



LEGEND	
W	WATER LINE
S	SEWER LINE
SPH	SEWER FORCE MAIN
G	GAS LINE
E	ELECTRIC LINE
OW	OVERHEAD WIRES
D	DRAINAGE LINE
I	MINOR CONTOUR LINE
5	MAJOR CONTOUR LINE
---	PROPERTY LINE
---	ASSESSORS LINE
---	TREELINE
---	GUARDRAIL
X	FENCE
---	RETAINING WALL
---	STONE WALL
123/1234	DEED BOOK/PAGE
AP	ASSESSOR'S PLAT
HC	HANDICAPPED
N/F	NOW OR FORMERLY
LC	LANDSCAPING
(R)	RECORD
(CA)	CHORD ANGLE
△	NAIL/SPIKE
○	DRILL HOLE
○	IRON ROD/PIPE
□	BOUND
8	SIGN POST
○	SEWER MANHOLE
○	SEWER CLEANOUT
○	HYDRANT
○	IRRIGATION VALVE
○	UNKNOWN MANHOLE
○	BOLLARD
○	SOIL EVALUATION
○	CATCH BASIN
○	DOUBLE CATCH BASIN
○	WATER VALVE
○	GAS VALVE
△	WETLAND FLAG
○	DRAINAGE MANHOLE
○	FLARED END SECTION
○	GUY POLE
○	ELECTRIC MANHOLE
○	UTILITY/POWER POLE
○	LIGHTPOST
○	WELL
○	MONITORING WELL
○	BENCH MARK
○	TREE



LOCUS MAP Not To Scale

GENERAL NOTES

- THE PARCEL IS LOCATED IN THE TOWN OF SUTTON, WORCESTER COUNTY, MASSACHUSETTS HAVING THE PARCEL ID OF MAP 3 PARCEL 14.
- THE OWNER PER LAND COURT CERT. 17469 IS DILEO PROPERTIES LLC..
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE X AND AE. REFERENCE FEMA FLOOD INSURANCE RATE MAP 25027C0836E, MAP REVISED JULY 4, 2011. THIS DESIGNATION MAY CHANGE BASED UPON REVIEW BY A FLOOD ZONE SPECIALIST OR BY THE RESULTS OF A COMPREHENSIVE FLOOD STUDY.
- THE PARCEL IS ZONED INDUSTRIAL (I) BASED ON TOWN OF SUTTON ZONING MAPS. ANY OVERLAY DISTRICTS, SPECIAL PERMITS OR VARIANCES SPECIFIC TO THIS SITE ARE NOT TAKEN INTO CONSIDERATION. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.
- THERE WERE NO CEMETERIES, GRAVE SITES AND OR BURIAL GROUNDS OBSERVED WITHIN THE LIMITS OF THE SURVEY.
- FIELD SURVEY PERFORMED BY DIPRETE ENGINEERING ON DECEMBER 5, 2022. THIS PLAN REFLECTS ON THE GROUND CONDITIONS AS OF THAT DATE.
- THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. DIPRETE ENGINEERING IS NOT RESPONSIBLE FOR ANY UNKNOWN OR UNRECORDED EASEMENTS, DEEDS OR CLAIMS THAT A TITLE REPORT WOULD DISCLOSE.

PLAN REFERENCES:

- LAND COURT PLANS 8264A, 8264K AND 8264M

ZONING NOTES

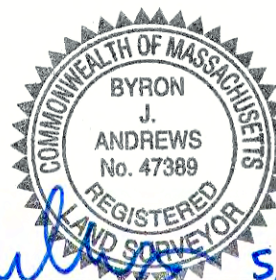
- THE PARCEL IS ZONED INDUSTRIAL (I) PER THE ASSESSOR'S ONLINE DATABASE.
- THE ZONING ORDINANCE SECTION 3B LISTS THE DIMENSIONAL REGULATIONS AS FOLLOWS:

MINIMUM LOT AREA	40,000 SQUARE FEET
MINIMUM FRONTAGE AND LOT WIDTH	200 FEET
MINIMUM FRONT YARD	50 FEET
MINIMUM SIDE YARD	20 FEET
MINIMUM REAR YARD	50 FEET
MAXIMUM LOT COVERAGE	50 %
MAXIMUM HEIGHT	35 FEET

THE ABOVE NOTES ARE BASED ON INFORMATION FROM THE TOWN OF SUTTON ASSESSOR'S ONLINE DATABASE AND THEIR ZONING ORDINANCE ONLY. ANY SPECIAL PERMITS OR VARIANCES SPECIFIC TO THIS SITE ARE NOT TAKEN INTO CONSIDERATION. PLEASE CONTACT THE ZONING DEPARTMENT FOR ANY ADDITIONAL INFORMATION OR FOR A CERTIFICATE OF ZONING.

CERTIFICATION

I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND IN ACCORDANCE WITH THE RULES AND REGULATIONS AS STATED IN CMR 250 SECTION 6.00.



Byron J. Andrews, PLS DATE 5/3/23

SCALE: 1"=20'  
0 10' 20' 40'

z:\diprete\projects\3352-001\providence road\12\AutoCAD\Drawings\3352-001\pdr-bldg.dwg, Printed: 5/3/2023

Diprete Engineering

Two Stafford Court, Cranston, RI 02920  
tel: 401-943-1000 fax: 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport

UPDATE WETLAND FLAGS		R.G.
NO.	DATE	DESCRIPTION
1	05-03-23	
2	01-03-23	
3	01-03-23	
4	01-03-23	
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6	01-03-23	
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98	01-03-23	
99	01-03-23	
100	01-03-23	

SITE PLAN

DILEO GAS

124 PROVIDENCE ROAD  
SUTTON, MASSACHUSETTS 01590

PREPARED FOR:  
DILEO PROPERTIES LLC.

630 SUNDERLAND ROAD, WORCESTER,  
MASSACHUSETTS 01604

DATE: 5/3/23



A. Contractor shall be responsible for checking and coordinating all dimensions Civil/Site, Fire Protection, and other project drawings. In case of conflict, the Engineer shall be notified and shall resolve the conflict.

B. Contractor shall be solely responsible for the correctness of dimensions and quantities and for fitting the work to the dimensions to be confirmed and coordinated at the site; and for the coordination of this work with all other trades. The Engineer's review of Contractor's submissions does not relieve Contractor from these responsibilities.

C. Means methods, techniques, sequences, and procedures of construction as well as compliance with OSHA and other Federal, State, or Local safety laws and regulations is the exclusive responsibility of the Contractor, their Subcontractor(s), Suppliers, Consultants, and/or Servants.

A.Referenced Codes:

- |      |   |  |
|------|---|--|
| i.   | International Building Code 2015                                  |  |
| ii.  | ACSE 7-10 Minimum Design Loads for Buildings and Other Structures |  |
| iii. | ACI 318-14 Building Code Requirements for Structural Concrete     |  |
| B.   | Design Loads:   |  |
| i.   | Dead Loads  |  |
| a.   | Weight of Tank  | 56,000 lb                                |
| b.   | Weight of LPG @ 85% density                                       | (4.24 lb/gal) 108,120 lb                 |
| ii.  | Live Loads:   | N/A                                      |
| iii. | Roof Snow Loads:  | N/A                                      |
| iv.  | Wind Design Data:   |  |
| a.   | Basic Wind Speed (V)  | 126 mph                                  |
| b.   | Wind Load Importance Factor (I)                                   | 1.0                                      |
| c.   | Wind Exposure   | 1.0                                      |
| d.   | Topographic Factor (Kzt)  | 1.0                                      |
| v.   | Earthquake Design Data:   |  |
| a.   | Seismic Importance Factor (I)                                     | 1.0                                      |
| b.   | Short Period Spectral Response (Sa)                               | 0.2                                      |
| c.   | Long Period Spectral Response (S1)                                | 0.058                                    |
| d.   | Site Class  | D  |
| e.   | Spectral Response Coefficient (Sds)                               | 0.213                                    |
| f.   | Spectral Response Coefficient (Sd1)                               | 0.093                                    |
| g.   | Seismic Design Category   | B  |
| h.   | Basic Seismic Resisting System                                    | Horizontal Saddle Supported Steel Vessel |
| i.   | Design Base Shear   | V=0.30PSd*W*1=10,487                     |
| j.   | Response modification Factor (R)                                  | 3  |
| k.   | Analysis Procedure Used   | Rigid Nonbuilding Structure              |

- A. The design of the foundation is based upon assumed soil conditions.  
Contractor shall expose and verify the capacity of the existing bearing material.
- B. All footings shall be founded on natural undisturbed material or upon compacted structural fill having a minimum safe bearing capacity of 3,000 p.s.f.  
Structural fill shall be placed over the natural undisturbed material in maximum lifts not to exceed 18" of minimum compacted Proctor dry density.
- C. Where suitable undisturbed material is found higher or lower than shown on the plans isolated footings may be lowered or raised and piers, added, increased, or reduced in height with prior review and approval by the Engineer.
- D. Contractor shall safeguard all excavations from freezing, rain, ground water. No fill-in is to be placed within or upon frozen ground.
- E. All foundations and piers shall be centered on uniformly supported and edges of footings shall not be placed a greater than a 1:2 (vertical to horizontal) slope with respect to any adjacent footings, unless otherwise noted.
- F. Exterior footings shall bear at or below a frost depth of 4'-0" below finished grade.
- G. Contractor is solely responsible for temporary shoring, shoring, or bracing required to safely excavate for foundation work.
- H. Backfilling against foundation walls shall not be performed until concrete has attained sufficient strength. Both sides of piers shall be backfilled simultaneously.

- A. All concrete shall be mixed, placed, cured, and tested in accordance with ACI 318 and ACI 301 except that provisions of the specification prevail where more stringent.
- B. Contractor shall submit mix designs in accordance with ACI 318 Section 5.3.
  - 1. "Proportioning on the basis of experience and/or trial mixtures" for each type of concrete for review and approval by the Architect and Structural Engineer prior to performing concrete work. Each concrete mix shall utilize the largest size aggregate permitted in accordance with ACI 318 Section 3.3. Use of calcium chloride containing aggregates or admixtures is not permitted.
- C. Concrete shall be air entrained (55%-78%), normal weight (145 pcf) with a minimum 28-day compressive strength of 4,000 psi.
- D. Concrete slump shall not exceed 4 inches unless a high-range water reducing admixture is utilized, where the maximum slump may be increased to 8 inches.
- E. All reinforcing steel shall be deformed bars conforming to ASTM A615 (Grade 60) unless otherwise noted. Bar sizes, nominal bar diameters, and nominal cross-sectional areas shall conform to ACI 318.
- F. Detailing of reinforcing shall conform to ACI Pub. SP-66, ACI Detailing Manual.
- G. Minimum concrete cover shall be provided for reinforcement in accordance with ACI 318. Where stress other than tension is utilized, splices shall not increase cover as a means to reduce development lengths, Ld, of bars unless approved by Engineer.
- H. Splicing of reinforcement is permitted only at locations shown on the structural drawings and as accepted. Where splicing is utilized, splices shall be tension lap splices developing the full tensile capacity of the reinforcement.
  - 1. Minimum lap for reinforcement bars shall be per ACI 318 but no less than 12 inches.
- I. Welding of reinforcement is not acceptable unless specified on the structural drawings or submitted and approved by the Engineer.
- J. All concrete construction shall be cast monolithically without horizontal construction joints, unless otherwise specified on the structural drawings.
- K. Contractor is responsible for proper and adequate shoring of all concrete work including form work, ties, reinforcing chairs, standees, etc.

- A. Shop drawings shall be submitted for structural steel and reinforcing steel.
- B. Drawings shall show all lengths, connections, sizes, welds, etc. and relation of members to affected construction trades.
- C. Structural steel connections shall be designed for the loads shown on plan and in the Structural Steel Notes.
- D. Deviations from plan details shall be clearly shown in submittal package.
- E. Shop drawings will be checked for general design features only. Review does not cover dimensions, quantities, accuracy fit, and adequacy of details which are solely the responsibility of the Contractor. SFC's review is limited to those items included in our design scope.

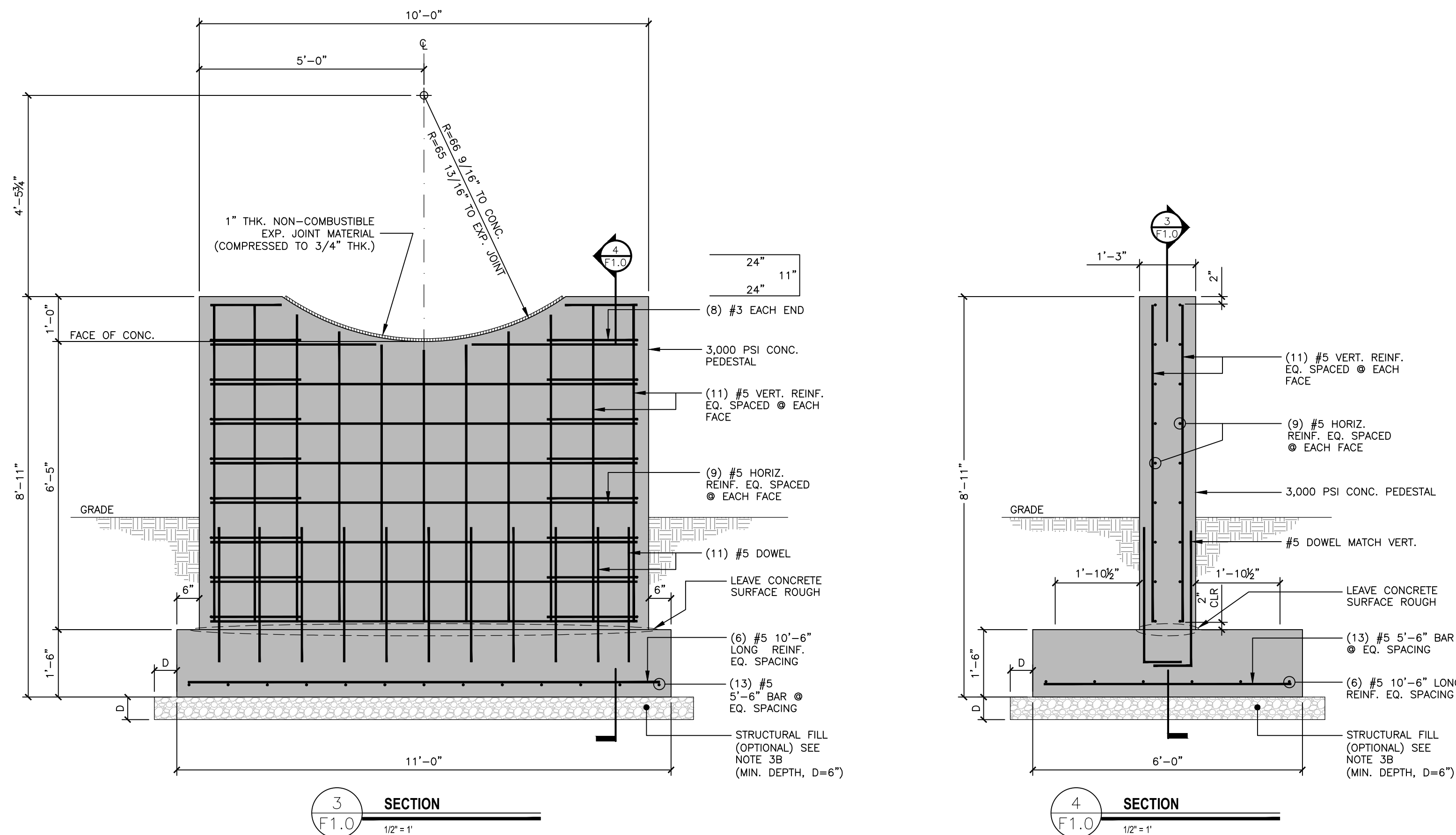
A. Structural Tests, Inspections, and Reports for concrete construction, soils, foundations, and other applicable construction shall be promptly submitted to the Structural Engineer of Record (Engineer), Building Official, and Contractor.

B. Test results/inspections shall be completed in accordance with IBC 2015, Refer to the Statement of Work for the Quality Control and Inspection (QC/QI) and construction documents for the required program of special inspections for each building material/system.

C. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If they are not corrected, discrepancies shall be brought to the attention of the Engineer and Building Official prior to completion of that phase of work.

D. Where tests indicate work does not comply with specified requirements the work shall be removed and replaced, or otherwise repaired per the Engineer's approval. Additional testing and inspection, at the Contractor's expense, will be required to determine compliance of the replaced or repaired work with the specified requirements.

E. Structural Observations: Contractor shall notify Engineer of progress of construction for coordination of observations per IBC 2015. These observations are for review of general conditions only.

[illegible]

**112 Providence Road  
Sutton, MA  
Tank Foundation Design Drawings**

PREPARED FOR:  
Crown Energy  
10 Rocky Ridge Road  
Windham, NH 03087

DWG NO.  
F1.0

Project No. 666040		Scale: AS SHOWN	
Date: 4/5/2023	Designed by: JMB	Drawn by: NAP	Checked by: JMB



SCOPE OF WORK

1. INSTALLATION OF ONE NEW 30,000 GALLON STORAGE TANK FOR STORAGE OF LIQUID PROPANE. TANKS TO BE CONSTRUCTED IN ACCORDANCE WITH NFPA 58.

GENERAL NOTES

1. REFERENCE FIRE SAFETY ANALYSIS FOR FURTHER DETAILS OF SITE AND INSTALLATION.  
2. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND EXACT LOCATIONS AND ARRANGEMENTS OF EQUIPMENT SHALL BE DETERMINED IN FIELD.  
3. DRAWING NOT TO SCALE. ORIENTATION MAY BE ALTERED FOR CLARITY.  
4. THE INSTALLING CONTRACTOR SHALL ENSURE THAT THE DESIGN OF THE UST SYSTEM MEETS ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.  
5. INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND GOOD PRACTICE NORMAL TO THE TRADE. INSTALLATION SHALL INCLUDE PROVISIONS FOR ACCESS TO NORMAL MAINTENANCE ITEMS. PROVIDE ADEQUATE AND SECURE MOUNTING METHODS.  
6. ALL PIPING TO BE IN ACCORDANCE WITH NFPA 58 TABLE 6.9.3.5(A).  
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS.

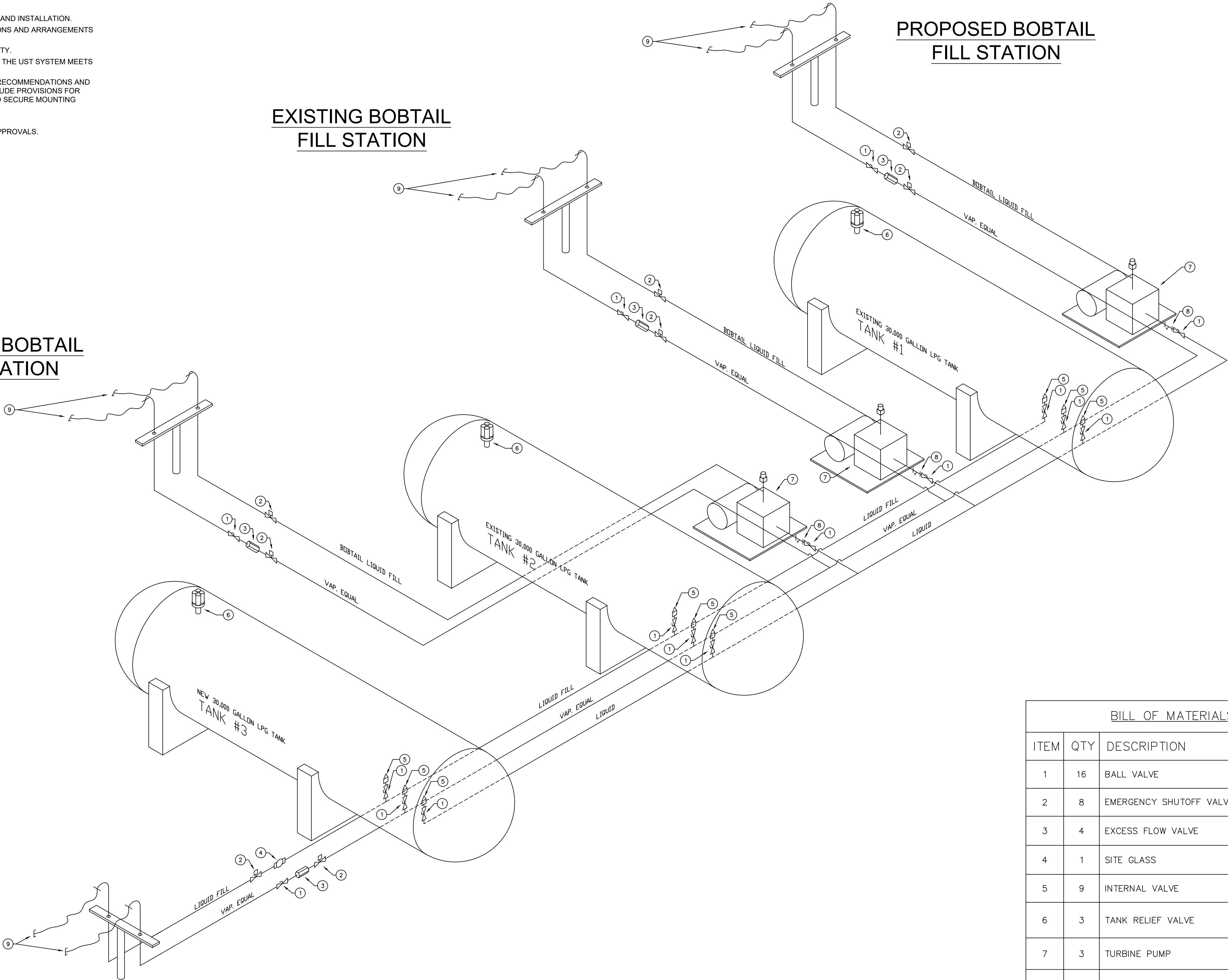
Table 6.9.3.5(A) Types of Metallic Pipe Joints in L.P.-Gas Service

Service	Schedule 40	Schedule 80
Liquid	Welded or brazed	Threaded, welded, or brazed
Vapor, <+125 psig	Threaded, welded, or brazed	Threaded, welded, or brazed
Vapor, <+125 psig	Threaded, welded, or brazed	Threaded, welded, or brazed
Vapor, <+125 psig	Welded or brazed	Threaded, welded, or brazed
Vapor, <+125 psig	Welded or brazed	Threaded, welded, or brazed

EXISTING BOBTAIL  
FILL STATION

EXISTING BOBTAIL  
FILL STATION

PROPOSED BOBTAIL  
FILL STATION

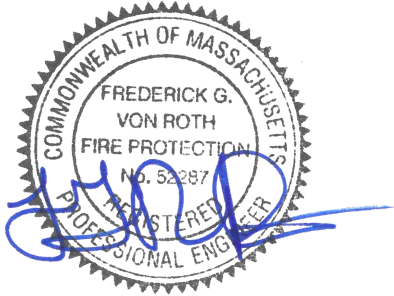


EXISTING STANCHION  
TO BE RELOCATED

PROPOSED PIPING SCHEMATIC - N.T.S

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
1	16	BALL VALVE
2	8	EMERGENCY SHUTOFF VALVE (ESV)
3	4	EXCESS FLOW VALVE
4	1	SITE GLASS
5	9	INTERNAL VALVE
6	3	TANK RELIEF VALVE
7	3	TURBINE PUMP
8	3	Y-STRAINER
9	8	ACME FITTINGS

**SFC**  
ENGINEERING  
183 ROCKINGHAM RD  
WINDHAM, NH 03087  
(603) 647-8700  
www.sfceng.com



ISSUED FOR:  
PERMIT

REVISIONS		
NO.	DESCRIPTION	DATE

CROWN ENERGY  
SUTTON, MA

PROPANE SYSTEM  
SCHEMATIC

PROJECT #: TBD  
DESIGNED BY: GPB  
DRAWN BY: GPB  
CHECKED BY: GVR  
DATE: 03/23/2023

SHEET NO.:

FX-001

SHEET 1 OF 1