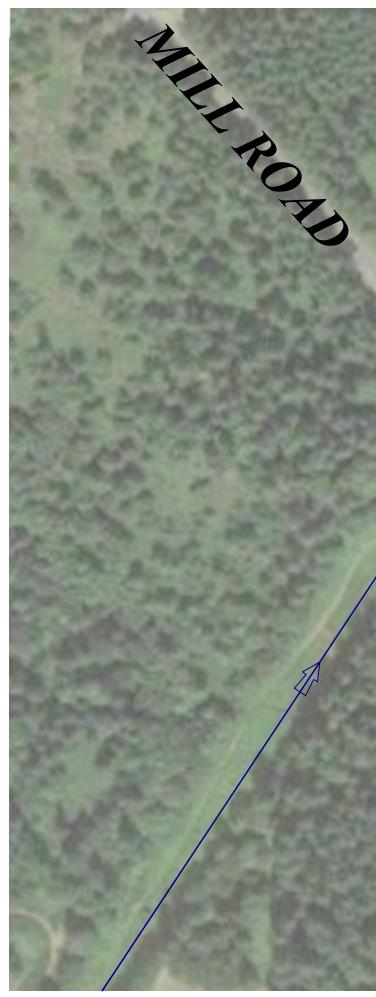
CITY OF PORT TOWNSEND Townsend WATER SUPPLY METERING IMPROVEMENTS

PROJECT VICINITY MAP

City of **Port**



SHEET NO.	DESCRIPTION	DWG NO.
1	COVER	COV
2	CITY FLOW METER MECHANICAL PLAN	M01
3	INDUSTRIAL FLOW METER MECHANICAL PLAN	M02
4	MECHANICAL DETAILS I	M03
5	MECHANICAL DETAILS II	M04
6	ELECTRICAL LEGEND	E01
7	CITY FLOW METER ELECTRICAL PLAN	E02
8	INDUSTRIAL FLOW METER ELECTRICAL PLAN	E03
9	ELECTRICAL DETAILS	E04
10	TELEMETRY PANEL LAYOUT	E05
11	TELEMETRY PANEL POWER AND COMMUNICATIONS DIAGRAM	E06
12	TELEMETRY PANEL INPUT AND OUTPUT WIRING 1	E07
13	TELEMETRY PANEL INPUT AND OUTPUT WIRING 2	E08



POWER METER ADDRESS IS 76 SOUTH 8TH ST. PORT TOWNSEND, WA 98368

07/07/2023

PROJECT LOCATION MAP



CALL 48 HOURS BEFORE YOU DIG ONE CALL 811 **REPORT ALL SPILLS DEPT. OF ECOLOGY 1-800-258-5990**

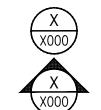




DRAWING INDEX

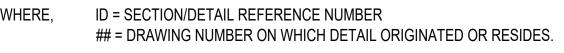
SECTION AND DETAIL REFERENCES

THE FOLLOWING CONVENTIONS HAVE BEEN USED WITHIN THESE DRAWINGS TO REFER THE READER BETWEEN THE SECTION/DETAIL AND THE PLAN FROM WHICH IT IS REFERENCED. REFERENCE BUBBLES



PLAN REFERENCE BUBBLE - REFERS READER BACK TO THE PLAN FROM WHICH THE DETAIL OR SECTION ORIGINATED.

DETAIL/SECTION REFERENCE BUBBLE - REFERS READER TO THE DRAWING ON WHICH THE DETAIL OR SECTION IS LOCATED.



SECTION/DETAIL REFERENCE NUMBER CONVENTIONS: SECTIONS OR ELEVATIONS SHOULD HAVE A LETTER REFERENCE NUMBER (A THROUGH ZZ)

CITY FLOW METER SITE, SEE M01 APPROXIMATE ALIGNMENT FOR CONDUITS CONNECTING THE CITY AND INDUSTRIAL FLOW METER FACILITIES PER DWG NOS. E02 AND E03. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM JEFFERSON COUNTY FOR INSTALLATION OF CONDUITS CROSSING SOUTH 8TH STREET FOR OPEN-CUT INSTALLATION, ROADWAY SHALL BE RESTORED IN ACCORDANCE WITH COUNTY REQUIREMENTS. ALL OTHER RESTORATION SHALL BE COMPLETED TO EXISTING OR BETTER CONDITION. INDUSTRIAL FLOW METER SITE, SEE M02 5 (2) (1) (1)

SITE PLAN

NOT TO SCALE

THE PIPELINE THAT SUPPLIES WATER TO THE CITY AND THE BRANCH TO THE PORT TOWNSEND PAPER CORPORATION ARE THE ONLY SIGNIFICANT SOURCES OF WATER FOR EACH PARTY AND MAY BE OUT OF SERVICE FOR A MAXIMUM OF 48 HOURS. THE CITY AND THE PAPER CORPORATION HAVE COORDINATED CLOSELY TO GET THIS WORK COMPLETED DURING A WINDOW OF TIME THAT WILL NOT IMPACT THE VIABILITY OF THE CITY'S WATER SYSTEM OR THE MILL'S OPERATIONS AND FINANCIAL WELLBEING. AN OUTAGE LONGER THAN THE INITIAL 48 HOURS. OR ADDITIONAL OUTAGES. WILL BE SUBJECT TO LIQUIDATED DAMAGES.

- ARE TO BE INSTALLED.
- WORK WILL TAKE PLACE UNTIL ALL NECESSARY WORK HAS BEEN COMPLETED.

CONSTRUCTION SEQUENCING:

- INSTALLATION SITES.
- SERVICE.
- COMPLETE ALL REMAINING WORK ASSOCIATED WITH EACH FACILITY.

THE CITY HAS PRE-PURCHASED MOST MAJOR MECHANICAL/STRUCTURAL PIPELINE COMPONENTS, LISTED BELOW, THAT HAVE BEEN DELIVERED TO THEIR STORAGE YARD. CONTRACTOR SHALL MAKE ARRANGEMENTS TO PICK UP MATERIALS AND TRANSPORT THEM TO THE PROJECT SITE.

CONTRACTOR TO INSTALL THE FOLLOWING PRE-PURCHASED ITEMS:

ELECTRIC METER LOAD CENTER

- SCADA CONTROL PANEL
- 20" BUTTERFLY VALVE (FLxFL)
- 20" TEE (FLxFLxFL)
- 20" BLIND FLANGE (1)
- 20" ROMAC FLANGE COUPLING ADAPTER
- 20" SLIP ON WELDED FLANGE
- 20" ENVIROMAG FLOW METER (1)
- 20" FLANGE INSULATING GASKET KIT
- 20" ¹/₈" RING GASKET, NSF-61 EPDM, 150#
- 20" BFV FLANGE PLATED BOLT & NUT KIT (2)

(1) 20" PLATED BOLT & NUT KIT

CONTRACTOR SHALL PROCURE AND INSTALL ALL OTHER MATERIALS (NOT PROVIDED BY THE CITY) NECESSARY TO CONSTRUCT COMPLETE AND FUNCTIONAL FACILITIES MEETING THE DESIGN INTENT. CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER/ENGINEER OF ANY COMPONENTS THAT ARE BELIEVED TO BE OF LONG LEAD TIME THAT MAY IMPACT THE INSTALLATION TIMING.

SUMMER 2023

CONTACT PERSONNEL

TYLER JOHNSON	
MICHAEL SPEARS	
STEVE KING, P.E.	
STEVE MUCK	

CONTACT

RYAN FESKENS, P.E. MARK BRAAKSMA, P.E.

JEFFERSON COUNTY PUD LUMEN (CENTURY LINK) **ONE-CALL LOCATE** DEPARTMENT OF ECOLOGY PORT TOWNSEND FIRE DEPARTMENT PORT TOWNSEND FIRE DEPT. & FIRST AID 91

OPERATIONS MANAGER PUBLIC WORKS DIRECTOR

PROJECT MANAGER

POSITION

PROJECT MANAGER ELECTRICAL ENGINEER **CITY OF PORT TOWNSEND CITY OF PORT TOWNSEND**

AGENCY

RH2 ENGINEERING RH2 ENGINEERING

CITY OF PORT TOWNSEND

PORT TOWNSEND PAPER CORP.

POWER TELEPHONE AND FIBER CALL 48HRS BEFORE YOU DIG **REPORT ANY SPILLS** NON-EMERGENCY EMERGENCY

PHONE

(360) 390-4062

(360) 379-5001

(360) 379-5090

(360) 531-0011

(425) 951-5396

(360) 684-1552

(360) 385-5800

1-800-244-1111

1-800-424-5555

1-800-258-5990

(360) 385-2626

911

GENERAL NOTES

FOLLOWING CONTRACT EXECUTION, THE CITY WILL WORK WITH THE CONTRACTOR TO IDENTIFY THE PHYSICAL LOCATION WHERE THE IMPROVEMENTS

THE CONTRACTOR SHALL SUBMIT A DETAILED SHUTDOWN SCHEDULE TO AIDE IN PROGRESS MONITORING THROUGHOUT THE 48 HOUR SHUTDOWN. IT IS ASSUMED THAT THE CONTRACTOR WILL HAVE SEPARATE CREWS WORKING AT EACH FLOW METER FACILITY LOCATION AND THAT AROUND THE CLOCK

30 WORKING DAYS PRIOR TO BEGINNING FLOW METER FACILITY INSTALLATIONS, CONTRACTOR SHALL REVIEW AVAILABLE MATERIALS FOR EACH FACILITY AND CONFIRM THAT ALL NECESSARY COMPONENTS ARE AVAILABLE AND ON HAND. NOTIFY THE OWNER AND/OR ENGINEER IMMEDIATELY REGARDING ANY INCONSISTENCIES OR CONCERNS, CONTRACTOR SHALL ALSO PREDIG CONNECTION LOCATIONS AND MOBILIZE ALL MATERIALS AND EQUIPMENT TO THE

THE CITY WILL ISOLATE THE PIPELINE BEGINNING AT 7:00 AM ON WEDNESDAY, OCTOBER 11, 2023 AND BEGIN DRAINING ACTIVITIES IMMEDIATELY THEREAFTER. IT IS ASSUMED THAT IT MAY TAKE UP TO 6 HOURS TO FULLY DRAIN THE PIPELINE. THE CONTRACTOR MUST HAVE THE NECESSARY IMPROVEMENTS COMPLETED SUCH THAT THE PIPELINE IS READY TO BE PUT BACK INTO SERVICE PRIOR TO 5:00 AM ON FRIDAY OCTOBER 13TH. THE CITY WILL FILL AND FLUSH THE MAIN TO RESTORE SERVICE BY 7:00 AM ON FRIDAY, OCTOBER 13, 2023.

COMPLETE THE CIVIL/MECHANICAL/STRUCTURAL ELEMENTS OF THE CITY FLOW METER PIPING AND MANHOLE IMPROVEMENTS AS NECESSARY TO ALLOW FOR THE PIPELINE TO BE RECOMMISSIONED. THRUST BLOCKING AND OTHER ANCILLARY COMPONENTS MAY BE INSTALLED ONCE THE PIPELINE IS BACK IN

3B. COMPLETE THE CIVIL/MECHANICAL/STRUCTURAL ELEMENTS OF THE INDUSTRIAL FLOW METER PIPING AND MANHOLE IMPROVEMENTS AS NECESSARY TO ALLOW FOR THE PIPELINE TO BE RECOMMISSIONED. THRUST RESTRAINT FLANGE SHALL BE SLIPPED ON THE PIPE BUT WELDING AND OTHER ANCILLARY COMPONENTS MAY BE INSTALLED ONCE THE PIPELINE IS READY TO BE PLACED BACK IN SERVICE.

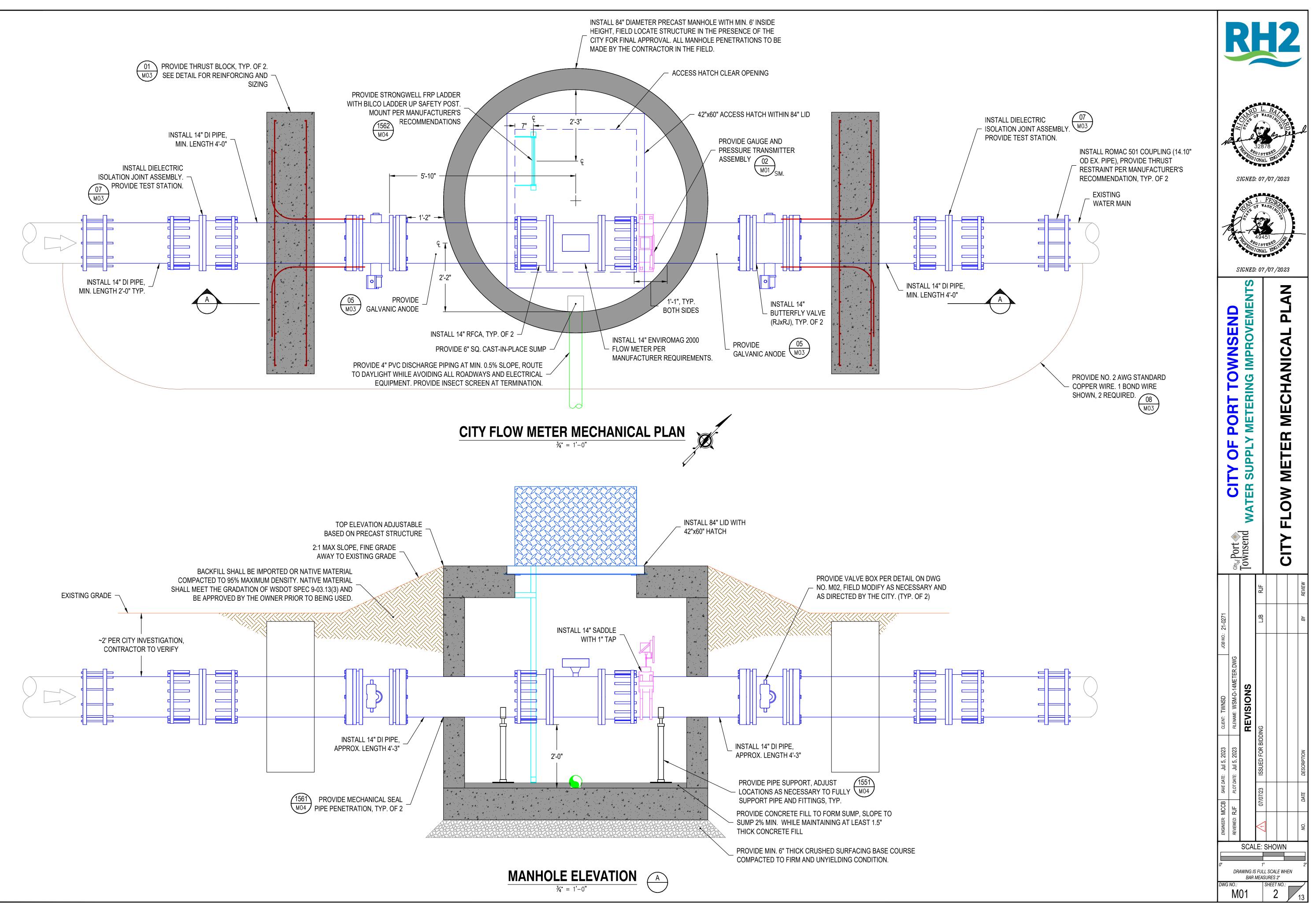
84" PRE-CAST MANHOLE WITH ACCESS HATCH; CONTRACTOR TO PROVIDE LADDER.

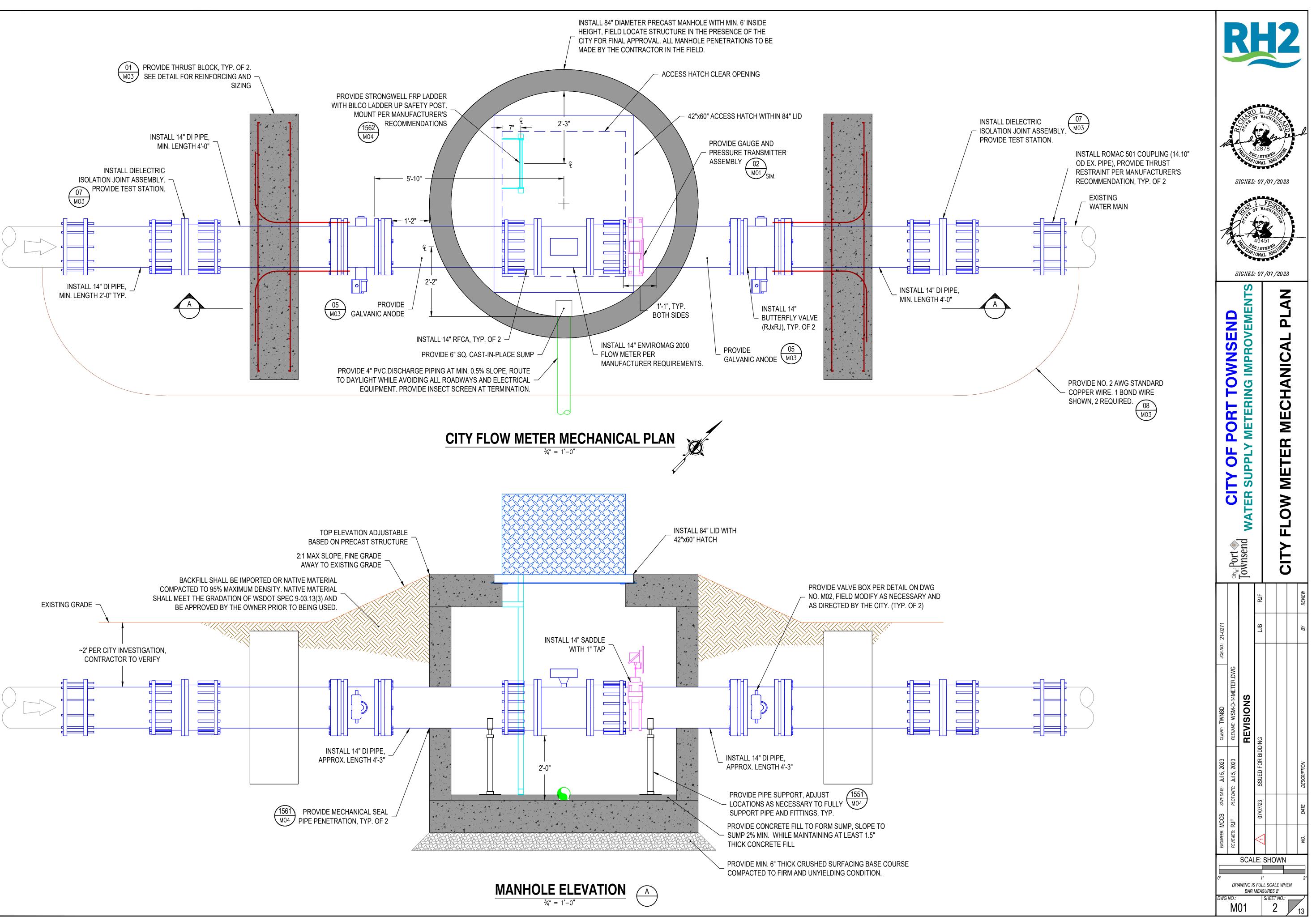
14" BUTTERFLY VALVE (MJxMJ)

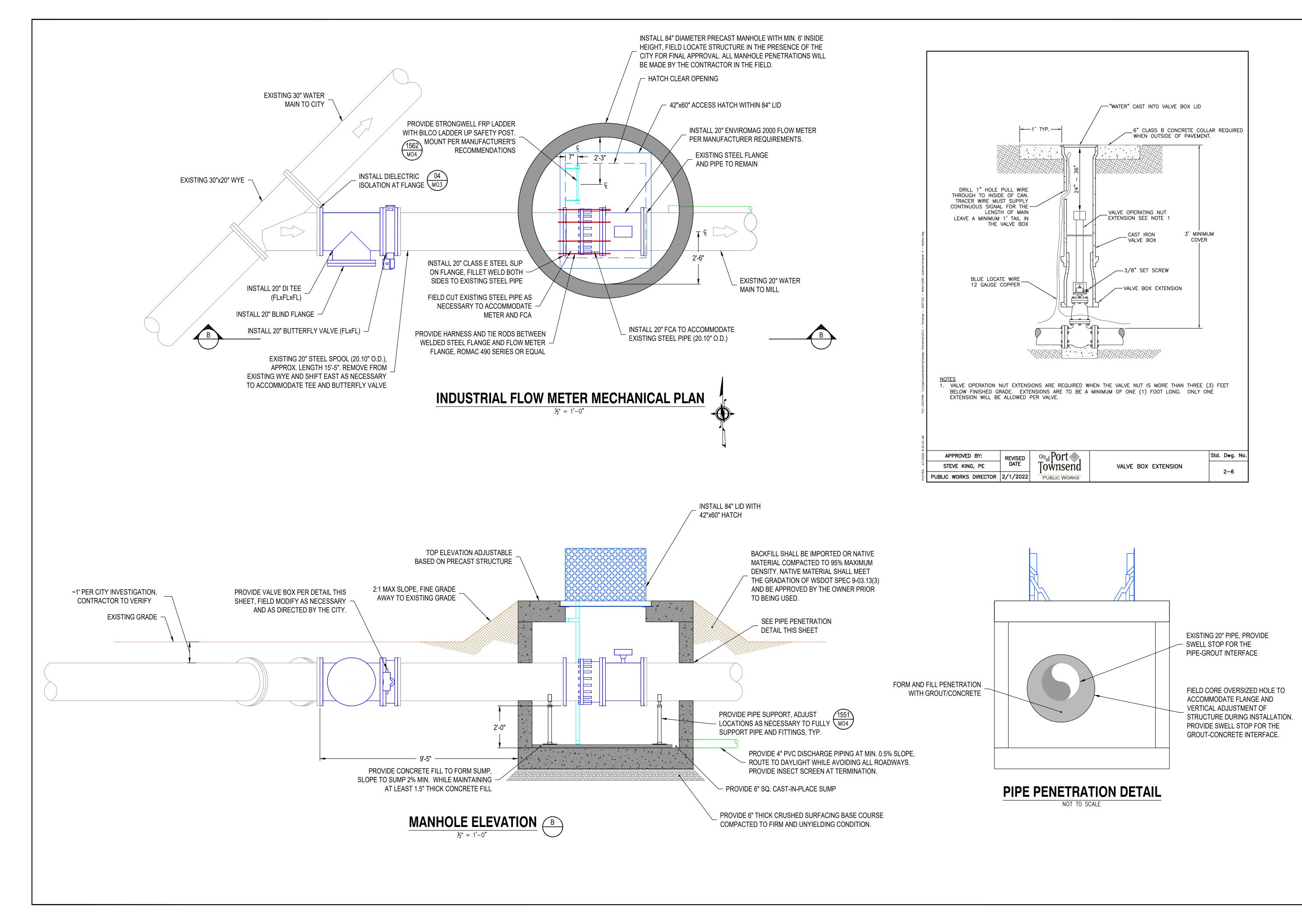
- 14" ROMAC 501 COUPLING
- 14" ROMAC FLANGE COUPLING ADAPTER 14" ROMAC RESTRAINED FLANGE COUPLING ADAPTER (2)
- 14" ENVIROMAG FLOW METER
- 14" SADDLE WITH 1" TAP
- 14" WEDGE ACTION MJ KIT 14" PLATED BOLT & NUT KIT
- 14" ¹/₄" RING GASKET
- 14" FLANGE INSULATING GASKET KIT (2)
- (36.5') 14" DI PIPE

(1)

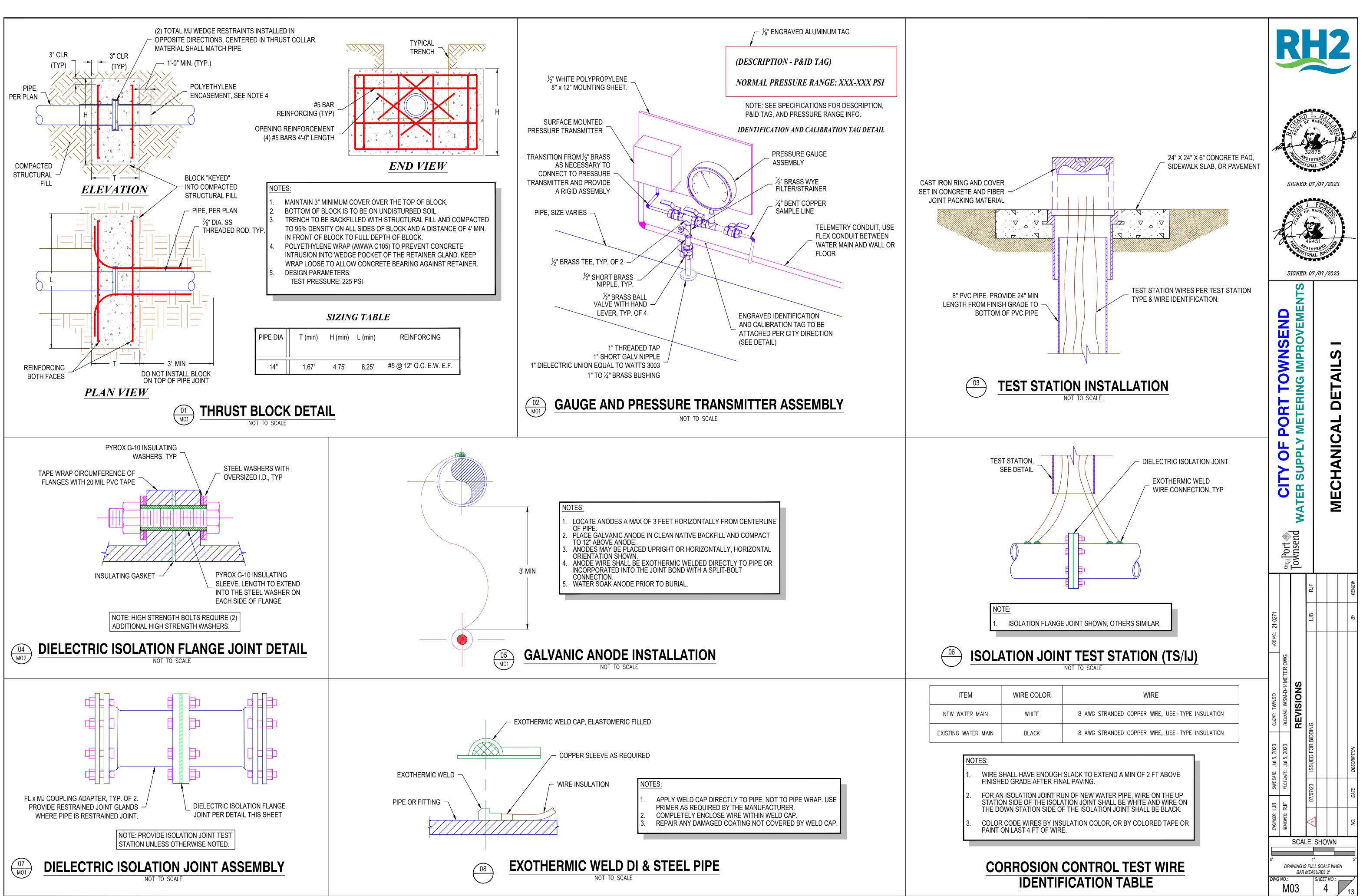
\triangle	ISSUED FOR BIDDING-2023	LJB	RJF	07/07/23
NO.	REVISION	ΒY	REVIEW	DATE





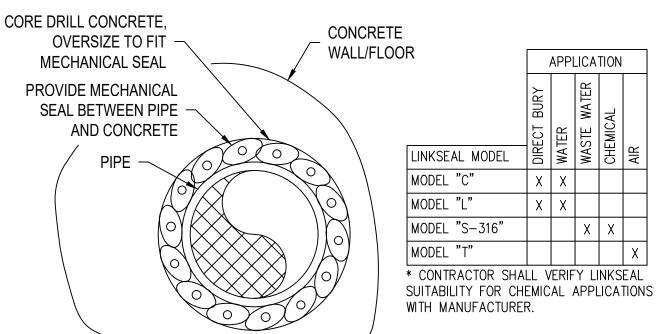






GENERAL MECHANICAL NOTES

- CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, LABOR, AND EXPERTISE TO CONSTRUCT MAJOR AND MINOR PIPING SYSTEMS ACCORDING TO APPLICABLE CODES. STANDARDS. AND MANUFACTURER RECOMMENDATIONS.
- CONTRACTOR SHALL CONFORM TO PIPE ROUTING AND ARRANGEMENT AS CLOSELY AS POSSIBLE. CONTRACTOR 2. SHALL BE RESPONSIBLE FOR VERIFYING ALL PIPING DIMENSIONS.
- FITTINGS AND/OR PIPING THAT MAY BE REQUIRED IN ORDER TO OPERATE SOME MINOR MECHANICAL SYSTEMS, INSTRUMENTATION, AND EQUIPMENT MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL PROVIDE FITTINGS AND PIPING AS NECESSARY TO HAVE A COMPLETE AND FUNCTIONAL SYSTEM.
- CONTRACTOR SHALL CONNECT EQUIPMENT, VALVES, METERS, AND OTHER SIMILAR FITTINGS TO PIPING SYSTEM 4. SUCH THAT IT CAN BE READILY DISASSEMBLED FOR MAINTENANCE OF THE EQUIPMENT. THIS MAY REQUIRE PROVIDING ADDITIONAL FITTINGS OR SUPPORTS NOT SHOWN IN THE PLANS.
- CONTRACTOR SHALL PROVIDE ANY AND ALL VALVED VENTS AT HIGH POINTS AND VALVED DRAINS AT LOW POINTS 5. AND ALL OTHER LOCATIONS AS NECESSARY TO SUCCESSFULLY TEST PIPING SYSTEMS.
- NOT ALL PIPE SUPPORTS ARE SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE AND INSTALL PIPE SUPPORTS 6 AS NECESSARY TO PROVIDE A RIGID, SECURE, NON-SAGGING SYSTEM. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL PROVIDE AND/OR INSTALL ALL NECESSARY THRUST RESTRAINT, INCLUDING BUT NOT LIMITED 7 TO CONCRETE BLOCKING, SHACKLE RODS, MECHANICAL THRUST RESTRAINT (MEGALUGS OR EQUAL) AND TRUE RESTRAINED JOINT PIPE (TRJ) PIPE.
- IN THE EVENT THAT A SECTION OF PIPING FAILS A VISUAL LEAK TEST, AND ANY MECHANICAL JOINTS WITH MEGA-LUG STYLE RESTRAINTS NEED TO BE DISASSEMBLED, THE MEGA-LUGS AND THE ASSOCIATED PIPE MAY NOT BE REUSED AND MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL PVC FITTINGS SHALL BE SOCKET END-TYPE FITTINGS UNLESS OTHERWISE NOTED. 9
- 10. ALL VALVES SHALL BE REMOVABLE WITHOUT HAVING TO CUT PIPE (I.E. FLANGED OR TRUE UNION)
- ALL PRESSURE PIPE SHALL HAVE RESTRAINED JOINTS. BURIED PIPING SHALL BE MECHANICALLY RESTRAINED 11. JOINTS (END CONFIGURATION DENOTED AS "RJ"). PUSH ON JOINTS WITH FIELD LOK (OR APPROVED EQUAL) ARE ACCEPTABLE RESTRAINED JOINT IN STRAIGHT SECTIONS WITH BLOCKING OR RESTRAINED FITTINGS AS SPECIFIED. PROVIDE TRUE (BOLTLESS) RESTRAINED JOINT PIPE (END CONFIGURATION DENOTED AS "TRJ") AND CONCRETE BLOCKING WHERE SPECIFIED ON PLANS.
- 12. PIPING WHICH NORMALLY OPERATES UNDER FULL CONDITIONS WITH HYDROSTATIC HEAD HIGHER THAN THE CROWN OF THE PIPE SHALL BE CONSIDERED PRESSURE PIPING. PIPING WHICH NORMALLY OPERATES AT A HYDROSTATIC HEAD NO HIGHER THAN THE PIPE CROWN SHALL BE CONSIDERED GRAVITY PIPELINES. ALL PIPING SHALL BE VISUALLY LEAK TESTED IN THE PRESENCE OF THE OWNER AND/OR ENGINEER.
- 13. UNLESS OTHERWISE NOTED. PIPE MATERIAL SHALL BE USED BASED ON PIPE FUNCTION AND AS SPECIFIED IN THE PIPE SCHEDULE (SEE SPECIFICATIONS). PREPARE AND COAT ALL EXPOSED PIPING PER THE FINISHES SECTION OF THE SPECIFICATIONS.
- CONTRACTOR SHALL INSTALL AND MOUNT ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS, THE 14. REQUIREMENTS IN THE SPECIFICATIONS FOR SEISMIC RESTRAINT, AND THE FOLLOWING REQUIREMENTS. EQUIPMENT MOUNTED ON FLOORS THAT SLOPE SHALL BE LEVELED WITH STEEL SHIMS AND SHALL BE FINISHED GROUTED TO FILL ALL VOIDS CAUSED BY THE FLOOR SLOPE.



ABOVE GRADE AND BELOW GRADE (NON-SUBMERGED) CONCRETE WALL AND FLOOR 1) ALL PENETRATIONS SHALL BE SEALED TO MAINTAIN FIRE AND SOUND RATING OF INTERIOR.

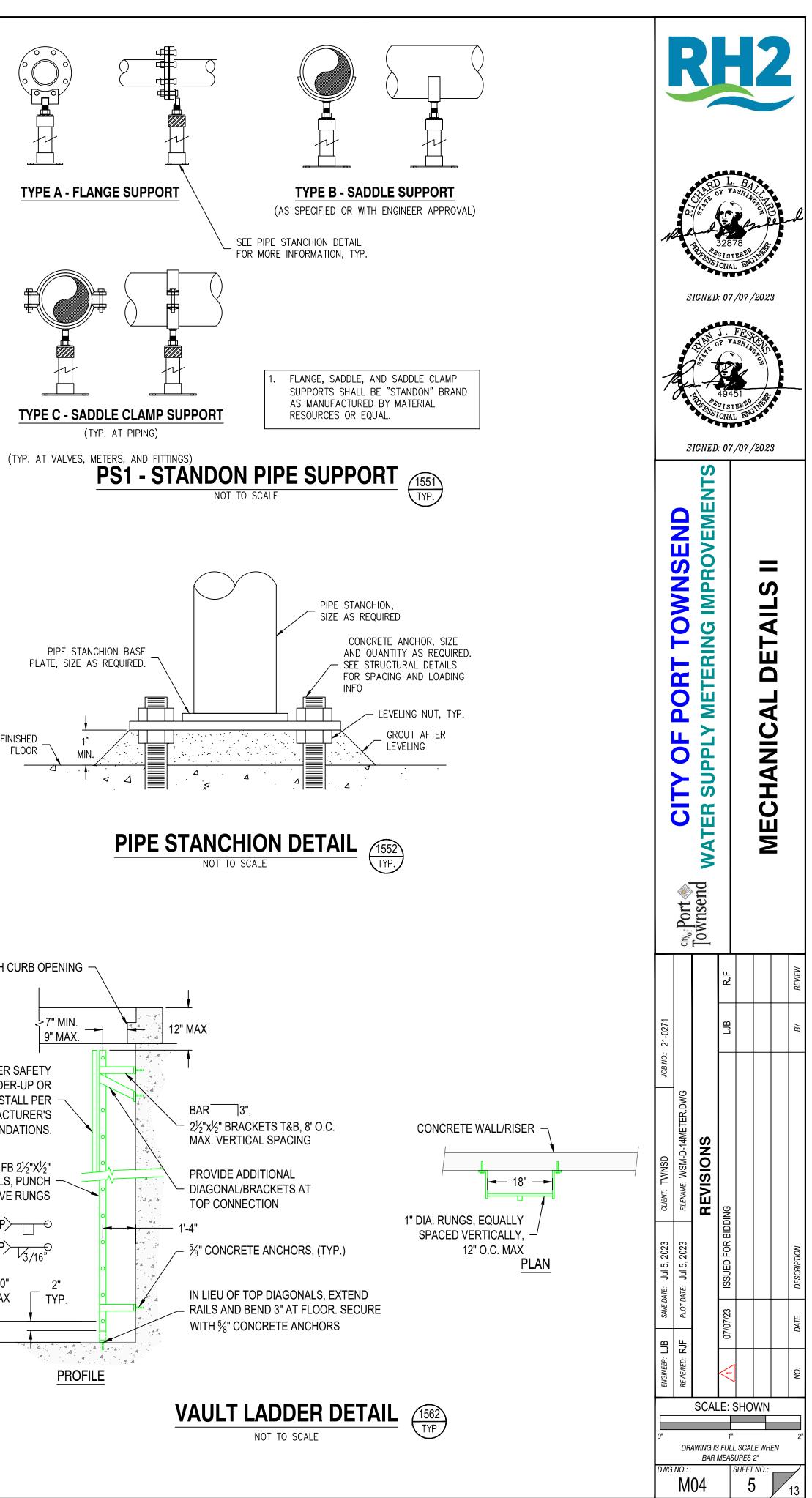
2) ALL BELOW GRADE AND/OR SUBMERGED PENETRATIONS SHALL BE SEALED WATERTIGHT.

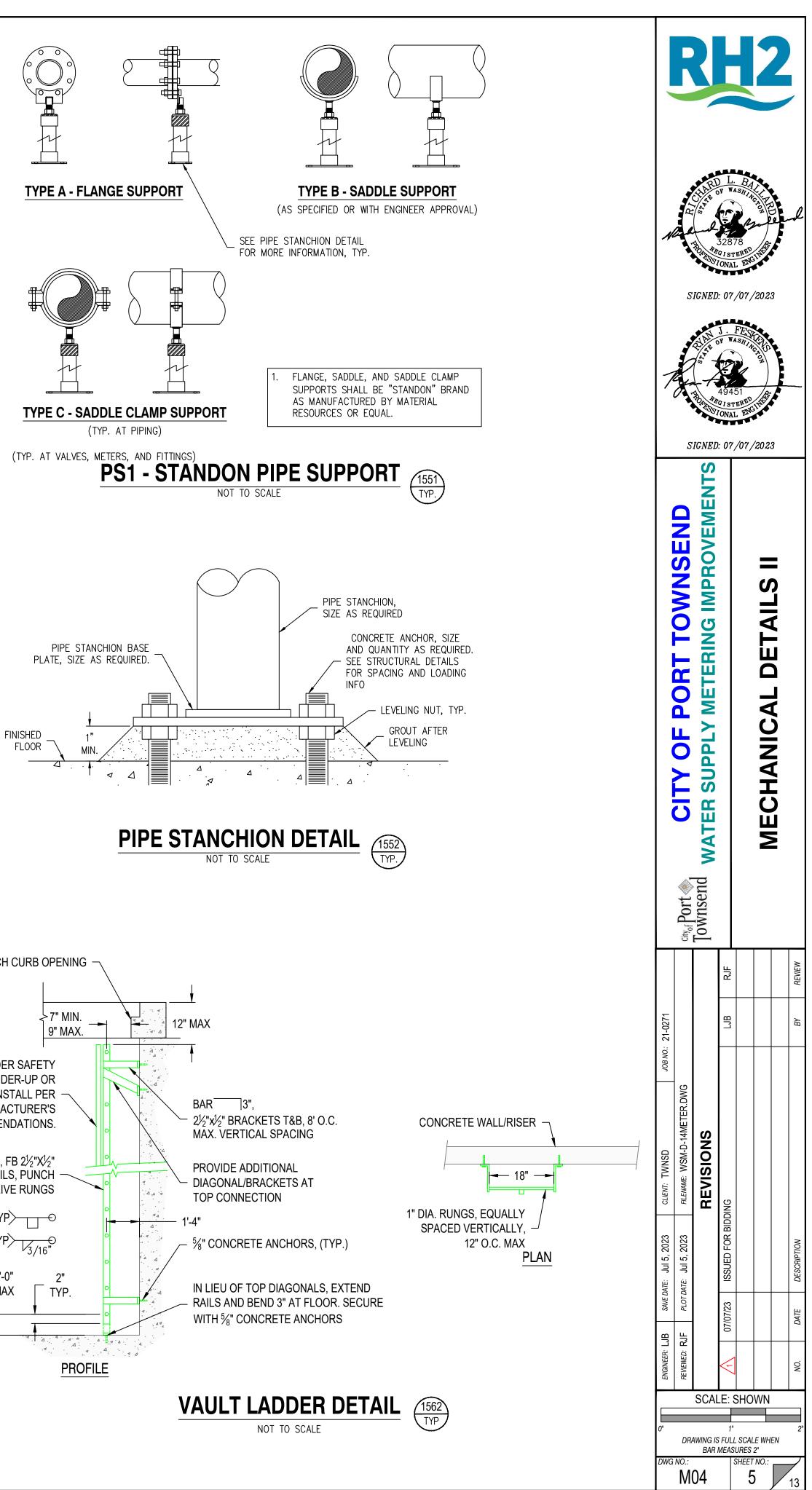
GENERAL PIPE SUPPORT NOTES

TABLE A: PIPE SUPPORT DESIGN CRITERIA								
		MAX. SPAN FOR PIPE SUPPORTS (FT)						
PIPE SIZE	ROD SIZE	STEEL	DUCTILE IRON	COPPER	PLASTIC			
14"	1"	10	10	_	10			
20"	1-1/4"	10	10	-	10			

1. FOR PIPE SIZES THAT ARE NOT LISTED IN ABOVE TABLE, THE NEXT LARGER PIPE SIZE SHALL BE USED FOR DETERMINING LOADING AND SUPPORT SPACING.

- ROD SIZE IS BASED ON CARRYING SINGLE PIPE. WHEN MORE THAN ONE PIPE IS TO BE SUPPORTED, RODS SHALL BE SIZED USING SUM OF DESIGN WEIGHTS TO DETERMINE TOTAL LOAD.
- 3. PLASTIC PIPE SUPPORT SPACING BASED ON SCH 80 PIPE AT 100 DEG F. SCH 40 PIPE OR HIGHER TEMPERATURES REQUIRE SHORTER SPANS. SEE MANUFACTURER'S RECOMMENDATIONS.
- 4. DESIGN WEIGHTS ARE BASED ON SCH 80 STEEL PIPE AT 10 FT SUPPORT SPACING.
- 5. ALL CONNECTIONS TO CONCRETE SHALL BE CONCRETE ANCHORS PER SPECIFICATIONS & STRUCTURAL DETAILS.
- 6. MSS REFERS TO MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY, STANDARD PRACTICE SP 58 AND SP 69.
- 7. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF THE WALL WITHIN A WATER BEARING STRUCTURE, ALL HARDWARE AND SUPPORT MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, MATERIALS SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.
- 8. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, AND LABOR FOR CONSTRUCTING PIPE SUPPORT SYSTEMS.
- 9. PIPE SUPPORT SYSTEMS AS DETAILED PROVIDE GENERAL GUIDELINES FOR HOW PIPES SHALL BE SUPPORTED. ADDITIONAL SUPPORT CONFIGURATIONS MAY BE REQUIRED. CONTRACTOR SHALL SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL.
- 10. CONTRACTOR SHALL PROVIDE SUPPORTS AS NEEDED TO SECURE PIPING SYSTEM IN NORMAL AND TEST OPERATING CONDITIONS.
- 11. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF PIPE SUPPORTS, HANGERS AND SEISMIC BRACING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

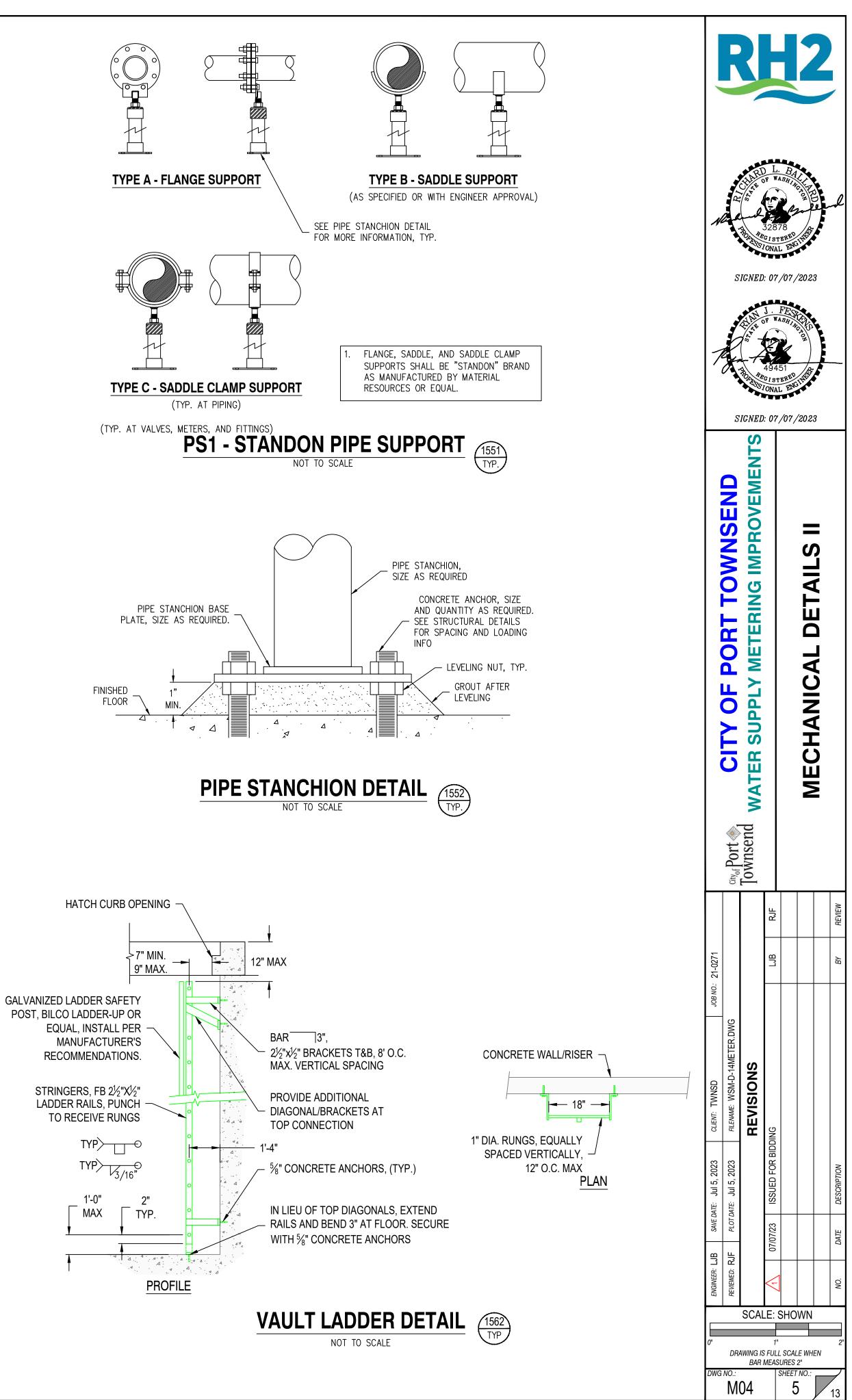




3) MECHANICAL SEALS SHALL BE LINKSEAL OR APPROVED EQUAL. MECHANICAL SEALS SHALL BE SELECTED BASED ON THE APPLICATION. SEE TABLE A FOR APPLICATION MATRIX.

4) WHERE PIPE PENETRATION IS LOCATED IN THE FLOOR OVER A POTABLE WATER BEARING STRUCTURE, SLEEVE SHALL EXTEND 1" MIN. ABOVE FLOOR TO FURTHER PREVENT WATER INTRUSION.





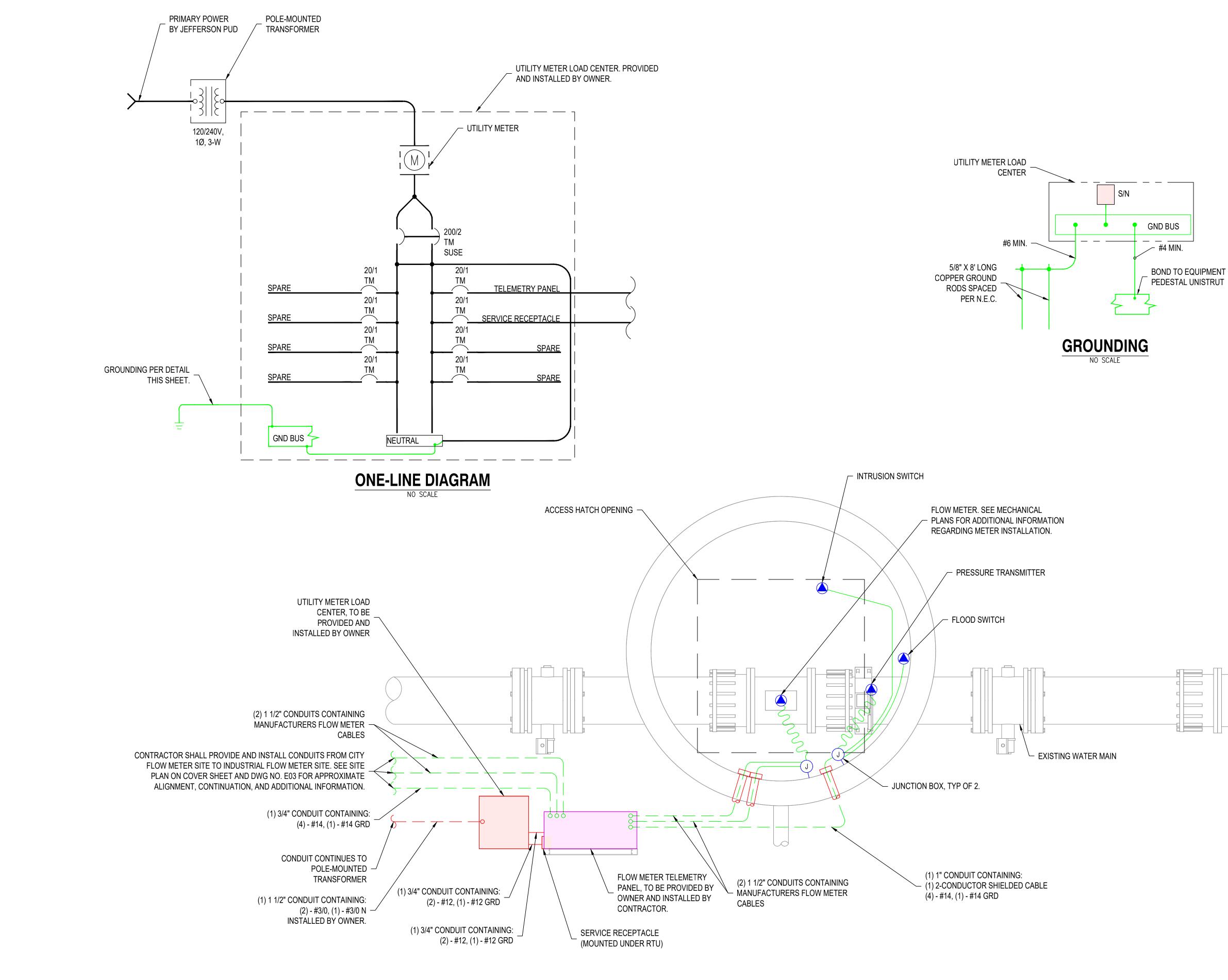
ONE-LINE DIAGRAM SYMBOLS	PANELBOARDS	, SWITCHES, AND EQUIPMENT	LIGHTING FIXTURES/DEVICE
CIRCUIT BREAKER XXX/YY – CB SIZE & NO. OF POLES ET – ELECTRONIC TRIP TM – THERMAL MAGNETIC BREAKER		SERVICE ENTRANCE, SWITCHGEAR, MOTOR CONTROL CENTER, OR PANELBOARD	O FLUORESCENT FIXTURE
MCP – MOTOR CIRCUIT PROTECTOR SE – SERVICE ENTRANCE GFI – GROUND FAULT INTERRUPTER		SURFACE MOUNTED PANELBOARD	WALL/CEILING MOUNTED
FUSE FUSED DISCONNECT SWITCH PLUG-IN CONNECTION		FLUSHED MOUNTED PANELBOARD	EMERGENCY LIGHT WITH CONTAINED BATTERY
RTM RUN TIME METER OC MOTOR OPERATION COUNTER		FIELD CONTROL STATION WITH NEMA REQUIREMENTS. N1 - NEMA 1	SURFACE OR PENDANT I FIXTURE RECESSED FIXTURE
SSRVS SSRVS – SOLID STATE REDUCED VOLTAGE STARTER		N3R – NEMA 3R N4 – NEMA 4 N4SS – NEMA 4 STAINLESS STEEL N4F – NEMA 4 FIBERGLASS N6 – NEMA 6 N12 – NEMA 12 GASKETED	
VARIABLE FREQUENCY DRIVE	-0-	EQUIPMENT MOUNTING STAND	FIRE SYSTEM SYMBOLS
MOTOR STARTER		HEATER, WATTAGE NOTED	H HEAT DETECTOR S SMOKE DETECTOR
A B C D MOTOR STARTER W/ OPERATOR DEVICES A - HAND-OFF-AUTO		EQUIPMENT CONNECTION	D FIRE ALARM DISPATCH STROBE ALARM
B – OPERATIONAL COUNTER C – RUN TIME METER D – RUN LIGHT E – FAIL LIGHT	M	SINGLE PHASE MOTOR. HORSEPOWER AS NOTED	AFIRE ALARM AUDIBLE/VISUAL ALARMFFIRE ALARM MANUAL PULL STATION
F – EMERGENCY STOP	V (HP)	THREE PHASE MOTOR.	
POWER TRANSFORMER		HORSEPOWER AS NOTED	S SOUND SYSTEM SPEAKER
CONTROL POWER TRANSFORMER 모	HP	SINGLE PHASE MOTOR. HORSEPOWER AS NOTED	
	Œ	ELECTRICAL PLUG	Image: Book Bell VALVE SYMBOLS
CURRENT TRANSFORMER		DISCONNECT SWITCH	PILOT VALVE SOLENOID
VOLTAGE TRANSFORMER	F	FUSED DISCONNECT SWITCH	
	Xh	COMBINATION MOTOR STARTER AND DISCONNECT SWITCH	
CAPACITOR	$\overline{}$	AND JUNCTION BOX SYMBOLS	
		CEILING JUNCTION BOX	CONTROL VALVE
GENERATOR CONNECTION RECEPTACLE		FLOOR JUNCTION BOX	
SOLID NEUTRAL		DUPLEX WALL RECEPTACLE , 120V WP = WEATHERPROOF G = GROUNDED	
		IG = ISOLATED GROUND GFI = GROUND FAULT INTERRUPTER	
SURGE PROTECTION DEVICE		DOUBLE DUPLEX	
SPD SURGE PROTECTION DEVICE (ALTERNATIVE)	$ \qquad \qquad$	SINGLE RECEPTACLE, 120V	
GROUNDING SYSTEM SYMBOLS		SINGLE RECEPTACLE, 208V DUPLEX FLOOR RECEPTACLE, 120V	
		SPECIAL PURPOSE WALL RECEPTACLE,	
METAL PIPE GROUND		RATING AS NOTED	
CONNECTION POINT, EXOTHERMIC WELD. CADWELD OR APPROVED EQUAL.	О Ю TV	TELEVISION	
GROUND ROD SIZED PER N.E.C. USE EXOTHERMIC WELD CONNECTION AT	<	TELEPHONE	
THE GROUND ROD.	\triangleleft	TELEPHONE/DATA WITH CABLE	
CONNECTION POINT, MECHANICAL,	\triangleleft	TELEPHONE/DATA WITHOUT CABLE	
COMPRESSION TYPE.		WITCH OUTLETS	
	S (\$)	STANDARD SWITCH, 120VAC, 20 AMP	
HH MANHOLE OR HANDHOLE	S ₃ (\$) _{3WAY}	3-WAY SWITCH, 120VAC, 20 AMP	
HH P BURIED POWER VAULT OR MANHOLE	S HOA	3-POSITION SWITCH, 120VAC, 20 AMP, LABEL SWITCH POSITION HAND-OFF-MOTION OR PHOTO	
	S SINGLE-POLE DEE S DOUBLE-POLE	S PILOT–LIGHTED P S KEY–OPERATED	
F FIBER OPTICS VAULT OR PEDESTAL	2 S THREE WAY	K S LOW VOLTAGE	
	S FOUR WAY	S master	
PAD-MOUNT TRANSFORMER	S DIMMER D S OCCUPANCY OS SENSOR	PUSHBUTTON	

CES		ABBREVIATIONS		LADDER LOGIC SYM	IBOL LEGEND
E ED FIXTURE	SPDT – SINGLE POLE, DC SPST – SINGLE POLE, SIN DPST – DOUBLE POLE, SIN WP – WEATHER-PROOF GFI – GROUND FAULT INT P – POWER	NGLE THROW INGLE THROW		INDICATOR LIGHT A – AMBER G – GREEN B – BLUE R – RED C – CLEAR W – WHITE	RELAY XYZ 123
TH SELF	C – CONTROL J – INSTRUMENTATION PC – POWER & CONTROL CJ – CONTROL & INSTRUME CKT. – CIRCUIT C.O. – CONDUIT ONLY N.L. – NIGHT LIGHT	ENTATION	LIMIT SWITCH	LIMIT SWITCH, NORMALLY OPEN	FLOAT SWITCH
T MOUNTED	AL. – ALUMINUM CU. – COPPER		LIMIT SWITCH	LIMIT SWITCH, NORMALLY CLOSED	FLOAT SWITCH
	RTM RUN TIME METER OC OPERATION COUNT MRIL MOTOR RUN INDIC. SFIL SEAL FAIL INDICAT SFTR SEAL FAIL TRIP RI	ER ATION LIGHT FION LIGHT		- TIME DELAY CONTACT, NORMALLY OPEN, TIME TO CLOSE	
S	MOIL OVER TEMPERATOR	INDICATION LIGHT		- TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO OPEN	
	LETTER	INSTRUMENT METER	TIME DELAY CONTACT	-	THERMOSTAT
		A – AMMETER VAR – VARMETER AH – AMPERE-HOUR VARH – VARHOUR METER PF – POWER FACTOR W – WATTMETER V – VOLTMETER WH – WATTHOUR METER		TIME DELAY CONTACT, NORMALLY OPEN, TIME TO OPEN	
		VA – VOLT AMMETER RACEWAY LEGEND		TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO CLOSE	THERMOSTAT
)		PROPOSED POWER PROPOSED TELEPHONE	RELAY CONTACT, NC	RELAY CONTACT, INSTANTANEOUS CHANGE	FLOWSWITCH
	TELM	PROPOSED INSTRUMENTATION	PRESSURE SWITCH		FLOWSWITCH
	FO BUILDING OR FACILITY	PROPOSED FIBER OPTICS PLAN LEGEND 480 VOLT EXPOSED RACEWAY		PRESSURE SWITCH, NORMALLY OPEN	
		480 VOLT WIRING CONCEALED, UNDERGROUND, EMBEDDED, OR CONCRETE ENCASED RACEWAY	PRESSURE SWITCH	PRESSURE SWITCH, NORMALLY CLOSED	
		120/208/240 VOLT EXPOSED RACEWAY 120/208/240V WIRING CONCEALED, UNDERGROUND,			
		EMBEDDED, OR CONCRETE ENCASED RACEWAY	L	ADDER LOGIC LINETYPES	0 0
		CONTROL OR INSTRUMENTATION EXPOSED RACEWAY		COMPONENT INSTALLED	
	— — — — —	CONTROL OR INSTRUMENTATION, UNDERGROUND, EMBEDDED, OR CONCRETE ENCASED RACEWAY		INSIDE ENCLOSURE	
		- HOME RUN TO PANELBOARD OR AS INDICATED		COMPONENT INSTALLED ON FRONT OF ENCLOSURE	
	5	CONDUIT RUN, BROKEN AND CONTINUED SAME SHEET OR AS NOTED		FIELD CONNECTED COMPONENT	
	·	- FLEXIBLE CONDUIT		COMPONENT	
		CONDUIT RUN. HATCH MARKS INDICATE NUMBER OF CONDUCTORS CALLOUT INDICATING CONDUIT SIZE, NUMBER AND SIZE OF WIRE.			
		- CALLOUT INDICATING CONDUIT PER SCHEDULE			
		○ CONDUIT BENT UP OR TOWARD			
) CONDUIT BENT DOWN OR AWAY			
] CAPPED CONDUIT			

	GENERAL NOTES
	. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS PAGE WILL APPEAR IN THIS SET OF PLANS.
S S R C	2. THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.
C R	5. NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN REVIEWED BY THE INGINEER.

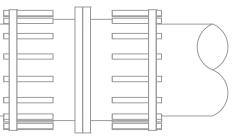
RELAY TR — TIMED RELAY CR — CONTROL RELAY
FLOAT SWITCH, NORMALLY OPEN
FLOAT SWITCH, NORMALLY CLOSED
PUSHBUTTON, NORMALLY CLOSED
PUSHBUTTON, NORMALLY OPEN
THERMO SWITCH, NORMALLY OPEN
THERMO SWITCH, NORMALLY CLOSED
FLOWSWITCH, NORMALLY OPEN
FLOWSWITCH, NORMALLY CLOSED
2 POLE SWITCH
3 POLE SWITCH

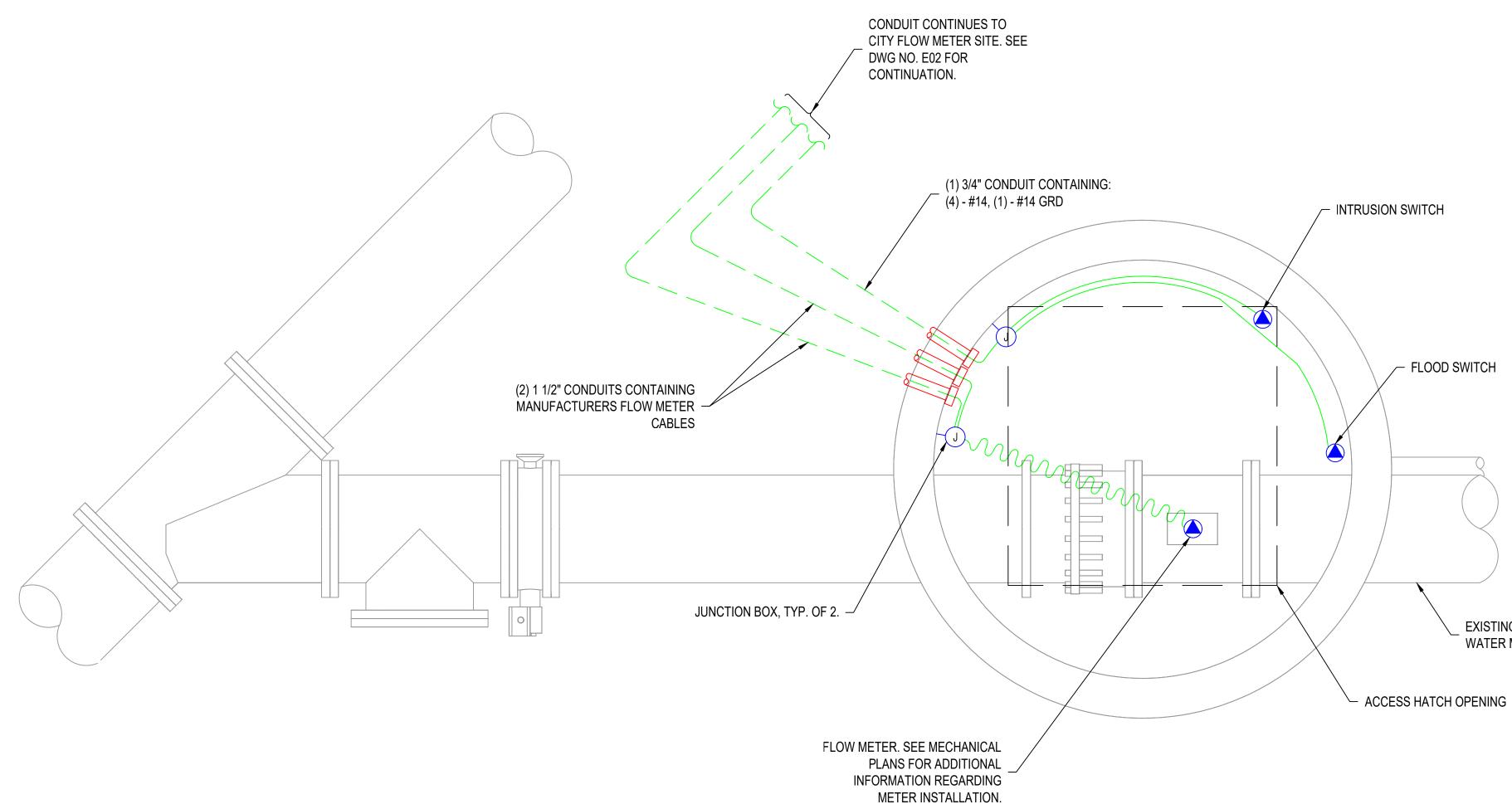
No.		ICNED	1. <u>F</u> 5. 163 1. <u>F</u> 1. <u>F</u>			
	Give Port , CITY OF PORT TOWNSEND	Townsend WATER SUPPLY METERING IMPROVEMENTS			ELECTRICAL LEGEND	
	0		MWB			REVIEW
JOB NO.: 21-0271	LEC01.DWG	6	BPC			BY
CLIENT: TWNSD	FILENAME: WSM-D-ELEC01.DWG	REVISIONS	IDDING			
SAVE DATE: Jul 5, 2023	PLOT DATE: Jul 5, 2023		7/23 ISSUED FOR BIDDING			E DESCRIPTION
ENGINEER: BPC	REVIEWED: MWB		//20//20). DATE
ENGINE	REVIEW	SCAI	E: (SHO	WN	NO.
0"	DR/ NO.:		MEAS			2'



CITY FLOW METER ELECTRICAL PLAN $\frac{3}{4}" = 1' - 0"$

A CONTRACT OF CONTRACT		THE FEE	N OF 516 REGISSIONA	BA ASHING 78 TEREP 1 ENCINE 35 TEREP 1 ENCINE	l
ENTS	CITY OF PORT TOWNSEND	WATER SUPPLY METERING IMPROVEMENTS			
			BPC MWB		BY REVIEW
FILENAME: WSM-D-ELEC02.DWG REVISIONS	FILENAME: WSM-D-ELEC02.DWG	REVISIONS	ING		
Jul 5, 2023	PLOT DATE: Jul 5, 2023		07/07/23 ISSUED FOR BIDDING		DATE DESCRIPTION
REVIEWED: MWB	REVIEWED: MWB			SHOWI	NU.



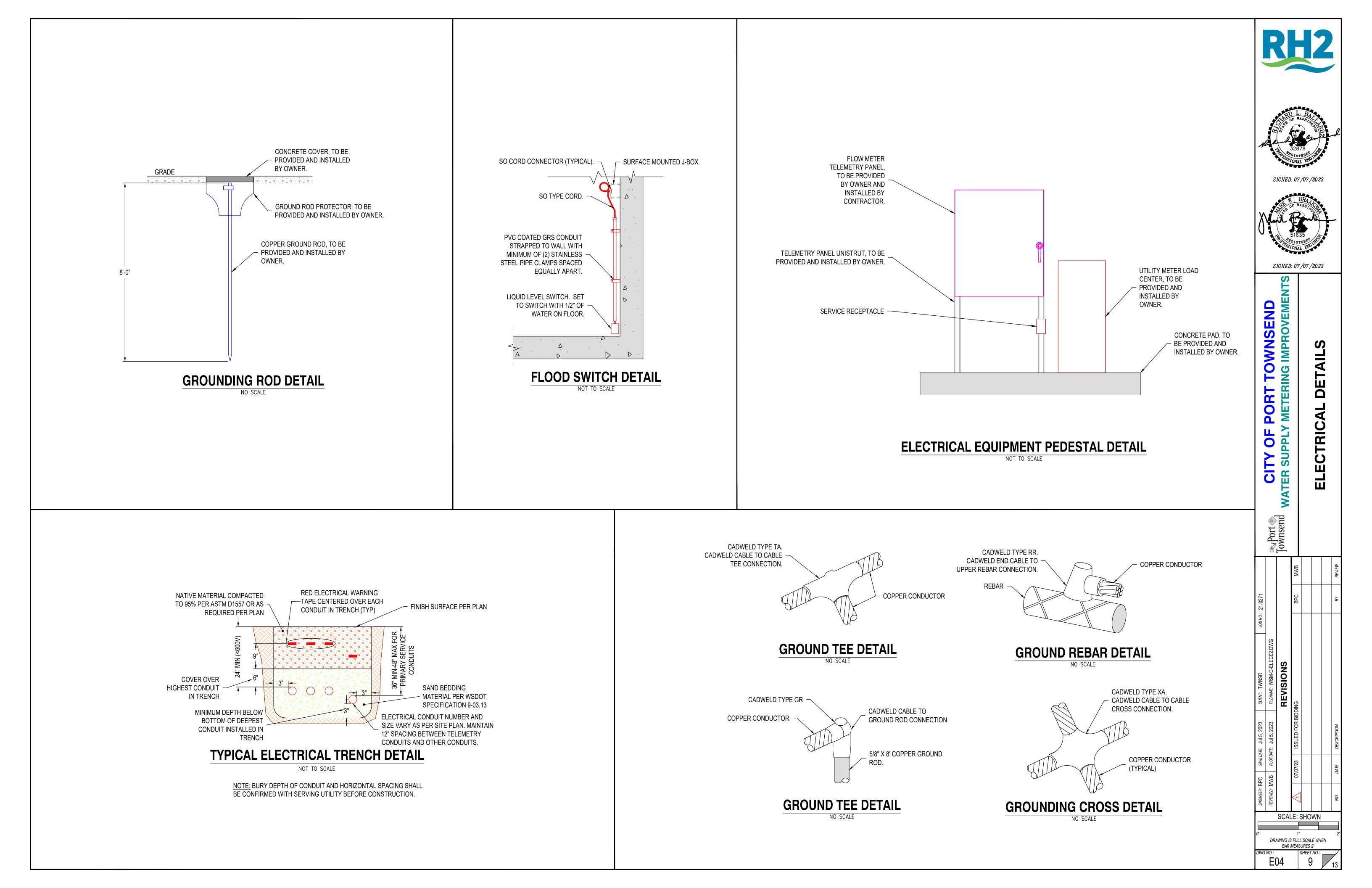


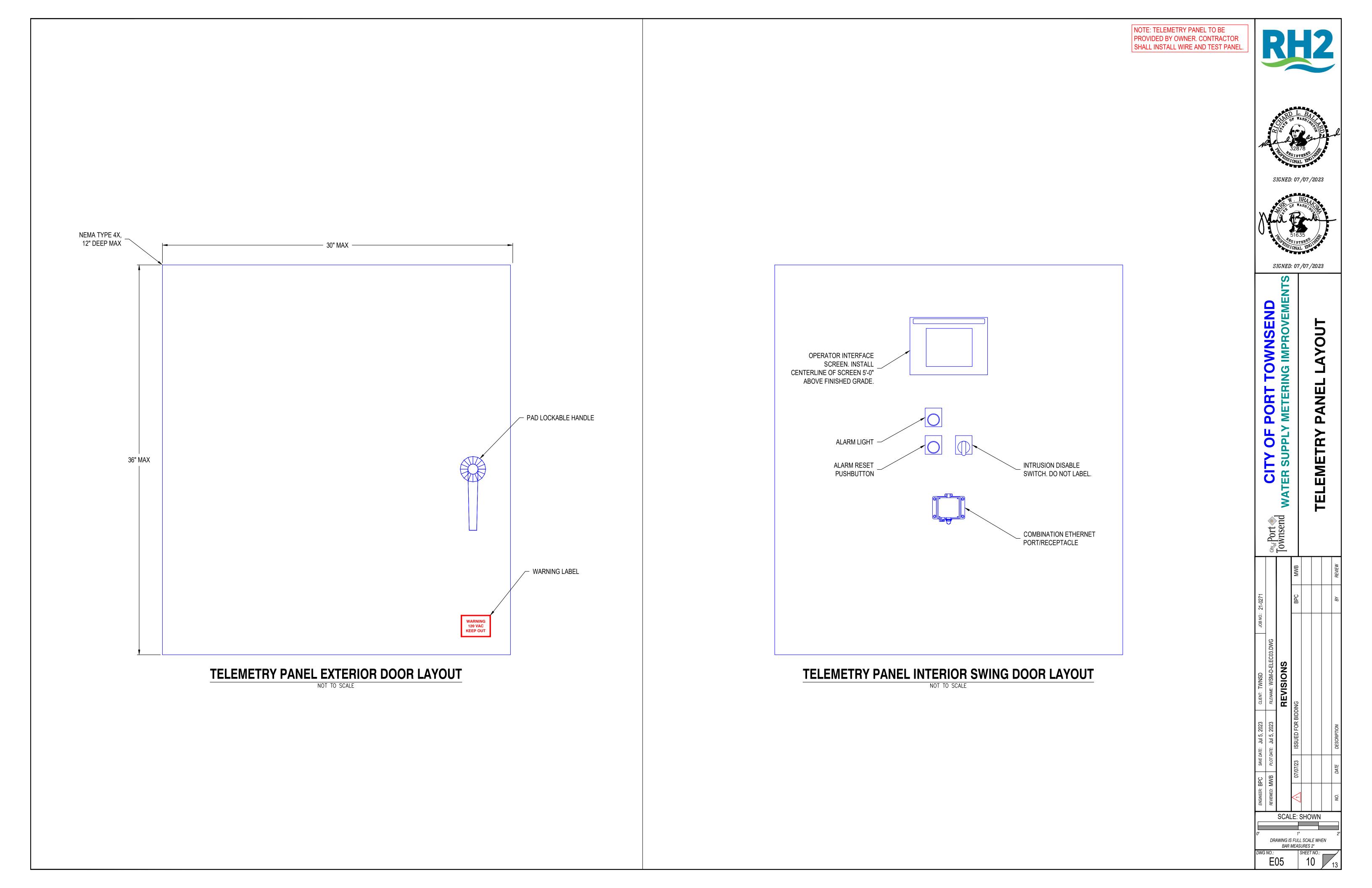
INDUSTRIAL FLOW METER ELECTRICAL PLAN

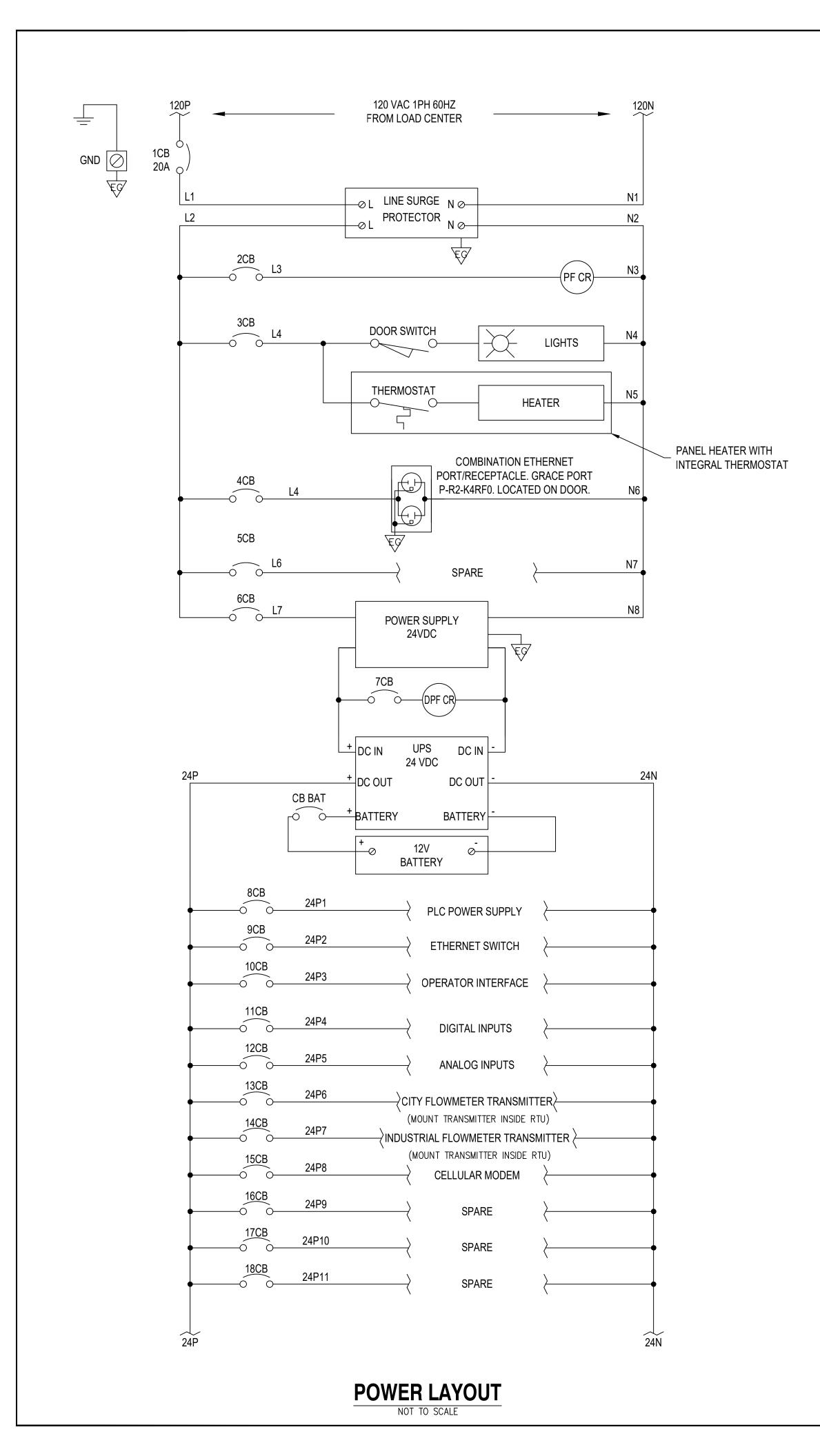
³⁄₄" = 1'−0"

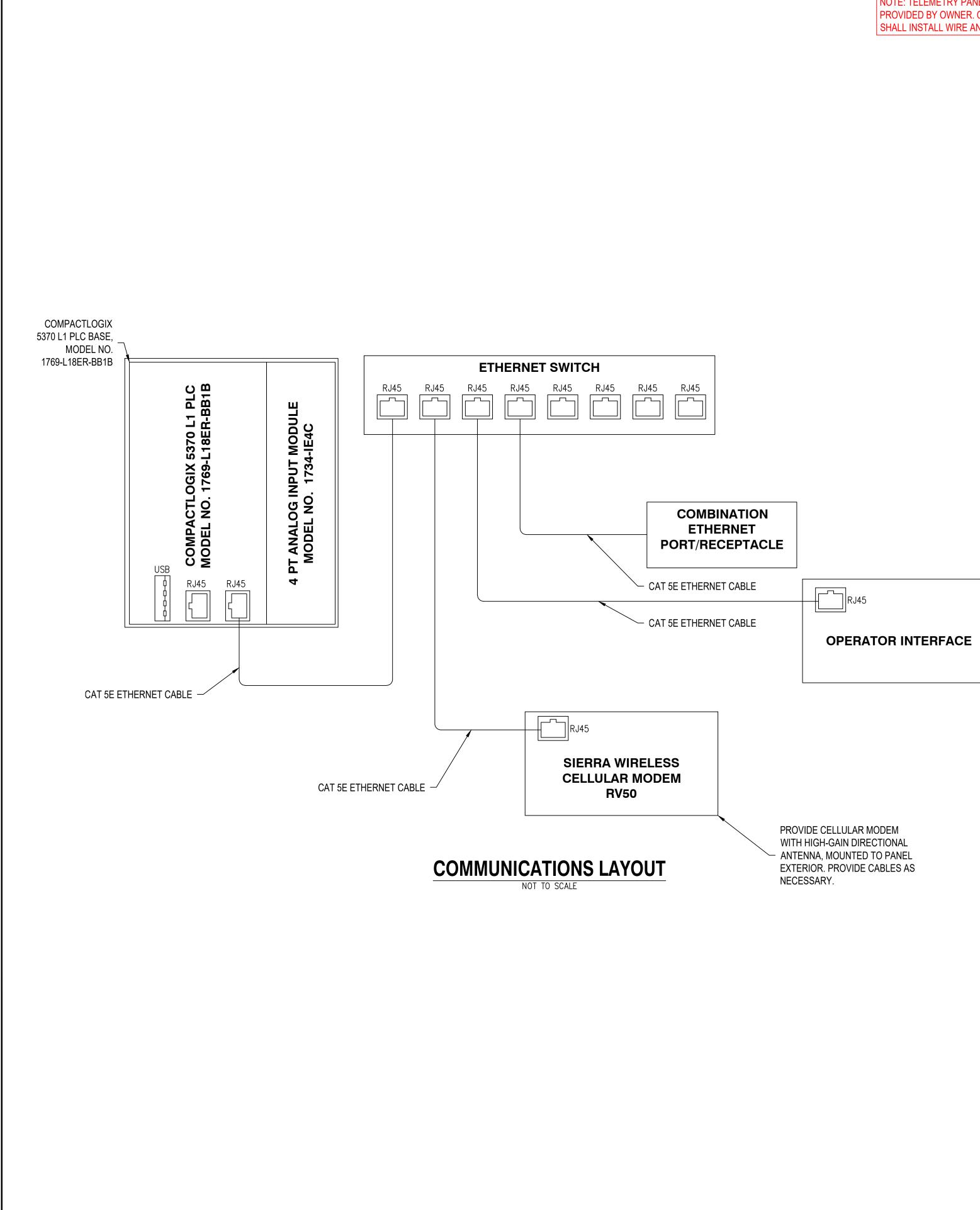
REAL SICNED: 07/07/2023							
	Civer Port (*), CITY OF PORT TOWNSEND	Townsend WATER SUPPLY METERING IMPROVEMENTS				PI AN	
CLIENT: TWNSD JOB NO: 21-0271	FILENAME: WSM-D-ELEC02.DWG	REVISIONS	3 BPC MWB				BY REVIEW
ENGINEER: BPC SAVE DATE: Jul 5, 2023	REVIEWED: MWB PLOT DATE: Jul 5, 2023		07/07/23 ISSUED FOR BIDDING				NO. DATE DESCRIPTION
O"	DR#	SCAL AWING IS BAR 1 D3	1" S FULI MEAS		.E WH 2" NO.:	EN	2"

EXISTING WATER MAIN









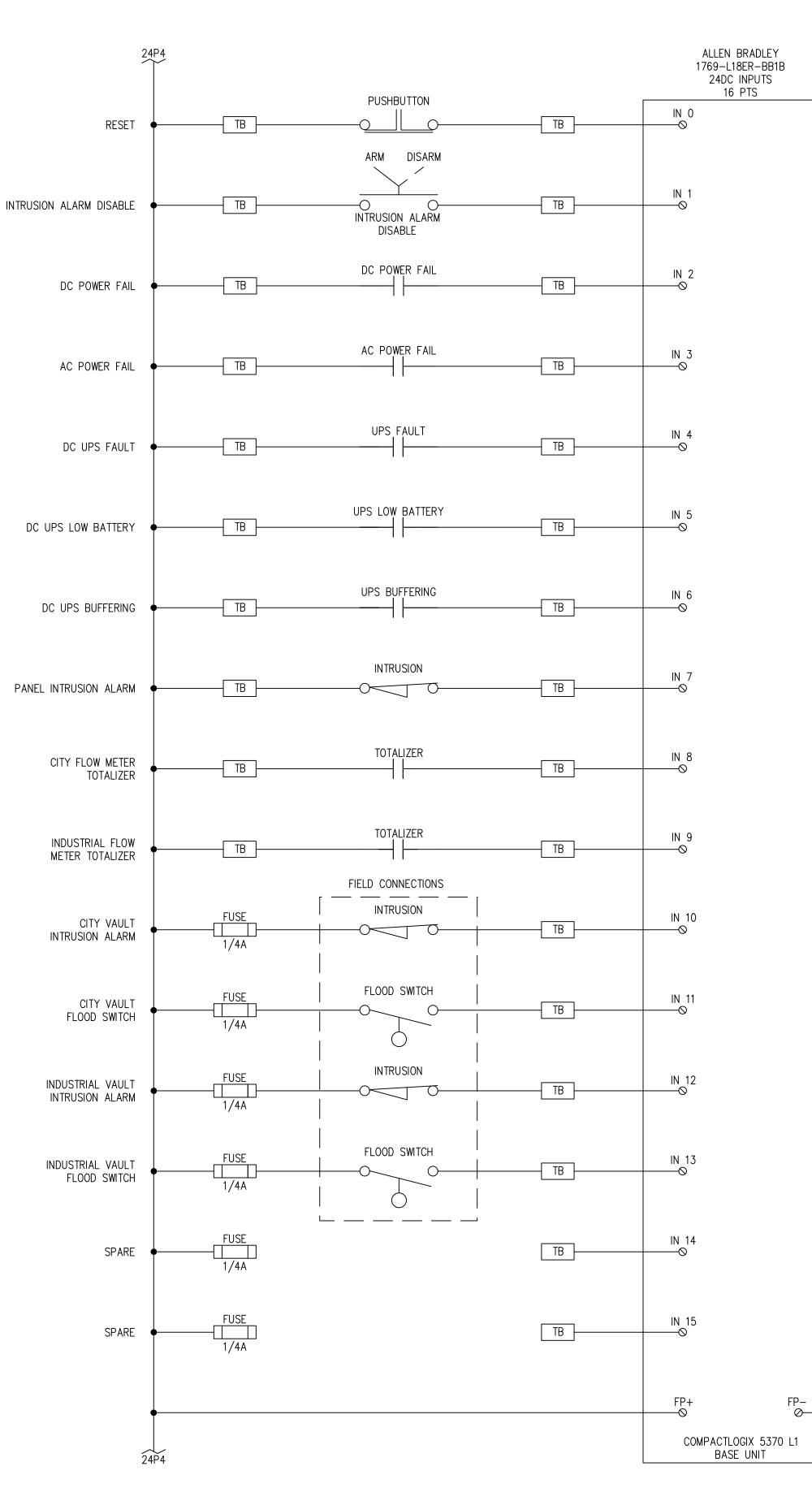
NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.

N N	RH2 REH2 R							
	GIVIC PORT TOWNSEND	Townsend WATER SUPPLY METERING IMPROVEMENTS				COMMUNICATIONS DIAGRAM		
			MWB				REVIEW	
JOB NO: 21-0271			BPC				BY	
\square	D/							
VEER: BPC SAVE DATE: Jul 5, 2023 CLIENT: TWNSD	EWED: MWB PLOT DATE: Jul 5, 2023 FILENAME: WSM-D-ELEC03.DWG	REVISIONS	07/07/23 ISSUED FOR BIDDING				D. DATE DESCRIPTION	
		BEVISIONS	07/07/23	SHO	WN			
ENGINEER: BPC SAVE DATE: Jul 5, 2023	REVIEWED: MWB PLOT DATE: Jul 5, 2023	SCAL		_	E WH 2"		DATE	

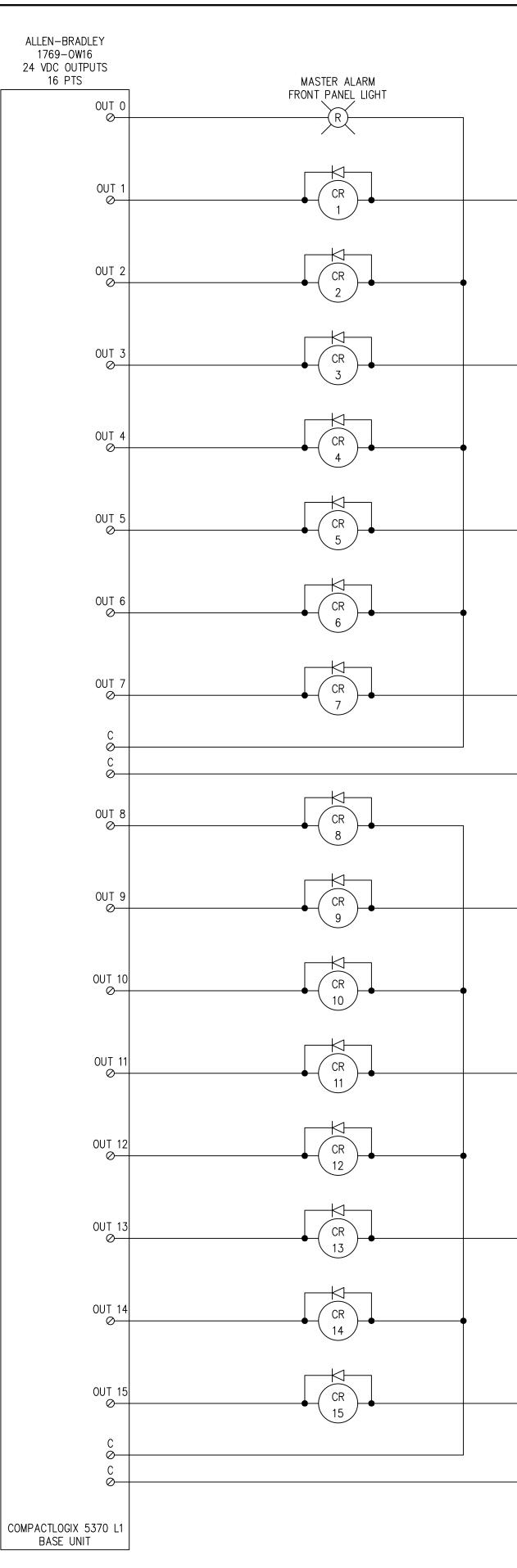


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24N

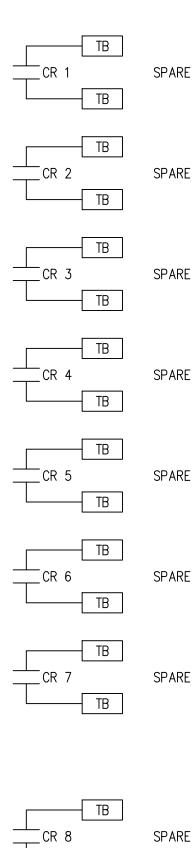


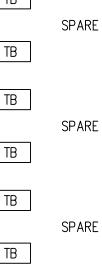




24N

NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL









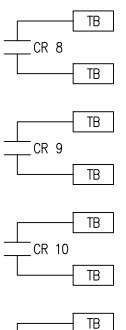
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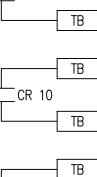
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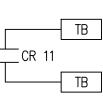
SPARE

SPARE

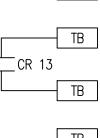
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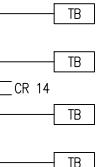


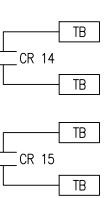
















SPARE



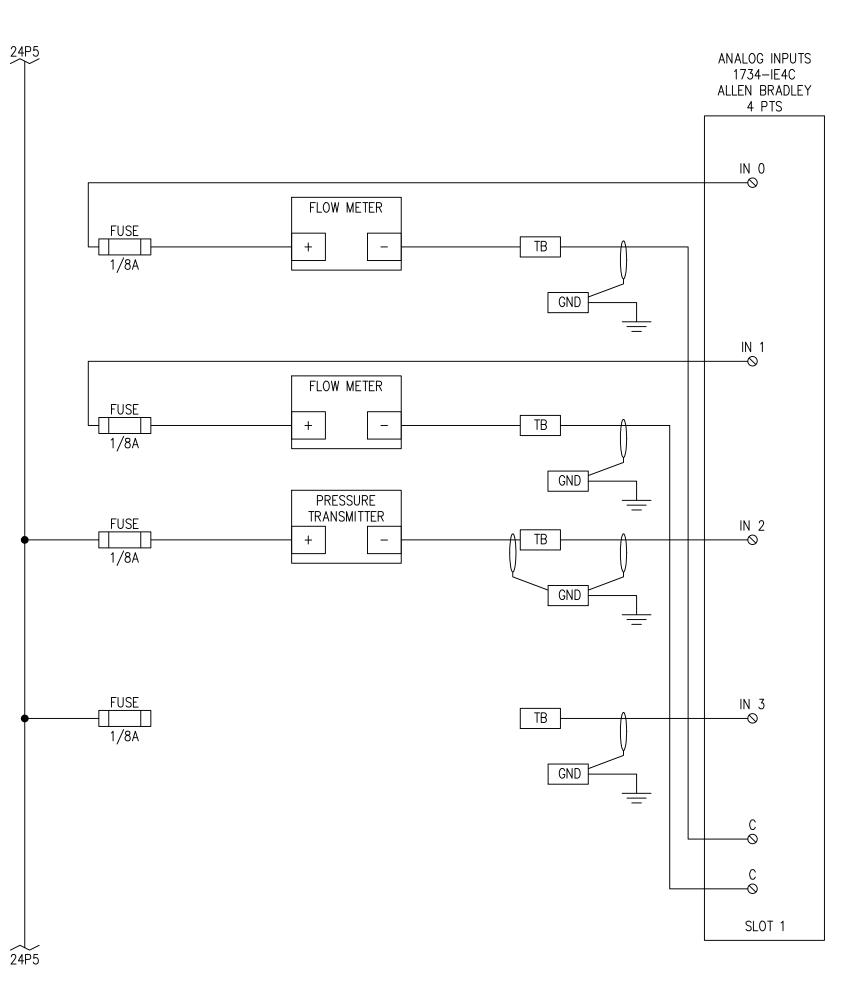
24P5

CITY FLOW METER

INDUSTRIAL FLOW METER

PRESSURE TRANSMITTER

SPARE



ANALOG INPUTS, SLOT 1 NOT TO SCALE

NOTE: TELEMETRY PANEL TO BE PROVIDED BY OWNER. CONTRACTOR SHALL INSTALL WIRE AND TEST PANEL.

