DIVISION 13

SECTION 13200

FIREGUARD STEEL STORAGE TANK

PART 1 GENERAL

1.1 SCOPE OF SECTION

1.1.A. This section describes requirements for providing the equipment, labor and materials necessary to furnish and install a FIREGUARD PROTECTED petroleum storage tank system[s] utilizing a fire tested aboveground steel tank[s] with secondary containment.

1.1.B. Requirements include furnishing and installing all equipment and accessories necessary to make complete systems for the storage and dispensing of [list].

1.1.C. The following components shall be provided by the Owner and installed by the Contractor. [List if applicable]

1.2 GENERAL REQUIREMENTS

1.2.A. Unless otherwise specified, equipment furnished under this section shall be fabricated and installed in compliance with the instructions of the manufacturer.

1.2.B. The Contractor shall ensure that all equipment, accessories and installation materials comply with the specification and that adequate provision is made in the tank design and fabrication for mounting the specified system equipment and accessories.

1.2.C. The Contractor is solely responsible for construction means, methods, techniques, sequences and procedures and for safety precautions and programs.

1.2.D. The contractor shall provide all labor, equipment and material required to provide a complete and functional system.

1.2.E. To avoid delays in construction, the Contractor shall ensure that all components of the system are available at the time of installation.

1.2.F. The Contractor shall coordinate his work with other work being performed at the construction site and minimize interference with the Owner's normal activities which may continue during construction.

1.2.G. The Contractor shall obtain necessary permits, arrange for inspections and obtain approval of the appropriate Authority Having Jurisdiction over the work described.

1.3 DEFINITIONS

1.3.A. AGREEMENT consists of the conditions of the contract between the Owner and the Contractor, including referenced specifications, drawings and related documents.

1.3.B. AUTHORITY HAVING JURISDICTION is the [local fire marshal] [building official] [health department] [electrical inspector] [other] having statutory jurisdiction over the project.

1.3.C. CONSTRUCTION DOCUMENTS consist of the general and supplemental conditions, specifications, drawings, and any addenda issued prior to bidding.

1.3.D. CONTRACTOR is the person, firm, or corporation with whom Owner has entered into the Agreement.

1.3.E. FURNISH means the Contractor shall supply the item specified, at the job site, unloaded, and secured against damage, vandalism or theft.

1.3.F. INSTALL means the Contractor shall perform all work required to place the equipment specified in operation, including installation, testing, calibration, and start-up.

1.3.G. OWNER is the person or entity identified as such in the Agreement.

1.3.H. PRODUCT means the liquid stored in and dispensed from the tank.

1.3.I. PROVIDE means the Contractor shall Furnish and Install the equipment specified, and perform all work necessary to provide a complete and functional system.

1.3.J. SPOIL means all material removed by demolition or excavating.

1.3.K. SUBSTANTIAL COMPLETION is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently completed in accordance with the Contract Documents for the Owner to utilize the Work for its intended use.

1.3.L. WORK means all materials, equipment, construction and services required by the Contract, whether completed or partially completed.

1.4 STANDARDS

1.4.A. The manufacture and installation of aboveground storage tank systems described in this section shall adhere to the following standards and regulatory requirements:

1.4.A.1. Standard for Safety for Protected Aboveground Tanks for Flammable and combustible Liquids, UL-2085, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, Standard UL 142; Control Equipment for Use With Flammable Liquid Dispensing Devices, UL 1238; Pipe Connectors for Flammable and Combustible Liquids and LP-Gas, UL 567; Powered-operated Dispensing Devices for Petroleum Products, UL 87; Valves for Flammable Fluids, UL 842; UL Listed Non-Metal Pipe, UL 971; Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, Illinois 60062. (847) 272-8800.

1.4.A.2. Recommended Practices for Installation of Aboveground Storage Systems for Motor Vehicle Fueling, PEI/RP200; Recommended Practices for Installation and Testing of Vapor Recovery Systems at Vehicle Fueling Sites, PEI/RP300; Petroleum Equipment Institute, P.O. Box 2380, Tulsa, OK 74101.

1.4.A.3. Standard for Fireguard Thermally Insulated Aboveground Storage Tanks, F-941®, Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems, R892; Standard for Inspection of In-Service Shop Fabricated Aboveground Tanks for Storage of Combustible and Flammable Liquids, SP001-00, Steel Tank Institute, 570 Oakwood Road, Lake Zurich, IL 60047 (847) 438-8265.

1.4.A.4. Flammable and Combustible Liquids Code, NFPA 30, 1996, National Fire Protection Association

1.4.A.5. Automotive and Marine Service Station Code, NFPA 30A, 1996, National Fire Protection Association

1.4.A.6. National Electric Code, NFPA 70, 1993, National Fire Protection Association.

1.4.A.7. National Fire Prevention Code, 1994, Building Officials and Code Administrators

1.4.A.8. Standard Fire Prevention Code, 1995, Southern Building Code Congress International

1.4.A.9. Occupational Safety and Health Standards, particularly Flammable and Combustible Liquids, 29CFR 1910.106, Personal Protective Equipment 29CFR 1910 Subpart I, Excavations 29CFR 1926.650 Subpart P, U. S. Department of Labor, Occupational Safety and Health Administration (OSHA), Washington, D.C.

1.4.A.10. Clean Water Act and Oil Pollution Act of 1990, Spill Prevention, Control and Countermeasure (SPCC) Plans, 40 CFR 112, 113 and 114.

1.4.A.11. Uniform Building Code ...

1.4.A.12. Applicable state and local regulations and ordinances

1.4.B. In case of differences between building codes, state laws, local ordinances, utility company regulations, and contract documents, the most stringent shall govern.

1.4.C The codes and standards listed are the latest as of this publication. Codes and standards are continuously updated. The Contractor shall confirm the construction standard edition enforced by the authority having jurisdiction.

1.5 SUBMITTALS

1.5.A The Contractor shall provide one (1) set of shop drawings of the following system components for approval before commencing construction.

1.5.A.1. Shop drawings of the tank(s) by the tank manufacturer.

1.5.A.2. Assembly and installation drawings.

1.5.A.3. Other. [List]

1.5.B. The Contractor shall provide product data sheets and descriptive material for major components to be provided.

1.5.B.1. Tank coatings.

1.5.B.2. Pumps, valves and fittings.

1.5.B.3. Piping, venting equipment, leak detection equipment, and overfill prevention equipment.

1.5.B.4. Other system accessories. [List]

1.5.C. Submittals shall be delivered to the Engineer within [10 days] of notice to proceed. The Engineer shall review the drawings and return them to the Contractor approved, or with appropriate comments, within [14 days] of receipt.

1.6 CONSTRUCTION DOCUMENTATION

1.6.A. At contract close-out, the Contractor shall provide three (3) sets of the following installation instructions:

1.6.A.1. Tank(s)

1.6.A.2. Pumps, [dispensers], valves and fittings

1.6.A.3. Other [List]

1.6.B. The Contractor shall provide three (3) sets of manufacturers' system component operation and maintenance manual instructions.

1.6.C. The Contractor shall provide record ("as-built") drawings and photographs of the following:

1.6.C.1. All underground system components.

1.6.C.2. The completed tank system in place.

1.6.D. The Contractor shall provide copies of all testing and inspection reports to the Owner prior to substantial

completion.

1.7 GUARANTEES, WARRANTIES AND INSURANCE

1.7.A. The Contractor shall provide the following insurance [List type and limits]

1.7.B. The Contractor shall provide the following guarantees/warranties [List requirements]

1.7.C C. The Tank manufacturer shall provide a Third Party Steel Tank Institute 30 year Warranty. A manufacturer's warranty is not acceptable.

PART 2 EQUIPMENT

2.1 FIREGUARD PROTECTED ABOVEGROUND STORAGE TANK

2.1.A. Provide double wall Fireguard aboveground storage tank(s) for storage of (petroleum products) at near atmospheric pressure. Number and size(s) of tank(s) shall be as follows (exact dimensions vary between manufacturers; verify dimensions with manufacturer.

2.1.B. (1) 50,000 gallon capacity (nominal) tank for (petroleum) storage. Total tank dimensions to be (diameter, length) 144 in., 788 in.

2.1.C. Approved Manufacturers

2.1.C.1. General Industries, Inc., PO Box 1279, Goldsboro, NC 27533, Phone: 919-751-1791, Website: www.gitank.com

2.1.C.2. Approved Equal must be approved by engineer 30 days prior to bid date.

2.1.C.3. Manufacturer must have certified ISO 9001 Quality System in place 60 days prior to award.

2.2 Additional Information

2.2.A. The listed assembly shall meet the requirements for "fire protected" tank as defined by NFPA 30.

2.2.B. The tank shall consist of an inner steel wall and an outer steel wall with 3 inches of lightweight concrete insulation between the inner and outer tanks.

2.2.C. The inner and outer steel wall shall be UL 142 and UL 2085 construction capable of providing containment of the primary storage tank's content.

2.2.D. Concrete encased tanks or tanks with non-steel secondary containment materials will not be allowed.

2.2.E. Steel outer wall of the tank shall be coated to prolong weather resistance and to further reduce maintenance needs as per the following: SSPC-SP-6 blast, Zinc Epoxy primer at 2-3mils DFT and Urethane at 4-6mils DFT.

2.2.F. The storage tank and supports shall be delivered as a complete UL listed unit.

2.2.G. The storage tank and supports shall meet all Uniform Building Code requirements.

2.2.H. Tank(s) shall be designed for use aboveground and include integral secondary containment.

2.2.I. The [Contractor] [Owner] shall register each tank and serial number with Steel Tank Institute in accordance with instructions provided by the manufacturer with the tank.

2.2.J. Required emergency venting devices must be provided and installed by the tank manufacturer prior to shipment.

2.2.K. Provide an interstitial monitoring tube for monitoring the tank's interstice for liquids.

2.3 VENTING REQUIREMENTS

2.3.A. Provide one (1) normal atmospheric or pressure/vacuum vent for the primary tank(s).

2.3.A.1. Vents shall discharge upward or laterally, and be protected from intrusion of rain.

2.3.A.2. When applicable, tanks located in Stage II Vapor Recovery mandated air quality areas shall be provided with pressure/vacuum vents.

2.3.A.3. Vents for tanks containing Class 1 liquids shall terminate at least 12 feet above ground level and be located at least five feet from building openings.

2.3.A.4. Vent installation shall comply with applicable sections of the fire and mechanical codes, including, but not limited to, NFPA 30A (2-4.5.e) or NFPA 30 (2-3.5).

2.3.A.5. Accepted manufacturers and part numbers: [List]

2.3.B. Provide one (1) emergency vent for each primary tank or primary tank compartment.

2.3.B.1. Vent size shall be determined by the tank configuration, the primary tank capacity, and the product stored.

2.3.B.2. Emergency venting shall comply with provisions of NFPA 30A or NFPA 30.

2.3.B.3. Accepted manufacturers and part numbers: [List]

2.3.C. Provide one (1) emergency vent for each secondary containment tank interstice.

2.3.C.1. The venting capacity is determined by the tank configuration, secondary tank capacity, and the product stored.

2.3.C.2. Emergency venting shall comply with provisions of NFPA 30A, NFPA 30, and UL 142.

2.3.C.3. Vents shall be located as close to the center of the tank as possible.

2.3.C.4. Accepted manufacturers and part numbers: [List]

PART 3 EXECUTION

3.1 GENERAL

3.1.A. Familiarity with the Site.

3.1.A.1. Contractor shall familiarize himself with the location of all public utility facilities and structures that may be found in the vicinity of the construction.

3.1.A.2. The Contractor shall conduct his operation to avoid damage to the utilities or structures. Should any damage occur due to the Contractor's operations, repairs shall be made at the Contractor's expense in a manner acceptable to the Owner.

3.1.A.3. The Contractor is responsible for meeting all the requirements established by the agencies for utility work, as well as work affecting utilities and other government agencies.

3.2 SITE PREPARATION

3.2.A. The site shall be prepared to ensure adequate support for the tank system and drainage of surface water.

3.2.A.1. The foundation and tank supports shall be capable of supporting the weight of the tank and associated equipment when full.

3.2.A.2. The foundation may be comprised of concrete, asphalt, gravel or other stable material designed to prevent tank movement, and must be rated for the seismic zone noted in Section 2.1 A 8 for each tank.

3.3 TESTING

3.3.A. The Contractor is responsible for testing all installed systems for liquid tightness and proper operation.

3.3.B. Test each component of the system for calibration, tightness and proper operation in accordance with the instructions of the component manufacturer.

3.3.C. Testing shall be documented by the Contractor and witnessed by the Engineer.

END OF SECTION