Set No._____

CITY OF GRAND JUNCTION

PURDY MESA FLOWLINE PRESSURE CONTROL TANK

MESA COUNTY, COLORADO

BID SET

CONTACTS

OWNER:	CITY OF GRAND JUNCTION 333 WEST AVENUE, BUILDING C GRAND JUNCTION, CO 81501	JOHN EKLUND, P.E. (970) 244-1558 JOHNE@GJCITY.ORG
ENVIRONMENTAL ENGINEER:	JVA, INC 817 COLORADO AVENUE, SUITE 301 GLENWOOD SPRINGS, CO 81601	COOPER BEST, P.E. (970) 404-3003 CBEST@JVAJVA.COM
STRUCTURAL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	KATE BENTON (303) 444-1951 KBENTON@JVAJVA.COM
ELECTRICAL ENGINEER:	BROWNS HILL ENGINEERING & CONTROLS 333 WEST AVENUE, BUILDING C GRAND JUNCTION, CO 81501	TED WILLE, P.E. (720) 344-7771 TWILLE@BROWNSHILLENG.CO
SURVEYOR:	CITY OF GRAND JUNCTION 333 WEST AVENUE, BUILDING C GRAND JUNCTION, CO 81501	RENEE PARENT, PE, PLSS, CFEDS (970) 256-4003 RENEEP@GJCITY.ORG

CONSULTING ENGINEERS

JVA, Inc. 817 Colorado Ave., Suite 301
Glenwood Springs, CO Zip 81601
970.404.3100
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver

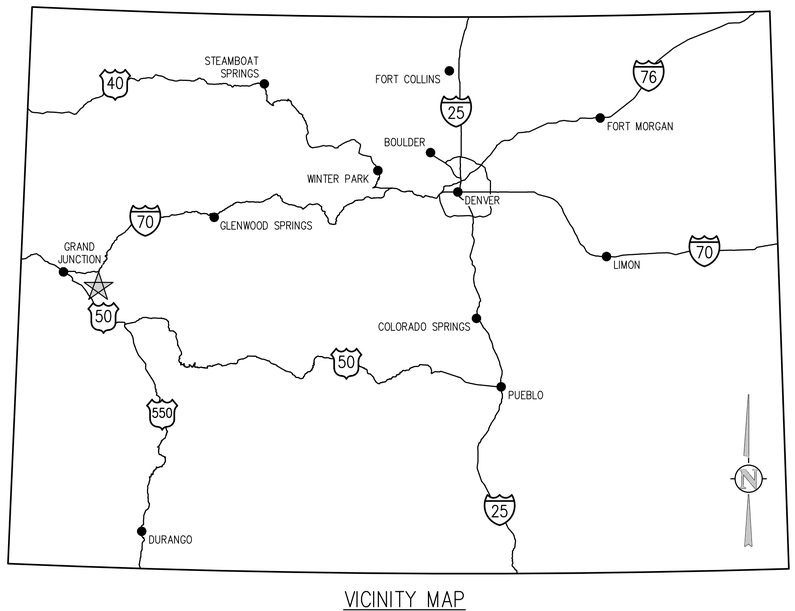
DECEMBER 2022

PREPARED UNDER THE SUPERVISION OF

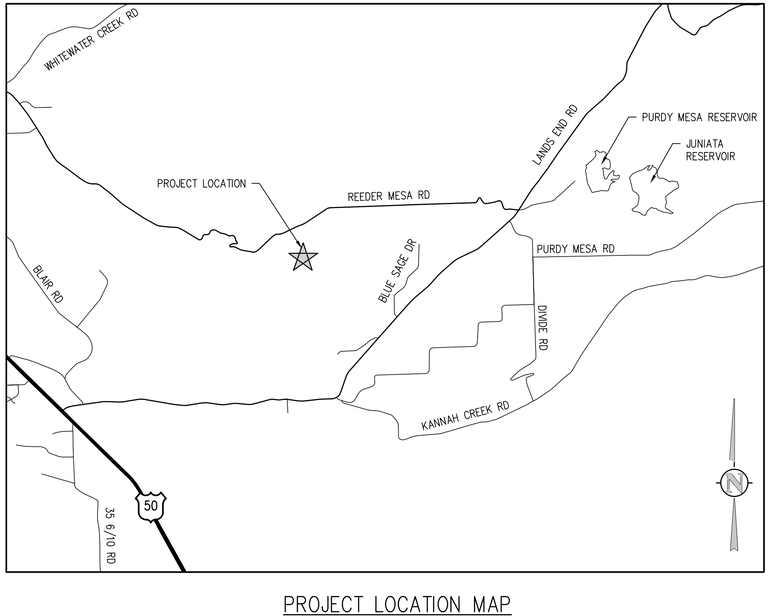
_____

JVA, Inc.

DRAWING INDEX



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

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ABBREVIATIONS

AASHTO	AMERICAN ASSOC. OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABAN	ABANDON
AC	ASPHALTIC CONCRETE PAVING
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJUSTABLE
AL	ALUMINUM
ALT	ALTERNATE
AMT	AMOUNT
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ARV	AIR RELIEF VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASPH	ASPHALT
ASSY	ASSEMBLY
ASYM	ASYMMETRICAL
AUTO	AUTOMATIC
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOC.
BC	BACK OF CURB
BFV	BUTTERFLY VALVE
BG	FINISHED GRADE ADJACENT TO BOTTOM OF WALL
BLDG	BUILDING
BLK	BLOCK
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BS	BACKSIGHT
BOS	BOTTOM OF STEP
BOT	BOTTOM
BSMT	BASEMENT
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CL	CENTER LINE OR CHAIN LINK
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS(ATION)
COR	CORNER
CR	CONCENTRIC REDUCER
CTR	CENTER
CY	CUBIC YARDS
DEMO	DEMOLITION
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWL	DOWEL
E	EAST
EA	EACH
ECC	ECCENTRIC
EJ	EXPANSION JT
EL	ELEVATION
ELB	ELBOW
ELEC	ELECTRICAL
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESMT	EASEMENT
EST	ESTIMATE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXIST	EXISTING
FND	FOUNDATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FN	FENCE
FOC	FACE OF CONCRETE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
FTG	FOOTING OR FITTING
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCO	GRADE CLEANOUT
GIP	GALVANIZED IRON PIPE
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRATE
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	HIGH
HB	HOSE BIB
HE	HORIZONTAL ELLIPTICAL
HDWL	HEADWALL
HNDRL	HAND RAIL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWY	HIGHWAY
HWL	HIGH WATER LINE
HYD	HYDRANT
INCL	INCLUDED
ID	INSIDE DIAMETER
IN	INLET
INSUL	INSULATION
INV	INVERT
IRR	IRRIGATION
JTS	JOINTS
KO	KNOCKOUT
KPL	KICK PLATE
KWY	KEYWAY
L	LEFT OR LITER
LSCAPE	LANDSCAPE(ING)
LF	LINEAR FOOT
LP	LOW POINT
LT	LIGHT
LWL	LOW WATER LEVEL
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
ME	MATCH EXISTING
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
OPT	OPTIONAL
PC	POINT OF CURVATURE
PCO	PRESSURE CLEAN OUT
PCR	POINT OF CURVE RETURN
PI	POINT OF INTERSECTION
PVI	POINT OF VERTICAL INTERSECTION
PL	PROPERTY LINE
PE	POLYETHYLENE
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARATION
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVMT	PAVEMENT
QTY	QUANTITY
R	RIGHT
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE
RECT	RECTANGULAR
REINF	REINFORCE (D) (ING) (MENT)
REQD	REQUIRED
ROW	RIGHT OF WAY
SAN	SANITARY
SD	STORM DRAIN
SECT	SECTION
SPD	STANDARD PROCTOR DENSITY
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ FT	SQUARE FOOT
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SVC	SERVICE
SWMP	STORMWATER MANAGEMENT PLAN
SYM	SYMMETRICAL
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TEMP	TEMPORARY
TG	FINISHED GRADE ADJACENT TO TOP OF WALL
THK	THICK
TOB	TOP OF BANK
TOC	TOP OF CONCRETE OR TOP OF CURB
TOS	TOP OF STEP
TOT	TOTAL
TW	TOP OF WALL OR CAP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UGE	UNDERGROUND ELECTRIC
UTIL	UTILITY
VERT	VERTICAL
VC	POINT OF VERTICAL CURVATURE
VCP	VITRIFIED CLAY PIPE
W	WIDE OR WIDTH
W/	WITH
W/O	WITHOUT
WQCE	WATER QUALITY CONTROL ELEVATION
WSE	WATER SURFACE ELEVATION
WW	WASTEWATER
X SECT	CROSS SECTION
XFMR	ELECTRONIC TRANSFORMER
YH	YARD HYDRANT

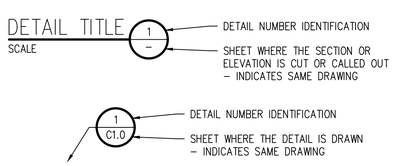
DESIGN LEGEND

- TEE W/ THRUST BLOCK
- BEND W/ THRUST BLOCK
- END CAP W/ THRUST BLOCK
- GATE VALVE
- REDUCER/INCREASER
- WATER METER
- FIRE HYDRANT
- W — WATER
- NPW — NON POTABLE WATER
- PW — POTABLE WATER
- IRR — IRRIGATION
- IRRIGATION – LARGER THAN 12"
- CATV — CABLE TV
- D — DRAIN
- E — ELECTRIC
- UE — UNDERGROUND ELECTRIC
- OE — OVERHEAD ELECTRIC
- T — TELEPHONE
- FO — FIBER OPTIC
- FUEL — FUEL
- G — GAS
- PVC — PVC PIPE (MISC)

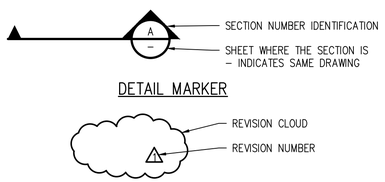
- FENCE
- FLOW LINE OF DITCH OR WASH
- 5.0% — SLOPE ARROW
- +03.54 — PROPOSED SPOT ELEVATION
- +03.3 — EXIST SPOT ELEVATION
- 5220 — EXIST INDEX CONTOUR
- 5221 — EXIST INTERMEDIATE CONTOUR
- 20 — PROPOSED INDEX CONTOUR
- 21 — PROPOSED INTERMEDIATE CONTOUR
- CURB AND GUTTER
- SPILL/CATCH CURB TRANSITION
- SIGN W/ POST
- CONCRETE PAVING
- HEAVY DUTY CONCRETE PAVING
- HEAVY DUTY ASPHALT PAVING
- LIGHT DUTY ASPHALT PAVING
- GRAVEL
- PROPOSED BUILDING
- BUILDING ACCESS
- RETAINING WALL
- BOULDER/ROCK WALL
- LIMITS OF SAWCUT
- LIMITS OF WORK
- EASEMENT LINE
- PROPERTY LINE
- ADJACENT PROPERTY LINE/ROW
- MATCHLINE

811 Know what's below. Call before you dig.

DETAIL TITLE



SECTION CALLOUT



DETAIL MARKER

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE **CITY OF GRAND JUNCTION**, COLORADO DEPARTMENT OF TRANSPORTATION, **CITY OF GRAND JUNCTION** FIRE PROTECTION REQUIREMENTS, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE **CITY OF GRAND JUNCTION FIRE DEPARTMENT** REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
2. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY **(CITY OF GRAND JUNCTION)** AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
4. THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM **CITY OF GRAND JUNCTION** BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG). SEE SURVEY UTILITY LOCATION INFORMATION BELOW.
5. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.
7. RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.
8. THE EXISTING AND PROPOSED ELEVATIONS OF FLATWORK, SIDEWALKS, CURBS, THRESHOLDS, PAVING, ETC. AS SHOWN HEREON ARE BASED ON EXTRAPOLATION OF FIELD SURVEY DATA, EXISTING CONDITIONS, AND DATA PROVIDED BY OTHERS. AT CRITICAL AREAS AND SITE FEATURES, CONTRACTOR SHALL HAVE FORMWORK INSPECTED AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR ENGINEER PRIOR TO PLACING CONCRETE. MINOR ADJUSTMENTS, AS APPROVED, TO PROPOSED GRADES, INVERTS, ETC. MAY BE REQUIRED TO PREVENT PONDING OR SLOPE NOT IN CONFORMANCE WITH MUNICIPAL STANDARDS. ALL FLATWORK MUST PREVENT PONDING AND PROVIDE POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS, WALLS, ROOF DRAIN OUTFALLS, ACROSS DRIVES AND WALKS, ETC., TOWARDS THE PROPOSED INTENDED DRAINAGE FEATURES AND CONVEYANCES.
9. ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.
10. OWNER TO APPROVE ALL PRIVATE CONCRETE FINISHING, JOINT PATTERNS AND COLORING REQUIREMENTS PRIOR TO CONSTRUCTION. SUBMIT JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
11. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, MILE HIGH FLOOD DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.
13. PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES.
14. SURVEY INFORMATION:

BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY THE CITY OF GRAND JUNCTION GIS DEPARTMENT. SEE SULLIVAN DRAW TOPOGRAPHY AUTODESK AUTOCAD AND MICROSOFT EXCEL FILES DATED MARCH, 2017. THE DATUM IS NAD83 PER SURVEY. THE HORIZONTAL COORDINATE SYSTEM IS THE MESA COUNTY LOCAL COORDINATE SYSTEM (MCLCS). COORDINATE AND VERIFY ALL VERTICAL AND HORIZONTAL DATA SHOWN IN SURVEY AND REPORT ANY IRREGULARITIES OR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.

14.1. HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED BY THE FOLLOWING POINTS:

CP-9	N-3278.74	E150427.06	ELEV 5359.92	CP /PK/
CP-102	N-3966.46	E150095.64	ELEV 5336.49	PIN/
CP-822	N-3989.79	E151423.22	ELEV 5164.95	SM /NE16 S27/
CP-3193	N-5093.06	E152279.93	ELEV 5375.31	AV /2"STL/

14.2. SURVEY UTILITY LOCATION INFORMATION PER THE SURVEYOR: SUBSURFACE UTILITIES ARE SHOWN IN APPROXIMATE HORIZONTAL AND VERTICAL LOCATIONS CONSISTENT WITH ASCE 38-02 QUALITY LEVEL "C" (INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D; INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS), AND BASED ON FIELD MEASUREMENTS PROVIDED BY THE OWNER AND THE CONTRACTOR. SUBSURFACE UTILITIES ARE NOT DEPICTED TO THE EXTENT SET FORTH IN ASCE 38-02 QUALITY LEVELS "A" (INFORMATION OBTAINED THROUGH THE NONDESTRUCTIVE EXPOSURE OF UNDERGROUND UTILITIES, AND ALSO PROVIDES THE TYPE, SIZE, CONDITION, MATERIAL AND OTHER CHARACTERISTICS OF UNDERGROUND FEATURES.) OR "B" (INFORMATION OBTAINED BY THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF VIRTUALLY ALL UTILITIES WITHIN THE PROJECT LIMITS. THE INFORMATION OBTAINED IN THIS MANNER IS SURVEYED TO PROJECT CONTROL.). TO THE EXTENT DEEMED NECESSARY FOR THE PROTECTION OF PERSONS AND PROPERTY, POTHOLING OR OTHER PRECISE MAPPING SHOULD BE COMPLETED TO CONFIRM THE EXACT LOCATION OF ANY SUBSURFACE UTILITIES. NOTIFY OWNER AND ENGINEER WITH ALL UTILITY INFORMATION PRIOR TO CONSTRUCTION.VISIT HTTPS: //WWW.FHWA.DOT.GOV/PROGRAMADMIN/SUEINDEX.CFM FOR MORE INFORMATION.

15. THE CONTRACTOR AT THE CONTRACTORS EXPENSE SHALL FURNISH THE OWNER AND ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS") FOR THE CONSTRUCTED IMPROVEMENTS. THE AS-BUILT SET SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES OR NORTHING/EASTING POINTS FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE AS-BUILT SET SHALL SHOW AS-BUILT CONTOURS AND ELEVATIONS OF ASPHALT AND CONCRETE FLATWORK, FLOWLINES, GRADE BREAKS, STAIRS, CROSS-SLOPES, HIGH AND LOW POINTS, AND ADDITIONAL ELEVATIONS TO DEMONSTRATE IMPROVEMENTS WERE CONSTRUCTED PER PLANS. THE AS-BUILT SET SHALL SHOW ELEVATIONS OF ALL DETENTION/WATER QUALITY FACILITIES, INCLUDING BUT NOT LIMITED TO BERMS, SPILLWAYS, BASIN BOTTOM, PIPE INVERTS, AND CONTROL STRUCTURE FEATURES (AS SURVEYED AND STAMPED BY A CERTIFIED P.L.S.). THE AS-BUILT SET SHALL ALSO INCLUDE ELEVATIONS OF MANHOLES, PIPES, INLETS, GRATES, AND SIZES OF ALL UTILITIES. THE AS-BUILT SET SHALL SHOW ANY AND ALL VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.

JVA CONSULTING ENGINEERS
JVA, Inc. 1319 Spruce Street
Boulder, CO 80302 303.444.1951
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver

NO.	DATE	DES'D	D'WN	REVISION DESCRIPTION

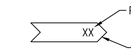
DESIGNED BY:	MMR
DRAWN BY:	JGJ
CHECKED BY:	JJM
JOB #:	1071.8e
DATE:	DECEMBER 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

LEGEND, NOTES AND ABBREVIATIONS

SHEET NO.
G0.1

PROCESS LEGEND



PROCESS IDENTIFICATION NUMBER

NUMBER INDICATES SHEET OF PROCESS OR CONTROL CONTINUATION

MAIN PROCESS LINE

EXIST MAIN PROCESS LINE

SECONDARY PROCESS LINE

EXIST SECONDARY PROCESS LINE

BUILDING

HARDWIRED SIGNAL

DATA LINK OR SOFTWARE SIGNAL

VENDOR SUPPLIED EQUIPMENT

DISTRIBUTION SYSTEM / SERVICE AREA

VALVE SYMBOLS

CLOSED OPEN

GATE VALVE

PLUG VALVE

BALL VALVE

BUTTERFLY VALVE

SWING CHECK VALVE

PILOT OPERATED PRESSURE REDUCING VALVE W/ DOWNSTREAM PRESSURE SETTING

PILOT OPERATED PRESSURE REDUCING VALVE W/ UPSTREAM PRESSURE SETTING

SPRING PRESSURE RELIEF W/ PRESSURE RELIEF

ARV

AIR RELEASE VALVE

S

SOLENOID OPERATED VALVE

M

MOTOR OPERATED VALVE

P&ID EQUIPMENT SYMBOLS

DRY PIT WET PIT

CENTRIFUGAL PUMPS

SUBMERSIBLE PUMP

METERING PUMP

PERISTALTIC PUMP

HANDLE OR THROTTLE

M

MOTOR DRIVER

PRESSURE GAUGE

MANUAL DRAIN

CAM-LOCK FITTING/QUICK CONNECT

BLIND FLANGE

M

FLOW METER

SAMPLE VALVE/PORT

STATIC INLINE MIXER

ULTRASONIC LEVEL INDICATOR

HYDROSTATIC LEVEL SENSOR

ULTRASONIC FLOW SENSOR

SENSOR/ALARM

FLOAT SWITCH

DRAIN

PULSATION DAMPENER

CHEMICAL FEED SYSTEM

MIXER

WEIR

PH/TEMP

PH/TEMP ANALYZER

TURB

TURBIDIMETER

ORP

ORP METER

RADIO TRANSMITTER

RADIO RECEIVER

STRAINER

INSTRUMENT IDENTIFICATION LETTERS

(INSTRUMENT SOCIETY OF AMERICA)

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

P&ID INSTRUMENT SYMBOLS

PROCESS CONTROL SYSTEM INTERFACE SYMBOLS

YYY

INPUT/OUTPUT TO/FROM PLC, INSIDE PLC PANEL
YYY – INDICATES FUNCTION TYPE
XXX – INDICATES PANEL WHERE DEVICE IS LOCATED

GENERAL INSTRUMENT SYMBOLS

FIELD MOUNTED INSTRUMENT

XXX

INSTRUMENT MOUNTED ON FACE OF PANEL NORMALLY ACCESSIBLE TO THE OPERATOR.
XXX – INDICATES PANEL WHERE DEVICE IS LOCATED

XXX

INSTRUMENT MOUNTED BEHIND OR INSIDE PANEL.
XXX – INDICATES PANEL WHERE DEVICE IS LOCATED

SINGLE INSTRUMENT HOUSING CONTAINING TWO OR (MORE) INSTRUMENTATION FUNCTIONS

PLC I/O

PANEL NOMENCLATURE

CP-XXX: CONTROL PANEL (AREA CONTROL)

LCP-XXXA: LOCAL CONTROL PANEL (SPECIFICATION PROCESS CONTROL) LETTERS A, B, C DENOTES VENDER SUPPLIED EQUIPMENT

LP-X LIGHTING PANEL

COMMON INSTRUMENT DESIGNATIONS

TAG	DESIGNATION
YL	EQUIPMENT RUNNING STATUS
YS	EQUIPMENT IN AUTO OR REMOTE STATUS
YY	EQUIPMENT RUN COMMAND
UA	EQUIPMENT FAULT STATUS
HC	HAND CONTROL
HS	HAND SWITCH
SI	SPEED INDICATION
SC	SPEED COMMAND
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
FE	FLOW ELEMENT
FIT	FLOW INDICATOR/TRANSMITTER
ZSO	VALVE POSITION FULL OPEN
ZSC	VALVE POSITION FULL CLOSE
ZSI	VALVE POSITION INDICATOR
SP	SET POINT
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
HOA	HAND-OFF-AUTO
OCA	OPEN-CLOSE-AUTO
LCP	LOCAL CONTROL PANEL

GENERAL NOTES:

1. THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
2. P & ID INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION.
3. P & ID DOES NOT REPRESENT CONTROL STRATEGIES OR INTERACTIONS. REFERENCE SECTION 16950, CONTROL NARRATIVES, FOR THIS INFORMATION.
4. P & ID DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY, REFER TO SECTION 16950 FOR COMPLETE DESCRIPTION.

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NO.	DATE	DES'D	D'WN	REVISION DESCRIPTION

DESIGNED BY: MMR/CLF
DRAWN BY: CLF
CHECKED BY: JJM
JOB #: 1071.8e
DATE: DECEMBER 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

PROCESS AND INSTRUMENTATION LEGEND

SHEET NO.
G0.3

DESIGN CRITERIA

PURDY MESA FLOW CONTROL TANK

QUANTITY:	1
VOLUME:	33,000 GAL
HIGH WATER ELEV:	5388.5 FT
LOW WATER ELEV:	5380.0 FT
OVERFLOW ELEV:	5389.5 FT

VENTING

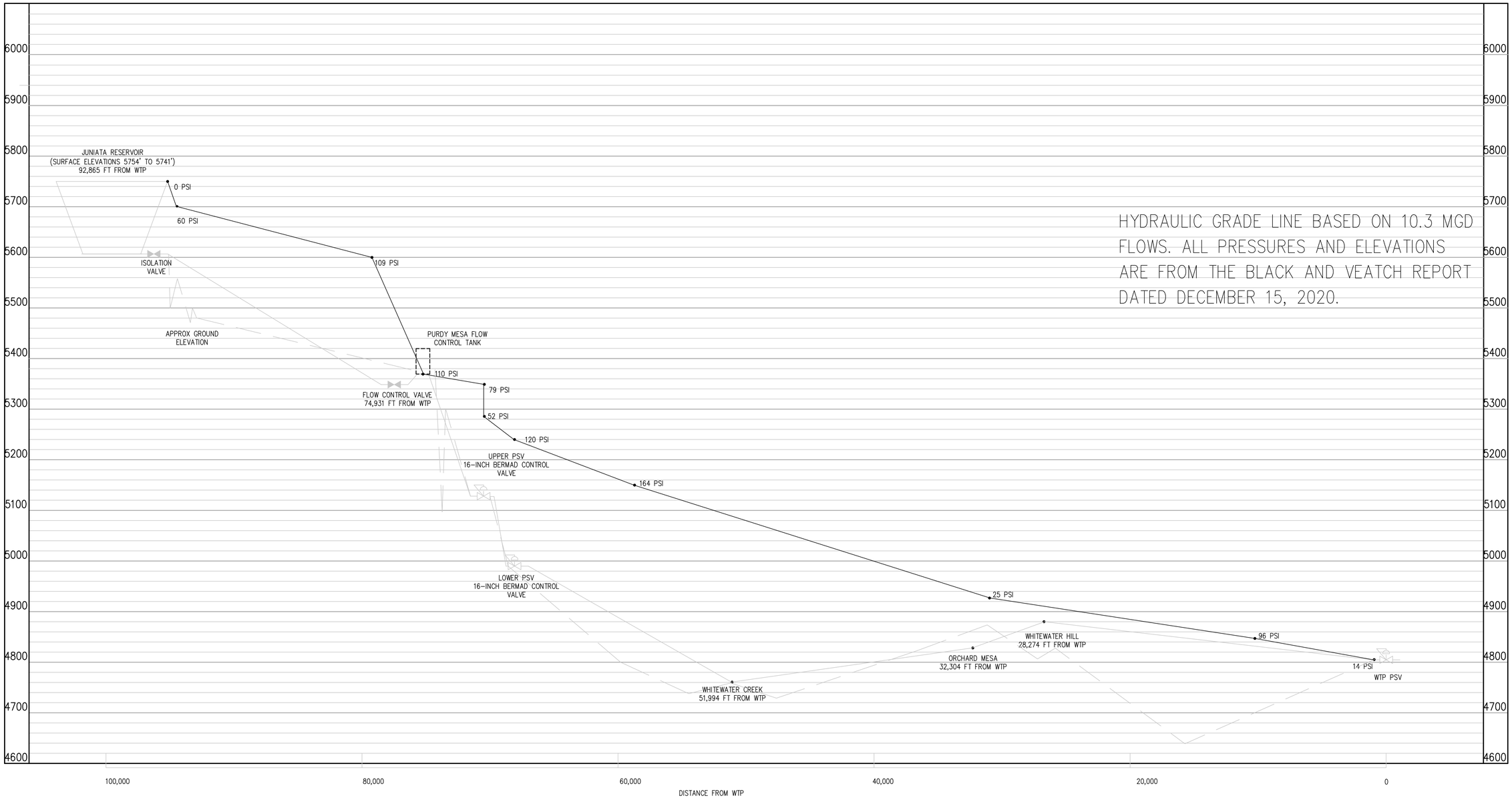
SCREEN:	NON-CORRODIBLE
MESH:	NO. 16
SIZE:	10 INCH

ACCESS HATCH

ACCESS HATCH SIZE:	3' X 3'
MATERIAL:	ALUMINUM

OVERFLOW

OVERFLOW SIZE	18" DIAMETER



HYDRAULIC GRADE LINE BASED ON 10.3 MGD FLOWS. ALL PRESSURES AND ELEVATIONS ARE FROM THE BLACK AND VEATCH REPORT DATED DECEMBER 15, 2020.

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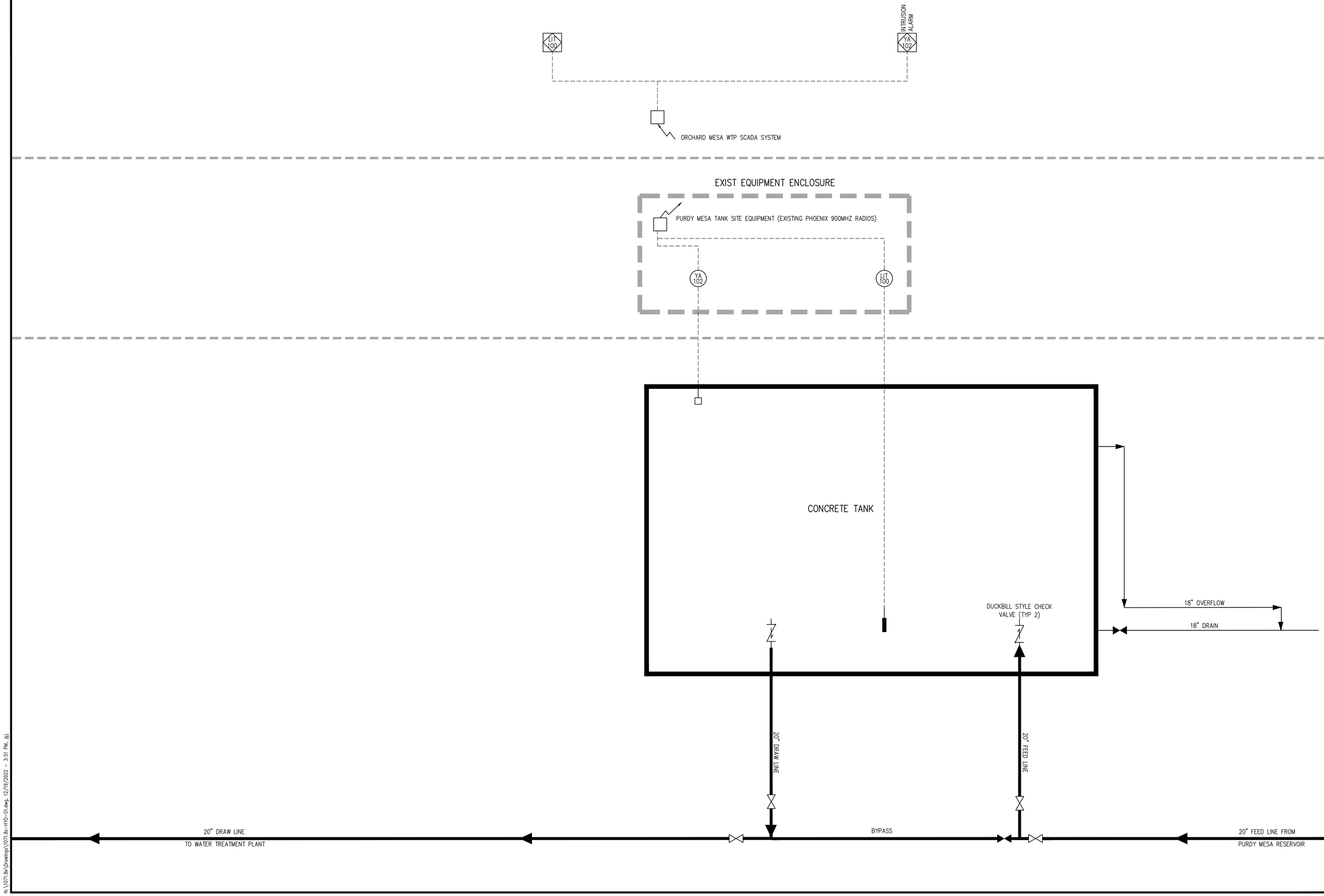
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

PROCESS AND INSTRUMENTATION LEGEND

SHEET NO.
G0.3



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CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

PROCESS AND INSTRUMENTATION DIAGRAM

SHEET NO.
G0.4

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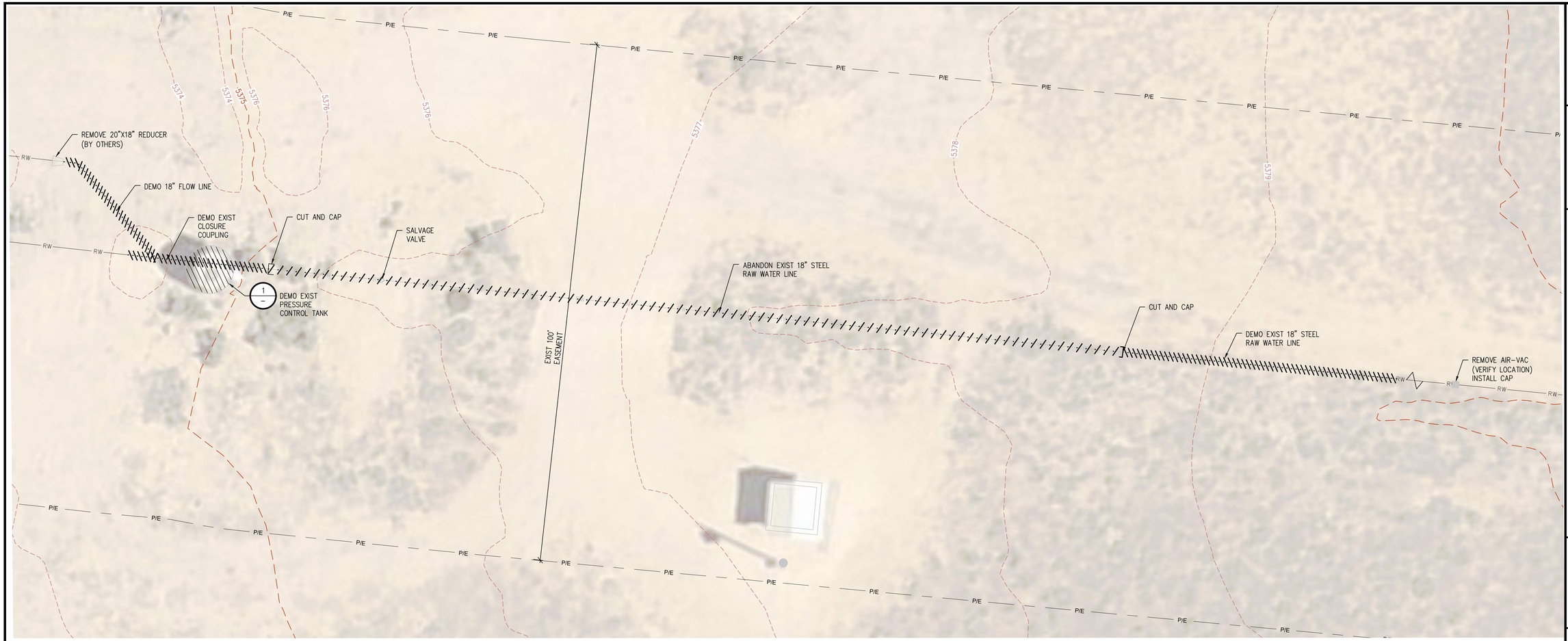

EXISTING PRESSURE CONTROL TANK PLAN VIEW

NTS

EXISTING PRESSURE CONTROL TANK ELEVATIONS

SCALE 1

DEMOLITION NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
3. REPLACE EXISTING FLATWORK AT UTILITY TRENCHES AS REQUIRED.
4. ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, MECHANICAL ENGINEER, AND ARCHITECT PRIOR TO CONSTRUCTION.
5. ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
7. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN SERVICES DURING CONSTRUCTION.

DEMOLITION LEGEND

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE

N

10 0 10 20
SCALE IN FEET

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CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

DEMOLITION PLAN

SHEET NO.
C0.1

N:\1071.8e\Drawings\1071.8e-DMO-01.dwg, 12/19/2022 - 3:52 PM, jjj

EXISTING CONC PRESSURE CONTROL TANK (SEE DEMO PLAN)

EXIST 100' EASEMENT

6' CHAIN-LINK SECURITY FENCE W/ 16' WIDE DOUBLE GATE
N-5123.64
E152377.22

N-5100.63
E152379.37

PORTABLE CONCRETE WASHOUT (ECO-PAN OR ACCEPTED SUBSTITUTION)

EXIST EQUIPMENT ENCLOSURE

EXIST SOLAR PANEL POLE

N-5112.67
E152508.79

GRADE BREAK (TYP)

CONCRETE TANK

79.60 LP

79.75 HP

N-5135.59
E152480.41

N-5162.45
E152504.16

EROSION CONTROL LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- SEDIMENT CONTROL LOG
- CONCRETE WASHOUT AREA
- SEEDING AND MULCHING

EROSION AND SEDIMENTATION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.
3. VEHICLE TRACKING CONTROL SHOULD BE LOCATED EITHER AT LANDS END ROAD OR BEFORE ENTERING SAGE ROAD (STILL DIRT).

10 0 10 20
SCALE IN FEET

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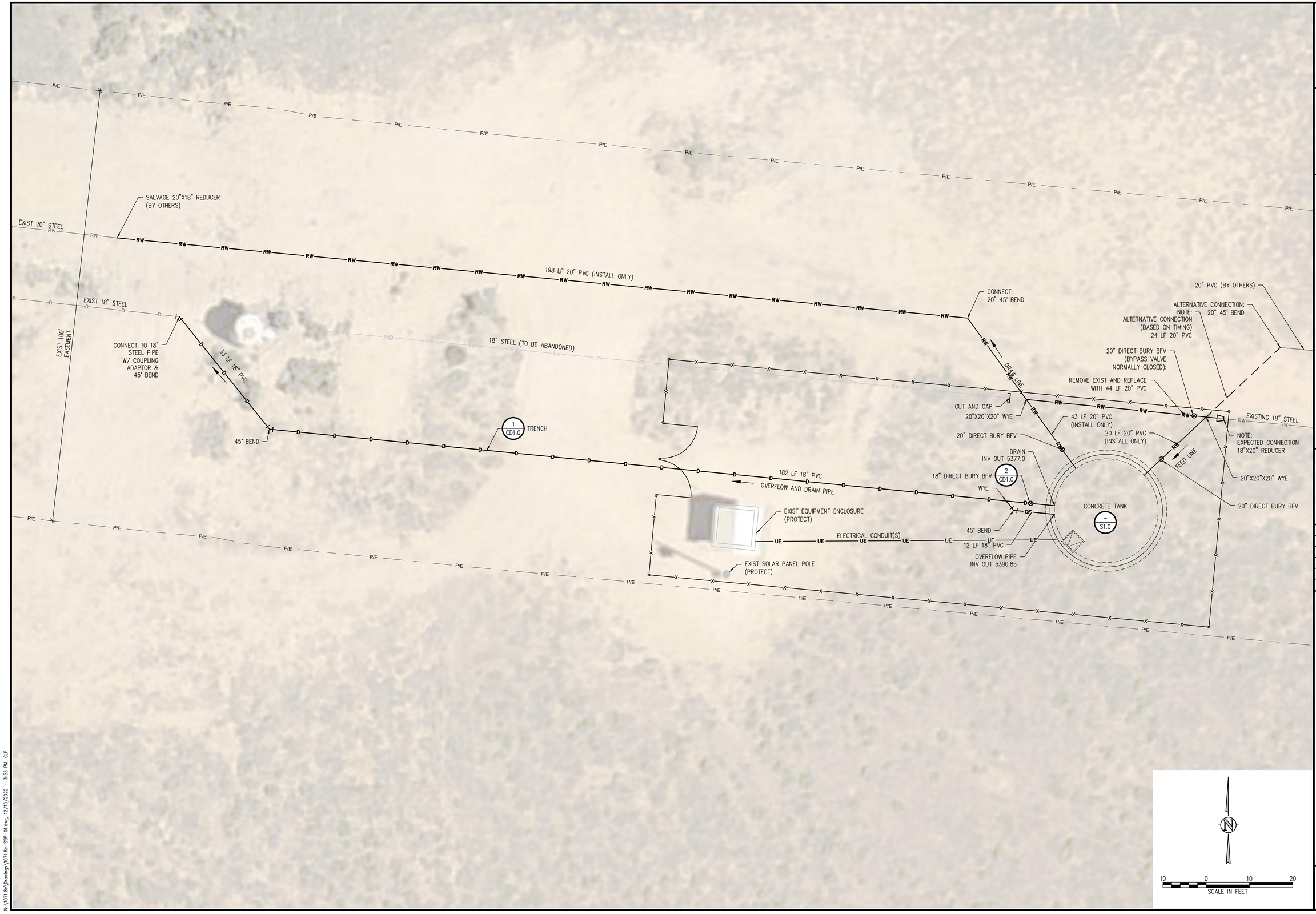
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

CIVIL SITE PLAN

SHEET NO.
C1.0



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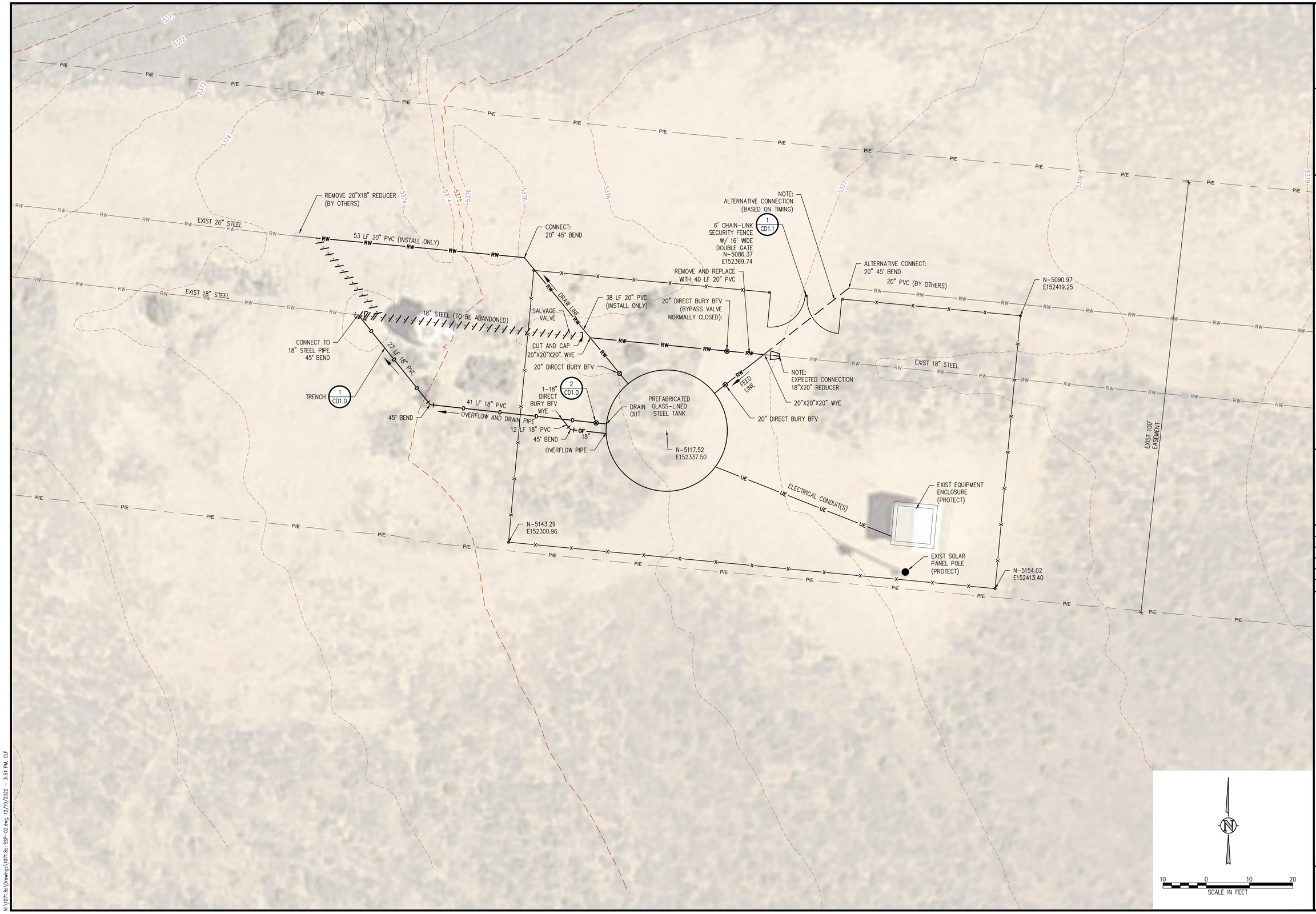
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

SITE PIPING PLAN

SHEET NO.
C2.0

N:\1071.8e\Drawings\1071.8e--SSP--01.dwg, 12/9/2022 - 3:53 PM, CJF



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CHECKED BY:	JJM
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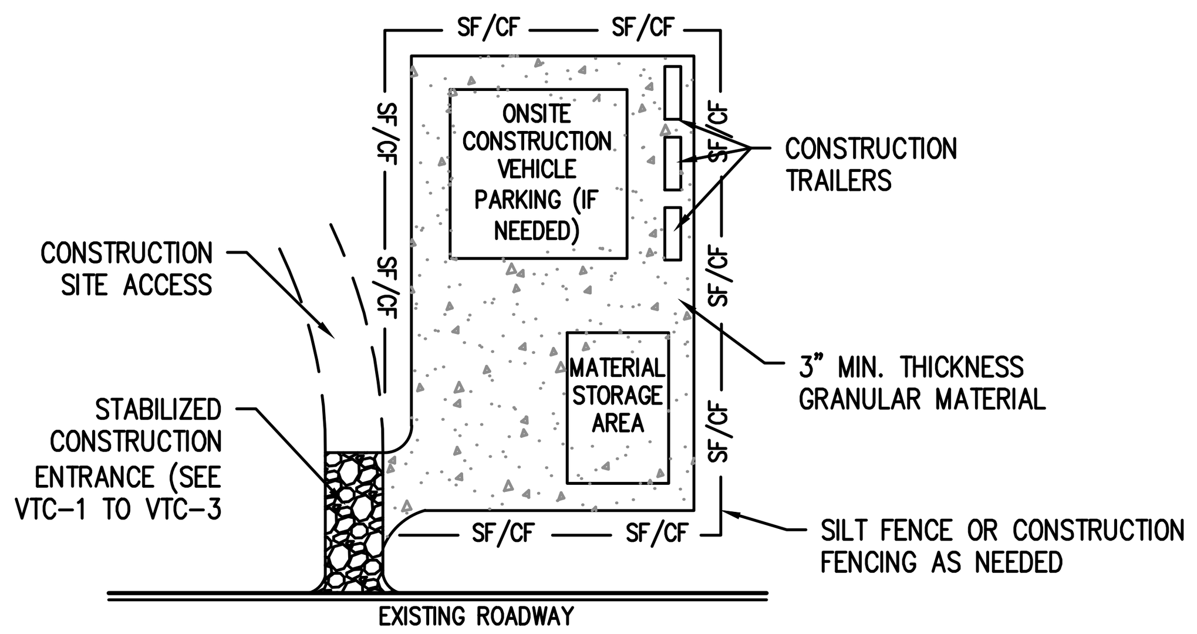
DATE:	DECEMBER 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

SITE PIPING PIPING - BID ALT 1

SHEET NO.
C2.1



SSA-1. STABILIZED STAGING AREA

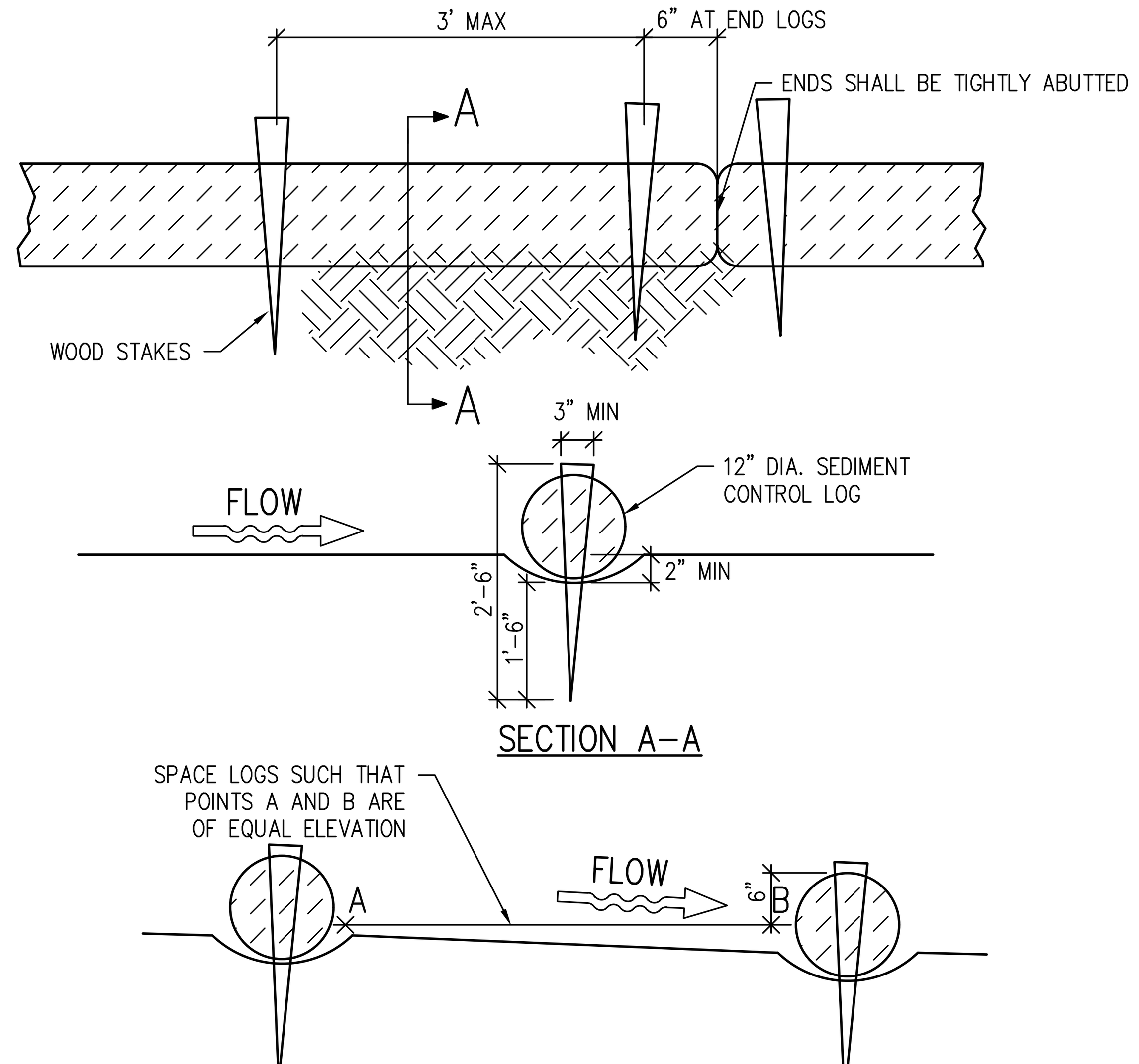
STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   - –LOCATION OF STAGING AREA(S)
   - –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTIONS .
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMIT TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATION CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(SSA) STABILIZED STAGING AREA (A / C1.0)
NTS



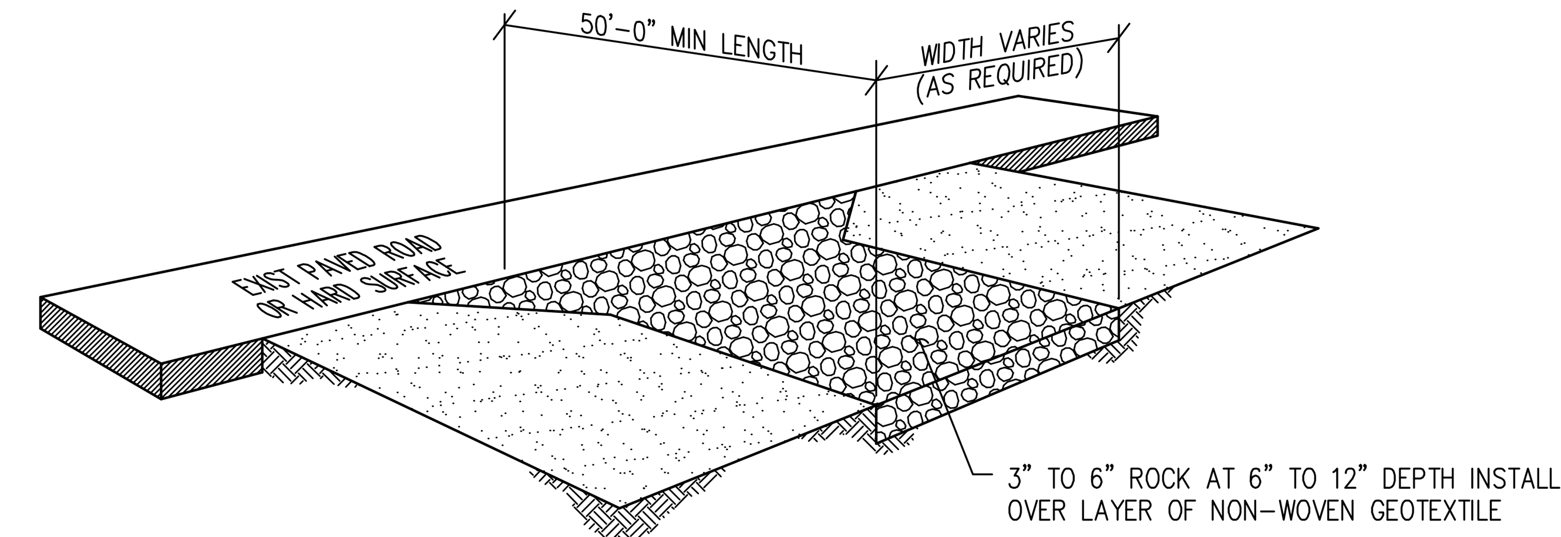
SEDIMENT CONTROL LOG INSTALLATION NOTES:

1. SEE PLAN VIEW FOR LOCATION AND EXTENT OF SEDIMENT CONTROL LOGS.
2. SEDIMENT CONTROL LOGS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES AND AS REQUIRED DURING CONSTRUCTION.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES:

1. THE SEDIMENT CONTROL LOGS SHALL BE INSPECTED DAILY, DURING AND AFTER ANY STORM EVENT, AND REPAIRED OR HAVE ANY UPSTREAM SEDIMENT REMOVED.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST OF LOG.
3. ALL SEDIMENT CONTROL LOGS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE ACCEPTABLY STABILIZED.

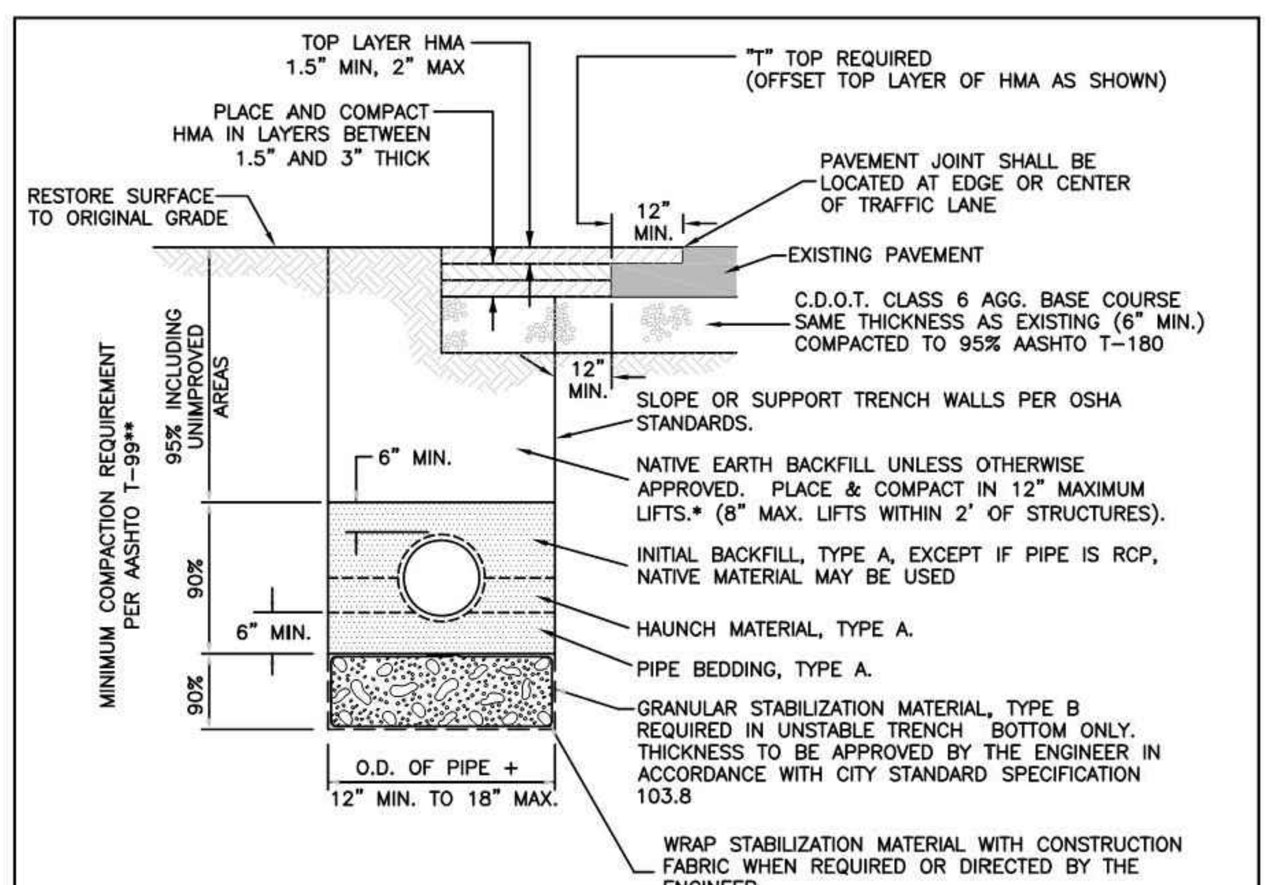
(SCL) SEDIMENT CONTROL LOG DETAIL (B / C1.0)
NTS



NOTES:

1. VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT ALL INGRESS/EGRESS POINTS WHERE VEHICULAR ACCESS TRANSITIONS FROM PAVED SURFACES TO DISTURBED SURFACES.
2. THE VTC PAD SHALL CONSIST OF HARD, ANGULAR, DENSE, AND DURABLE STONE. ROUNDED STONE, BOULDERS, RECYCLED ASPHALT, AND RECYCLED CONCRETE ARE NOT ACCEPTABLE.
3. ANY CRACKED OR DAMAGED CURB AND/OR GUTTER SHALL BE REPLACED BY THE CONTRACTOR.
4. PAD WILL BE REPAIRED AND REFRESHED AS NEEDED TO MAINTAIN FUNCTION AND INTEGRITY.
5. VTC PADS SHALL BE INSTALLED AT ALL CONCRETE WASHOUT AREAS AND AT STABILIZED STAGING/STORAGE AREAS.

(VTC) VEHICLE TRACKING CONTROL DETAIL (C / –)
NTS



	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES		
SIEVE SIZE	PIPE BEDDING, HAUNCH & INITIAL BACKFILL MATERIAL (CRUSHED ROCK, TYPE A)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK, TYPE B)	IMPORTED BACKFILL MATERIAL (USE ONLY WHERE SPECIFIED OR DIRECTED BY THE ENGINEER
12 INCH	---	---	100
2 INCH	---	100	---
1 INCH	100	---	---
NO 4	20 MAX	15 MAX	---
NO 200	---	---	20 MAX ***

* 24" COMPACTED BACKFILL REQUIRED OVER ALL PLASTIC PIPE PRIOR TO VEHICLE OR HEAVY EQUIPMENT LOADING.

** COMPACT PER AASHTO T-180 WHEN SPECIFIED, DIRECTED OR APPROVED BY THE ENGINEER.

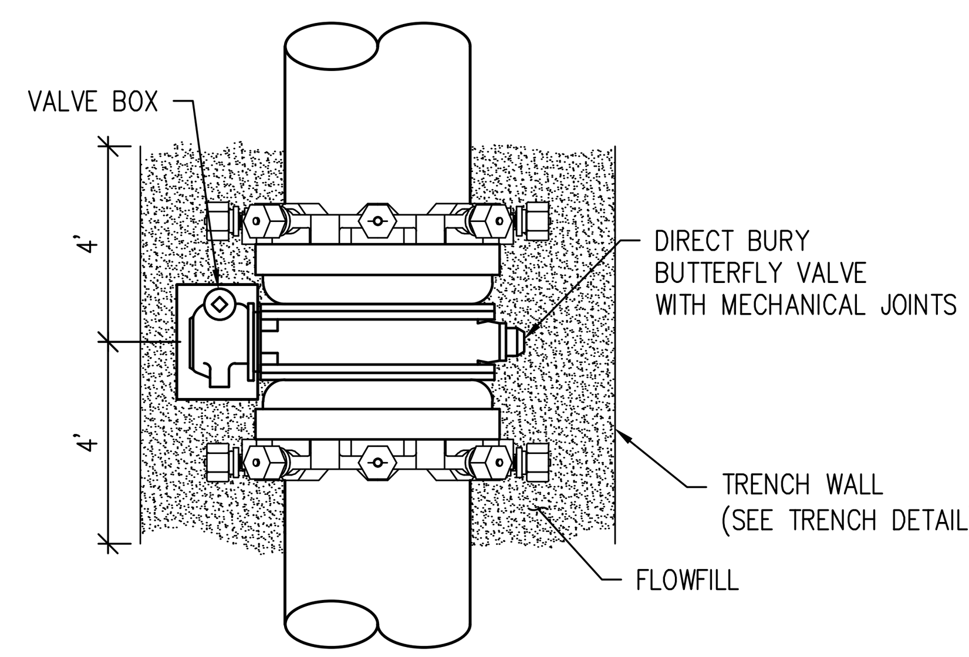
*** PLASTIC INDEX (PI) SHALL NOT BE MORE THAN 7.

ALL BACKFILL MATERIAL SHALL BE UNIFORMLY ADJUSTED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT PRIOR TO PLACEMENT AND COMPACTION.

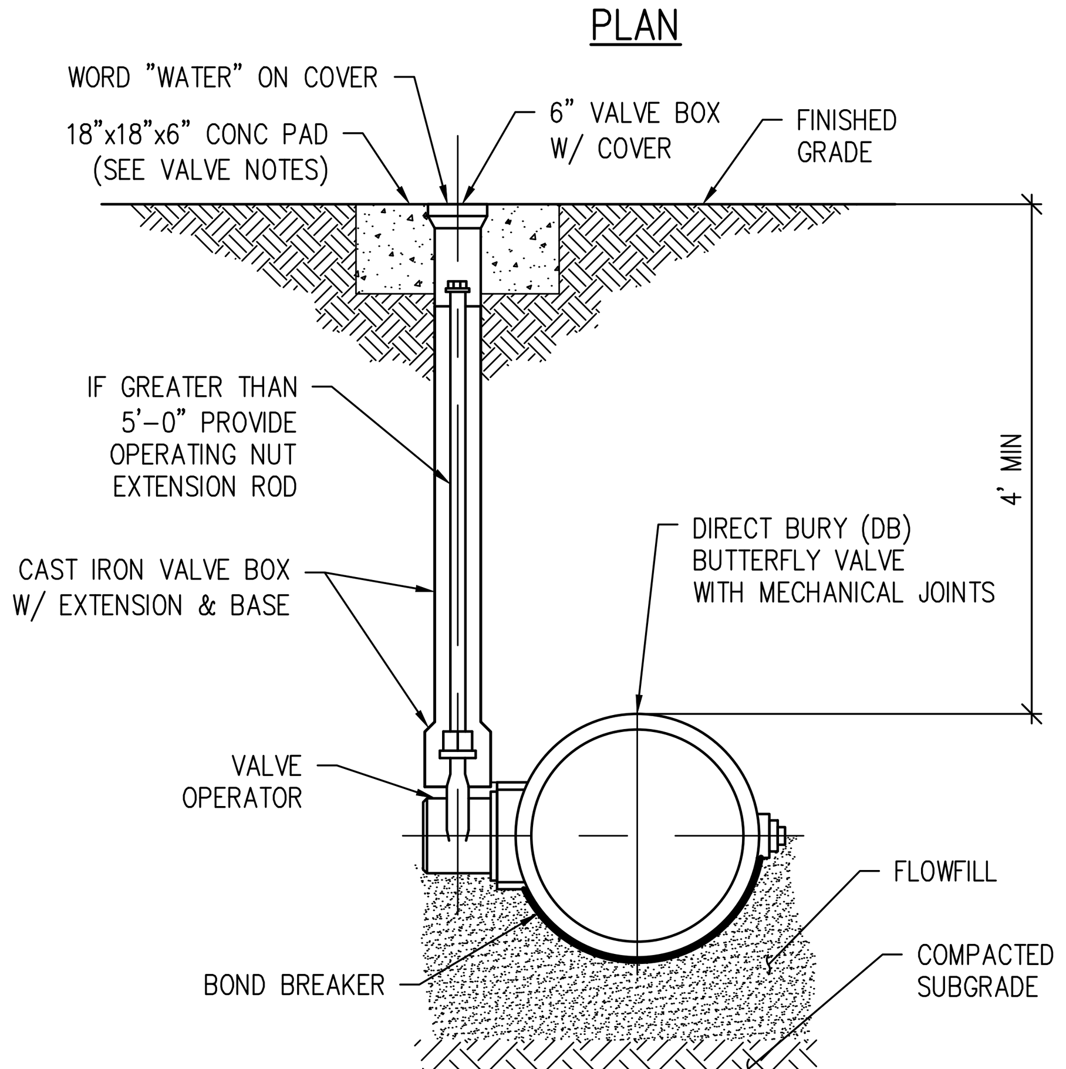
TYPICAL TRENCH DETAIL

DEPARTMENT OF PUBLIC WORKS AND PLANNING ENGINEERING DIVISION CITY OF GRAND JUNCTION, COLORADO	GENERAL UTILITY DETAIL	APPROVED: DN REVISED: JAN 2005 DRAWN: JAH	PAGE GU-03

TYPICAL TRENCH DETAIL (1 / C2.0)
NTS

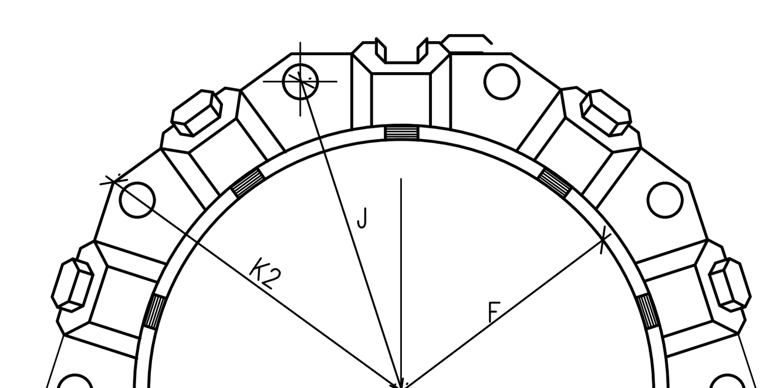


PLAN

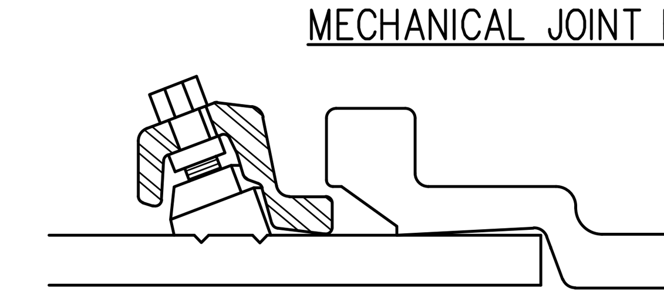


ELEVATION

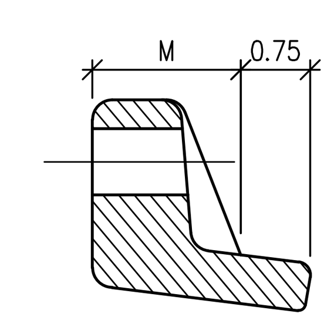
DIRECT BURY BUTTERFLY VALVE INSTALLATION DETAIL (2 / C2.0)
NTS



MECHANICAL JOINT RESTRAINT



WEDGE DETAIL



BOLT HOLE DETAIL

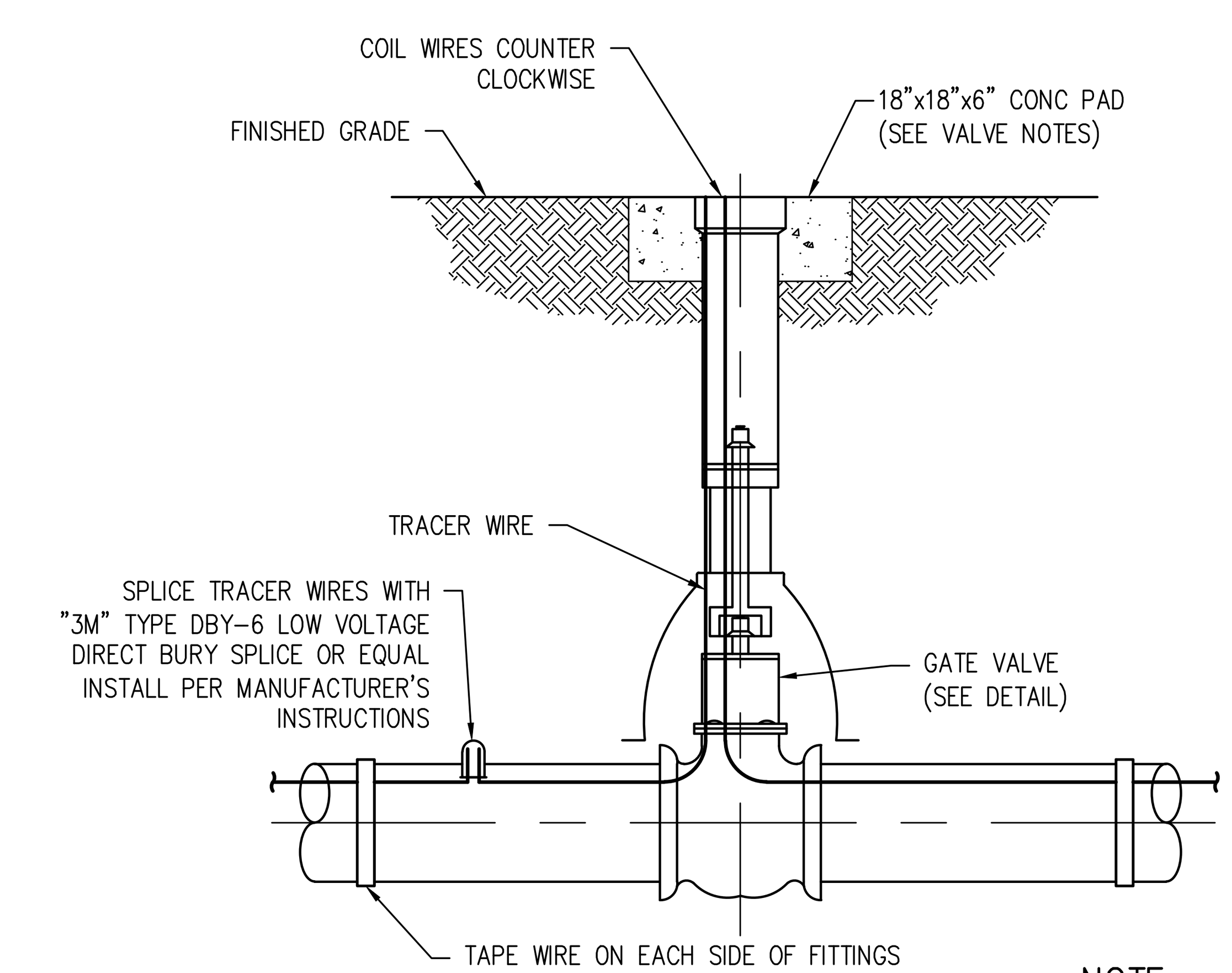
DIMENSIONS

	NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES	
PVC	4"	2	2					PVC
	6"	6	3	11.12	9.50	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	20"	8	8	17.88	16.25	13.30	1.25	
DI	4"	4	2					DI
	6"	6	3	11.12	9.50	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	
	16"	12	12	22.50	21.00	17.54	1.56	
	20"	14	14	27.00	25.50	21.74	1.69	

NOTE:

1. BASED ON "MEGA LUG" PIPE RESTRAINT SYSTEM BY EBAA IRON
2. OTHER MECHANICAL JOINT RESTRAINT DEVICES MUST BE APPROVED BEFORE INSTALLATION.

MECHANICAL JOINT RESTRAINT DETAIL (3 / –)
NTS



NOTE:
SPACE TRACER WIRE TEST STATIONS AT 500' MAX SPACING

INSTALLATION AT VALVE

TRACER WIRE INSTALLATION AND TEST STATION DETAIL (4 / –)
NTS

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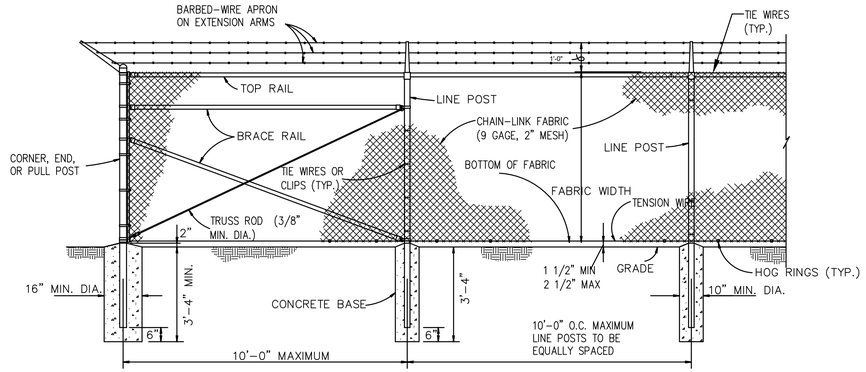
DESIGNED BY:
DRAWN BY:
CHECKED BY: JJM
JOB #: 1071.8e
DATE: DECEMBER 2022

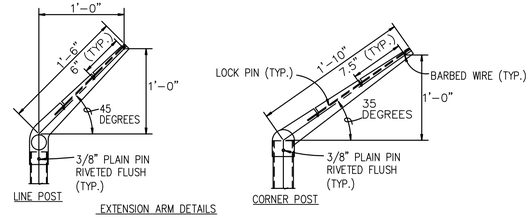
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

SITE DETAILS

SHEET NO.
CD1.0

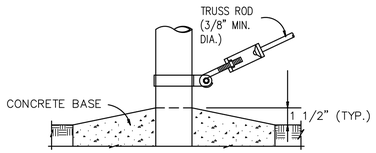


CHAIN-LINK SECURITY FENCE DETAIL
NTS

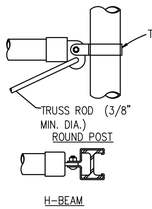


EXTENSION ARM DETAILS
NTS

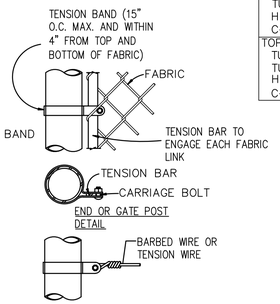
USE AND SECTION	STEEL POST SCHEDULE MINIMUM OUTSIDE DIMENSIONS (NOMINAL)		
	FABRIC WIDTH 72" OR LESS	FABRIC WIDTH 84" TO 96"	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS TUBULAR – ROUND TUBULAR – SQUARE C–SECTION (ROLL–FORMED)	2.375" O.D. 2.00" SQ. 3.50" X 3.50"	2.875" O.D. 2.50" SQ. 3.50" X 3.50"	4.00" O.D. 3.00" SQ.
LINE POSTS TUBULAR – ROUND H–SECTION C–SECTION (ROLL–FORMED)	1.90" O.D. 2.25" X 1.70" 1.875" X 1.625"	2.375" O.D. 2.25" X 1.70" 2.25" X 1.70"	2.875" O.D. 2.25" X 1.70"
TOP, BOTTOM & BRACE RAILS TUBULAR – ROUND TUBULAR – SQUARE H–SECTION C–SECTION (ROLL–FORMED)	1.66" O.D. 1.50" SQ. 1.625" X 1.50" 1.625" X 1.25"		



TRUSS ROD AND BAND

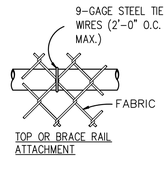


BRACE RAIL CLAMP DETAILS



TENSION BAND DETAIL

FASTENING DETAILS
NTS

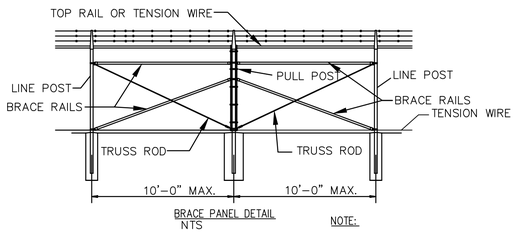


TOP OR BRACE RAIL ATTACHMENT

NOTES:

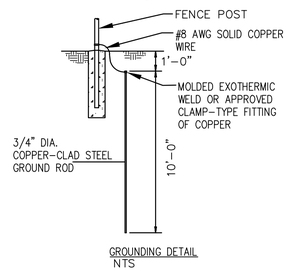
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN–LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
3. UNLESS SPECIFICALLY SHOWN OR SPECIFIED, ALL FE6 FENCE SHALL HAVE AN APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.
4. C–SECTION POSTS SHALL BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.

RE: ARMY CORPS OF ENGINEERS – FE6 CHAIN–LINK SECURITY FENCE DETAILS

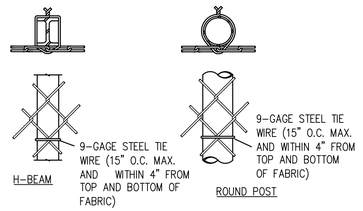


BRACE PANEL DETAIL
NTS

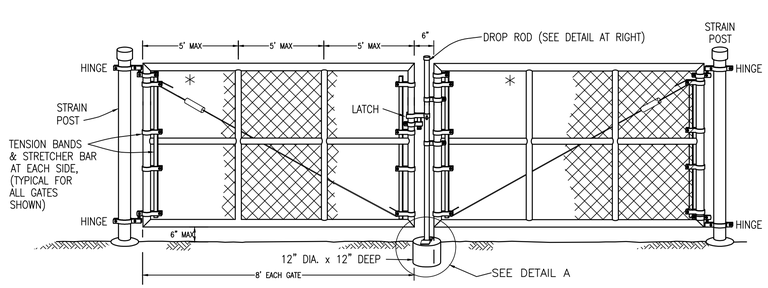
NOTE:
PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 500 FEET.



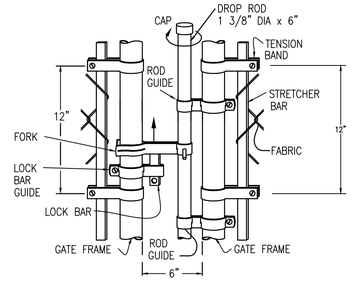
GROUNDING DETAIL
NTS



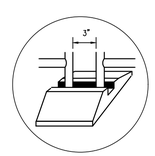
LINE POST ATTACHMENTS
NTS



DOUBLE GATE



TYPICAL DROP ROD ASSEMBLY



DROP ROD IS OPTIONAL IF GATE FRAMES EXTEND DOWN TO CENTER REST. USE LATCH SHOWN FOR WALK OR SINGLE GATE.

DETAIL A TYPICAL CENTER REST

CHAIN–LINK SECURITY FENCE DETAILS

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1 / C1.0

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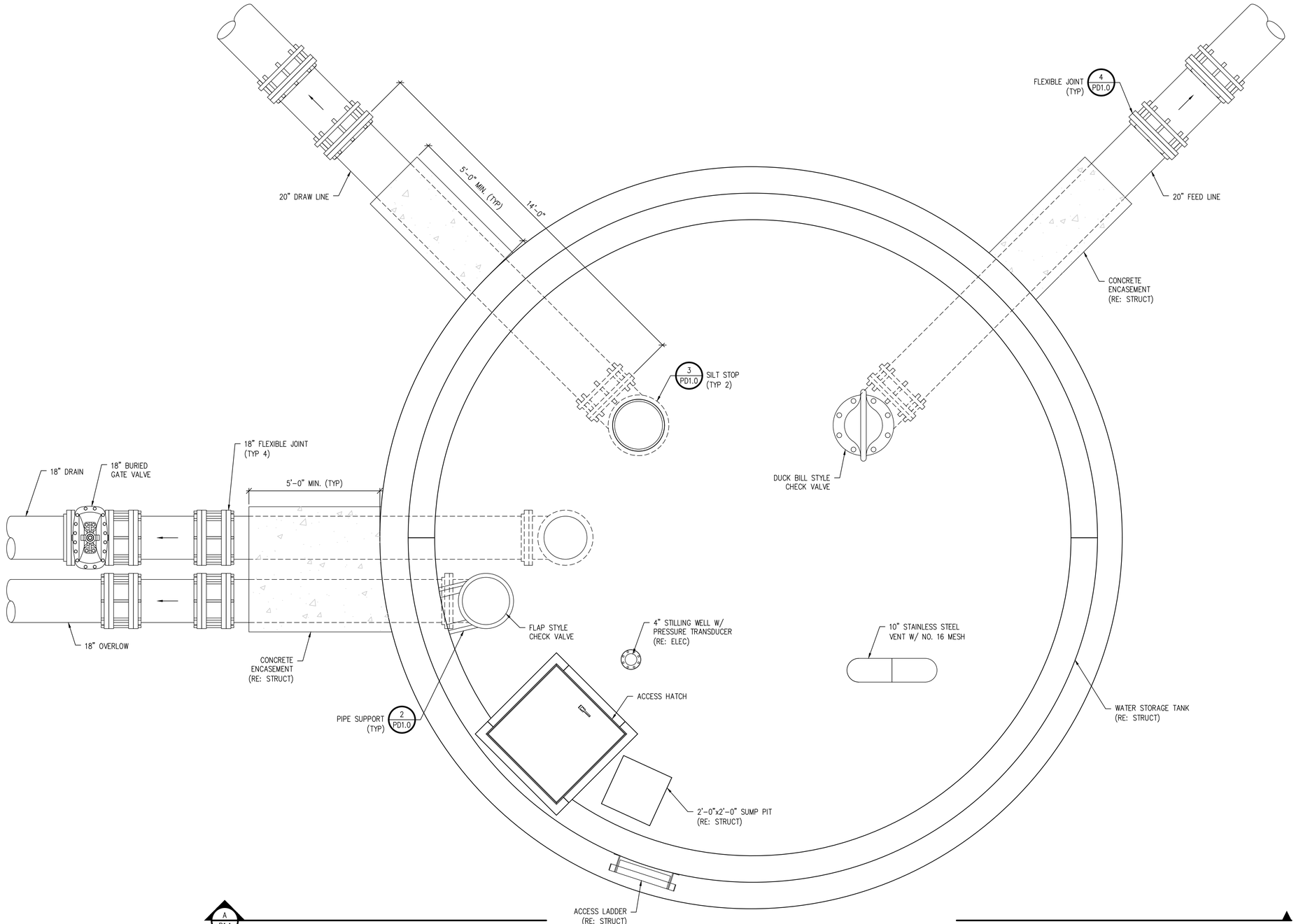
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

SITE DETAILS

SHEET NO.
CD1.1



TANK PLAN VIEW

1/2" = 1'-0"

2 0 2 4

SCALE OF FEET

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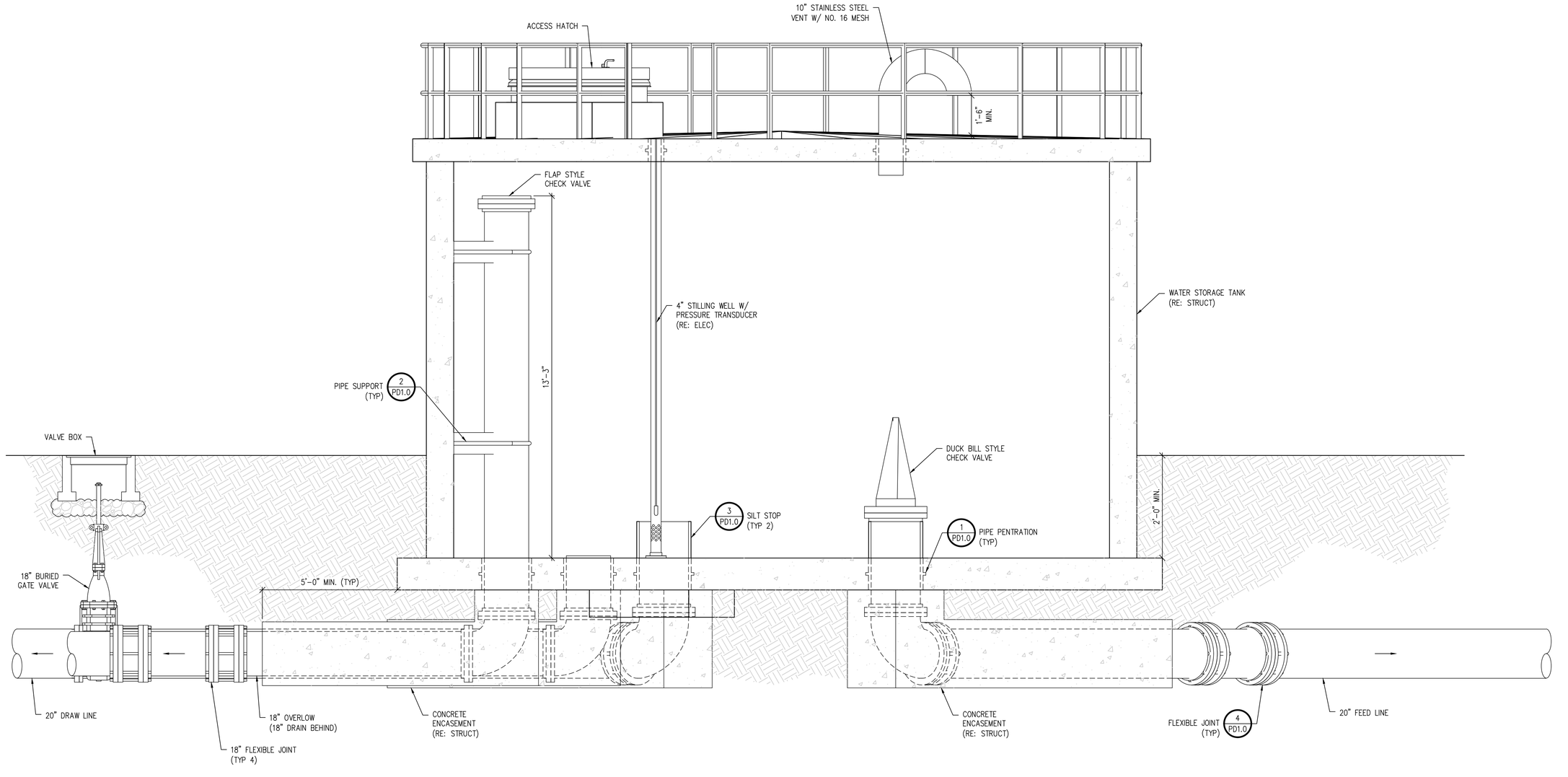
PRESSURE CONTROL TANK

TANK PLAN

SHEET NO.
P1.0



SECTION A P1.0
1/2" = 1'-0"

NOTE:
SEE STRUCTURAL SHEETS FOR ELEVATIONS

2 0 2 4
SCALE OF FEET

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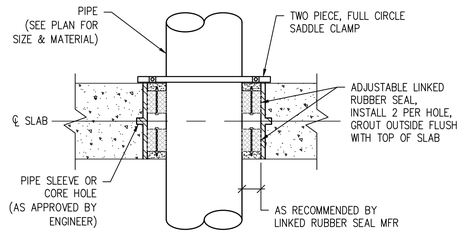
CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

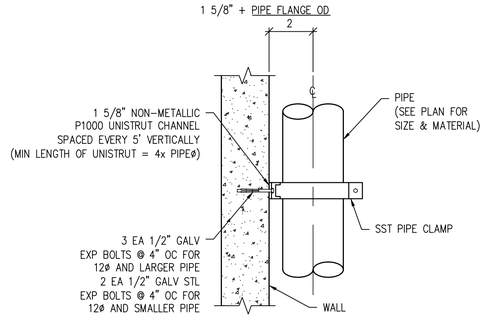
TANK SECTIONS

SHEET NO.
P1.1



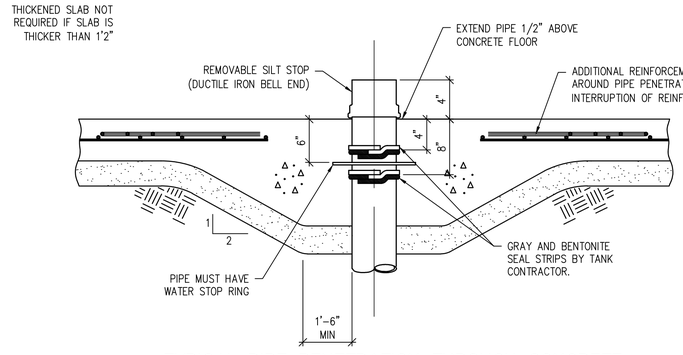
SLAB PENETRATION WITH CORE HOLE DETAIL (1/P1.1)

NTS



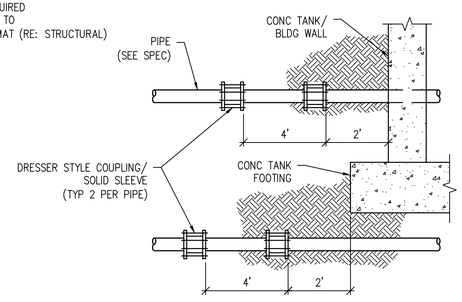
VERTICAL PIPE WALL SUPPORT DETAIL (2/P1.0)

NTS



TYPICAL PIPE PENETRATION THROUGH CONCRETE TANK FLOOR WITH REMOVABLE SILT STOP (3/P1.0)

NTS



PIPE FLEXIBILITY DETAIL (4/P1.0)

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CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

PROCESS DETAILS

SHEET NO.
PD1.0

STRUCTURAL GENERAL NOTES

DESIGN LOADS:

1. DESIGN LOADS: 2018 INTERNATIONAL BUILDING CODE, ASCE 7-16
2. RISK CATEGORY III: SUBSTANTIAL HAZARD
3. TANK LID DESIGN LOADS:
   - A. DEAD LOAD (SELF) 150 PSF
   - B. ROOF LIVE LOAD 60 PSF
   - C. GROUND SNOW LOAD, Pg 30 PSF
   - D. SNOW EXPOSURE FACTOR, Ce 0.9
   - E. SNOW IMPORTANCE FACTOR, Is 1.1
   - F. THERMAL FACTOR, Ct 1.0
4. WIND:
   - A. BASIC DESIGN WIND SPEED, V_{ULT}, (3-SECOND GUST) 109 MPH
   - B. WIND EXPOSURE C
5. SEISMIC:
   - A. SHORT SECOND
     - a. S_S 0.249g
     - b. S_{DS} 0.265g
   - B. ONE PERIOD
     - a. S_1 0.066g
     - b. S_D 0.105g
   - C. SOILS SITE CLASS D
   - D. SEISMIC IMPORTANCE FACTOR 1.25
   - E. SEISMIC DESIGN CATEGORY B

FOUNDATION DESIGN:

1. REFER TO SOILS REPORT NO. 00208-0080 BY HUDDLESTON-BERRY ENGINEERING & TESTING, LLC DATED JUNE 5, 2018 FOR THE PURDY MESA FLOWLINE, NAMELY TEST PIT LOCATIONS 7 AND 8 (TP-7 & TP-8).
2. RETAIN THE SERVICE OF A GEOTECHNICAL ENGINEER TO VERIFY SOIL CONDITIONS AND TYPES DURING EXCAVATION AND PRIOR TO PLACEMENT OF FORMWORK OR CONCRETE. COBBLES AND BOULDERS ENCOUNTERED TEST PIT LOCATIONS ADJACENT TO THE PROPOSED TANK SITE RANGING FROM APPROXIMATELY ONE FOOT TO 1.5 FEET BELOW FINISHED GRADE.
3. MINIMUM EMBEDMENT DEPTH = 24 INCHES
4. MAXIMUM ALLOWABLE BEARING PRESSURE: 1,500 PSF (ASSUMED)

REINFORCED CONCRETE:

1. DESIGN IS BASED ON ACI 350 "BUILDING CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES."
2. CONCRETE WORK SHALL CONFORM TO ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE."
3. STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

INTENDED USE	EXPOSURE CLASS	f'c, PSI 28 DAYS	MAX W/CM RATIO	MAXIMUM AGGREGATE	AIR CONTENT PERCENT (+/- 1.5%)	CEMENT TYPE	ADMIXTURES / COMMENTS
WALLS	F2-S1-W1-C1	4500	0.45	3/4" STONE	6%	I/II	*SEE NOTE
FORMED STRUCTURAL SLAB	F2-S1-W1-C1	4500	0.45	3/4" STONE	6%	I/II	SRA
BASE SLAB	F0-S1-W1-C1	4000	0.45	3/4" STONE	3%	I/II	*SEE NOTE

*BID ALTERNATE #2: XYPEX WATERPROOFING ADMIXTURE

4. DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
5. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
6. AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
7. FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
8. EXCEPT AS NOTED ON THE DRAWINGS, CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   - A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
     - 1. EXPOSED TO EARTH, WEATHER, OR WATER: 2"

POST-INSTALLED ANCHORS

1. ALL CAST IN PLACE ANCHORS DESIGNED IN ACCORDANCE WITH ACI 318.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
3. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. EXISTING REINFORCING BARS SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
4. ALL ANCHORS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MPII.
5. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER; REGISTRATION MUST BE IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
6. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318-11 D 9.2.2, ACI 318-14 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
7. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D 2.2, ACI 318-14 17.1.2)
8. ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICC-ES EVALUATION REPORTS.
9. PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC 2012/2015 TABLE 1705.3 NOTE B).

LEAK TESTING:

- A. STRUCTURES SHALL BE SUBJECTED TO LEAKAGE TESTS AFTER CONCRETE HAS OBTAINED SPECIFIED DESIGN STRENGTH, AND BEFORE BACKFILLING OR OTHER WORK WHICH WILL COVER FACES OF WALLS IS BEGUN
- B. TANKS LATERALLY RESTRAINED OR SUPPORTED BY CROSS-WALLS, BEAMS OR SLABS SHALL NOT BE TESTED UNTIL SUCH RESTRAINING OR SUPPORTING CONSTRUCTION IS PLACED AND HAS OBTAINED ITS SPECIFIED DESIGN STRENGTH
- C. **FILL STRUCTURE WITH WATER TO ELEVATION 5390.10'**. AFTER STRUCTURE HAS BEEN FULL FOR 24 HRS, IT WILL BE ASSUMED FOR PURPOSES OF TEST THAT ABSORPTION OF MOISTURE BY CONCRETE IN STRUCTURE IS COMPLETE. MEASURE CHANGE IN WATER LEVEL AFTER 24 HOURS HAVE ELAPSED.
- D. FILL CONTAINER WITH WATER AND PLACE NEXT TO OR IN STRUCTURE BEING TESTED. LOCATE CONTAINER SO IT EXPERIENCES ENVIRONMENTAL CONDITIONS AS CLOSE AS POSSIBLE TO THOSE EXPERIENCED BY STRUCTURE. CONTAINER SHALL BE USED AS AN INDICATOR TO MEASURE LOSS OF WATER DUE TO EVAPORATION. LEVEL OF WATER IN CONTAINER SHALL BE MEASURED AND RECORDED OVER SAME PERIOD AS STRUCTURE.
- E. IF DROP IN WATER LEVEL, ADJUSTED FOR EVAPORATION IN 24-HR PERIOD, EXCEEDS 1/32 OF AN INCH LEAKAGE SHALL BE CONSIDERED EXCESSIVE
- F. DURING TEST PERIOD, EXAMINE STRUCTURE AND MARK VISIBLE LEAKS OR DAMP SPOTS
- G. DAMP SPOTS ON THE EXTERIOR WALL FACES OR FOOTINGS SHALL BE QUALIFIED AS LEAKS. ALL LEAKS SHALL BE REPAIRED.
- H. DRAIN STRUCTURE TO 2-FT MINIMUM BELOW LEAKS AND DAMP SPOTS AND REPAIR. METHOD OF REPAIR SHALL BE CONTRACTOR'S OPTION, SUBJECT TO REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND REVIEW BY ENGINEER.
- I. IF LEAKAGE WAS DETERMINED TO BE EXCESSIVE, REFILL STRUCTURE TO SPECIFIED LEVEL AND RETEST
- J. CONTINUE THIS PROCESS UNTIL DROP IN WATER LEVEL IN 24-HR PERIOD IS LESS THAN 1/32 OF AN INCH
- K. REPAIRS AND ADDITIONAL TESTS SHALL BE MADE BY CONTRACTOR, IN ACCEPTABLE MANNER, AT NO ADDITIONAL COST TO OWNER

STRUCTURAL ERECTION AND BRACING REQUIREMENTS:

1. THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED.
2. THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY EXCEPTIONAL CONDITION IS ADDRESSED.
3. ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING LAYOUT AND DIMENSION VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE STRUCTURAL ENGINEER FOR RESOLUTION.
6. CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
7. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
8. THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO TEMPORARY BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
9. THE STRUCTURAL ENGINEER BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

CORROSION CONTROL:

1. ALL STEEL MEMBERS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED PER ASTM A123.
2. FASTENERS AND HARDWARE SHALL BE A316 OR A304 STAINLESS STEEL.
3. ALL FIELD CUT OR DAMAGED SURFACES, FIELD WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS AS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPAIRED WITH (2) COATS OF A 95% ZINC RICH PAINT PER ASTM A780 (ZRC PREFERRED).

CONCRETE SPECIAL INSPECTION (IBC 1705.3 & 1705.12.1)

ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS
Reinforcing steel	ACI-CCI ICC-RCSI	Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Post-installed anchors or dowels	ACI-CCI ICC-RCSI	Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	ACI-CCI ICC-RCSI	Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2, 1908.2, 1908.3.
Concrete sampling for strength tests, slump, air content, and temperature	ACI-CFTT ACI-SIT	Continuous	
Concrete placement	ACI-CCI ICC-RCSI	Continuous	
Curing temperature and techniques	ACI-CCI ICC-RCSI	Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.4.7-26.4.9). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Strength verification	ACI-STT	Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork		Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

SOIL SPECIAL INSPECTION (IBC 1705)

ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS
SHALLOW FOUNDATIONS			(IBC 1705.6)
Verify subgrade	PE/GE	Periodic	Prior to placement of concrete inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.
CONTROLLED STRUCTURAL FILL			(IBC 1705.6)
Excavations	PE/GE	Periodic	Verify excavations extend to proper depth and material prior to placement of compacted fill or concrete.
Fill materials	PE/GE	Periodic	Perform classification and testing of compacted fill materials. Check for proper classifications and gradations at each lift and not less than once for each 10,000ft² of surface area.
Placement and compaction		Continuous	Verify proper materials, densities and lift thicknesses during placement and compaction.
Subgrade preparation	PE/GE	Periodic	Verify that subgrade has been appropriately prepared prior to placing compacted fill.
Density		Continuous	Test density of each lift by nuclear methods (ASTM D2922).

SPECIAL INSPECTIONS

The Special Inspection Coordinator shall keep records of all inspections and shall furnish inspection reports to the Registered Design Professional in Responsible Charge. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Interim reports shall be submitted to the Registered Design Professional in Responsible Charge.
Interim Report Frequency: Within 48 hours of inspection, unless indicated otherwise.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted to the Engineer.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification
ACI-CFTT Concrete Field Testing Technician – Grade 1
ACI-CCI Concrete Construction Inspector
ACI-LTT Laboratory Testing Technician – Grade 1 & 2
ACI-STT Strength Testing Technician

American Welding Society (AWS) Certification
AWS-CWI Certified Welding Inspector
AWS/AISC-SSI Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification
ASNT Non-Destructive Testing Technician – Level II or III

International Code Council (ICC) Certification
ICC-RCSI Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)
NICET-CT Concrete Technician – Levels I, II, III & IV
NICET-ST Soils Technician - Levels I, II, III & IV
NICET-GET Geotechnical Engineering Technician - Levels I, II, III & IV

SCHEDULE OF INSPECTION AND TESTING AGENCIES

SPECIAL INSPECTION AGENCIES	FIRM	ADDRESS, TELEPHONE, E-MAIL
Special Inspection Coordinator	TBD	
Inspector	TBD	
Inspector	TBD	
Testing Agency	TBD	
Testing Agency	TBD	
Continuous	TBD	
Other	TBD	

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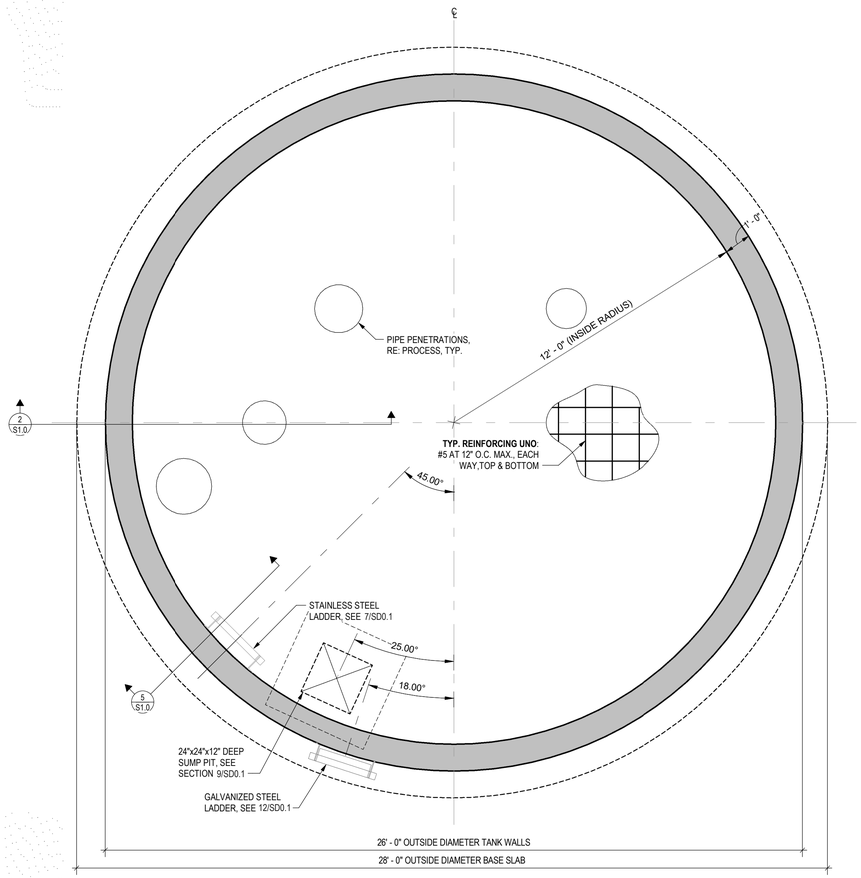
DESIGNED BY:	ER
DRAWN BY:	ER
CHECKED BY:	AJT/PJH
JOB #:	1071.8e
DATE:	SEPTEMBER 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

STRUCTURAL GENERAL NOTES

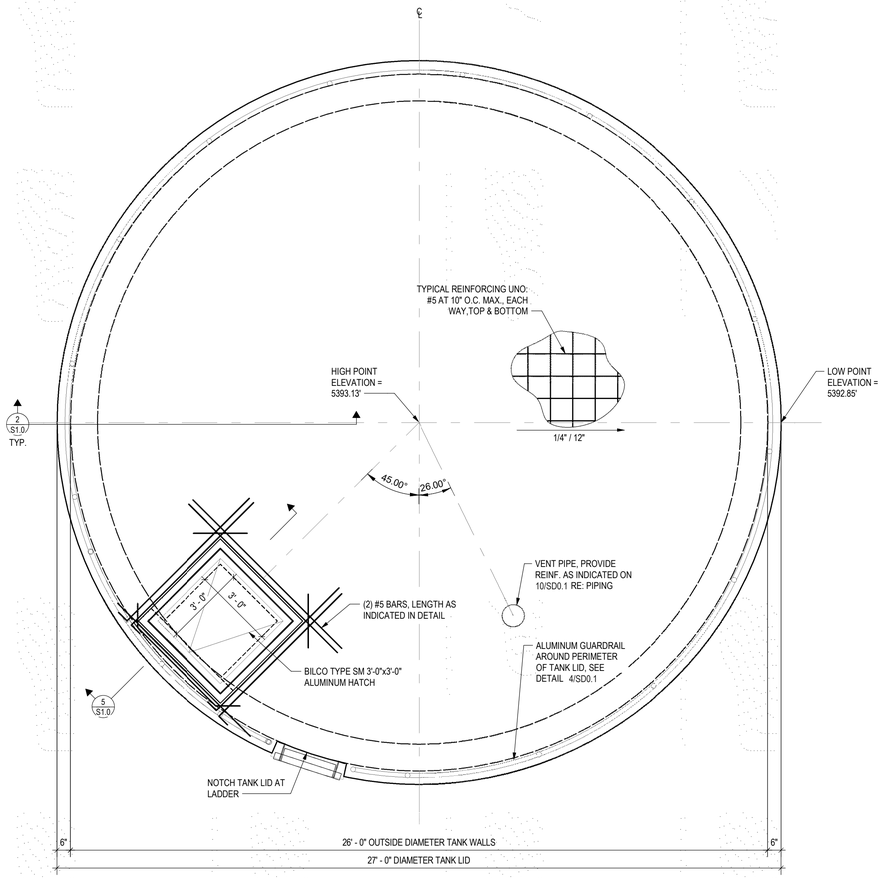
SHEET NO.
S0.1



TANK BASE SLAB PLAN

3/8" = 1'-0"

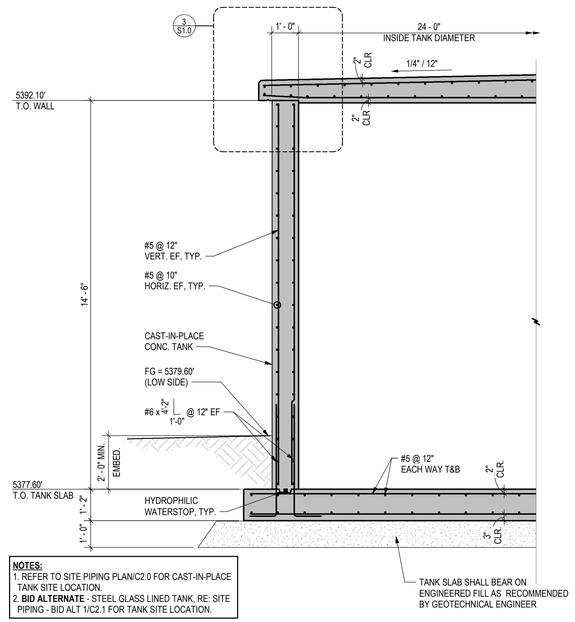
NORTH



TANK LID PLAN

3/8" = 1'-0"

NORTH

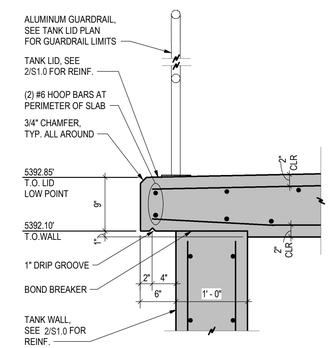


NOTES:
1. REFER TO SITE PIPING PLAN/C2.0 FOR CAST-IN-PLACE TANK SITE LOCATION.
2. **BID ALTERNATE** - STEEL GLASS LINED TANK, RE: SITE PIPING - BID ALT 1/C2.1 FOR TANK SITE LOCATION.

TYP. TANK SECTION

2 S1.0

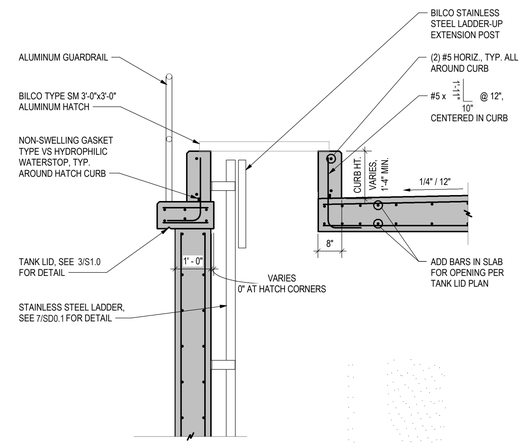
3/8" = 1'-0"



TANK LID AT WALL SECTION

3 S1.0

1" = 1'-0"



TANK LID OPENING AT HATCH SECTION

5 S1.0

1/2" = 1'-0"

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CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

TANK PLANS & SECTIONS

SHEET NO.

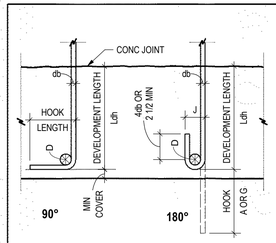
S1.0

TYPICAL CONCRETE REINFORCING LAP & EMBEDMENT LENGTHS (UNO)

BAR SIZE	TYPE	Fc = 3000 PSI (TOP)	Fc = 3000 PSI (OTHER)	Fc = 4000 PSI (TOP)	Fc = 4000 PSI (OTHER)	Fc = 5000 PSI (TOP)	Fc = 5000 PSI (OTHER)
#4	EMBED	29	22	25	19	22	17
	LAP	37	29	32	25	29	22
#5	EMBED	36	28	31	24	28	22
	LAP	47	36	40	31	36	28
#6	EMBED	43	33	37	29	33	26
	LAP	56	43	48	37	43	33
#7	EMBED	63	48	54	42	49	37
	LAP	81	63	70	54	63	49
#8	EMBED	72	55	62	48	55	43
	LAP	93	72	80	62	72	55

NOTES:
1. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW BAR
2. TABULATED VALUES ARE BASED ON GRADE 60 NON-EPOXY-COATED REINFORCING BARS AND NORMAL WEIGHT CONCRETE
3. VALUES ARE IN INCHES

1 SCHEDULE
SD0.1 — 3/4" = 1'-0"



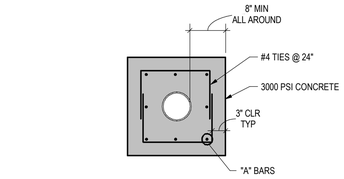
STANDARD HOOKS

BAR SIZE	D	180° HOOK LENGTH (A OR G)	180° HOOK WIDTH (J)	90° HOOK LENGTH (A OR G)	Ldh*
#3	2 1/4"	5"	3"	6"	6"
#4	3"	6"	4"	8"	7"
#5	3 3/4"	7"	5"	10"	9"
#6	4-1/2"	8"	6"	1'-0	10"
#7	5-1/4"	10"	7"	1'-2	12"
#8	6"	11"	8"	1'-4	14"

ALL GRADES OF STEEL
D = FINISHED INSIDE BEND DIAMETER
db = NOMINAL BAR DIAMETER
MIN D = 6 db FOR #3 THROUGH #8

* FOR fc = 4.0 OR 4.5 KSI AND COMPLYING WITH MIN COVER REQUIREMENTS OF ACI 318, 12.5.3.

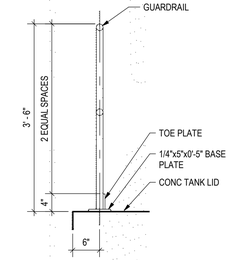
2 SCHEDULE
SD0.1 — 3/4" = 1'-0"



PIPE SIZE	"A" BARS
4" AND SMALLER PIPE	(4)-#4
5" TO 12" PIPE	(8)-#4
14" TO 36" PIPE	(8)-#5
42" AND LARGER PIPE	(12)-#5

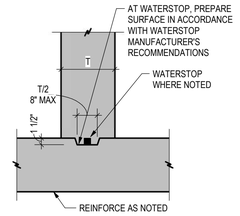
NOTE:
EXTEND HORIZONTAL REINF. A MINIMUM OF 12" INTO STRUCTURE

3 PIPE ENCASEMENT
SD0.1 — 3/4" = 1'-0"



GUARDRAIL ON CONC TANK LID

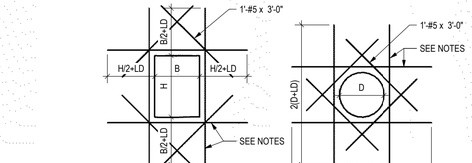
4 GUARDRAIL
SD0.1 — 3/4" = 1'-0"



WITH KEYWAY

BASE OF WALL JOINT

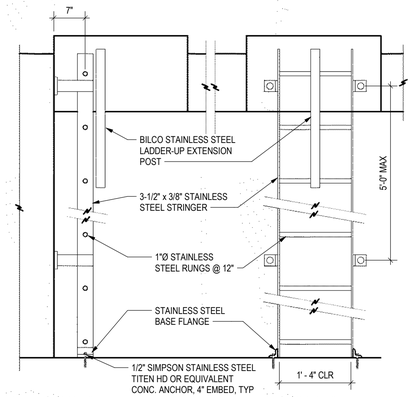
5 CONSTUCTION JOINT DETAILS
SD0.1 — 3/4" = 1'-0"



RECTANGULAR OPENING — CIRCULAR OPENING

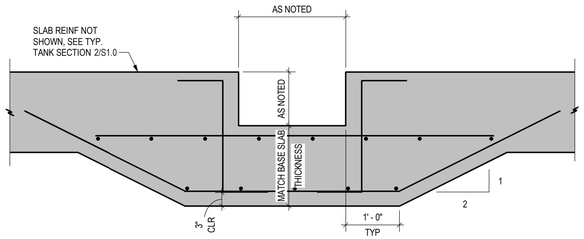
NOTES:
1. THESE DETAILS APPLY TO ALL OPENINGS IN CONCRETE WALLS AND SLABS WHEN THE LARGEST OPENING DIMENSION IS GREATER THAT TWO TIMES SECTION THICKNESS OR GREATER THAN REINFORCING SPACING IN THE SECTION, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
2. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE HALF OF THE AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF (1)-#5 BAR EACH FACE.
3. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.
4. LD = EMBEDMENT LENGTH, SEE 2/SD0.1

6 OPENING THRU WALLS OR SLABS
SD0.1 — 3/8" = 1'-0"



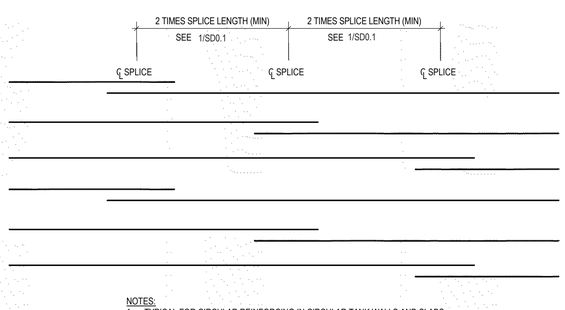
SIDE VIEW — FRONT VIEW

7 INTERIOR LADDER DETAIL
SD0.1 — 3/4" = 1'-0"



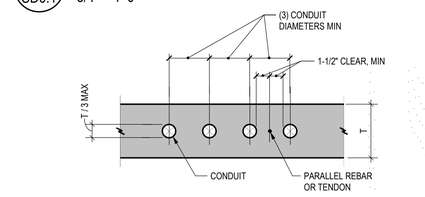
NOTE: REINFORCEMENT #5@12" AS SHOWN

8 VERTICAL PIPE SUPPORT AT WALL
SD0.1 — 3/4" = 1'-0"



NOTES:
1. TYPICAL FOR CIRCULAR REINFORCING IN CIRCULAR TANK WALLS AND SLABS

9 SUMP DETAIL
SD0.1 — 3/4" = 1'-0"

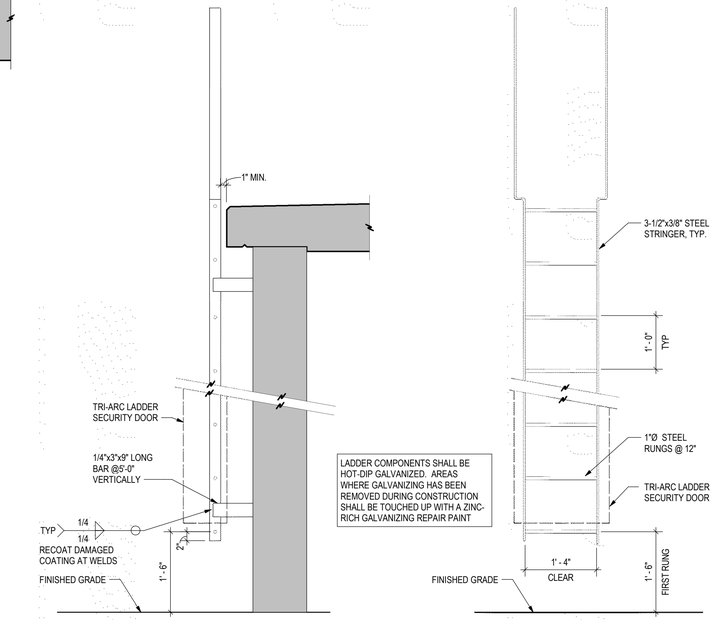


NOTES:
1. CONDUITS SHALL NOT BE LARGER IN THE OUTSIDE DIAMETER THAN 1/3 OF THE OVERALL THICKNESS OF THE SLAB IN WHICH THEY ARE EMBEDDED
2. CONDUITS SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER
3. ALUMINUM CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE
4. CONDUITS SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT AND SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE MID-DEPTH OF THE SLAB
5. MINIMUM CONCRETE COVER FOR CONDUITS SHALL BE THE SAME AS THAT OF THE SLAB MAIN REINFORCEMENT
6. CONDUITS PARALLEL TO REINFORCING BARS SHALL BE SPACED NO CLOSE THAN 1-1/2" CLEAR TO THE ADJACENT PARALLEL BARS
7. CONDUITS SHALL BE SUPPORTED BY STD REBAR CHAIRS OR EQUIVALENT

CONDUITS EMBEDDED IN STRUCTURAL SLAB

10 RING BAR SPLICE STAGGER
SD0.1 — 3/4" = 1'-0"

11 CONDUIT IN SLAB
SD0.1 — 3/4" = 1'-0"



12 EXTERIOR LADDER DETAIL
SD0.1 — 3/4" = 1'-0"

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CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

DETAILS, SECTIONS & SCHEDULES

SHEET NO.
SD0.1

ONE LINE DIAGRAM LEGEND

1500KVA
2.4KV-480Y/277
3Ø, 60 HZ — TRANSFORMER WITH PRIMARY AND SECONDARY VOLTAGE, AND KVA RATING AS NOTED.

20 — 22: 3#8,#10G,2" — CIRCUIT NO. 22 WITH #8 INSULATED CONDUCTORS, 1#10 BARE GROUND WIRE ALL IN 2" CONDUIT TO 20 HP MOTOR.

15 — AUXILIARY ITEMS MAY NOT BE SHOWN COMPLETELY — ONE-LINE SHOWING POWER AND CONTROL TO A PACKAGE UNIT, AS FOR EXAMPLE A STEAM GENERATOR OR AN AIR HANDLING UNIT, SHALL IMPLY THAT ANY AND ALL ASSOCIATED EQUIPMENT SHALL ALSO BE INSTALLED AND WIRED AS REQUIRED BY THE EQUIPMENT FURNISHED.

INDICATES THAT ALL OR PART OF CIRCUIT MAY BE ROUTED IN DUCT BANK OR UNDERGROUND. CONDUIT SIZE SHOWN ON ONE-LINE IS ABOVE GROUND AND/OR INSIDE OF STRUCTURE. SEE DUCT BANK SCHEDULE AND SECTIONS FOR CONDUIT SIZE OF UNDERGROUND PORTION OF CIRCUIT.

HIGH VOLTAGE DRAWOUT AIR OR VACUUM CIRCUIT BREAKER.

3P-20 — LOW VOLTAGE AIR CIRCUIT BREAKER, 3 POLE, 20 AMPERE.

S4 — SIZE 4 COMBINATION MAGNETIC MOTOR STARTER.

S4 — SIZE 4 REDUCED VOLTAGE SOFT STARTER

LOW VOLTAGE DRAWOUT AIR CIRCUIT BREAKER.

HIGH VOLTAGE DRAWOUT CONTACTOR.

FUSE AND DISCONNECT SWITCH.

S2 — SIZE 2 COMBINATION MAGNETIC MOTOR STARTER, REVERSING OR 2 SPEED.

POTENTIAL TRANSFORMER.

CURRENT TRANSFORMER.

CONDUIT & WIRING INSTALLATION LEGEND

CONDUIT EXPOSED.

CONDUIT CONCEALED.

CONDUIT TURNING UP, CONDUIT TURNING DOWN.

CONDUIT PLUGGED FLUSH, CONDUIT CAPPED.

L2-5 — TYPICAL FOR HOME RUN TO BE ROUTED TO LIGHTING PANEL L2 AND CONNECTED TO CIRCUIT #5 (MINIMUM NO. 12 AWG CONDUCTORS & ¾" CONDUIT.)

A — LIGHTING FIXTURE. REFER TO NUMBER OR LETTER IN FIXTURE SCHEDULE.

11 — FLUORESCENT FIXTURE. REFER TO NUMBER OR LETTER IN FIXTURE SCHEDULE.

LP1-3 — RECEPTACLE POWERED FROM LIGHTING PANEL LP1, CIRCUIT 3.

A LP2-2 — LIGHTING FIXTURE POWERED FROM LIGHTING PANEL LP2, CIRCUIT 2 (NON-SWITCHED.)

LPA-4 / 11 — LIGHTING FIXTURE POWERED FROM LIGHTING PANEL LPA, CIRCUIT 4

A / 11 — LIGHTING FIXTURE POWERED VIA SWITCH A.

E E — UNDERGROUND CONCRETE ENCASED ELECTRICAL DUCT BANK.

UNDERGROUND CONCRETE ENCASED ELECTRICAL BANK ROUTED BENEATH SLAB-ON-GRADE.

EE EE — DIRECT BURIED CONDUIT.

GROUND CONDUCTOR.

SCHEMATIC SYMBOLS

- WIRE CONNECTION POINT
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- STARTER, CONTACTOR OR RELAY COIL
- NORMALLY OPEN PUSH BUTTON
- NORMALLY CLOSED PUSH BUTTON
- MAINTAINED PUSH BUTTON
- NORMALLY CLOSED GEARED LIMIT SWITCH
- NORMALLY OPEN GEARED LIMIT SWITCH
- INDICATING LIGHT
- FUSE
- CONTROL POWER TRANSFORMER
- SWITCH
- MS — MANUAL STARTER
- OL — OVERLOAD
- FLOAT SWITCH (CLOSING ON RISING LEVEL)
- FLOAT SWITCH (OPENING ON RISING LEVEL)
- PRESSURE SWITCH (CLOSING ON RISING PRESSURE)
- PRESSURE SWITCH (OPENING ON RISING PRESSURE)
- VACUUM SWITCH (CLOSING ON INCREASING VACUUM)
- VACUUM SWITCH (OPENING ON INCREASING VACUUM)
- TEMPERATURE SWITCH (CLOSING ON RISING TEMPERATURE)
- TEMPERATURE SWITCH (OPENING ON RISING TEMPERATURE)
- FLOW ACTUATED SWITCH (CLOSING ON INCREASE IN FLOW)
- FLOW ACTUATED SWITCH (OPENING ON INCREASE IN FLOW)
- ON TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY CLOSING AFTER COIL IS ENERGIZED)
- ON TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY OPENING AFTER COIL IS ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY OPEN WITH TIME DELAY OPENING AFTER COIL IS DE-ENERGIZED)
- OFF TIME DELAY SWITCH (NORMALLY CLOSED WITH TIME DELAY CLOSING AFTER COIL IS DE-ENERGIZED)
- TORQUE SWITCH (NORMALLY OPEN)
- TORQUE SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY OPEN)
- LIMIT SWITCH (NORMALLY OPEN, HELD CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED)
- LIMIT SWITCH (NORMALLY CLOSED, HELD OPEN)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY OPEN, CLOSING ON INCREASING DIFF.)
- DIFFERENTIAL PRESSURE SWITCH (NORMALLY CLOSED, OPENING ON INCREASING DIFF.)
- SUPX — 24 VDC SURGE PROTECTION

SWITCH & OUTLET SYMBOLS

- S^{A} SINGLE POLE SWITCH, A=SWITCH DESIGNATION
- S_2^{A} TWO POLE SWITCH, A=SWITCH DESIGNATION
- S_3^{A} THREE-WAY SWITCH, A=SWITCH DESIGNATION
- S_4^{A} FOUR-WAY SWITCH, A=SWITCH DESIGNATION
- S_{WP}^{A} WEATHERPROOF SWITCH, A=SWITCH DESIGNATION
- S_{KO}^{A} KEY OPERATED SWITCH, A=SWITCH DESIGNATION
- S_{XP}^{A} EXPLOSION PROOF SWITCH, A=SWITCH DESIGNATION
- SO^{A} OCCUPANCY SENSOR SWITCH, A=SWITCH DESIGNATION
- DUPLEX RECEPTACLE 120 VOLT
- 240V, 1 PHASE RECEPTACLE, TYPICAL AMPERE RATING NOTED
- 480V, 3 PHASE WELDING RECEPTACLE, TYPICAL AMPERE RATING NOTED

MISCELLANEOUS SYMBOLS

- E — ETHERNET PORT
- T — THERMOSTAT
- J — JUNCTION BOX
- DISCONNECT SWITCH
- COMBINATION STARTER
- POWER PANEL
- LIGHTING PANEL
- MISCELLANEOUS PANEL

ABBREVIATIONS

A	AMBER, AMPERE, ALARM
AC	ALTERNATING CURRENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AM	AMMETER
ATO	AUTOMATIC THROWOVER
AWG	AMERICAN WIRE GAUGE
C	CLOSE, COUNTER, CONTACTOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CD	CONTROL DAMPER
CKT	CIRCUIT
CL2	CHLORINE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL STATION
CT	CYCLE TIMER, CURRENT TRANSFORMER
CTM	CYCLE TIMER MOTOR
2/C	2 CONDUCTOR
4"C	4" CONDUIT
DC	DIRECT CURRENT
DM	DAMPER MOTOR, DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DPS	DIFFERENTIAL PRESSURE SWITCH
DS	DISCONNECT SWITCH
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE
EMH	ELECTRICAL MANHOLE
ETM	ELAPSED TIME METER
EX	EXISTING
F	FORWARD
FS	FLOW SWITCH
G	GREEN, GROUND
GFI	GROUND FAULT INTERRUPTER
GLS	GEARED LIMIT SWITCH
#8G	#8 GROUND WIRE
H	HIGH, HUMIDISTAT
HH	HANDHOLE
HMT	HIGH MOTOR TEMPERATURE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HP	HORSEPOWER
HWCO	HIGH WATER CUTOFF
HZ	HERTZ (CYCLE)
I/O	INPUT/OUTPUT
J	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR
KW	KILOWATT
KWH	KILOWATT HOUR
L	LOW, LEVEL
LA	LIGHTNING ARRESTOR
LAN	LOCAL AREA NETWORK
LP	LIGHTING PANEL
LS	LIMIT SWITCH, LEVEL SWITCH
LWCO	LOW WATER CUTOFF
M	MAGNETIC MOTOR STARTER
MA	MILLIAMPERE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MIL
MD	MOISTURE DETECTOR
MH	MANHOLE, MOUNTING HEIGHT
MOV	MOTOR OPERATED VALVE
MS	MANUAL MOTOR STARTER
MSH	MOTOR SPACE HEATER
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN, NUMBER O
OL	OVERLOAD
PB	PUSH BUTTON, PULL BOX
PF	POWER FACTOR METER
PH	PHASE (CHEMICAL TERM)
PLC	PROGRAMMABLE LOGIC CONTROLLER
PP	POWER PANEL
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER, PROGRAM TIMER
2P	2 POLE
R	RED, RAISE, RELAY, REVERSE
RECP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RTD	RESISTANCE TYPE TEMP DETECTOR
RTU	REMOTE TERMINAL UNIT
RVSS	REDUCED VOLTAGE SOLID STATE STARTER
S2	SIZE 2 STARTER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SP	SINGLE POLE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	SELECTOR SWITCH
SV	SOLENOID VALVE
SWB	SWITCHBOARD
SWGR	SWITCHGEAR
T	THERMOSTAT, TIMER, TOTALIZER
TACH	TACHOMETER
TB	TERMINAL BLOCK
TD	TIME DELAY RELAY
TEMP	TEMPERATURE
TQ	TORQUE
TS	TEMPERATURE SWITCH
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPERE
VLS	VALVE LIMIT SWITCH
VM	VOLTMETER
W	WHITE, WATTS
WH	WATTHOUR METER
WM	WATT METER
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
Y	YELLOW
Z	AUXILIARY RELAY
ZS	POSITION SWITCH

AREA DESIGNATIONS

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

AREA TYPE 1 — INDOOR AND DRY AREA. REQUIRES MINIMUM NEMA TYP 1 ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITINGS IN CONDUIT SYSTEMS.

AREA TYPE 1A — CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED PVC COATED CONDUIT WITH FITTINGS, AND ACCESSORIES.

AREA TYPE 4 — INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.

AREA TYPE 7A — CLASS 1, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

AREA TYPE 7B — CLASS 1, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.

AREA TYPE 12 — INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.

AREA TYPE 4X — OUTDOOR AND INDOOR WET LOCATIONS SUBJECT TO CORROSION. CONDUIT SYSTEM SHOULD BE PVC COATED RIGID GALVANIZED STEEL WITH PVC COATED FITTINGS, BOXES, AND STAINLESS STEEL HARDWARE.

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
2. SPARE WIRES SHALL BE TAPED AND COILED.
3. IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMODATE THE HIGHER VALUE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
5. LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM ¾".
6. IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

GENERAL NOTES

1. SOLID LINES —— INDICATE NEW WORK OR EQUIPMENT.
2. DOTTED LINES ..... INDICATE EXISTING WORK OR EQUIPMENT.
3. DASHED LINES _ _ _ INDICATE FUTURE WORK OR EQUIPMENT.
4. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
5. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
   A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
   B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
   C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
   D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
6. CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.

JVA CONSULTING ENGINEERS
JVA, Inc. 1319 Spruce Street
Boulder, CO 80302 303.444.1951
www.jvajva.com
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BROWNS HILL ENGINEERING & CONTROLS
LITTLETON, CO 80127
(720) 344-7771

NO.	DATE	DES	DRWN	DESCRIPTION
1	DATE	DES	DRWN	DESCRIPTION
2	DATE	DES	DRWN	DESCRIPTION
3	DATE	DES	DRWN	DESCRIPTION

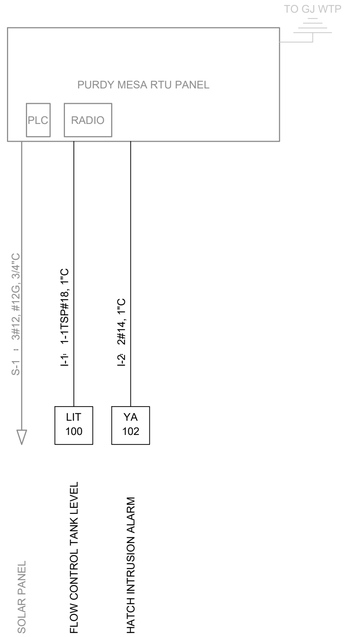
REVISION DESCRIPTION | D'WN | DES'D | DATE

DESIGNED BY: BAC
DRAWN BY: BAC
CHECKED BY: TFW
JOB #: 1071.8e
DATE: JANUARY 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOW CONTROL TANK
GRAND JUNCTION, COLORADO

ELECTRICAL LEGEND

SHEET NO.
E0.0



EXISTING SOLAR CONTROL PANEL
ONE-LINE DIAGRAM

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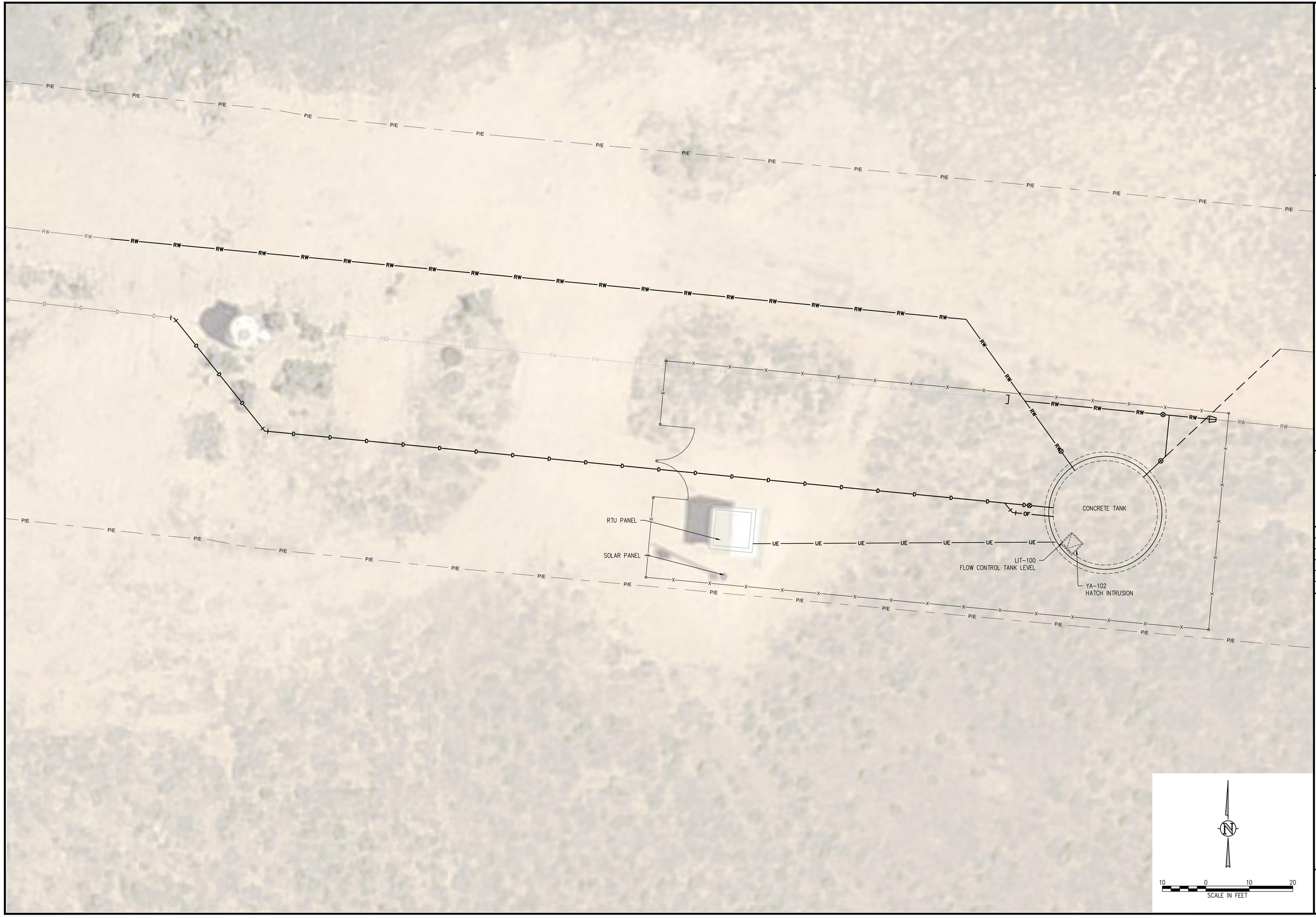
CITY OF GRAND JUNCTION
PURDY MESA FLOW CONTROL TANK
GRAND JUNCTION, COLORADO

ELECTRICAL POWER ONE-LINES

SHEET NO.
E0.1



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4	DATE	DESD	DWN	REVISION DESCRIPTION

DESIGNED BY:	BAC
DRAWN BY:	JGJ
CHECKED BY:	JJM
JOB #:	1071.8e
DATE:	NOVEMBER 2022

CITY OF GRAND JUNCTION
PURDY MESA FLOWLINE
PRESSURE CONTROL TANK

ELECTRICAL SITE PLAN

SHEET NO.
E2.0