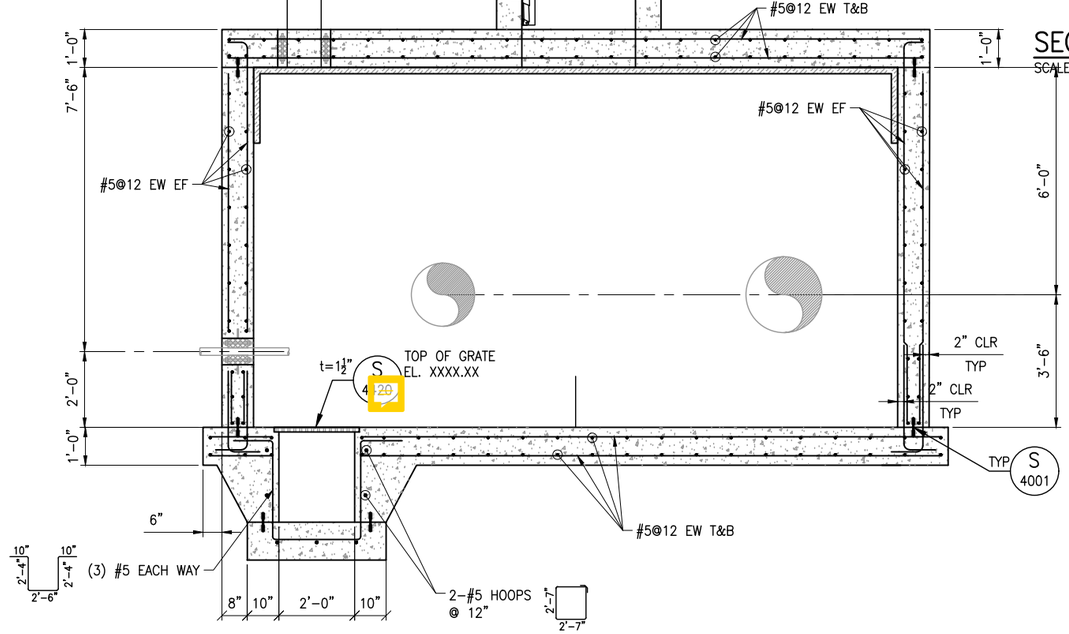
DRAWING NO.
S-09

SHEET 44 OF 78



SECTION

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



SECTION B

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

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BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED S. COHEN
APPROVED S. COHEN

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL
ROSECREST RESERVOIR VAULT
STRUCTURAL SECTIONS

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
S-10

SHEET 45 OF 78

GENERAL STRUCTURAL NOTES

GENERAL

1. THE SPECIFICATIONS AND REQUIREMENTS INDICATED ON THIS SHEET ARE INTENDED AS A BASIC SUMMARY OF THE MATERIAL CONSTRUCTION AND INSPECTION REQUIREMENTS FOR THIS PROJECT. ADDITIONAL REQUIREMENTS ARE GIVEN IN THE PROJECT SPECIFICATIONS. IN THE EVENT OF A CONFLICT BETWEEN THESE GENERAL NOTES AND THE REQUIREMENTS GIVEN IN THE PROJECT SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED TO DETERMINE WHICH PROVISION GOVERNS.
2. FOR LOCATION AND DIMENSIONS OF SLEEVES, CURBS, OPENINGS, AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VERIFY AND COORDINATE PENETRATIONS SHOWN ON THE OTHER PROJECT DRAWINGS, WHETHER THEY ARE SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
3. EMBEDDED ITEMS, SUCH AS PIPE SLEEVES, CONDUITS, AND INSERTS SHALL ALL BE RIGIDLY INSTALLED IN PLACE BEFORE CONCRETE IS POURED. SEE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE, WHICH ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
5. DESIGN DETAILS AS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THE PROJECT, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED IN EACH LOCATION. CONSULT THE ENGINEER FOR CONCURRENCE PRIOR TO CONSTRUCTION.
6. SUBMIT DRAWINGS AND RECEIVE REVIEW OF ALL STRUCTURAL RELATED SHOP DRAWINGS PRIOR TO ERECTION OR CONSTRUCTION.
7. APPLICABLE BUILDING CODE FOR THE PROJECT IS THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC). ANY CHANGES MADE DURING CONSTRUCTION TO THE APPROVED CONSTRUCTION DOCUMENTS SHALL BE APPROVED BY THE ENGINEER AND SHALL BE RESUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL AS AN AMENDED SET OF CONSTRUCTION DOCUMENTS.

SITE PREPARATION NOTES

1. SITE PREPARATION NOTES FOR THIS PROJECT ARE BASED ON RECOMMENDATIONS CONTAINED IN A SOILS REPORT BY RB&G ENGINEERING, INC., DATED FEBRUARY 2025, ALONG WITH ANY ADDENDA THERETO, WHICH HAVE BEEN PREPARED FOR THIS PROJECT. A REFERENCE COPY IS AVAILABLE UPON REQUEST FROM THE ENGINEER (or IS INCLUDED IN THE APPENDIX CHAPTER OF THE SPECIFICATIONS)
2. ALL FOOTINGS AND MAT SLAB SHALL BE SUPPORTED UPON 12" OF STRUCTURAL FILL EXTENDING TO FIRM NATURAL SOILS. IF FIRM UNDISTURBED SOILS BECOME LOOSE OR DISTURBED, THEY SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL PRIOR TO PLACEMENT OF CONCRETE. THE OWNER'S TESTING LABORATORY SHALL OBSERVE THE NATURAL SOILS AT THE TIME OF FOOTING EXCAVATION, PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL, TO DETERMINE THE SUITABILITY OF THE NATURAL SOILS FOR SUPPORTING THE FOOTINGS.
3. STRUCTURAL FILL, SHALL CONSIST OF FREE DRAINING GRANULAR BACKFILL CLASSIFIED AS GRANULAR BACKFILL BORROW PER UDOT SPECIFICATIONS AND BE PLACED A MINIMUM OF 3'-0" FROM THE FACE OF THE WALL AND A MINIMUM 2'-6" FROM THE FACE OF THE FOOTING, WHICHEVER IS GREATER.
4. STRUCTURAL FILL BELOW FOOTINGS AND BELOW SLAB ON GRADE SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 AND SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT.
5. COMPACTION OF ALL STRUCTURAL FILL SHALL BE OBSERVED AND TESTED BY OWNER'S TESTING LABORATORY TO ENSURE THAT THE ABOVE REQUIREMENTS ARE ACHIEVED.

FORMWORK, SHORING, AND BRACING

1. CONFORM TO ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" FOR DESIGN AND CONSTRUCTION OF CONCRETE FORMWORK AND BRACING. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF FORMWORK AND BRACING.
2. STRUCTURES AS SHOWN ON THESE DRAWINGS INDICATE THE FINAL CONDITION ONLY AND DO NOT INCLUDE THE NECESSARY COMPONENTS OR EQUIPMENT FOR STRUCTURAL STABILITY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATED TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
3. TEMPORARY SHORING TO REMAIN IN PLACE UNTIL ELEVATED CONCRETE SLABS HAVE REACHED 28-DAY DESIGN STRENGTH AS DETERMINED BY CYLINDER BREAKS.

FOOTINGS

1. NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

CONCRETE

1. ALL CONCRETE CONSTRUCTION TO CONFORM TO ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", INCLUDING BAR BENDS AND HOOKS UNLESS SPECIFICALLY DETAILED OTHERWISE ON THESE DRAWINGS.
2. CAST-IN-PLACE CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UDOT STANDARD CLASS AA(AE) WITH MAXIMUM NOMINAL AGGREGATE SIZE OF 1 INCH AND MAXIMUM WATER CEMENT RATIO OF 0.44.
3. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED TO AND REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
4. NON-STRUCTURAL ELEMENTS, SUCH AS ENCASEMENTS, CURBS, SIDEWALKS AND LEAN CONCRETE TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
5. USE CEMENT CONFORMING TO ASTM C595, TYPE IL (10) (MS).
6. ALL CONSTRUCTION JOINTS, EXPANSION JOINTS, AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFICALLY SHOWN ON THE DRAWINGS TO BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
7. PROVIDE 3/4-INCH CHAMFER AT ALL EXPOSED EDGES AND CORNERS UNLESS NOTED OTHERWISE.
8. BEFORE PLACING THE SECOND POUR AT CONSTRUCTION JOINTS, THOROUGHLY CLEAN AND ROUGHEN ALL JOINT SURFACES TO A MINIMUM AMPLITUDE OF 1/4 INCH.

REINFORCEMENT STEEL

1. PROVIDE REINFORCEMENT STEEL CONFORMING TO ASTM A615, GRADE 60 AND EPOXY COATED PER ASTM ATT5 OR GALVANIZED PER AASHTO M111.
2. DIMENSIONS GIVEN FOR REINFORCING BARS ARE TO BAR CENTERS UNLESS NOTED OTHERWISE. BAR COVER IS THE CLEAR DISTANCE BETWEEN BAR AND CONCRETE SURFACE. CLEARANCE FOR REINFORCEMENT BARS PER THE FOLLOWING UNLESS SHOWN OTHERWISE:

WHEN PLACED AGAINST GROUND	3"
FORMED SURFACES IN CONTACT WITH THE GROUND OR EXPOSED TO THE WEATHER	2"
INTERIOR WALL SURFACES	1"
ALL OTHER CONCRETE SURFACES	2"

3. CONTINUE WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. EXTEND REINFORCEMENT INTO CONNECTING WALLS AND LAP ON THE OPPOSITE FACE OF THE CONNECTING WALLS.
4. UNLESS OTHERWISE NOTED, ALL HOOKS SHOWN ARE 90° STANDARD HOOK AS DEFINED IN ACI 318-14.
5. LAP VERTICAL WALL BARS WITH DOWELS FROM BELOW AND EXTEND THROUGH SLABS ABOVE TO TOP FACE. BEND AND/OR LAP TO TOP SLAB REINFORCEMENT AS INDICATED.
6. UNLESS OTHERWISE INDICATED, CONTRACTOR MAY SPLICE CONTINUOUS SLAB OR LONGITUDINAL BEAM BARS AT LOCATIONS OF HIS CHOOSING, EXCEPT THAT TOP BAR SPLICES ARE TO BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES ARE TO BE LOCATED AT SUPPORTS. MINIMUM LAP REQUIREMENTS ARE AS FOLLOWS UNLESS OTHERWISE INDICATED.

LAP LENGTHS* – CONCRETE

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
CONCRETE DESIGN STRENGTH = 4,000 PSI								
LAP LENGTH	2'-7"	3'-3"	3'-10"	4'-10"	6'-5"	8'-1"	10'-3"	12'-7'

*ASSUMES 2" MINIMUM CLEARANCE TO SURFACE

STRUCTURAL STEEL

1. UNLESS NOTED OTHERWISE, PROVIDE STRUCTURAL STEEL CONFORMING TO ASTM A36. ROLLED WIDE FLANGE SHAPES TO CONFORM TO ASTM A992. PIPE TO CONFORM TO ASTM A53, TYPE E OR S, GRADE B. STRUCTURAL TUBING TO CONFORM TO ASTM A1085. FABRICATE AND ERECT ALL STRUCTURAL STEEL IN CONFORMANCE WITH AISC SPECIFICATIONS.
2. USE A325 OR F1852 BOLTS FOR STEEL TO STEEL CONNECTIONS, F1554 GR36 FOR ANCHOR BOLTS, AND A307 BOLTS FOR ALL OTHER CONNECTIONS (UNLESS SPECIFIED OTHERWISE ON DRAWINGS). USE 3/4" DIAMETER MINIMUM.
3. ALL HIGH-STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." THE TURN-OF-NUT METHOD MAY BE USED. PROVIDE CARBONIZED WASHERS UNDER THE TURNED ELEMENT.
4. USE ONLY CERTIFIED WELDERS FOR ALL WELDING WORK. USE FILLER METAL HAVING A MINIMUM TENSILE STRENGTH OF 70 KSI AND PERFORM ALL WORK IN ACCORDANCE WITH THE CURRENT STRUCTURAL WELDING CODE (AWS D1.1).
5. UNLESS OTHERWISE NOTED, COAT ALL STRUCTURAL STEEL COMPONENTS WITH PAINT OR OTHER PROTECTIVE COATINGS AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
6. MINIMUM THICKNESS FOR GUSSET PLATES IS 3/8 INCH.
7. STRUCTURAL STEEL, WHICH IS TO BE EMBEDDED INTO CONCRETE TO BE CLEAN AND FREE OF PAINT, OIL, OR DIRT.

STAINLESS STEEL

1. WHERE REQUIRED, PROVIDE STAINLESS STEEL SHAPES, PLATES, BARS, AND RODS CONFORMING TO ASTM A666 AND A276, TYPE 316 OR 316L.
2. PROVIDE STAINLESS STEEL BOLTS AND NUTS CONFORMING TO ASTM F593 AND F594.

ALUMINUM

1. WHERE REQUIRED, PROVIDE ALLOY 6061-T6 FOR ALL ALUMINUM STRUCTURAL MATERIALS.
2. COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS DETAILED IN THE SPECIFICATIONS TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION.
3. PERFORM ALUMINUM WELDING TO CONFORM TO THE PROVISIONS OF THE LATEST STRUCTURAL WELDING CODE (AWS D1.2).

EPOXY ANCHORS

1. EPOXY ANCHORS SHALL BE AN ADHESIVE ANCHOR SYSTEM AS LISTED BELOW:
   A. HILTI HIT-HY 200 OR HIT-RE 500 V3 FOR CONCRETE
   B. HILTI HIT-HY 70 FOR MASONRY
   C. ITW RED HEAD C6+, A7+ OR G5
   D. SIMPSON AT, SET OR SET-3G
2. ANCHOR RODS SHALL BE STAINLESS STEEL, DIAMETER AS INDICATED ON DRAWINGS, THREADED AND GALVANIZED.

LOADING CRITERIA

1. BUILDING RISK CATEGORY — III
2. DEAD LOAD — CALCULATED FROM UNIT WEIGHT
3. LIVE LOADS:
   VAULT ROOF SLABS — 150 PSF
4. LATERAL EARTH PRESSURE (EFP)
   NON SATURATED — 60 PCF
   TRAFFIC SURCHARGE — 2 FT OF EARTH
   HYDROSTATIC FLUID PRESSURE — 62.4 PCF
5. SNOW LOAD:
   GROUND SNOW LOAD — 31 PSF
   FLAT ROOF SNOW LOAD — 28 PSF
   SNOW EXPOSURE COEFFICIENT — 0.9
   SNOW IMPORTANCE FACTOR — 1.2
   SNOW THERMAL FACTOR — 1.2
6. FROST DEPTH: — 30 INCHES
7. ALLOWABLE SOIL BEARING CAPACITY — 2,500 PSF

SPECIAL INSPECTIONS

INSPECTIONS TO BE PROVIDED PER UDOT REQUIREMENTS.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION

REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

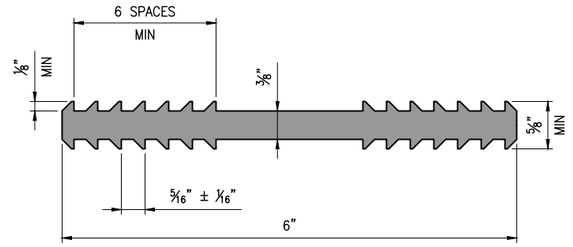
REVIEW
CHECKED
APPROVED

DESIGN
DESIGN S. PUGH
DRAWN S. PUGH

STRUCTURAL
GENERAL STRUCTURAL NOTES

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

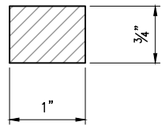
DRAWING NO.
GS-01
SHEET 46 OF 78



WATERSTOP
NOT TO SCALE

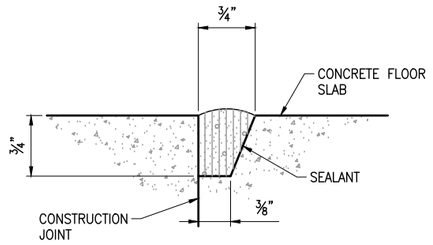
S 4001

NOTE: WATERSTOP IS PREFORMED PLASTIC ADHESIVE TYPE.



WATERSTOP
NOT TO SCALE

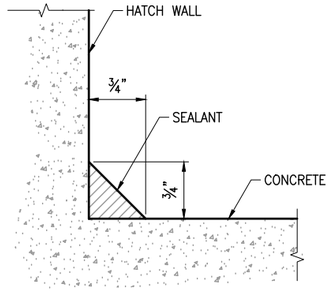
S 4005



NOTE:
1. AT CONTRACTOR'S OPTION, SEALANT GROOVES MAY CONTINUE STRAIGHT ACROSS CONSTRUCTION JOINT INTERSECTION OR BE STAGGERED UPON APPROVAL OF THE ENGINEER.
2. NO BOND BREAKER WHERE SEALANT GROVE IS CONSTRUCTED.

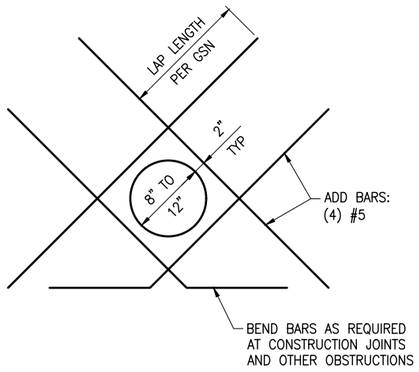
SEALANT
NOT TO SCALE

S 4007



SEALANT
NOT TO SCALE

S 4009

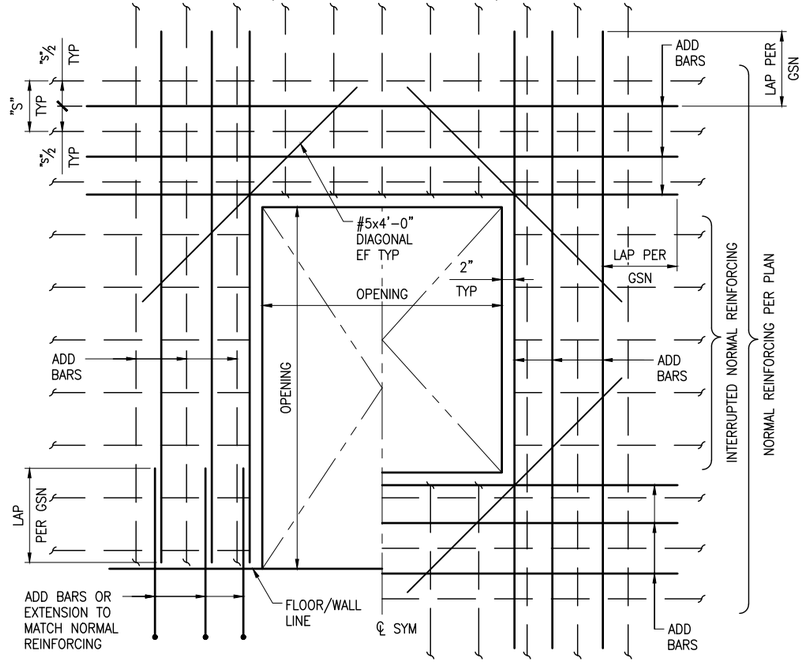


DETAIL NOTES:

1. THIS DETAIL TO BE USED WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER DETAIL IS SPECIFIED.
2. CUT NORMAL REINFORCING 2" CLEAR OF OPENING.
3. DIAGONAL BARS TO BE PLACED:
   - AT CENTERLINE OF WALL OR SLAB WHERE SINGLE MAT OF REINFORCEMENT IS PROVIDED.
   - AT EACH FACE OF WALL OR SLAB WHERE TWO MATS OF REINFORCEMENT ARE PROVIDED.
   - NO DIAGONAL REINFORCING REQUIRED FOR OPENINGS SMALLER THAN 8".

DIAGONAL REINFORCEMENT AT CIRCULAR OPENINGS
NOT TO SCALE

S 4030



DETAIL NOTES:

1. THIS DETAIL TO BE USED WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER ADDITIONAL REINFORCING IS SPECIFIED.
2. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL MATCH ½ THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS. BARS UP TO TWO BAR SIZES LARGER THAN NORMAL REINFORCING MAY BE USED. FIT ADD BARS WITHIN A DISTANCE OF 2X WALL/SLAB THICKNESS FROM EDGE OF OPENING.
3. CUT NORMAL REINFORCING 2" CLEAR OF OPENING.
4. PROVIDE STANDARD ACI HOOKS ON BARS/DOWELS IF STRAIGHT EXTENSION PAST THE OPENING CANNOT BE ACHIEVED.
5. PLACE ADD BARS IN SAME PLANES AS NORMAL REINFORCING INDICATED.
6. PLACE #5 ADD DIAGONAL CORNER BARS UNDER NORMAL REINFORCING INDICATED.
7. NO ADDITIONAL REINFORCING REQUIRED FOR OPENINGS SMALLER THAN 12" SQUARE.
8. WHEN AN INTERSECTING SLAB OR WALL OCCURS WITHIN ONE WALL/SLAB THICKNESS OF THE EDGE OF OPENING, NO ADD BARS ARE REQUIRED ON THAT SIDE.

ADDITIONAL REINFORCING AT RECTANGULAR OPENINGS IN WALLS/SLABS
NOT TO SCALE

S 4034

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW — CHECKED — APPROVED

DESIGN — DESIGN — DRAWN

STRUCTURAL

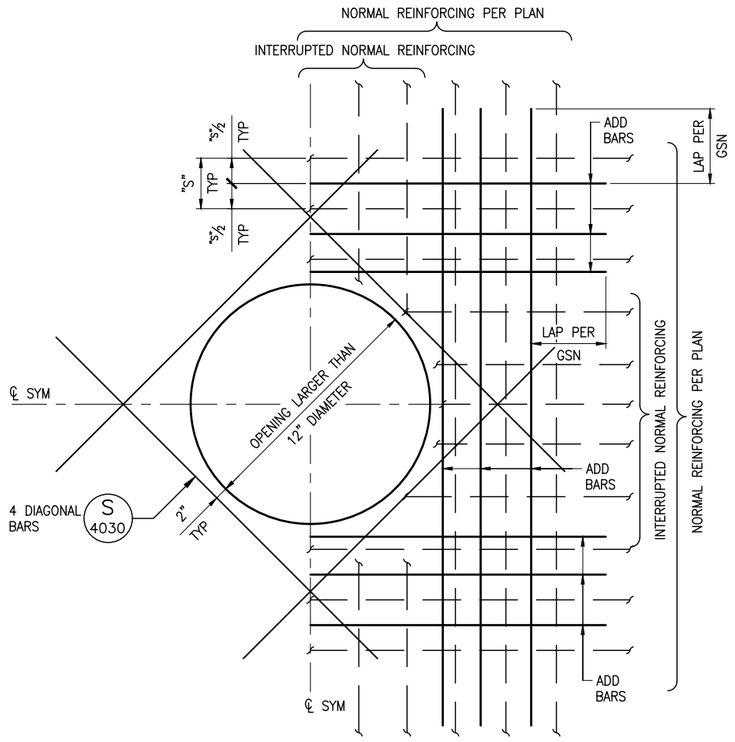
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
GS-02

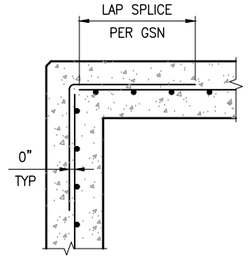
SHEET 47 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GS-02.dwg Plotted: 3/27/2025 3:40 PM By: Jeremy Black

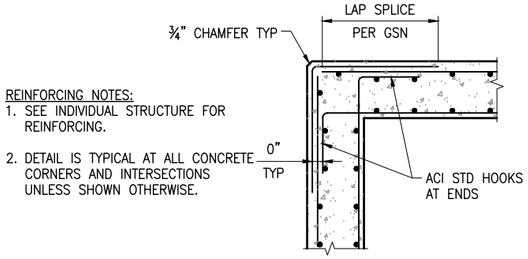


DETAIL NOTES:

1. THIS DETAIL TO BE USED FOR OPENINGS LARGER THAN 12"ø AND WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER ADDITIONAL REINFORCING IS SPECIFIED. FOR OPENINGS SMALLER THAN 12"ø, USE DETAIL S/4030.
2. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL MATCH ½ THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS. BARS UP TO TWO BAR SIZES LARGER THAN NORMAL REINFORCING MAY BE USED. FIT ADD BARS WITHIN A DISTANCE OF 2X WALL/SLAB THICKNESS FROM EDGE OF OPENING.
3. CUT NORMAL REINFORCING 2" CLEAR OF OPENING.
4. PROVIDE STANDARD ACI HOOKS ON BARS/DOWELS IF STRAIGHT EXTENSION PAST THE OPENING CANNOT BE ACHIEVED.
5. PLACE ADD BARS IN SAME PLANES AS NORMAL REINFORCING INDICATED.
6. PLACE #5 ADD DIAGONAL CORNER BARS UNDER NORMAL REINFORCING INDICATED.
7. WHEN AN INTERSECTING SLAB OR WALL OCCURS WITHIN ONE WALL/SLAB THICKNESS OF THE EDGE OF OPENING, NO ADD BARS ARE REQUIRED ON THAT SIDE.



SINGLE–CURTAIN REINFORCING

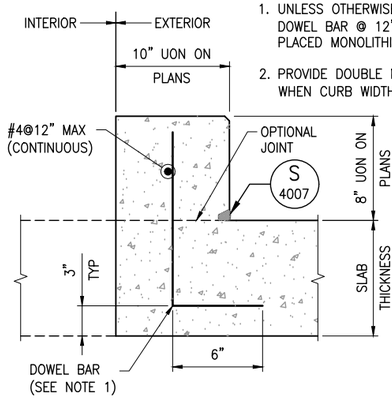


REINFORCING NOTES:
1. SEE INDIVIDUAL STRUCTURE FOR REINFORCING.
2. DETAIL IS TYPICAL AT ALL CONCRETE CORNERS AND INTERSECTIONS UNLESS SHOWN OTHERWISE.

DOUBLE–CURTAIN REINFORCING

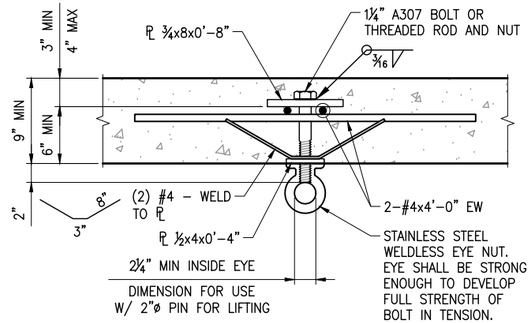
WALL REINFORCING AT CORNERS

NOT TO SCALE — S 4039



DETAIL NOTES:

1. UNLESS OTHERWISE NOTED, PROVIDE #4 DOWEL BAR @ 12" OC IF CURB IS NOT PLACED MONOLITHIC WITH SLAB.
2. PROVIDE DOUBLE MAT OF REINFORCING WHEN CURB WIDTH EXCEEDS 9"



DETAIL NOTES:

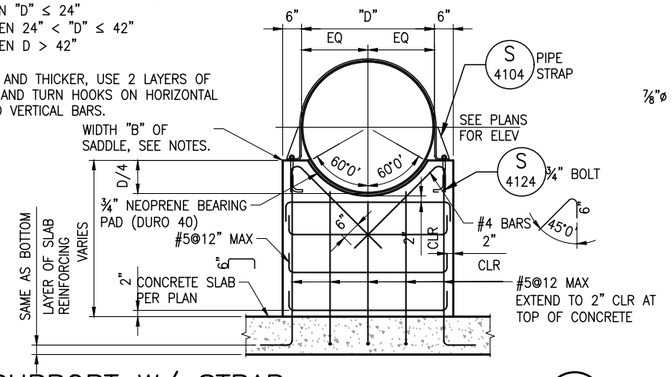
1. MAXIMUM LOAD RATING FOR LIFTING EYE IS 7,000 LBS.
2. SUBMIT DATA ON EYE BOLT WITH SHOP DRAWINGS.

ADDITIONAL REINFORCING AT CIRCULAR OPENINGS IN WALLS/SLABS

NOT TO SCALE — S 4036

DETAIL NOTES:

1. THICKNESS "B" OF SADDLE IS AS FOLLOWS:
   B=6" WHEN "D" ≤ 24"
   B=10" WHEN 24" < "D" ≤ 42"
   B=12" WHEN D > 42"
2. FOR "B"=10" AND THICKER, USE 2 LAYERS OF REINFORCING AND TURN HOOKS ON HORIZONTAL BARS AROUND VERTICAL BARS.

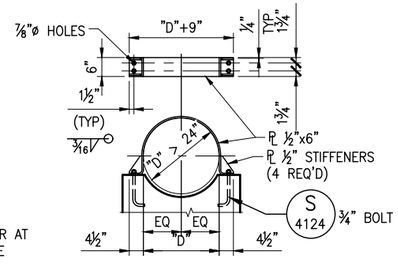


PIPE SUPPORT W/ STRAP

NOT TO SCALE — S 4101

PIPE SUPPORT W/O STRAP

NOT TO SCALE — S 4102

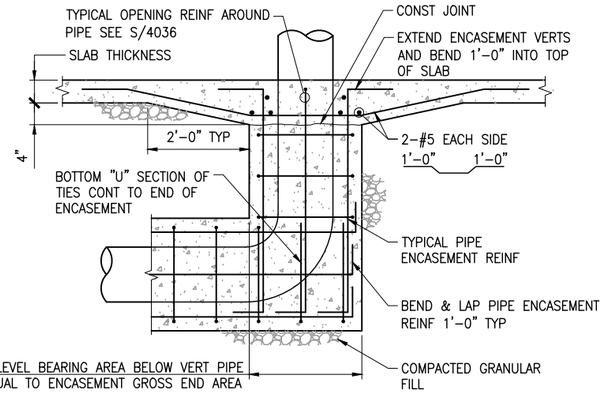


PIPE STRAP

NOT TO SCALE — S 4104

CONCRETE CURB

NOT TO SCALE — S 4041



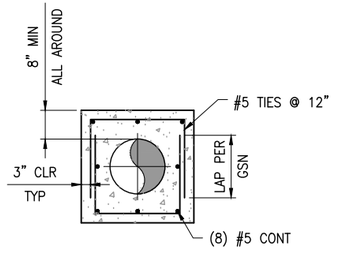
ELEVATION

PIPE ENCASEMENT UNDER STRUCTURES

NOT TO SCALE — S 4110

LIFTING EYE

NOT TO SCALE — S 4045



SECTION

DETAIL NOTE:
SECTION APPLIES TO PIPES W/ DIAMETERS SMALLER THAN 18". FOR 20" DIAMETER PIPES AND LARGER, SEE S/4112.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

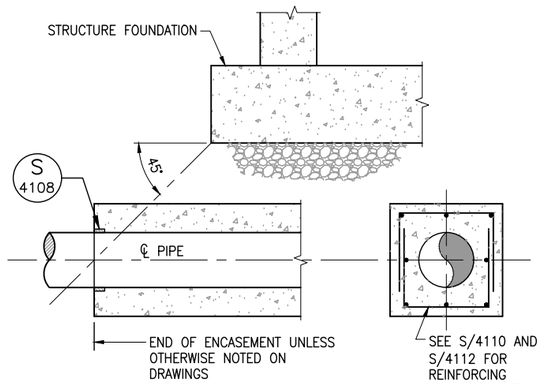
REVIEW — CHECKED — APPROVED
DESIGN — DESIGN — DRAWN

STRUCTURAL

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
GS-03
SHEET 48 OF 78

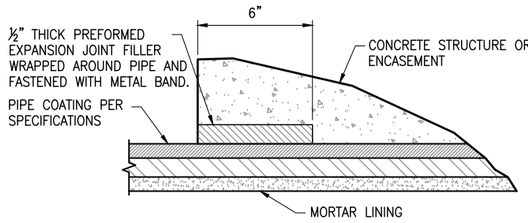
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GS-03.dwg Plotted: 3/27/2025 3:40 PM By: Jeremy Black



PIPE ENCASEMENT END

NOT TO SCALE

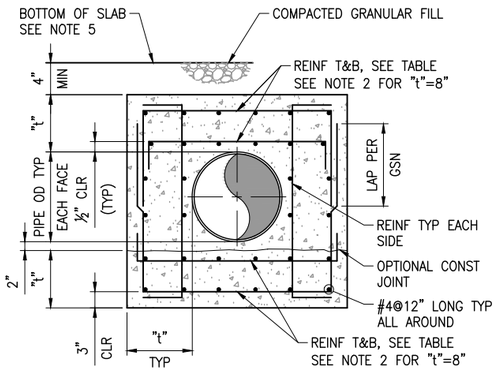
S 4107



PIPE ENCASEMENT END

NOT TO SCALE

S 4108



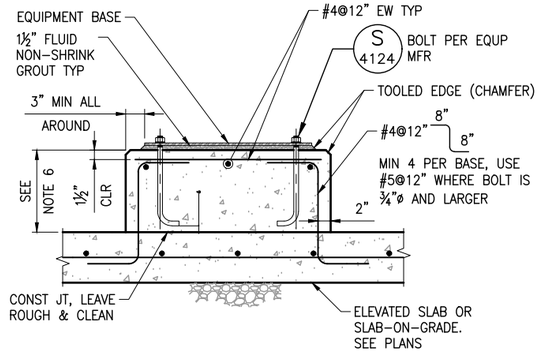
SECTION

PIPE ENCASEMENT TABLE								
PIPE DIA (IN)	H = 10 FEET		H = 20 FEET		H = 30 FEET		H = 40 FEET	
	"t" (IN)	REINF	"t" (IN)	REINF	"t" (IN)	REINF	"t" (IN)	REINF
20 THRU 30	8	#5@12"	10	#5@12"	10	#5@12"	10	#6@12"
36 THRU 42	10	#5@12"	10	#6@12"	10	#7@12"	10	#6@6"
48 THRU 54	10	#6@12"	10	#7@12"	10	#7@6"	12	#6@6"
UP TO 72	10	#6@12"	10	#6@6"	14	#7@6"	14	#6@6"

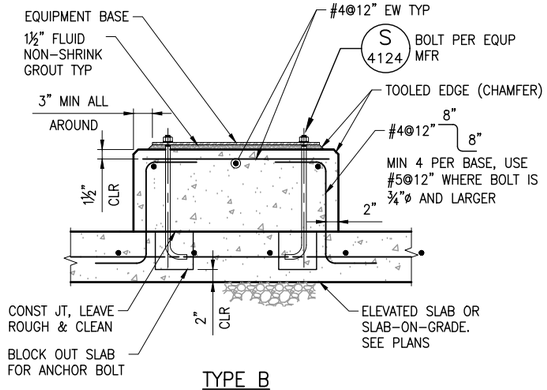
HEAVY DARK LINE INDICATES BREAK BETWEEN ONE LAYER OF REINFORCING AND TWO. SEE NOTE 2 BELOW

DETAIL NOTES:

1. THIS DETAIL APPLIES TO PIPE DIAMETER OF 20" AND LARGER. FOR SMALLER THAN 20", SEE DETAIL S/4110
2. FOR "t"=8" REINFORCING SHALL BE ONE LAYER AND CENTERED IN SLABS OR WALLS SIM S/4110.
3. SEE S/4110 FOR ENCASEMENT AT PIPE RISER
4. "H" IS FILL HEIGHT OR WATER DEPTH OR COMBINATION ABOVE.
5. WHEN PIPE ENCASEMENT IS CLOSER THAN 4" TO SLAB ABOVE, THICKEN SLAB OVER ENCASEMENT TO BEAR DIRECTLY ON ENCASEMENT, CONSTRUCTION JOINT ALLOWED.



TYPE A



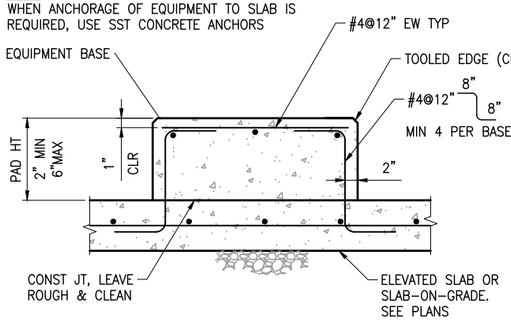
TYPE B

EQUIPMENT PAD NOTES

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE DRAWINGS. VERIFY ALL PAD SIZE REQUIREMENTS WITH EQUIPMENT SHOP DRAWINGS OF ACTUAL EQUIPMENT FURNISHED AND OBTAIN ENGINEER'S APPROVAL OF FINAL DIMENSIONS.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH TEMPLATES MATCHING THE EQUIPMENT BASE PLATE, WHILE PAD IS BEING POURED.
3. INSTALL EQUIPMENT BASES LEVEL UNLESS SPECIFIED OTHERWISE.
4. TYPE "C" DETAIL SHALL BE USED ONLY FOR SLABS ON GRADE AND AT GRADE. THE SURROUNDING FLOOR SLAB SHALL NOT BE PLACED UNTIL THE EXACT SIZE AND LOCATION OF THE EQUIPMENT PAD IS KNOWN.
5. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN PLACE, THE WEDGES AND SHIMS SHALL NOT BE EXPOSED TO VIEW.
6. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT OUT OF SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATIONS REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE B WITH BLOCKOUT.

BOLT DIA (IN)	½	⅝	¾	⅞	1
MIN PAD HEIGHT	9	11	13	17	21

NOTE:
WHEN ANCHORAGE OF EQUIPMENT TO SLAB IS REQUIRED, USE SST CONCRETE ANCHORS

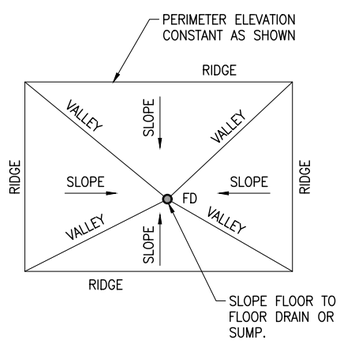


TYPE D

PIPE ENCASEMENT UNDER STRUCTURES

NOT TO SCALE

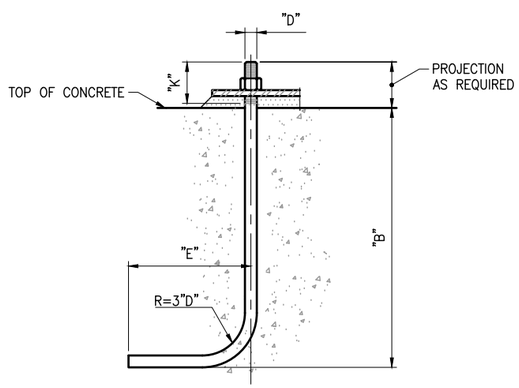
S 4112



FLOOR SLOPE

NOT TO SCALE

S 4115



ANCHOR BOLT (TYPE VI)

NOT TO SCALE

S 4124

ANCHOR BOLT SCHEDULE			
"D"	"E"	"B"	REMARKS
⅜"	1½"	8"	
½"	1½"	10"	
⅝"	3"	12"	
¾"	3"	14"	
⅞"	4"	16"	
1"	4"	20"	

EQUIPMENT PAD DETAILS

NOT TO SCALE

S 4113

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

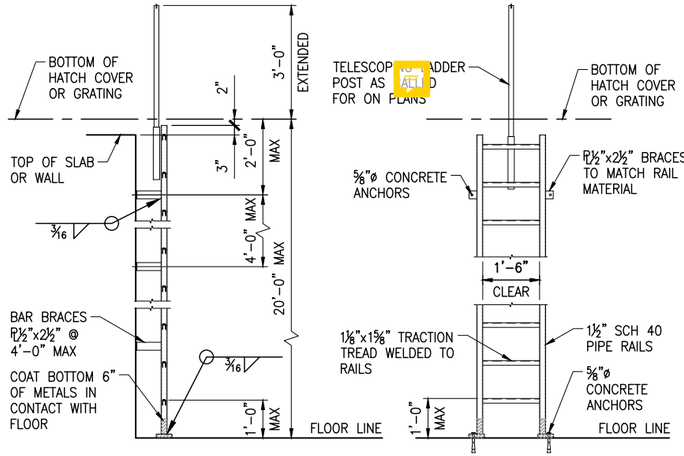
STRUCTURAL

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO.
GS-04

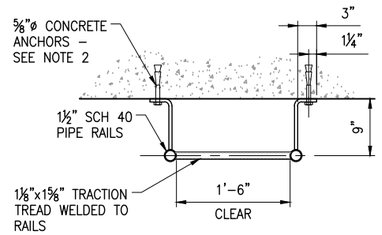
SHEET 49 OF 78



FIXED LADDER

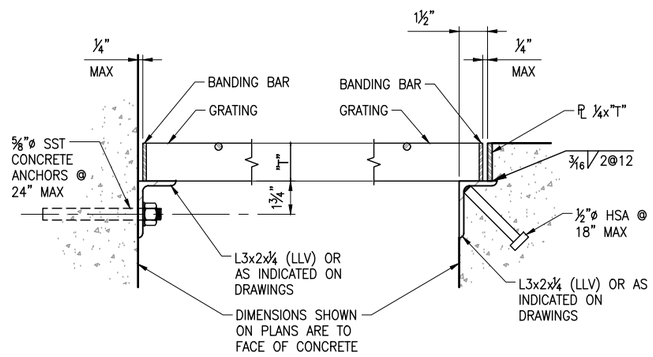
NOT TO SCALE

S 4411



LADDER NOTES:

1. LADDER MATERIAL SHALL BE GALVANIZED STEEL UNLESS INDICATED OTHERWISE ON THE PLANS.
2. USE 316 STAINLESS STEEL FOR ANCHORS & FASTENERS EXCEPT FASTENERS FOR GALVANIZED STEEL LADDERS SHALL BE GALVANIZED STEEL.
3. FABRICATE AND INSTALL LADDERS TO COMPLY WITH OSHA AND ANSI STANDARDS.



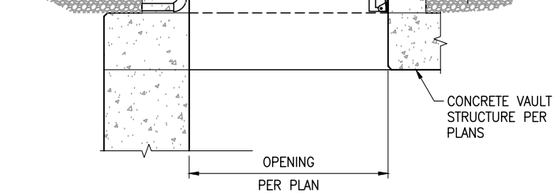
DETAIL NOTES:

1. GRATING DEPTH "T" AS NOTED ON DRAWINGS.
2. ALL EDGES AND OPENINGS ARE TO BE BANDED.
3. WEIGHT OF INDIVIDUAL GRATING SECTION SHALL NOT EXCEED 80 LBS.
4. METAL BEARING BARS ARE TO BE DEPTH "T"x3/16" @ 1 3/16" OC. CROSS BARS ARE TO BE AT 4" OC.
5. PROVIDE A MINIMUM OR 4 CLIPS PER GRATING PANEL AND LOCATE APPROXIMATELY 4" FROM PANEL CORNERS. MAXIMUM SPACING OF CLIPS IS 3'-0".
6. MATERIALS:
   ALUMINUM GRATING – USE ALUMINUM ANGLE SUPPORTS AND STAINLESS STEEL BOLTS AND CLIPS.
   GALVANIZED STEEL GRATING – USE GALVANIZED STEEL SUPPORTS, BOLTS, AND CLIPS. HOT-DIP GALVANIZE AFTER FABRICATION.
   STAINLESS STEEL GRATING – USE 316 STAINLESS STEEL ANGLE SUPPORTS, BOLTS, AND CLIPS.

METAL GRATING

NOT TO SCALE

S 4416



HATCH

NOT TO SCALE

S 4447

DETAIL NOTES:

1. FLOOR HATCH TO BE RATED AT MINIMUM 300 PSF UNLESS NOTED OTHERWISE.
2. PRE-WIRE HATCHES AT FACTORY FOR INTRUSION ALARMS.
3. HATCH TO BE SUPPLIED WITH MANUFACTURER'S STANDARD FALL PROTECTION GRATING, MEETING THE REQUIREMENTS OF OSHA STANDARD 29 CFR 1910.23.
4. HARDWARE SHALL BE TYPE 316 STAINLESS STEEL
5. PREMANUFACTURED LID SHALL BE INSULATED WITH RIGID POLYSTYRENE INSULATION BOARD AND SHALL BE FULLY PROTECTED BY A COVERED LINER. INSULATION SHALL BE INSTALLED BY THE MANUFACTURER AT THE TIME OF FABRICATION.

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			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

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DATE: MARCH 2025

DRAWING NO.
GS-05

SHEET 50 OF 78

FLUID ABBREVIATION	FUNCTION (SEE NOTE 5)	PIPING MATERIAL (SEE SCHEDULE AT RIGHT)				FIELD TEST REQUIRMENTS (SEE NOTE 3 AND NOTE 4)		
		EXPOSED PIPING (SEE NOTE 14)		BURIED PIPING (SEE NOTE 13)		MIN TEST PRESSURE PSI	TEST MEDIUM	LEAKAGE ALLOWANCE (SEE NOTE 2)
		2" DIA & SMALLER	2 1/2 " DIA & LARGER	2" DIA & SMALLER	2 1/2 " DIA & LARGER			
AD	ACID DRAIN	16	16	16	16	NOTE 6	WATER	A, E
AF	ANTI-FREEZE	47	--	--	--	3	3	A, 3
ATF	AUTOMATIC TRANSMISSION FLUID	47	--	--	--	3	3	A, 3
AV	AIR VENT	2, 16, 24, 29	2, 16, 24, 29	16, 24, 29	16, 24, 29	NOTE 7	--	--
BPF	BELT PRESS FEED	--	11	--	11	125	WATER	A
BWW	BELT WASH WATER	2	2	2	2	125	WATER	A
CTA	CITRIC ACID	16	16	16	16	125	WATER	A
CLS	CHLORINE SOLUTION	16	--	16	--	125	WATER	A
D	DRAIN	27, 11	11, 12, 27	27	11, 12, 27	NOTE 6	WATER	A, E
FA	FOUL AIR	--	18, 37	--	18, 37			
FE	FINAL EFFLUENT	--	--	--	11, 22	15	WATER	A
FOR	FUEL OIL RETURN	9	9	--	--	3	3	A
FOS	FUEL OIL SUPPLY	9	9	--	--	3	3	A
FOV	FUEL OIL VENT	9	9	--	--	3	3	A
FSP	FIRE FLOW PROTECTION	NOTE 10	NOTE 10	NOTE 10	NOTE 10	NOTES 3, 9	WATER	--
FW	FIRE WATER	52	52	51	51, 11	NOTE 9	WATER	A
GHA	GASEOUS HYDROCHLORIC ACID	41	--	--	--	125	AIR	A
GS	GRIT SLURRY	--	11	--	11	125	WATER	A
HF	HYDRAULIC FLUID	48	48	--	--	3	3	A
HW	HOT WATER	24, 50	50	24	2, 24	3	3	A
HWC	HOT WATER CIRC	50	50	24	24			
LO	LUBE OIL	47	47	--	--	3	3	A, D
ML	MIXED LIQUOR	--	11	--	11	125	WATER	A
MLR	MIXED LIQUOR RECYCLE	--	11	--	--	125	WATER	A
MO	MOTOR OIL	47	47	--	--	3	3	A
NG	NATURAL GAS	9	9	--	--	3	3	A
ORD	OVERFLOW ROOF DRAIN	12	12		12	3	3	A
PA	PROCESS AIR	--	5, 39, 40	--	5, 39, 40	125	AIR	A
PDR	PLANT DRAIN RETURN	--	22	--	22	NOTE 6	WATER	C
PLS	POLYMER SOLUTION	16	16	16	16	125	WATER	A
PW	POTABLE WATER	2, 16, 24	2, 16, 24,	16, 24	16, 24,	125	WATER	A
PWP	PRESSURE WASH PIPE	47	47	--	--	3	3	A
RAS	RETURN ACTIVATED SLUDGE	--	11	--	11	125	WATER	A
RD	ROOF DRAIN	12	12	--	12	3	3	A
RI	RAW INFLUENT	--	11	--	11, 22	12	WATER	A
RW	RAW WATER	2, 16, 24	2, 16, 24	16, 24	8, 16	AS NOTED	WATER	A
SD	STORM DRAIN	4, 12	4, 12	12	22	NOTE 7	--	--
SE	SECONDARY EFFLUENT	--	11	--	11	125	WATER	A
SMP	SAMPLE	15, 16, 18, 24	--	15, 16, 18, 24	--	125	WATER	A
SPD	SUMP PUMP DISCHARGE	2, 16	16, 26	2, 16	16, 26	50	WATER	A
SS	SANITARY SEWER	11,12	11, 12	--	12,22,27	NOTE 18	AIR	--
SV	SANITARY VENT	11, 27	11, 12, 27	27	11, 12, 27	NOTE 6	WATER	A
SSC	SECONDARY SCUM	--	11	--	11	125	WATER	A
ST	SEPTAGE	--	11	--	11	125	WATER	A
SW	SEAL WATER	24	--	24	--	25	WATER	A
TW	TEMPERED WATER	50	50	24	24	3	3	
UD	UNDER DRAIN	--	--	--	27, 33	--	--	--
UW	UTILITY WATER	2, 16, 24	2, 11, 16	2, 16, 24	2, 11, 16	125	WATER	--
V	VENT	16, 24, 29	2, 16, 29	16, 24, 29	2, 16, 29	15 IN HG	NOTE 7	A, E
WAS	WASTE ACTIVATED SLUDGE	--	11	--	11	125	WATER	A
WO	WASTE OIL	47	47	--	--	3	3	A
WWF	WINDSHIELD WIPER FLUID	47	47	--	--	3	3	A

PIPE MATERIAL SCHEDULE (SEE NOTE 4)

GROUP NO.	PIPE	FITTINGS	VALVES
1	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED.	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3. THREADED, BANDED, BLACK, 150 PSI OR STEEL, ANSI B16.9 BUTT-WELDED. 3-INCH AND LARGER, CAST IRON, ANSI B16.1, 125 PSI FLANGED OR MECHANICAL COUPLINGS.	BRONZE, THREADED, GATE, GLOBE, CHECK, STEEL LUBRICATED PLUG, ECCENTRIC PLUG.
2	STEEL, ASTM 53 SCHEDULE 40, GALVANIZED.	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, GALVANIZED 150 PSI, 3 INCH AND LARGER, CAST IRON ANSI B16.1, 125 PSI FLANGED OR MECHANICAL COUPLINGS.	2-1/2 INCH AND SMALLER, ECCENTRIC PLUG, SYNTHETIC RUBBER FACED, AWWA C500, BUTTERFLY, AWWA, FLANGED.
3	STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK.	FORGED STEEL, ANSI B16.11, SOCKET WELDED OR THREADED, BLACK, 2000 PSI, OR STEEL, ANSI B16.9, BUTT-WELDED, SCHEDULE 80.	CAST IRON, LUBRICATED PLUG.
4	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED.	CAST IRON, ANSI B16.12, THREADED, DRAINAGE PATTERN.	--------
5	WELDED STEEL, AWWA C200, UNLINED.	WELDED STEEL, FABRICATED, AWWA C200, UNLINED.	AS INDICATED ON DRAWINGS.
6	STEEL, ASTM A106, OR A53, SCHEDULE 40, SEAMLESS, BLACK.	STEEL, ANSI B16.9, BUTT-WELDED, CAST IRON, ANSI B16.1, 125 PSI, FLANGED, FORGED STEEL, SOCKET WELDED, ANSI B16.11, 2000 PSI OR STEEL, ANSI B16.5, 150 PSI FLANGED.	CAST IRON, FLANGED, LUBRICATED PLUG.
7	STEEL, ASTM 53 SCHEDULE 40, GALVANIZED.	MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, GALVANIZED, 300 PSI.	BRONZE, THREADED GLOBE, BALL, CHECK.
8	WELDED STEEL, AWWA C200.	WELDED, STEEL, AWWA C200, FABRICATED.	AS INDICATED ON DRAWINGS.
9	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED GRADE B, WALL THICKNESS OF WROUGHT STEEL PIPE.	2-1/2 INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI, 3-INCH AND LARGER, STEEL. ANSI B16.9, BUTT-WELDED.	ECCENTRIC PLUG, SEE SPECIFICATIONS FOR VALVES USED IN FUEL SYSTEM.
10	STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK.	1-1/4 INCH AND SMALLER, FORGED STEEL, ANSI B16.11, THREADED OR SOCKET WELDED, BLACK, 3000 PSI, WITH FLANGED AMMONIA UNIONS. 1-1/2 INCH AND LARGER, STEEL, ANSI B16.9, BUTT-WELDED OR FLANGED, SCHEDULE 80.	SEMI-PLUG AND YOKE TYPE OR BALL FOR CHLORINE SERVICE, FORGED CARBON STEEL.
11	DUCTILE IRON, ANSI A21.51, (AWWA C151), CLASS 51 (350 PSI), BELL AND SPIGOT, MECHANICAL JOINTS, MECHANICAL COUPLINGS (AWWA C111), OR 125 PSI FLANGED (TYPICAL SERVICE - WATER LINES) PER SPECIFICATION SECTION 02565.	DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, BELL AND SPIGOT, MECHANICAL COUPLINGS, FLANGED OR MECHANICAL JOINTS (AWWA C111), 250 PSI (PRESSURE RATING) 12-INCHES AND SMALLER, 150 PSI (PRESSURE RATING) 14-INCHES AND LARGER, WITH 125 PSI ANSI B16.1 FLANGES.	GATE, AWWA C900, 'O' RING SEALS, MECHANICAL JOINT ENDS, BUTTERFLY C-504.
12	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS, AT THE OPTION OF THE CONTRACTOR, DUCTILE IRON (GROUP NO. 11) MAY BE SUBSTITUTED.	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS. AT THE OPTION OF THE CONTRACTOR, DUCTILE IRON (GROUP NO. 11) MAY BE SUBSTITUTED.	AS INDICATED ON DRAWINGS.
13	CORROSION RESISTANT (HIGH SILICON CONTENT) CAST IRON, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS.	CORROSION RESISTANT (HIGH SILICON CONTENT) CAST IRON, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS.	--------
14	STAINLESS STEEL, TYPE 316, ASTM A312, SCHEDULE 40S.	STAINLESS STEEL, TYPE 316 ANSI B16.3, SCREWED, 150 PSI, ANSI B16.9, BUTT-WELDED, SCHEDULE 40S, OR 150 PSI FLANGED.	STAINLESS STEEL, BALL, FLANGED, CHECK, LADISH, AS SHOWN ON DRAWINGS.
15	STAINLESS STEEL, TYPE 316, ASTM A312, SCHEDULE 40S.	STAINLESS STEEL, TYPE 316 ANSI B16.9, BUTT-WELDED SCHEDULE 10S OR 150 PSI FLANGED.	STAINLESS STEEL, AS INDICATED ON DRAWINGS.
16	POLYVINYL, CHLORIDE, SCHEDULE 80, NORMAL IMPACT, ASTM D1785.	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT, SOCKET SOLVENT WELD JOINTS, ASTM D2467.	POLYVINYL CHLORIDE, BALL, DIAPHRAGM, BUTTERFLY, BALL OR LIFT CHECK.
17	POLYPROPYLENE, ASTM D4101, SCHEDULE 40, WITH HEAT FUSED JOINTS.	POLYPROPYLENE, SCHEDULE 40, DRAINAGE TYPE WITH HEAT FUSED SOCKET JOINTS.	--------
18	FIBERGLASS REINFORCED PLASTIC, ASTM D2996, FILAMENT WOUND, SOCKET AND SPIGOT ENDS, ADHESIVE BONDED.	FIBERGLASS REINFORCED PLASTIC, FILAMENT-WOUND, SOCKET ENDS, ADHESIVE BONDED, OR FIBERGLASS FLANGED.	PLASTIC LINED, FLANGED, FLANGES TO MATCH 150 PSI ANSI B16.5 DIMENSIONS, OR AS INDICATED ON DRAWINGS.
19	POLYVINYL CHLORIDE PRESSURE PIPE ASTM D2241 WITH BELL AND SPIGOT JOINTS.	CAST IRON, 150 PSI, FOR POLYVINYL CHLORIDE PIPE, AWWA C110 CEMENT MORTAR LINED, AWWA C104.	GATE, AWWA C500, 'O' RING SEALS, MECHANICAL JOINT ENDS, BUTTERFLY, AWWA C504, ECCENTRIC PLUG, BALL.
20	NOT USED.	NOT USED.	NOT USED.
21	NOT USED.	NOT USED.	NOT USED.
22	REINFORCED CONCRETE, ASTM C76, GASKETED.	SAME AS GROUP NO. 8.	--------
23	TEMPERED GLASS, (ARMORED, WHERE BURIED). ANSI/ASTM C599.	TEMPERED GLASS DRAINAGE TYPE WITH COMPRESSION COUPLINGS AND TEFLON JOINTS, ANSI/ASTM C599 (ARMORED WHERE BURIED).	--------
24	COPPER, ASTM B88, TYPE K, SOFT TEMPERED WHERE BURIED, HARD TEMPERED WHERE EXPOSED.	WROUGHT COPPER OR CAST BRONZE, ANSI B16.22, SOLDER JOINT, 150 PSI, OR COMPRESSION FITTINGS, (FOR OXYGEN PIPING USE SILVER SOLDER, FOR COMPRESSED AIR PIPING USE 95-5 TIN-ANTIMONY SOLDER).	BRONZE, SOLDER JOINT, GLOBE, CHECK, GATE, SEE SPECIFICATIONS.
25	STEEL, ASTM A106 OR A53, SCHEDULE 40, SEAMLESS, BLACK, SARAN OR POLYPROPYLENE-LINED.	STEEL, ANSI B16.5, 150 PSI FLANGED, SARAN OR POLYPROPYLENE-LINED.	CAST STEEL PLUG, DIAPHRAGM OR CHECK, 150 PSI FLANGED, SARAN OR POLYPROPYLENE-LINED.
26	SAME AS GROUP NO. 11 (TYPICAL SERVICE - SLUDGE AND SEWAGE LINES).	DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, BELL AND SPIGOT, MECHANICAL COUPLINGS, FLANGED OR MECHANICAL JOINTS (AWWA C111), 250 PSI (PRESSURE RATING) 12-INCHES AND SMALLER, 150 PSI (PRESSURE RATING) 14-INCHES AND LARGER, WITH 125 PSI ANSI B16.1 FLANGES.	SEE VALVE SCHEDULE AND SPECIFICATIONS.
27	POLYVINYL CHLORIDE GRAVITY SEWER PIPE, SDR 35 ASTM D3034, BELL AND SPIGOT.	POLYVINYL CHLORIDE, ANSI/ASTM D3034 & F679, BELL AND/OR SPIGOT, DRAIN, WASTE, AND VENT.	--------
28	REINFORCED CONCRETE, AWWA C302, CLASS- SEE DRAWINGS. (TYPICAL SERVICE - PRESSURE PIPELINES).	SAME AS GROUP NO. 8.	AS INDICATED ON DRAWINGS.
29	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED.	2-INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI, 2-1/2 INCH AND LARGER, STEEL ANSI B16.9, BUTT-WELDED.	SAME AS GROUP NO. 1, EXCEPT LUBRICATED PLUG SEE SPECIFICATIONS.
30	SAME AS GROUP NO. 11, GLASS-LINED OR STEEL ASTM A120, SCHEDULE 40, GLASS-LINED.	SAME AS GROUP NO. 11, GLASS-LINED OR STEEL, ANSI B16.9, SCHEDULE 40, GROOVED WITH MECHANICAL COUPLINGS, GLASS-LINED.	SEE SPECIFICATIONS.
31	2-1/2 INCH AND SMALLER, STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK. 3-INCH AND LARGER DUCTILE IRON, ANSI A21.51 (AWWA C151) OR CAST IRON ANSI A21.56 OR A21.8 MECHANICAL COUPLINGS OR 125 PSI FLANGED.	2-1/2 INCH AND SMALLER, FORGED STEEL, ANSI B16.11, SOCKET-WELDED OR THREADED, BLACK, 2000 PSI, OR STEEL, ANSI B16.9, BUTT-WELDED SCHEDULE 80. 3-INCH AND LARGER, DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, MECHANICAL COUPLING OR 125 PSI FLANGED.	CAST IRON, LUBRICATED PLUG.

PIPE MATERIAL SCHEDULE 1 OF 2

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NO.	DATE	REV. BY	DESCRIPTION

REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW J. LUETTINGER
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

DESIGN L. MINCK
DRAWN J. BLACK

MECHANICAL

PIPING SCHEDULE - 1

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
M-01
SHEET 51 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_M-01.dwg Plotted: 3/27/2025 3:41 PM By: Jeremy Black

PIPE MATERIAL SCHEDULE (SEE NOTE 4)

GROUP NO.	PIPE	FITTINGS	VALVES
	REINFORCED CONCRETE, AWWA C302, CLASS– SEE DRAWINGS. (TYPICAL SERVICE – PRESSURE PIPELINES).	SAME AS GROUP NO. 8.	AS INDICATED ON DRAWINGS.
29	STEEL, ASTM 53 SCHEDULE 40, BLACK WELDED.	2–INCH AND SMALLER, MALLEABLE IRON, ANSI B16.3, THREADED, BANDED, BLACK, 150 PSI, 2–1/2 INCH AND LARGER, STEEL ANSI B16.9, BUTT–WELDED.	SAME AS GROUP NO. 1, EXCEPT LUBRICATED PLUG SHALL BE ROCKWELL FIG. 114 OR 115, OR POWELL FIG. 2202 OR 2203.
30	SAME AS GROUP NO. 11, GLASS–LINED OR STEEL ASTM A120, SCHEDULE 40, GLASS–LINED.	SAME AS GROUP NO. 11, GLASS–LINED OR STEEL, ANSI B16.9, SCHEDULE 40, GROOVED WITH MECHANICAL COUPLINGS, GLASS–LINED.	SEE SPECIFICATIONS.
31	2–1/2 INCH AND SMALLER, STEEL, ASTM A106 OR A53, SCHEDULE 80, SEAMLESS, BLACK. 3–INCH AND LARGER DUCTILE IRON, ANSI A21.51 (AWWA C151) OR CAST IRON ANSI A21.56 OR A21.8 MECHANICAL COUPLINGS OR 125 PSI FLANGED.	2–1/2 INCH AND SMALLER, FORGED STEEL, ANSI B16.11, SOCKET–WELDED OR THREADED, BLACK, 2000 PSI, OR STEEL, ANSI B16.9, BUTT–WELDED SCHEDULE 80. 3–INCH AND LARGER, DUCTILE IRON OR CAST IRON, ANSI A21.10 OR AWWA C110, MECHANICAL COUPLING OR 125 PSI FLANGED.	CAST IRON, LUBRICATED PLUG, ROCKWELL FIG. 142 OR 143, OR POWELL FIG. 2200 OR 2201.
32	PVC TYPE 1, GRADE 1, 18 ASTM D–1784 AWWA C–905.	SHORT BODY CAST IRON OR DUCTILE IRON AWWA C110.	GATE, AWWA C–500, 'O' RING SEALS, MECHANICAL JOINT ENDS, BUTTERFLY C–504, ECCENTRIC PLUG.
33	CORRUGATED HDPE SLOTTED, SPLIT COUPLING JOINTS.	FABRICATED OR MOLDED.	––––––
34	FIBERGLASS DOUBLE CONTAINMENT (FOR USE WITH FLAMMABLE LIQUIDS) SEE SPECS.	FIBERGLASS.	AS PER MANUFACTURER'S RECOMMENDATIONS.
35	CENTRIFUGALLY CAST FIBERGLASS REINFORCED POLYMER MORTAR PIPE, SN–46, PER ASTM D3262 WITH FILAMENT WOUND SLEEVE COUPLINGS WITH ELASTOMERIC MEMBRANE GASKET JOINTS PER ASTM D–4161.	SAME MATERIAL, CONSTRUCTION AND JOINT DESIGN AS THE MAIN SEWER PIPE.	––––––
36	HIGH DENSITY POLYETHYLENE WATER PIPE PER AWWA C–901, 2 INCHES AND SMALLER, DR–7, 200 PSI, MEETING ASTM PE3406–3408, TABLE 6.	BRASS COMPRESSION OR PACK–JOINT FITTINGS MEETING AWWA C800. USE BRASS DOUBLE STRAP SERVICE SADDLES WITH CC THREAD.	BRASS CORPORATION STOPS, CURB STOPS PER AWWA C–800.
37	HIGH DENSITY POLYETHYLENE PIPE PER AWWA PE 4710, C–906, SDR–11 MEETING ASTM D3350, ASTM F–714. JOINTS SHALL BE BUTT FUSION PER ASTM D2657 AND MANUFACTURER'S RECOMMENDATIONS, TO PROVIDE HEAT WELD AS STRONG AS PIPE WALL.	SAME MATERIAL, CONSTRUCTION AND JOINT DESIGN AS THE MAIN PIPE.	––––––
38	POLYVINYL CHLORIDE, DR–PER PLAN, AWWA C–900, MADE TO DUCTILE IRON O.D. FOR "PUSH–ON" JOINTS. JOINTS SHALL BE BELL AND SPIGOT WITH ELASTOMERIC GASKET MEETING REQUIREMENTS OF ASTM D3139.	DUCTILE IRON, CLASS 250, MEETING AWWA C–110 WITH CEMENT LINING PER AWWA C–104 AND 1–MIL BITUMINOUS TAR COATING. JOINTS SHALL BE MECHANICAL JOINTS MEETING AWWA C–111. DUCTILE IRON FITTINGS SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT PER AWWA C–105.	SEE SPECIFICATIONS.
39	STAINLESS STEEL, TYPE 304L, ASTM A774, SCH 105, 6–INCH AND SMALLER.	STAINLESS STEEL, TYPE 304L, ANSI B16.9 BUTTWELDED, SCH 105 OR 150 PSI FLANGED.	STAINLESS STEEL, AS INDICATED ON DRAWINGS.
40	STAINLESS STEEL, TYPE 304L ASTM A774, SCH 5S, 8–INCH AND LARGER.	STAINLESS STEEL, TYPE 304L, ANSI B16.9 BUTTWELDED, SCH 5S OR 150 PSI FLANGED.	STAINLESS STEEL, AS INDICATED ON DRAWINGS.
41	MONEL TUBING, SERIES 400.	MONEL COPRESSION FITTINGS.	STAINLESS STEEL, TYPE 316, BALL VALVES.
42	STEEL, ASTM A 53/A 53M, TYPE E OR S, GRADE B, SCHEDULE 40, BLACK. WALL THICKNESS OF WROUGHT–STEEL PIPE SHALL COMPLY WITH ASME B36.10M.	1. MALLEABLE–IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN, WITH THREADED ENDS ACCORDING TO ASME B1.20.1. 2. STEEL THREADED FITTINGS: ASME B16.11, FORGED STEEL WITH THREADED ENDS ACCORDING TO ASME B1.20.1. 3. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS–TO–IRON SEAT, GROUND JOINT, AND THREADED ENDS ACCORDING TO ASME B1.20.1. 4. GASKET MATERIAL: THICKNESSS, MATERIAL, AND TYPE SUITABLE FOR FUEL OIL.	SEE SPECIFICATIONS.
43	FLEXIBLE UL 971 COMPLIANT, DOUBLE–CONTAINMENT PIPING. CARRIER PIPE PVDF COMPLYING WITH ASTM D 3222. CONTAINMENT PIPE PE ASTM D 4976.	PLASTIC TO STEEL PIPE TRANSITION FITTINGS: FACTORY–FABRICATED FITTINGS WITH PLASTIC END MATCHING OR COMPATIBLE WITH CARRIER PIPING, AND STEEL PIPE END COMPLYING WITH ASTM A 53/A 53M, BLACK STEEL, SCHEDULE 40, TYPE E OR S, GRADE B.	SEE SPECIFICATIONS.
44	PVC SOLID WALL PIPE, ASTM D 2665. DRAIN, WASTE, AND VENT.	PVC SOCKET FITTINGS: ASTM D 2665, SOCKET TYPE, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS.	SEE SPECIFICATIONS.
45	STAINLESS STEEL PIPE, ASTM A312, TYPE 304/304L, FULL FINISHED ANNEALED AND CERTIFIED FOR USE WITH THE VIC–PRESS 304 PIPING SYSTEM. 1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: 1.1. VICTAULIC COMPANY, VIC–PRESS 304. 1.2. OR EQUAL.	PRESSURE FIT FITTINGS AND CONNECTION FOR PIPING SYSTEMS 2–INCH AND SMALLER, FITTINGS SHALL BE PRECISION, COLD DRAWN, AUSTENITIC STAINLESS STEEL WITH ELASTOMERIC O–RING SEALS, AND PRESSURE–SEALED ENDS.	SEE SPECIFICATIONS.
46	HARD COPPER, ASTM B88, TYPE L AND ASTM B 88, TYPE M DRAWN TEMPER.	1. CAST–COPPER SOLDER–JOINT FITTINGS: ASME B16.18, PRESSURE FITTINGS. 2. WROUGHT–COPPER SOLDER–JOINT FITTINGS: ASME B16.22, WROUGHT–COPPER PRESSURE FITTINGS. 3. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER–JOINT ENDS. 4. COPPER UNIONS: MSS SP–123, CAST–COPPER–ALLOY, HEXAGONAL–STOCK BODY, WITH BALL–AND–SOCKET, METAL–TO–METAL SEATING SURFACES, AND SOLDER–JOINT OR THREADED ENDS. 5. COPPER PRESSURE–SEAL–JOINT FITTINGS: a. MANUFACTURES: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING: 1) ELKHART PRODUCTS CORPORATION; INDUSTRIAL DIVISION. 2) NIBCO INC. 3) VIEGA; PLUMBING AND HEATING SYSTEMS. b. NPS 2 AND SMALLER: WROUGHT–COPPER FITTING WITH EPDM–RUBBER O–RING SEAL IN EACH END. c. NPS 2–1/2 TO NPS 4: CAST–BRONZE OR WROUGHT–COPPER FITTING W/ EPDM–RUBBER O–RING SEAL IN EACH END.	SEE SPECIFICATIONS.
47	CARBON STEEL PIPE, FULLY ANNEALED, SEAMLESS C 1010 CARBON STEEL HYDRAULIC TUBING. ABOVEGROUND PIPING SIZE / WALL THICKNESS / PSI WORKING 5/8" 0.058 2550 3/4" 0.065 2350 7/8" 0.072 2200 1" 0.083 2250 1 1/4" 0.109 2350 1 1/2" 0.134 2450	FEROLUK "BITE TYPE" COMPRESSION FITTINGS RATED AT MINIMUM 6,000 PSI WORKING PRESSURE MANUFACTURED BY PARKER HANNIFAN CORP OR APPROVED EQUAL.	SEE SPECIFICATIONS.
48	DOUBLE PASS WELDED CARBON STEEL, ASTM A106 GRADE B SEAMLESS. PIPE SHALL BE KEPT METICULOUSLY CLEAN. WELDING SHALL BE DONE WITH LOW HYDROGEN ROD 7018.	SOCKET WELD FORGED STEEL FITTINGS. SYSTEM SHALL BE INSTALLED WITH SAE 4 BOLT FLANGES AND SAE WELD ADAPTORS WITH ABSOLUTE MINIMUM OF NPT CONNECTIONS.	––––––

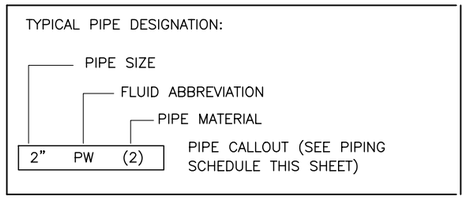
PIPE MATERIAL SCHEDULE (SEE NOTE 4)

GROUP NO.	PIPE	FITTINGS	VALVES
49	STEEL PIPE SHALL CONFORM TO ASTM A53/A 53M, TYPE E OR S, GRADE B, BLACK OR HOT–DIPPED ZINC COATED WITH ENDS THREADED ACCORDING TO ASME B1.20.1. 1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: 1.1. ANVIL INTERNATIONAL, INC. 1.2. STAR PIPE PRODUCTS	GROVED–END FITTINGS: ASTM A 47/A 47M, MALLEABLE–IRON CASTINGS OR ASTM A536 DUCTILE IRON CASTING; WITH GROOVES ACCORDING TO AWWA C606 AND DIMENSIONS MATCHING STEEL PIPE. COUPLINGS: AWWA C606 OR UL 213, FOR STEEL PIPE DIMENSIONS AND RATED FOR 300 PSIG MINIMUM WORKING PRESSURE. INCLUDE FERROUS HOUSING SECTIONS, GASKET SUITABLE FOR COMPRESSED AIR, AND BOLTS, AND NUTS. PROVIDE EPDM GASKETS FOR OIL FREE COMPRESSED AIR. PROVIDE NBR GASKETS IF COMPRESSED AIR CONTAINS OIL OR OIL VAPOR.	SEE SPECIFICATIONS.
50	COPPER TUBE SHALL CONFORM TO ASTM B 88, TYPE L SEAMLESS, DRAWN–TEMPER. 1. COPPER UNIONS: ASME B16.24, OR MSS SP–123 2. PRESS–TYPE FITTINGS, NPS 2 AND SMALLER: WROUGHT–COPPER FITTING WITH EPDM O–RING SEAL IN EACH END. 3. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: 3.1. VICTAULIC TRANSITION COUPLINGS FOR METAL PIPING: MEAL COUPLING OR OTHER MANUFACTURED FITTING SAME SIZE AS, WITH PRESSURE RATING AT LEAST EQUAL TO AND ENDS COMPATIBLE WITH, PIPING TO BE JOINED.		SEE SPECIFICATIONS.
51	CLASS 51 CEMENT LINED DUCTILE IRON PIPE.	MECHANICAL JOINT TYPE FITTINGS.	SEE SPECIFICATIONS.
52	SCHEDULE 40 GALVANIZED PIPING WITH INTERIOR ANTIBACTERIAL COATING.	GALVANIZED CAST IRON THREADED FITTINGS JOINED WITH TEFLON TAPE THREAD SEALING COMPOUND. FITTINGS FOR GROOVED END PIPE SHALL BE IN ACCORDANCE WITH NFPA 13.	SEE SPECIFICATIONS.

GENERAL NOTES:

1. ALTHOUGH SEVERAL PIPING MATERIALS ARE SHOWN THAT MAY BE USED FOR A GIVEN FUNCTION, ONLY THE CALLED OUT PIPING MATERIAL SHOWN ON THE CONSTRUCTION DRAWINGS AND SPECIFICATION SHALL BE USED. THE CONTRACTOR DOES NOT HAVE THE OPTION TO USE A DIFFERENT MATERIAL.

TYPICAL PIPE DESIGNATION:



MATERIAL SCHEDULE:

1. PROPRIETARY NAMES HAVE BEEN QUOTED FOR IDENTIFICATION PURPOSES ONLY. SUBSTITUTIONS WILL BE PERMITTED SUBJECT TO REQUIREMENTS OF THE SPECIFICATIONS.
2. LEAKAGE ALLOWANCE IS AS FOLLOWS:
   (A) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE.
   (B) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE FOR UNBURIED PIPE AND NOT MORE THAN 0.002 GALLON PER HOUR PER INCH DIAMETER PER 100 FEET OF BURIED PIPE.
   (C) PIPES SO DESIGNATED SHALL NOT SHOW A LEAKAGE OF MORE THAN 0.15 GALLON PER HOUR PER INCH OF DIAMETER PER 100 FEET OF PIPE.
   (D) PIPES SO DESIGNATED SHALL NOT SHOW A LOSS OF PRESSURE OF MORE THAN 5 PERCENT.
   (E) PIPES SO DESIGNATED SHALL NOT SHOW A LOSS OF VACUUM OR MORE THAN 4 INCHES MERCURY COLUMN.
3. FOR FIELD TEST PROCEDURES AND ADDITIONAL TEST REQUIREMENTS, SEE PIPING SECTION OF SPECIFICATIONS.
4. ANY DEVIATION FROM THE PIPING MATERIALS OR FIELD TEST REQUIREMENTS SHOWN WILL BE NOTED IN THE SPECIFICATIONS OR ON THE DRAWINGS.
5. PIPING GROUP NUMBER SHOWN THUS * SHALL BE INSULATED, SEE PIPING SECTION OF SPECIFICATIONS FOR INSULATING MATERIALS.
6. STATIC WATER TEST WITH SURFACE 5 FEET ABOVE HIGH POINT OF PIPE.
7. INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE PLUMBING CODE.
8. NO APPARENT LEAKS UNDER NORMAL OPERATING CONDITIONS.
9. INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS.
10. PIPING MATERIALS SHALL BE IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS.
11. FOR VALVES 4 INCHES AND LARGER SEE VALVE SCHEDULE. FOR SPECIAL VALVES SEE SPECIFICATIONS.
12. CHANGE IN PIPING MATERIAL GROUP NUMBER IS INDICATED, THUS: ◆——
13. FOR PIPE LINING AND COATING, SEE SPECIFICATIONS.
14. EXPOSED PIPING SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATIONS. COLORS TO BE SELECTED BY ENGINEER.
15. PIPING MATERIAL SHALL BE NON–ABRASIVE FLEXIBLE RUBBER HOSE AND QUICK CONNECTION COUPLINGS WITH GROUP NO. 1 AT EQUIPMENT.
16. VALVES 2–1/2 INCH AND SMALLER MAY HAVE SCREWED ENDS VALVES 3 INCH AND LARGER SHALL HAVE FLANGED ENDS. UNLESS OTHERWISE SHOWN OR SPECIFIED.
17. NO PVC PIPE FOR DRAIN OR SANITARY SEWER PLUMBING PIPE MAY BE USED ABOVE GROUND OR BELOW GROUND FOR PLUMBING PURPOSES.
18. FOR COMPRESSED AIR PIPING ON PLUMBING DRAWINGS, SEE SPECIFICATIONS.

PIPE MATERIAL SCHEDULE 2 OF 2

BOWEN COLLINS & ASSOCIATES

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REVIEW CHECKED J. LUETTINGER APPROVED J. LUETTINGER

DESIGN DESIGN L. MINCK DRAWN J. BLACK

MECHANICAL

PIPING SCHEDULE - 2

PROJECT NUMBER 010-24-03

DATE: MARCH 2025

DRAWING NO. M-02

SHEET 52 OF 78

AIR VALVE SCHEDULE

VALVE NO.	STATION/LOCATION	DRAWING NO.	ELEVATION	WORKING PRESSURE (PSI)	TEST PRESSURE (PSI)	AIR VALVE SIZE (INCH)	AIR VALVE TYPE	AIR VALVE VENT PIPE & ISOLATION VALVE DIA (INCH)	NOTES
RIV–AV–01	INTERCONNECT VAULT – NORTH SIDE	M–04		130	150	4	CARV	4" – BFV	
RIV–AV–02	INTERCONNECT VAULT – SOUTH SIDE	M–04		130	150	4	CARV	4" – BFV	
RIV–AV–03	INTERCONNECT VAULT – 5600 WEST PIPE	M–04		130	150	2	CARV	2" – BALL VALVE	
RIV–AV–04	INTERCONNECT VAULT – HERRIMAN SUPPLY PIPE	M–04		130	150	2	CARV	2" – BALL VALVE	
RPD–AV–01	ROCKY POINT DRIVE VAULT – NORTH SIDE	M–07		100	150	6	CARV	6" – BFV	
RPD–AV–02	ROCKY POINT DRIVE VAULT – SOUTH SIDE	M–07		100	150	6	CARV	6" – BFV	
RCP–AV–01	STA 108+90 EMMELINE DRIVE	PP–02		50	100	6	CARV	6" – DEX BFV	
RRV–AV–01	RESERVOIR VAULT – NEW ROSECREST PIPELINE, NORTH SIDE OF VAULT	M–08		15	100	4	CARV	6" – DEX BFV	
RRV–AV–02	RESERVOIR VAULT – TEE	M–08		15	100	2	CARV	2" – BALL VALVE	
RRV–AV–03	RESERVOIR VAULT – EXISTING ROSECREST PIPELINE, NORTH SIDE OF VAULT	M–08		15	100	4	CARV	6" – DEX BFV	

NOTES:

1. VALVE SCHEDULE IS PROVIDED FOR VALVES 4" AND LARGER, ISOLATION VALVES FOR AIR VALVE ASSEMBLIES ARE ONLY SHOWN IN AIR VALVE SCHEDULE.
2. VALVES FOR FIRE HYDRANTS ARE NOT SHOWN IN THE VALVE SCHEDULE.
3. AIR VALVES SHALL BE RATED TO ACCOMMODATE THE SPECIFIED WORKING AND TEST PRESSURES SHOWN AT EACH LOCATION. CARV = COMBINATION AIR/RELEASE & AIR/VAC VALVE.

VALVE SCHEDULE

VALVE NO.	LOCATION	DRAWING NO.	TYPE	SIZE (INCH)	WORKING PRESSURE (PSI)	TEST PRESSURE (PSI)	OPERATOR	VOLTAGE	PHASE	ACTUATOR TYPE
HPS–BV–01	HERRIMAN PUMP STATION – BURIED ISOLATION VALVE	PP–01	DEX BFV	16	30	100	MANUAL – BURIED	N/A	N/A	HAND – BRING OPERATING NUT TO SURFACE WITH EXTENSION STEM
RIV–BV–01	INTERCONNECT VAULT – NORTH SIDE ISOLATION VALVE	M–04	DEX BFV	30	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–BV–02	INTERCONNECT VAULT – SOUTH SIDE ISOLATION VALVE	M–04	DEX BFV	30	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–BV–03	INTERCONNECT VAULT – 5600 WEST OUTLET	M–04	DEX BFV	24	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–BV–04	INTERCONNECT VAULT – HERRIMAN METERING OUTLET	M–04	DEX BFV	12	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–BV–05	INTERCONNECT VAULT – EXISTING ROSECREST OUTLET	M–04	DEX BFV	16	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–GV–01	INTERCONNECT VAULT – NORTH SIDE RIVERTON METERING	M–04	GATE VALVE	8	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–GV–02	INTERCONNECT VAULT – RIVERTON METERING OUTLET	M–04	GATE VALVE	8	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–GV–03	INTERCONNECT VAULT – NEW ROSECREST DRAIN	M–04	GATE VALVE	4	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–GV–04	INTERCONNECT VAULT – EXISTING ROSECREST DRAIN	M–04	GATE VALVE	4	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–GV–05	INTERCONNECT VAULT – DRAIN MAINLINE	M–04	GATE VALVE	4	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–PV–01	INTERCONNECT VAULT – DRAIN MAINLINE	M–04	PLUG VALVE	4	130	150	MANUAL	N/A	N/A	HANDWHEEL
RIV–PRV–01	INTERCONNECT VAULT – RIVERTON METERING	M–04	PRESSURE REDUCING VALVE	8	130	150				
RPD–BV–01	ROCKY POINT DRIVE VAULT – ROSECREST MAINLINE VALVE	M–07	DEX BFV	24	100	150	MANUAL	N/A	N/A	HANDWHEEL
RPD–GV–02	ROCKY POINT DRIVE VAULT – FOOTHILL SERVICE AREA VALVE	M–07	GATE VALVE	10	100	150	MANUAL	N/A	N/A	HANDWHEEL WITH LOCK
HC–GV–01	13860 SOUTH – FOOTHILL SERVICE AREA VALVE	PP–08	GATE VALVE	8	110	150	MANUAL	N/A	N/A	HANDWHEEL WITH LOCK
RRV–BV–01	RESERVOIR VAULT – NEW ROSECREST PIPELINE	M–08	DEX BFV	24	15	100	ELECTRIC			OPEN/CLOSE
RRV–BV–02	RESERVOIR VAULT – NEW ROSECREST PIPELINE	M–08	DEX BFV	24	15	100	MANUAL	N/A	N/A	HANDWHEEL
RRV–BV–03	RESERVOIR VAULT – NEW ROSECREST PIPELINE	M–08	DEX BFV	24	15	100	MANUAL	N/A	N/A	HANDWHEEL
RRV–BV–04	RESERVOIR VAULT – EX ROSECREST PIPELINE	M–08	DEX BFV	20	15	100	ELECTRIC			OPEN/CLOSE
RRV–BV–05	RESERVOIR VAULT – EX ROSECREST PIPELINE	M–08	DEX BFV	20	15	100	MANUAL	N/A	N/A	HANDWHEEL
RCP–GV–01	STA 108+45 DRAIN AT EMMELINE DR	PP–02	GATE VALVE	6	50	100	MANUAL – BURIED	N/A	N/A	HAND – BRING OPERATING NUT TO SURFACE WITH EXTENSION STEM
RCP–PV–01	STA 108+45 DRAIN AT EMMELINE DR	PP–02	PLUG VALVE	6	50	100	MANUAL – BURIED	N/A	N/A	HAND – BRING OPERATING NUT TO SURFACE WITH EXTENSION STEM
RCP–GV–02	STA 145+30 DRAIN AT ROSECREST PARK	PP–06	GATE VALVE	6	105	150	MANUAL – BURIED	N/A	N/A	HAND – BRING OPERATING NUT TO SURFACE WITH EXTENSION STEM
RCP–PV–02	STA 145+30 DRAIN AT ROSECREST PARK	PP–06	PLUG VALVE	6	105	150	MANUAL – BURIED	N/A	N/A	HAND – BRING OPERATING NUT TO SURFACE WITH EXTENSION STEM

FLOWMETER SCHEDULE

METER NO.	LOCATION	DRAWING NO.	WORKING PRESSURE (PSI)	TEST PRESSURE (PSI)	TYPE	SIZE (INCH)	REMARKS
RIV–FM–01	INTERCONNECTION VAULT – RIVERTON METERING	M–04				8	
RRV–FM–01	ROSECREST RESERVOIR VAULT – NEW ROSECREST PIPELINE	M–08	15	100	ELECTROMAGNETIC FLOW METER	24	ENDRESS+HAUSER – PROMAG W 400 OR ROSEMOUNT 8750W
RRV–FM–02	ROSECREST RESERVOIR VAULT – ROSECREST PIPELINE	M–08	15	100	ELECTROMAGNETIC FLOW METER	20	ENDRESS+HAUSER – PROMAG W 400 OR ROSEMOUNT 8750W

EXHAUST FAN SCHEDULE

FAN NO.	LOCATION	DRAWING NO.	AIRFLOW (ACFM) AT 5,000 FT	ESP INCHES WC	DRIVE	MOTOR			MODEL (OR ENGINEER APPROVED EQUAL)
						HP	VOLTS	PHASE	
RIV–EF–01	ROSECREST INTERCONNECT VAULT	M–04	628	0.5	DIRECT			1	
RRV–EF–01	ROSECREST RESERVOIR VAULT	M–08	536	0.125	DIRECT			1	

PUMP SCHEDULE

PUMP NO.	LOCATION	DRAWING NO.	SERVICE	TYPE	DISCHARGE SIZE (INCH)	MAX FLOW (GPM)	MAX HEAD (FT)	VOLTAGE	PHASE	HP (MIN)	REMARKS
RIV–P–01	ROSECREST INTERCONNECTION VAULT	M–04	RAW WATER/DRAIN	Sump	2			120	1		
RRV–P–01	ROSECREST RESERVOIR VAULT – SUMP PUMP	M–08	RAW WATER/DRAIN	Sump	2			120	1		
RRV–P–02	ROSECREST RESERVOIR VAULT – RESERVOIR PUMP	M–08	POTABLE WATER								

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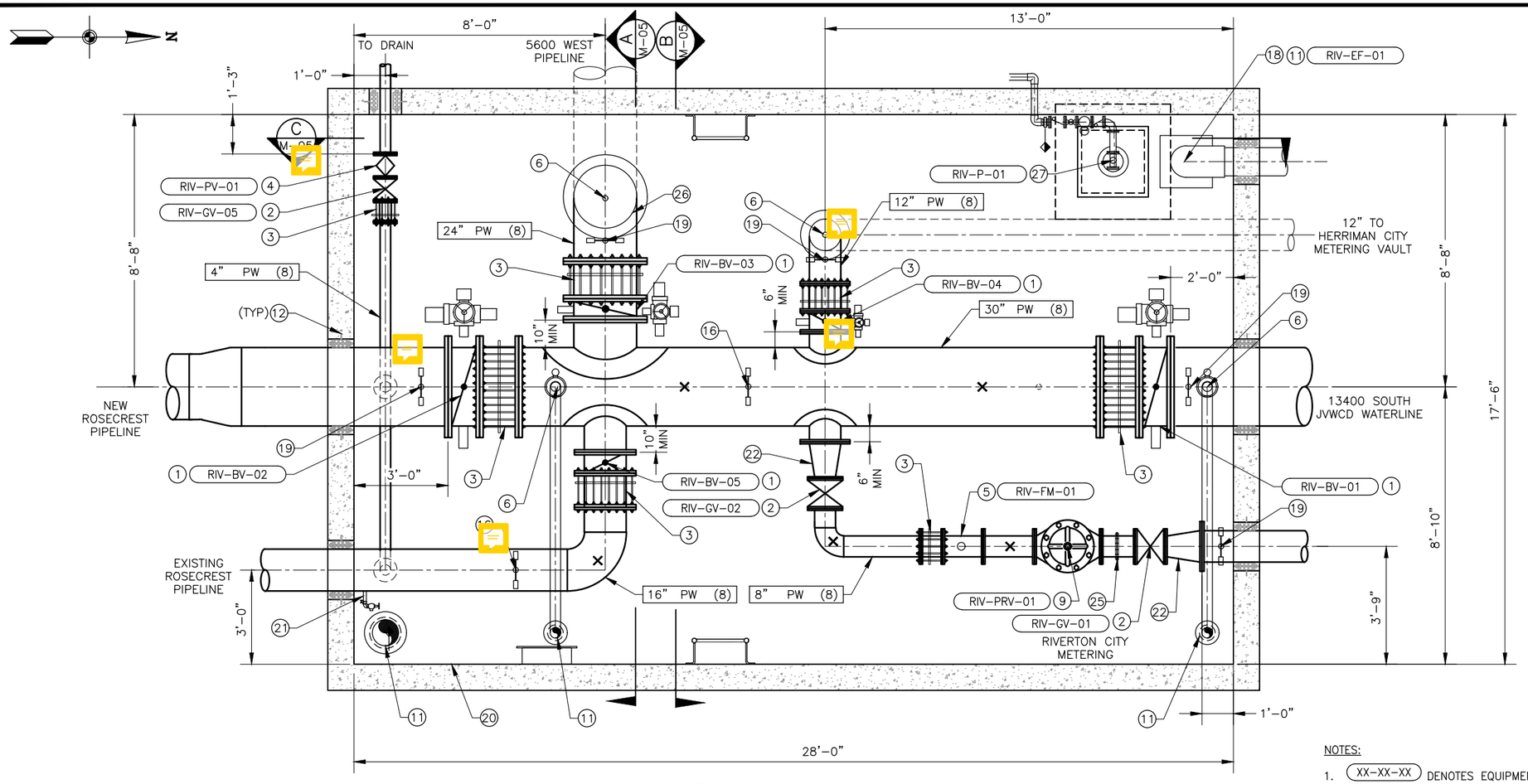
EQUIPMENT AND VALVE SCHEDULES

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
M-03

SHEET 53 OF 78



PLAN

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

MATERIAL SCHEDULE

1. BUTTERFLY VALVE
2. GATE VALVE
3. RESTRAINED DISMANTLING JOINT COUPLING, EPOXY LINED AND COATED
4. PLUG VALVE
5. FLOW METER
6. COMBINATION AIR VALVE (M 3146), SEE AIR VALVE SCHEDULE
7. ✕ DENOTES ADJUSTABLE PIPE SUPPORT W/ U-BOLT (TYP) (M 3389)
8. PIPE HANGER, TYP (M 3353)
9. 8" PRESSURE REDUCING VALVE WITH STAINLESS STEEL TUBING AND PILOT SYSTEM
10. ¾" TEE/TAPPING SADDLE (SIZE AS REQUIRED) WITH BRASS BALL VALVE AND CAP (DRAIN OF VENT LINES)
11. AIR VENT PIPE (M 3324), SIZE VARIES PER PLAN, SEE NOTE 11
12. SLEEVED PIPE OPENING, TYPE A (M 3307)
13. DRAIN WITH BALL VALVE (M 3135)
14. LADDER
15. INSULATING FLANGE (CP 2777)
16. PRESSURE GAUGE AND INDICATING TRANSMITTER ASSEMBLY WITH ISOLATION UNION (M 3183)
17. LIFTING EYE'S PER STRUCTURAL PLAN, TYP
18. WALL MOUNTED INTERIOR EXHAUST FAN, SEE NOTE 11 (M 3328)
19. PRESSURE GAUGE ASSEMBLY (M 3217)
20. TYPE A WALL MOUNTED HOSE RACK (M 3116)
21. ¾" HOSE BIB H/B-7 (M 3115)
22. 8"X12" CONCENTRIC REDUCER
23. NOT USED
24. PIPE CLAMPS & PIPE SUPPORTS @ 4' MAX SPACING, TYP (M 3367) (M 3371)
25. GROOVED MECHANICAL COUPLING
26. SHORT RADIUS ELBOW
27. SUMP PUMP (M 3202)

NOTES:

1. (XX-XX-XX) DENOTES EQUIPMENT TAG FOR MECHANICAL EQUIPMENT SCHEDULE, SEE DRAWING M-03.
2. PROVIDE MINIMUM OF 1'-0" CLEARANCE SPACE BETWEEN ALL FLANGES AND PIPE SUPPORTS, WALLS, FITTINGS, ETC. TO ALLOW UNRESTRICTED REMOVAL OF FLANGE BOLTS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR FIELD ADJUSTMENT PRIOR TO FABRICATION.
3. COAT INTERIOR FLOOR OF VAULT WITH PROTECTIVE COATING PER SPECIFICATIONS. EXTEND COATING ON WALLS TO AN ELEVATION OF 1'-6" ABOVE FLOOR.
4. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING PLAN AND POWER AND CONTROL PLANS FOR VAULT.
5. REFER TO STRUCTURAL DRAWINGS FOR DETAILS RELATED TO MISCELLANEOUS METALS FABRICATION.
6. COORDINATE ORIENTATION OF VALVE ACTUATORS PRIOR TO MANUFACTURING. ACTUATORS ORIENTED INCORRECTLY WILL BE ROTATED IN THE FIELD AT NO EXPENSE TO THE OWNER.
7. COAT ALL EXPOSED PIPE AFTER INSTALLATION. COAT BURIED AND CONCRETE ENCASED STEEL PIPES, IN ACCORDANCE WITH SPECIFICATIONS.
8. ALL PIPING, NUTS, BOLTS AND HARDWARE TO BE CARBON STEEL, ZINC PLATED, AND FIELD COATED TO MATCH STEEL PIPE AFTER INSTALLATION UNO. SEE GENERAL NOTES.
9. ALL PIPING AND VALVES TO HAVE 150 PSI PRESSURE CLASS, BE NSF 61 CERTIFIED, AND BE FULLY LINED AND COATED PER SPECIFICATIONS.
10. ALL STEEL PIPE SHALL BE STANDARD WEIGHT WITH FITTING REINFORCEMENT PER AWWA M-11 MANUAL, FOR TEST PRESSURE.
11. AIR INTAKE PIPE TO BE FLUSH WITH VAULT WALL AT CEILING, AIR EXHAUST FAN PIPE TO BE CUT AT 45° ANGLE, 12" ABOVE FLOOR.
12. LOCATE AIR INTAKE VENT STACK ON OPPOSITE SIDE OF CONCRETE PAD FROM AIR EXHAUST VENT STACK.
13. COORDINATE MECHANICAL LAYOUT WITH STRUCTURAL TO ALIGN EQUIPMENT WITH HATCH OPENINGS.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

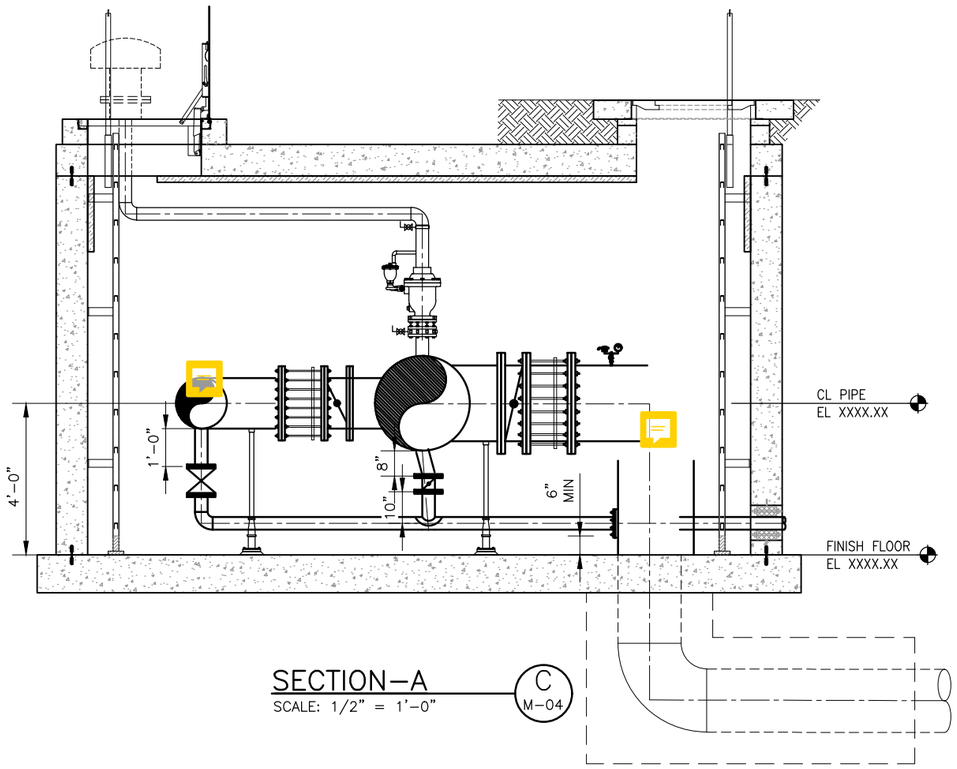
DESIGN
DESIGN L. MINCK
DRAWN J. BLACK

MECHANICAL

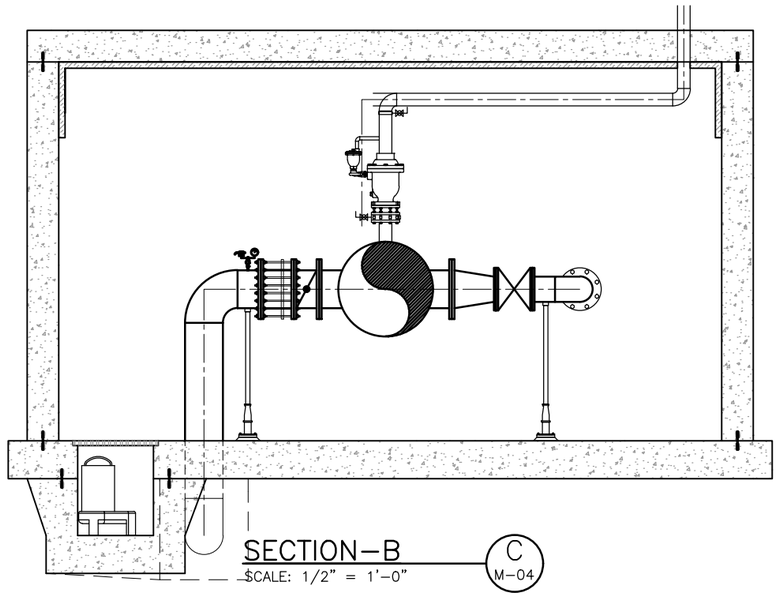
ROSECREST INTERCONNECT VAULT - PLAN

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
M-04
SHEET 54 OF 78



SECTION–A (C / M–04)
SCALE: 1/2" = 1'–0"



SECTION–B (C / M–04)
SCALE: 1/2" = 1'–0"

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			REVISIONS

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ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED
APPROVED

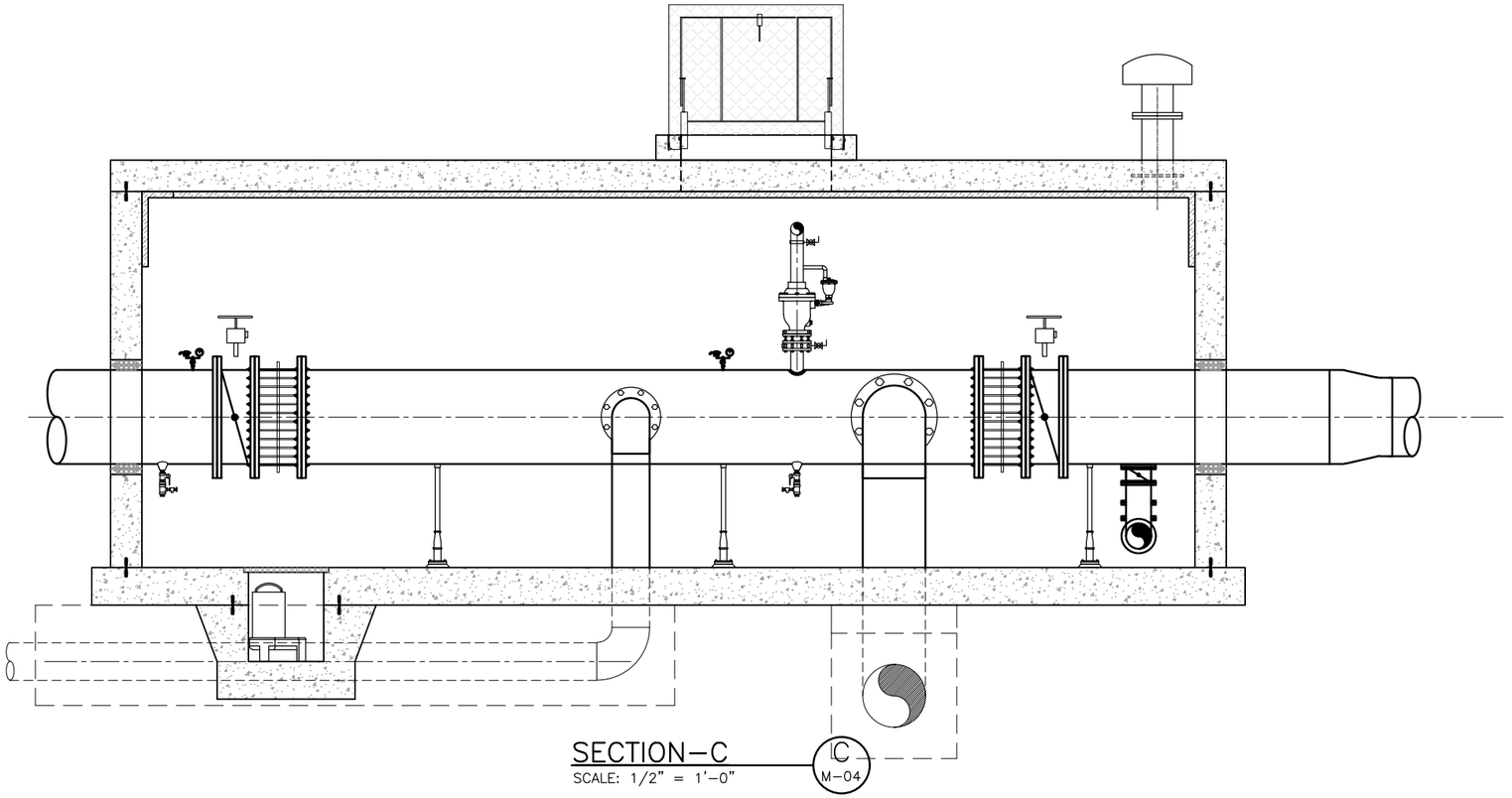
DESIGN
DESIGN
DRAWN

MECHANICAL

ROSECREST INTERCONNECT
VAULT - PROFILE A-B

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
M-05
SHEET 55 OF 78



SECTION–C
SCALE: 1/2" = 1'-0"

C
M-04

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REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

MECHANICAL

ROSECREST INTERCONNECT
VAULT - PROFILE C

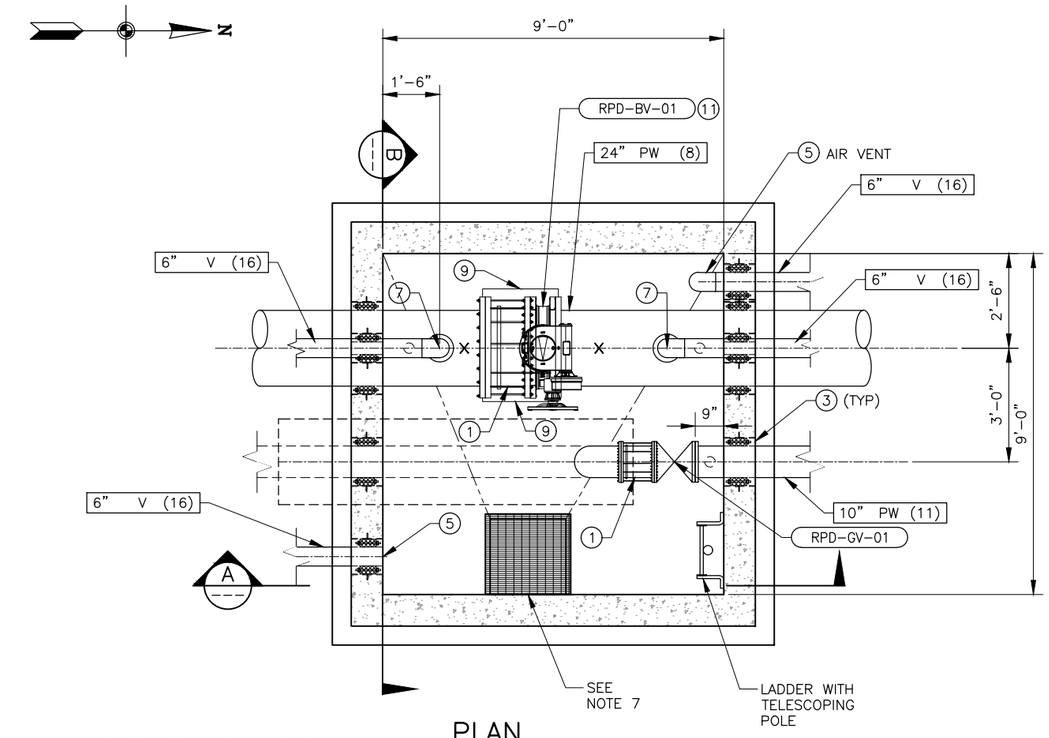
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

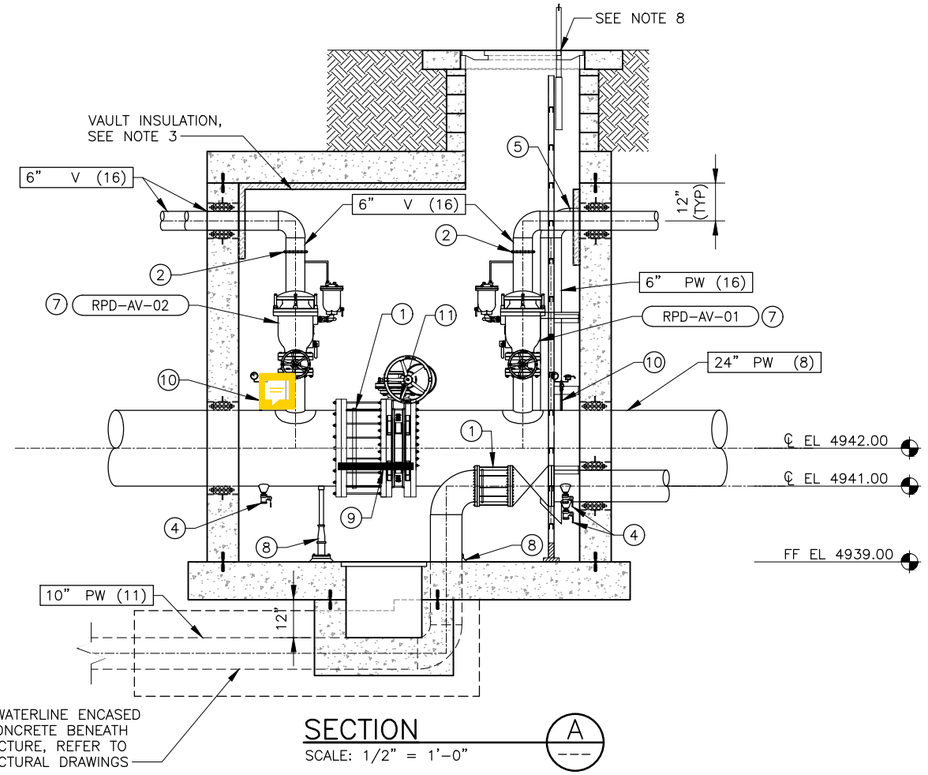
DRAWING NO.
M-06

SHEET 56 OF 78

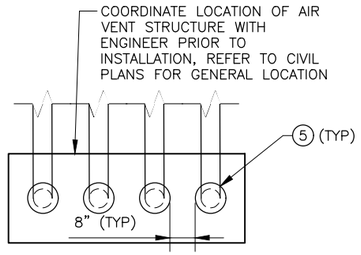
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_M-06.dwg Plotted: 3/27/2025 3:42 PM By: Jeremy Black



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



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



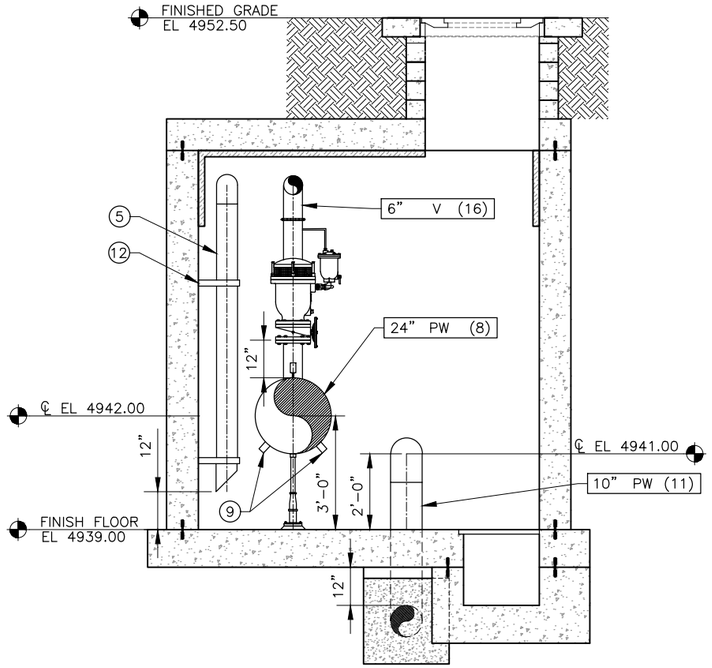
COORDINATE LOCATION OF AIR VENT STRUCTURE WITH ENGINEER PRIOR TO INSTALLATION, REFER TO CIVIL PLANS FOR GENERAL LOCATION

MATERIAL SCHEDULE

1. RESTRAINED DISMANTLING JOINT COUPLING, EPOXY LINED AND COATED
2. GROOVED MECHANICAL COUPLING
3. SLEEVED PIPE OPENING, TYPE A (M 3307)
4. 2" DRAIN WITH BALL VALVE (M 3135)
5. AIR VENT PIPE (M 3324), SIZE VARIES PER PLAN
6. INLET PIPE WITH END CUT 45°
7. COMBINATION AIR VALVE (M 3146)
8. X DENOTES ADJUSTABLE PIPE SUPPORT W/U BOLT (TYP) (M 3389)
9. STEEL FLAT BAR BOND (CP 2783)
10. PRESSURE GAUGE ASSEMBLY (M 3217)
11. BUTTERFLY VALVE
12. PIPE CLAMPS & SUPPORTS @ 4' MAX SPACING, TYP (M 3367) (M 3371)

NOTES:

1. (XX-XX-XX) DENOTES EQUIPMENT TAG FOR MECHANICAL EQUIPMENT SCHEDULE, SEE DRAWING M-03.
2. PROVIDE MINIMUM OF 1'-0" CLEARANCE SPACE BETWEEN ALL FLANGES AND PIPE SUPPORTS, WALLS, FITTINGS, ETC. TO ALLOW UNRESTRICTED REMOVAL OF FLANGE BOLTS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR FIELD ADJUSTMENT PRIOR TO FABRICATION.
3. REFER TO STRUCTURAL DRAWINGS FOR DETAILS RELATED TO MISCELLANEOUS METALS FABRICATION AND INSULATION.
4. COORDINATE ORIENTATION OF VALVE ACTUATORS PRIOR TO MANUFACTURING. ACTUATORS ORIENTED INCORRECTLY WILL BE ROTATED IN THE FIELD AT NO EXPENSE TO THE OWNER.
5. UNLESS OTHERWISE NOTED, ALL STEEL PIPE IN VAULT TO BE STANDARD WEIGHT. COAT ALL EXPOSED PIPE WITH SYSTEM NO. 4 AND LINE WITH SYSTEM NO. 1 PER SPECIFICATIONS. COAT BURIED STEEL PIPES PER SPECIFICATIONS.
6. REINFORCE STEEL PIPE FITTINGS AND OUTLETS PER AWWA C200 AND REFERENCE MANUAL M-11 FOR TEST PRESSURE INDICATED.
7. A MOBILE SUMP WILL BE USED TO DRAIN THE VAULT IF IT BECOMES NECESSARY.
8. PROVIDE CAST IRON FRAME FOR LID OPENING DESIGNED TO MEET HEAVY DUTY TRAFFIC LOADING. 38" PIGGYBACK STYLE FRAME AND COVER (D&L S-1426 OR APPROVED EQUAL) MARKED "WATER" (C 2206)
9. WORKING PRESSURE FOR THIS VAULT: 100 PSI
   TEST PRESSURE FOR THIS VAULT: 150 PSI



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

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

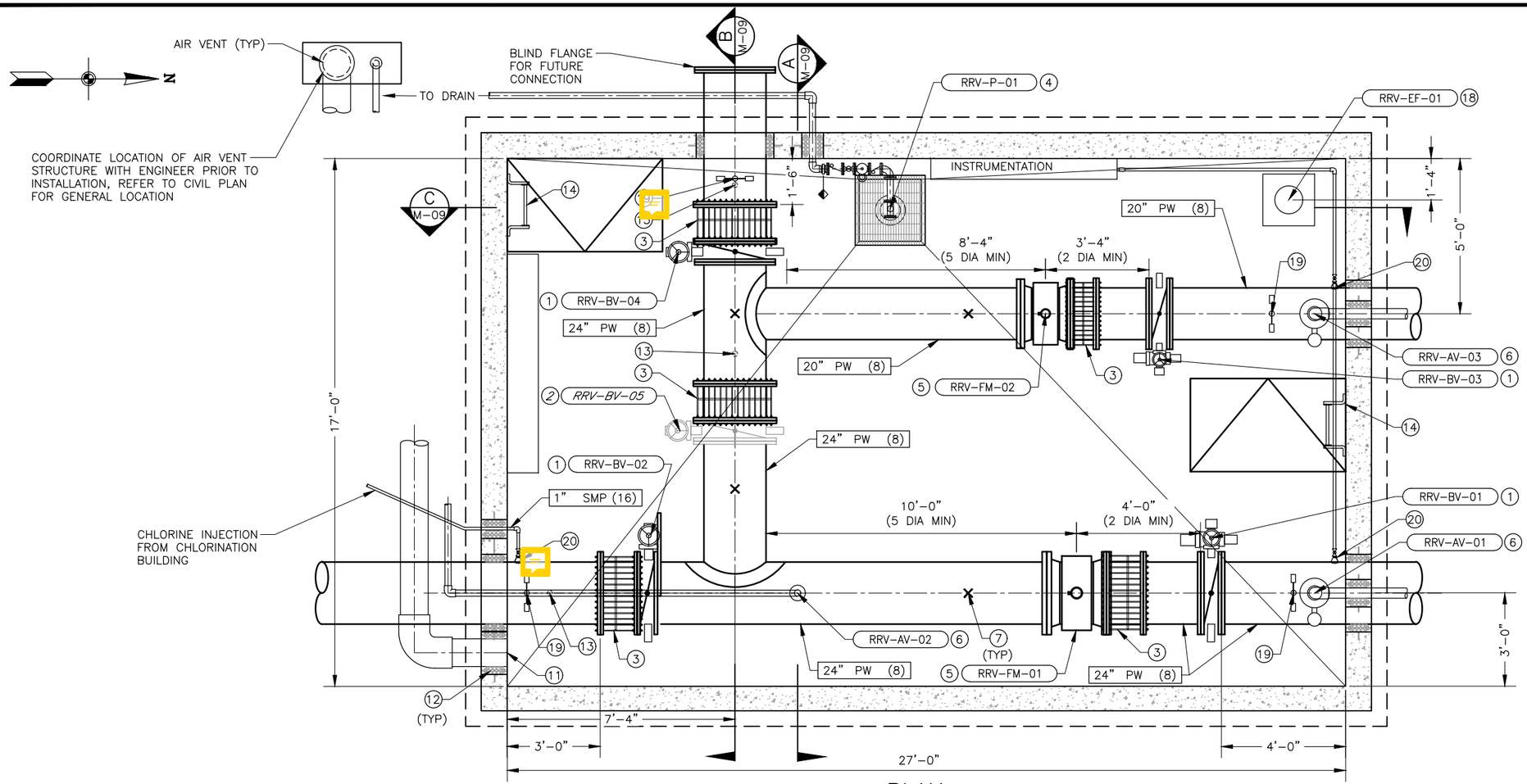
DESIGN L. MINCK
DRAWN J. BLACK
REVIEW CHECKED J. LUETTINGER
APPROVED J. LUETTINGER

MECHANICAL
ROCKY POINT DRIVE VAULT
MECHANICAL PLAN
AND SECTION

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
M-07
SHEET 57 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_M-07.dwg Plotted: 3/27/2025 3:42 PM By: Jeremy Black



PLAN

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

MATERIAL SCHEDULE

1. BUTTERFLY VALVE
2. 24" DIA. SPOOL TO MATCH FUTURE EQUIPMENT LENGTH, SEE NOTE 12
3. RESTRAINED DISMANTLING JOINT COUPLING, EPOXY LINED AND COATED
4. FLOOR SUMP (M 3202)
5. FLOWMETER
6. COMBINATION AIR VALVE (M 3146), SEE AIR VALVE SCHEDULE
7. ✕ DENOTES ADJUSTABLE PIPE SUPPORT W/ (M 3389) BOLT (TYP)
8. PIPE CLAMPS & PIPE SUPPORTS @ 4' MAX SPACING, TYP (M 3367) (M 3371)
9. PIPE HANGER, TYP (M 3353)
10. 3/4" TEE/TAPPING SADDLE (SIZE AS REQUIRED) WITH BRASS BALL VALVE AND CAP (DRAIN OF VENT LINE)
11. AIR VENT PIPE (M 3324), SIZE VARIES PER PLAN, SEE NOTE 11
12. SLEEVED PIPE OPENING, TYPE A (M 3307)
13. 2" DRAIN WITH BALL VALVE (M 3135)
14. LADDER
15. INSULATING FLANGE (CP 2777)
16. GROOVED MECHANICAL COUPLING
17. LIFTING EYE'S PER STRUCTURAL PLAN, TYP
18. WALL MOUNTED INTERIOR EXHAUST FAN, SEE NOTE 11 (M 3328)
19. PRESSURE GAUGE ASSEMBLY (M 3217)
20. 1" SAMPLE LINE CONNECTION WITH 1" SST BALL VALVE (M 3167)
21. ¾" HOSE BIB H/B-7 (M 3115)
22. WALL MOUNTED HOSE RACK (M 3116)

NOTES:

1. (XX-XX-XX) DENOTES EQUIPMENT TAG FOR MECHANICAL EQUIPMENT SCHEDULE, SEE DRAWING M-03.
2. PROVIDE MINIMUM OF 1'-0" CLEARANCE SPACE BETWEEN ALL FLANGES AND PIPE SUPPORTS, WALLS, FITTINGS, ETC. TO ALLOW UNRESTRICTED REMOVAL OF FLANGE BOLTS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR FIELD ADJUSTMENT PRIOR TO FABRICATION.
3. COAT INTERIOR FLOOR OF VAULT WITH PROTECTIVE COATING PER SPECIFICATIONS. EXTEND COATING ON WALLS TO AN ELEVATION OF 1'-6" ABOVE FLOOR.
4. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING PLAN AND POWER AND CONTROL PLANS FOR VAULT.
5. REFER TO STRUCTURAL DRAWINGS FOR DETAILS RELATED TO MISCELLANEOUS METALS FABRICATION.
6. COORDINATE ORIENTATION OF VALVE ACTUATORS PRIOR TO MANUFACTURING. ACTUATORS ORIENTED INCORRECTLY WILL BE ROTATED IN THE FIELD AT NO EXPENSE TO THE OWNER.
7. COAT ALL EXPOSED PIPE AFTER INSTALLATION. COAT BURIED AND CONCRETE ENCASED STEEL PIPES, IN ACCORDANCE WITH SPECIFICATIONS.
8. ALL PIPING, NUTS, BOLTS AND HARDWARE TO BE CARBON STEEL, ZINC PLATED, AND FIELD COATED TO MATCH STEEL PIPE AFTER INSTALLATION UNO. SEE GENERAL NOTES.
9. ALL PIPING AND VALVES TO HAVE 150 PSI PRESSURE CLASS, BE NSF 61 CERTIFIED, AND BE FULLY LINED AND COATED PER SPECIFICATIONS.
10. ALL STEEL PIPE SHALL BE STANDARD WEIGHT WITH FITTING REINFORCEMENT PER AWWA M-11 MANUAL, FOR TEST PRESSURE.
11. AIR INTAKE PIPE TO BE FLUSH WITH VAULT WALL AT CEILING, AIR EXHAUST FAN PIPE TO BE CUT AT 45° ANGLE, 12" ABOVE FLOOR.
12. FUTURE EQUIPMENT SHOWN IN LIGHT GRAY. IN PLACE OF FUTURE EQUIPMENT PROVIDE WSP SPOOL WITH LAY LENGTH TO MATCH FUTURE EQUIPMENT. SPOOL TO HAVE LINING AND COATING TO MATCH VAULT PIPING.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN: DESIGN DRAWN: REVIEW CHECKED APPROVED

MECHANICAL

ROSECREST RESERVOIR VAULT MECHANICAL PLAN

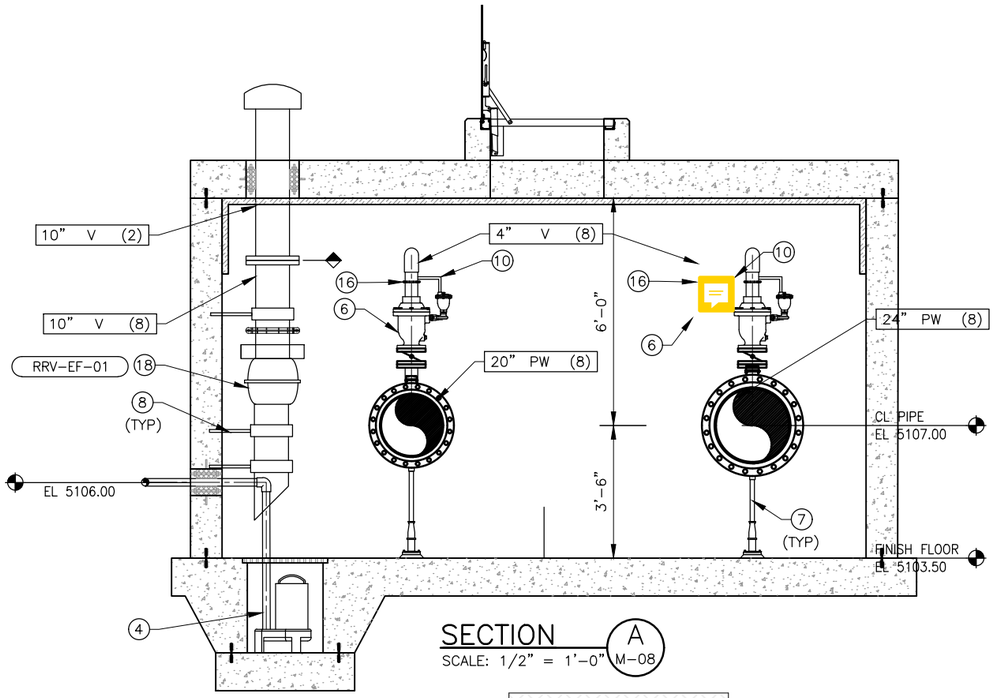
PROJECT NUMBER 010-24-03

DATE: MARCH 2025

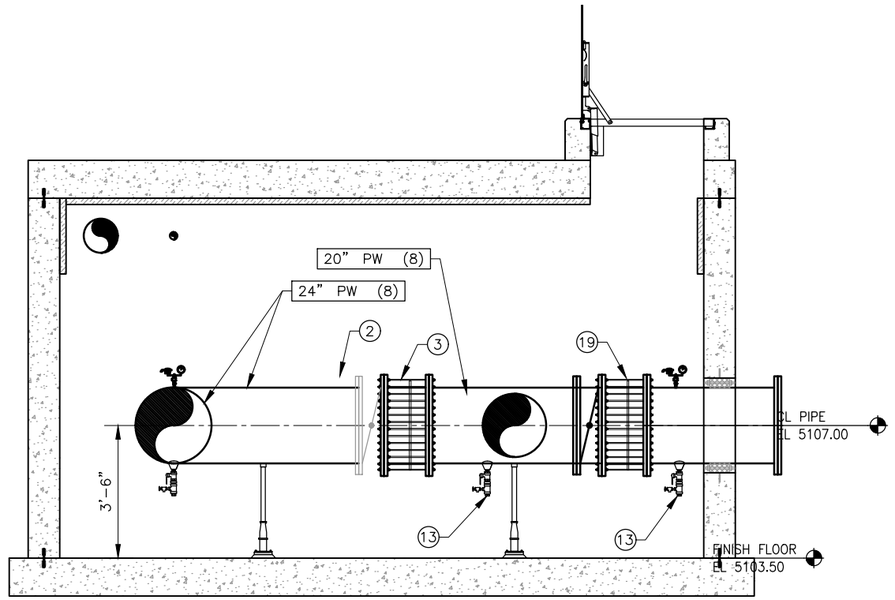
DRAWING NO. M-08

SHEET 58 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_M-08.dwg Plotted: 3/27/2025 3:42 PM By: Jeremy Black



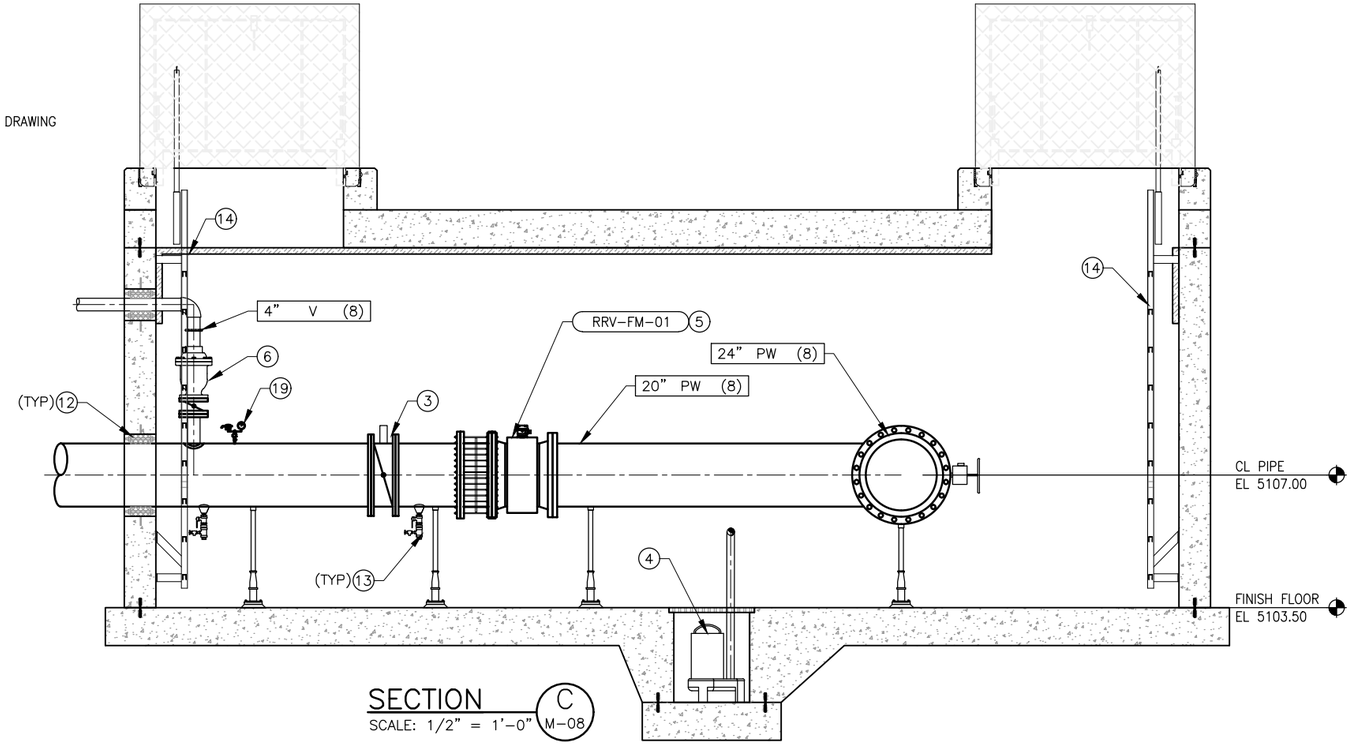
SECTION A
SCALE: 1/2" = 1'-0" M-08



SECTION B
SCALE: 1/2" = 1'-0" M-08

NOTES:

1. FOR MATERIAL SCHEDULE AND ADDITIONAL NOTES SEE DRAWING M-08.



SECTION C
SCALE: 1/2" = 1'-0" M-08

BOWEN COLLINS & ASSOCIATES

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

MECHANICAL
ROSECREST RESERVOIR
VAULT MECHANICAL
SECTIONS

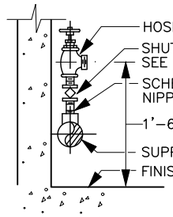
PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
M-09
SHEET 59 OF 78

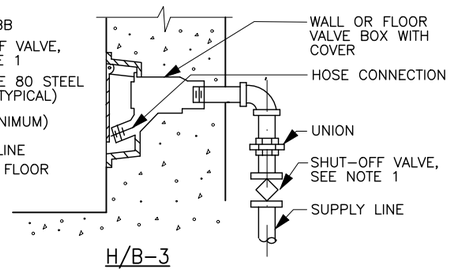
P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_M-09.dwg Plotted: 3/27/2025 3:42 PM By: Jeremy Black

NOTES:

1. ALL HOSE BIBBS TO BE CONTROLLED BY INDIVIDUAL SHUT–OFF VALVES EXCEPT WHERE INDIVIDUALLY CONTROLLED BRANCH MAIN SERVES HOSE VALVES ONLY.
2. SEE DRAWINGS FOR SIZE AND LOCATION. HOSE BIBB SIZE TO MATCH BRANCH LINE SIZE.
3. PROVIDE WARNING SIGN WHEN USED FOR NON–POTABLE WATER.
4. PIPE SUPPORT TYPE AND MATERIAL AS SHOWN ON DRAWING.
5. ALL COMPONENTS TO BE NSF 61 CERTIFIED FOR DRINKING WATER USE, WHERE CONNECTED TO POTABLE WATER MAIN.
6. ALL THREADED HOSE BIBBS SHALL HAVE VACUUM BREAKERS.

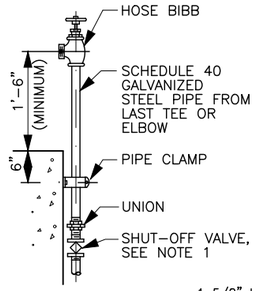


H/B–1

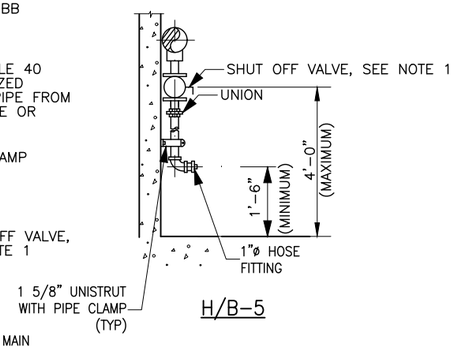


H/B–3

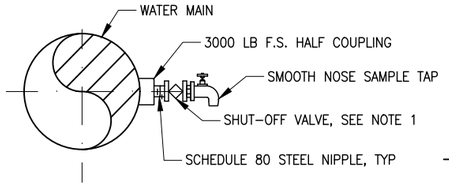
(H/B–2, NON FREEZE)



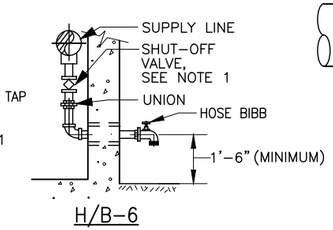
H/B–4



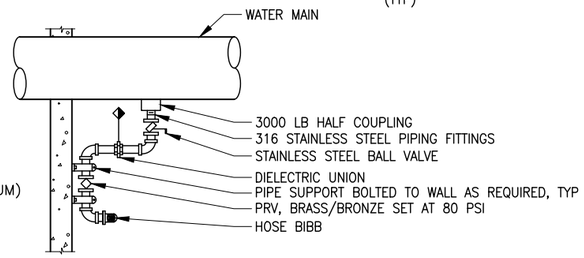
H/B–5



SAMPLE TAP



H/B–6

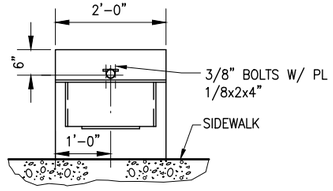


PLAN H/B–7

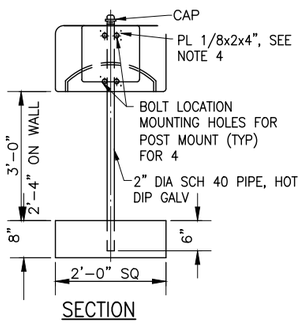
HOSE BIBB

NTS

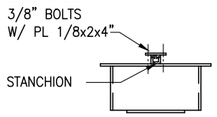
M 3115



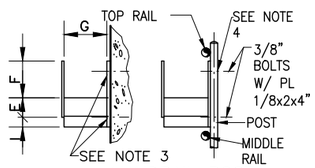
PLAN–POST MOUNT



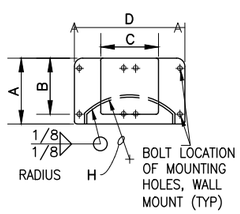
SECTION



STANCHION MOUNTED



HANDRAIL POST MOUNTED



WALL MOUNTED

RACK TYPE	DIMENSION IN INCHES								
	A	B	C	D	E	F	G	H	I
TYPE A – ¾" & 1" HOSE	10½	9	9	18	3	6	7½	9¾	1½
TYPE B – 1½" HOSE	14	12	12	24	4	8	10	13	2

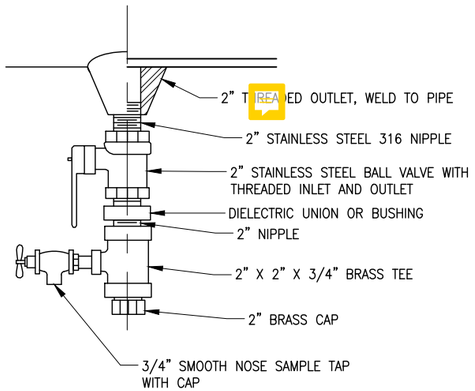
NOTES:

1. INTERIOR UNITS SHALL BE FABRICATED FROM 1/8" A–36 STEEL PLATE AND ENTIRE UNIT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
2. EXTERIOR UNITS SHALL BE FABRICATED FROM 3/16" 6061–T6 ALUMINUM ALLOY PLATE.
3. ATTACH TO CONCRETE WALL WITH (4)–1/4" STAINLESS STEEL STUD TYPE WEDGE ANCHORS.
4. ATTACH TO VERTICAL HANDRAIL OR INDIVIDUAL POST WITH PLATES AND (4)–1/4" STAINLESS STEEL BOLTS.
5. ATTACH TO STEEL COLUMN WITH (4)–1/4" ROUND HEAD BOLTS, ONE IN EACH CORNER. INSERT DOUBLE SPACER NUTS BETWEEN COLUMN AND HOSE RACK.
6. CONTRACTOR TO PROVIDE AND INSTALL 50FT OF HOSE.

HOSE RACK DETAILS

NTS

M 3116



NOTES:

1. ALL THREADED HOSE BIBS OR SAMPLE TAPS SHALL HAVE VACUUM BREAKERS.
2. ALL BRASS AND BRONZE PIPING AND FITTINGS TO BE CERTIFIED FOR POTABLE WATER.

2" DRAIN ASSEMBLY

NTS

M 3135

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED
APPROVED

DESIGN
DESIGN
DRAWN

GENERAL MECHANICAL DETAILS

GENERAL MECHANICAL DETAILS - 1

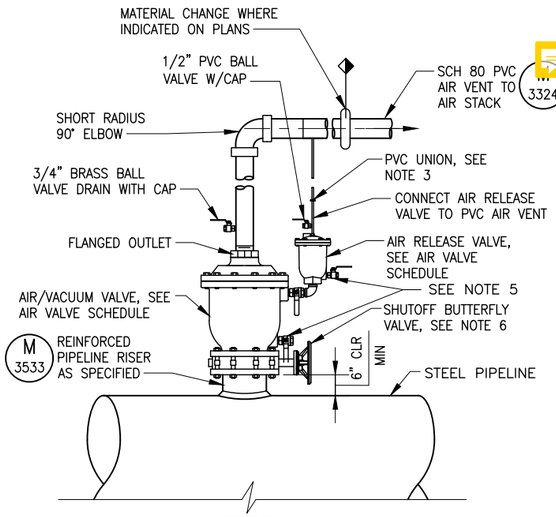
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
GM-01

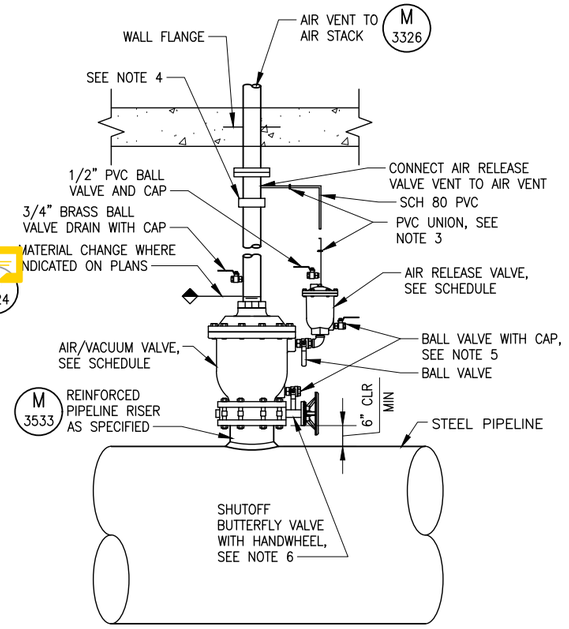
SHEET 61 OF 78

NOTES:

1. SIZE OF ALL VALVES AND PIPING TO MATCH AIR VALVE.
2. PIPE MATERIAL AS SHOWN ON PLANS, TYPE PER PLAN.
3. USE PVC UNION FOR SMALL DIAMETERS 4" AND LESS. PROVIDE GROOVED MECHANICAL COUPLING ON PIPE DIAMETERS 6" AND LARGER FOR DISASSEMBLY.
4. GROOVE END COUPLING WHERE REQUIRED.
5. INSTALL STAINLESS STEEL 316 BALL VALVES WITH CAPS TO DRAIN, BODY OF AIR VALVES, TYP.
6. SUBSTITUTE SST BALL VALVE FOR 3" AND SMALLER.



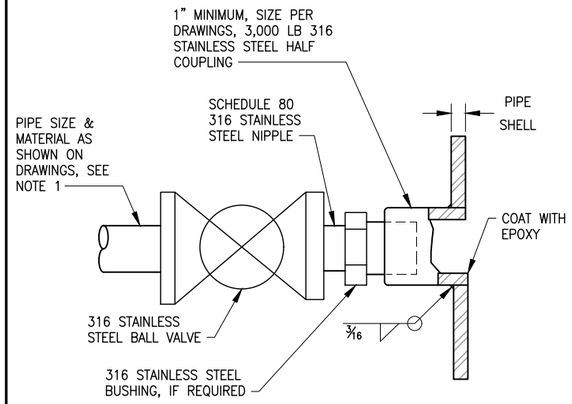
TYPE A



TYPE B

COMBINATION AIR VALVE DETAIL M 3146

NTS

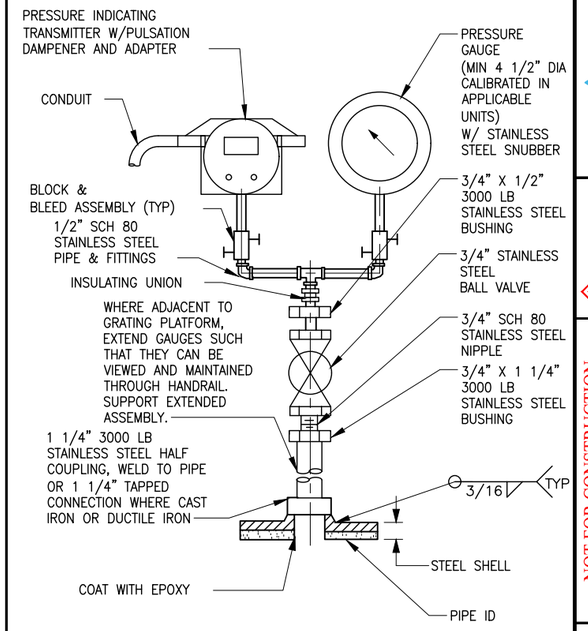


NOTE:

1. IF PIPE MATERIAL IS STAINLESS STEEL, SAME TYPE MATERIAL ATTACHMENT SHALL BE USED.

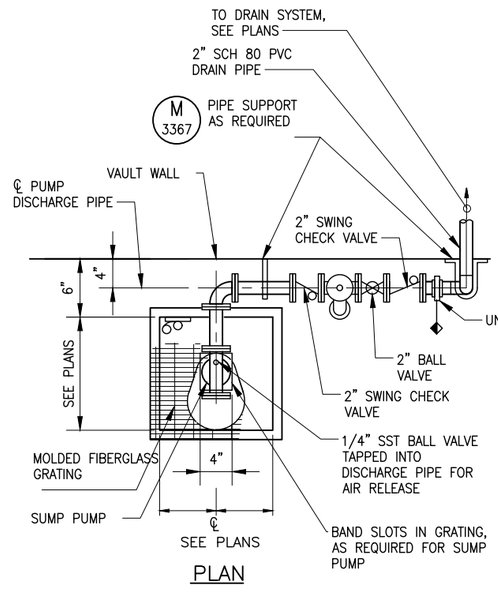
PIPE CONNECTION 2 1/2" AND SMALLER M 3167

NTS

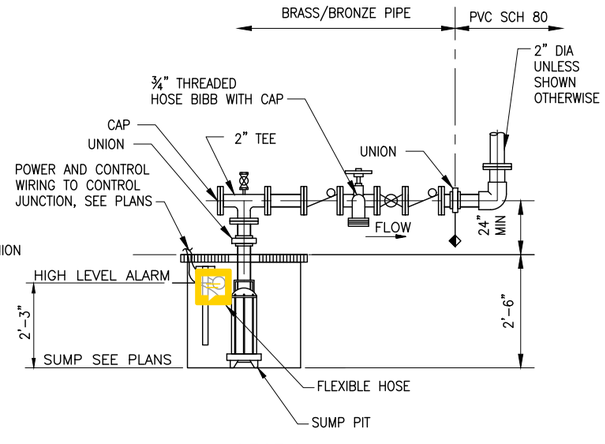


PRESSURE GAUGE AND PRESSURE INDICATING TRANSMITTER M 3183

NTS



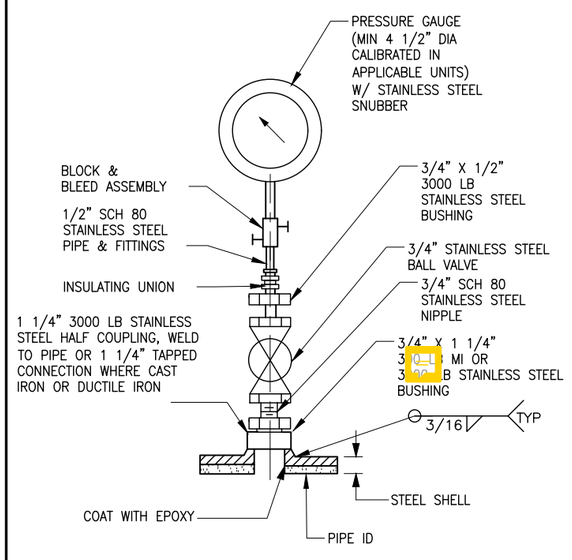
PLAN



SECTION

SUMP PUMP DETAILS M 3202

NTS



PRESSURE GAUGE M 3217

NTS

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			REVISIONS

VERIFY SCALE
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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN: DESIGN | DRAWN: DRAWN
REVIEW: CHECKED | APPROVED

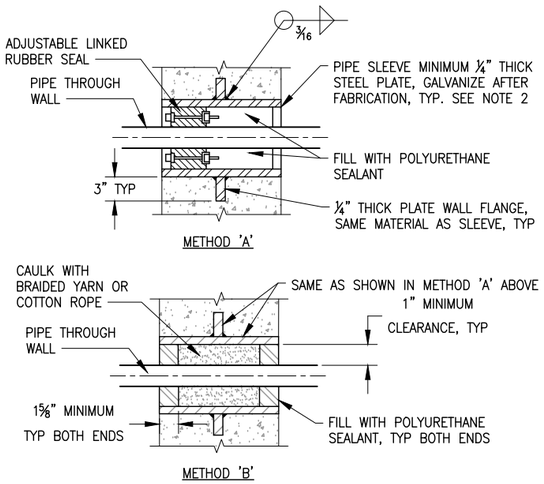
GENERAL MECHANICAL DETAILS
GENERAL MECHANICAL DETAILS - 2

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
GM-02

SHEET 62 OF 78

P:\JORDAN VALLEY WCD\010-24-03 ROSECREST PIPELINE CAPACITY UPGRADES\2.0 DESIGN PHASE\2.9 DRAWINGS\SHT\0102403_GM-02.dwg Plotted: 3/27/2025 3:43 PM By: Jeremy Black



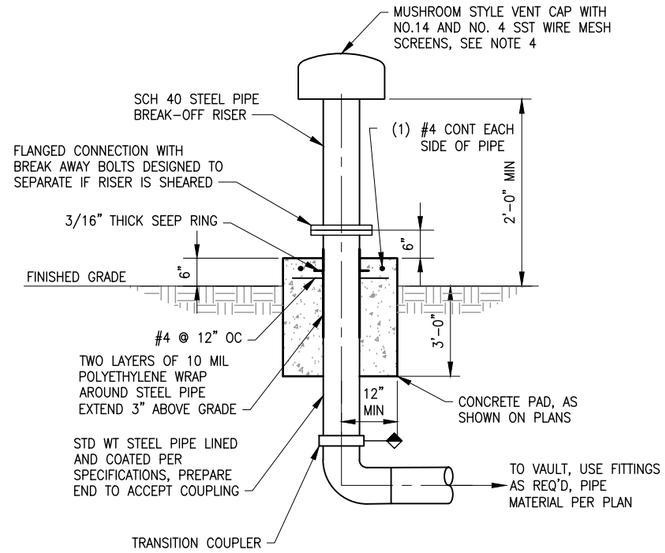
NOTES:

1. FOR WATER BEARING WALLS, USE METHOD 'A' WITH ADJUSTABLE LINKED RUBBER SEAL AT BOTH ENDS.
2. SLEEVES ARE NOT REQUIRED IN CORE DRILLED WALLS, PENETRATIONS THROUGH EXISTING WALLS, OR FLOORS

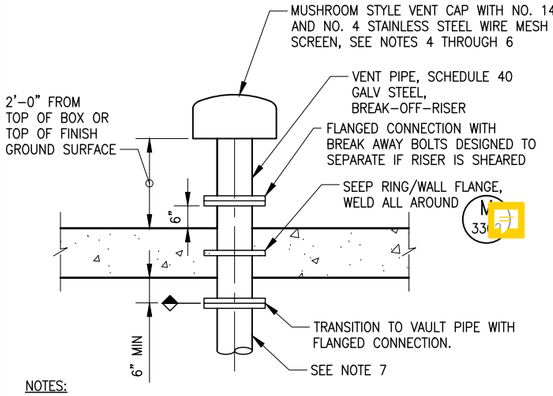
SLEEVED PIPE OPENING
NTS — M 3307

NOTES:

1. SIZE OF PIPING, SEE VAULT DETAILS AND AIR VALVE SCHEDULE.
2. WELD ALL STEEL FITTINGS.
3. ALL ABOVE GRADE STEEL PIPING SHALL BE HOT DIP GALVANIZED.
4. VENT CAP FOR PIPELINE AIR VALVES MUST MEET STATE DRINKING WATER STANDARDS. ENGINEER MAY REQUIRE SUBSTITUTION WITH STANDARD GOOSENECK STYLE VENT IF SUPPLIER DOES NOT MEET STATE REQUIREMENTS.
5. VENT PIPE MATERIAL AS SHOWN ON PLANS.
6. WHERE MULTIPLE VENT STACKS ARE ADJACENT TO EACH OTHER, LOCATE VENTS A MINIMUM OF 16" APART.



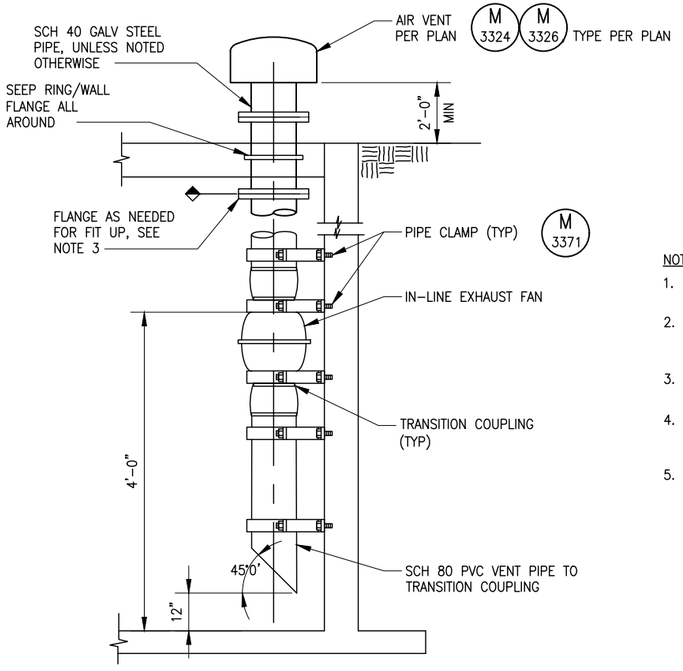
VENT STACK
NTS — M 3324



NOTES:

1. SIZE OF PIPING, SEE VAULT DETAILS, AND AIR VALVE SCHEDULE.
2. WELD ALL STEEL FITTINGS.
3. ALL ABOVE GRADE STEEL PIPING SHALL BE HOT DIP GALVANIZED.
4. VENT CAP FOR PIPELINE AIR VALVES MUST MEET STATE DRINKING WATER STANDARDS. ENGINEER MAY REQUIRE SUBSTITUTION WITH STANDARD GOOSENECK STYLE VENT IF SUPPLIER DOES NOT MEET STATE REQUIREMENTS.
5. AREA OF SPACE BETWEEN RISER AND MUSHROOM CAP MUST EXCEED AIR FLOW AREA OF RISER PIPE.
6. PROVIDE RUBBER GASKETS ABOVE AND BELOW SCREEN.
7. VENT PIPE MATERIAL AS SHOWN ON PLANS.

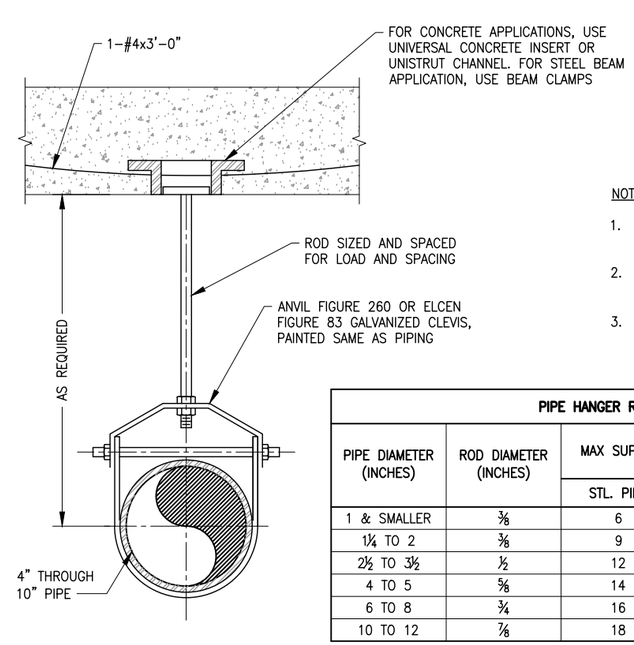
AIR VENT/VENT STACK DETAIL
NTS — M 3326



NOTES:

1. ALL ABOVE GROUND PIPING SHALL BE HOT DIP GALVANIZED.
2. VENT PIPING SHALL MATCH FAN DIAMETER PER PLAN (UNLESS OTHERWISE NOTED), SEE MECHANICAL DRAWINGS FOR ACTUAL SIZES.
3. PROVIDE FLANGED CONNECTIONS FOR VENTS LARGER THAN 6" OR LONGER THAN 10 FEET.
4. PROVIDE FLEXIBLE FERNCO CONNECTOR WITH SPACE FILLER AROUND FAN CUT FROM ANOTHER RUBBER CONNECTOR.
5. INSTALL PIPE CLAMPS ON EACH SIDE OF FAN AND AT BOTTOM OF PIPE INTAKE. INSTALL ADDITIONAL CLAMPS AS NEEDED TO SUPPORT PIPING.

EXHAUST VENT DETAIL
NTS — M 3328



NOTES:

1. FOR INSULATED PIPES. USE ANVIL FIG. 167 OR ELCEN FIGURE 219 INSULATION PROTECTION SHIELD.
2. TOTAL LOADING ON EACH CONCRETE INSERT OR OTHER TYPE HANGER ROD ANCHOR SHALL NOT EXCEED MFR'S RECOMMENDED LOADINGS.
3. PIPE SUPPORT AND HARDWARE SHALL BE STAINLESS STEEL.

PIPE HANGER RODS AND SUPPORT SPACING

PIPE DIAMETER (INCHES)	ROD DIAMETER (INCHES)	MAX SUPPORT SPACING (FEET)		WEIGHT LIMIT (POUNDS)	
		STL. PIPE	C.I. PIPE	TYPE 'A'	TYPE 'B'
1 & SMALLER	⅜	6	5	610	1700
1¼ TO 2	⅜	9	5	610	1700
2½ TO 3½	½	12	5	1130	3200
4 TO 5	⅝	14	5	1430	3800
6 TO 8	¾	16	5	1430	3800
10 TO 12	⅞	18	–	1430	3800

PIPE HANGER
NTS — M 3353

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			REVISIONS

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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW — CHECKED — APPROVED
DESIGN — DESIGN — DRAWN

GENERAL MECHANICAL DETAILS

GENERAL MECHANICAL DETAILS - 3

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO. GM-03
SHEET 63 OF 78

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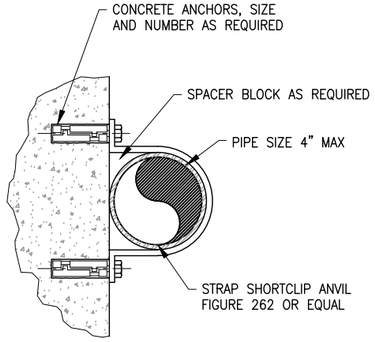
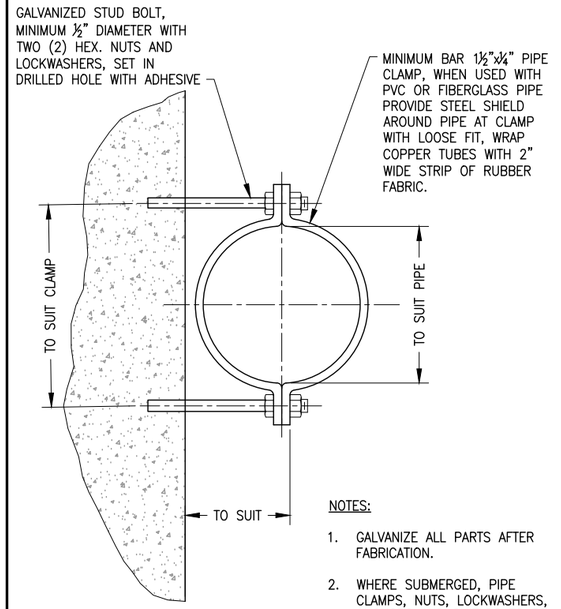


NOTES:

1. ALL HARDWARE SHALL BE STAINLESS STEEL.

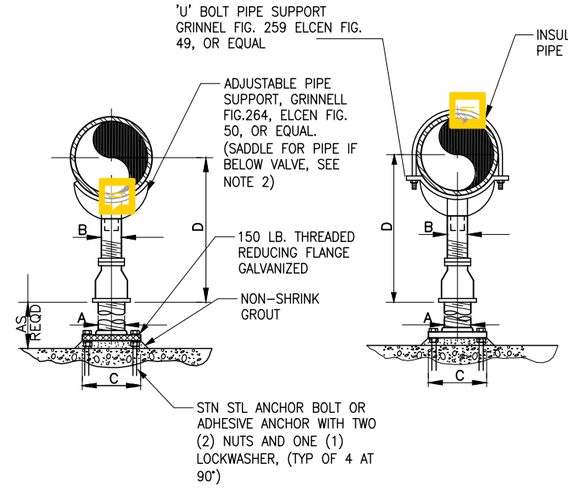
PIPE SUPPORT
NTS — M 3367



NOTES:

1. GALVANIZE ALL PARTS AFTER FABRICATION.
2. WHERE SUBMERGED, PIPE CLAMPS, NUTS, LOCKWASHERS, ANCHORS AND SHIELDS TO BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP
NTS — M 3371

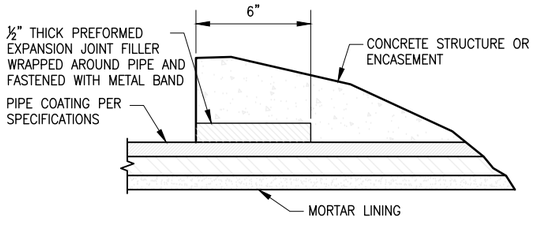


DIMENSION TABLE					
PIPE SIZE	A	B	C	D	
				MIN	MAX
2 ½"	2 ½"	1 ½"	9"	8"	11 ½"
3"	2 ½"	1 ½"	9"	8 ¼"	11 ¾"
3 ½"	2 ½"	1 ½"	9"	8 ½"	12"
4"	3"	2 ½"	9"	10 ¼"	14"
6"	3"	2 ½"	9"	11 ⅝"	15 ¼"
8"	3"	2 ½"	9"	13 ⅜"	16 ½"
10"	3"	2 ½"	9"	14 ⅝"	18 ¼"
12"	3"	2 ½"	9"	15 ⅝"	19 ¾"
14"	4"	3"	11"	18 ⅞"	20 ¾"
16"	4"	3"	11"	19 ⅞"	22 ¼"
18"	6"	3 ½"	13 ½"	21 ¼"	24"
20"	6"	3 ½"	13 ½"	23 ¼"	25 ½"
24"	6"	4"	13 ½"	26 ½"	28 ¼"
30"	6"	4"	13 ½"	29 ⅝"	31 ½"
32"	6"	4"	13 ½"	30 ⅝"	32 ¾"
36"	6"	4"	13 ½"	32 ⅝"	34 ¾"

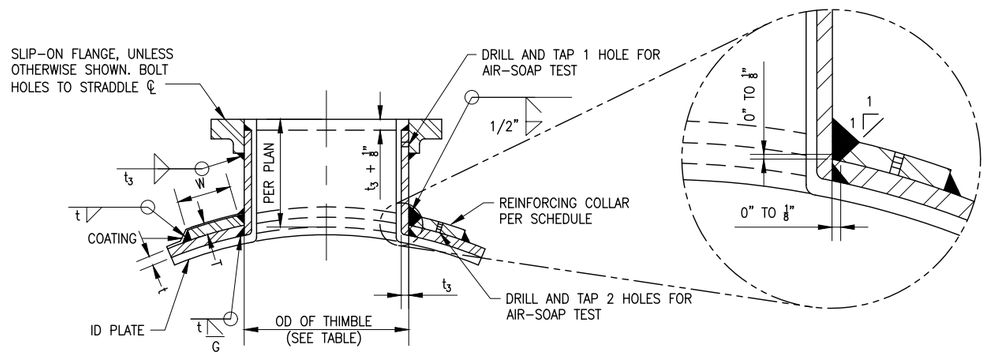
NOTES:

1. ENTIRE UNIT SHALL BE GALVANIZED AFTER FABRICATION.
2. WHERE PIPE SUPPORT IS SHOWN BELOW A VALVE, PROVIDE ADJUSTABLE PIPE SUPPORT WITH A FLAT TOP (8"X8"X1/2") PLATE.

ADJUSTABLE PIPE SUPPORT WITH OR WITHOUT U-BOLT
NTS — M 3389



PIPE ENCASEMENT END
NTS — M 3408



NOTES:

1. ALL PIPING AND FITTINGS ARE TO BE CEMENT MORTAR LINED AND COATED PER SPECIFICATIONS, UNO.
2. COLLAR THICKNESS AND WIDTH ARE MINIMUM TO BE PROVIDED.
3. OUTLET REINFORCEMENT TO BE THE GREATER OF WHAT IS SHOWN IN THIS DETAIL OR PER AWWA C-208 AND M-11 FOR WORKING AND TEST PRESSURE REQUIREMENTS.

OUTLET / RISER REINFORCING COLLAR DATA					
NORMAL SIZE	SCHEDULE PIPE	MINIMUM t3 WALL THICKNESS (IN)	O.D. THIMBLE (IN)	COLLAR DIMENSIONS	
				W (IN)	T (IN)
4	SCH 80	0.337	4 1/2	2 1/4	0.50
6	SCH 80*	0.375	6 5/8	3 5/16	0.50
8	SCH 60*	0.375	8 5/8	4 5/16	0.50
12	STD	0.375	12 3/4	6 3/8	0.50
16	STD	0.375	16	8	0.50
24	STD	0.375	24	12	0.50
30	STD	0.375	30	15	0.50

*MATCH SCHEDULE OR MINIMUM THICKNESS

OUTLET DETAIL
NTS — M 3533

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JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

DESIGN: DESIGN, DRAWN
REVIEW: CHECKED, APPROVED

GENERAL MECHANICAL DETAILS
GENERAL MECHANICAL DETAILS - 4

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
GM-04

SHEET 64 OF 78

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LEGEND

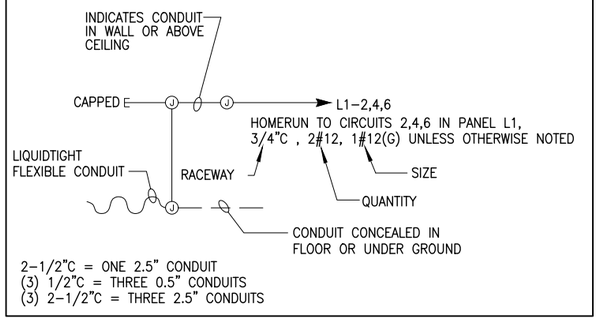
SYMBOL	LIGHTING
	RECESSED TROFFER
	WALL MOUNTED LINEAR FIXTURE
	SURFACE MOUNTED LINEAR FIXTURE
	SUSPENDED LINEAR FIXTURE
	SHADED FIXTURE INDICATES EMERGENCY BALLAST
	RECESSED DOWNLIGHT
	WALL MOUNTED FIXTURE
	POLE MOUNTED AREA LIGHT
	WALL MOUNT EXIT LIGHT (W/ DIRECTIONAL ARROWS)
	SURFACE MOUNTED DOWNLIGHT
	EMERGENCY WALL LIGHT, SINGLE
	EMERGENCY WALL LIGHT, DOUBLE

SYMBOL	DEVICES & POWER
$	SWITCH – SPST 3 THREE WAY 4 FOUR WAY WP WEATHER PROOF EXP EXPLOSION PROOF M MANUAL MOTOR DISCONNECT/STARTER T TIMER MC MOMENTARY CONTACT HC HANDICAPPED
	RECEPTACLE – SIMPLEX
GFI WP	RECEPTACLE – DUPLEX GFI GROUND FAULT INTERRUPT WP WEATHER RESISTANT DEVICE W/ WHILE–IN–USE COVER
	RECEPTACLE – DOUBLE DUPLEX SAME INDICATORS AS SHOWN FOR DUPLEX
J	J–BOX, J–BOX WALL MOUNTED, 4"x4"x2 1/8" DEEP UNLESS NOTED OTHERWISE
T	J–BOX, CONDUIT, PULL STRING BY EC THERMOSTAT, SUPPLIED AND INSTALLED BY MC
	LCS (LOCAL CONTROL STATION)
	EMERGENCY PUSHBUTTON
PC	PHOTOCELL
	SPECIAL PURPOSE CONNECTION, BOX INDICATES FLOOR MOUNTING, WORK AS NOTED
	PANELBOARD, MOUNTING AS INDICATED ON PANEL SCHEDULE
	COMBINATION STARTER
	DISCONNECT SWITCH
	CONTACTOR
	CIRCUIT BREAKER AF/AT FRAME RATING, TRIP RATING LSIG ADJUSTABLE (L)ONG, (S)HORT, (I)NSTANTANEOUS (G) GROUND FAULT ARMS ARC ENERGY REDUCTION MAINTENANCE SWITCH
	TRANSFORMER, DRY–TYPE
	TRANSFORMER, PAD MOUNTED

SYMBOL	GROUNDING
	GROUND ROD
	GROUND ROD WITH GROUND TEST WELL
	GROUND RISER FROM REBAR
	MECHANICALLY CRIMPED OR WELDED GROUND CONNECTIONS
	GROUND CABLE: EMBEDDED IN CONCRETE BURIED IN EARTH EXPOSED

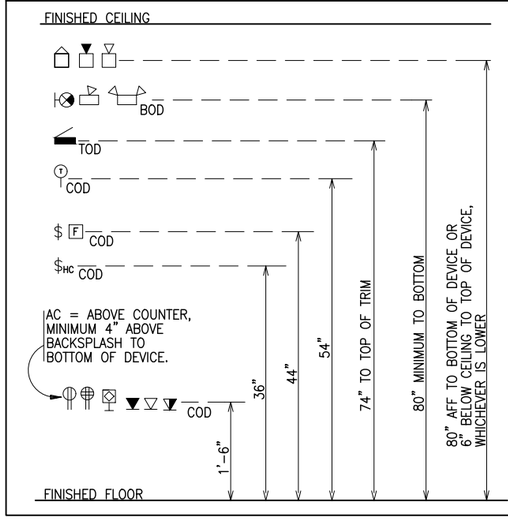
SYMBOL	SCHEMATIC
TR	SELECTOR SWITCH 2 POSITION
TR	NORMALLY OPEN TIME DELAY CLOSING AFTER COIL ENERGIZED NORMALLY CLOSED TIME DELAY OPENING AFTER COIL ENERGIZED
W	INDICATOR LIGHT
	REMOTE DEVICE CONNECTION
	CLOSED RELAY CONTACT
	OPEN RELAY CONTACT
	TERMINAL TO EXTERNAL REMOTE DEVICE
	WIRE TERMINAL OR CONNECTION POINT
	LIMIT SWITCH
CR	CONTROL RELAY
	VT/PT CPT
HAND OFF AUTO	SELECTOR SWITCH 3 POSITION MAINTAINED CONTACT
	LEVEL SWITCH CLOSES ON FALLING LEVEL
	LEVEL SWITCH CLOSES ON RISING LEVEL
	CONTROL SWITCH PUSHBUTTON, MOMENTARY CONTACT N.C.
	GROUND CONNECTION
	SOLENOID
	FLOW SWITCH CLOSES ON LOW FLOW
	PRESSURE SWITCH CLOSES ON RISING PRESSURE
	TRANSFORMER W/ DELTA–Y AND GROUND
M	UTILITY METER, UTILITY CT
	CIRCUIT BREAKER
	ELECTRICAL PANEL
	FUSE
2	MOTOR STARTER NEMA SIZE AS NOTED
	DISCONNECT SWITCH SIZE AS NOTED
AHF	ACTIVE HARMONIC FILTER
PHF	PASSIVE HARMONIC FILTER
M	MOTOR (10 HORSEPOWER NOTED)
SPD	SURGE PROTECTION DEVICE
PQM	POWER QUALITY METER
VFD	VARIABLE FREQUENCY DRIVE
PMR	PUMP MONITOR RELAY
RVSS	REDUCED VOLTAGE SOFT STARTER
dV/dt	dV/dt FILTER

CIRCUITING SYMBOLS



2–1/2"C = ONE 2.5" CONDUIT
(3) 1/2"C = THREE 0.5" CONDUITS
(3) 2–1/2"C = THREE 2.5" CONDUITS

INTERIOR BOX MOUNTING HEIGHTS



SYMBOL	ABBREVIATIONS AND MISCELLANEOUS
ATS	AUTOMACTIC TRANSFER SWITCH
EC	ELECTRICAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
GC	GENERAL CONTRACTOR
C	CONDUIT
GND, G	GROUND
BOD	BOTTOM OF DEVICE
COD	CENTER OF DEVICE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BLG	BELOW GRADE
AC	ABOVE COUNTER, 4" ABOVE BACK SPLASH
BC	BELOW COUNTER, 4" BELOW COUNTER TOP
W/	WITH
a,b,c	SWITCH DESIGNATION
UON	UNLESS OTHERWISE NOTED
UG	UNDERGROUND
WP	WEATHER PROOF
FO	FIBER OPTIC
MD	MEDIUM VOLTAGE
X / X	INDICATES STANDARD DETAIL
XXX	EQUIPMENT TAG NUMBER
X,XXX	FAULT CURRENT VALUE
XXX	CONDUIT TAG

GENERAL NOTES:

1. NOT ALL EQUIPMENT SYMBOLS SHOWN ARE USED.
2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH–IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO ENSURE NEC CODE CLEARANCE REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED BEFORE BEGINNING ROUGH–IN.
4. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH–IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC.
5. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES; OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN THE OTHER AREAS.
6. ALL PENETRATIONS OF FLOORS, WALLS AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL.
7. FOR PACKAGE EQUIPMENT PROVIDED ON THE PROJECT, SOME CONDUITS AND WIRES ARE SHOWN ON THE DRAWINGS, BUT IT IS EXPECTED THAT SOME ADDITIONAL CONDUITS AND WIRES MAY BE REQUIRED BY EQUIPMENT MANUFACTURERS TO COMPLETE INSTALLATION. IT IS INCUMBENT UPON THE GENERAL CONTRACTOR TO COORDINATE THIS REQUIREMENT WITH HIS SUBCONTRACTORS TO MAKE SURE THAT EQUIPMENT SUPPLIER PROVIDED ALL NECESSARY ELECTRICAL INFORMATION TO ELECTRICAL SUBCONTRACTOR FOR INCLUSION WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
8. IF OTHER THAN FIRST NAMED EQUIPMENT IS USED, IT SHALL BE CAREFULLY CHECKED FOR ELECTRICAL REQUIREMENTS AND CONTROL REQUIREMENTS OF ALTERNATE EQUIPMENT. SHOULD CHANGES OR ADDITIONS OCCUR IN ELECTRICAL WORK, OR THE WORK OF OTHER CONTRACTORS BE REVISED BY THE ALTERNATE EQUIPMENT, THE COST OF ALL CHANGES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
9. IT IS THE ELECTRICAL SUBCONTRACTOR'S RESPONSIBILITY TO RECEIVE THE COMPLETE SET OF PLANS IN ORDER TO ENSURE THAT ALL ITEMS RELATED TO ELECTRICAL POWER AND CONTROL SYSTEMS ARE COMPLETELY ACCOUNTED FOR.
10. ALL EQUIPMENT DIMENSIONS SHOWN ON PLANS AND ELEVATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL USE THE SHOP DRAWINGS FOR PROPER LAYOUT, FOUNDATION AND PAD, ETC. FOR FINAL INSTALLATION WITHOUT ANY ADDITIONAL COST TO THE OWNER.
11. THE DRAWINGS GENERALLY ILLUSTRATE THE APPROXIMATE DESIRED LOCATION AND ARRANGEMENT OF OUTLETS, CONDUIT RUNS, EQUIPMENT AND OTHERS ITEMS. DETERMINE EXACT LOCATIONS IN THE FIELD BASED ON PHYSICAL SIZE AND ARRANGEMENT OF EQUIPMENT, FINISHED ELEVATIONS, EASEMENT LOCATIONS, AND OTHER OBSTRUCTIONS. LOCATIONS SHOWN ON THE DRAWINGS, HOWEVER, SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE.
12. THE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE CURRENT VERSION OF THE NEC, LOCAL, AND STATE CODES.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

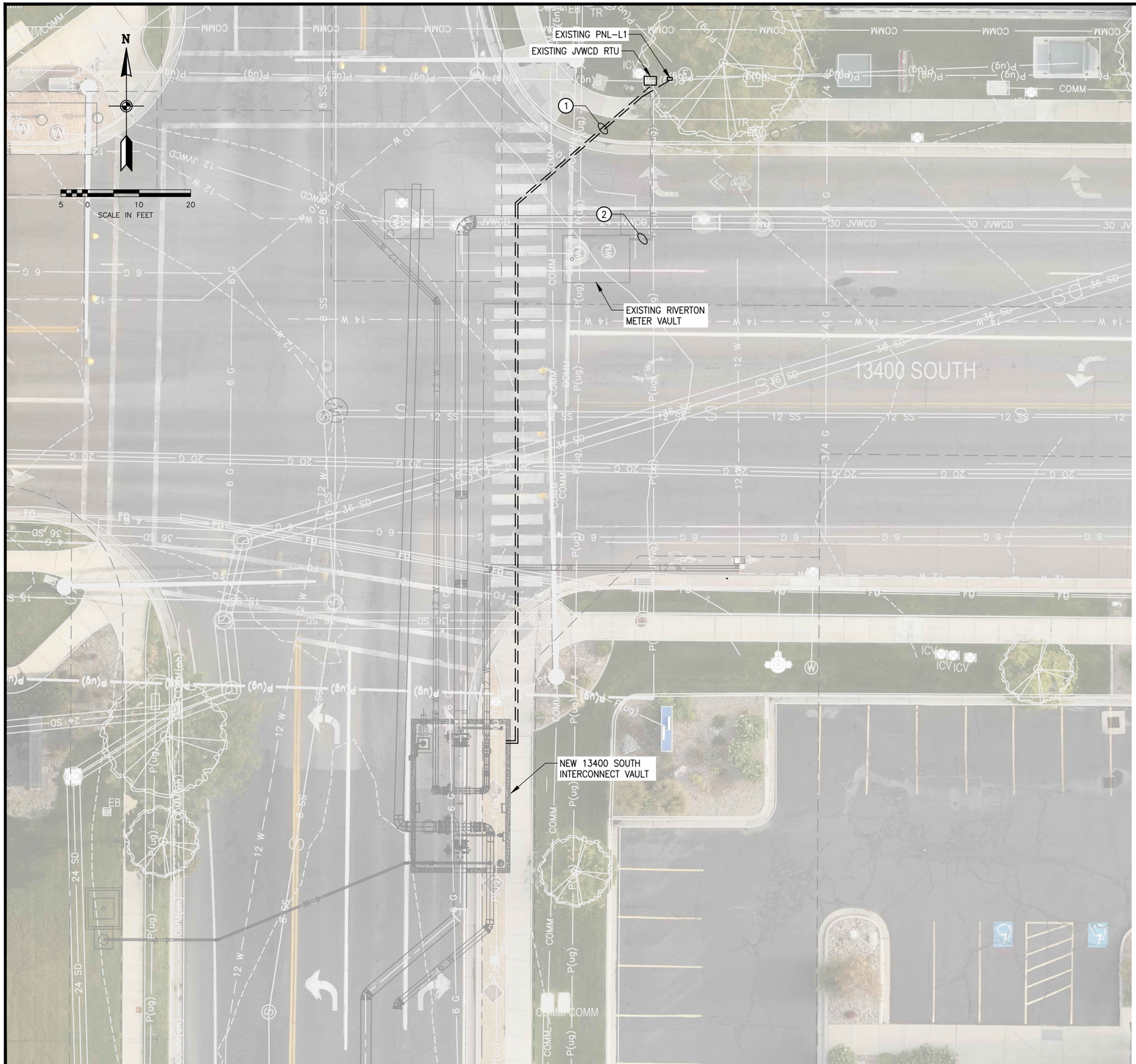
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM
REVIEW

ELECTRICAL

ELECTRICAL LEGENDS, SYMBOLS, AND NOTES

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
E-01
SHEET 65 OF 78



GENERAL NOTES:

A. SEE LIGHTING PLAN ON SHEET E-03 AND ELECTRICAL PLAN ON DRAWING E-04 FOR EQUIPMENT LOCATIONS INSIDE THE 13400 SOUTH INTERCONNECT VAULT.

B. SEE POWER ONE-LINE DIAGRAM ON SHEET E-05 AND CONTROL BLOCK DIAGRAM ON SHEET E-06 FOR INFORMATION REGARDING CONDUIT AND CONDUCTORS.

KEY NOTES: (#)

1. FURNISH AND INSTALL NEW CONDUIT AND CONDUCTOR FROM EXISTING JVWCD RTU AND PNL-L1 TO NEW 13400 SOUTH INTERCONNECT VAULT. SEE POWER ONE-LINE DIAGRAM ON SHEET E-05 AND CONTROL BLOCK DIAGRAM ON SHEET E-06 FOR MORE INFORMATION.
2. REMOVE AND DISPOSE OF CONDUIT AND CONDUCTOR FROM EXISTING JVWCD RTU AND PNL-L1 TO EXISTING RIVERTON METER VAULT. SEE POWER ONE-LINE DIAGRAM ON SHEET E-05 AND CONTROL BLOCK DIAGRAM ON SHEET E-06 FOR MORE INFORMATION.

BOWEN COLLINS & ASSOCIATES

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FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

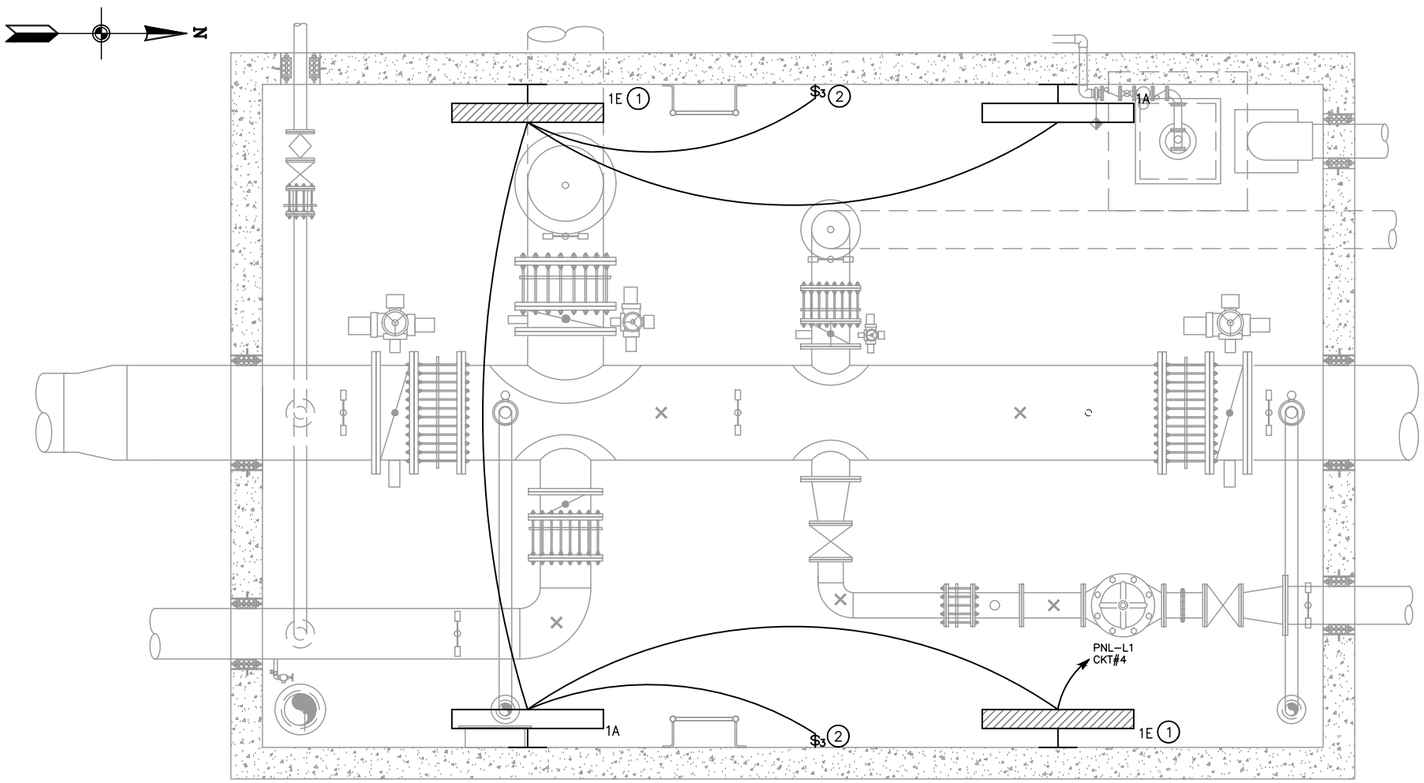
ELECTRICAL

13400 SOUTH INTERCONNECTION VAULT SITE PLAN

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-02

SHEET 66 OF 78



13400 SOUTH INTERCONNECTION VAULT LIGHTING PLAN

SCALE: 1/2" = 1'–0"

GENERAL NOTES:

A. CONCEAL CONDUIT IN WALLS, FLOOR, AND CEILING TO EXTENT POSSIBLE. ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN THE VAULT SHALL BE GALVANIZED RIGID STEEL SUPPORTED ON ZINC COATED STRUT OR BACKSTRAP CLAMPS. SEALTITE (NOT TO EXCEED 24") MAY BE USED WHERE REQUIRED. CONDUIT EMBEDDED IN CONCRETE SHALL BE SCHEDULE 40 PVC CONDUIT, TRANSITIONS FROM EMBEDDED CONDUIT TO EXPOSED CONDUIT SHALL BE MADE WITH PVC COATED GALVANIZED RIGID STEEL CONDUIT.

B. FOR INFORMATION REGARDING CONDUIT AND CONDUCTOR QUANTITY AND SIZES, SEE PANEL SCHEDULE ON SHEET E–05.

C. CONDUIT BODIES AND BOXES FOR WIRING DEVICES SHALL BE MALLEABLE CAST IRON.

KEY NOTES: (#)

1. PROVIDE UNSWITCHED HOT WIRE TO EACH EMERGENCY FIXTURE FOR NORMAL POWER SENSE.
2. MOUNT LIGHT SWITCH JUST BELOW HATCH SO THAT LIGHTS CAN BE TURNED ON BEFORE ENTERING THE VAULT.

FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	VA	LAMP	MOUNTING	NOTES
1A	ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING GASKETED, LED, 120 VOLT	HOLOPHANE	EVT4 4000LM PCL MD 120 40K 90CRI	33	LED	WALL AT 8'–0" AFF	USE BRACKETS TO MOUNT FIXTURE AT 45–DEGREE ANGLE.
1E	ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING GASKETED, LED, 120 VOLT, INTERNAL EMERGENCY BATTERY	HOLOPHANE	EVT4 4000LM PCL MD 120 40K 90CRI BSL722C	33	LED	WALL AT 8'–0" AFF	USE BRACKETS TO MOUNT FIXTURE AT 45–DEGREE ANGLE.

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REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

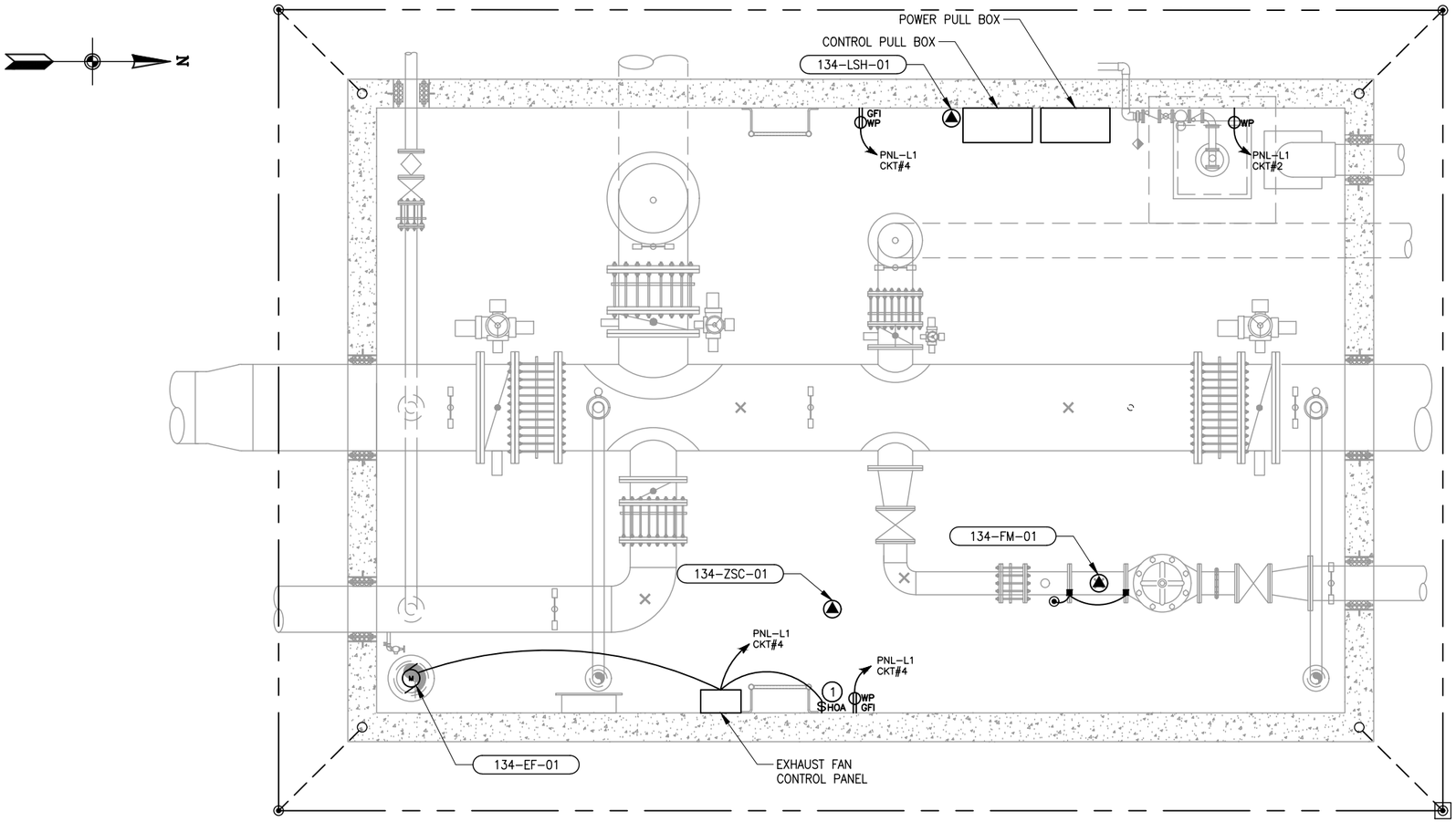
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

ELECTRICAL
13400 SOUTH INTERCONNECTION VAULT LIGHTING PLAN

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
E-03

SHEET 67 OF 78



13400 SOUTH INTERCONNECTION VAULT ELECTRICAL PLAN

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

GENERAL NOTES:

A. CONCEAL CONDUIT IN WALLS, FLOOR, AND CEILING TO EXTENT POSSIBLE. CONDUITS TO EQUIPMENT IN CENTER OF ROOM WILL BE EMBEDDED IN FLOOR. SUPPORT ELECTRICAL CONDUITS INDEPENDENT OF PIPING. SUPPORTING ELECTRICAL CONDUITS OFF PIPING WILL NOT BE ALLOWED.

B. ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN THE VAULT SHALL BE GALVANIZED RIGID STEEL SUPPORTED ON ZINC COATED STRUT OR BACKSTRAP CLAMPS. SEALTITE (NOT TO EXCEED 24") MAY BE USED WHERE REQUIRED. CONDUIT EMBEDDED IN CONCRETE SHALL BE SCHEDULE 40 PVC CONDUIT, TRANSITIONS FROM EMBEDDED CONDUIT TO EXPOSED CONDUIT SHALL BE MADE WITH PVC COATED GALVANIZED RIGID STEEL CONDUIT.

C. FOR INFORMATION REGARDING CONDUIT AND CONDUCTOR QUANTITY AND SIZES, SEE POWER ONE-LINE DIAGRAM ON SHEET E-05 AND CONTROL BLOCK DIAGRAM ON SHEET E-06.

D. CONDUIT BODIES AND BOXES FOR WIRING DEVICES SHALL BE MALLEABLE CAST IRON.

KEY NOTES: (#)

1. MOUNT HOA SWITCH JUST BELOW HATCH SO THAT LIGHTS CAN BE TURNED ON BEFORE ENTERING THE VAULT.

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

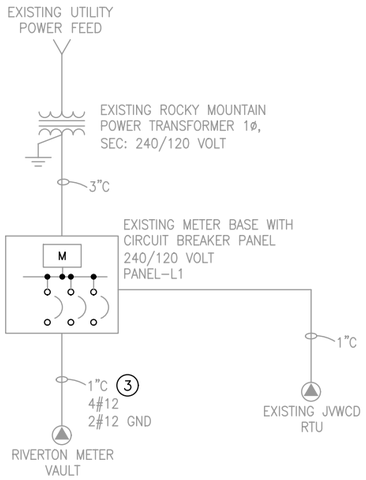
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

ELECTRICAL
13400 SOUTH INTERCONNECTION VAULT ELECTRICAL PLAN

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-04

SHEET 68 OF 78



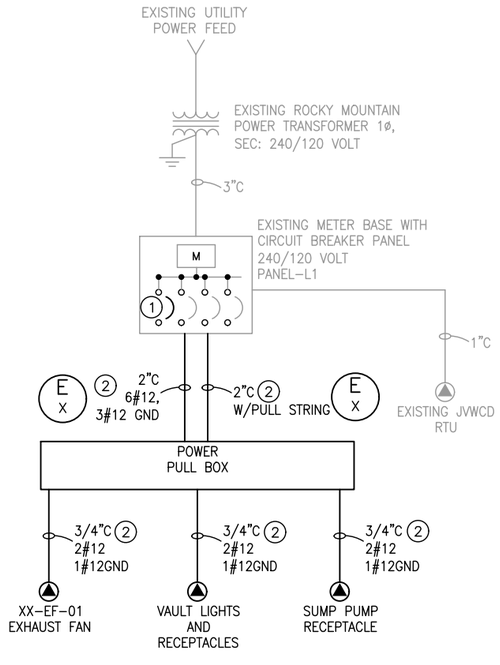
EXISTING POWER ONE–LINE DIAGRAM
SCALE: NTS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
INTERCONNECTION VAULT

PANEL: PNL L1 **VOLT:240/120** **AMP:100** **PHASE:1 WIRE:3**

LOCATION:					NOTE:			- - -		
MFG:					AIC RATING:			10,000		
TYPE:		SURFACE MOUNT			GROUND BUS:			YES		
TYPE OF MAIN:					MOUNTING:			SURFACE		
FEEDER:		SEE ONE-LINE			FED FROM:			SEE ONE-LINE		
CIRCUIT DESCRIPTION	P L	BRK AMP	CKT NO	A	B	CKT NO	BRK AMP	P L	CIRCUIT DESCRIPTION	
WATER METER MAIN DISCONNECT	1	20	1	0 180		2	20	1	RIVERTON SUMP PUMP RECEPT.	
JVWCD RTU	1	20	3		1000 0	4	**	*	SPACE	
PHASE TOTALS				**180**	**1000**					
TOTAL WATTS				**1180**						
TOTAL AMPS				**5**					3/14/25	

EXISTING PANEL SCHEDULE
SCALE: NTS



MODIFIED POWER ONE–LINE DIAGRAM
SCALE: NTS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
INTERCONNECTION VAULT

PANEL: PNL L1 **VOLT:240/120** **AMP:100** **PHASE:1 WIRE:3**

LOCATION:					NOTE:			- - -		
MFG:					AIC RATING:			10,000		
TYPE:		SURFACE MOUNT			GROUND BUS:			YES		
TYPE OF MAIN:					MOUNTING:			SURFACE		
FEEDER:		SEE ONE-LINE			FED FROM:			SEE ONE-LINE		
CIRCUIT DESCRIPTION	P L	BRK AMP	CKT NO	A	B	CKT NO	BRK AMP	P L	CIRCUIT DESCRIPTION	
WATER METER MAIN DISCONNECT	1	20	1	0 180		2	20	1	VAULT SUMP PUMP RECEPTACLE	
JVWCD RTU	1	20	3		1000 1086	4	(1)	1	VAULT LIGHTS AND RECEPTACLES VAULT EXHAUST FAN	
PHASE TOTALS				**180**	**2086**					
TOTAL WATTS				**2266**						
TOTAL AMPS				**9**					3/14/25	

MODIFIED PANEL SCHEDULE
SCALE: NTS

GENERAL NOTES:

A. FOR EQUIPMENT LOCATIONS SEE SITE PLAN ON SHEET E–02, LIGHTING PLAN ON SHEET E–03, AND ELECTRICAL PLAN ON SHEET E–04.

KEY NOTES: (#)

1. FURNISH AND INSTALL EATON BD2020 PLUG–ON TANDEM BREAKER. ONE CIRCUIT SHALL FEED THE VAULT LIGHTS AND RECEPTACLES, THE OTHER SHALL FEED THE VAULT EXHAUST FAN.
2. FURNISH AND INSTALL CONDUIT AND CONDUCTORS.
3. DEMOLISH AND DISPOSE OF CONDUIT/CONDUCTORS BETWEEN POWER PANEL L1 AND THE RIVERTON METER VAULT.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

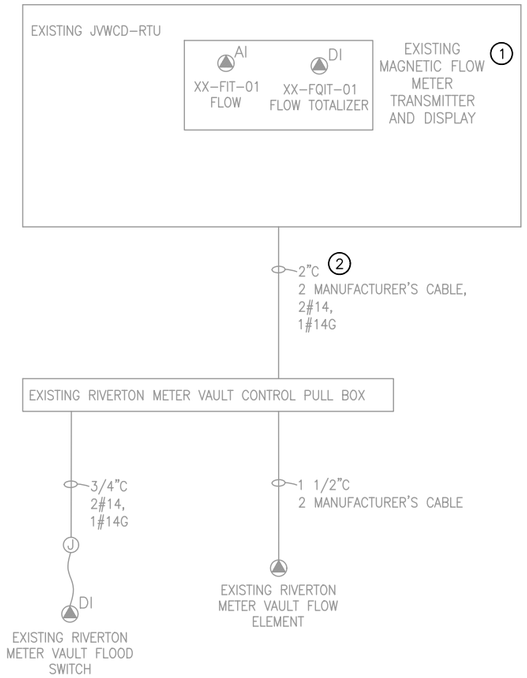
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

ELECTRICAL
13400 SOUTH
INTERCONNECTION VAULT
POWER ONE-LINE DIAGRAM

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

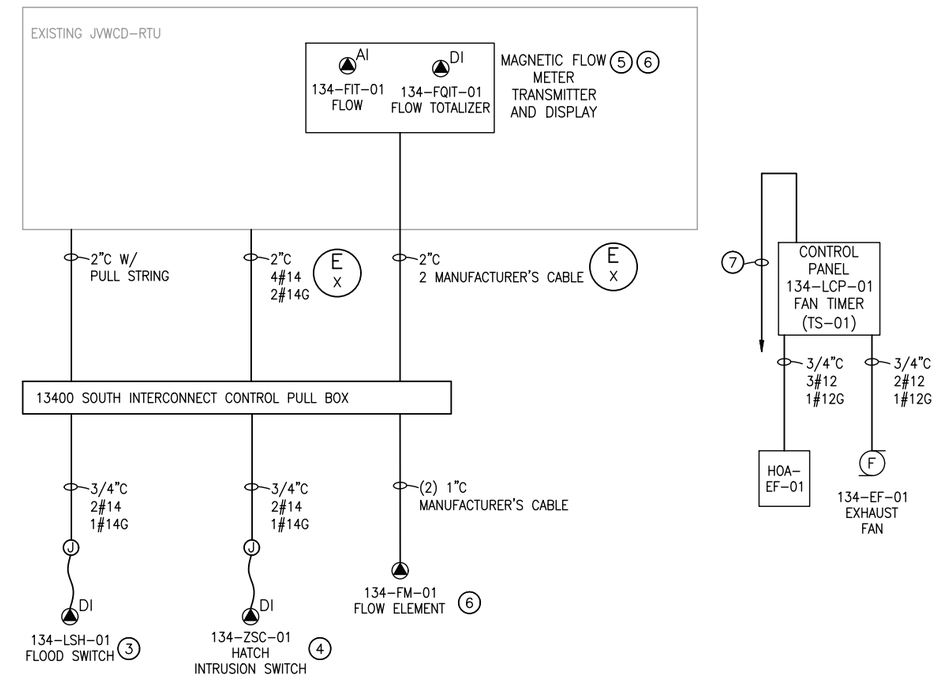
DRAWING NO.
E-05

SHEET 69 OF 78



EXISTING CONTROL BLOCK DIAGRAM

SCALE: NTS



MODIFIED CONTROL BLOCK DIAGRAM

SCALE: NTS

GENERAL NOTES:

A. ...

KEY NOTES: (#)

1. REMOVE AND DISPOSE OF FLOW METER DISPLAY IN EXISTING JVWCD RTU.
2. DEMOLISH AND DISPOSE OF CONDUIT/CONDUCTORS BETWEEN POWER EXISTING JVWCD RTU AND EXISTING RIVERTON METER VAULT.
3. FURNISH AND INSTALL FLOOD SWITCH PER DETAIL (E/X).
4. FURNISH AND INSTALL HATCH INSTRUCTION SWITCH PER DETAIL (E/X).
5. FLOW TRANSMITTER/METER SHALL BE POWERED BY 120VAC SUPPLY IN EXISTING JVWCD RTU.
6. FURNISH AND INSTALL MAGNETIC FLOW METER, FLOW ELEMENT, AND TRANSMITTER. FLOW METER SHALL BE ENDRESS+HAUSER PROLINE PROMAG W 400 OR ROSEMOUNT 8750W, NO EQUALS. FLOWTUBE SHALL BE SIZED TO MATCH PIPELINE. FLOW TRANSMITTER SHALL BE CAPABLE OF MODBUS RS485 COMMUNICATION. INSTALL PER DETAIL (E/X).
7. POWER SUPPLIED FROM PNL-L1. SEE POWER ONE-LINE DIAGRAM ON SHEET E-05 FOR MORE INFORMATION.

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REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

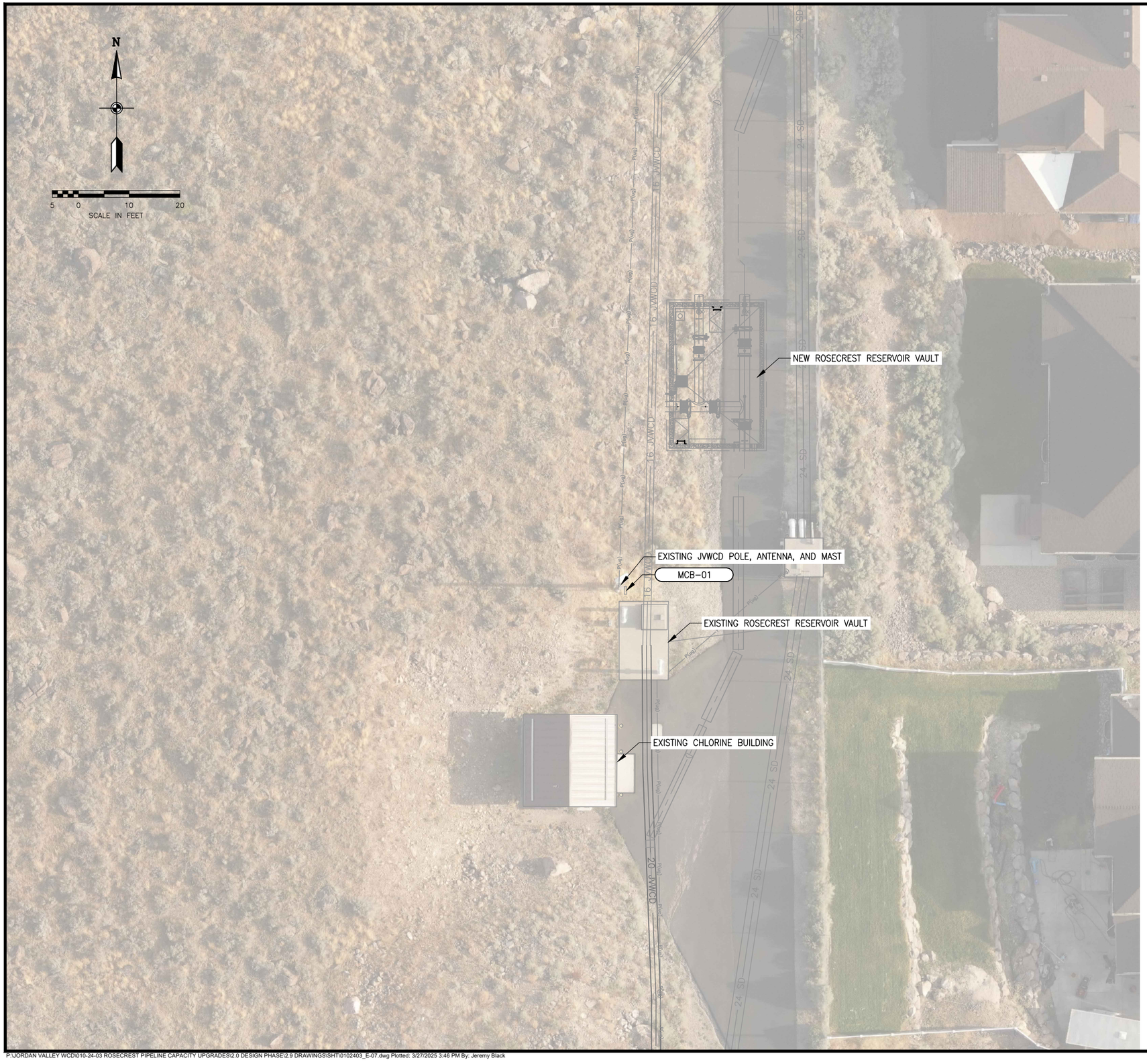
REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

ELECTRICAL
13400 SOUTH INTERCONNECTION VAULT CONTROL BLOCK DIAGRAM

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-06

SHEET 70 OF 78



GENERAL NOTES:

A. ...

KEY NOTES: (#)

1. ...

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			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ROSECREST PIPELINE CAPACITY UPGRADES

HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

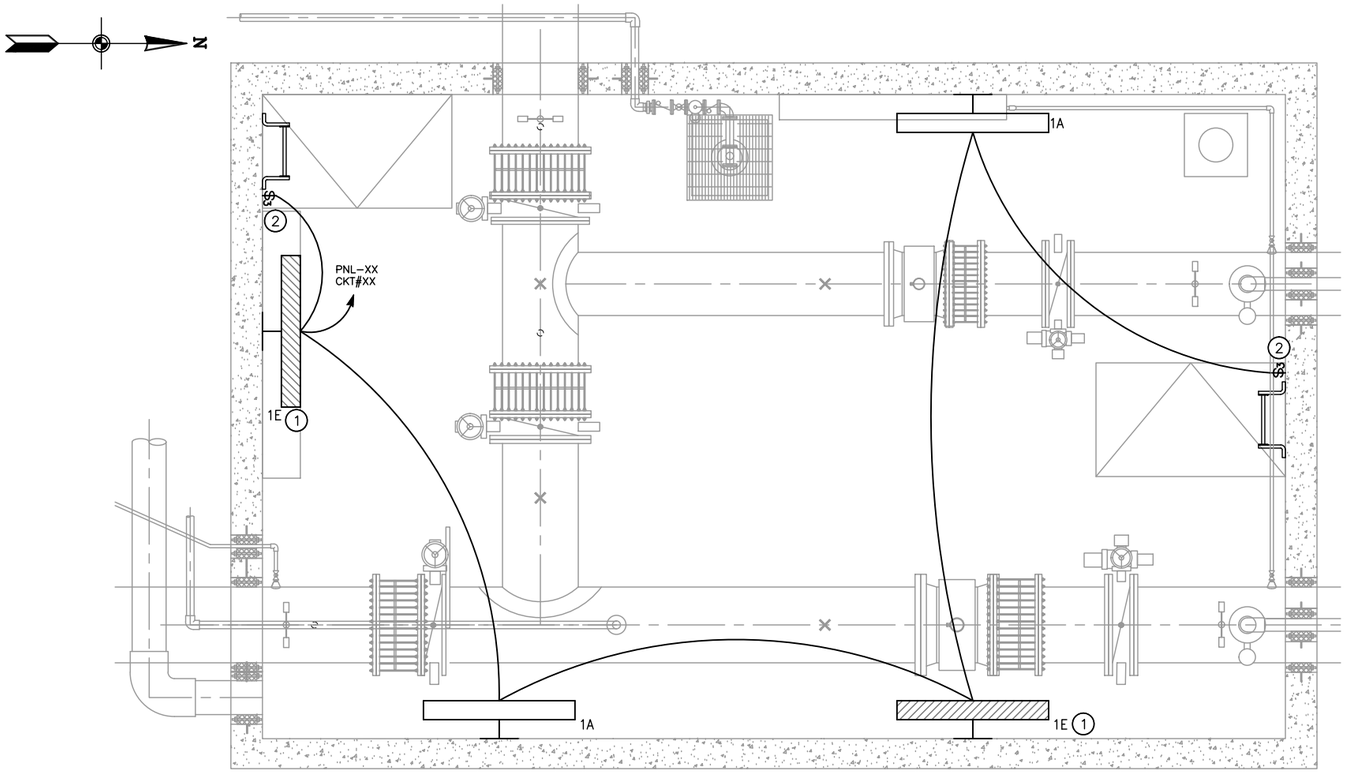
DESIGN C. WASDEN
DRAWN C. WASDEN
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM
REVIEW

ELECTRICAL

ROSECREST RESERVOIR VAULT SITE PLAN

DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-07
SHEET 71 OF 78



ROSECREST RESERVOIR VAULT LIGHTING PLAN
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

A. CONCEAL CONDUIT IN WALLS, FLOOR, AND CEILING TO EXTENT POSSIBLE. ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN THE VAULT SHALL BE GALVANIZED RIGID STEEL SUPPORTED ON ZINC COATED STRUT OR BACKSTRAP CLAMPS. SEALTITE (NOT TO EXCEED 24") MAY BE USED WHERE REQUIRED. CONDUIT EMBEDDED IN CONCRETE SHALL BE SCHEDULE 40 PVC CONDUIT, TRANSITIONS FROM EMBEDDED CONDUIT TO EXPOSED CONDUIT SHALL BE MADE WITH PVC COATED GALVANIZED RIGID STEEL CONDUIT.

B. FOR INFORMATION REGARDING CONDUIT AND CONDUCTOR QUANTITY AND SIZES, SEE PANEL SCHEDULE ON SHEET E-10.

C. CONDUIT BODIES AND BOXES FOR WIRING DEVICES SHALL BE MALLEABLE CAST IRON.

KEY NOTES: (#)

1. PROVIDE UNSWITCHED HOT WIRE TO EACH EMERGENCY FIXTURE FOR NORMAL POWER SENSE.
2. MOUNT LIGHT SWITCH JUST BELOW HATCH SO THAT LIGHTS CAN BE TURNED ON BEFORE ENTERING THE VAULT.

FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	VA	LAMP	MOUNTING	NOTES
1A	ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING GASKETED, LED, 120 VOLT	HOLOPHANE	EVT4 4000LM PCL MD 120 40K 90CRI	33	LED	WALL AT 8'-0" AFF	USE BRACKETS TO MOUNT FIXTURE AT 45-DEGREE ANGLE.
1E	ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING GASKETED, LED, 120 VOLT, INTERNAL EMERGENCY BATTERY	HOLOPHANE	EVT4 4000LM PCL MD 120 40K 90CRI BSL722C	33	LED	WALL AT 8'-0" AFF	USE BRACKETS TO MOUNT FIXTURE AT 45-DEGREE ANGLE.

BOWEN COLLINS & ASSOCIATES

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REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

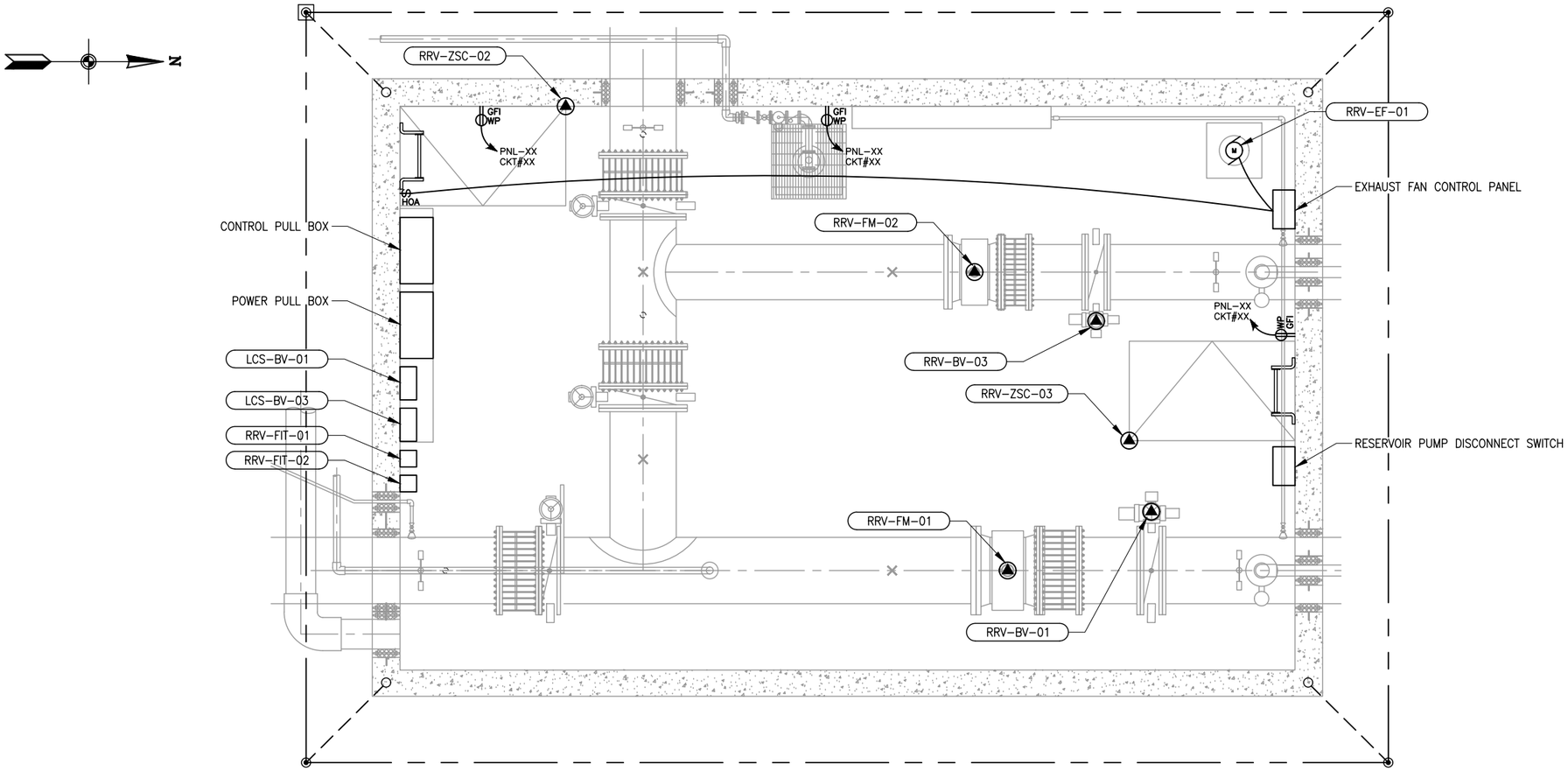
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

ELECTRICAL
ROSECREST RESERVOIR VAULT LIGHTING PLAN

PROJECT NUMBER 010-24-03
DATE: MARCH 2025

DRAWING NO.
E-08
SHEET 72 OF 78



ROSECREST RESERVOIR VAULT ELECTRICAL PLAN

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

GENERAL NOTES:

A. CONCEAL CONDUIT IN WALLS, FLOOR, AND CEILING TO EXTENT POSSIBLE. CONDUITS TO EQUIPMENT IN CENTER OF ROOM WILL BE EMBEDDED IN FLOOR. SUPPORT ELECTRICAL CONDUITS INDEPENDENT OF PIPING. SUPPORTING ELECTRICAL CONDUITS OFF PIPING WILL NOT BE ALLOWED.

B. ALL EXPOSED CONDUIT, BOXES, AND FITTINGS IN THE VAULT SHALL BE GALVANIZED RIGID STEEL SUPPORTED ON ZINC COATED STRUT OR BACKSTRAP CLAMPS. SEALTITE (NOT TO EXCEED 24") MAY BE USED WHERE REQUIRED. CONDUIT EMBEDDED IN CONCRETE SHALL BE SCHEDULE 40 PVC CONDUIT, TRANSITIONS FROM EMBEDDED CONDUIT TO EXPOSED CONDUIT SHALL BE MADE WITH PVC COATED GALVANIZED RIGID STEEL CONDUIT.

C. FOR INFORMATION REGARDING CONDUIT AND CONDUCTOR QUANTITY AND SIZES, SEE POWER ONE-LINE DIAGRAM ON SHEET E-10 AND CONTROL BLOCK DIAGRAM ON SHEET E-11.

D. CONDUIT BODIES AND BOXES FOR WIRING DEVICES SHALL BE MALLEABLE CAST IRON.

KEY NOTES: (#)

1. ...

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NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

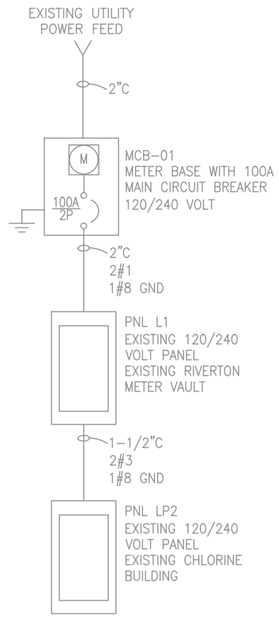
DESIGN
DESIGN C. WASDEN
DRAWN C. WASDEN

ELECTRICAL
ROSECREST
RESERVOIR VAULT
ELECTRICAL PLAN

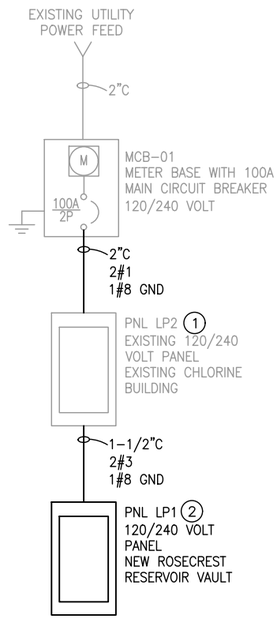
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-09

SHEET 73 OF 78



EXISTING POWER ONE-LINE DIAGRAM
SCALE: NTS



MODIFIED POWER ONE-LINE DIAGRAM
SCALE: NTS

GENERAL NOTES:

A. ..

KEY NOTES: (#)

1. REPLACE EXISTING 70A MCB WITH 100A MCB.
2. FURNISH AND INSTALL NEW PANELBOARD WITH 80A MCB.

BOWEN COLLINS & ASSOCIATES

60% REVIEW

NOT FOR CONSTRUCTION
FOR REVIEW ONLY

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVANCY DISTRICT
ROSECREST PIPELINE CAPACITY UPGRADES
HERRIMAN AND RIVERTON CITY, UT

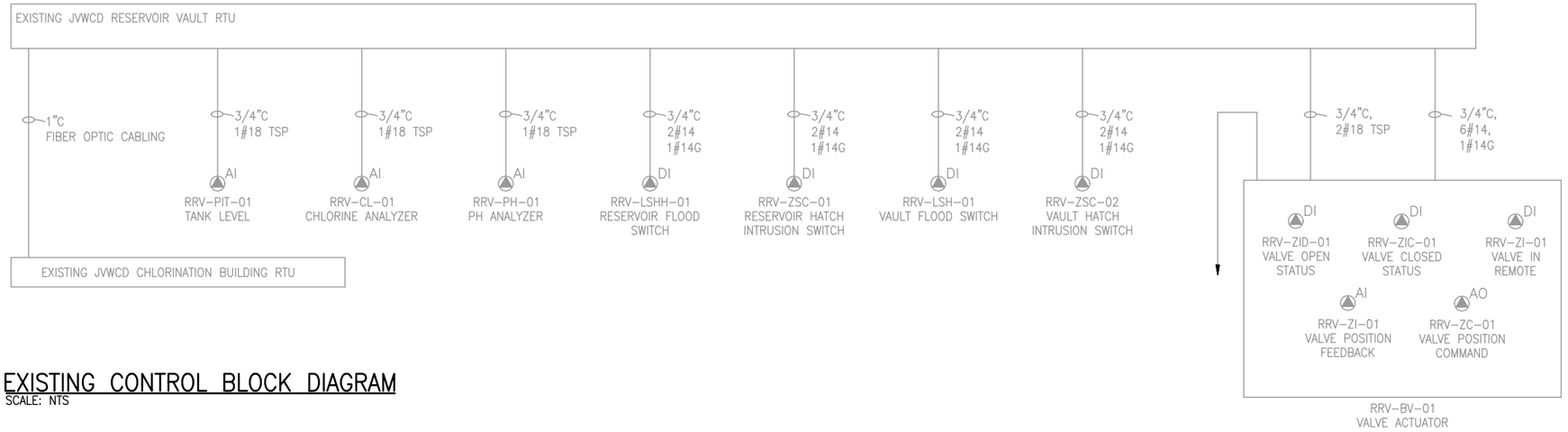
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN C. WASDEN
DRAWN C. WASDEN
REVIEW
CHECKED D. YOUNGSTROM
APPROVED D. YOUNGSTROM

ELECTRICAL
ROSECREST
RESERVOIR VAULT
POWER ONE-LINE DIAGRAM

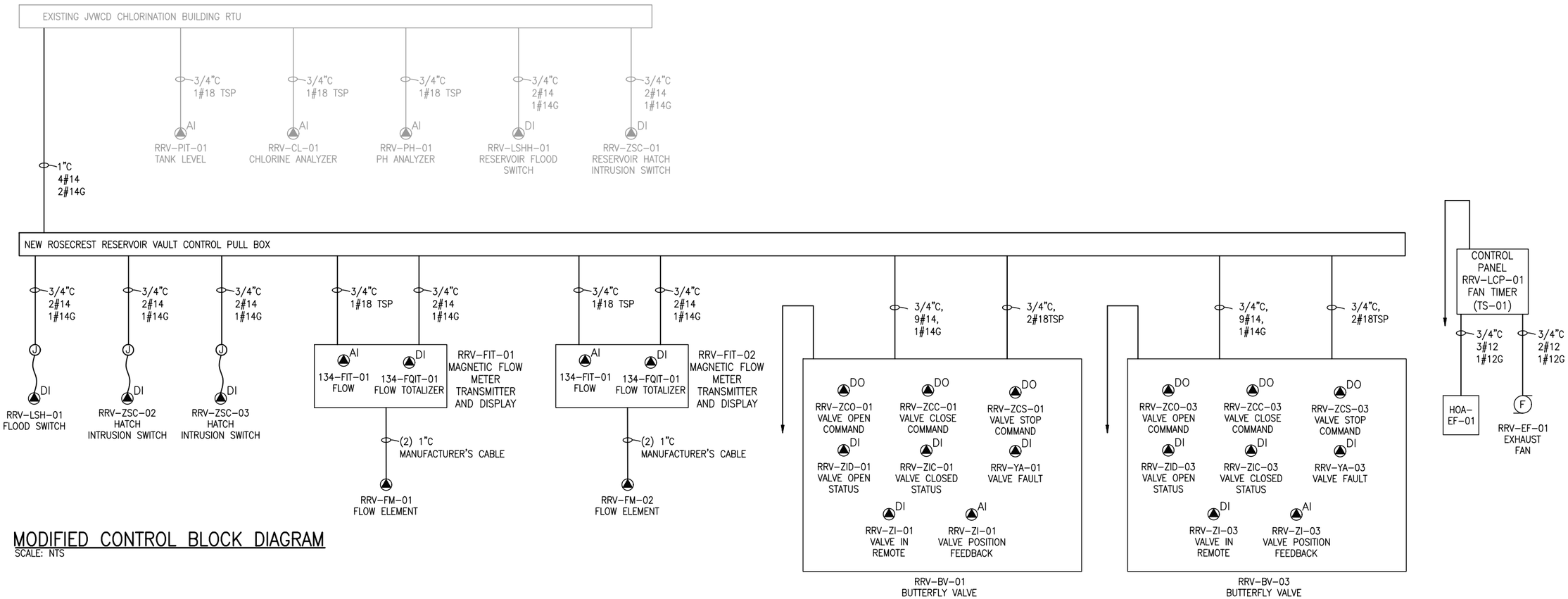
DATE: MARCH 2025
PROJECT NUMBER 010-24-03

DRAWING NO.
E-10
SHEET 74 OF 78



EXISTING CONTROL BLOCK DIAGRAM

SCALE: NTS



MODIFIED CONTROL BLOCK DIAGRAM

SCALE: NTS

GENERAL NOTES:

A. ..

KEY NOTES: (#)

1. ..

BOWEN COLLINS & ASSOCIATES

60% REVIEW

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NO.	DATE	REV. BY	DESCRIPTION
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JORDAN VALLEY WATER CONSERVANCY DISTRICT

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VERIFY SCALE
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REVIEW CHECKED D. YOUNGSTROM APPROVED D. YOUNGSTROM

DESIGN DESIGN C. WASDEN DRAWN C. WASDEN

ELECTRICAL

ROSECREST RESERVOIR VAULT CONTROL BLOCK DIAGRAM

DATE: MARCH 2025 PROJECT NUMBER 010-24-03

DRAWING NO. E-11

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