



SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

**Keith Middle School
225 Hathaway Boulevard
New Bedford, Massachusetts**

Prepared for:

City of New Bedford

Prepared by:

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Updated July 2012

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1.0 SPCC (40 CFR Part 112) Cross Reference

In accordance with 40 CFR 112 Section 112.7, a summary of conformance with the Spill Prevention Control and Countermeasure (SPCC) Plan requirements set forth in 40 CFR Part 112 is provided in Table 1-1:

TABLE 1-1: SPCC (40 CFR 112) CROSS REFERENCE TABLE		
40 CFR Section	Requirement	Plan Section
112.3(a)	Preparation and Implementation of an SPCC Plan	5.0
112.3(d)	Professional Engineer Certification	3.0
112.3(e)	Availability of Plan	5.1
112.4 & 112.5	Amendments to Plan	4.0 & 6.0
112.4(a) & 112.7(a)(4)	Spill Reporting	8.11
112.5(b)	Review and Evaluation of Plan	4.0
112.7(a)(1) & (2)	Plan Conformance	1.0 & 7.0
112.7(a)(3)	Description of Facility and Physical Layout	8.0 and Figures 1 & 2
112.7(a)(3)(i)	Oil Types Per Container & Container Storage Capacity	8.5
112.7(a)(3)(ii)	Spill Prevention Measures	8.6
112.7(a)(3)(iii)	Secondary Containment Drainage Controls	10.0
112.7(a)(3)(iv) & (v)	Spill Countermeasures	8.8
112.7(a)(3)(vi)	Contact List and Phone Numbers	5.1 and Appendix A
112.7(a)(5)	Emergency Procedures	8.8
112.7(b)	Failure Discharge Volume and Flow Predictions	9.0
112.7(c)	Appropriate Containment/Diversionsary Structures	10.0
112.7(d)	Practicability of Secondary Containment	11.0
112.7(d)(2)	Written Commitment of Manpower	2.0
112.7(e)	Inspections, Tests, and Records	12.0
112.7(f)(1)	Employee Training	13.0
112.7(f)(2)	Designated Accountable Person	5.1
112.7(g)	Security	14.0
112.7(h)	Loading / Unloading	8.6.2 and 15.0
112.7(i)	Brittle Fracture Evaluation	16.0
112.7(j)	Conformance with Applicable Requirements	17.0
112.8(b) & 112.12(b)	Facility Drainage	18.0
112.8(c) & 112.12(c)	Bulk Storage Containers	19.0
112.8(c)(6) & 112.12(c)(6)	Integrity Testing	12.3
112.8(c)(11) & 112.12(c)(11)	Portable Oil Storage Containers	19.0
112.8(d) & 112.12(d)	Transfer Operations	20.0
112.20(e)	Certification of Substantial Harm Determination	2.0

2.0 Management Approval & SPCC Plan Review

Management Approval

The Keith Middle School is committed to the prevention of discharges of oil to navigable waters or the environment, and maintains the highest standards for spill prevention control and countermeasures through periodic review, updating, and implementation of this Spill Prevention Control and Countermeasure (SPCC) Plan in accordance with 40 CFR Part 122 and with applicable state and local requirements. The Keith Middle School will provide the manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Authorized Facility Representative: Deborah Brown

Signature: _____

Title: New Bedford Public Schools Business Manager

3.0 Professional Engineer Certification

The undersigned Registered Professional Engineer is familiar with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112) and has supervised an examination of Keith Middle School (the Facility) located at 225 Hathaway Boulevard, New Bedford, Massachusetts. The undersigned Registered Professional Engineer attests that this Spill Prevention Control and Countermeasure Plan has been prepared in accordance with good engineering practices including applicable industry standards, and in accordance with the requirements of Chapter 40 of the Code of Federal Regulations Part 112 (40 CFR 112); that procedures have been established for required inspections and testing; and that the Plan is adequate for the Facility.

Dennis G. Tuttle
Signature

PE Engineering Seal:

Dennis G. Tuttle
Name of Professional Engineer



TRC Environmental Corporation
Company

11 July 2012
Certification Date

29248
P.E. Registration Number

Massachusetts
P.E. Registration State

4.0 Facility Modification / 5-Year Management Review

If there is a change in the Facility design, construction, operation, or maintenance which materially affects the Facility's potential for the discharge of oil into or upon the navigable waters of the United States or adjoining shorelines, Keith Middle School will amend the Spill Prevention, Control, and Countermeasure Plan within six months of the change and the amendment(s) to the SPCC Plan will be implemented as soon as possible, but not later than six months after preparation of any amendment(s).

A review and evaluation of this SPCC Plan must be conducted at least once every five (5) years. As a result of this review and evaluation, Keith Middle School will amend the SPCC Plan within six months of the review to include more effective prevention and control technology if: (1) such technology will significantly reduce the likelihood of a spill event from the Facility, and (2) if such technology has been field-proven at the time of review. The amendments to the SPCC Plan will be implemented as soon as possible, but not later than six months after preparation of any amendment.

Any technical amendment to the SPCC Plan shall be certified by a Professional Engineer.

<u>Review Date</u>	<u>Reason</u>	<u>Signature</u>	<u>Amendment Required?</u> <u>(Y/N)</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

FACILITY OWNER/ OPERATOR REVIEW

I have completed a five-year review and evaluation of the SPCC Plan for Keith Middle School at 225 Hathaway Boulevard and **will / will not** amend the plan as a result.

Signature Title Date

5.0 Introduction

5.1 Purpose

The purpose of this Spill Prevention Control and Countermeasure (SPCC) Plan is to prevent oil spills from occurring, and to perform safe, efficient and timely response in the event of a spill or leak (both referred to as "spills" herein). In accordance with United States Environmental Protection Agency (EPA) Oil Pollution Prevention regulations (40 CFR 112), Keith Middle School located at 225 Hathaway Boulevard, New Bedford, Massachusetts (the Facility) must prepare and implement an SPCC Plan for facilities that could reasonably be expected to discharge oil into or upon navigable waters or adjoining shorelines; and, that meet one of the following conditions:

- Above-ground oil storage capacity (not including the volume stored in containers with less than 55 gallons of capacity) exceeds 1,320 gallons; or
- Underground oil storage capacity exceeds 42,000 gallons, unless the underground tanks are subject to all of the technical requirements of 40 CFR 280 or a state program approved under 40 CFR 281.

As defined by 40 CFR Part 112, "oil" includes all grades of motor oil, hydraulic oil, lube oil, fuel oil, gasoline and diesel fuel, automatic transmission fluid, waste oil, and transformer mineral oil. The definition of oil also includes non-petroleum oils such as animal or vegetable oils and synthetic oils. This SPCC Plan is required due to the 12,000-gallon, above-ground storage tank (AST) for No.2 fuel oil at Keith Middle School.

Contact information for Keith Middle School is as follows:

TABLE 5-1: CONTACT INFORMATION		
Name	Title	Phone
Deborah Brown	New Bedford Public Schools Business Manager	(508) 997-4511 x3258
Michael Medeiros	Acting Assistant Facilities Manager	(774) 930-8687 (mobile) or (508) 997-4511 x2296 (office)
Gary Gomes	Keith Middle School Plant Engineer <i>(Designated Accountable Person)</i>	(508) 910-0900 x 2046

A hard-copy for this SPCC shall be maintained in Keith Middle School's Plant Engineer office.

5.2 Using the Plan

In addition to satisfying a regulatory requirement, this SPCC Plan should be a working document that is used frequently in the following ways:

- As a reference for Facility oil storage and containment system information.
- As a tool for informing new Facility employees and refreshing existing Facility employees on practices for preventing and responding to spills.
- As a guide to periodic training programs for Facility employees.

- As a guide to Facility inspections.
- As a resource during an emergency response.

6.0 SPCC Plan Revisions

The Keith Middle School must revise this SPCC Plan for any change in the Facility design, construction, operation, or maintenance that affects the Facility's potential for discharging oil. Revisions must occur as soon as possible, but no later than six (6) months after the change occurs. The New Bedford Public Schools Business Manager is responsible for initiating and coordinating such revisions.

Additionally, this SPCC Plan must be reviewed at least once every five (5) years. Revisions to the plan, if any, must be made within six (6) months of the review. Facility information related to the SPCC Plan must be submitted to the United States Environmental Protection Agency (EPA) Regional Administrator whenever the Facility discharges more than 1,000 gallons in a single event, or discharges more than 42 gallons of oil in each of two spill events within a 12-month period (40 CFR 112.4).

7.0 Facility Conformance

This SPCC Plan has been prepared to be in compliance with 40 CFR 112 Subpart A “Applicability, Definitions, General Requirements for All Facilities and All Types of Oil” and 40 CFR 112 Subpart B “Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (including Oils from Seeds, Nuts, Fruits, and Kernels)”, and good engineering practices. Table 1-1, provided in Section 1.0, provides a cross-reference to applicable requirements.

In addition to applicable requirements under 40 CFR Part 112, the Commonwealth of Massachusetts has established more stringent requirements for preventing, controlling, and/or reporting oil product spills or discharges as defined in 310 CMR 40.0300. These are detailed in Section 8.8.

8.0 Facility Layout [112.7(a)(3)]

8.1 General Information

The Facility is situated at an approximate latitude 41° 38' 45" North and longitude 70° 57' 01" West (See Figure 1), and has an elevation of approximately 120 feet above mean sea level (MSL). Surrounding land usage is residential, light commercial and additional City of New Bedford school use. The topography is generally level. Environmentally sensitive receptors include a wetland area on and adjacent to the western portion of the school.

The Keith Middle School is a school for 6th, 7th, and 8th grade students. Active buildings of the facility are identified on Figure 2, the Site Plan.

8.2 Existing Facility Conditions and Oil Containers

The Keith Middle School stores petroleum in one 12,000-gallon AST in the western portion of the Facility. The type of oil stored at the Facility is No. 2 fuel oil. The fuel oil serves as a backup fuel for building heating.

The public ways surrounding the Facility are served by a combined sewer system (storm water and sanitary). Most surface runoff that exits the Facility discharges into catch basins on the Facility and into the surrounding streets that are connected to this system. Along the northern, western, and southern perimeters, a concrete mow wall approximately 1 to 6 inches high is located between the Facility and the wetland which generally serves to direct runoff to the Facility drainage system. A small portion of the runoff, principally outside the concrete mow wall, flows over the land surface to the wetland to the west and north of the school building.

8.3 Spill History

There is no record of oil spills at the Facility in the last five years. The Facility is within the boundary of a waste site unrelated to the AST that is being remediated pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000).

8.4 Waterways

The nearest body of water to the AST is a wetland on and adjacent to the Facility property and located approximately 25 feet west of the AST.

8.5 Type of Oil and Container Description

A 12,000-gallon AST provides No. 2 fuel oil for heating of the school building. This AST is a Highland double-walled, carbon steel AST with an overfill protector (sometimes referred to as the spill bucket) and associated overfill chamber (see details provided in Appendix G). The AST is compatible with the storage of No. 2 fuel oil at the typical storage temperatures and pressures. The AST is equipped with an interstitial monitoring capability and a high level alarm for primary tank contents.

8.6 Discharge Prevention Measures

8.6.1 Discharge Prevention Equipment

The Facility AST is a double-walled steel AST with an overfill prevention system. The outer wall of the AST would contain a leak from the primary (inner) tank. The interstitial space between the inner and outer walls can be monitored to determine if there is a leak in the primary tank. The overfill protection system includes a chamber to collect up to 20 percent of the tank storage volume in the event of overfilling during tank filling operations. The AST is equipped with a visual and audible high level alarm to alert the delivery person of a high level condition in the tank. The AST sits atop a concrete slab and ground surface in the vicinity of the tank is covered with stone rip rap; these surficial features do not serve as a secondary containment area.

8.6.2 Petroleum Discharge Prevention Procedures

The most likely time for a major release is during the filling of the AST. Therefore, the Facility will inform their fuel supplier of the following required protocols to be followed at each fuel delivery:

- The driver of the fuel delivery truck will notify a designated Keith Middle School employee upon arrival at the Facility;
- The designated Keith Middle School employee will place temporary catch basin covers over the two nearby catch basin (75 feet to the south and 35 feet to the north);

- The fuel supplier shall not begin to fill the AST until the following procedures have been completed:
 - confirm the volume of fuel in the tank.
 - verify the proper functioning of the tank's high level alarm,
 - obtain the fill port key from the designated Keith Middle School representative, and
 - verify that sufficient spill response equipment is available on the delivery truck and/or at a nearby location at the Facility.
- The driver of the fuel delivery truck shall chock delivery truck wheels;
- The driver of the fuel delivery truck shall remain at the truck pumping controls during the entire time that fuel is being pumped;
- The driver of the fuel delivery truck shall not remove wheel chocks until oil transfer lines are removed from the ASTs and,
- A Keith Middle School employee will be present during filling.

The designated Keith Middle School employee will remove the temporary catch basin covers after the fuel delivery truck has completed filling and departed from the area of the AST.

8.7 Discharge Controls

The area immediately surrounding the AST is covered with stone rip rap. During the filling of the AST, the activity that presents the highest risk for discharge, a discharge to the storm drain system will be prevented by the temporary sealing of the appropriate catch basin by a reusable liquid tight cover (Refer to Section 8.6). Careful execution and observation of filling activities and the presence of the concrete mow curb between the AST and the wetland will likely prevent a potential release to the adjacent wetland area.

Storm water cannot collect in the interstitial space of the double-walled AST, therefore there is no procedure for discharging storm water from secondary containment.

8.8 Discharge Countermeasures

This section describes the cleanup response and protocols to follow in the event of an oil spill. The uncontrolled discharge of oil to groundwater, surface water, or soil is prohibited by State and Federal laws. It is imperative that action be taken to respond to a spill once it has occurred. Depending on the volume and characteristics of the material released, the Facility has defined spill response as either a "Minor Spill Response" or a "Major Spill Response" ("Spill Emergency"). A list of Emergency Contacts is included in Appendix A.

As soon as knowledge is obtained of a release or threat of release of oil, as described in 310 CMR 40.0310 - 0317, any owner or operator of a site must immediately notify the Massachusetts Department of Environmental Protection (MassDEP). The reportable quantity for petroleum-based oil or petroleum hydrocarbons is ten gallons; however, if certain conditions (described in 310 CMR 40.0300) apply, then notification is required regardless of the quantity released.

The MassDEP must be notified within two hours of knowledge of a release for the following:

- A sudden, continuous, or intermittent release to the environment of fuel oil greater than or equal to 10 gallons (or likely to be greater than or equal to 10 gallons) and the release likely occurred within any 24 hour period,
- A sudden continuous or intermittent release to the environment of any quantity of oil or waste oil that results in a sheen on surface water, and
- Any release of oil that is indirectly discharge to the environment by means of discharge to a storm water drainage system.

8.8.1 *Minor Spill Response*

A “Minor Spill Response” is defined as one that poses no significant harm to human health or the environment. These spills involve generally less than ten gallons and can usually be cleaned up by Facility or delivery truck personnel. Other characteristics of a minor spill include the following:

- Spilled material is easily stopped or controlled at the time of the spill;
- Spill is localized;
- Spilled material is not likely to reach surface water or groundwater;
- There is little danger to human health; and
- There is little danger of fire or explosion.

In the event of a minor spill the following guidelines shall apply:

- Immediately notify the senior on-site person (i.e., Plant Engineer or Custodial Shift Supervisor).
- Under the direction of a senior on-site person, contain the spill with spill response materials and equipment.
- Place spill debris in properly labeled waste containers.
- Complete the Spill Notification Form (Appendix B) and send to the Acting Assistant Facilities Manager.
- If the spill amount is greater than ten gallons, results in a sheen on surface water, or impacts a storm water drainage system, then MassDEP (1-888-304-1133) must be notified within two hours. To the extent possible, gather the information listed in Section 8.11, below and provide the information to the MassDEP and/or National Response Center (NRC). Document the telephone calls on the *Spill Notification Form* in Appendix B.

8.8.2 *Major Spill Response (Spill Emergency)*

A “Spill Emergency” is defined as one involving a spill that cannot be safely controlled or cleaned up by Facility or delivery truck personnel. Characteristics include the following:

- Spill is large enough to spread beyond the immediate spill area;
- Spilled material enters surface water or groundwater (regardless of spill size);
- Spill requires special training and equipment to cleanup;
- Spilled material is dangerous to human health; and
- There is a potential danger of fire or explosion.

In the event of a spill emergency, the most senior on-site Facility employee shall assume responsibility for the implementation of the following guidelines:

- All workers shall immediately evacuate the spill site and move to a safe distance away from the spill.
- A senior on-site person shall call for medical assistance if workers are injured (no worker shall engage in rescue operations unless they have been properly trained and equipped).
- Notify the local Fire Department or Police Department (911).
- Call the MassDEP (1-888-304-1133) within two hours and the National Response Center (NRC) (1-800-424-8802) as soon as possible. To the extent possible, gather the information listed in Section 8.11 below and provide the information to the MassDEP/NRC. Document the telephone calls on the *Spill Notification Form* in Appendix B.
- A senior on-site person shall contact the New Bedford Public Schools Business Manager and provide details regarding the spill.
- The New Bedford Public Schools Business Manager or designated employee will coordinate cleanup and seek assistance from a Licensed Site Professional and cleanup contractor as necessary.

8.9 Spill Material Disposal

Wastes resulting from a spill response will be containerized in impervious bags, drums or buckets. The waste will be removed from the Facility by a licensed waste hauler under manifest or Bill of Lading as required.

8.10 Contact List and Phone Numbers

The EPA has established requirements to report spills to navigable waters or adjoining shorelines. Specifically, EPA requires persons in charge of facilities that discharge oil in quantities that may be harmful to public health or welfare, or to the environment, to report the spill to the federal government. EPA has determined that discharges of oil in quantities that may be harmful include those that;

- Violate applicable water quality standards;
- Cause a film or "sheen" upon, or discoloration of the surface of the water or adjoining shorelines; or
- Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The requirement for reporting oil spills stems from EPA's Discharge of Oil regulation, which has come to be known as the "sheen rule." Under this regulation, reporting oil spills to the federal government does not depend on the specific amount of oil spilled, but instead relies on the presence of a visible sheen created by the spilled oil.

In the event of a discharge of oil, the personnel listed on the emergency contact list provided in Appendix A shall be notified.

8.11 Spill Reporting Information

In the event of a minor spill, a senior on-site person shall notify the Facility Superintendent and complete a written *Spill Notification Form* (Appendix B). This form details the time, material, and quantity of oil released.

In the event of a major spill, a senior on-site person shall immediately contact the MassDEP (1-888-304-1133) and the NRC (1-800-424-8802). To the extent possible, gather the information listed in Section 4.8, below and provide the information to the MassDEP/NRC.

- Your name, location, organization, and telephone number;
- Name and address of the party responsible for the incident;
- Date and time of the incident;
- Location of the incident;
- Source and cause of the release or spill;
- Types of material(s) released or spilled;
- Description of all affected media;
- Quantity of materials released or spilled;
- Danger or threat posed by the release or spill;
- Damages and number and types of injuries (if any);
- Whether an evacuation is needed;
- Description of response actions being taken; and,
- Any other information that may help emergency personnel respond to the incident.

If a single spill of 1,000-gallons or greater occurs at this Facility, or two discharges of 42 gallons or more within a 12-month period, the Acting Assistant Facilities Manager shall, in addition to the notification procedures above, provide written information to the EPA Regional Administrator as required by section 112.4 of the SPCC Plan rules.

Spill Notification Forms

After making the appropriate phone calls and the spill is contained, a *Spill Notification Form*, included in Appendix B, shall be completed and submitted to the Acting Assistant Facilities Manager. The *Spill Notification Form* includes a checklist to document the proper notification of state and federal agencies. The form shall be maintained as long Keith Middle School owns and/or operates the Facility.

The EPA and Coast Guard (USCG) administer Area Plans for spill contingency response by region throughout the United States. The USCG covers coastal areas, and EPA covers inland areas. In a major spill event, contacting the NRC hotline will trigger assistance from the appropriate agency.

9.0 Spill Direction and Flow Rates

A minor release during filling of the AST would likely be contained on the concrete pad directly beneath the AST or within the stone rip-rap surrounding the AST. A major release during filling or catastrophic failure of the AST or tanker truck could cause petroleum to flow into either two catch basins and/or into the wetland area west of the AST. The catch basins are approximately 75 feet south

of the AST and 35 feet north of the AST (Refer to Figure 2). These catch basins are connected to the New Bedford municipal combined sewer system. The presence of the stone rip-rap and concrete curbing would mitigate some of the flow of petroleum from the AST to the wetlands area.

The rate of flow of oil product released during a spill event depends on the failure mode. The following release scenarios are reasonable to consider:

TABLE 9-1: SPILL PATHWAYS			
Storage Tank	Type of Reasonable Failure	Rate of Oil Product Released	Direction of Flow/Containment
12,000-gallon fuel oil AST	Overfilling of primary tank	< 50 gallons per minute	Contained in the overfill protection chamber of AST (2,448 gallon capacity)
12,000-gallon fuel oil AST	Failure of transfer hose to AST during truck unloading	< 50 gallons per minute	To roadway pavement or stone rip rap area around AST. Would flow towards two catch basins that are covered during tank filling operations
12,000-gallon fuel oil AST	Failure of transfer piping between AST and building	< 20 gallons per minute	Contained in double walled corrosion resistant buried piping
12,000-gallon fuel oil AST	Failure of primary tank	Gradual or instantaneous	Contained in the secondary (outer) steel tank

10.0 Facility Containment and Diversionsary Structures

The AST is a double-walled steel AST equipped with an overfill protection system (Veeder-Root), and underground piping between the AST and the school building is double walled (refer to table in Section 9.0). Thus, leakage from the primary tank or piping would be fully contained in the secondary tank or piping. As stated above, the stone rip-rap and curbing around the AST would provide additional containment in the event of a major release. The rip-rap would not prevent a discharge to the subsurface but could mitigate the flow of oil to the catch basins and/or the adjacent wetlands area.

11.0 Spill Structures Not-Practical

The Facility has provided oil spill containment in compliance with 40 CFR 112.7(c); therefore, no discussion of the impracticability of such installation is required. Facility containment and diversionsary structures were discussed in Sections 9.0 and 10.0.

12.0 Inspections, Tests, and Records

The personnel at the Facility shall perform testing, inspection, and maintenance of all petroleum equipment to keep it performing in an efficient and environmentally sound manner. The tests and inspections shall be performed as discussed in the following subsections.

12.1 Inspecting ASTs

Facility personnel periodically observe the AST during operating hours. The AST will be inspected monthly, and the results shall be recorded on the *Aboveground Storage Tank Monthly Inspection Form*

(Appendix C). Inspections will include observations of the exterior of the tank for signs of deterioration or spills (leaks), observations of the tank foundation and supports for signs of instability, observation of interstitial spaces in double-walled AST, and observations of the vent, fill and discharge pipes for signs of poor connection that could cause a spill.

The spill response kit kept on site in the boiler room shall also be checked during the monthly AST inspection, and restocked as necessary. Refer to Appendix D for a list of recommended spill supplies.

12.2 Tank Maintenance

Regular tank maintenance on the AST will be performed in accordance with the manufacturer's recommendations. Maintenance items include visual inspections for leaks, corrosion or wear; replacing dispenser filters; manually check emergency relief valve; pump and electrical system maintenance, etc. All petroleum tank and piping problems shall be immediately reported to the Acting Assistant Facilities Manager. Visible oil spills (leaks) that cause a loss of oil from tank walls, piping or other components shall be repaired or replaced as soon as possible to prevent the potential for a major spill from the source. This is especially important for sources located outside or near drains or catch basins that discharge to the environment.

12.3 Tank Testing

In accordance with EPA's 2005 SPCC Guidance for Regional Inspectors Section 7.3.3 and 7.3.4 Scenario 3, the Facility will not conduct periodic integrity testing of the ASTs. The monthly inspection of the exterior of all the ASTs, including the visible underside, shall suffice to detect any leaks from the AST secondary containment. Leakage from the primary (inner) tank would be detected by interstitial space monitoring for the presence of water or oil utilizing the Veeder-Root monitoring system.

12.4 Tank Records

The monthly inspection records shall be maintained for at least three (3) years in Appendix H of this Plan.

13.0 Personnel, Training, and Discharge Prevention

Facility employees are trained to implement spill prevention practices for work with and around oil sources. Facility personnel shall use common sense and rely on spill prevention practices at all times to minimize the potential for a release of oil.

For example, the following "common sense" practices are recommended:

- Keep container lids securely fastened at all times;
- Do not leave portable sources unattended (outside);
- Return portable sources to their storage location after use;
- Use pads, drip pans, and funnels when transferring petroleum products from a portable container;
- Protect oil sources from damage by moving equipment;
- Do not store oil sources near catch basins or floor drains; and
- Loading and unloading of petroleum products shall be attended at all times.

Spill prevention during oil deliveries (offloading) is the primary responsibility of the supplier until the product is safely in the AST. The Facility Superintendent or designee will observe deliveries to the Facility for all suppliers. Delivery observations are discussed in Section 8.6.

The Facility shall provide SPCC spill training for any personnel that may be involved with handling petroleum products. The Acting Assistant Facilities Manager or a designated employee shall arrange for annual Facility employee training, which shall include the following training topics:

- Introduction to pollution control laws;
- General Facility operations;
- Rules and regulations pertaining to the use and storage of petroleum products;
- Inspection, operation and maintenance of spill equipment, and petroleum storage and dispensing equipment;
- Spill response and cleanup;
- Spill notification and record keeping;
- Spill prevention practices; and
- Identification of designated spill prevention employee.

13.1 Training Documentation

The annual SPCC training shall be documented to include the instructor's name, course outline, date and duration of training, attendant's names and signatures, and corrective action list for areas in need of improvement, if any. This information shall be filed and maintained for at least three years at the office of the Acting Assistant Facilities Manager. A Certificate of Training shall be presented to each Facility employee that has completed the training. The Acting Assistant Facilities Manager shall file a copy of this certificate in the employee's file.

14.0 Security

Although the Facility is not surrounded by fencing, the Facility's AST is not considered to be in danger of vandalism and tampering. The fill access for the AST shall remain locked at all times to prevent improper filling of the AST. The AST is not equipped with drain valves so inadvertent discharge from the secondary containment is not possible. The Facility provides its own security program including lighting in the AST vicinity (see Figure 2 for light poles (designated LP on figure)).

15.0 Facility Tank Truck Loading & Unloading

Refer to Sections 8.6.2 and 10.0 for discussions of tank truck unloading procedures and containment and diversionary structures.

16.0 Brittle Fracture Evaluation

The ASTs covered by this SPCC plan are "shop-built" tanks that have not undergone any repair, alteration, reconstruction, or change in service. Therefore, a Brittle Fracture Evaluation is not required as part of this SPCC Plan.

17.0 Conformance with Applicable Requirements

Oil storage in Massachusetts is governed by the Federal Oil Pollution Control Regulations (40 CFR Part 112), the State's Oil Pollution Control Regulations, and the Massachusetts Fire Prevention Regulations. These regulations are intended to provide a means to ensure protection of the environment. In addition to the oil pollution and fire prevention regulations, the Flammable and Combustible Liquid Code published by the National Fire Protection Association (Ref. No. 30) establishes above-ground storage facility design and installation guidelines that are intended to ensure public safety. The AST oil storage at the Facility, as described above, conforms to these regulations and guidelines.

18.0 Facility Drainage

The topography of the Facility is generally flat with a slight slope down to the north. Localized surface runoff in paved areas generally flows towards storm water catch basins, while surface runoff in non-paved areas near the AST would flow to the west into the adjacent wetland.

The Facility is provided with a storm drainage system consisting of catch basins in the driveways surrounding the Facility. The nearest catch basins to the AST are approximately 75 feet south of the AST and 35 feet north of the AST.

19.0 Bulk Storage Container Requirements

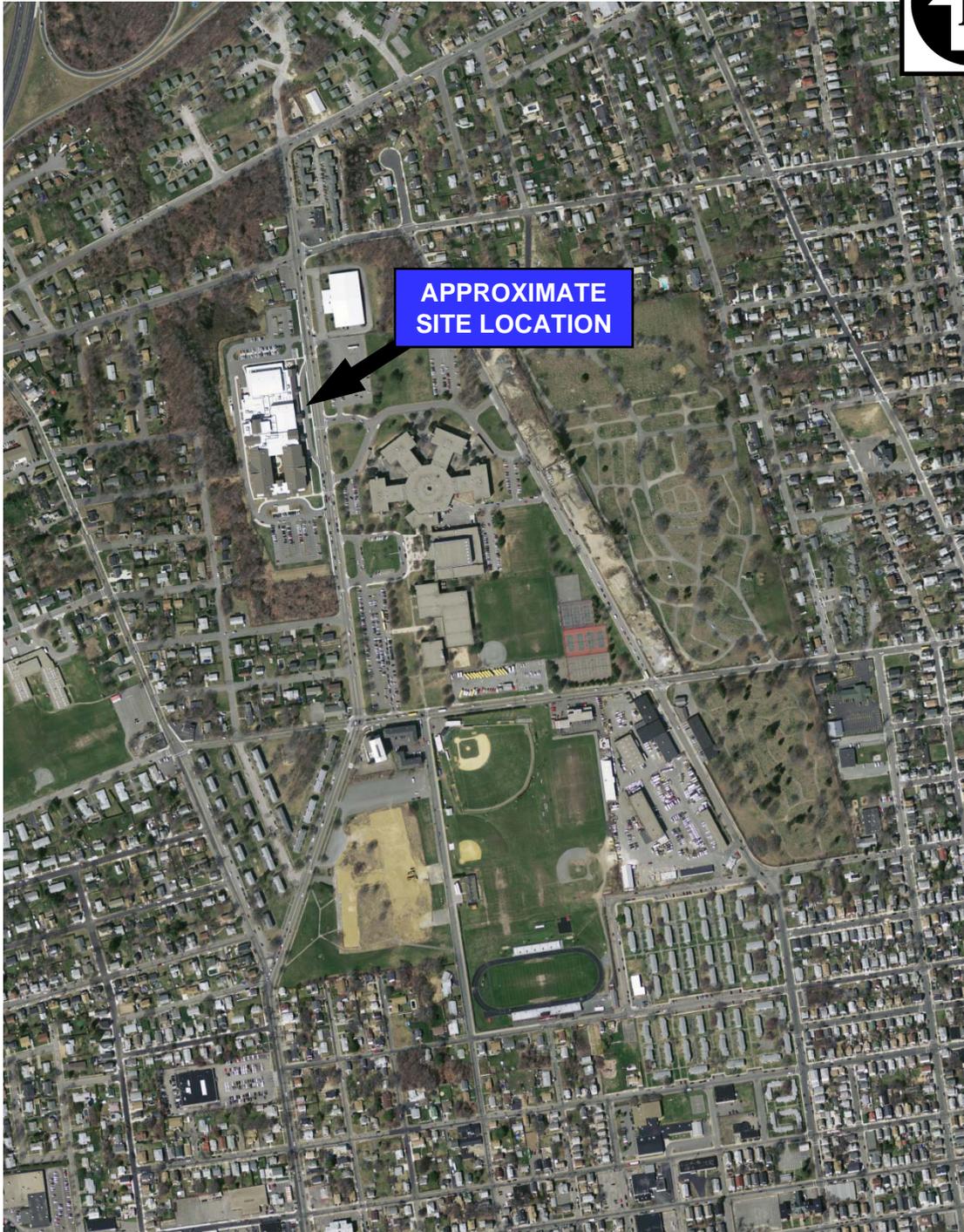
The requirements of 40 CFR 112.8(c) have either been addressed in previous sections of this plan, or do not apply to the Site. The following either provides a section reference or an explanation of the non-applicability of each subsection of 40 CFR 112.8(c).

- 40 CFR 112.8(c)(1): Refer to Section 8.5
- 40 CFR 112.8(c)(2): Refer to Section 10.0
- 40 CFR 112.8(c)(3): Refer to Section 8.7
- 40 CFR 112.8(c)(4) and (5): Not applicable since there are no buried, partially buried or bunkered metallic tanks at the Facility
- 40 CFR 112.8(c)(6): Refer to Section 12.0
- 40 CFR 112.8(c)(7): Not applicable since no tanks at the Facility have heating coils
- 40 CFR 112.8(c)(8): Refer to Section 8.5
- 40 CFR 112.8(c)(9): Not applicable since there are no effluent treatment systems at the Facility
- 40 CFR 112.8(c)(10): Refer to Section 12.1 and 12.2 8.7
- 40 CFR 112.8(c)(11): Not applicable since no mobile or portable containers are used.

20.0 Facility Transfer Operations, Pumping, and Facility Process

The majority of piping and ancillary equipment are situated completely above ground and therefore do not require corrosion protection. The return and feed lines are situated underground in double-walled corrosion resistant piping. All pipe supports have been properly designed to minimize abrasion and corrosion and to allow for expansion and contraction.

FIGURES



SOURCE: MASSGIS 2009

0 500 1000 1500



APPROXIMATE SCALE IN FEET



MAP
LOCATION

**KEITH MIDDLE SCHOOL
NEW BEDFORD, MASSACHUSETTS**

SITE LOCATION MAP



Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
978-970-5600

**FIGURE
1**

Drawn: HWB

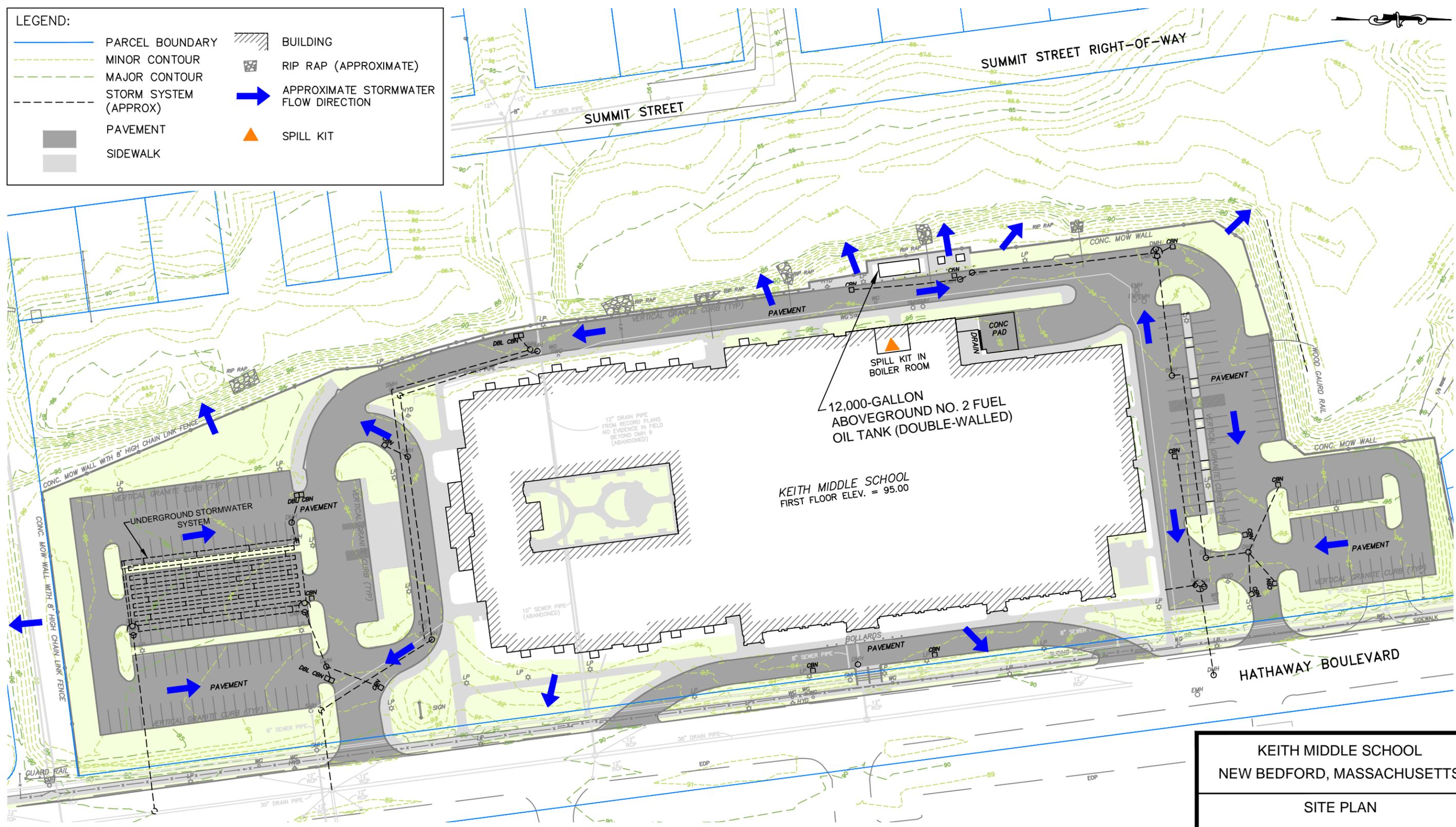
SCALE: AS SHOWN

Checked: SB

Date: APRIL 2012

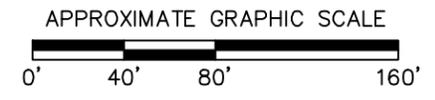
LEGEND:

- PARCEL BOUNDARY
- MINOR CONTOUR
- MAJOR CONTOUR
- STORM SYSTEM (APPROX)
- PAVEMENT
- SIDEWALK
- BUILDING
- RIP RAP (APPROXIMATE)
- APPROXIMATE STORMWATER FLOW DIRECTION
- SPILL KIT



FILE: T:\E-CAD\115058\KMS SITE PLAN APR 2012.dwg

NOTE: DRAWING BASED ON "McCOY FIELD SITE PLAN" FROM BETA GROUP, NORWOOD, MA DATED 6-04 AND "AS-BUILT PLAN OF LAND" FROM LAND PLANNING, BELLINGHAM, MA DATED 12-06.



<p>KEITH MIDDLE SCHOOL NEW BEDFORD, MASSACHUSETTS</p>	
<p>SITE PLAN</p>	
<p>Wannalancit Mills 650 Suffolk Street Lowell, MA 01854 (978) 970-5600</p>	
<p>DRAWN BY: HWB CHECKED BY: NSB</p>	<p>DATE: APR 2012</p>
<p>FIGURE 2</p>	

APPENDIX A

Emergency Contacts

Emergency Contacts

Spill Reporting Hotlines

Agency	Telephone #
Massachusetts Department of Environmental Protection	1-888-304-1133
National Response Center USCG/USEPA	1-800-424-8802

Local Emergency Agencies

Agency	Telephone #
New Bedford Fire Department	911
New Bedford Police Department	911

Other Contacts

Agency	Telephone #
DIGSAFE	1-888-344-7233

Hospital

Agency	Telephone #
St. Luke's Hospital, 101 Page Street, New Bedford, MA	1-508-997-1515

Facility Emergency Contacts

	Title	Phone
Deborah Brown	Business Manager	(508) 997-4511 x3258
Michael Medeiros	Acting Assistant Facilities Manager	(774) 930-8687 (mobile) or (508) 997-4511 x2296 (office)
Gary Gomes	Keith Middle School Plant Engineer <i>(Designated Accountable Person)</i>	(508) 910-0900 x 2046

APPENDIX B

Spill Notification Form

Spill Notification Form

Part A: Basic Spill Data		
Facility Name & Location: City of New Bedford Keith Middle School 225 Hathaway Boulevard New Bedford, Massachusetts	Release to: <input type="checkbox"/> air <input type="checkbox"/> water <input type="checkbox"/> ocean <input type="checkbox"/> well <input type="checkbox"/> soil <input type="checkbox"/> sewer <input type="checkbox"/> containment <input type="checkbox"/> other _____	
Owner / Company Name: City of New Bedford	Telephone: Facility: (508) 997-4511	
Type of Spilled Substance:	Notification Person:	
Quantity Released:	Spill Date and Time:	
Location of Spill:	Discovery Date and Time:	
Source:	Cause:	
Nature of spill and any environmental or health effects:		
<input type="checkbox"/> Injuries <input type="checkbox"/> Fatalities		
Response Actions Being Taken:		
Part B: Notification Checklist		
	Notification Date and Time	Name of Person that Received Call
New Bedford Fire Department		
New Bedford Police		
School Business Manager		
Department of Environmental Protection		
National Response Center		
Spill Cleanup Contractor		

Send a copy of this form to the School Business Manager.

This form shall be filed and maintained as long as the Keith Middle School owns and/or operates the Facility.

APPENDIX C

Above-Ground Storage Tank Monthly Inspection Form

ABOVE-GROUND STORAGE TANK MONTHLY INSPECTION FORM

Date: _____ **Time:** _____ **Inspection by:** _____

A. Inspect exterior surfaces for signs of leaks or equipment or maintenance deficiencies

- 1. Surface of tank _____
- 2. Pipes and Valves and Filler _____
- 3. Spill containment bucket _____
- 4. Pump _____
- 5. Hose _____
- 6. Maintenance deficiencies _____
- 7. Equipment deficiencies _____

B. Inspect the interstitial space between the double-walled tank

- 1. Monitor the interstitial space for water and/or petroleum _____

C. Identify areas of wear, cracks or corrosion

- 1. Cracks _____
- 2. Areas of wear _____
- 3. Corrosion _____
- 4. Thinning of Metal _____
- 5. Settlement of Structure _____
- 6. Separation or swelling of tank _____
- 7. Malfunction of Equipment _____
- 8. Structural Weakness _____
- 9. Foundation Weakness _____
- 10. Posted gallons of Tank _____
- 11. Posted No Smoking Sign Corrective Actions Taken:

Corrective Actions Taken: _____

APPENDIX D

Spill Response Kit List

APPENDIX E

Employee Training Log

APPENDIX F

SPCC Action List

SPCC Action List

The following is a summary of action items to be conducted weekly, monthly, or yearly to remain in compliance with this SPCC plan and EPA requirements.

Monthly Action Items

- Inspection of Above-ground Storage Tanks (ASTs) and piping for evidence of leaks and spills
- Inspection of spill kits

Yearly Action Items

- Review of SPCC Plan for changes
- Refresher SPCC training for existing employees
- SPCC Training for new employees

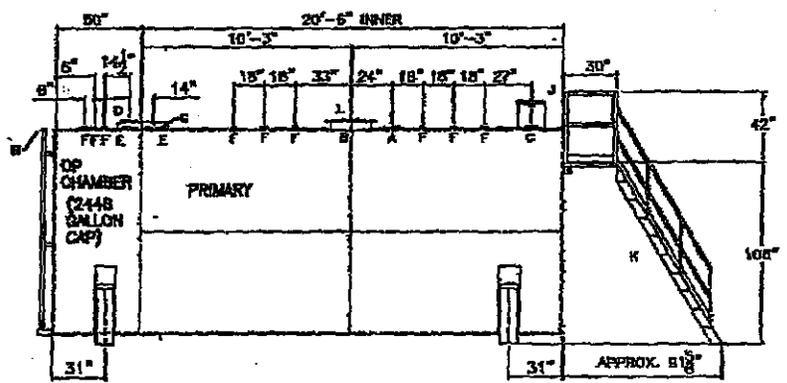
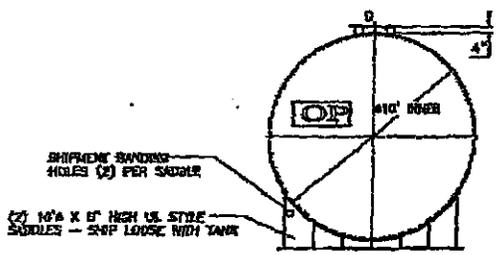
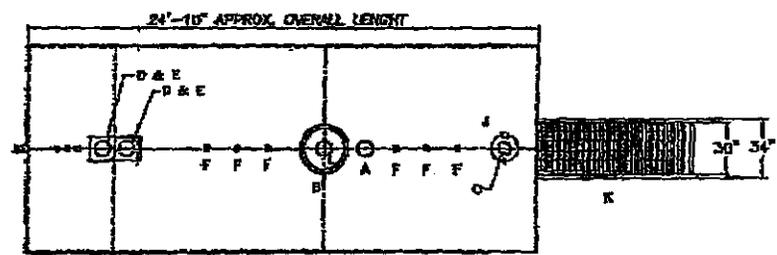
Record Keeping

- AST Monthly Inspection reports should be kept on file for at least three (3) years.

APPENDIX G

Tank Information

IF ALL POINTS EXCEPT THE
 MARK MUST NOT BE REPRODUCED
 ANY FORM SHOWING THE WIDTH
 DIMENSION OF TANK
 PLANT TANK SHALL BE REPRODUCED
 BY THE USER ACCORDING TO THE
 LOCATION SHOWN IN THIS
 DRAWING UNLESS OTHERWISE
 INDICATED OTHERWISE IN THIS
 DRAWING OF FITTING, ACCESSORIES
 & OTHERS SHOWN ON THIS DRAWING



SPECIFICATIONS		FITTING LEGEND				
CAPACITY - 12,000 GALLONS		A	6" FITTINGS THROUGH OUTER SHELL ONLY - MARK WITH LABEL - INTERSTITIAL EMERGENCY VENT USE	F	4" FITTING	12,000 GAL 10" AH DW TANK CUSTOMER: JOHN W. KENNEDY CO PROJECT: KEITH MIDDLE SCHOOL QUOTE: SUBMITTAL
MATERIAL - MILD CARBON STEEL		B	24" TIGHT BOLT MANWAY W/ NEO-CORK GASKET	G	29" LONG x 14" WIDE x 4" HIGH CLOSED TOP STEEL ENCLOSURE WELDED TO TANK OUTER SHELL	
THICKNESS - INNER - HEADS - 5/16"; SHELL - 1/4"		C	6" FITTING	H	2" INTERSTITIAL MONITOR PIPE	DATE: 3/16 = 12/7/05 DRAW BY: 003 CHECKED BY: 45464B
THICKNESS - OUTER - HEADS - 1/4"; SHELL - 7 GA		D	8" FITTING - MOUNT IN 'G' TOP PRIMARY VENT USE & PUMP OUT	J	10 GAL SPILL CONTAINER - (15" x 13 1/2" HIGH W/ 6" FNPT FITTING)	
INSTRUCTION - INNER - LAP WELD OUTSIDE ONLY		E	8" FITTING	K	(6" SHIP'S LADDER & PLATFORM - SHOP PRIMER (SHIP LOOSE))	
INSTRUCTION - OUTER - LAP WELD OUTSIDE ONLY				L	6" FNPT FITTING (PRIMARY VENT FITTING)	
TANK TEST - INNER - 5 PSIG; OUTER - 2 PSIG AND FULL VACUUM						
T. FINISH - NONE						
P. FINISH - WHITE TOP COAT						
SHELL - UL 142 TYPE I 360' DOUBLE WALL						

12,000 Gallon Capacity

120' x 20'6"

Horizontal



In.	Ga.	In.	Ga.	In.	Ga.
1	16	41	3635	81	8650
2	44	42	3767	82	8789
3	80	43	3879	83	8888
4	123	44	4002	84	9005
5	172	45	4125	85	9122
6	225	46	4248	86	9238
7	283	47	4374	87	9352
8	345	48	4499	88	9466
9	410	49	4624	89	9578
10	479	50	4750	90	9690
11	552	51	4876	91	9800
12	627	52	5003	92	9908
13	705	53	5130	93	10016
14	788	54	5257	94	10122
15	868	55	5384	95	10228
16	955	56	5511	96	10329
17	1043	57	5639	97	10431
18	1133	58	5768	98	10530
19	1225	59	5894	99	10628
20	1318	60	6022	100	10725
21	1416	61	6150	101	10819
22	1514	62	6278	102	10911
23	1613	63	6406	103	11002
24	1718	64	6533	104	11089
25	1818	65	6660	105	11175
26	1922	66	6788	106	11258
27	2028	67	6915	107	11339
28	2136	68	7041	108	11417
29	2245	69	7168	109	11493
30	2355	70	7294	110	11565
31	2468	71	7420	111	11634
32	2578	72	7545	112	11699
33	2692	73	7670	113	11761
34	2807	74	7795	114	11819
35	2922	75	7919	115	11872
36	3039	76	8042	116	11921
37	3157	77	8165	117	11964
38	3276	78	8287	118	12000
39	3394	79	8409	119	12029
40	3514	80	8530	120	12044

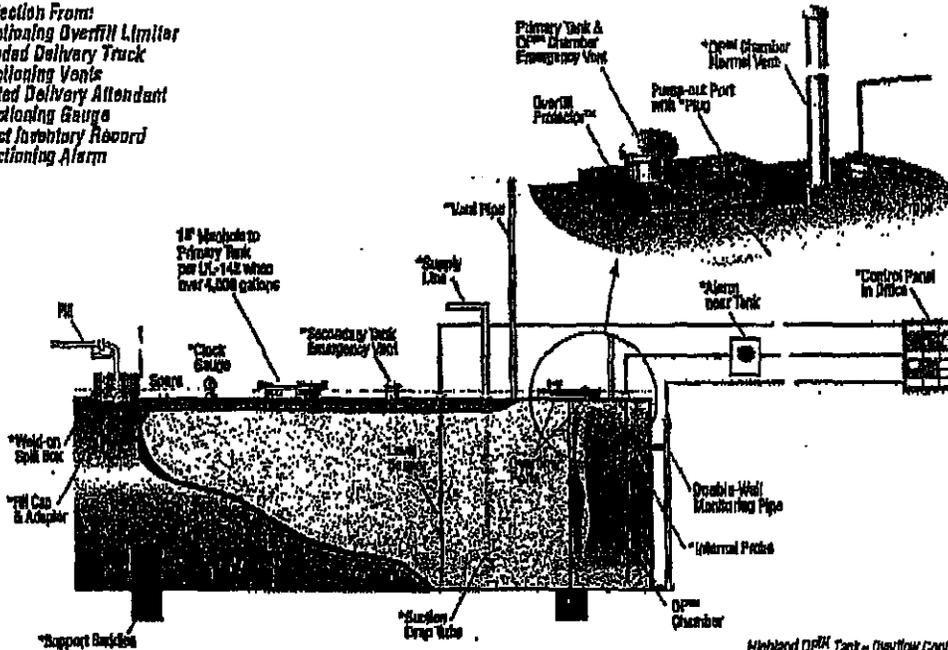


Highland OP™ Tanks

Insist on the Overfill Protector™!

Overfill Protection From:

- Malfunctioning Overfill Limiter
- Unattended Delivery Truck
- Malfunctioning Valve
- Distracted Delivery Attendant
- Malfunctioning Gauge
- Incorrect Inventory Record
- Malfunctioning Alarm



*Optional Equipment

Highland OP™ Tank - Overflow Control for Liquid Storage Tanks
U.S. Patent No. 6,981,963

Highland OP™ Tanks

Highland Tank's patented OP™ Tank is designed to eliminate the worry, the mess, the cost, and the dangers of aboveground tank overfills.

Highland's OP™ Tank captures and stores delivery overfills resulting from clogged or malfunctioning gauges, failure of delivery equipment, or mistakes during filling operations. Highland's patented design directs overflowed product via the Overfill Protector™ into the OP™ Chamber.

The OP™ Chamber is large enough to contain a spill of at least 10% of the tank's storage volume.* Since the entire OP™ Tank is UL listed for flammable and combustible product storage, the Overfill Protector™ and OP™ Chamber do not need to be cleaned or freed from vapors. The collected fuel can be recovered when capacity is again available in the tank by pumping it back to the primary tank through the pump-out fitting located on the Overfill Protector™. Or, if you desire, you can immediately drain it to some other storage vessel using an optional fitting and drain valve.

The Highland OP™ Tank is available in three aboveground horizontal steel tank designs:

- UL-2085 Fireguard Double-wall Tank for the added safety of steel secondary containment with 2-hour fire rating, plus impact and ballistics resistance.
- UL-142 S2 Double-wall Horizontal Tank with steel secondary containment
- UL-142 S1 Single-wall Horizontal Tank

For additional safety, you can specify that your Highland OP™ Tank be installed in one of the following:

- Shelter Tank with Complete Enclosure
- Dike Tank with Roll Top
- Dike Tank with Rainshields
- Dike Tank with Open Top

Each of the above options can be specified for either 110% or 150% external containment.

OP™ Tanks are also available in rectangular designs.*

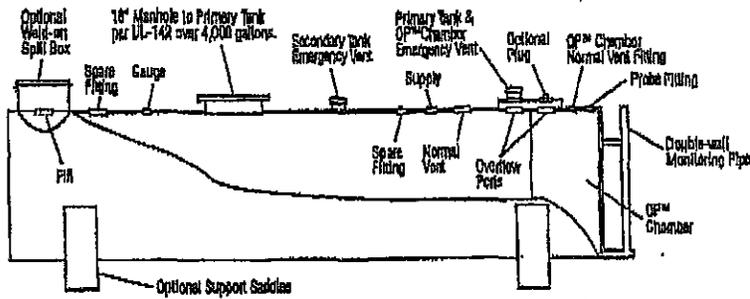
Highland OP™ Tanks are constructed of mild carbon steel and meet UL codes for the storage of flammable and combustible liquids. Material thickness from 12 gauge to 3/8" can be specified. Flat-flanged heads are standard as are continuous exterior fillet welds on all joints and a 5 psi factory air test and seam inspection.

Stainless steel construction is available as an option for storing hazardous liquids not compatible with carbon steel. Interior linings** can be applied for the storage of aviation fuel, chemicals and other special service products. The standard exterior coating is red primer. Other coating options range from a commercial blast with epoxy primer to complete VOC compliant epoxy/urethane coating systems.

*Consult Highland Tank if "10-minute" overflow or larger (above 70%) capability is required.

**Contact Highland Tank for interior linings on tanks 4,000 gallon and smaller.

General Arrangement
Double-wall design shown



Nominal Tank Capacity (Gallons)	Tank Dimensions		* Overall Tank Length	Approximate Weight (lbs)		
	Diameter	Length		S1-Single-wall	S2-Double-wall	Fireguard
500 -12	4'0"	5'5"	6'0"	589	1,245	*
500 -10	4'0"	5'5"	6'0"	759	1,384	2,988
500 -7	4'0"	5'5"	6'0"	993	1,819	*
1,000 -10	4'0"	10'9"	12'0"	1,270	2,384	5,244
1,000 -7	4'0"	10'9"	12'0"	1,560	2,755	*
1,000	5'4"	6'0"	7'8"	1,715	2,792	6,825
1,500	5'4"	9'0"	10'0"	2,080	3,380	*
2,000	5'4"	12'0"	13'6"	2,576	4,269	9,581
3,000	5'4"	18'0"	20'2"	3,558	5,945	13,389
4,000	5'4"	24'0"	26'10"	4,552	7,626	17,204
4,000	6'0"	19'0"	21'4"	5,742	7,228	*
4,000	8'0"	10'8"	12'0"	5,747	8,082	14,925
5,000	6'0"	23'10"	26'7"	6,813	10,384	*
5,000	8'0"	13'4"	15'0"	6,839	10,598	21,605
6,000	6'0"	28'8"	32'1"	8,138	12,255	*
6,000	8'0"	16'0"	18'0"	7,581	12,115	24,873
8,000	8'0"	21'4"	23'11"	9,290	15,108	31,209
8,000	10'0"	14'0"	15'7"	9,187	14,588	*
10,000	8'0"	26'8"	30'0"	11,097	18,183	37,965
10,000	10'0"	17'0"	19'1"	10,497	18,770	*
12,000	8'0"	32'0"	35'10"	12,880	21,130	44,055
12,000	10'0"	20'6"	23'0"	11,953	19,248	*
16,000	8'0"	40'0"	44'11"	15,532	25,726	*
16,000	10'0"	25'6"	28'6"	13,998	22,722	48,571
20,000	10'0"	34'0"	38'1"	17,558	28,770	59,713
20,000	10'6"	31'0"	34'8"	17,282	28,200	*
25,000	10'6"	42'7"	43'6"	20,338	33,398	72,221
30,000	10'6"	48'6"	52'1"	24,075	39,755	85,414
40,000	12'0"	47'6"	53'2"	40,870	66,023	*

Dimensions and weights shown are for primary tanks. Add 6" to length of UL-142 double-wall tanks for overfilling below and extra wall. Add 7" to both diameter and length for 1,000-30,000 gallon Fireguard® tanks (18" on 500 gallon Fireguard®). Larger overall capacities available upon request. Filling locations and arrangement varies with size. Weights listed are for tanks only. Fireguard® weights include integral saddles. *Consult Highland Tank for these sizes.

Written Specification Guidelines

This guide specification is meant to be incorporated into any one of Highland's standard aboveground written specifications. Complete written specifications are available from Highland for:

- Fireguard Tanks
- Double-wall Tanks
- Single-wall Tanks
- Single-wall Tanks with 110% or 150% containment dikes
- Shelter Tanks

To your tank specification add:

- The designation "OP™" directly in front of the word "tank".
- Include the following at the end of the description paragraph: "Tank to be equipped with overflow protection system and integral overflow compartment sized to store 10% minimum of the total tank volume." *Overall length

shall be _____. (You must adjust the overall length according to the dimensions listed above.)

- include the following after the description paragraph:

"Tank shall be supplied with special design steel OP™ Chamber sized to contain at least 10% of the primary tank's storage volume. The OP™ Chamber shall be equipped with no less than (3) 2" fillings and shall be connected to the primary tank by way of the Overflow Protector™ which shall include one emergency vent appropriately sized for the entire volume of the primary vessel and the OP™ Chamber.

Appropriately sized OP™ Ports shall facilitate the transfer of product during inadvertent primary tank overfilling. The

OP™ Ports shall be positioned to allow for the free flow of product into the OP™ Chamber without backup. The primary tank and the OP™ Chamber shall each be supplied with a functioning normal vent."

The following are options to consider adding to the written specification.

- Electronic alarm probe to be located in the OP™ Chamber.
- Supply a 2" drain fitting and frost-free drain valve at the bottom of the OP™ Chamber.

Tank shall be manufactured by Highland Tank; Stoytown, PA; Manheim, PA; Watervliet, NY; Greensboro, NC; Somersworth, NH.



Please visit us at www.highlandtank.com

One Highland Road
Stoytown, PA 15583
814-883-5701
FAX 893-6128

99 West Elizabethtown Road
Manheim, PA 17645
717-664-0500
FAX 664-0617

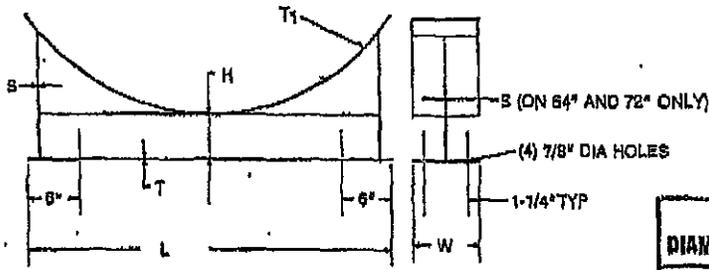
858 19th Street
Watervliet, NY 12189
518-273-0801
FAX 273-1365

2225 Chestnut Street
Lebanon, PA 17042
717-664-0602
FAX 664-0631

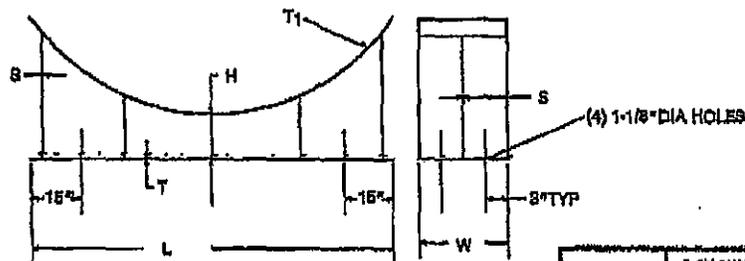
2700 Patterson Street
Greensboro, NC 27407
336-218-0801
FAX 218-1292

354 Route 108
Somersworth, NH 03878
603-692-2012
FAX 692-2014

HIGHLAND TANK'S SADDLES For Aboveground Horizontal Tanks



DIAMETER	LENGTH OF Y	L	T	W	H
38"	40"	32"	1/4"	6"	6"
48"	50"	42"	1/4"	6"	6"
64"	67"	54"	1/4"	6"	6"
72"	75"	60"	1/4"	6"	6"



DIAMETER	LENGTH OF T	L	T	S	W	H
64"	88"	72"	1/4"	5/16"	10"	6"
96"	100"	84"	1/4"	5/16"	10"	6"
120"	114"	96"	5/16"	5/16"	10"	6"
128"	114"	96"	5/16"	5/16"	10"	6"
144"	150"	128"	3/8"	3/8"	12"	6"

TANK DIAMETER	PRODUCT CODE
3'2"	01-9690
4'0"	01-9691
5'4"	01-9692
6'0"	01-9693
7'0"	01-9694
8'0"	01-9695
10'0"	01-9696
10'6"	01-9697
12'0"	01-9698
Special Diameter	01-9699

* NOTE: Bolt hole locations are approximate. HIGHLAND TANK assumes no responsibility for mismatched holes.



P.O. Box 898
 Stoytown, PA 18953-0898
 Phone (614) 893-5701
 Fax (614) 893-6128

89 West Elizabethtown Road
 Manheim, PA 17545-9410
 Phone (717) 665-6977
 Fax (717) 668-2790

958 Nipsaenith Street
 Watervliet, NY 12189-1762
 Phone (518) 273-0801
 Fax (518) 273-1385

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p.2



CHEMTHANE 3107-WHITE

ACRYLIC POLYURETHANE COATING
DIRECT TO METAL, SINGLE COAT, FAST CURE

REVISION: 1-99

PRODUCT DESCRIPTION

CHEMTHANE 3107 is a high-solids, acrylic polyurethane protective coating (1:3.5 ratio by volume). This product is self-priming and is applied directly to a surface prepared substrate in a one-coat application. This coating offers a unique balance of long pot life and fast cure. Applied films will demonstrate good cure profiles even in low temperatures.

This coating exhibits excellent hardness, direct to metal adhesion, chemical resistance, and color retention. Cured films that are between 5-6 mils in thickness (dft) are free of pores and will provide permanent and fully effective corrosion protection for many years.

For aggressive environments such as marine, we recommend two coats of CHEMTHANE 3107 (total film build: 8-10 mils) or using CHEMPRIME 3000 and topcoating with CHEMTHANE 3107 or CHEMTHANE 3300.

TYPICAL PROPERTIES

Solids, by volume _____ 60%
Solids, by weight _____ 76%
VOC (supplied and sprayable) _____ 3.8 lbs./mixed gallon
Mix Ratio (by volume) _____ 1:3
Weight per mixed gallon _____ 11.2 lbs./gallon
Theoretical Coverage _____ 962 sq. ft per gal per mil
Recommended Thickness _____ 5-6 mils dft
Sag Resistance _____ 10+ wet mils
Pot life (accelerator dependant) _____ 40 to 120 min. @ 77 F
Touch Cure _____ 30 to 180 min @ 77 F
Cure to handle _____ 1 to 6 hrs @ 77 F
Ultimate cure _____ 4-7 days @ 77 F

Time to Recoat _____ Within 24 hrs of initial application
Primer requirement (most cases) _____ None required
Application Temperature Range _____ 32 F to 140 F
Adhesion to Steel _____ Excellent
Hardness (ASTM D 3363-74) _____ 2 H
Impact Strength Direct: 140 in lbs Reverse: 80 in lbs
Flexibility _____ 2 mils bent 180 over 1/8" mandrel
Abrasion Resistance _____ 110 mg (CS17 wheel, 1kg, 1800 cycles)
Accelerated Weathering (QUV-A Bulb) _____ Excellent
Salt Fog Spray (ASTM B117-83) _____ >1000 hrs (primed)
Gloss (60 degree meter) _____ 80+

PACKAGING, STORAGE AND SHELF LIFE

CHEMTHANE 3107 is supplied in 4.5-gallon kits: 1-gallon Part A, 3.5-gallons Part B and Accelerator (optional). We package this product 24 kits (108 gallons) per pallet.

Keep containers tightly sealed until ready for use to prevent atmospheric moisture from contaminating material. Store material at temperatures between 50-80 F in a dry well ventilated area. Do not store near ignition source. Ensure that material does not freeze. Material has a minimum shelf life of 6 months after the date of manufacture if properly stored.

SAFETY PRECAUTIONS

CHEMTHANE 3107 IS FOR INDUSTRIAL USE ONLY. Avoid contact with eyes, and skin; do not inhale or ingest. When working with this material wear goggles, rubber gloves and a respirator. When spraying in a confined area, also wear a fresh air hood and make provision for forced ventilation. Refer to MSDS regarding individual components.

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CHEMLINE

CHEMTHANE 3107

APPLICATION GUIDELINES

Consult with a CHEMLINE Representative for detailed application instructions. Newly primed surfaces should be clean and dry. If contaminated, detergent wash then let dry. Previously painted surfaces should have all loose paint removed and the edges feathered. Prime bare spots with CHEMPRIME products.

Add entire 1-gallon Part A (clear Hardener) to 3.5-gallons Part B (pigmented enamel). **IMPORTANT: Be sure to empty all resin from Part A into Part B or this coating will not cure properly.** Power mix for 5-10 minutes. Material may be used immediately. Add Accelerator to CHEMTHANE 3107 for faster dry times. **DO NOT exceed 4-ounces of Accelerator per 4.5-gallon kit. (Undesirable film appearance may result.)** Thinning is usually not required but may be done with MEX or Xylol.

CHEMTHANE 3107 is applied using a brush, roller or spray application equipment. Best results have been obtained using a 20:1 (or higher) single component airless spray pump, a .015 spray tip and fluid pressures ranging from 1700 psi-2400 psi (airless). Filters 80-100 mesh. Apply in an even, uniform manner making sure recesses and edges are thoroughly coated. It is recommended that a 'strip' coat be first applied to weld seams and edges to ensure good coverage. Flush pump thoroughly immediately after use with MEX or Xylol.

WARRANTY

CHEMLINE warrants this product to be free of defects in material and workmanship. CHEMLINE's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at CHEMLINE's option, to either replace the products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by the Buyer to CHEMLINE in writing within (6) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify CHEMLINE of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

CHEMLINE makes no other warranties whether express, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall CHEMLINE be liable for consequential or incidental damages.

Any recommendations or suggestions relating to the use of the products made by CHEMLINE, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

LIMITATION OF LIABILITY

CHEMLINE's liability on any claim of any kind, including claims based upon CHEMLINE's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. In no event shall CHEMLINE be liable for consequential or incidental damages.



Highland Tank

Over 50 Years Experience

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Manheim, PA 17545-9410

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FAX 717-664-0817

*** LIMITED WARRANTY *** **(UL-142)**

HIGHLAND Tank and Manufacturing Company warrants its tanks to be free from defects in manufacturing, workmanship and materials. Highland Tank will repair or replace at its sole discretion, F.O.B. factory, but only within a period of one year after date of shipment, any item of our manufacture to be other than as warranted. Liability, hereunder, is limited as stated above, and does not include labor, installation costs or indirect or consequential damages of any kind. Tanks must be returned to the factory and, if it is found to be defective upon examination, it will be repaired, replaced, or credit will be issued at our option.

Stoytown, PA / Manheim, PA / Watervliet, NY / Greensboro, NC / Somersworth, NH

Aboveground Double-wall Storage Tank Installation & Testing Instructions



Scope

These instructions apply to stationary, factory-assembled, aboveground double-wall vertical and horizontal steel tanks for the storage of stable, flammable and combustible liquids at normal atmospheric pressure. Because tank installation is a specialized craft, it is assumed that those using these instructions will have knowledge of, and possess the skills and equipment necessary to, install this type of aboveground steel storage tank properly and safely. These instructions concern only the handling and testing of the tank upon arrival at the site and its placement and are not intended to address piping, utility hookup, and other details pertaining to installation of the tank.

Instructions

1.0 Tank Site

1.1 The foundation for the tank must be designed to support the tank plus 100% of the weight of the maximum amount of product the tank will be storing. The foundation may be comprised of concrete, asphalt, gravel or other stable material and must include provisions in its design to prevent tank movement. The foundation design must also include provision for draining surface water away from the tank to minimize corrosion.

1.2 For tank installations without cathodic corrosion protection, a static electricity grounding system should be installed for the tank in accordance with applicable electrical and fire code standards. Tanks must be grounded to protect them from lightning damage.

1.3 For tank installations with cathodic corrosion protection, consult applicable standards (i.e., National Association of Corrosion Engineers) to provide that tank with appropriate protection from static electricity without disruption of corrosion protection.

1.4 Consult the National Fire Protection Association NFPA, the Uniform Fire Code, or the International Fire code and your local fire marshal and building inspectors for all applicable codes and restrictions such as spacing from buildings, property lines, public ways, etc.

1.5 Tanks located in areas subject to flooding must be protected against flotation with hold down straps.

1.6 Aboveground tanks should not be located above underground utilities or directly beneath overhead power lines.

1.7 The tank shall be protected from vandalism and accidental damage in accordance with all applicable codes.

2.0 Tank Handling

2.1 Do not handle or install tank without having knowledge and experience in procedures involved with proper and safe installation of an aboveground tank used for storage of stable, flammable and combustible liquids. Reliance on skilled, professional installers is an important factor in avoidance of tank damage and system failures.

2.2 Equipment for handling the tank shall be of adequate size to lift and set the tank. Do not drop or drag the tank.

2.3 Tanks shall be carefully handled using cables or chains of adequate length and size attached to the tank lifting lugs provided.

2.4 Do not handle or move the tank unless it is empty.

2.5 This is a stationary tank. Do not use this tank for transport of any product.

3.0 Testing

3.1 Air Pressure Test Procedure for HORIZONTAL, Aboveground, Type I, Double-Wall Tank

3.1.1 Install test piping as shown in Figure 1. Temporarily plug, cap or seal off remaining tank openings to hold pressure. If tank is equipped with a long-bolt manway for emergency venting, clamp lid as required with E-clamps; tighten securely and/or if equipped with standard emergency vents, remove emergency vents and cap openings to hold tank pressure as required.

CAUTION: The regulated air supply test pressure used for this test is not to be less than 3 psig (21 kPa) nor more than 5 psig (35 kPa). Use only calibrated diaphragm type air pressure gauges with a zero to 10 psig dial span. Set pressure relief valve in test air supply line at 4.5 psi.

CAUTION: Do not leave pressurized tank unattended.

WARNING: Do not stand in front of tank heads or fittings when pressurizing tank.

3.1.2 Close valves A and B. Open valve C.

3.1.3 Connect regulated test air supply line to test piping as shown in Figure 1.

CAUTION: Check to see regulated test air supply line pressure is properly set before proceeding.

3.1.4 Slowly open valve A to pressurize the primary tank. Pressure gauge 1 should indicate test air pressure of 3 psig minimum to 5 psig maximum.

3.1.5 Close valve A. Disconnect regulated test air supply line from test piping.

3.1.6 Hold test pressure in primary tank for 1-hour minimum. A steady drop in pressure reading for gauge 1 indicates there may be a leak in the primary tank.

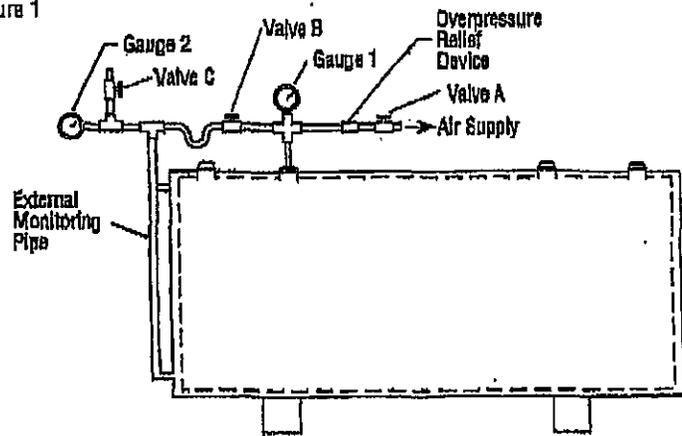
3.1.7 If no leaks are found, then close valve C and slowly open valve B to pressurize the interstitial space between the double walls of the tank.

WARNING: Do not apply air pressure to the interstitial space between the walls of a double-wall tank without air pressure in the primary tank. Do not apply air pressure to the interstitial space that is higher than the air pressure in the primary tank. Damage to the tank may result. Pressure gauge 1 will indicate a slight drop in test pressure when valve B is opened, but should hold steady at the lower pressure. If test pressure drops below minimum requirements of 3 psi, close valve B, reconnect air supply line and slowly open valve A to increase pressure in primary tank to 3 psig minimum and 5 psig maximum. When the required pressure is indicated on gauge 1, close valve A, disconnect test air supply line. Open valve B to equalize pressure in the primary tank and the interstitial space. Gauge 1 and gauge 2 should have the same pressure reading.

3.1.8 Close valve B. Hold test pressure in interstitial space for 1-hour minimum. A steady drop in pressure gauge 2 indicates there may be a leak in the outer wall.

3.1.9 Apply approved leak test solution to tank exterior surfaces, welds, fittings, etc. Check for leaks. NO LEAKS ARE ALLOWED. If leaks are found, notify the tank manufacturer. If no leaks are found, testing of the tank is complete.

Figure 1



3.1.10 Open valve B, then slowly open valve A to release test air pressure from primary tank and interstitial space at the same time.

3.1.11 With tank depressurized, remove test piping, temporary plugs, caps, and seals. Reinstall emergency relief vents, etc. If tank is equipped with an emergency vent long-bolt manway, remove C-clamps.

3.2 Air Pressure Test Procedure for VERTICAL, Aboveground, Type I, Double-Wall Tank or Rectangular Tanks other than Fireguard®

3.2.1 Install test piping. Temporarily plug, cap or seal off remaining tank openings to hold pressure. If tank is equipped with a long-bolt manway for emergency venting, clamp lid as required using C-clamps.

CAUTION: The regulated test air supply pressure used for this test is not to be less than 1-1/2 psig (10 kPa) nor more than 2-1/2 psig (17 kPa). Use only calibrated diaphragm type air pressure gauges with a zero to 3 psig dial span. Set over pressure relief device in test air supply line at 2 psi.

CAUTION: Do not leave pressurized tank unattended.

WARNING: Keep away from tank top and fittings when pressurizing tank.

3.2.2 Close valves A and B. Open valve C.

3.2.3 Connect regulated test air supply line to test piping as shown on Figure 2.

CAUTION: Check to see regulated test air supply line pressure is properly set before proceeding.

3.2.4 Slowly open valve A to pressurize the primary tank. Pressure gauge 1 should indicate test air pressure of 1-1/2 psig minimum to 2-1/2 psig maximum.

3.2.5 Close valve A. Disconnect regulated test air supply line from piping.

3.2.6 Hold test pressure in primary tank for 1-hour minimum. A steady drop in pressure reading for gauge 1 indicates there may be a leak in the primary tank.

3.2.7 Apply approved leak test solution to tank roof welds, fittings, etc. Check for leaks. **NO LEAKS ARE ALLOWED.** If leaks are found, notify the tank manufacturer.

3.2.8 If no leaks are found, then close valve C and slowly open valve B to pressurize the interstitial space between the double walls of the tank.

WARNING: Do not apply air pressure to the interstitial space between the walls of a double-wall tank without air pressure in the primary tank. Do not apply air pressure to the interstitial space that is higher than the air pressure in the primary tank. Damage to the tank may result.

CAUTION: Pressurization of the space between the walls of large diameter tanks may result in bulging of the bottom to the tank. Should the tank move, immediately open valve B. In large diameter tanks it is possible to fill the tank by pressurizing the space between the bottoms. Secure tank accordingly before testing. Pressure gauge 1 will indicate a slight drop in test pressure when valve B is opened, but should hold steady at the lower pressure. If test pressure drops below minimum requirements of 1.5 psi, close valve

B, reconnect air supply line and slowly open valve A to increase pressure in primary tank (1.5 psig minimum and 2.5 psig maximum). When the required pressure is indicated on gauge 1, close valve A, disconnect test air supply line. Open valve B to equalize pressure in the primary tank and the interstitial space. Gauge 1 and gauge 2 should have the same pressure reading.

3.2.9 Close valve B. Hold test pressure in interstitial space for 1-hour minimum. A steady drop in pressure gauge 2 indicates there may be a leak in the interstitial space.

3.2.10 Apply approved leak test solution to tank exterior surfaces, welds, fittings, etc. Check for leaks. **NO LEAKS ARE ALLOWED.** If leaks are found, notify the tank manufacturer. If no leaks are found, testing of the tank is complete.

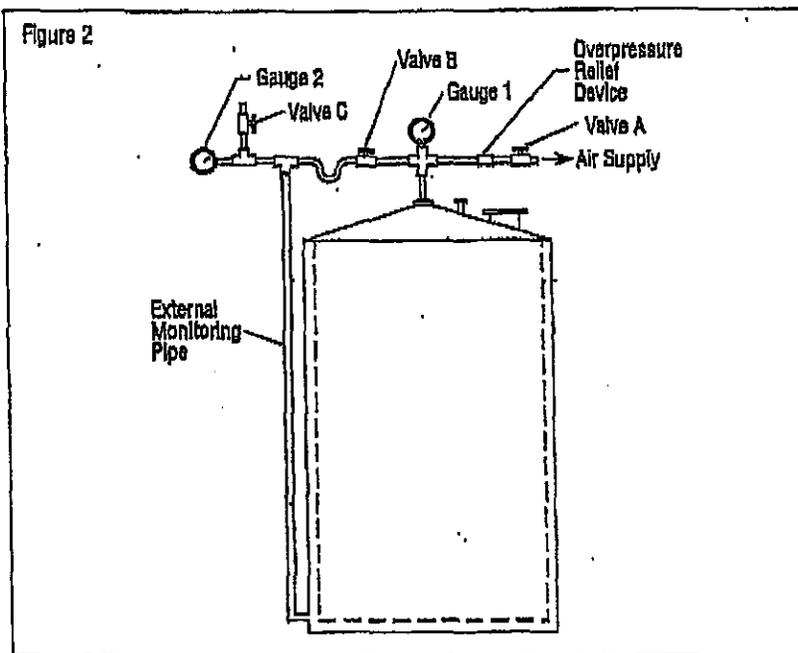
3.2.11 Open valve B, then slowly open valve A to release test air pressure from primary tank and interstitial space at the same time.

5.0 Labeling
5.1 Tanks shall be labeled in accordance with all applicable codes.

DISCLAIMER

Every effort has been made by Highland Tank to ensure the accuracy and reliability of the information contained in this instruction. Highland Tank does not make any representation, warranty or guarantee in connection with the publication of these instructions, and hereby expressly disclaims any liability or responsibility for loss or damage resulting from the use of this instruction; violation of any federal, state or local regulation(s) with which these instructions may conflict; or the infringement of any patent resulting from the use of these instructions. Nor is this instruction meant to provide interpretation of regulatory or legislative requirements in the tank industry.

Figure 2



3.2.12 With tank depressurized, remove test piping, temporary plugs, caps and seals. Reinstall emergency relief vents, etc. If tank is equipped with an emergency vent long-bolt manway, remove C-clamps.

4.0 Tanks

4.1 Install all permanent piping and fittings using compatible non-hardening thread sealant material.

4.2 All unused tank openings must be properly sealed using metal threaded pipe plugs, flanges or caps using compatible non-hardening thread sealant material.

4.3 Do not modify tank structure in any way.



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Provide Hand Pump
For Fire Box

APPROVED	<input type="checkbox"/>
APPROVED AS NOTED	<input type="checkbox"/>
AMEND & RESUBMIT	<input checked="" type="checkbox"/>
NOT APPROVED	<input type="checkbox"/>

Shop drawing review is for general conformance with the design concept and for compliance with the contract documents. Marking or comments made on the shop drawings do not relieve the contractor from compliance with requirements of the contract documents. Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating the work with that of other trades; and performing the work in a safe and satisfactory manner.

Date 8/25/05 By LV
 GARCIA, GALDEKA & DESOUSA, INC.
 CONSULTING ENGINEERS

APPENDIX H

Completed Above-Ground Storage Tank Monthly Inspection Forms