

SECTION 232116
PPE AND PPE FITTINGS

PART 1 - GENERAL

1.1 DESCRIPTION: THE WORK INCLUDES BUT IS NOT LIMITED TO, PPE AND PPE FITTINGS, COMPLETE.

1.2 QUALITY ASSURANCE:

- A. CODES AND STANDARDS: COMPLY WITH APPLICABLE CODES AS LISTED IN SECTION 01011 OF THE SPECIFICATIONS AND FOLLOWING STANDARDS
- 1. ASME - APPLICABLE STANDARDS
- 2. ASME - APPLICABLE STANDARDS
- 3. CSPI - APPLICABLE STANDARDS
- 4. MSS - APPLICABLE STANDARDS
- 5. NFPA 58B
- 6. MANUFACTURER'S INSTALLATION STANDARDS
- 7. NFPA 58B
- 8. OGD/OMHA TITLE 8.

1.3 SUBMITTALS:

- A. SUBMITTALS REQUIRED FOR EACH MATERIAL:

1.4 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. DELIVERY OF MATERIAL:
 - 1. PIPING SHALL BE DRAINED, BEARING IMPACT GRADE SEALS.
 - 2. OPEN ENDS SHALL BE PROTECTED AND SEALED.
 - 3. OPEN ENDS SHALL BE SEALED.
- B. STORAGE OF MATERIAL:
 - 1. MATERIAL SHALL BE PROTECTED FROM THE WEATHER AND DAMAGE.
 - 2. STORE IN LOCATION TO MINIMIZE HANDLING.

1.5 JOB CONDITIONS:

- A. PROTECTION: MATERIALS SET IN PLACE SHALL BE PROTECTED TO PRECLUDE DAMAGE.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS:

- A. MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
 - 1. STEEL PIPE, U.S. STEEL, WEAFLAND, OR EQUAL
 - 2. MALLEABLE IRON FITTINGS: WALKERH, GRINNELL, OR EQUAL

2.2 REQUIREMENTS:

- A. PRODUCTS: ALL ITEMS LISTED ABOVE SHALL BE FROM A SINGLE MANUFACTURER, WHERE APPLICABLE.
- 2.3 BLACK STEEL PIPING AND FITTINGS (ABOVE & BELOW GROUND):
 - A. SEAMLESS SCHEDULE 80, SEAMLESS ASTM A106 PIPE
 - 1. FITTINGS: 400 LB. SWP, MALLEABLE IRON, SCHEDULE 80
 - 2. APPLICATION:
 - A. FUEL LINES

2.4 PIPING PROTECTION:

- A. FACTORY COATED AND WAREHOUSED STEEL PIPES:
 - 1. ONE COAT OF ASPHALT PRIMER
 - 2. TWO COATS OF HOT ASPHALT
 - 3. ONE LAYER OF 15 POUND SATURATED FELT
 - 4. ONE LAYER OF 15 POUND SATURATED FELT
 - 5. ONE LAYER OF KRAFT PAPER
 - 6. CLEAN AND WRAP FIELD JOINTS AND FITTINGS WITH TWO SEPARATE WRAPPINGS.
- B. FIELD WRAPPINGS: SAME AS FACTORY WRAP.
- C. PROVIDE ABOVE PROTECTION IN ACCORDANCE WITH NFPA 58
- D. APPLICATION: ALL FUEL PIPING AND FITTINGS BELOW GRADE.

2.5 FITTINGS:

- A. UNIONS:
 - 1. STEEL PIPE: MALLEABLE IRON, 400 PSI
- B. NIPPLES SHALL CONFORM TO REQUIREMENTS OF U.S. DEPARTMENT OF COMMERCE STANDARD CS-5 TYPICAL. NIPPLES SHALL BE BEARING TOLERANCED PREPARED TO CS-5 MADE FROM NEW PIPE OR OTHER WORDS TO THIS EFFECT. MAKE NIPPLES OF SAME MATERIALS AND WEIGHT AS PIPE WHERE ON USED. DO NOT USE CLOSE NIPPLES.
- C. JOINT COMPOUND: EVERSEAL 181 OR EQUAL

2.6 VALVES AND STRAINERS

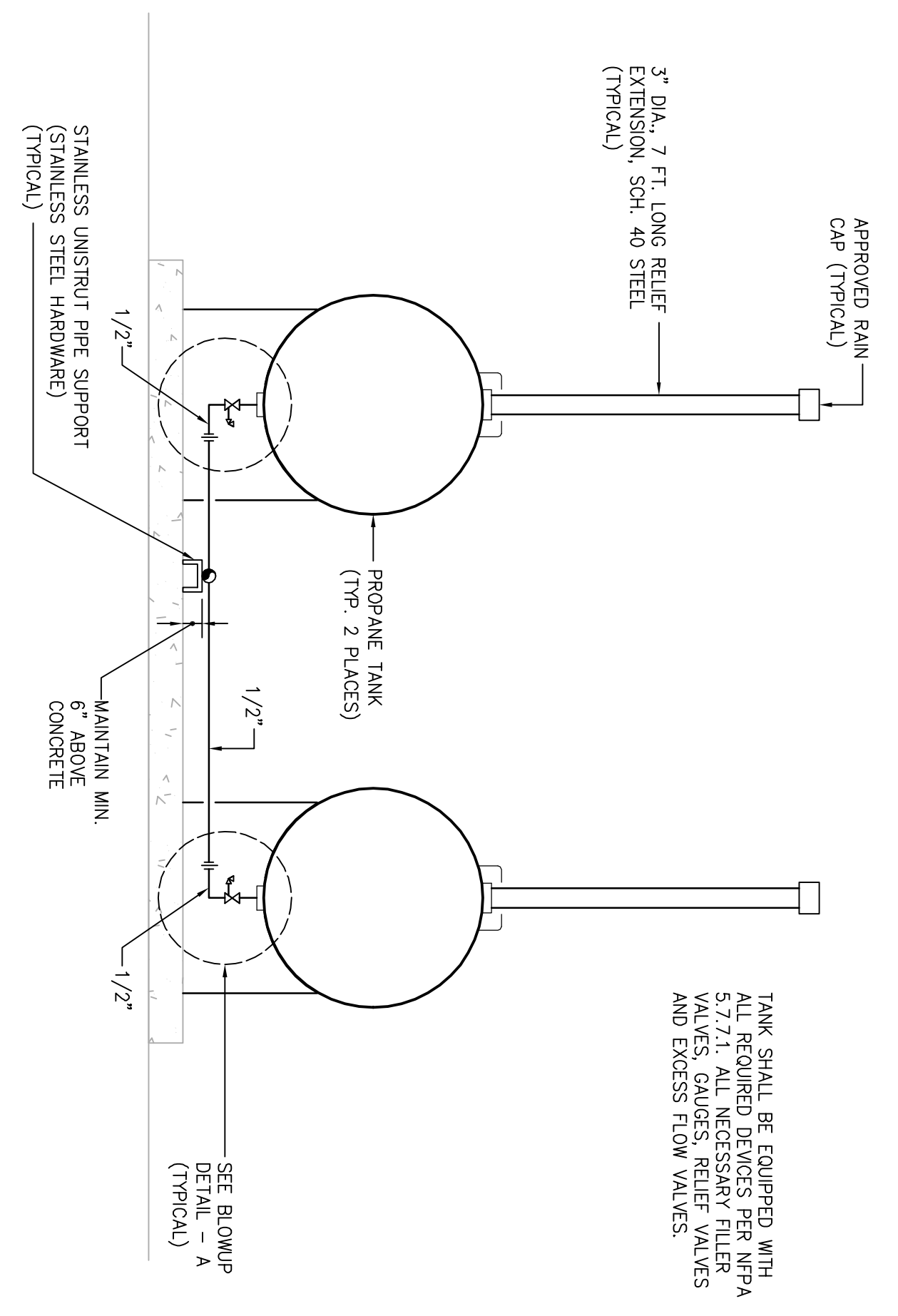
- A. PRESSURE CONTAINING PARTS OF VALVES SHALL BE OF STEEL OR MALLEABLE IRON
- B. ALL MATERIALS, INCLUDING SEAT DISCS, PACKING, SEALS AND O-RINGS SHALL BE RESISTANT TO LP GAS.
- C. VALVES AND STRAINERS SHALL HAVE SERVICE RATING OF 400 PSI
 - 1. SHUT-OFF VALVE: HEAVY DUTY GLOBE VALVE REG.-A7566A WITH 3/27L RELIEF VALVE AND COMPACT GLOBE VALVE AT/OP WITH 3/27L RELIEF VALVE (LP-GAS EQUIPMENT 651-66-1177)
 - 2. SHUT-OFF VALVE: HEAVY DUTY GLOBE VALVE REG.-A7566A WITH 3/27L RELIEF VALVE (LP-GAS EQUIPMENT 651-66-1177)
 - 3. STRAINER: APOLLO 316 STAINLESS STEEL Y-STRAINER SERIES 612-03 (CS33) MM 400 PSI.

PART 3 - EXECUTION

3.1 INSTALLATION:

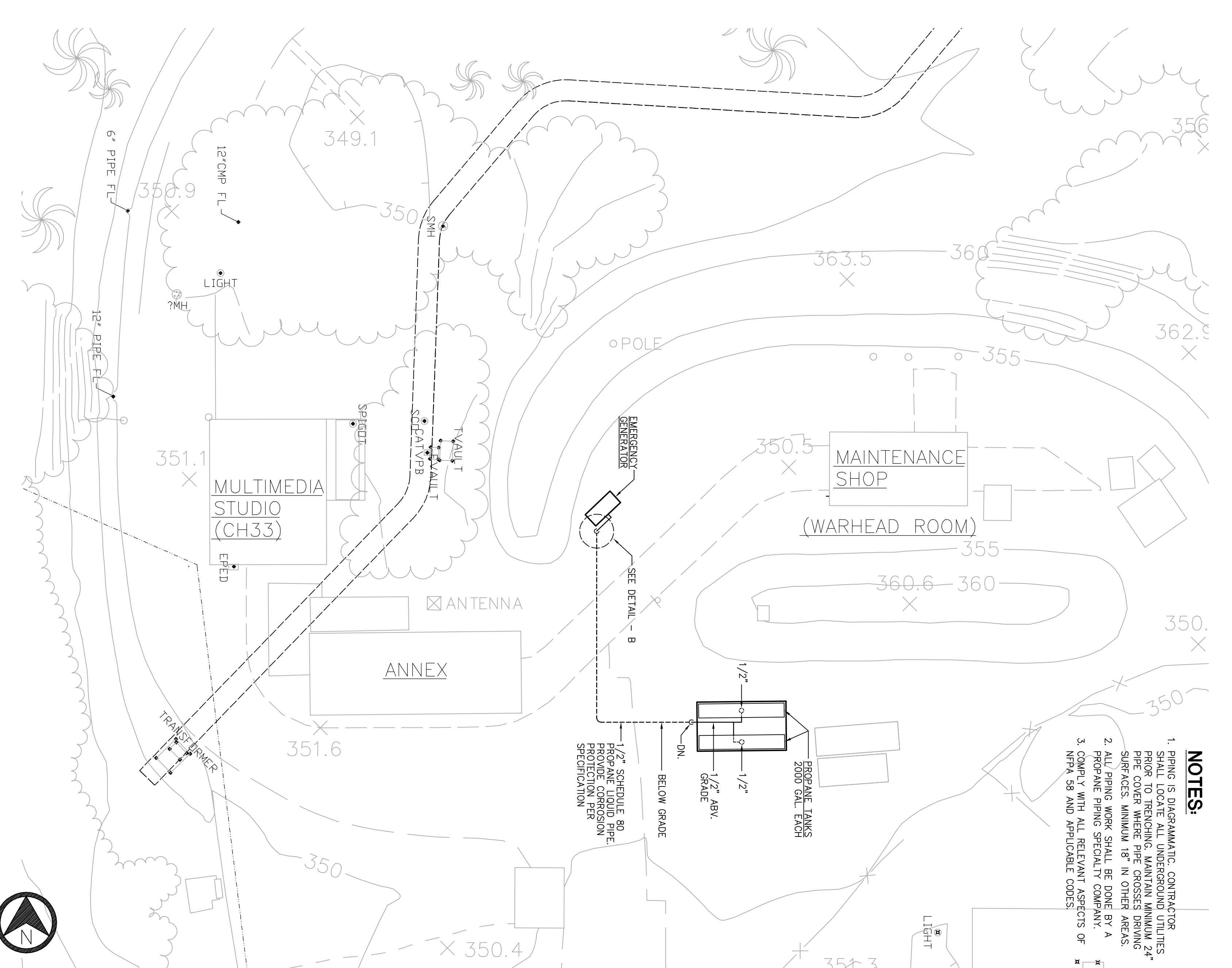
- A. GENERAL: PIPING SHALL BE PERMANENTLY CLOSED UP, PIPERED IN OR COVERED OVER BEFORE IT HAS BEEN TESTED AND INSPECTED.
- 2. PPE AND FITTINGS SHALL BE CLEANED AND INTERNAL SCALE, SAND, DIRT AND OTHER DEBRIS REMOVED BEFORE INSTALLATION.
- 3. BUSING AND SHORT NIPPLES WILL NOT BE PERMITTED.
- 4. PIPING SUBJECT TO EXPANSION CONTRACTION OR SETTLING SHALL BE ANCHORED IN A MANNER THAT PREVENTS OVERSTRESSING OF THE PIPING.
- 5. PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S AND AS INDICATED ON DRAWINGS.
- 6. PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S AND AS INDICATED ON DRAWINGS. REMOVE OBSTRUCTIONS PRIOR TO PERFORMING INSTALLATION. CUT THREADS RESPONSIBLY. THE AXIS OF THE THREAD CONDUIT WITH THE AXIS OF THE PIPE.
- 7. PPE AND FITTINGS: INSTALL PIPING AND FITTINGS IN ACCORDANCE WITH THE ANSI CODE FOR PRESSURE PIPE.
- 8. SCREENED JOINTS FOR STEEL PIPE: PIPING COMPOUND SHALL BE COMPATIBLE FOR FLUID TO BE CARRIED THROUGH FITTINGS AND JOINTS.
- 9. UNIONS: REQUIRED ON INLET AND OUTLET OF APPARATUS OR EQUIPMENT HAVING SCREWED AND SOLDERED CONNECTIONS 2 INCHES AND SMALLER (UNION SHALL MATCH PIPING MATERIAL).
- 10. TEST PIPING SYSTEMS PRIOR TO COVERING TO 400 PSI FOR 4-HOURS.
- 11. ALL EXPOSED PIPING SHALL BE PAINTED. USE (1) BASE-PRIMER COAT AND (1) COAT OF EPOXY PAINT.
- 12. PROTECT ABOVE GRADE PIPING FROM VEHICLE DAMAGE.

END OF SECTION



SCHEMATIC DIAGRAM AT TANKS

SCALE NONE 2



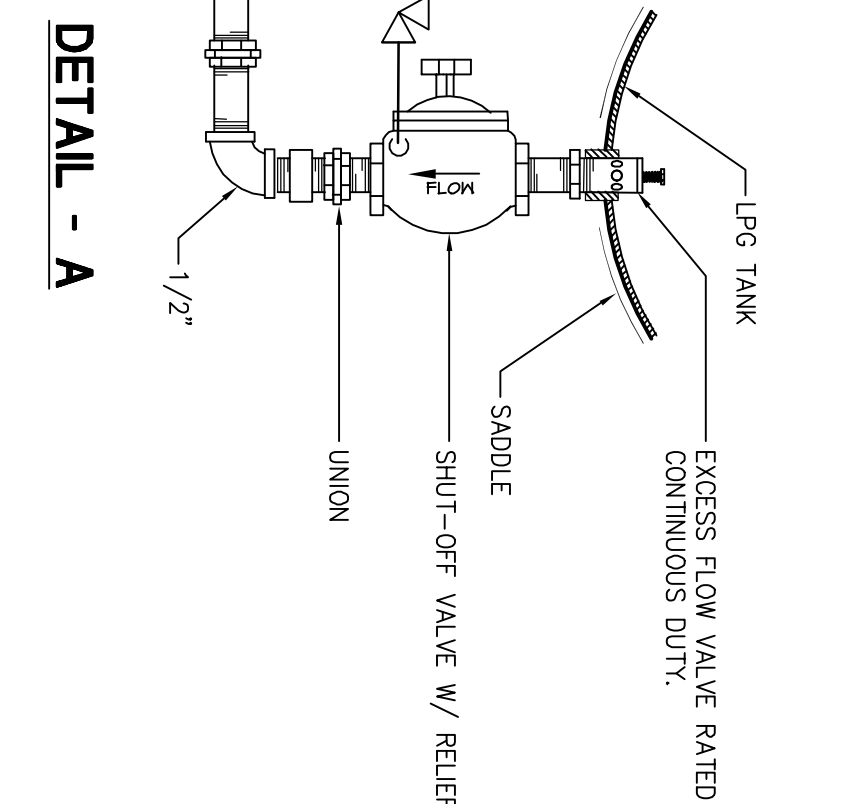
PLUMBING PARTIAL SITE PLAN

SCALE 1"=20' 1

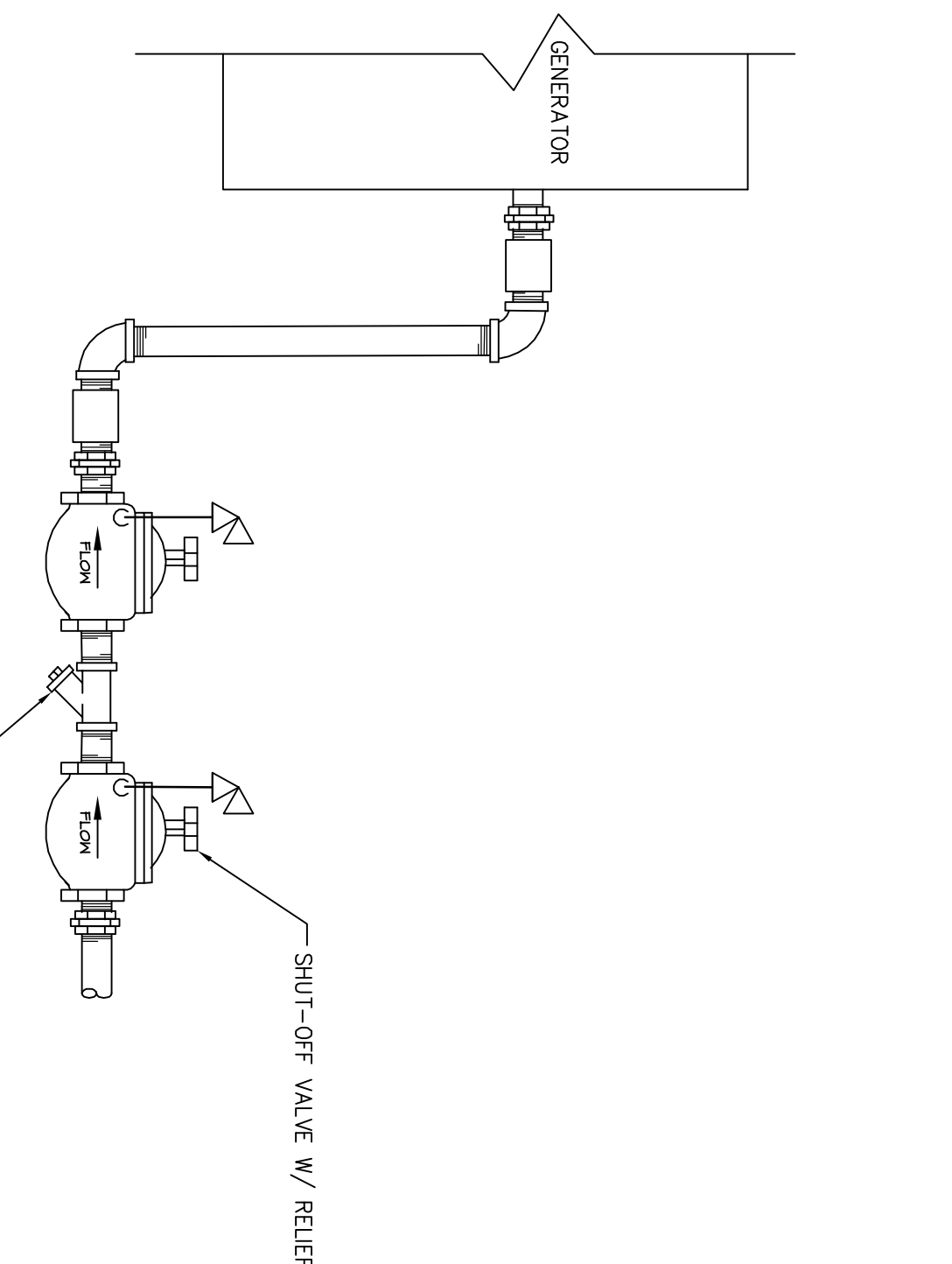
PLUMBING LEGEND	
SYMBOL	ABB DESCRIPTION
—LP—	LIQUIDIFIED PETROLEUM (PROPANE)
—M—	SHUT-OFF VALVE (PROPANE LIQUID SERVICE VALVE)
—DN—	DOWN RISER
—UP—	UP RISER
—PC—	POINT OF CONNECTION
—RV—	RELIEF VALVE
—TYP—	TYPICAL
—W/—	WITH
—BEL—	BELOW
—ABV—	ABOVE
—FLR—	FLOOR
—UG—	UNDER GROUND
—A.F.F.—	ABOVE FINISHED FLOOR
—CONT.—	CONTINUATION
—STR—	STRAINER

GENERAL NOTES:

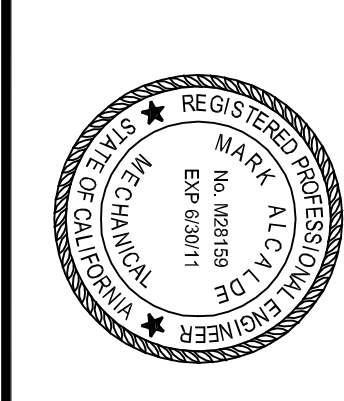
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE CODES.
2. PIPING SHOWN ON DRAWINGS IS SCHEMATIC ONLY. INSTALL ALL PIPING TO SUIT THE STRUCTURAL CONDITIONS AT SITE. PROVIDE ALL NECESSARY OFFSETS AS REQUIRED.
3. BURNED PIPING SHALL BE PROTECTED WITH 2" SAND BEDDING AND MINIMUM 18" COVER. MAINTAIN MINIMUM 24" PPE COVER WHERE PPE CROSSSES DRIVING SURFACES.
4. ALL NEW POINT OF CONNECTIONS SHALL BE DONE IN SUCH A MANNER SO THAT THE EXISTING UTILITY SHALL BE KEPT IN OPERATION AT ALL TIMES.
5. PROVIDE ALL PROPANE RELIEF VALVES AS REQUIRED.
6. ALL VALVES, PIPING, UNIONS, ETC. SHALL BE SPECIFIC FOR PROPANE.
7. BURNED PIPING SHALL BE WITH 2" SAND BEDDING AND MINIMUM 18" COVER. MAINTAIN MINIMUM 24" PPE COVER WHERE PPE CROSSSES DRIVING SURFACES.
8. ALL PPE SUPPORTS SHALL BE HORIZONTAL PIPING 4" OR GROUND. PROVIDE ALL PPE SUPPORTS TO BE CONCRETE AND WHERE ABOVE GROUND FOUR CONCRETE SUPPORT FOOTINGS.



DETAIL - A



DETAIL - B



Revisions